

Dell™ XPS™ 730/730X

Quick Reference Guide

Model DC00

www.dell.com | support.dell.com

Notes, Cautions, and Warnings



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



CAUTION: A CAUTION indicates potential damage to hardware or loss of data if instructions are not followed.



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

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Model DCDO

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Contents

1	Finding Information	7
2	Setting up Your Computer	9
	Front and Back View of the Computer.	9
	Front View	9
	Front I/O Connectors	12
	Back View	13
	Back I/O Connectors	14
	Setting up the Computer.	17
	Installing Your Computer in an Enclosure.	18
	Connecting to a Network	20
3	System Configuration	21
	Network Configuration (XPS 730 Only)	21
	Network Advanced Features.	21
	Graphics Configuration	22
	Multiple Displays	22
	NVIDIA SLI and ATI Crossfire Technologies	23
4	Optimizing Performance	25
	System Setup Based Performance Tuning	25

Software Based Performance Tuning (XPS 730 Only)	26
NVIDIA Performance	26
NVIDIA Monitor	27
5 Troubleshooting	29
Diagnostic Tools	29
Dell™ Diagnostics	29
MP Memory Test	32
Getting More Help	33
Dell Support 3	34
Dell PC Tune-Up	34
Dell PC Checkup	35
Dell Network Assistant	35
DellConnect™	36
Dell Technical Update Service	36
Diagnostic Indicators	36
Power Button LED States	36
Beep Codes	37
Solving Problems	38
Troubleshooting Software and Hardware Problems	38
Drive Problems	39
Memory Problems	40
Power Problems	41
Restoring the Operating System	42
Using Microsoft Windows System Restore	42
Using Dell PC Restore and Dell Factory Image Restore	44

Reinstalling the Operating System	46
Before you Begin	46
Reinstalling Windows XP	46
Reinstalling Windows Vista	48
Using the <i>Drivers and Utilities</i> Media	50
Recommended Driver Installation Order	51
6 Configuring the BIOS	53
System Setup	53
Entering System Setup	53
System Setup Screens	54
System Setup Options	55
Boot Sequence	62
Option Settings	62
A Appendix	65
Specifications	65
Macrovision Product Notice	71
Contacting Dell	72
Index	73

Finding Information



NOTE: Some features or media may be optional and may not ship with your computer. Some features or media may not be available in certain countries.



NOTE: Additional information may ship with your computer.

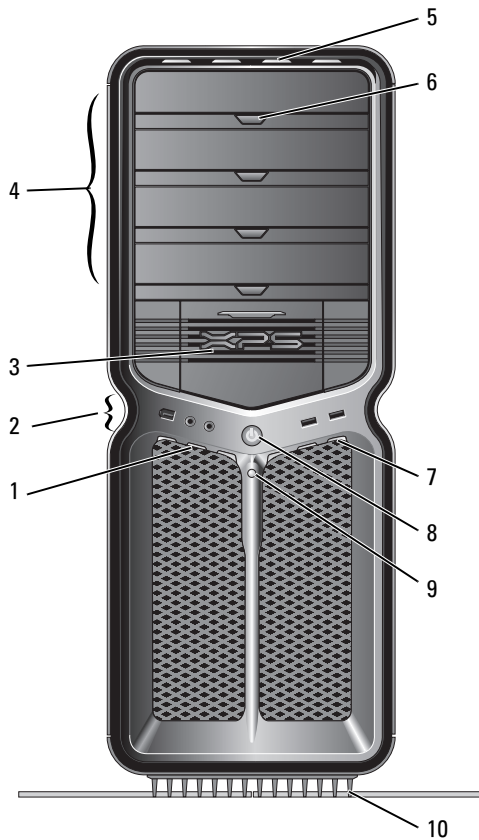
Document/Media/Label	Contents
<p>Service Tag/Express Service Code</p> <p>The <i>Service Tag/Express Service Code</i> is located on your computer.</p>	<ul style="list-style-type: none"> • Use the Service Tag to identify your computer when you use support.dell.com or contact support. • Enter the Express Service Code to direct your call when contacting support.
<p>Drivers and Utilities Media</p> <p>The <i>Drivers and Utilities</i> media is a CD or DVD that may have shipped with your computer.</p>	<ul style="list-style-type: none"> • A diagnostic program for your computer. • Drivers for your computer. <p>NOTE: Drivers and documentation updates can be found at support.dell.com.</p> <ul style="list-style-type: none"> • Desktop System Software (DSS). • Readme files. <p>NOTE: Readme files may be included on your media to provide last-minute updates about technical changes to your computer or advanced technical-reference material for technicians or experienced users.</p>
<p>Operating System Media</p> <p>The <i>Operating System</i> media is a CD or DVD that may have shipped with your computer.</p>	<ul style="list-style-type: none"> • Reinstall your operating system.
<p>Service Manual</p> <p>The <i>Service Manual</i> for your computer can be found at support.dell.com.</p>	<ul style="list-style-type: none"> • How to remove and replace parts. • How to configure system settings. • How to troubleshoot and solve problems.

Document/Media/Label (continued)	Contents
<p>Dell Technology Guide</p> <p>The <i>Dell Technology Guide</i> is available at support.dell.com.</p>	<ul style="list-style-type: none"> • About your operating system. • Using and maintaining peripherals. • Understanding technologies such as RAID, Internet, Bluetooth[®], E-mail, networking, and more.
<p>Microsoft[®] Windows[®] License Label</p> <p>Your Microsoft Windows License is located on your computer.</p>	<ul style="list-style-type: none"> • Provides your operating system product key.
<p>Product safety and warranty information is available as a hardcopy with your computer.</p> <p>For additional regulatory and safety information, see the Regulatory Compliance Homepage at the following location: www.dell.com/regulatory_compliance.</p>	<ul style="list-style-type: none"> • Warranty information • Terms and Conditions (U.S. only) • Safety instructions • Regulatory information • Ergonomics information • End User License Agreement

Setting up Your Computer

Front and Back View of the Computer

Front View



- | | | |
|---|--------------------------------------|--|
| 1 | front panel LEDs (3) | Multi-colored LEDs provide illumination for the front of the computer. |
| 2 | front I/O connectors | Plug USB and other devices into the appropriate connectors (see "Front I/O Connectors" on page 12). |
| 3 | 3.5-inch drive bays (2) | Can hold optional devices such as a Media Card Reader.

NOTE: The Service Tag and Express Service Code are located on a label inside this bay door. |
| 4 | 5.25-inch drive bays (4) | Can hold an optical or SATA hard drive in a 5.25-inch drive bay carrier.

NOTE: The hard drive carrier is only for use in the 5.25-inch drive bays. The floppy-drive/Media Card Reader and hard drive carriers are not interchangeable. |
| 5 | front panel LEDs (4) | Multi-colored LEDs provide illumination for the front of the computer. |
| 6 | optical drive tray eject buttons (4) | Use to eject the drive tray of an optical drive.

NOTE: The optical drive tray eject button is not a handle. The self-tending doors open automatically when the eject button is pressed and the drive tray is ejected. |
| 7 | front panel LEDs (3) | Multi-colored LEDs provide illumination for the front of the computer. |
| 8 | power button | Press to turn on the computer. |



CAUTION: To avoid losing data, do not use the power button to turn off the computer. Instead, perform an operating system shutdown.

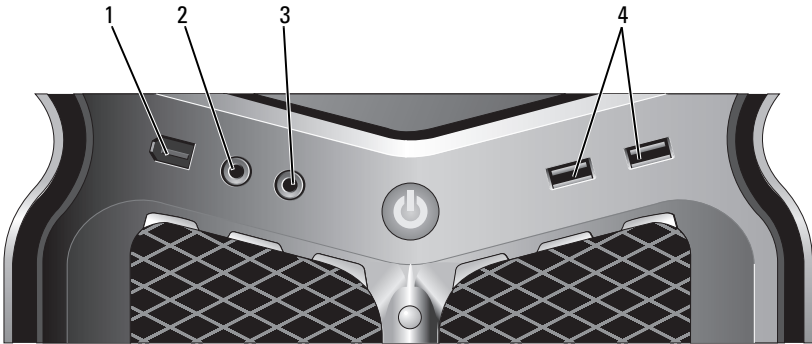
NOTE: The power button can also be used to wake the system or to place it into a power-saving state.

- 9 hard-drive activity LED The hard drive LED is on when the computer reads data from or writes data to the hard drive. The LED may also be on when a device such as your CD player is operating.
- 10 computer stand Attach the computer stand to provide stability to the system.



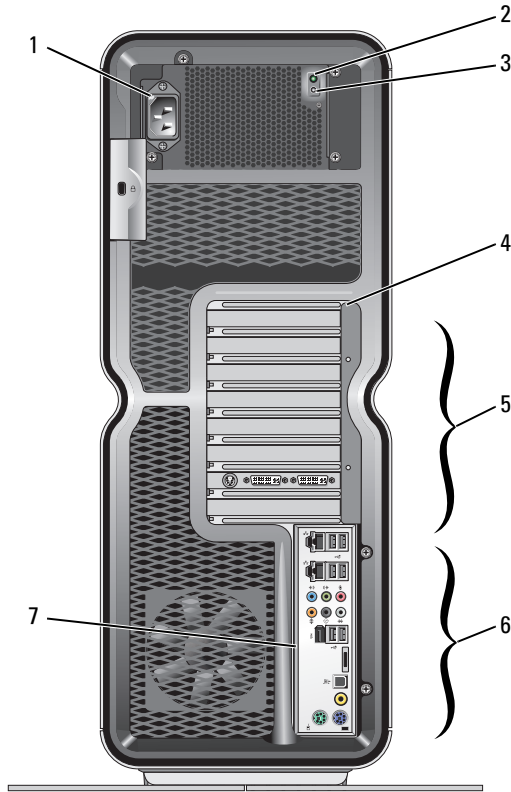
WARNING: The computer stand should be installed and feet extended at all times to ensure maximum system stability. Failure to install the stand could result in the computer tipping over, potentially resulting in bodily injury or damage to the computer.

