

Dell™ OptiPlex™ SX280 User's Guide

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Notes, Notices, and Cautions

-  **NOTE:** A NOTE indicates important information that helps you make better use of your computer.
-  **NOTICE:** A NOTICE indicates either potential damage to hardware or loss of data and tells you how to avoid the problem.
-  **CAUTION:** A CAUTION indicates a potential for property damage, personal injury, or death.

Abbreviations and Acronyms

For a complete list of abbreviations and acronyms, see the "[Glossary](#)."

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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Model DCTR

April 2004 P/N F3287 Rev. A00

About Your Computer

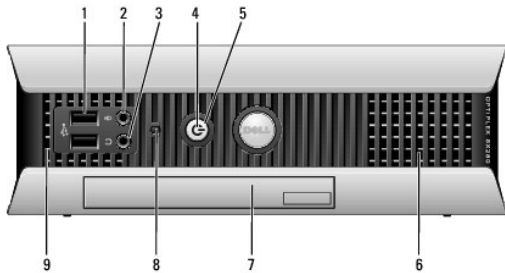
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-  **NOTICE:** To ensure proper ventilation, do not block the cooling vents.
-  **NOTICE:** When setting up your computer, ensure that the computer has at least 6 cm (2 in) of airflow space around the front and back of the computer.
-  **NOTICE:** Do not place your monitor on the computer. Use a monitor stand.
-  **NOTICE:** When setting up your computer, secure all cables toward the back of your work area to prevent the cables from being pulled, tangled, or stepped on.
-  **NOTE:** If you want to orient your computer under a desktop or on a wall surface, use the optional wall-mount bracket. To order this bracket, [contact Dell](#).

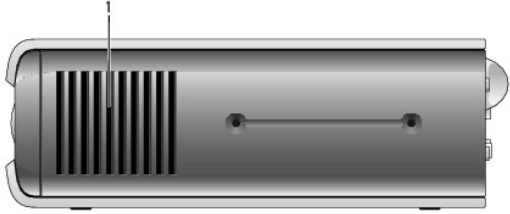


Front View



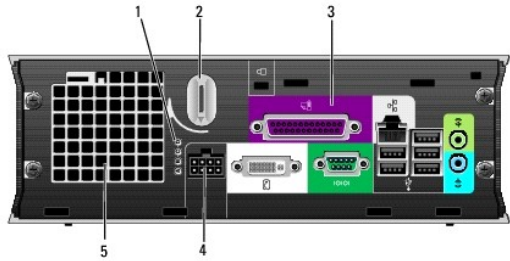
1	USB connectors (2)	Connect USB devices such as a mouse, keyboard, memory key, printer, joystick, and computer speakers into either of the USB connectors.
2	microphone connector	Attach a microphone to this connector.
3	headphone connector	Attach headphones to this connector.
4	power light	<p>The power light illuminates and blinks or remains solid to indicate different states:</p> <ul style="list-style-type: none"> 1 No light — The computer is turned off (S4, S5, or mechanical OFF). 1 Steady green — The computer is in a normal operating state. 1 Blinking green — The computer is in a power-saving state (S1 or S3). 1 Blinking or solid yellow— See "Power Problems." <p>To exit from a power-saving state, press the power button or use the keyboard or the mouse if it is configured as a wake device in the Windows Device Manager. For more information about sleep states and exiting from a power-saving state, see "Power Management."</p> <p>See "Diagnostic Lights" for a description of light codes that can help you troubleshoot problems with your computer.</p>
5	power button	<p>Press this button to turn on the computer.</p> <p>NOTICE: To avoid losing data, do not use the power button to turn off the computer. Instead, perform a Microsoft® Windows® shutdown.</p>
6	vents	The vents allow air to flow through your computer. To ensure proper ventilation, do not block these cooling vents.
7	module bay	Install a D-module CD/DVD drive, second hard drive, or floppy drive in the module bay.
8	hard-drive access light	The hard-drive access light is on when the computer reads data from or writes data to the hard drive. The light might also be on when devices such as your CD player are operating.
9	vents	The vents allow air to flow through your computer. To ensure proper ventilation, do not block these cooling vents.

Side View



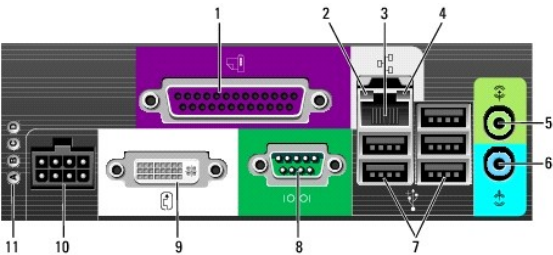
1	vents	The vents, which are on each side of the computer, allow air to flow through your computer. To ensure proper ventilation, do not block these cooling vents.
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Back View



1	diagnostic lights	See " Diagnostic Lights " for a description of light codes that can help you troubleshoot problems with your computer.
2	computer cover release knob	Rotate this knob in a clockwise direction to remove the cover.
3	back-panel connectors	The connectors for your computer.
4	power connector	The connector for the power adapter.
5	vents	The vents allow air to flow through your computer. To ensure proper ventilation, do not block these cooling vents.

Back-Panel Connectors

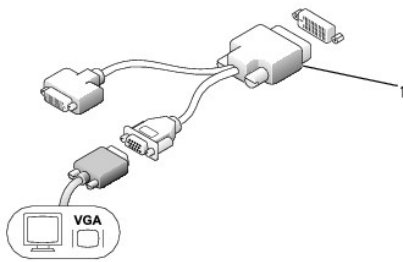


1	parallel connector	Connect a parallel device, such as a printer, to the parallel connector. If you have a USB printer, plug it into a USB connector.
2	link integrity light	<ul style="list-style-type: none"> 1 Green — A good connection exists between a 10-Mbps network and the computer. 1 Orange — A good connection exists between a 100-Mbps network and the computer. 1 Yellow — A good connection exists between a 1000-Mbps (1-Gbps) network and the computer. 1 Off — The computer is not detecting a physical connection to the network or the Network Controller is turned off in system setup.
3	network adapter	Attach the UTP cable to an RJ45 jack wall plate or to an RJ45 port on a UTP concentrator or hub and press the other end of the UTP cable into the network adapter connector until the cable snaps securely into place.

		Dell recommends the use of Category 5 wiring and connectors for our customers' networks.
4	network activity light	The amber light flashes when the computer is transmitting or receiving network data. A high volume of network traffic may make this light appear to be in a steady "on" state.
5	line-out connector	Use the green line-out connector to attach an amplified speaker set.
6	line-in connector	Use the blue line-in connector to attach a record/playback device such as a cassette player, CD player, or VCR.
7	USB connectors (5)	Connect USB devices such as a mouse, keyboard, printer, joystick, and computer speakers into any of the USB connectors.
8	serial connector	Connect a serial device, such as a handheld device, to the serial connector.
9	video connector	If you have a DVI-compatible monitor, plug the cable from your monitor into the white DVI display connector on the back panel. If you have a VGA monitor, see " Connecting a VGA Monitor. "
10	power connector	The connector for the power adapter.
11	diagnostic lights	See " Diagnostic Lights " for a description of light codes that can help you troubleshoot problems with your computer.

