

dimension™

SETUP GUIDE



dimension™

SETUP GUIDE

Model: D05M Series

Type: D05M001

Notes, Cautions, and Warnings



NOTE: A NOTE indicates important information that helps you make better use of your computer.



CAUTION: A CAUTION indicates either potential damage to hardware or loss of data and tells you how to avoid the problem.



WARNING: A WARNING indicates a potential for property damage, personal injury, or death.

If you purchased a Dell™ n Series computer, any references in this document to Microsoft® Windows® operating systems are not applicable.

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Setting Up Your Dimension Desktop

This section provides information about setting up your Dimension desktop.



WARNING: Before you begin any of the procedures in this section, read the safety information that shipped with your computer. For additional safety best practice information, see the Regulatory Compliance Homepage at www.dell.com/regulatory_compliance.


Before Setting Up Your Computer

When positioning your computer, ensure that you allow easy access to a power source, adequate ventilation, and a level surface to place your computer.

Restricting airflow around your computer may cause it to overheat. To prevent overheating ensure that you leave at least 10.2 cm (4 inches) at the back of the computer and a minimum of 5.1 cm (2 inches) on all other sides. You should never place your computer in an enclosed space, such as a cabinet or drawer when it is powered on.


Connect the Display


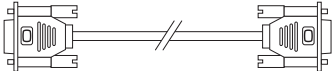
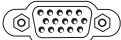




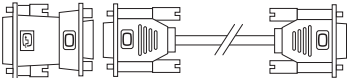
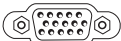




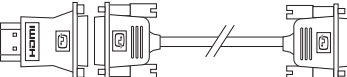

Your computer has an integrated VGA connector. You can use this connector to connect to the display.

 **NOTE:** A DVI, HDMI, or an additional VGA connector may be available on your computer if you purchased an optional discrete graphics card. For best picture quality, it is recommended that you use the connector on the discrete graphics card to connect to the display.

You can purchase the DVI-to-VGA adapter, HDMI-to-DVI adapter, and additional HDMI or DVI cables on the Dell website at www.dell.com.

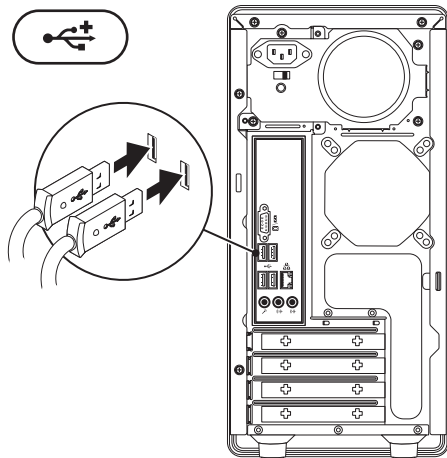
Use the appropriate cable based on the connectors available on your computer and display. Refer to the following table to identify the connectors on your computer and display.

 **NOTE:** When connecting to a single display, connect the display to **ONLY ONE** of the connectors on your computer.

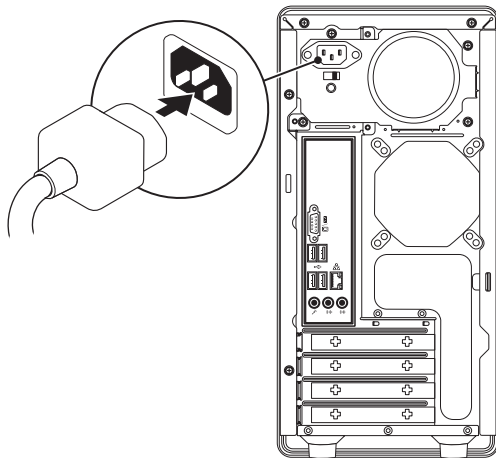
Connection Type	Computer	Cable	Display
VGA-to-VGA (VGA cable)			
DVI-to-DVI (DVI cable)			
DVI-to-VGA (DVI-to-VGA adapter + VGA cable)			
HDMI-to-HDMI (HDMI cable)			
HDMI-to-DVI (HDMI-to-DVI adapter + DVI cable)			

Connect the Keyboard and Mouse

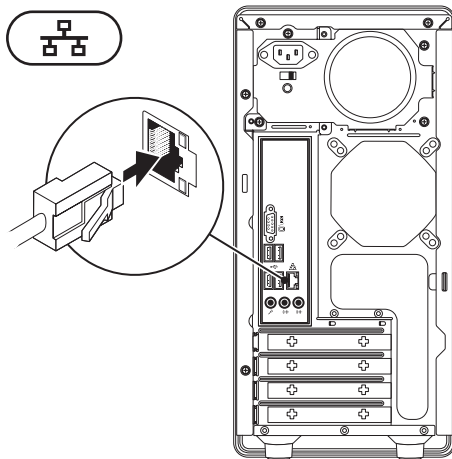
Connect the USB keyboard and mouse to the USB connectors on the back panel of the computer.




Connect the Power Cable



Connect the Network Cable (Optional)

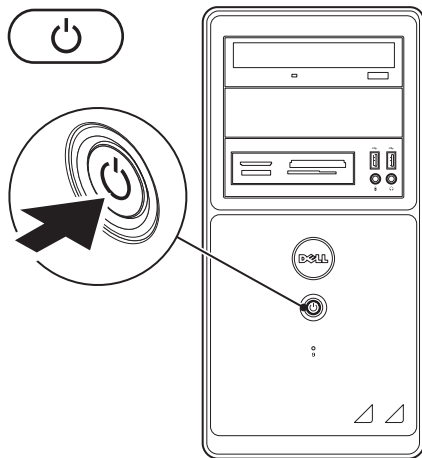


A network connection is not required to complete your computer setup, but if you have an existing network or Internet connection that uses a cable connection (such as a broadband device or Ethernet jack), you can connect it now.

 **NOTE:** Use only an Ethernet cable to connect to the network connector (RJ45 connector). Do not plug a telephone cable (RJ11 connector) into the network connector.