Front I/O Connectors



- 1** IEEE 1394 connector
Use the IEEE 1394 connector for high-speed data devices such as digital video cameras and external storage devices.
- 2** microphone connector
Use the microphone connector to attach a personal computer microphone for voice or musical input into a sound or telephony program.
- 3** headphone connector
Use the headphone connector to attach headphones.
NOTE: Plugging headphones into this connection may disable rear audio output ports.
- 4** USB 2.0 connectors (2)
Use the front USB connectors for devices that you connect occasionally, such as flash memory keys, cameras, or bootable USB devices.
It is recommended that you use the back USB connectors for devices that typically remain connected, such as printers and keyboards.

Back View



- | | | |
|---|-------------------------------|--|
| 1 | power connector | Insert the power cable. The appearance of this connector may differ from the illustration. |
| 2 | Built in Self Test (BIST) LED | Indicates power availability for the power supply. <ul style="list-style-type: none">• Green light—Indicates power availability for the power supply.• No light—Indicates no power available for the power supply or the power supply is not working. |
| 3 | BIST switch | Use to test the power supply. |
| 4 | back panel LEDs | Multi-colored LEDs provide illumination for the card slots on the back of the computer. |

- 5 card slots Access connectors for any installed PCI or PCI Express (PCIe) cards.
NOTE: Some connector slots support full-length cards.
- 6 back I/O connectors Plug USB and other devices into the appropriate connectors (see "Back I/O Connectors" on page 14).
- 7 rear I/O LED board Multi-colored LEDs provide illumination for the I/O panel on the back of the computer.

Back I/O Connectors



mouse connector

Plug a standard PS/2 mouse into the green mouse connector. If you have a USB mouse, plug it into a USB connector.



keyboard connector

Plug a standard PS/2 keyboard into the purple keyboard connector. If you have a USB keyboard, plug it into a USB connector.



RCA S/PDIF connector

Use the RCA S/PDIF connector to transmit digital audio without going through an analog audio conversion process.



optical S/PDIF connector

Use the optical S/PDIF connector to transmit digital audio without going through an analog audio conversion process.



IEEE 1394 connector

Use the IEEE 1394 connector for high-speed data devices such as digital video cameras and external storage devices.



rear surround out

Use the (black) surround sound connector to attach multichannel-capable speakers.



center/LFE
surround out

Use the (orange) subwoofer connector to attach a single subwoofer.

NOTE: The LFE (Low Frequency Effects) audio channel, found in digital surround sound audio schemes, carries only low frequency information of 80 Hz and below. The LFE channel drives a subwoofer to provide extremely low bass extension. Systems not using subwoofers can shunt the LFE information to the main speakers in the surround sound setup.



line-in
connector

Use the (blue) line-in connector to attach a record/playback device such as a cassette player, CD player, or VCR.

On computers with a sound card, use the connector on the card.



line-out
/headphone
connector

Use the (green) line-out connector to attach headphones and speakers with integrated amplifiers.

On computers with a sound card, use the connector on the card.



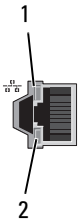
microphone
connector

Use the (pink) microphone connector to attach a personal computer microphone for voice or musical input into a sound or telephony program.



side surround
sound
connector

Use the (silver) side surround connector to attach additional speakers.



1 network adapter connectors (2)

Use the network adapter connector to attach your computer to a network or broadband device.

Connect one end of a network cable to either a network jack or your network or broadband device, and then connect the other end of the network cable to the network adapter connector on your computer. A click indicates that the network cable has been securely attached.

NOTE: It is recommended that you use Category 5 wiring and connectors for your network. If you must use Category 3 wiring, force the network speed to 10 Mbps to ensure reliable operation.

1 - network activity LED

Flashes a yellow light when the computer is transmitting or receiving network data. A high volume of network traffic may make this LED appear to be in a steady "on" state.

2 - link integrity LED

- 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-Gbps) network and the computer.
- Off (no light) — The computer is not detecting a physical connection to the network.



USB 2.0 connectors (6)

Use the back USB connectors for devices that typically remain connected, such as printers and keyboards.

NOTE: It is recommended that you use the front USB connectors for devices that you connect occasionally, such as flash memory keys, cameras, or bootable USB devices.



eSATA connector

Use to connect additional storage devices.

Setting up the Computer

Your computer ships with the computer stand already installed.

With the computer sitting in an upright position, carefully lift the rear of the computer, and extend the stabilizing feet fully. The extended feet ensure maximum system stability.

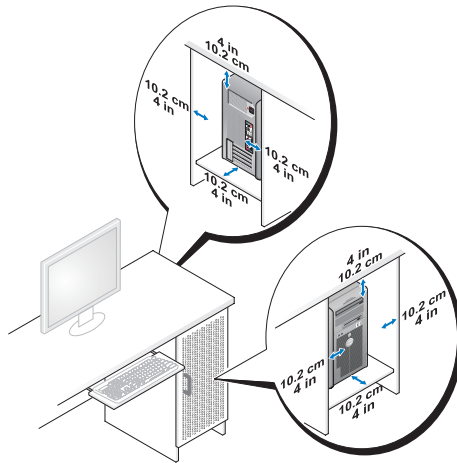


Installing Your Computer in an Enclosure

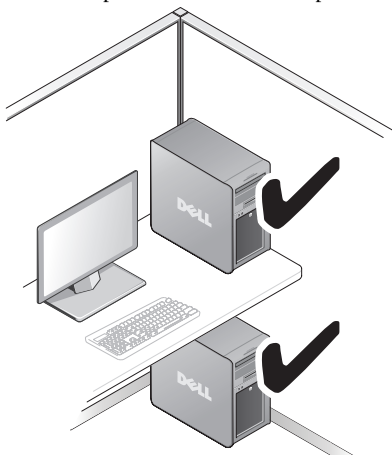
Installing your computer in an enclosure can restrict the airflow and impact your computer's performance, causing it to overheat. It is not recommended to install the computer in an enclosure. However, if you must install the computer in an enclosure, refer to the following guidelines:

△ CAUTION: The operating temperature specifications reflect the maximum ambient operating temperature. The room's ambient temperature needs to be a consideration when installing your computer in an enclosure. For example, if the ambient room temperature is at 25° C (77° F), depending on your computer's specifications, you only have 5° to 10° C (9° to 18° F) temperature margin before you reach your computer's maximum operating temperature. For details about your computer's specifications, see "Specifications" on page 65.

- Leave a 10.2 centimeter (4 inch) minimum clearance on all vented sides of the computer to permit the airflow required for proper ventilation.
- If your enclosure has doors, they need to be of a type that allows at least 30% airflow through the enclosure (front and back).



- If your computer is installed in a corner on a desk or under a desk, leave at least 5.1 centimeters (2 inches) of clearance from the back of the computer to the wall to permit airflow required for proper ventilation.




- Do not install your computer in an enclosure that does not allow airflow. Restricting the airflow impacts your computer's performance, possibly causing it to overheat.

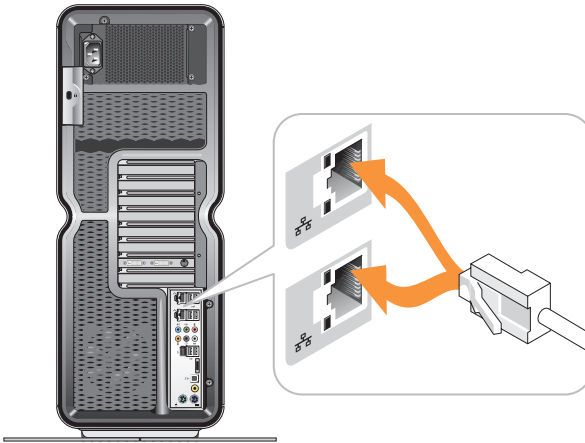
Connecting to a Network

To connect the system to a network:


- 1 Connect one end of a network cable to your network device (router, network switch, cable modem/DSL).
- 2 Connect the other end of the network cable to one of the network adapter connections on the back of your computer.

A click indicates that the network cable is securely attached.

 **NOTE:** Your computer is configured with two integrated network adapter connections. These connections support advanced configuration options. See "Network Advanced Features" on page 21.



If you have an expansion network adapter (PCI, PCIe), plug your network cable into that adapter.

 **NOTE:** It is recommended that you use Category 5 wiring and connectors for your network. If you must use Category 3 wiring, force the network speed to 10 Mbps to ensure reliable operation.

System Configuration



NOTE: Some features listed below may not be available or may vary on a Dell™ XPS™ 730X computer. For more information, go to the Dell Support website at support.dell.com.