Connecting a VGA Monitor

If you have a VGA-compatible monitor, use the adapter cable to connect the cable from your monitor to the white DVI display connector on the back panel.

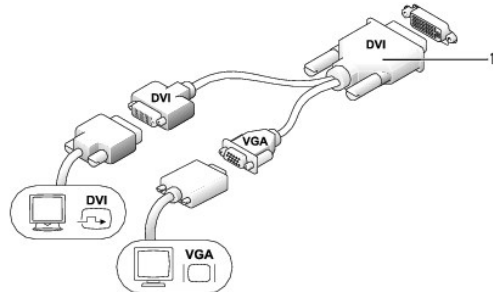


1 adapter cable

Connecting Two Monitors

Use the adapter cable to connect both a VGA monitor and a DVI monitor to the white DVI display connector on the back panel.

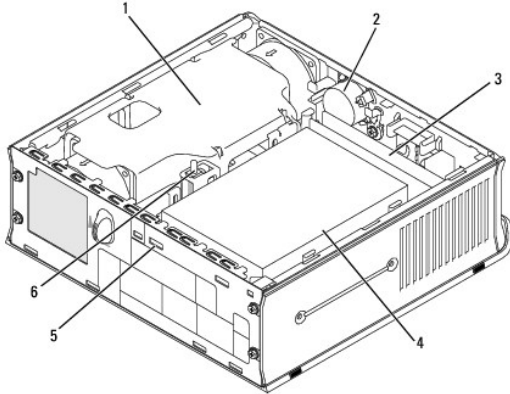
When you connect two monitors, the driver will detect this connection and activate the multimonitor functionality.



1 adapter cable

Inside Your Computer

- ⚠ CAUTION:** Before you begin any of the procedures in this section, follow the safety instructions in the *Product Information Guide*.
- ⚠ CAUTION:** To avoid electrical shock, always unplug your computer from the power adapter before removing the cover.
- ⚠ CAUTION:** To prevent static damage to components inside your computer, discharge static electricity from your body before you touch any of your computer's electronic components. You can do so by touching an unpainted metal surface on the computer chassis.

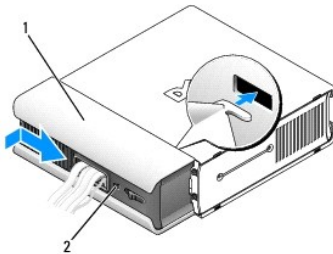


1	microprocessor heat sink fan shroud	4	hard drive
2	speaker (optional)	5	security cable slot
3	memory modules (2)	6	chassis intrusion switch

Cable Cover (Optional)

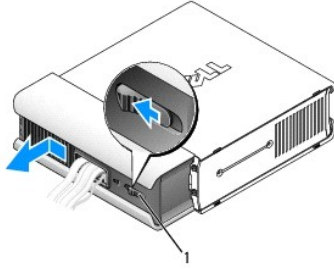
Attaching the Cable Cover

1. Ensure that all external device cables are threaded through the hole in the cable cover.
2. Connect all device cables to the connectors on the back of the computer.
3. Hold the cable cover and align the four tabs with the four slots on the computer's back panel.
4. Insert the tabs into the slots and slide the cable cover toward the diagnostic lights (see the illustration) until the cable cover is securely positioned.
5. Install a security device in the security cable slot (optional).



1	cable cover
2	security cable slot

Removing the Cable Cover



1	release button
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1. If a security device is installed in the security cable slot, remove the device.
2. Press on the release button, grasp the cable cover, and slide the cover to the left until it stops, and then lift the cable cover up and away.

Connecting the Power Adapter

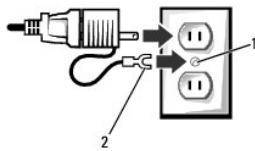
⚠ CAUTION: Before you begin any of the procedures in this section, follow the safety instructions in the *Product Information Guide*.

1. Connect the power adapter to the connector on the back of the computer. In order for the connection to be secure, verify that the latch engages completely. (An audible click will be heard or felt.)
2. Connect one end of the AC power cable to the power adapter.

⚠ CAUTION: If your power adapter cable has a green grounding wire, *do not permit* contact between the green ground wire and power leads because electrical shock, fire, or damage to your computer can occur.



3. If your AC power cable has a green ground wire for connection to an electrical outlet, connect the metal ground connector to the grounding source on the outlet (see the following illustration):
 - a. Loosen the grounding source.
 - b. Slide the metal ground connector behind the grounding source, and then tighten the grounding source.



1	grounding source
2	metal ground connector

4. Connect the AC power cable to the outlet.

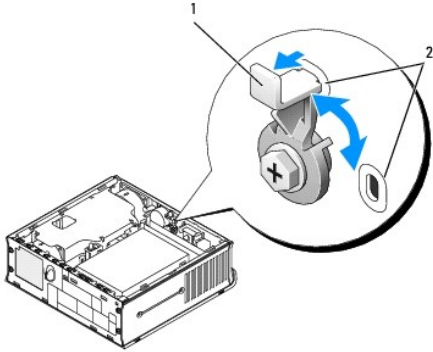


Badge

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

The badge on the front of your computer can be rotated. To rotate the badge:

1. [Remove the computer cover.](#)
2. Pull on the lever to release the notch from the slot.
3. Rotate the badge to the desired position, ensuring that the notch is secured in the slot.



1	lever
2	slots

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Hyper-Threading

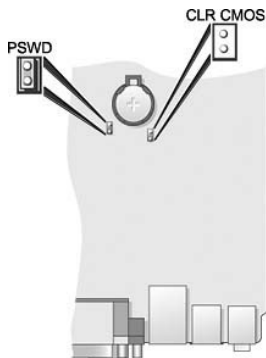
Hyper-Threading is an Intel® technology that can enhance overall computer performance by allowing one physical processor to function as two logical processors, capable of performing certain tasks simultaneously. It is recommended that you use the Microsoft® Windows® XP Service Pack 1 (SP1) or higher operating system because Windows XP is optimized to take advantage of Hyper-Threading technology. While many programs can benefit from Hyper-Threading, some programs have not been optimized for Hyper-Threading and may require an update from the software manufacturer. Contact the software manufacturer for updates and information about using Hyper-Threading with your software.

To determine if your computer is using Hyper-Threading technology:

1. Click the **Start** button, right-click **My Computer**, and then click **Properties**.
2. Click **Hardware** and click **Device Manager**.
3. In the **Device Manager** window, click the plus (+) sign next to the processor type. If Hyper-Threading is enabled, the processor is listed twice.


You can enable or disable Hyper-Threading through system setup.

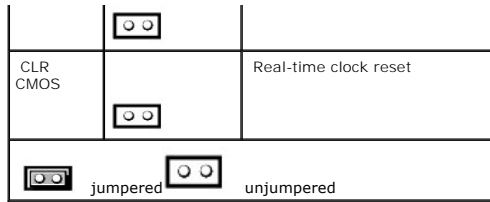
Jumper Settings



- **NOTICE:** Ensure that your computer is turned off and unplugged before you change the jumper settings. Otherwise, damage to your computer or unpredictable results can occur.
- **NOTICE:** Before touching anything inside your computer, ground yourself by touching an unpainted metal surface, such as the metal at the back of the computer. While you work, periodically touch an unpainted metal surface to dissipate any static electricity that could harm internal components.