To connect your computer to a network or a broadband device, connect one end of the network cable to the network port or the broadband device. Connect the other end of the network cable to the network connector (RJ45 connector) on the back panel of your computer. A click indicates that the network cable has been securely attached.


Press the Power Button



Set Up Microsoft Windows

To set up Microsoft® Windows® for the first time, follow the instructions on the screen. These steps are mandatory and may take some time to complete. The Windows setup screens will take you through several procedures including accepting license agreements, setting preferences, and setting up an Internet connection.

 **CAUTION:** Do not interrupt the operating system's setup process. Doing so may render your computer unusable. You will need to reinstall the operating system.

 **NOTE:** It is recommended that you download and install the latest BIOS and drivers for your computer available at support.dell.com.

Connect to the Internet (Optional)

To connect to the Internet, you need an external modem or network connection and an Internet service provider (ISP).

You can connect to the Internet using a wired connection.

Setting Up a Wired Connection

- If you are using a dial-up connection, connect the telephone line to the optional external USB modem and to the telephone wall connector before you set up your Internet connection.
- If you are using a DSL or cable/satellite modem connection, contact your ISP or cellular telephone service for setup instructions.


To complete setting up your wired Internet connection, follow the instructions in “Setting Up Your Internet Connection”.

Setting Up Your Internet Connection


ISPs and ISP offerings vary by country. Contact your ISP for offerings available in your country.

If you cannot connect to the Internet but have successfully connected in the past, the ISP might have a service outage. Contact your ISP to check the service status, or try connecting again later.


Have your ISP information ready. If you do not have an ISP, the **Connect to the Internet** wizard can help you get one.

-  **NOTE:** The following instructions are applicable to the Windows default view, so they may not apply if you set your Dell™ computer to the Windows classic view.


Windows Vista®

1. Save and close any open files, and exit any open programs.
2. Click **Start**  → **Control Panel**.
3. Click **Network and Internet** → **Network and Sharing Center** → **Setup a Connection** → **Connect to the Internet**.


The **Connect to the Internet** window appears.

-  **NOTE:** If you do not know which type of connection to select, click **Help me choose** or contact your ISP.
4. Follow the instructions on the screen and use the setup information provided by your ISP to complete the setup.

Windows® 7

1. Save and close any open files, and exit any open programs.
2. Click **Start**  → **Control Panel**.
3. Click **Network and Internet** → **Network and Sharing Center** → **Set up a new connection or network** → **Connect to the Internet**.

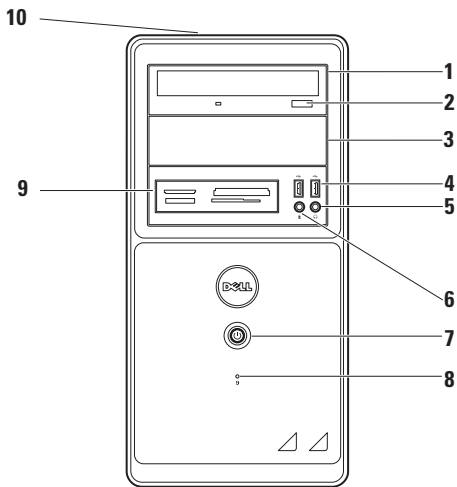
The **Connect to the Internet** window appears.

-  **NOTE:** If you do not know which type of connection to select, click **Help me choose** or contact your ISP.
4. Follow the instructions on the screen and use the setup information provided by your ISP to complete the setup.

Using Your Dimension Desktop

This section provides information about the features available on your Dimension 2010 desktop.


Front View Features



1 Optical drive — Plays or records CDs and DVDs. Ensure that you insert the disc with the printed side facing upwards.


2 Optical drive eject button — Opens the optical drive when pressed.


3 Optional optical drive bay — Can contain an additional optical drive.


4  USB 2.0 connectors (2) — Connects to USB devices such as memory keys, digital cameras, and MP3 players.

5  Headphone connector — Connects to headphones.

NOTE: To connect to a powered speaker or sound system, use the line out connector on the back of your computer.

6  Microphone connector — Connects to a microphone for voice or to an audio cable for audio input.

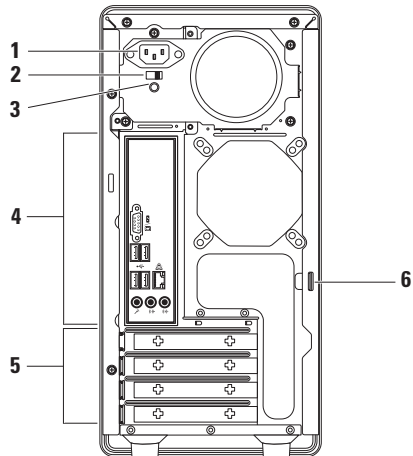
- 7  **Power button** — Turns the computer on or off when pressed. The light in the center of this button indicates the following power state:
- Solid white — the computer is on.
 - Blinking amber — the computer has detected an error during the Power-on self-test (POST).
 - Solid amber — the computer is in standby or sleep state or there may be an issue with either the system board or the power supply.
 - Off — the computer is either in hibernate mode or turned off or is not receiving power.
- NOTE:** For information on power problems, see “Power Problems” on page 31.
-

- 8  **Hard drive activity light** — Turns on when the computer reads data from or writes data to the hard drive.
-

- 9 **FlexBay slot** — Supports a floppy drive and a Media Card Reader.
-

- 10 **Service Tag and Express Service Code (located on top of your computer)** — Used to identify your computer when you access the Dell Support website or call technical support.
-

Back View Features



-
- 1 Power connector** — Connects to the power cable. Appearance of this connector may vary.

 - 2 Voltage selector switch** — Allows you to select the voltage rating appropriate for your region.

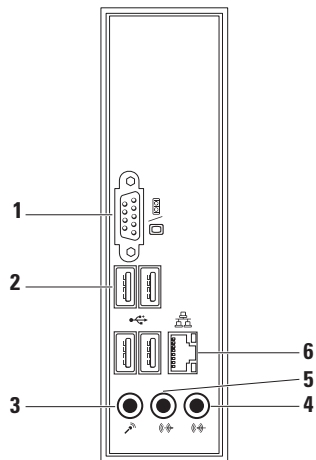
 - 3 Power supply diagnostic light** — Indicates availability of power to the power supply unit.