Dell ships your computer to you already configured. This section details instructions in case you need to re-create or modify your system's configuration.

Network Configuration (XPS 730 Only)

Network Advanced Features

The NVIDIA Control Panel offers two tools to help you modify your network traffic: NVIDIA FirstPacket and TCP/IP acceleration.

You can access these tools via the NVIDIA Control Panel located in the Windows® Control Panel.

NVIDIA FirstPacket

NVIDIA FirstPacket lets you manage the traffic on your system, allowing you to more effectively manage and improve the performance of networked games and other applications that are sensitive to network delay (latency), such as Voice-over-IP (VoIP).

NVIDIA FirstPacket creates an additional transmit queue in the network driver so that network applications can share a limited resource. Based on user preference, NVIDIA FirstPacket can expedite transmission for user-approved network applications.

TCP/IP Acceleration



NOTE: Enabling TCP/IP acceleration enhances your network performance but can cause your network traffic to bypass the firewall because all processes are off-loaded to the hardware.

TCP/IP acceleration technology is a networking solution that moves the processing of TCP/IP network traffic from your computer's CPU to its nForce hardware resulting in greatly improved system performance.

Graphics Configuration



WARNING: Before you perform any of the procedures in this section, follow the safety instructions that shipped with your computer.

Dell has configured your graphics sub-system to perform a wide range of applications.

You may customize your graphic's configuration and performance to fit your personal needs. This includes enabling multiple monitors, NVIDIA SLI or ATI Crossfire technologies, and other advanced features.

Multiple Displays

Depending on the video solution you purchased, you may be able to enable support for two or more displays. The process of enabling multiple display support involves attaching the additional displays and configuring the video driver software or control panel to support them.



WARNING: Before you perform any of the procedures in this section, follow the safety instructions that shipped with your computer.

To attach an additional display:

- 1 Ensure that the computer and all attached devices are turned off.
- 2 Connect the new display(s) to the appropriate port on the video card(s).



NOTE: Configurations that include multiple graphics cards ship from the factory with the video ports on the secondary cards capped by a plastic cover. These covers may be removed to access these additional video ports.

Changing the Display Setting to Support Two or More Monitors

After connecting the additional displays you will need to enable them in the video driver software. The exact steps to do this vary by video card and installed driver revision, however, in most cases this can be done via the video card's Control Panel applet (NVIDIA Control Panel or ATI Catalyst Control Center). See the Help files for these applets for full instructions and options.



NOTE: When connecting additional display(s) to a video solution that includes multiple video cards, the added displays will be blank until multi-GPU rendering technologies (NVIDIA SLI or ATI Crossfire) are disabled.

NVIDIA SLI and ATI Crossfire Technologies

Your computer supports up to three PCIe graphics cards. Two or more identical graphic cards can be configured to enable NVIDIA SLI (Scalable Link Interface) or ATI Crossfire technologies. Doing so can increase gaming and 3D application performance.

Detailed information about the benefits of using these technologies can be found on the NVIDIA and ATI web sites respectively.

If you selected a multi-card configuration at point of purchase, your computer includes all of the required hardware to enable NVIDIA SLI or ATI Crossfire technology.

If you are upgrading from a single card configuration to a dual card configuration, you will need to purchase the appropriate hardware "bridge" to link the cards. If you are upgrading from a dual card configuration to a triple card configuration, you will need to replace the existing dual card bridge with the appropriate three card bridge to link the cards.

Enabling NVIDIA SLI Technology (XPS 730 Only)

Supporting SLI requires two or more identical NVIDIA SLI-capable graphics cards, an SLI bridge, and the latest available driver revision.

Enabling NVIDIA SLI technology is done via the NVIDIA Control Panel applet found in the Windows Control Panel. After opening the applet, select the **Set SLI Configuration** option. Choose the **Enable SLI technology** option to enable SLI.



NOTE: SLI configurations only support a single display. When enabling SLI technology, any additional displays will be disabled.

Enabling ATI Crossfire Technology

Supporting Crossfire technology requires two or more compatible, ATI Crossfire-capable graphics cards, a Crossfire bridge (for the best performance) and the latest available driver revision.

Enabling ATI Crossfire technology is done via the ATI Catalyst Control Center applet found in the Windows Control Panel. After opening the applet select the **Crossfire** option. Click the **Enable Crossfire** option to enable Crossfire.



NOTE: Crossfire configurations only support a single display. When enabling Crossfire technology, any additional displays will be disabled.

Optimizing Performance



NOTE: Some features listed below may not be available or may vary on a Dell™ XPS™ 730X computer. For more information, go to the Dell Support website at support.dell.com.

Dell has configured your computer to operate optimally across a wide range of applications. Depending on the configuration you purchased, the computer may have been overclocked by the Dell factory to achieve maximum performance in resource intensive applications including gaming and multimedia development.



CAUTION: It is not recommended to operate the processor or other system components beyond the settings configured at the Dell factory. Doing so may cause system instability, reduced component operating life, or permanent component damage.

Advanced users who are interested in manually tuning the computer may do so via the computer's System Setup or by advanced configuration software.



CAUTION: Dell Technical Support verifies the full functionality of the computer at the factory configured settings. Dell does not provide technical support for any hardware or software issues arising from operating the system beyond the factory configured settings.

System Setup Based Performance Tuning

The settings available under the Advanced page of the System Setup provide users with enhanced access to the options and controls that allow for computer performance to be manually tuned.



CAUTION: System Setup allows users unrestricted access when setting performance related parameters. Improperly configuring these settings or choosing options outside the capabilities of the installed components may cause system instability, reduced component operating life, or permanent component damage.

Software Based Performance Tuning (XPS 730 Only)

Your computer includes components compatible with NVIDIA ESA (Enthusiast System Architecture). ESA is a PC protocol for real-time monitoring and control of system's thermal, electrical, acoustic, and operating characteristics.

For the advanced user, Dell has pre-installed applications for monitoring and "tweaking" the performance of installed, ESA compatible components.

For more information about ESA, see nvidia.com/object/nvidia_esa.html

NVIDIA Performance

The NVIDIA Performance application integrates many of the functions previously available in the NVIDIA nTune application into the Performance section of the NVIDIA Control Panel.



NOTE: Using the Performance section of the NVIDIA Control Panel may require the user to accept an End User License Agreement.

Device Settings

When launched, the application detects installed ESA compatible devices such as CPUs, video cards, memory, system board, and chassis components.

Selecting a component in the Device Settings interface displays the available settings and options for that component. Advanced users can manually tune these options to tailor and customize their computer's performance.

These settings can be saved to profiles to be recalled at a later time.



CAUTION: System Setup allows users unrestricted access when setting performance related parameters. Improperly configuring these settings or choosing options outside the capabilities of the installed components may cause system instability, reduced component operating life, or permanent component damage.

Dynamic BIOS Access

This section of the NVIDIA Control Panel allows you to change available BIOS settings via a Windows[®] user interface. Changes to these options and settings take effect on the next reboot.

View System Information

This section of the NVIDIA Control Panel allows you to view version information for the computer and installed drivers. This information can be saved to a file for further review and also for technical support scenarios.

Profile Policies

The Profile Policies section allows you to define when and how profiles saved in the Device Settings section are used.

LED Control

Through the LED Control section, you can customize the color and intensity of the chassis LEDs. You may also create, save, and apply customized LED effects through this interface.

NVIDIA Monitor

The NVIDIA Monitor application allows you to monitor, track, and log performance characteristics of compatible components inside your computer.

The data can be used to track the computer's performance over time as well as evaluate the effectiveness of a change made to system configuration.

When launched, the application detects installed ESA compatible devices such as CPUs, video cards, memory, system board, and chassis components. Selecting a component in the interface displays real-time data for the available operating characteristics of that component. These characteristics may include voltages, fan speeds, usage, temperatures, and more.

You can customize the NVIDIA Monitor to:

- Choose key performance characteristics to monitor, graph, and log.
- Set reporting intervals and performance thresholds.
- Configure and log user defined events.
- Customize application key strokes.

Troubleshooting



WARNING: Before working inside your computer, read the safety information that shipped with your computer. For additional safety best practices information, see the Regulatory Compliance Homepage at www.dell.com/regulatory_compliance.

Diagnostic Tools

Dell™ Diagnostics

If you experience a problem with your computer, perform the checks in "Solving Problems" on page 38 and run Dell Diagnostics before you contact Dell for technical assistance.



NOTE: Dell Diagnostics only operate on Dell computers. You can run Dell Diagnostics from your hard drive or from the *Drivers and Utilities* media.

Starting Dell Diagnostics From Your Hard Drive

- 1 Turn on (or restart) your computer.
- 2 When the DELL logo appears, press <F12> immediately.



NOTE: Keyboard failure may result when a key is held down for extended periods of time. To avoid possible keyboard failure, press and release <F12> in even intervals to open the Boot Device Menu.



NOTE: If at any time a message appears stating that no diagnostics utility partition has been found, run Dell Diagnostics from your *Drivers and Utilities* media.

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.

- 3 At the Boot Device Menu, use the up- and down- arrow keys or press the appropriate number on the keyboard to highlight **Boot to Utility Partition**, and then press <Enter>.



NOTE: The Quickboot feature changes the boot sequence for the current boot only. Upon restart, the computer boots according to the boot sequence specified in system setup.

- 4 At the Dell Diagnostics Main Menu, left-click with the mouse, or press <Tab> and then <Enter>, to select the test you want to run.