To change a jumper setting, pull the plug off its pin(s) and carefully fit it down onto the pin(s) indicated.

Jumper	Setting	Description
PSWD	 (default)	Password features are enabled. Password features are disabled.




Clearing Forgotten Passwords


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

 **NOTICE:** This process erases both the system and admin passwords.

1. Follow the procedures in "[Before You Begin](#)."
2. [Remove the hard drive](#).
3. Remove the 2-pin password jumper (PSWD) on the system board.
4. Replace the hard drive.
5. Replace the computer cover.
6. Connect your computer and monitor to electrical outlets, and turn them on.
7. After the Microsoft® Windows® desktop appears on your computer, shut down the computer.
8. Turn off the monitor and disconnect it from the electrical outlet.
9. Disconnect the computer power cable from the electrical outlet, and press the power button to ground the system board.
10. Remove the computer cover.
11. Remove the hard drive.
12. Replace the PSWD jumper.
13. Replace the hard drive.
14. Replace the computer cover.


 **NOTICE:** To connect a network cable, first plug the cable into the network wall jack and then plug it into the computer.

15. Connect your computer and devices to electrical outlets, and turn them on.


 **NOTE:** This procedure enables the password feature. When you enter system setup, both system and admin password options appear as **Not Enabled**—meaning that the password feature is enabled but no password is assigned.

16. Assign a new system and/or admin password.

Clearing CMOS Settings

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

1. Follow the procedures in "[Before You Begin](#)."
2. [Remove the hard drive](#).
3. Reset the current CMOS settings:
 - a. Locate the password (PSWD) and CLR CMOS jumpers on the system board.
 - b. Remove the password jumper from its pins.
 - c. Place the password jumper on the CLR CMOS pins and wait approximately 5 seconds.
 - d. Remove the jumper from the CLR CMOS pins and place it back on the password pins.
4. Replace the hard drive.
5. Replace the computer cover.

 **NOTICE:** To connect a network cable, first plug the cable into the network wall jack and then plug it into the computer.

6. Connect your computer and devices to electrical outlets, and turn them on.

LegacySelect Technology Control

LegacySelect technology control offers legacy-full, legacy-reduced, or legacy-free solutions based on common platforms, hard-drive images, and help desk procedures. Control is provided to the administrator through system setup, Dell OpenManage™ IT Assistant, or Dell™ custom factory integration.

LegacySelect allows administrators to electronically activate or deactivate connectors and media devices that include serial and USB connectors or a parallel connector. Connectors and media devices that are deactivated make resources available. You must restart the computer to effect the changes.

Manageability

Alert Standard Format

ASF is a DMTF management standard that specifies "pre-operating system" or "operating system-absent" alerting techniques. The standard is designed to generate an alert on potential security and fault conditions when the operating system is in a sleep state or the system is powered down. ASF is designed to supersede previous operating system-absent alerting technologies.

Your computer supports the following ASF version 1.03 alerts and remote capabilities:

Alert	Description
Chassis: Chassis Intrusion - Physical Security Violation/Chassis Intrusion - Physical Security Violation Event Cleared	The computer chassis has been opened or the chassis intrusion alert has been cleared.
CPU: Emergency Shutdown Event	The processor temperature is too hot and the power supply has shut down.
Cooling Device: Generic Critical Fan Failure/Generic Critical Fan Failure Cleared	The fan speed (rpm) is out of limits or the fan speed (rpm) problem has been resolved.
Temperature: Generic Critical Temperature Problem/Generic Critical Temperature Problem Cleared	The computer temperature is out of limits or the computer temperature problem has been resolved.
Battery Low	The system battery has reached a voltage of 2.2V or lower.

For more information about Dell's ASF implementation, see the *ASF User's Guide* and the *ASF Administrator's Guide*, which are available on the Dell Support website at support.dell.com.

Dell OpenManage IT Assistant

IT Assistant configures, manages, and monitors computers and other devices on a corporate network. IT Assistant manages assets, configurations, events (alerts), and security for computers equipped with industry-standard management software. It supports instrumentation that conforms to SNMP, DMI, and CIM industry standards.

Dell OpenManage Client Instrumentation, which is based on DMI and CIM, is available for your computer. For information on IT Assistant, see the *Dell OpenManage IT Assistant User's Guide* available on the Dell Support website at support.dell.com.

Dell OpenManage Client Instrumentation

Dell OpenManage Client Instrumentation is software that enables remote management programs such as IT Assistant to do the following:

- 1 Access information about your computer, such as how many processors it has and what operating system it is running
- 1 Monitor the status of your computer, such as listening for thermal alerts from temperature probes or hard-drive failure alerts from storage devices
- 1 Change the state of your computer, such as updating its BIOS or shutting it down remotely

A managed system is one that has Dell OpenManage Client Instrumentation set up on a network that uses IT Assistant. For information about Dell OpenManage Client Instrumentation, see the *Dell OpenManage Client Instrumentation User's Guide* available on the Dell Support website at support.dell.com.

Password Protection

- 🔔 **NOTICE:** Although passwords provide security for the data on your computer, they are not foolproof. If your data requires more security, it is your responsibility to obtain and use additional forms of protection, such as data encryption programs.

System Password

- 🔔 **NOTICE:** If you leave your computer running and unattended without having a system password assigned, or if you leave your computer unlocked so that someone can disable the password by changing a jumper setting, anyone can access the data stored on your hard drive.

Option Settings

You cannot change or enter a new system password if either of the following two options is displayed:

- 1 **Set** — A system password is assigned.
- 1 **Disabled** — The system password is disabled by a jumper setting on the system board.

You can only assign a system password when the following option is displayed:

- 1 **Not Set** — No system password is assigned and the password jumper on the system board is in the enabled position (the default).

Assigning a System Password

To escape from the field without assigning a system password, press <Tab> or the <Shift><Tab> key combination to move to another field, or press <Esc> at any time before you complete step 5.

1. [Enter system setup](#) and verify that **Password Status** is set to **Unlocked**.
2. Highlight **System Password**, and then press the left- or right-arrow key.

The option heading changes to **Enter Password**, followed by an empty 32-character field in square brackets.

3. Type your new system password.

You can use up to 32 characters. To erase a character when entering your password, press <Backspace> or the left-arrow key. The password is not case sensitive.

Certain key combinations are not valid. If you enter one of these combinations, the speaker emits a beep.

As you press each character key (or the spacebar for a blank space), a placeholder appears in the field.

4. Press <Enter>.

If the new system password is less than 32 characters, the whole field fills with placeholders. Then the option heading changes to **Verify Password**, followed by another empty 32-character field in square brackets.

5. To confirm your password, type it a second time and press <Enter>.

The password setting changes to **Set**.

6. Exit system setup.

Password protection takes effect when you restart the computer.