 - 4 Back panel connectors** — Connects USB, audio, and other devices into the appropriate connectors.


 - 5 Expansion card slots** — Provides access to connectors for any installed PCI and PCI Express cards.


 - 6 Padlock ring** — Allows you to secure the computer cover to the chassis with a padlock to prevent unauthorized access to the inside of the computer.
To use the padlock ring, insert a commercially available padlock through the ring, and then lock the padlock.
-


Back Panel Connectors





-
-  **VGA connector** — Connects to the display. On computers with a discrete graphics card, use the connector on the card.

 -  **USB 2.0 connectors (4)** — Connects to USB devices such as memory keys, digital cameras, and MP3 players.


 -  **Microphone connector** — Connects to a microphone for voice or audio input into a sound or telephony program.

 -  **Line-in connector** — Connects to devices like cassette or CD players.

 -  **Line-out connector** — Connects to a powered speaker or sound system.

 -  **Network connector and light** — Connects your computer to a network or broadband device. The network activity light flashes when the computer is transmitting or receiving data. A high volume of network traffic may make this light appear to be in a steady “on” state.
-

Software Features

 **NOTE:** For more information about the features described in this section, see the *Dell Technology Guide* available on your hard drive or on the Dell Support website at support.dell.com.

Productivity and Communication

You can use your computer to create presentations, brochures, greeting cards, fliers, and spreadsheets. You can also edit and view digital photographs and images. Check your purchase order for software installed on your computer.

After connecting to the Internet, you can access websites, setup an e-mail account, and upload or download files.

Entertainment and Multimedia

You can use your computer to watch videos, play games, create your own CDs, listen to music and radio stations. Your optical disc drive may support multiple disc media formats including CDs and DVDs.

You can download or copy pictures and video files from portable devices, such as digital cameras and cell phones. Optional software applications enable you to organize and create music and video files that can be recorded to a disc, saved on portable products such as MP3 players and handheld entertainment devices, or played and viewed directly on connected TVs, projectors, and home theater equipment.

Customizing the Desktop

You can use the customizing options available in your operating system to change the appearance, resolution, wallpaper, screensaver, or other features of your desktop.

Windows Vista®

1. Right-click an open area of the desktop.
2. Click **Personalize**, to open the **Personalize appearance and sounds** window and learn more about your customization options.

Windows® 7

1. Right-click an open area of the desktop.
2. Click **Personalize**, to open the **Change the visuals and sounds on your computer** window and learn more about your customization options.

Customizing Your Energy Settings

You can use the power options in your operating system to configure the power settings on your computer. The Microsoft Windows operating system installed on your Dell computer provides the following options:

Windows Vista®

- **Dell Recommended** — Offers full performance when you need it and saves power during periods of inactivity.
- **Power saver** — Saves power on your computer by reducing system performance to maximize the life of the computer and by reducing the amount of energy consumed by your computer over its lifetime.
- **High performance** — Provides the highest level of system performance on your computer by adapting processor speed to your activity and by maximizing system performance.

Using Your Dimension Desktop


Windows 7


- **Power saver** — Saves power on your computer by reducing system performance to maximize the life of the computer and by reducing the amount of energy consumed by your computer over its lifetime.
- **Balanced (recommended)** — Automatically balances the performance of your computer by consuming energy on capable hardware.

Transferring Information to a New Computer

To transfer information to a new computer:

Windows Vista


 **NOTE:** The following steps are applicable for the Windows default view, so they may not apply if you set your Dell™ computer to the Windows Classic view.

1. Click **Start**  → **Control Panel** → **System and Maintenance** → **Welcome Center** → **Transfer files and settings**.

If the **User Account Control** window appears, click **Continue**.

2. Follow the instructions on the **Windows Easy Transfer** wizard.

Windows 7


1. Click **Start**  → **Control Panel**.
2. In the search box type `Transfer` and then click **Transfer files from another computer**.
3. Follow the instructions in the **Windows Easy Transfer** wizard.

Backing Up Your Data


It is recommended that you periodically back up files and folders on your computer.

To back up files:


Windows Vista

1. Click **Start**  → **Control Panel** → **System and Maintenance** → **Back Up and Restore Center** → **Back up files**.

If the **User Account Control** window appears, click **Continue**.


-  **NOTE:** Certain editions of Windows Vista provide an option to back up your computer.
2. Follow the instructions on the **Back Up Files** wizard.

Windows 7

1. Click **Start**  → **Control Panel** → **System and Security** → **Back Up and Restore**.
2. Click **Set up backup....**
3. Follow the instructions on the **Configure Backup** wizard.

Dell DataSafe Online Backup

 **NOTE:** Dell DataSafe Online Backup may not be available in all regions.

 **NOTE:** A broadband connection is recommended for fast upload or download speeds.

Dell DataSafe Online is an automated backup and recovery service that helps protect your photos, music, and other important files. DataSafe Online safely backs up your important files to online storage, and protects your files from catastrophic incidents like theft, fire, or natural disasters. The user name and password setup on your DataSafe Online account protects your data from unauthorized access. For more information, go to **delldatasafe.com**.

To schedule backups:

1. Double-click the Dell DataSafe Online icon  on the taskbar
2. Follow the instructions that appear on the screen.

Dell Dock

The Dell Dock is a group of icons that provides easy access to frequently-used applications, files, and folders. You can personalize the Dock by:

- Adding or removing icons
- Changing the color and location of the Dock
- Grouping related icons into categories
- Changing the behavior of the icons



Add a Category

1. Right-click the Dock, click **Add**→ **Category**.
The **Add/Edit Category** window is displayed.
2. Enter a title for the category in the **Title** field.
3. Select an icon for the category from the **Select an image:** box.
4. Click **Save**.

Add an Icon

Drag and drop the icon to the Dock or a category.