NOTE: Write down any error codes and problem descriptions exactly as they appear and follow the instructions on the screen.

- 5 After all tests are complete, close the test window to return to the Dell Diagnostics Main Menu.
- 6 Close the Main Menu window to exit Dell Diagnostics and restart the computer.

Starting Dell Diagnostics From the *Drivers and Utilities Media*

- 1 Turn on (or restart) your computer.
- 2 Press the eject button on the front of the optical drive to open the drive tray.
- 3 Place the *Drivers and Utilities* media in the center of the drive tray, then press the eject button or gently push on the tray to close it.
- 4 Restart the computer.
- 5 When the DELL logo appears, press <F12> immediately.



NOTE: Keyboard failure may result when a key on the keyboard is held down for extended periods of time. To avoid possible keyboard failure, press and release <F12> in even intervals until the **Boot Device Menu** appears.

If you wait too long and the Windows logo appears, continue to wait until you see the Windows desktop, then shut down your computer and try again.

- 6 At the Boot Device Menu, use the up- and down- arrow keys or press the appropriate number on the keyboard to highlight **Onboard or USB CD-ROM**, and then press <Enter>.



NOTE: The Quickboot feature changes the boot sequence for the current boot only. Upon restart, the computer boots according to the boot sequence specified in system setup.

- 7 At the CD-ROM Startup Menu, use the up- and down- arrow keys or press the appropriate number on the keyboard to highlight **Boot from CD-ROM**, and then press <Enter>.

If you wait too long and the Windows logo appears, continue to wait until you see the Windows desktop, then shut down your computer and try again.

- 8 Press <1> to select the Dell Diagnostics.
- 9 At the Dell Diagnostics Menu, press <1> to select Dell Diagnostics (graphical user interface).
- 10 At the Dell Diagnostics Main Menu, left-click with the mouse, or press <Tab> and then <Enter>, to select the test you want to run.



NOTE: Write down any error codes and problem descriptions exactly as they appear and follow the instructions on the screen.


- 11 After all tests are complete, close the test window to return to the Dell Diagnostics Main Menu.
- 12 Remove the *Drivers and Utilities* media, then close the Main Menu window to exit Dell Diagnostics and restart the computer.

Dell Diagnostics Main Menu

The following tests can be run from the Dell Diagnostics Main Menu.

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

For any problem encountered during a test, a message appears with an error code and a description of the problem. Write down the error code and problem description exactly as it appears and follow the instructions on the screen. If you cannot resolve the problem, contact Dell (see "Contacting Dell" on page 72).

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

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

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 any requirements for running the test.
Configuration (Custom Test only)	Displays the hardware configuration for the selected device. The Dell Diagnostics obtains configuration information for 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. NOTE: The device list may not display the names of all the components installed on your computer or all devices attached to your computer.
Parameters (Custom Test only)	Allows you to customize the test, if applicable, by changing the test settings.

MP Memory Test

The MP (Multi-Processor) Memory Test is a sub-set of the Dell Diagnostics that runs a thorough, hardware-level test of your system memory. If you suspect a memory issue, run the MP Memory Test using the following instructions:

- 1 Turn on (or restart) your computer.
- 2 When the DELL logo appears, press <F12> immediately.

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.

- 3** At the **Boot Device Menu**, use the up- and down-arrow keys or press the appropriate number on the keyboard to highlight **Boot to Utility Partition**, and then press <Enter>.
- 4** Select **Test Memory** by using the <Tab> key. If you do not see Test Memory, MP Memory is not available.

Getting More Help

The Dell Support Center provides service, support, and system-specific information. To obtain detailed information about Dell Support Center and the available support tools, visit the Consumer Services home page at support.dell.com.

Click the Dell Support Center icon  on your computer's desktop to run the program and to access the following features:

- Self-help tools such as Dell Support 3, Dell PC Tune-Up, Dell PC Checkup, and Network Assistant.
- DellConnect for remote, real-time technical support.
- Dell support contact information including e-mail and online chat addresses, as well as telephone numbers.
- Resources specific to your computer are available under the **Drivers & Downloads, Upgrades, and System Information** sections.

The top of the Dell Support Center home page displays your computer's model number along with its Service Tag, Express Service Code, and warranty expiration details. When permissions are given to Dell to use your Service Tag, additional details about your computer, such as available memory, disk space, installed hardware, network addresses, modem specifications, installed security software, and much more are provided.

In addition, using your Service Tag, Dell can link you to the most relevant dell.com web pages for information about your warranty, ordering accessories, and details about installing recommended drivers and downloads.

Dell Support 3

Dell Support 3 is customized for your computing environment. This utility provides self-support information, software updates, and health scans for your computer. Use this utility for the following functions:


- Check your computing environment.
- View the Dell Support 3 settings.
- Access the Dell Support 3 help file.
- View frequently asked questions.
- Learn more about Dell Support 3.
- Turn off Dell Support 3.

For more information about Dell Support 3, click the question mark (?) at the top of the Dell Support 3 window.


To access Dell Support 3:

- Click the Dell Support 3 icon  in the notification area of your Windows desktop.



NOTE: The  icon functions vary depending on whether you click, double-click, or right-click the icon.

OR

- Click the Start button  → All Programs → Dell Support 3 → Dell Support Settings. Ensure that the Show icon on the taskbar option is checked.



NOTE: If Dell Support 3 is not available from the Start menu, go to support.dell.com and download the software.

Dell PC Tune-Up

The automated or monthly version of Dell PC Tune-Up allows you to choose the day and time of the month you want your computer "tuned up." A typical tune-up includes hard drive defragmentation, removal of unwanted and temporary files, updated security settings, verification of "good" restore points, and other maintenance activities designed to improve computer performance and security.

The monthly version is available as an annual subscription and is a feature of Dell Support 3, a complimentary application that provides real-time health scans and information on how to maintain your computer (see "Dell Support 3" on page 34).

Both versions of PC Tune-Up are available to customers in the U.S. and Canada. To learn more about the monthly version and how easy it is to keep your computer running at peak performance, visit the PC Tune-Up page in the Services page at support.dell.com.

Dell PC Checkup

Dell PC Checkup is a troubleshooting and diagnostic tool that provides customized scanning and testing of your Dell computer. PC Checkup verifies whether your hardware is working properly and provides automated fixes for common configuration concerns. It is recommended that you run PC Checkup on a regular basis or before contacting Dell for assistance. The application creates a detailed report that Dell technicians can use to resolve your computer issue quickly.


Dell Network Assistant

Designed specifically for users of Dell computers, the Dell Network Assistant helps simplify the setup, monitoring, troubleshooting, and repair of your network.

Dell Network Assistant provides the following features:

- Consolidated setup, alerting, and device status.
- Simplified tracking of networked devices through a visual display of network status.
- Proactive troubleshooting and repair of network problems.
- Tutorials, setup wizards, and frequently asked questions (FAQs) to enhance understanding of networking principles.

To access Dell Network Assistant:


- 1** Click the Dell Support Center icon  on your computer's desktop.
- 2** Click Self Help→Network /Internet→Network Management.

DellConnect™

DellConnect is a simple online access tool that allows a Dell service and support associate to access your computer through an Internet connection, diagnose the problem, and repair it. The associate works with your permission under your supervision, and you can work with Dell's associate during the troubleshooting session.

To use this service, you must have an Internet connection and your Dell computer must be under warranty. DellConnect is also available for a fee through Dell On Call.

To begin a live session with a Dell associate:

- 1 Click the Dell Support Center icon  on your computer's desktop.
- 2 Click Assistance From Dell → Technical Support → DellConnect → Phone and follow the instructions.

Dell Technical Update Service

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

To enroll for the Dell Technical Update service, go to support.dell.com/technicalupdate.

Diagnostic Indicators

Power Button LED States

The power button LED located on the front of the computer illuminates and blinks or remains solid to indicate different states:

- If the power button LED is white, the computer is powered on and operating normally.
- If the power button LED is flashing white, the computer is in standby mode. Press a key on the keyboard, move the mouse, or press the power button to resume normal operation.

- If the power button LED is off, the computer is either turned off or is not receiving power.
 - Reseat the power cable into both the power connector on the back of 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.
 - 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.
 - Ensure that the main power cable and front panel cable are securely connected to the system board (see the *Service Manual* at support.dell.com).



NOTE: All front panel and back panel LEDs will turn off during sleep states.

Beep Codes

Your computer may emit a series of beeps during start up. The series of beeps is called a beep code and can be used to help identify a problem with your computer.

If your computer emits a series of beeps during start-up:

- 1 Write down the beep code.
- 2 Run the Dell Diagnostics to identify the cause (see "Dell™ Diagnostics" on page 29).
- 3 See "Contacting Dell" on page 72 for instructions on obtaining technical assistance.

Code (repetitive short beeps)	Description
1	BIOS ROM checksum in progress or failure. Possible motherboard failure.
2	No memory detected.
3	Possible motherboard failure. <ul style="list-style-type: none"> • Chipset error • Time-of-day clock test failure • Gate A20 failure • Super I/O chip failure • Keyboard controller test failure
4	RAM Read/Write failure. Possible memory failure.
5	RTC power failure. Possible CMOS battery failure.
6	Video BIOS test failure. Possible video card failure.
7	CPU Cache test failure (Intel CPU only). Possible CPU failure.