Typing Your System Password

When you start or restart your computer, one of the following prompts appears on the screen.

If **Password Status** is set to **Unlocked**:

```
Type in the password and
- press <ENTER> to leave password security enabled.
- press <CTRL><ENTER> to disable password security.
Enter password:
```

If **Password Status** is set to **Locked**:

```
Type the password and press <Enter>.
```

If you have assigned an admin password, the computer accepts your admin password as an alternate system password.


If you type a wrong or incomplete system password, the following message appears on the screen:

```
** Incorrect password. **
```

If you again type an incorrect or incomplete system password, the same message appears on the screen. The third and subsequent times you type an incorrect or incomplete system password, the computer displays the following message:

```
** Incorrect password. **
Number of unsuccessful password attempts: 3
System halted! Must power down.
```

Even after your computer is turned off and on, the previous message is displayed each time you type an incorrect or incomplete system password.

 **NOTE:** You can use **Password Status** in conjunction with **System Password** and **Admin Password** to further protect your computer from unauthorized changes.

Deleting or Changing an Existing System Password

1. [Enter system setup](#) and verify that **Password Status** is set to **Unlocked**.
2. Restart your computer.
3. When prompted, type the system password.
4. Press <Ctrl><Enter> to disable the existing system password.
5. Confirm that **Not Set** is displayed for the **System Password** option.

If **Not Set** is displayed, the system password is deleted. If **Not Set** is not displayed, press <Alt> to restart the computer, and then repeat steps 3 through 5.

To assign a new password, follow the procedure in "[Assigning a System Password](#)."

6. Exit system setup.

Admin Password

Option Settings

You cannot change or enter a new admin password if either of the following two options is displayed:


1. **Set** — An admin password is assigned.
1. **Disabled** — The admin password is disabled by a jumper setting on the system board.

You can only assign an admin password when the following option is displayed:

1. **Not Set** — No admin password is assigned and the password jumper on the system board is in the enabled position (default).

Assigning an Admin Password

The admin password can be the same as the system password.

 **NOTE:** If the two passwords are different, the admin password can be used as an alternate system password. However, the system password cannot be used in place of the admin password.

1. [Enter system setup](#) and verify that **Admin Password** is set to **Not Set**.
2. Highlight **Admin Password** and press the left- or right-arrow key.

The computer prompts you to type and verify the password. If a character is not permitted, the computer emits a beep.

3. Type and then verify the password.

After you verify the password, the **Admin Password** setting changes to **Set**. The next time you enter system setup, the computer prompts you for the admin password.

4. Exit system setup.

A change to **Admin Password** becomes effective immediately (no need to restart the computer).

Operating Your Computer With an Admin Password Enabled

When you enter system setup, the **Admin Password** option is highlighted, prompting you to type the password.

If you do not type the correct password, the computer lets you view, but not modify, system setup options.

 **NOTE:** You can use **Password Status** in conjunction with **Admin Password** to protect the system password from unauthorized changes.

Deleting or Changing an Existing Admin Password

To change an existing admin password, you must know the admin password.

1. [Enter system setup.](#)
2. Type the admin password at the prompt.
3. Highlight **Admin Password** and press the left- or right-arrow key to delete the existing admin password.

The setting changes to **Not Set**.

To assign a new admin password, perform the steps in "[Assigning a System Password.](#)"

4. Exit system setup.

Disabling a Forgotten Password and Setting a New Password


To reset system and/or admin passwords, see "[Clearing Forgotten Passwords.](#)"

Power Management

Your computer can be set to use less power when you are not working. You control the power usage through the operating system installed on your computer and certain option settings in system setup. These periods of reduced power are called "sleep states":

- 1 **Standby.** In this sleep state, power is reduced or turned off for most components, including the cooling fans. However, system memory remains active.

This state is not supported by Windows NT 4.0.

 **NOTE:** All components installed in the computer must support this feature and have the appropriate drivers loaded to enter standby. For more information, see the manufacturer's documentation for each component.

- 1 **Hibernate.** This sleep state reduces power consumption to a minimum by writing all data in system memory to a hard drive and then removing system power. Waking up from this state restarts the computer, and the memory contents are restored. Operation then resumes where the computer left off when it entered the hibernation state.


This state is not supported by Windows NT 4.0.

 **NOTE:** All components installed in the computer must support this feature and have the appropriate drivers loaded to enter hibernation. For more information, see the manufacturer's documentation for each component.

- 1 **Shutdown.** This sleep state removes all power from the computer except a small auxiliary amount. As long as the computer remains connected to an electrical outlet, it can be automatically or remotely started. For example, the Auto Power On option in [system setup](#) allows the computer to automatically start at a specified time. Also, your network administrator can remotely start your computer using a power management event such as Remote Wake Up.


The following table lists the sleep states and the methods you can use to wake the computer from each state.

Sleep State	Wake-Up Methods (Windows XP)
Standby	<ul style="list-style-type: none"> 1 Press the power button 1 Auto power on 1 USB device activity (excluding USB mouse or keyboard activity) 1 Power management event
Hibernate	<ul style="list-style-type: none"> 1 Press the power button 1 Auto power on 1 Power management event
Shutdown	<ul style="list-style-type: none"> 1 Press the power button 1 Auto power on 1 Power management event

 **NOTE:** For more information on power management, see your operating system documentation.

Security

Chassis Intrusion Detection

 **NOTE:** When the admin password is enabled, you must know the admin password before you can reset the **Chassis Intrusion** setting.

This feature detects that the chassis was opened and alerts the user. To change the **Chassis Intrusion** setting:

1. [Enter system setup.](#)
2. Press the down-arrow keys to move to the **Security** option.
3. Press <Enter> to expand the **Security** menu.
4. Press the down-arrow key to move to the **Chassis Intrusion** setting.
5. Press <Enter> to focus on the options frame.
6. Press the side-arrow keys to select an option setting.
7. Press <Enter> to return to the **Security** menu.
8. Press <Esc> to access the exit setup menu.
9. Press the side-arrow keys and select the **Save/Exit** option.
10. Press <Enter> to save your changes and exit setup.

Option Settings

- 1 **On** — If the computer cover is opened, the setting changes to **Detected**, and the following alert message displays during the boot routine at the next computer start-up:

Alert! Cover was previously removed.

To reset the **Detected** setting, [enter system setup](#). In the **Chassis Intrusion** option, press the left- or right-arrow key to select **Reset**, and then choose **On**, **On-Silent**, or **Disabled**.

- 1 **On-Silent** (default) — If the computer cover is opened, the setting changes to **Detected**. No alert message appears during the boot sequence at the next computer start-up.
- 1 **Disabled** — No intrusion monitoring occurs and no messages appear.

Padlock Ring and Security Cable Slot


Use one of the following methods to secure your computer:

- 1 Use a padlock alone or a padlock and looped security cable with the padlock ring.

A padlock alone prevents the computer from being opened.

A security cable looped around a stationary object is used in conjunction with a padlock to prevent unauthorized movement of the computer.

- 1 Attach a commercially available antitheft device to the security cable slot on the back of the computer.