Remove a Category or Icon

1. Right-click the category or icon on the Dock and click **Delete shortcut** or **Delete category**.
2. Follow the instructions on the screen.

Personalize the Dock

1. Right-click the Dock and click **Advanced Setting...**
2. Choose the desired option to personalize the Dock.

Solving Problems

This section provides troubleshooting information for your computer. If you cannot solve your problem using the following guidelines, see “Using Support Tools” on page 36 or “Contacting Dell” on page 54.

Beep Codes

Your computer might emit a series of beeps during start-up if there are errors or problems. This series of beeps, called a beep code, identifies a problem. Write down the beep code and contact Dell (see “Contacting Dell” on page 54).

Beep Code	Possible Problem
One	Possible motherboard failure - BIOS ROM checksum failure
Two	No RAM detected NOTE: If you installed or replaced the memory module, ensure that the memory module is seated properly.
Three	Possible motherboard failure - Chipset error
Four	RAM read/write failure
Five	Real Time Clock failure
Six	Video card or chip failure
Seven	Processor failure

Network Problems

If the network connection is lost —

- Check the cable to ensure it is plugged in and not damaged.
- Check the status of the link integrity light (top left light on the network connector).

The link integrity light on the integrated network connector lets you verify that your connection is working and provides information on the status:

- **Yellow light** — A good connection exists between a 10/100-Mbps network and the computer.
- **Off (no light)** — The computer is not detecting a physical connection to the network. For assistance, contact your network administrator or ISP.

Power Problems

If the power light is off — The computer is either in hibernate mode, turned off, or is not receiving power.

- Press the power button to resume normal operation.
- Reseat the power cable into both the power connector on the computer and the electrical outlet.
- If the computer is plugged into a power strip, ensure that the power strip is plugged into an electrical outlet and that the power strip is turned on. Also bypass power protection devices, power strips, and power extension cables to verify that the computer turns on properly.
- Ensure that the electrical outlet is working by testing it with another device, such as a lamp.

Solving Problems

- Ensure that the power supply diagnostics light on the back of the system is on. If the light is off there may be a possible problem with the power supply unit or the power cable.

For assistance, contact Dell (see “Contacting Dell” on page 54).

If the power light is solid white and the computer is not responding — The display may not be connected or powered on. Ensure that the display is properly connected and then turn it off, then back on.

If the power light is solid amber —

- The computer is in sleep or standby state. Press a key on the keyboard, move the connected mouse, or press the power button to resume normal operation.
- There may be an issue with either the system board or power supply. For assistance, contact Dell (see “Contacting Dell” on page 54).

If the power light is blinking amber — The computer has detected an error during POST. For assistance, contact Dell (see “Contacting Dell” on page 54).

If you encounter interference that hinders reception on your computer — An unwanted signal is creating interference by interrupting or blocking other signals. Some possible causes of interference are:

- Power, keyboard, and mouse extension cables.
- Too many devices connected to a power strip.
- Multiple power strips connected to the same electrical outlet.

Memory Problems

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 the *Service Manual* on the Dell Support website at support.dell.com).
- Reseat the memory modules (see the *Service Manual* on the Dell Support website at support.dell.com) to ensure that your computer is successfully communicating with the memory.

If you experience other memory problems —

- Ensure that you are following the memory installation guidelines (see the *Service Manual* on the Dell Support website at support.dell.com).
- Check if the memory module is compatible with your computer. Your computer supports DDR2 memory. For more information about the type of memory supported by your computer, see “Basic Specifications” on page 58.
- Run the Dell Diagnostics (see “Dell Diagnostics” on page 39).
- Reseat the memory modules (see the *Service Manual* on the Dell Support website at support.dell.com) to ensure that your computer is successfully communicating with the memory.


Lockups and Software Problems

If the computer does not start up — Ensure that the power cable is firmly connected to the computer and to the electrical outlet.


If a program stops responding — End the program:

1. Press <Ctrl><Shift><Esc> simultaneously.
2. Click **Applications**.
3. Click the program that is no longer responding
4. Click **End Task**.

If a program crashes repeatedly — Check the software documentation. If necessary, uninstall and then reinstall the program.

 **NOTE:** Software usually includes installation instructions in its documentation or on CD.


If the computer stops responding or a solid blue screen appears —

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


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.

If a program is designed for an earlier Microsoft® Windows® operating system —


Run the **Program Compatibility Wizard**. The Program Compatibility Wizard configures a program so that it runs in an environment similar to non-Windows operating system environments.

 **NOTE:** The following instructions are applicable for the Windows default view, and may not apply if you set your computer to the Windows Classic view.


Windows Vista

1. Click **Start**  → **Control Panel** → **Programs** → **Use an older program with this version of Windows**.
2. In the welcome screen, click **Next**.
3. Follow the instructions on the screen.

Windows 7

1. Click **Start** .
2. In the search box, type `Use an older program with this version of Windows` and press <Enter>.
3. Follow the instructions on the **Program Compatibility** wizard.


If you have other software problems —

- Back up your files immediately.
 - Use a virus-scanning program to check the hard drive or CDs.
 - Save and close any open files or programs and shut down your computer through the **Start**  menu.
- 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.

Using Support Tools

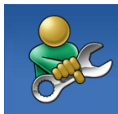
Dell Support Center

The **Dell Support Center** helps you find the service, support, and system-specific information you need.

To launch the application, click the  icon in the taskbar.

The **Dell Support Center** home page displays your computer's model number, service tag, express service code, and service contact information.

The home page also provides links to access:



Self Help (Troubleshooting, Security, System Performance, Network/Internet, Backup/Recovery, and Windows operating system)



Alerts (technical support alerts relevant to your computer)



Assistance from Dell (Technical Support with DellConnect™, Customer Service, Training and Tutorials, How-To Help with Dell on Call, and Online Scan with PC CheckUp)




About Your System (System Documentation, Warranty Information, System Information, Upgrades & Accessories)

For more information about **Dell Support Center** and available support tools, click the **Services** tab at support.dell.com.