Solving Problems

Troubleshooting Software and Hardware Problems


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.

Windows XP:


- 1 Click **Start** and click **Help and Support**.
- 2 Type `hardware troubleshooter` in the **Search** field and click the arrow to start the search.

- 3 Click **Hardware Troubleshooter** in the **Search Results** list.
- 4 In the **Hardware Troubleshooter** list, click **I need to resolve a hardware conflict on my computer**, and click **Next**.

Windows Vista:

- 1 Click **Start**  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.

Battery Problems

 **WARNING: There is a danger of a new battery exploding if it is incorrectly installed. Replace the battery only with the same or equivalent type recommended by the manufacturer. Discard used batteries according to the manufacturer's instructions.**

REPLACE THE BATTERY — If you have to repeatedly reset time and date information after turning on the computer, or if an incorrect time or date displays during start-up, replace the battery (see the *Service Manual* at support.dell.com). If replacing the battery does not solve the problem, contact Dell.

Drive Problems

ENSURE THAT MICROSOFT® WINDOWS® RECOGNIZES THE DRIVE —

Windows XP:

- Click **Start** and click **My Computer**.

Windows Vista:

- Click **Start**  and click **Computer**.

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

TEST THE DRIVE —

- Insert another disc to eliminate the possibility that the original drive is defective.
- Insert a bootable media and restart the computer.

CLEAN THE DRIVE OR DISK

CHECK THE CABLE CONNECTIONS

RUN THE HARDWARE TROUBLESHOOTER — See "Troubleshooting Software and Hardware Problems" on page 38.

RUN THE DELL DIAGNOSTICS — See "Dell™ Diagnostics" on page 29.

Hard drive problems

RUN CHECK DISK —

Windows XP:

- 1 Click **Start** and click **My Computer**.
- 2 Right-click **Local Disk C:**.
- 3 Click **Properties**→**Tools**→**Check Now**.
- 4 Click **Scan for and attempt recovery of bad sectors** and click **Start**.

Windows Vista:

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

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

- 4 Follow the instructions on the screen.

Memory Problems

IF YOU EXPERIENCE MEMORY PROBLEMS —

- Reseat the memory modules (see the *Service Manual* at support.dell.com) to ensure that your computer is successfully communicating with the memory.
- Ensure that you are following the memory installation guidelines (see the *Service Manual* at support.dell.com).
- Ensure that the memory you are using is supported by your computer. For more information about the type of memory supported by your computer, see "Specifications" on page 65.
- Remove all memory and test one module at a time in the slot closest to the microprocessor (see the *Service Manual* at support.dell.com).
- Run the MP Memory Test (see "MP Memory Test" on page 32).
- Run the Dell Diagnostics (see "Dell™ Diagnostics" on page 29).

Power Problems

ENSURE THAT ALL COMPONENTS AND CABLES ARE PROPERLY INSTALLED AND SECURELY CONNECTED TO THE SYSTEM BOARD.

A device may be malfunctioning or incorrectly installed.

- Remove and then reinstall all memory modules.
- Remove and then reinstall any extension cards, including graphics cards.

IF THE POWER LIGHT IS OFF

The computer is either turned off or is not receiving power.

- Reconnect the power cable in the power connector on the back of the computer and the electrical outlet.
- Bypass power strips, power extension cables, and other power protection devices to verify that the computer turns on properly.
- Ensure that any power strips being used are plugged into an electrical outlet and are turned on.
- Ensure that the electrical outlet is working by testing it with another device, such as a lamp.
- Ensure that the main power cable and front panel cable are securely connected to the system board (see the *Service Manual* at support.dell.com).
- Remove and then reinstall any expansion cards, including graphics cards (see the *Service Manual* at support.dell.com).

TEST THE POWER SUPPLY USING THE BUILT-IN-SELF TEST (BIST) — The power supply includes a built-in-self test to diagnose power supply issues. The test may be performed with the following steps:

- 1** Remove all external peripherals.
- 2** Ensure the system is plugged directly into a working outlet.
- 3** Press the BIST switch on the back of the power supply. If the LED lights green, the power supply is operating normally. If the LED does not light, follow these steps to troubleshoot the issue:
 - a** Unplug the power cord from the power supply. Open the computer cover.
 - b** Unplug the power supply cable harness from the power supply.
 - c** Plug the power cord back into the power supply and retest the power supply using the BIST switch.
 - If the LED lights green, the power supply is operating normally. An internal component is likely causing the power failure. Contact technical support for further troubleshooting.
 - If the LED does not light green, contact technical support for further troubleshooting.

Restoring the Operating System

You can restore your operating system to a previously stable point in the following ways:

- Microsoft Windows System Restore is a integrated component of Windows XP and Windows Vista. Microsoft Windows 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 PC Restore by Symantec (available in Windows XP) and Dell Factory Image Restore (available in Windows Vista) restores your hard drive to the operating state it was in when you purchased the computer. These processes permanently delete all data on the hard drive and remove any programs installed after you received the computer. Use Dell PC Restore or Dell Factory Image Restore only if System Restore did not resolve your operating system problem.

Using Microsoft Windows System Restore

The Windows operating systems provide 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.



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 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

Windows XP:

 **CAUTION:** 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.

- 1 Click Start→All Programs→Accessories→System Tools→System Restore.
- 2 Click either Restore my computer to an earlier time or Create a restore point.
- 3 Click Next and follow the remaining prompts on the screen.

Windows Vista:


- 1 Click the Start  button.
- 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.
- 4 In the event that System Restore did not resolve the issue, you may undo the last system restore.


Undoing the Last System Restore

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


Windows XP:


- 1 Click Start→All Programs→Accessories→System Tools→System Restore.
- 2 Click Undo my last restoration and click Next.

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 PC Restore and Dell Factory Image Restore

 **CAUTION:** Using Dell PC Restore or 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 Dell PC Restore or Dell Factory Image Restore only if the Microsoft Windows System Restore did not resolve your operating system problem.


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

Use Dell PC Restore (Windows XP) or Dell Factory Image Restore (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 XP: Dell PC Restore

Using PC Restore:


- 1 Turn on the computer. During the boot process, a blue bar with www.dell.com appears at the top of the screen.
- 2 When the blue bar appears, press <Ctrl><F11>. If you do not press <Ctrl><F11> in time, let the computer finish starting, and then restart the computer again.

 **CAUTION:** If you do not want to proceed with PC Restore, click **Reboot**.

- 3 Click **Restore** and click **Confirm**.

The restore process takes approximately 6 to 10 minutes to complete.

- 4 When prompted, click **Finish** to reboot the computer.

 **NOTE:** Do not manually shut down the computer. Click **Finish** and let the computer completely reboot.

- 5 When prompted, click **Yes**.

The computer restarts. Because the computer is restored to its original operating state, the screens that appear, such as the End User License Agreement, are the same ones that appeared the first time the computer was turned on.

- 6 Click **Next**.

The System Restore screen appears and the computer restarts.

- 7 After the computer restarts, click **OK**.

Windows Vista: Dell Factory Image Restore

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**.

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 with administrator level permissions.

- 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.



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

- 7 Click the check box 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.

Reinstalling the Operating System

To reinstall Windows, you need the following items:

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

Before you Begin

Reinstalling your Operating System from media will completely remove all data from your hard drive. It is important to make a full backup of any files, internet favorites, photos, documents, movies, music, e-mail archives, or other media and personal information you wish to keep.

Reinstalling your Operating System from media will also require the user to reinstall all hardware drivers for their installed components. These drivers and software may be found on the provided media or under the Drivers and Downloads section of support.dell.com.



NOTE: The Dell *Drivers and Utilities* media contains drivers that were installed during the assembly of the computer. Use the Dell *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 Dell *Drivers and Utilities* media and *Operating System* media may not ship with your computer.


Reinstalling your Operating System from media will also require the user to reinstall all software and applications including any productivity applications (Microsoft Office), e-mail applications, graphics and audio applications, media player software, DVD playback software, antivirus, and spyware utilities. Where applicable, Dell provides media for the reinstallation of these applications. Some utilities and software may be found under the Drivers and Downloads section of support.dell.com.

Reinstalling Windows XP


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.




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

 **NOTE:** It is strongly recommended that you use the provided Dell *Operating System* media when reinstalling the operating system. The Dell media includes all necessary drivers required to install Windows XP. Using retail or third party media may require the user to provide additional drivers during the installation of the operating system.

- 1 Insert the Windows XP CD in the CD drive, and restart your computer.
- 2 After the initial installation files are loaded, press the <Enter> key to set up Windows XP.
- 3 In the **Windows XP Licensing Agreement**, read the license agreement. Press the <Page Down> key to scroll through the agreement.
- 4 Press the <F8> key to accept the terms and conditions specified in the license agreement.

 **NOTE:** By default, Unpartitioned Space is highlighted. If any other partitions appear that were not previously created by you, they may include a PC Restore partition (2.7 to 4.75 GB) or a MediaDirect (1.2 GB) partition for portable computers.

- 5 In the **Windows XP Setup** partition screen, choose a partition to install the Operating System. You may also choose to remove a partition or create a new partition for the installation.
- 6 The **Windows XP Setup** screen appears with **Format the partition using the NTFS file system** highlighted; press the <Enter> key, or the <F> key if applicable, to format the partition.
- 7 After formatting the partition, **Windows XP Setup** will copy the necessary files to the partition and restart the computer.