 **NOTE:** Before you purchase an antitheft device, make sure that it works with the security cable slot on your computer.

Antitheft devices usually include a segment of metal-stranded cable with an attached locking device and key. The documentation that comes with the device contains instructions for installing it.

System Setup

Overview

Use system setup as follows:

- 1 To change the system configuration information after you add, change, or remove any hardware in your computer
- 1 To set or change a user-selectable option such as the system password
- 1 To read the current amount of memory or the CPU speed

It is recommended that you write down the system setup screen information for future reference.

Entering System Setup

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

The system setup screen displays current or changeable configuration information for your computer. Information on the screen is divided into three areas: the options list, active options field, and key functions.

<p>Options List — This field appears on the left side of the system setup window. The field is a scrollable list containing features that define the configuration of your computer, including installed hardware, power conservation, and security features.</p> <p>Scroll up and down the list by using the up- and down-arrow keys. As an option is highlighted, the Option Field displays more information about that option and the option's current and available settings.</p> <p>Press <Enter> to expand or contract each of the main Option Fields.</p>	<p>Option Field — This field contains information about each option. In this field, you can view your current settings and make changes to your settings.</p> <p>Use the right- and left-arrow keys to highlight an option. Press <Enter> to make that selection active. Press <Esc> to undo any changes.</p>
	<p>Key Functions — This field appears below the Option 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 or may not appear.

Info	
	Lists the computer name, BIOS version, service tag, and asset tag.

System Info	
CPU Info	Identifies the processor type and whether the computer's processor supports Hyper-threading or 64-bit processing, and displays the CPU bus speed, clock speed, and L2 cache.
Memory Info	Indicates the amount of installed memory, computer memory speed, channel mode (dual or single), and memory technology.
Date/Time	Displays current date and time settings.
Boot Sequence	The computer attempts to boot from the sequence of devices specified in this list.
Drives	
Diskette Drive	This option enables or disables the floppy drive. NOTE: Ensure that USB is set to On . To use a USB floppy drive in the module bay, also ensure that Module Bay is set to On or FDD Only .
Drive 0	Identifies the primary serial hard drive attached to the SATA1 connector on the system board.
Module Bay	This option enables or disables the module bay. It also provides options to enable only floppy drives or only IDE drives in the module bay. The settings are Off , FDD only , IDE only , or On .
Drive Controller	Configures the serial ATA controller's operating mode. Normal enables the serial ATA controller to operate in serial ATA native mode only. Compatible enables the serial ATA controller to operate in serial/parallel ATA combination mode.
Error Reporting	This setting determines whether hard drive errors are reported when the system starts up.
Onboard Devices	
Audio Controller	Enables or disables the onboard audio controller
NIC Controller	You can set the NIC to On (default), Off , or On w/ PXE . When the On w/ PXE setting is active (available only for the future boot process), the computer prompts the user to press <Ctrl> <Alt> . Pressing this key combination causes a menu to display that allows you to select a method for booting from a network server. If a boot routine is not available from the network server, the system attempts to boot from the next device in the boot sequence list.
LPT Port Mode	This option sets the operating mode for the built-in parallel port. The settings are Off , AT , PS/2 (default), EPP , and ECP . <ul style="list-style-type: none"> 1 AT - the port is configured for IBM AT compatibility 1 PS/2 - the port is configured for IBM PS/2 compatibility 1 EPP - enhanced parallel port protocol 1 ECP - extended capability port protocol
LPT Port Address	This option sets the address that the built-in parallel port uses. The settings are 378h (default), 278h , and 3BCh .
Serial Port #1	Auto , the default setting, automatically configures a connector to a particular designation (COM1 or COM3).
USB	Set to On (default) so that USB devices will be detected and supported in the operating system.
Front USB Ports	This option disables or enables the USB connectors on the front of the computer.
Performance	
Hyper-threading	If your computer's processor supports hyper-threading, this option will appear in the Options List.

IDE Performance	<ul style="list-style-type: none"> 1 Quiet (default) - the hard drive operates at its most quiet setting. 1 Performance - the hard drive operates at its maximum speed. 1 Bypass - your computer does not test or change the current acoustics mode setting. 1 Suggested - the hard drive operates at the level suggested by the drive manufacturer. <p>NOTE: Switching to performance mode may cause the drive to be noisier, but its performance is not affected. Changing the acoustics setting does not alter your hard drive image.</p>
Security	<p>This section displays available system security options. See "Security" for more information.</p>
Admin Password	<p>This option provides restricted access to the computer's System Setup program in the same way that access to the system can be restricted with the System Password option. The settings are Enabled and Disabled.</p> <p>If the option is set to Disabled, enter a password to enable this option.</p> <p>If the option is set to Enabled, you will see a red "lock icon" at the top left corner of every setup screen in setup.</p> <p>Enter a password to unlock the admin password option, and the icon will not appear.</p> <p>To disable the admin password, enter the password at the prompt and hit <Ctrl> and <Enter>.</p>
System Password	<p>Displays the current status of the system's password security feature and allows a new system password to be assigned and verified. The settings are Enabled and Disabled.</p> <p>If the option is set to Disabled, enter a password to enable this option.</p> <p>If the option is set to Enabled, the computer will not boot until the correct password is entered.</p> <p>To disable the system password, enter the password at the prompt and hit <Ctrl> and <Enter>.</p>
Drive 0 Password	<p>Set this password to prevent unauthorized users from accessing the hard drive.</p>
ModBay Password	<p>Set this password to prevent unauthorized users from accessing the device installed in the module bay.</p>
Password Status	<p>The settings are Locked and Unlocked. When the option is set to Locked, a valid admin password is required in order for the system password to be disabled or changed.</p> <p>When the option is set to Unlocked, the system password can be changed without entering an admin password.</p> <p>If Locked is selected, the user will not be allowed to change the system password unless he goes in and unlocks setup via the admin password field.</p>
Chassis Intrusion	<p>When enabled, this option alerts the user, during the next computer start-up, that the computer cover has been opened. The settings are On, On-Silent (default), and Off.</p>
Intrusion Status	<p>This option appears in system setup only if a chassis intrusion event occurred. The settings are Clear and Detected (default). Select Clear to clear the chassis intrusion status</p>
<p>Power Management</p>	
AC Recovery	<p>Determines what happens when AC power is restored to the computer.</p>
Auto Power On	<p>Sets time and days of week to automatically turn on the computer. Choices are every day or every Monday through Friday.</p> <p>Time is kept in a 24-hour format (<i>hours:minutes</i>). Change the start-up time by pressing the right- or left-arrow key to increase or decrease the numbers, or type numbers in both the date and time fields.</p> <p>The default setting is Disabled.</p> <p>This feature does not work if you turn off your computer using a power strip or surge protector.</p>
Auto Power Time	<p>Sets the specific time to automatically turn on the computer. Use this setting in conjunction with the Auto Power On setting.</p>
Low Power Mode	<p>When Low Power Mode is selected, remote wakeup events will no longer power up from Hibernate or Off.</p>
Remote Wake-Up	<p>This option allows the system to power up when a Network Interface Controller or Remote Wakeup-capable modem receives a wake up signal.</p> <p>On is the default setting. On w/ Boot to NIC will allow the computer to attempt to boot from a network prior to using the boot sequence.</p> <p>NOTES: This option is visible only if Low Power Mode is disabled (OFF). Normally, the system can be powered up remotely from suspend mode, hibernate mode, or when powered off. When Low Power Mode (in</p>