System Messages

If your computer has an issue or error, it may display a System Message that will help you identify the cause and action needed to resolve the issue.

 **NOTE:** If the message you received is not listed in the following examples, see the documentation for either the operating system or the program that was running when the message appeared.

Alert! Previous attempts at booting this system have failed at checkpoint [nnnn]. For help in resolving this problem, please note this checkpoint and contact Dell Technical Support —

The computer failed to complete the boot routine three consecutive times for the same error. See “Contacting Dell” on page 54 for more assistance.

CMOS checksum error — Possible motherboard failure or RTC battery low. Battery needs replacement. See the *Service Manual* on the Dell Support website at support.dell.com or see “Contacting Dell” on page 54 for assistance.

CPU fan failure — CPU fan has failed. CPU fan needs replacement. See the *Service Manual* on the Dell Support website at support.dell.com.

Hard-disk drive failure — Possible hard disk drive failure during HDD POST. See “Contacting Dell” on page 54 for assistance.

Hard-disk drive read failure — Possible hard disk drive failure during HDD boot test. See “Contacting Dell” on page 54 for assistance.

Keyboard failure — Replace keyboard or check the cable for loose connection.

Using Support Tools

No boot device available — No bootable partition on hard drive, the hard drive cable is loose, or no bootable device exists.

- If the hard drive is your boot device, ensure that the cables are connected and that the drive is installed properly and partitioned as a boot device.
- Enter system setup and ensure that the boot sequence information is correct. See the *Service Manual* on the Dell Support website at support.dell.com.

No timer tick interrupt — A chip on the system board might be malfunctioning or motherboard failure. See the *Service Manual* on the Dell Support website at support.dell.com or see “Contacting Dell” on page 54 for assistance.

USB over current error — Disconnect the USB device. Your USB device needs more power for it to function properly. Use an external power source to connect the USB device, or if your device has two USB cables, connect both of them.


NOTICE - Hard Drive SELF MONITORING SYSTEM has reported that a parameter has exceeded its normal operating range. Dell recommends that you back up your data regularly. A parameter out of range may or may not indicate a potential hard drive problem — S.M.A.R.T error, possible hard drive failure.

This feature can be enabled or disabled in the BIOS setup. See “Contacting Dell” on page 54 for assistance.

Hardware Troubleshooter

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 **Start**  → **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.

Dell Diagnostics

If you experience a problem with your computer, perform the checks in “Lockups and Software Problems” on page 34 and run the Dell Diagnostics before you contact Dell for technical assistance.

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

 **NOTE:** Dell Diagnostics works only on Dell computers.

 **NOTE:** The *Drivers and Utilities* disc is optional and may not ship with your computer.


See the System Setup section in the *Service Manual* 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.

Using Support Tools

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

Starting 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 54.

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>.

This will invoke the Pre-Boot System Assessment (PSA) in some computers.

 **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* disc.

If PSA is invoked:

- a. The PSA starts running tests.
- b. If the PSA completes successfully, the following message is displayed: `"No problems have been found with this system so far. Do you want to run the remaining memory tests? This will take about 30 minutes or more. Do you want to continue? (Recommended)."`
- c. If you are experiencing memory issues, press `<y>` else press `<n>`.
The following message is displayed:
`"Booting Dell Diagnostic Utility Partition. Press any key to continue."`
- d. Press any key to go to the **Choose An Option** window.

If PSA is not invoked:


Press any key to start the Dell Diagnostics from the diagnostics utility partition on your hard drive and to go to the **Choose An Option** window.


4. Select the test you want to run.
5. 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 54.
 **NOTE:** The Service Tag for your computer is located at the top of each test screen. The Service Tag helps you identify your computer when you contact Dell.
6. When the tests are complete, close the test screen to return to the **Choose An Option** window.
7. To exit the Dell Diagnostics and to restart the computer, click **Exit**.

Starting Dell Diagnostics From the Drivers and Utilities Disc


1. Insert the *Drivers and Utilities* disc.
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. Select the test you want to run.
8. 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 54.
 **NOTE:** The Service Tag for your computer is located at the top of each test screen. The Service Tag helps you identify your computer when you contact Dell.
9. When the tests are complete, close the test screen to return to the **Choose An Option** window.
10. To exit the Dell Diagnostics and restart the computer, click **Exit**.
11. Remove the *Drivers and Utilities* disc.

Restoring Your Operating System

You can restore your 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 DataSafe Local Backup restores your hard drive to the operating state it was in when you purchased your computer, without erasing the data files. Use this option if System Restore did not resolve your problem.
- Dell Factory Image Restore returns your hard drive to the operating state it was in when you purchased the computer. This procedure 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 this disc only if System Restore did not resolve your operating system problem.


System Restore


The Windows operating systems provide a System Restore option which allows you to restore 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.

 **CAUTION:** Make regular backups of your data files. System Restore does not monitor your data files or recover them.

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

Starting System Restore


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

 **NOTE:** 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** .
2. In the **Start Search** box, type `System Restore` and press <Enter>.
3. Click **Undo my last restoration** and click **Next**.

Dell DataSafe Local Backup


 **NOTE:** Dell DataSafe Local Backup may not be available in all regions.

Dell DataSafe Local Backup is a backup and recovery application that restores your computer if you lose data due to a virus attack, accidentally delete critical files or folders, or if the hard drive crashes.

This application allows you to:


- Restore files and folders
- Restore your hard drive to the operating state it was in when you purchased your computer, without erasing the existing personal files and data

To schedule backups:


1. Double-click the Dell DataSafe Local icon  on the taskbar.
2. Choose **Full System Backup** to create and schedule automatic backup of all the data in your computer.

To restore data:

1. Turn off your computer.
2. Disconnect all the devices (USB drive, printer, etc.) connected to the computer and remove any recently added internal hardware.



 **NOTE:** Do not disconnect the display, keyboard, mouse, and the power cable.

3. Turn on your computer.
4. When the Dell logo appears, press <F8> several times to access the **Advanced Boot Options** window.