 **NOTE:** Do not press any keys if the message **Press any key to boot from the CD** appears.

The amount of time it takes to complete the above process varies, depending on the speed and size of the computer.

- 8 Click the **Next** button on the **Regional and Language Options** window. The **Personalize Your Software** screen appears.
- 9 Type your name in the **Name:** field and your organization's name in the **Organization:** field, if applicable, and click **Next**. The Computer Name screen appears.

- 10 Type the computer name in the Computer Name: field if you want to change it from the name provided.




NOTE: For Windows XP Professional Edition users, type a password in the Administrator Password: field and then type the same password in the Confirm Password: field.

- 11 Click Next.

The **Modem Dialing Information** screen appears.




NOTE: Only computers with a modem installed will see the Modem Dialing Information section. If your computer does not have a modem, skip to step 15 for Date and Time Settings.

- 12 Click to select the correct country/region for the **What Country/Region are you in now?** box.
- 13 Type your area code in the **What area code (or city code) are you in now?** box and the number in the **If you dial a number to reach an outside line, what is it?** box, if applicable.
- 14 Click to select one of the items below for **The phone system at this location uses:** box:
 - Tone dialing if your phone service uses tone dialing.
 - Pulse dialing if your phone service uses pulse dialing.
- 15 Click Next. The **Date and Time Settings** screen appears.
- 16 Verify that the correct **Date**, **Time**, and **Time Zone** appear, and click **Next**. The Networking Settings screen appears after several minutes.
- 17 Click to select **Typical**, and click **Next**.
 -  **NOTE:** If available, click **Skip** to skip the networking setup section. For Windows XP Professional users, click to select **No, this computer is not on a network**, and click **Next**.
- 18 The computer restarts and continues with the setup program.

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 (see "Using the Drivers and Utilities Media" on page 50), virus protection program, and other software.

 **CAUTION:** The *Operating System* 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 Insert the *Operating System* media into the DVD drive of the computer.
- 2 Restart (or power on) the computer.
- 3 Press the <F12> key as soon as the keyboard lights up.

The **Boot Menu** appears.

A window appears that says **Press any Key to Boot from a CD or DVD**.

- 4 Press a key on the keyboard.
 - 5 Click **Language, Time, Currency and Keyboard Method**, and then click **Next**.
 - 6 On the **Windows Vista Installation** page, click **Install Now**.
 - 7 Review the terms and click **I accept the license terms** to proceed.
 - 8 On the **Which type of installation do you want?** window, click **Custom (advanced)**.
 - 9 On the **Where do you want to install Windows** window, click **Drive options (advanced)**.
 - 10 Click **Disk 0 Partition 1**, and then click **Delete**.
 - 11 On the **If you delete this partition, all data stored on it will be permanently deleted** window, click **OK**.
 - 12 On the **Where do you want to install Windows** window, click **New**.
 - 13 When prompted to select the size of the file, select the size, and then click **Apply**.
 - 14 Click to select the partition, and then click **Format**.
 - 15 On the **If you format this partition, all data stored on it will be permanently deleted** window, click **OK**.
On the **Where do you want to install Windows** window, click **Next**.
The **Installing Windows** window appears.
-  **NOTE:** Your computer will restart several times during installation.
- 16 The **Setup** window appears.

- 17 Select a user name, password, and picture for your user account.
- 18 On the **Choose a computer name and choose a desktop background** window, click **Next**.
- 19 On the **Help Protect Windows automatically** window, click **Use Recommended Settings**.
The **Review your time and date settings** window appears.
- 20 Click to select your time zone, and then click **Next**.
The **Thank you** window appears.
- 21 Click **Start**.

Using the *Drivers and Utilities Media*

Once you have successfully reinstalled your operating system, you need to load the appropriate drivers for your installed hardware. These drivers are included on the *Drivers and Utilities media*.

- 1 When the Windows desktop displays, insert the *Drivers and Utilities media*.
- 2 When the Drivers and Utilities installation program starts you may be prompted to install the software. If so, follow the prompts on the screen.
- 3 In 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 media* program. For drivers information, see the documentation that came with the device.

- 4 A message appears, stating that the *Drivers and Utilities media* is detecting hardware in your computer.
- 5 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.

Recommended Driver Installation Order



NOTE: The exact drivers that you have to install will depend on the operating system you choose to install and the exact hardware configuration of your computer. If you are unsure what hardware you have installed or are unsure of which exact drivers to load, contact **Technical Support**.

When installing the drivers and utilities for your hardware, it is recommended that you install them in the following order.

- 1** Critical Drivers
 - a** Desktop System Software (may be located under the Utilities section)
 - b** Chipset Drivers
- 2** Core Component Drivers
 - a** Video Card Driver
 - b** NIC / Modem
 - c** Audio Card Drivers
- 3** Peripheral Drivers - (Install these drivers as applicable)
 - a** Mouse / Keyboard
 - b** Camera
 - c** TV Tuner
 - d** Bluetooth
- 4** Utilities
Dell Support Center

Configuring the BIOS

System Setup

The System Setup options allow you to:

- Change the system configuration information after you add, change, or remove any hardware in your computer.
- Set or change a user-selectable option.
- 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 current System Setup information for future reference.



CAUTION: Do not change the settings in System Setup unless you are an expert computer user. Certain changes can cause your computer to work incorrectly.

Entering System Setup

- 1 Turn on (or restart) your computer.
- 2 When the DELL™ logo appears, press <F2> immediately.



NOTE: Keyboard failure may result when a key on the keyboard is held down for extended periods of time. To avoid possible keyboard failure, press and release <F2> in even intervals until the System Setup screen appears.

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 Screens

The System Setup window displays current or changeable configuration information for your computer. Information is divided into five areas: the menu field, the options list, the active options field, the help field, and key functions.

<p>Menu — Appears on top of the System Setup window. This field provides a menu to access to the System Setup options. Press the left-arrow key and right-arrow key to navigate. As a Menu option is highlighted, the Options List, displays the options that define the hardware installed on you computer.</p>		
<p>Options List — Appears on the left side of the System Setup window. The field lists features that define the configuration of your computer, including installed hardware, power conservation, and security features.</p> <p>Scroll up and down the list with the up- and down-arrow keys. As an option is highlighted, the Options Field displays the option's current and available settings.</p>	<p>Options Field — Appears on the right side of Options List and contains information about each option in the Options List. In this field you can view information about your computer and make changes to your current settings.</p> <p>Press <Enter> to make changes to your current settings. Press <ESC> to return to the Options List.</p> <p>NOTE: Not all settings listed in the Options Field are changeable.</p>	<p>Help — Appears on the right side of the System Setup window and contains help information about the option selected in Options List.</p>
<p>Key Functions — Appears below the Options Field and lists keys and their functions within the active System Setup field.</p>		

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.



NOTE: The System Setup options listed below are for a Dell XPS™ 730 computer. The options may vary for a Dell XPS 730X computer. For more information, see the *Service Manual* on the Dell Support website at support.dell.com.

Main

Date	Displays the system date.
Time	Displays the system time.
System Info	Displays the system model name.
BIOS Info	Display the BIOS revision.
Service Tag	Displays the system Service Tag.
Express Service Code	Displays the Express Service Code.
Asset Tag	Displays the asset tag.
Memory Installed	Displays the total memory size.
Memory Available	Displays the memory available in the system.
Memory Speed	Displays the memory speed.
Memory Channel Mode	Displays the memory channel modes. <ul style="list-style-type: none">• Single• Dual
Memory Technology	Displays the type of memory used in the system.
Processor Type	Displays the type of processor.
Processor Speed	Displays the speed of the processor.
Processor L2 cache	Displays the processor L2 cache size.

Advanced

CPU Configuration Allows you to enable or disable the CPU features that enhance the performance of the system.

- **CPU Multiplier**—The CPU multiplier multiplied by the front-side bus (FSB) clockspeed determines the core speed of the processor.
CPU core clock = FSB Frequency/4 x CPU multiplier
- **C1E Enhanced Halt State**—If enabled, CPU power consumption is reduced when the CPU is idle. This is triggered by the operating system executing the halt instruction. (Enabled/Disabled)
- **Execute Disable Bit**—When disabled, forces the XD feature flag to always return 0. (Enabled/Disabled)
- **Virtualization** —When enabled, a virtual machine monitor (VMM) can utilize the additional hardware capabilities provided by Vanderpool Technology. (Enabled/Disabled)
- **SpeedStep**—If enabled, the CPU clock speed and CPU core voltage are adjusted dynamically based on the CPU load. (Enabled/Disabled)
- **CPU Core 0 through CPU Core 3**—Enables CPU Core 0, 1, 2, and 3. (Enabled/Disabled)

Advanced (continued)

**Integrated
Peripherals**

Allows you to enable or disable the integrated devices and ports on your system.