	the Power Management menu) is enabled, the system can only be powered up remotely from Suspend .
Suspend Mode	The options are S1 , a suspend state where the computer is running in a low-power mode, and S3 , a standby state where the power is reduced or turned off for most components, however, system memory remains active.
Maintenance	
CMOS Defaults	This setting will restore the computer's factory-installed default settings.
Event Log	Displays the system event log.
BIOS Update	Select the location of the BIOS update file. The options are Hard Drive or Diskette .
Video	
Video Memory Size	This option configures the amount of memory reserved for the onboard video controller. The settings are 1MB and 8MB (default).
POST Behavior	
Fastboot	When set to On (default), your computer will start more quickly since it will skip certain configurations and tests.
NumLock Key	This option involves the rightmost bank of keys on your keyboard. When set to On (default), this option activates the numeric and mathematical features shown at the top of each key. When set to Off , this option activates the cursor-control functions labeled on the bottom of each key.
OS Install	This setting turns the OS Install Mode either On or Off (default).
POST Hotkeys	This setting specifies whether keystroke sequences are displayed when the computer starts. The default setting is Setup & Boot Menu .
Keyboard Errors	This option disables or enables keyboard error reporting when the computer starts

Boot Sequence

This feature allows you to change the boot sequence for devices.

Option Settings

- 1 **Onboard or USB Floppy Drive** — The computer attempts to boot from the floppy drive. If the floppy disk in the drive is not bootable, or if no floppy disk is in the drive, the computer generates an error message.
- 1 **Onboard SATA Hard Drive** — The computer attempts to boot from the primary hard drive. If no operating system is on the drive, the computer generates an error message.
- 1 **Onboard IDE Hard Drive** — The computer attempts to boot from a hard drive installed in the module bay.
- 1 **External Add-in Hard Disk** — The computer attempts to boot from an external hard drive.
- 1 **Onboard or USB CD-ROM Device** — The computer attempts to boot from the CD/DVD drive. If no CD/DVD is installed or if the drive has no operating system, the computer generates an error message.
- 1 **USB 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 make sure your device is bootable, check the device documentation.

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* CD, 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 and you have a floppy drive installed in the module bay, you must first set the diskette drive to **OFF** in [system setup](#).

1. If you are booting to a USB device, connect the USB device to a USB connector.
2. Turn on (or restart) your computer.
3. When **F2 = Setup**, **F12 = Boot Menu** appears in the upper-right corner of the screen, press <F12>.

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

The **Boot Device Menu** appears, listing all available boot devices. Each device has a number next to it.


4. At the bottom of the menu, enter the number of the device that is to be used for the current boot only.

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

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

Changing Boot Sequence for Future Boots

1. [Enter system setup](#).
2. Use the arrow keys to highlight the **Boot Sequence** menu option and press <Enter> to access the pop-up 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 checkmark).
5. Press the Shift plus (+) (up arrow) or Shift minus (-) (down arrow) to move a selected device up or down the list.


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Battery

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

 **CAUTION:** To prevent static damage to components inside your computer, discharge static electricity from your body before you touch any of your computer's electronic components. You can do so by touching an unpainted metal surface on the computer chassis.

A coin-cell battery maintains computer configuration, date, and time information. The battery can last several years.

The battery may need replacing if an incorrect time or date is displayed during the boot routine along with a message such as:

```
Time-of-day not set - please run SETUP program
```

or


```
Invalid configuration information -  
please run SETUP program
```

or


```
Strike the F1 key to continue,  
F2 to run the setup utility
```

To determine whether you need to replace the battery, reenter the time and date in system setup and exit the program to save the information. Turn off your computer and disconnect it from the electrical outlet for a few hours, then reconnect the computer, turn it on, and enter system setup. If the date and time are not correct in system setup, replace the battery.

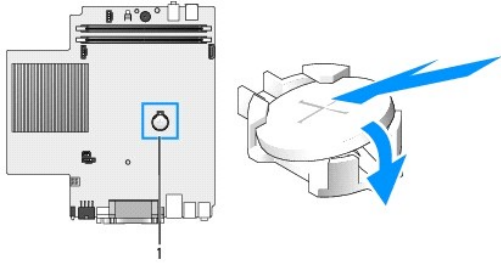
You can operate your computer without a battery; however, without a battery, the configuration information is erased if the computer is turned off or unplugged from the electrical outlet. In this case, you must enter system setup and reset the configuration options.

 **CAUTION:** A new battery can explode 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.

1. If you have not already done so, make a copy of your configuration information, found in [system setup](#).
2. Follow the procedures in "[Before You Begin](#)."
3. [Remove the hard drive](#).
4. Locate the battery socket labeled BATTERY (see "[System Board Components](#)").

 **NOTICE:** If you pry the battery out of its socket with a blunt object, be careful not to touch the system board with the object. Ensure that the object is inserted between the battery and the socket before you attempt to pry out the battery. Otherwise, you may damage the system board by prying off the socket or by breaking circuit traces on the system board.

5. To remove the battery, grip the battery and slightly twist it as you lift it out of the connector.
6. Insert the new battery into the socket with the side labeled with the symbol (+) *not* facing the opening, and snap the battery down into place.



1 location of the battery connector

7. Replace the hard drive.
8. Replace the computer cover.
9. Replace the cable cover, if used.

🔗 **NOTICE:** To connect a network cable, first plug the cable into the network wall jack and then plug it into the computer.

10. Connect your computer to the adapter cable and devices to electrical outlets, and turn them on.

After you replace the cover, the chassis intrusion detector, if enabled, causes the following message to appear on the screen at the next computer start-up:

ALERT! Cover was previously removed.

11. [Reset the chassis intrusion detector](#) by changing the **Chassis Intrusion** option to **On** or **On-Silent**.

🔗 **NOTE:** If an admin password has been assigned by someone else, contact your network administrator for information on resetting the chassis intrusion detector.

12. [Enter system setup](#) and restore the settings you recorded in step 1.
13. Properly dispose of the old battery.

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Chassis Intrusion Switch

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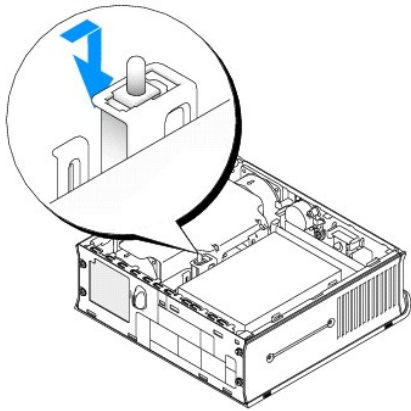
- [Replacing the Chassis Intrusion Switch](#)
- [Resetting the Chassis Intrusion Detector](#)

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

CAUTION: To guard against electrical shock, always unplug your computer from the electrical outlet before opening the cover.