 **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.


5. Select **Repair Your Computer**.


6. Select **Dell Factory Image Recovery and DataSafe Options** and follow the instructions on the screen.

-  **NOTE:** The restoration process might take an hour or more depending on the size of the data to be restored.
-  **NOTE:** For more information, see the knowledge base article 353560 at **support.dell.com**.

Dell Factory Image Restore

 **CAUTION:** 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 this option. Use Dell Factory Image Restore only if System Restore did not resolve your operating system problem.


 **CAUTION:** Dell Factory Image Restore is not available if the hard drive is formatted or partitioned using the Operating System disc.

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

Use Dell Factory Image Restore 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 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**.
3. The **System Recovery Options** window appears.
4. Select a keyboard layout and click **Next**.
5. 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**.
6. Click **Dell Factory Image Restore**. The **Dell Factory Image Restore** welcome screen appears.

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

7. Click **Next**. The **Confirm Data Deletion** screen appears.

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

8. 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.

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

Operating System Reinstallation


Before You Begin

If you are reinstalling the Microsoft® Windows® operating system to correct a problem with a newly installed driver, first try using Windows Device Driver Rollback. If Device Driver Rollback does not resolve the problem, then use System Restore to return your operating system to the state it was in before you installed the new device driver. See “System Restore” on page 44.

 **CAUTION:** 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* disc
- Dell *Drivers and Utilities* disc


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

Reinstalling Microsoft 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.

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.
5. 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.


6. When the boot device list appears, highlight **CD/DVD/CD-RW Drive** and press <Enter>.
7. Press any key to **Boot from CD-ROM**. Follow the instructions on the screen to complete the installation.

Getting Help


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

1. See “Solving Problems” on page 30 for information and procedures that pertain to the problem your computer is experiencing.
2. See “Dell Diagnostics” on page 39 for procedures on how to run Dell Diagnostics.
3. Fill out the “Diagnostic Checklist” on page 53.
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 51 for a more extensive list of Dell Support online.
5. If the preceding steps have not resolved the problem, see “Contacting Dell” on page 54.

 **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.

 **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 53 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 **www.dell.com/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.

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 your region, see “Contacting Dell” on page 54.

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 54.

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 top of your computer).

Remember to fill out the following Diagnostic Checklist. 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.

Diagnostic Checklist

- Name:
- Date:
- Address:
- Phone number:
- Service Tag and Express Service Code (located on top of your computer):
- 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:

Getting Help

See your operating system documentation to determine the contents of the computer'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

For customers in China, call 800-858-2969.



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.

Finding More Information and Resources

If you need to:**See:**

reinstall your operating system

the *Operating System* disc

find your system model number

the back of your computer

run a diagnostic program for your computer, reinstall desktop system software, or update drivers for your computer, and readme files

the *Drivers and Utilities* disc



NOTE: Drivers and documentation updates can be found on the Dell™ Support website at **support.dell.com**.

learn more about your operating system, maintaining peripherals, Internet, networking, and e-mail

the *Dell Technology Guide* available on your hard drive or on the Dell Support website at **support.dell.com**

upgrade your computer with new or additional memory, or a new hard drive

the *Service Manual* on the Dell Support website at **support.dell.com**

reinstall or replace a worn or defective part



NOTE: In some countries, opening and replacing parts of your computer may void your warranty. Check your warranty and return policies before working inside your computer.

If you need to:

find safety best practices information for your computer

review Safety instructions, Regulatory information, Ergonomics information, and End User License Agreement

find your Service Tag/Express Service Code— You must use the Service Tag to identify your computer on **support.dell.com** or to contact technical support

find drivers and downloads
access technical support and product help
check on your order status for new purchases
find solutions and answers to common questions

locate information for last-minute updates about technical changes to your computer or advanced technical-reference material for technicians or experienced users

See:

the Safety, Environmental, and Regulatory Information on page 64. For additional safety best practices information, see the Regulatory Compliance Homepage at **www.dell.com/regulatory_compliance**

the top of your computer



the Dell Support website at **support.dell.com**

Basic Specifications

System Model

Dimension 2010

This section provides information that you may need when setting up, updating drivers for, and upgrading your computer. For more detailed specifications, see the *Service Manual* on the Dell Support website at support.dell.com.

 **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

Type	AMD Athlon™ II X2 AMD Athlon X2
------	------------------------------------

Drives


Externally accessible	one 5.25-inch drive bay for SATA DVD+/-RW Super Multi Drive
Internally accessible	one 3.5-inch drive bay for SATA hard drive

Expansion Slots

PCI Express x16	one slot supporting full-height card
PCI	one slot supporting full-height card

Memory

Connectors	two internally-accessible DDR2 DIMM sockets
Capacities	1 GB and 2 GB
Memory type	800 MHz DDR2 DIMM; non-ECC memory only
Minimum	1 GB
Maximum	4 GB

 **NOTE:** For instructions on upgrading the memory, see the *Service Manual* on the Dell Support website at support.dell.com.

Computer Information

System chipset	NVidia MCP61P
----------------	---------------

Video

Discrete	PCI Express x16 card
----------	----------------------

Audio


Type	Integrated Standard Definition Audio
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Physical

Height	379 mm (14.9 inches)
Width	185 mm (7.28 inches)
Depth	438 mm (17.2 inches)
Weight	8.3 kg (18.29 lbs)

External Connectors

USB two front-panel, and four back-panel USB 2.0-compliant connectors

 **NOTE:** The USB connectors can support devices with power rating up to 10W @ 5V.

Network adapter RJ45 connector

Audio front panel - microphone and headphone connectors

back panel - three connectors for 5.1 support

Power


DC Power Supply

Wattage 300 W, 180 W

Maximum heat dissipation:

300 W 1621 Btu/h


180 W 944 Btu/h

 **NOTE:** Heat dissipation is calculated by using the power supply wattage rating.

Voltage:

300 W 115/230 VAC. 50/60 Hz, 7.0 A/4.0 A

180 W 220 VAC. 50/60 Hz, 4.0 A or 115/230 VAC. 50/60 Hz, 6.0 A/3.0 A

 **NOTE:** For information on voltage settings, see the safety information on page 64.

Power

Coin-cell battery 3-V CR2032 lithium

Computer Environment*Temperature ranges:*

Operating 10°C to 35°C (50°F to 95°F)

Storage -40°C to 65°C (-40°F to 149°F)

Relative humidity (maximum): 20% to 80% (noncondensing)

Maximum vibration (using a random-vibration spectrum that simulates user environment):

Operating 5 to 350 Hz at 0.0002 G²/Hz

Storage 5 to 500 Hz at 0.001 to 0.01 G²/Hz

Computer Environment

Maximum shock (measured with hard drive in head-parked position and a 2-ms half-sine pulse):

Operating 40 G +/- 5% with pulse duration of 2 msec +/- 10% (equivalent to 20 inches/ sec [51 cm/sec])

Storage 105 G +/- 5% with pulse duration of 2 msec +/- 10% (equivalent to 50 inches/ sec [127 cm/sec])

Altitude (maximum):

Operating -15.2 to 3048 m (-50 to 10,000 ft)

Storage -15.2 to 10,668 m (-50 to 35,000 ft)

Airborne contaminant level G2 or lower as defined by ISA-S71.04-1985

Appendix

Macrovision Product Notice

This product incorporates copyright protection technology that is protected by method claims of certain U.S. patents and other intellectual property rights owned by Macrovision Corporation and other rights owners. Use of this copyright protection technology must be authorized by Macrovision Corporation, and is intended for home and other limited viewing uses only unless otherwise authorized by Macrovision Corporation. Reverse engineering or disassembly is prohibited.


Appendix A: Safety, Environmental, and Regulatory Information


General Safety Information

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


You can find additional Safety Best Practices information on the Regulatory Compliance Homepage on www.dell.com at the following location:

www.dell.com/regulatory_compliance.

 **NOTE:** In this document, product, equipment, and device are used interchangeably and refer to your desktop computers.

 **WARNING:** Use of controls, adjustments, procedures, connections, or signal types other than those specified in your documentation may result in exposure to shock, electrical hazards, and/or mechanical hazards.


 **CAUTION:** Dell products are not intended for use in patient health care environments unless specially designated.


 **CAUTION:** Dell products are not designed for use in flammable or explosive environments.

When setting up the equipment for use:

- Place the equipment on a hard, level surface.
- Do not stack the equipment, place it in an enclosed space, or otherwise install it where it is subject to heated air. The equipment should have least 10.2 cm (4 in) of clearance on all vented sides to permit the airflow required for proper ventilation. Restricting airflow can damage the equipment or cause overheating.
- If your device includes a modem, the cable used with the modem should be manufactured with a minimum wire size of 26 American wire gauge (AWG) and an FCC compliant RJ11 modular plug.

When operating your equipment:

 **WARNING: Do not operate your equipment with any cover(s) (including computer covers, bezels, filler brackets, front-panel inserts, etc.) removed.**

 **WARNING: Do not use your equipment in a wet environment. Protect equipment from liquid intrusion.**

- Do not use damaged equipment, including exposed, frayed, or damaged power cords.
- Disconnect your device and all peripherals (including optional modem) from any wall connections during an electrical (lightning) storm or when you will be away for extended periods.
- Do not push any objects into the air vents or openings of your equipment. Doing so can cause fire or electric shock by shorting out interior components.
- Contact Dell (or an authorized dealer or service center for retail purchases) if your equipment does not operate normally.

When Working Inside Your Device


Do not attempt to service the equipment yourself, except as explained in your Dell documentation or in instructions otherwise provided to you by Dell.

Always follow installation and service instructions closely.

Some internal components, such as PC Cards, may become very warm during normal operation. Before touching any internal components, allow time for them to cool.

This product may contain Optical Disk Drives (ODD), such as a CD-ROM, CDR/W, DVD drive, etc., which have built-in laser devices. To prevent any risk of exposure to laser radiation, do not disable or open any ODD assembly for any reason.

These ODDs comply with safety requirements and are classified as Class 1 Laser Products, under IEC/EN60825-1 Laser Safety Standard. These ODD devices contain no user adjustments nor any user serviceable or replaceable parts.

 **NOTE:** Additional user information for your optical storage device may be available under the “Manuals” section at support.dell.com.

Protecting Against Electrostatic Discharge


Electrostatic discharge (ESD) events can harm electronic components inside your equipment. To prevent ESD damage, you should discharge static electricity from your body before you interact with any of your equipment’s internal electronic components by touching a metal grounded object, such as an unpainted metal surface on your computer’s I/O panel. In addition, as you work inside the equipment, periodically discharge any static charge your body may have accumulated.

General Power Safety


Observe the following guidelines when connecting your equipment to a power source:

- Check the voltage rating before you connect the equipment to an electrical outlet to ensure that the required voltage and frequency match the available power source.
- Your device is equipped with either an internal power source or an external adapter. For internal power sources, your device is equipped with one of the following:
 - An auto-sensing voltage circuit - Devices with an auto-sensing voltage circuit do not have a voltage selection switch on the back panel and automatically detect the correct operating voltage.
 - A manual voltage selection switch - Devices with a voltage selection switch on the back panel must be manually set to operate at the correct operating voltage.

Set the switch to the position that most closely matches the voltage used in your location.


 **NOTE:** The switch on your system may be different than the one pictured.




 **CAUTION:** To help avoid damaging a computer with a manual voltage selection switch, set the switch for the voltage that most closely matches the AC power available in your location.

- To prevent electric shock, plug the equipment power cables into properly grounded electrical outlets. If the equipment is provided with a 3-prong power cable, do not use adapter plugs that bypass the grounding feature, or remove the grounding feature from the plug or adapter.

RTC Battery Safety

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

Audio Safety

 **WARNING: Excessive sound pressure from earphones or headphones can cause hearing damage or loss. Adjustment of the volume control as well as the equalizer to settings other than the center position may increase the earphones or headphones output voltage, and therefore the sound pressure level.**

The use of factors influencing the earphones or headphones output other than those specified by the manufacturer (e.g. operating system, equalizer software, firmware, driver, etc.) may

increase the earphones or headphones output voltage and therefore the sound pressure level.