- **Halt On**—Sets the type of error to halt the system during POST. (All errors, No errors, All errors but keyboard errors)
- **Boot Up NumLock Status**—Sets the power-on state for NumLock. (On/Off)
- **Fast Boot**—Enables Fast Boot. When enabled, allows the BIOS to skip certain tests during POST which decreases the amount of time needed to boot the system. (Enabled/Disabled)
- **Drive A**—Specifies the capacity and physical size of a diskette drive.
- **USB Controller**—Enables the USB controller. (Enabled/Disabled)
- **USB Keyboard Support**—Enables the USB keyboard support. (Enabled/Disabled)
- **USB Mouse Support**—Enables the USB mouse support. (Enabled/Disabled)
- **HD Audio**—Enables the HD audio setting. (Enabled/Disabled)
- **Onboard LAN Controller**—Enables the onboard LAN controller setting. (Enabled/Disabled)
- **Onboard LAN1 Controller**—Enables the onboard LAN1 controller setting. (Enabled/Disabled)
- **Onboard LAN Boot ROM**—Enables the function of LAN boot ROM. (Enabled/Disabled)
- **IEEE1394 Controller**—Enables the IEEE1394 controller setting. (Enabled/Disabled)

Advanced (continued)

IDE/SATA Configuration	<p>Enables or disables a user to define or change any values related to IDE or SATA devices such as hard drives, optical drives, and so on connected to the computer.</p> <ul style="list-style-type: none">• HDD S.M.A.R.T Capability—Enables the hard drive S.M.A.R.T. setting. (Enabled/Disabled)• Serial-ATA Controller—Enables the SATA controller Setting. (All enabled, Disabled, SATA-0, SATA-1)• RAID Config—Enables RAID configuration. (Enabled/Disabled)• PATA Channel 0 Master—Enables auto-detection of the drive size and head on this channel.• PATA Channel 0 Slave—Enables auto-detection of the drive size and head on this channel.• SATA 1-6—Enables auto-detection of the drive size and head on this channel.
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Advanced (continued)

Overclock Configuration	<p>Enables you to set the system clock mode. Displays the following parameters and current value for each parameter:</p> <ul style="list-style-type: none">• CPU Frequency, MHz—Displays the current setting.• CPU Multiplier—Displays the current setting.• FSB-Memory Clock Mode—Allows you to set the system clock mode:<ul style="list-style-type: none">– Auto—Sets the FSB and memory speed automatically.– Linked—Allows you to enter the FSB and speed manually. The Memory speed changes proportionally.– Unlinked—Allows you to enter the FSB and memory speed manually.• FSB-Memory Ratio—Allows you to set the FSB-memory ratio to Auto, 1:1, 5:4, 3:2, or Sync Mode.• FSB (QDR), MHz—Allows you to adjust the CPU FSB frequency. The FSB (QDR) that displays in the Actual column reflects the actual frequency that will take effect on reboot. Enter a value between 400 and 2600.• MEM (DDR), MHz—Allows you to adjust the memory frequency. The MEM (DDR) that displays in the Actual column reflects the actual frequency that will take effect on reboot.• PCIe x16_1, MHz—Allows you to select the frequency for PCIe x16 slot 1.• PCIe x16_2, MHz—Allows you to select the frequency for PCIe x16 slot 2.• PCIe x16_3, MHz—Allows you to select the frequency for PCIe x16 slot 3.• Dynamic ODT—Enables dynamic ODT (on-die termination).• Memory Timing Setting—Allows you to edit timing settings for your memory. (Advanced)
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Advanced (continued)

Overvoltage Configuration	Enables you to configure the voltage of the CPU core, FSB, memory voltage, and chipset voltage. <ul style="list-style-type: none">• CPU Core—Allows you to set the voltage level for the CPU core (CPU VID).• CPU FSB—Allows you to set the voltage level for the CPU FSB (CPU VTT).• Memory—Allows you to set the voltage level for DRAM.• Chipset Voltage—Allows you to set the core voltage level for nForce SPP.• nForce MCP—Allows you to set the core voltage level for nForce MCP.• nForce MCP Aux—Allows you to set the auxiliary voltage level for nForce MCP.• GTLVREF Lane 1—Allows you to add extra voltage to the CPU GTLVREF Lane 1 voltage level.
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Security

Supervisor Password Is	Specifies whether a supervisor password has been assigned.
User Password Is	Specifies whether a user password has been assigned.
Set Supervisor Password	Allows you to set a supervisor password.
Set User Password	Allows you to set a user password. You cannot use the user password to enter the BIOS setup during POST.

Power	
ACPI Suspend Type	Specifies the Advanced Configuration and Power Interface (ACPI) suspend type. ACPI is a power management specification which enables the operating system to control the amount of power given to each device attached to the computer. The default is S3.
AC Recovery	Specifies the behavior of the system after recovering from a power loss. <ul style="list-style-type: none"> • On—The computer turns on after it recovers from a power failure. • Off—The computer remains powered off. • Last—The computer returns the power state it was in before the power failure.
Remote Wake Up	Notifies the computer to turn on when a user tries to access the computer through the LAN.
Wake-Up By Ring	Notifies the computer to turn on when an incoming call is detected on the modem.
Auto Power On	Enables you to set an alarm to turn on the computer automatically.
Boot	
Hard Disk Boot Priority	Sets the hard drive boot priority. The items displayed are dynamically updated according to the hard drives detected.
First Boot Device through Third Boot Device	Sets the boot device sequence. Only the bootable devices that are connected to the computer are listed as options.
Boot Other Device	Enables you to boot from other devices such as a memory key.
Exit	
Exit Options	Provides options to Exit Saving Changes , Exit Discarding Changes , Load Setup Default , and Discard Changes .

Boot Sequence

This feature allows you to change the boot sequence for the bootable devices installed on your computer.

Option Settings

- **Diskette Drive** — The computer attempts to boot from the floppy drive. If the floppy disk in the drive is not bootable, if no floppy disk is in the drive, or if there is no floppy drive installed in the computer, the computer attempts to boot from the next bootable device in the boot sequence.
- **Hard Drive** — The computer attempts to boot from the primary hard drive. If no operating system is on the drive, the computer attempts to boot from the next bootable device in the boot sequence.
- **CD Drive** — The computer attempts to boot from the CD drive. If no CD is in the drive, or if the CD has no operating system, the computer attempts to boot from the next bootable device in the boot sequence.
- **USB Flash Device** — Insert the memory device into a USB port and restart the computer. When **F12 = Boot Menu** appears in the upper-right corner of the screen, press <F12>. The BIOS detects the device and adds the USB flash option to the boot menu.



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



NOTE: An error message is generated only after the computer attempts to boot from every device in the boot sequence and no operating system is found.

Changing Boot Sequence for the Current Boot


You can use this feature, for example, to tell the computer to boot from the CD drive so that you can run the Dell Diagnostics on the *Drivers and Utilities* media, but you want the computer to boot from the hard drive when the diagnostic tests are complete. You can also use this feature to restart your computer to a USB device such as a floppy drive, memory key, or CD-RW drive.



NOTE: If you are booting to a USB floppy drive, you must first set the floppy drive to **OFF** in System Setup.

- 1 If you are booting to a USB device, connect the USB device to a USB connector (see "Back View" on page 13).
- 2 Turn on (or restart) your computer.


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

 **NOTE:** Keyboard failure may result when a key on the keyboard is held down for extended periods of time. To avoid possible keyboard failure, press and release <F12> in even intervals until the **Boot Device Menu** appears.

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 At the **Boot Device Menu**, use the up- and down- arrow keys or press the appropriate number on the keyboard to highlight the device that is to be used for the current boot only, and then press <Enter>.

For example, if you are booting to a USB memory key, highlight **USB Flash Device** and press <Enter>.

 **NOTE:** To boot to a USB device, the device must be bootable. To make sure that your device is bootable, check the device documentation.

Changing Boot Sequence for Future Boots

- 1 Enter System Setup (see "Entering System Setup" on page 53).
- 2 Use the arrow keys to highlight the **Boot** menu option and press <Enter> to access the menu.

 **NOTE:** Write down your current boot sequence in case you want to restore it.
- 3 Press the up- and down- arrow keys to move through the list of devices.
- 4 Press the spacebar to enable or disable a device (enabled devices have a check mark).
- 5 Press plus (+) or minus (-) to move a selected device up or down the list.

Appendix

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	Dell™ XPS™ 730	Dell XPS 730X
Processor type	Intel® Core™2 Duo (Performance dual core)	Intel Core i7
	Intel Core2 Quad (Performance quad core)	Intel Core i7 Extreme Edition
	Intel Core2 Extreme (Extreme performance quad core)	
Cache	at least 4 MB	at least 8 MB
Memory	Dell XPS 730	Dell XPS 730X
Type	800 MHz and faster DDR3 unbuffered SDRAM; SLI memory	1066 MHz and faster DDR3 unbuffered SDRAM; XMP memory
Memory connectors	four	three
Memory capacities	512 MB, 1 GB, and 2 GB	DDR3: 1 GB, 2 GB, and 4 GB XMP: 1 GB and 2 GB
Minimum memory	1 GB	3 GB
Maximum memory	8 GB	12 GB
NOTE: The amount of memory available depends on the operating system installed.		