Replacing the Chassis Intrusion Switch

1. Follow the procedures in "[Before You Begin](#)."
2. Disconnect the chassis intrusion switch cable from the system board.
3. Slide the chassis intrusion switch out of the slot and remove the switch and its attached cable from the computer.



4. Insert the replacement chassis intrusion switch into the slot and then slide the switch until it is secured.
5. Connect the cable to the connector on the system board.
6. Replace the computer cover.
7. Replace the cable cover, if used.

NOTICE: To connect a network cable, first plug the cable into the network wall jack, and then plug it into the computer.

8. Connect your computer to the adapter cable, and connect devices to electrical outlets, and turn them on.

After you replace the cover, the chassis intrusion detector, if enabled, causes the following message to appear on the screen at the next computer start-up:

ALERT! Cover was previously removed.

9. [Reset the chassis intrusion detector](#) by changing the Chassis Intrusion option to **On** or **On-Silent**.

NOTE: If an admin password has been assigned by someone else, contact your network administrator for information on resetting the chassis intrusion detector.

Resetting the Chassis Intrusion Detector

1. Turn on (or restart) your computer.

2. When the blue DELL™ logo appears, press <F2> 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. Press the down-arrow keys to move to the Security option in system setup.
4. Press <Enter> to expand the Security menu.
5. Press the down-arrow key to move to the Chassis Intrusion setting.
6. Press <Enter> to focus on the options frame.
7. Press the side-arrow keys to select an option setting.
8. Press <Enter> to return to the Security menu.
9. Press <Esc> to access the exit setup menu.
10. Press the side-arrow keys and select the Save/Exit option.
11. Press <Enter> to save your changes and exit setup.

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Cleaning Your Computer

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- [Computer, Keyboard, and Monitor](#)
- [Mouse](#)
- [Floppy Drive](#)
- [CDs and DVDs](#)

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

Computer, Keyboard, and Monitor

 **CAUTION:** Before you clean your computer, disconnect the computer from the electrical outlet. Clean your computer with a soft cloth dampened with water. Do not use liquid or aerosol cleaners, which may contain flammable substances.

- 1 Use a vacuum cleaner with a brush attachment to gently remove dust from the slots and holes on your computer and from between the keys on the keyboard.

 **NOTICE:** Do not wipe the display screen with any soap or alcohol solution. Doing so may damage the antiglare coating.

- 1 To clean your monitor screen, lightly dampen a soft, clean cloth with water. If possible, use a special screen-cleaning tissue or solution suitable for the monitor's antistatic coating.
- 1 Wipe the keyboard, computer, and plastic part of the monitor with a soft cleaning cloth moistened with a solution of three parts water and one part dishwashing detergent.


Do not soak the cloth or allow water to drip inside your computer or keyboard.

Mouse

If your screen cursor skips or moves abnormally, clean the mouse. To clean a non-optical mouse:

1. Turn the retainer ring on the underside of your mouse counterclockwise, and then remove the ball.
 2. Wipe the ball with a clean, lint-free cloth.
 3. Blow carefully into the ball cage to dislodge dust and lint.
 4. If the rollers inside the ball cage are dirty, clean the rollers with a cotton swab moistened lightly with isopropyl alcohol.
 5. Recenter the rollers in their channels if they are misaligned. Ensure that fluff from the swab is not left on the rollers.
 6. Replace the ball and retainer ring, and turn the retainer ring clockwise until it clicks into place.
-

Floppy Drive

 **NOTICE:** Do not attempt to clean drive heads with a swab. You might accidentally misalign the heads, which prevents the drive from operating.

Clean your floppy drive using a commercially available cleaning kit. These kits contain pretreated floppy disks to remove contaminants that accumulate during normal operation.

CDs and DVDs

➡ **NOTICE:** Always use compressed air to clean the lens in the CD/DVD drive, and follow the instructions that come with the compressed air. Never touch the lens in the drive.

If you notice problems, such as skipping, with the playback quality of your CDs or DVDs, try cleaning the discs.

1. Hold the disc by its outer edge. You can also touch the inside edge of the center hole.

➡ **NOTICE:** To prevent damaging the surface, do not wipe in a circular motion around the disc.

2. With a soft, lint-free cloth, gently wipe the bottom of the disc (the unlabeled side) in a straight line from the center to the outer edge of the disc.

For stubborn dirt, try using water or a diluted solution of water and mild soap. You can also purchase commercial products that clean discs and provide some protection from dust, fingerprints, and scratches. Cleaning products for CDs are safe to use on DVDs.

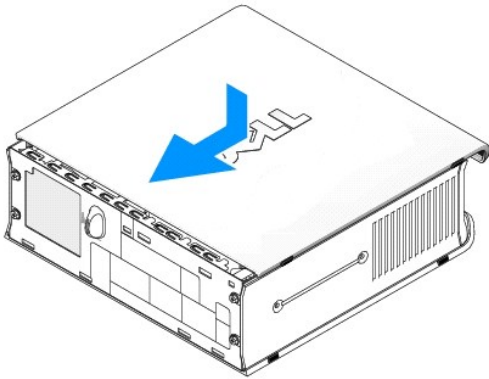
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Replacing the Computer Cover

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

1. Ensure that no tools or extra parts are left inside the computer.
2. Replace the cover:
 - a. Lower and align the cover with the metal computer frame.
 - b. Slide the cover until you hear or feel it click into place.



🔗 NOTICE: To connect a network cable, first plug the cable into the network wall jack, and then plug it into the computer.

3. Connect your computer to its power adapter and connect devices to electrical outlets, and turn them on.

After you replace the cover, the chassis intrusion detector, if enabled, causes the following message to appear on the screen at the next computer start-up:



ALERT! Cover was previously removed.

4. [Reset the chassis intrusion detector](#) by changing **Chassis Intrusion** to **On** or **On-Silent**.


🔗 NOTE: If an admin password has been assigned by someone else, contact your network administrator for information on resetting the chassis intrusion detector.

Removing the Computer Cover

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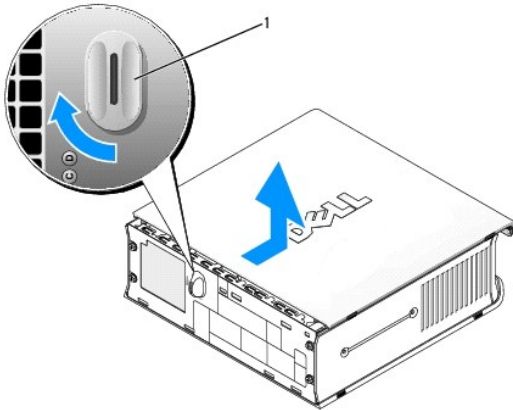
-  **CAUTION:** Before you begin any of the procedures in this section, follow the safety instructions in the *Product Information Guide*.
-  **CAUTION:** To prevent static damage to components inside your computer, discharge static electricity from your body before you touch any of your computer's electronic components. You can do so by touching an unpainted metal surface on the computer chassis.