The use of earphones or headphones other than those specified by the manufacturer may lead to heightened sound pressure level.

Ergonomic Instructions

 **WARNING: Improper or prolonged keyboard use may result in injury.**

 **WARNING: Viewing a display or external monitor screen for extended periods of time may result in eye strain.**

For additional information concerning ergonomics, please go to the Regulatory Compliance homepage on **www.dell.com** at the following location:
www.dell.com/regulatory_compliance.


Recycling Information

Dell recommends that customers dispose of their used computer hardware, monitors, printers, and other peripherals in an environmentally sound manner. Potential methods include reuse of parts or whole products and recycling of products, components, and/or materials.

For specific information on Dell's worldwide recycling programs, see

www.dell.com/recyclingworldwide.

Battery Disposal

 **CAUTION: Do not dispose of the battery in a fire or with household waste. Contact your local waste disposal agency for the address of the nearest battery deposit site.**



Desktop computers use a lithium coin cell battery. For instructions about replacing the battery in your computer, see "Replacing the Battery" in your system

documentation. The reserve battery is a long-life battery, and it is very possible that you will never need to replace it. However, should you need to replace it, the procedure must be performed by an authorized service technician unless instructions for removing the reserve battery are included in your system documentation.

Do not dispose of your computer's battery in a fire or with normal household waste. Battery cells may explode. Discard a used battery according to the manufacturer's instructions or contact your local waste disposal agency for disposal instructions. Dispose of a spent or damaged battery promptly.

Regulatory Notices

For Electromagnetic Compatibility (EMC), additional regulatory information, and safety best practices, see the Regulatory Compliance homepage on **www.dell.com** at the following location: **www.dell.com/regulatory_compliance**.

Export Regulations

Customer acknowledges that these Products, which may include technology and software, are subject to the customs and export control laws and regulations of the United States (“U.S.”) and may also be subject to the customs and export laws and regulations of the country in which the Products are manufactured and/or received. Customer agrees to abide by those laws and regulations. Further, under U.S. law, the Products may not be sold, leased or

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Finding Additional Information

For additional user information about your computer, monitor, and individual components (such as storage drives, PC cards, and other peripherals) go to **support.dell.com**.

Additional Country-Specific Environmental Information

China RoHS

In accordance with China's Administrative Measures on the Control of Pollution Caused by Electronic Information Products (also known as China RoHS), the following information is provided regarding the names and concentration levels of toxic and/or hazardous substances which may be contained in Dell products. The China RoHS requirements can be found in Chinese MII MCV standard: "Requirements for Concentration Limits for Certain Hazardous Substances in Electronic Information Products."

Dell Desktop Products

Part Name	Toxic or Hazardous Substances and Elements					
	Lead (Pb)	Mercury (Hg)	Cadmium (Cd)	Hexavalent Chromium (Cr VI)	Polybrominated biphenyls (PBB)	Polybrominated diphenyl ethers (PBDE)
Chassis/Bezel	X	O	O	O	O	O
Mechanical Assemblies (fans, heat sinks, etc.)	X	O	O	O	O	O
Printed Circuit Assembly (PCA) *	X	O	O	O	O	O
Cables/Cords/Connectors	X	O	O	O	O	O
Hard Disk Drives (HDD)	X	O	O	O	O	O

Part Name	Toxic or Hazardous Substances and Elements					
	Lead (Pb)	Mercury (Hg)	Cadmium (Cd)	Hexavalent Chromium (Cr VI)	Polybrominated biphenyls (PBB)	Polybrominated diphenyl ethers (PBDE)
Media Reading/ Storage Devices (optical drives, etc.)	X	O	O	O	O	O
Power Supply/ Power Adapter	X	O	O	O	O	O
Pointing Devices (mice, etc.)	X	O	O	O	O	O

* Printed Circuit Assembly includes all Printed Circuit Boards (PCBs) and their respective population of discrete components, ICs, and connectors.

"O" indicates the hazardous and toxic substance content of the part is lower than the threshold defined by the MCV Standard.

"X" indicates the hazardous and toxic substance content of the part is over the threshold defined by the MCV Standard. In all cases where an X is shown, Dell uses an allowable exemption per EU RoHS.

Dell Monitors (Flat Panel and CRT)


Part Name	Toxic or Hazardous Substances and Elements					
	Lead (Pb)	Mercury (Hg)	Cadmium (Cd)	Hexavalent Chromium (Cr VI)	Polybrominated biphenyls (PBB)	Polybrominated diphenyl ethers (PBDE)
Stand/Chassis	X	O	O	O	O	O
Printed Circuit Assembly (PCA) *	X	O	O	O	O	O
FP Display Technology/Lamp	X	X	O	O	O	O
CRT Display Technology/Lamp	X	O	O	O	O	O
Cables/Cords/Connectors	X	O	O	O	O	O
Power Supply/Power Adapter	X	O	O	O	O	O

* Printed Circuit Assembly includes all Printed Circuit Boards (PCBs) and their respective population of discrete components, ICs, and connectors.

“O” indicates the hazardous and toxic substance content of the part is lower than the threshold defined by the MCV Standard.

“X” indicates the hazardous and toxic substance content of the part is over the threshold defined by the MCV Standard. In all cases where an X is shown, Dell uses an allowable exemption per EU RoHS.

Applicable electronic information products (EIPs) sold in China must be labeled with an environmental protection use period (EPUP) per China’s “Marking for Control of Pollution Caused by Electronic Information Products” standard. The EPUP label applied to Dell products is based on China’s “General Rule of EPUP for EIP” Standard. For more information on China RoHS, visit www.dell.com/ChinaRoHS.

 **NOTE:** Any rechargeable battery pack in your product should be considered separately from the system because the EPUP number for the battery pack may be shorter than that of the entire system.

Appendix B: End User License Agreement

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