Computer Information	Dell XPS 730	Dell XPS 730X
Chipset	nForce 790i SLI	Intel X58
Northbridge	nForce 790i SLI SPP	Intel 36s IOH
Southbridge	nForce 790i SLI MCP	Intel ICH10
BIOS chip (NVRAM)	8 Mb	8 Mb
NIC	two integrated network interfaces capable of 10/100/1000 Mbps communication	two integrated network interfaces capable of 10/100/1000 Mbps communication
Video	Dell XPS 730	Dell XPS 730X
Type	dual PCIe x16 Generation 2 single PCIe x16 Generation 1	dual PCIe x16 Generation 2 single PCIe x16 Generation 2
Audio		
Type	HDA 7.1 channel, Realtek 888 codec	HDA 7.1 channel, Realtek 888 codec
Expansion Bus	Dell XPS 730	Dell XPS 730X
Bus type	PCI Express x1 and x16 PCI 32-bit	PCI Express x1 and x16 PCI 32-bit
PCI		
Connector	two	one
Connector size	124 pins	124 pins
Connector data width (maximum)	32 bits	32 bits
Bus speed	33 MHz	33 MHz
PCI Express x1		
Connector	one x1	two x1
Connector size	36 pins	36 pins
Connector data width (maximum)	1 PCI Express lane	1 PCI Express lane

Expansion Bus	Dell XPS 730	Dell XPS 730X
Bus throughput	x1 slot bidirectional speed — 2.5 Gbps	x1 slot bidirectional speed — 2.5 Gbps
PCI Express x16 Generation 2		
Connector	two x16	three x16
Connector size	164 pins	164 pins
Connector data width (maximum)	16 PCI Express lanes	16 PCI Express lanes
Bus throughput	x16 slot bidirectional speed — 80 Gbps	x16 slot bidirectional speed — 80 Gbps
PCI Express x16 Generation 1		
Connector	one x16	N/A
Connector size	164 pins	
Connector data width (maximum)	16 PCI Express lanes	
Bus throughput	x16 slot bidirectional speed — 40 Gbps	

Drives	Dell XPS 730	Dell XPS 730X
Available devices		
Serial ATA (SATA) hard drive	✓	✓
Floppy drive	✓	✗
SATA Blu-ray Disc (BD) writer	✓	✓
SATA BD/DVD combo drive	✓	✓
SATA DVD +/-RW drive	✓	✓
CD-RW/DVD combo drive	✓	✗
Media Card Reader	✓	✓
Externally accessible	two 3.5-inch drive bays four 5.25-inch drive bays	two 3.5-inch flex bays four 5.25-inch drive bays
Internally accessible	four 3.5-inch drive bays for hard drives	four 3.5-inch drive bays for hard drives

✓ = Supported; ✗ = Not supported


Connectors	Dell XPS 730	Dell XPS 730X
External connectors		
IEEE 1394a	front and back-panel 6-pin serial connectors	front and back-panel 6-pin serial connectors
Network adapter	two RJ45 connectors	two RJ45 connectors
PS/2 (keyboard and mouse)	two 6-pin mini-DIN	two 6-pin mini-DIN
USB	two front-panel, six back-panel, and four internal USB 2.0-compliant connectors	two front-panel, six back-panel, and four internal USB 2.0-compliant connectors
Audio	HDA 7.1 channel sound on rear; S/PDIF out on rear; headphone and microphone jacks on front, internal S/PDIF	HDA 7.1 channel sound on rear; S/PDIF out on rear; headphone and microphone jacks on front, internal S/PDIF
Drive	one eSATA port	one eSATA port

Connectors (continued)	Dell XPS 730	Dell XPS 730X
System board connectors		
IDE drive	one 40-pin connector	N/A
Serial ATA	six 7-pin connectors	eight 7-pin connectors
Floppy drive	one 34-pin connector	N/A
Fan	one 4-pin connector; five 3-pin headers	one 4-pin connector; five 3-pin headers
PCI	two 124-pin connectors	one 124-pin connector
PCI Express x1	two 36-pin connectors	two 36-pin connectors
PCI Express x16	three 164-pin connectors	three 164-pin connectors
eSATA	one internal eSATA	one internal eSATA
Controls and LEDs		
Power control	push button	
Power LED	white light — Blinking white in sleep state; solid white for power-on state.	
Hard-drive access LED	white	
Link integrity LED (on integrated network adapter)	<ul style="list-style-type: none"> • 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-Gbps) network and the computer. • Off (no light) — The computer is not detecting a physical connection to the network. 	
Activity LED (on integrated network adapter)	<ul style="list-style-type: none"> • Yellow blinking light — Indicates activity on the network. • Off (no light) — Indicates no activity on the network. 	
Standby power LED	blue AUXPWR on the system board.	

Controls and LEDs (continued)

Front panel LEDs	ten multi-colored LEDs provide illumination for the front of the computer.
Back panel LEDs	four multi-colored LEDs provide illumination for the I/O panel on the back of the computer.

Power

DC power supply	 WARNING: To reduce the risk of fire, electric shock, or injury, do not overload an electrical outlet, power strip, or convenience receptacle. The total ampere rating of all products plugged into an electrical outlet, power strip, or other receptacle should not exceed 80 percent of the branch circuit rating.
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Wattage	1 kW
Voltage (see the safety instructions that shipped with your computer)	wide-ranging power supply—90 V to 265 V at 50/60 Hz
Optional UPS	Output rating must be 1.5kW or higher
Backup battery	3-V CR2032 lithium coin cell

Physical

Height	
Without stand	55.5 cm (21.9 inches)
With stand	57.2 cm (22.5 inches)
Width	
Without stand	21.9 cm (8.6 inches)
With stand	35.6 cm (14.0 inches)
Depth	59.4 cm (23.4 inches)
Weight	
Typical configuration	21.7 kg (47.8 lb)
Maximum configuration	25.6 kg (56.4 lb)

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)
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Maximum vibration

Operating	0.25 G at 3 to 200 Hz at 0.5 octave/min
Storage	0.5 G at 3 to 200 Hz at 1 octave/min

Maximum shock

Operating	bottom half-sine pulse with a change in velocity of 20 inches/sec (50.8 cm/sec)
Storage	27-G faired square wave with a velocity change of 200 inches/sec (508 cm/sec)

Altitude

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

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Contacting Dell

You can contact Dell through the Internet and by phone:

- For support through the web, go to **support.dell.com**.
- For worldwide support through the web, use the **Choose A Country/Region** menu near the bottom of the page, or see the web addresses listed in the following table.



NOTE: In certain countries, support specific to Dell™ XPS™ computers is available at a separate telephone number listed for participating countries. If you do not see a telephone number listed that is specific for XPS computers, you may contact Dell through the support number listed and your call will be routed appropriately.

- For support by phone, use the phone number and codes provided in the following table. If you need assistance in determining which codes to use, contact a local or an international operator.
- The contact information provided was deemed correct at the time that this document went to print and is subject to change.

Support Type	Area Codes, Local Numbers, and Toll-Free Numbers	Web and E-mail Address
Phone	1-800-232-8544	
Web Support		support.dell.com/support/supportrequests/create.aspx
Online Chat		support.dell.com/support/topics/global.aspx/support/gen/chat
Community Forums		dellcommunity.com/supportforums
Gaming / XPS Forums		dellcommunity.com/supportforums/?category.id=Gaming

Index

B

- beep codes, 37
- BIOS, 53
- Boot Sequence, 62
- boot sequence
 - changing, 62-63
 - option settings, 62
- booting
 - to a USB device, 62

C

- cards
 - slots, 14
- CDs
 - operating system, 7
- Check Disk, 40
- computer
 - beep codes, 37
- conflicts
 - software and hardware incompatibilities, 38
- connectors
 - headphone, 12, 15
 - IEEE, 12, 14
 - keyboard, 14
 - line-in, 15
 - line-out, 15

- mouse, 14
- network adapter, 16
- power, 13
- sound, 15
- USB, 12, 16

contacting Dell, 72

D

- Dell
 - contacting, 71-72
- Dell Network Assistant, 35
- Dell Support 3, 34
- Dell Technology Guide, 8
- DellConnect, 36
- diagnostics
 - beep codes, 37
- documentation
 - Dell Technology Guide, 8
 - Service Manual, 7

E

- End User License Agreement, 8
- ergonomics information, 8
- error messages
 - beep codes, 37
- ESA, 26

H

hard drive
problems, 40

hardware
beep codes, 37
conflicts, 38

Hardware Troubleshooter, 38

headphone
connector, 12, 15

I

IEEE
connectors, 12, 14

IRQ conflicts, 38

K

keyboard
connector, 14

M

memory
problems, 40

mouse
connector, 14

N

network
connector, 16

NVIDIA ESA, 26

NVIDIA FirstPacket, 21

NVIDIA Performance, 26

O

operating system
reinstalling, 7

Operating System CD, 7

P

phone numbers, 72

power
button, 10
connector, 13
problems, 41

power light
conditions, 41

problems
beep codes, 37
conflicts, 38
hard drive, 40
memory, 40
power, 41
power light conditions, 41

processor
type, 65

R

regulatory information, 8

S

safety instructions, 8

Service Manual, 7

settings

 system setup, 53

software

 conflicts, 38

sound connectors

 line-in, 15

 line-out, 15

specifications

 computer information, 66

 connectors, 68

 controls and lights, 69

 drives, 68

 environmental, 71

 expansion bus, 66

 memory, 65

 physical, 70

 power, 70

 processor, 65

 technical, 65

 video, 66

support

 contacting Dell, 71-72

System Setup, 25, 53

system setup, 53

 entering, 53

 options, 55

 screens, 54

T

TCP/IP acceleration, 22

telephone numbers, 72

troubleshooting

 conflicts, 38

 Hardware Troubleshooter, 38

U

USB

 booting to devices, 62

 connector, 16

 connectors, 12

W

warranty information, 8

Windows XP

 reinstalling, 7