1. Follow the procedures in "[Before You Begin](#)."

-  **NOTICE:** Before touching anything inside your computer, ground yourself by touching an unpainted metal surface. While you work, periodically touch an unpainted metal surface to dissipate any static electricity that could harm internal components.

2. Remove the computer cover.

- a. Rotate the cover release knob in a clockwise direction, as shown in the illustration.
- b. Slide the computer cover forward 1/2 inch (1 cm), or until it stops, and then raise the cover.



1 release knob

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FCC Notices (U.S. Only)

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- [Class A](#)
 - [Class B](#)
 - [FCC Identification Information](#)
-

Most Dell computer systems are classified by the Federal Communications Commission (FCC) as Class B digital devices. To determine which classification applies to your computer system, examine all FCC registration labels located on the bottom, side, or back panel of your computer, on card-mounting brackets, and on the cards themselves. If any one of the labels carries a Class A rating, your entire system is considered to be a Class A digital device. If *all* labels carry an FCC Class B rating as distinguished by either an FCC ID number or the FCC logo, (FCC), your system is considered to be a Class B digital device.

Once you have determined your system's FCC classification, read the appropriate FCC notice. Note that FCC regulations provide that changes or modifications not expressly approved by Dell could void your authority to operate this equipment.

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

- 1 This device may not cause harmful interference.
 - 1 This device must accept any interference received, including interference that may cause undesired operation.
-

Class A

This equipment has been tested and found to comply with the limits for a Class A digital device pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the manufacturer's instruction manual, may cause harmful interference with radio communications. Operation of this equipment in a residential area is likely to cause harmful interference, in which case you will be required to correct the interference at your own expense.

Class B

This equipment has been tested and found to comply with the limits for a Class B digital device pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the manufacturer's instruction manual, may cause interference with radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, you are encouraged to try to correct the interference by one or more of the following measures:

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

FCC Identification Information

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




Model number: DCTR


Company name: Dell Inc.
One Dell Way
Round Rock, Texas 78682 USA
512-338-4400

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Finding Information for Your Computer

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What are you looking for?	Find It Here
<ul style="list-style-type: none"> 1 A diagnostic program for my computer 1 Drivers for my computer 1 My computer documentation 1 My device documentation 1 Desktop System Software (DSS) 	<p>Drivers and Utilities CD (also known as the ResourceCD)</p> <p>Documentation and drivers are already installed on your computer when shipped from Dell. You can use the CD to reinstall drivers, run the Dell Diagnostics, or access your documentation.</p>  <p>Readme files may be included on your CD to provide last-minute updates about technical changes to your computer or advanced technical-reference material for experienced users or technicians.</p> <p>NOTE: The latest drivers and documentation updates can be found at support.dell.com.</p>
<ul style="list-style-type: none"> 1 How to set up my computer 1 Troubleshooting information 1 How to run the Dell Diagnostics 1 How to determine the meaning of error codes and diagnostic lights 1 Tools and utilities 	<p>Dell™ Quick Reference Guide</p>  <p>NOTE: This document is available as a PDF at support.dell.com.</p>
<ul style="list-style-type: none"> 1 Operating system updates and patches 	<p>Desktop System Software (DSS)</p> <p>The DSS is located on the Drivers and Utilities CD and on the Dell Support website.</p>
<ul style="list-style-type: none"> 1 Service Tag and Express Service Code 1 Microsoft Windows License Label 	<p>Service Tag and Microsoft Windows License</p> <p>These labels are located on your computer.</p>  <p>Use the Service Tag to identify your computer when you use support.dell.com or contact technical support.</p> <p>Enter the Express Service Code to direct your call when contacting technical support. The Express Service Code is not available in all countries.</p>
<ul style="list-style-type: none"> 1 Warranty information 1 Safety instructions 1 Regulatory information 1 Ergonomics information 1 End User License Agreement 	<p>Dell™ Product Information Guide</p> <p>NOTE: This document is available as a PDF at support.dell.com.</p>
<ul style="list-style-type: none"> 1 Latest drivers for my computer 1 Answers to technical service and support questions 1 Online discussions with other users and technical support 1 Documentation for my computer 	<p>Dell Support Website — support.dell.com</p> <p>NOTE: Select your region to view the appropriate support site.</p> <p>The Dell Support website provides several online tools, including:</p> <ul style="list-style-type: none"> 1 Solutions — Troubleshooting hints and tips, articles from technicians, and online courses 1 Community Forum — Online discussion with other Dell customers 1 Upgrades — Upgrade information for components, such as memory, the hard drive, and the operating system 1 Customer Care — Contact information, order status, warranty, and repair information 1 Downloads — Drivers, patches, and software updates 1 Reference — Computer documentation, product specifications, and white papers
<ul style="list-style-type: none"> 1 Service call status and support history 1 Top technical issues for my computer 1 Frequently asked questions 1 File downloads 1 Details on my computer configuration 	<p>Dell Premier Support Website — premiersupport.dell.com</p> <p>The Dell Premier Support website is customized for corporate, government, and education customers. This website may not be available in all regions.</p>

<ul style="list-style-type: none"> 1 Service contract for my computer 	
<ul style="list-style-type: none"> 1 How to use Windows XP 1 Documentation for my computer 1 Documentation for devices (such as a modem) 	<p>Windows Help and Support Center</p> <ol style="list-style-type: none"> 1. Click the Start button and click Help and Support. 2. Type a word or phrase that describes your problem and click the arrow icon. 3. Click the topic that describes your problem. 4. Follow the instructions on the screen.
<ul style="list-style-type: none"> 1 How to reinstall my operating system 	<p>Operating System CD</p> <p>The operating system is already installed on your computer. To reinstall your operating system, use the <i>Operating System CD</i>. See "Reinstalling Drivers and the Operating System" for instructions.</p> <p>After you reinstall your operating system, use the Drivers and Utilities CD to reinstall drivers for the devices that came with your computer.</p>  <p>Your operating system product key label is located on your computer.</p> <p>NOTE: The color of your CD varies based on the operating system you ordered.</p>

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Getting Help

Dell™ OptiPlex™ SX280 User's Guide

- [Technical Assistance](#)
 - [Problems With Your Order](#)
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 - [Before You Call](#)
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-

Technical Assistance

If you need help with a technical problem, Dell is ready to assist you.

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

1. Complete the procedures in "[Solving Problems](#)."
2. Run the [Dell Diagnostics](#).
3. Make a copy of the [Diagnostics Checklist](#) and fill it out.
4. Use Dell's extensive suite of online services available at Dell Support (support.dell.com) for help with installation and troubleshooting procedures.
5. If the preceding steps have not resolved the problem, contact Dell.

NOTE: Call technical support from a telephone near or at the computer so that technical support can assist you with any necessary procedures.

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

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

For instructions on using the technical support service, see "[Technical Support Service](#)."

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.

Online Services

You can access Dell Support at support.dell.com. Select your region on the **WELCOME TO DELL SUPPORT** page, and fill in the requested details to access help tools and information.

You can contact Dell electronically using the following addresses:

- 1 World Wide Web

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 countries)

www.dell.ca (Canada only)

- 1 Anonymous file transfer protocol (FTP)

ftp.dell.com/

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

- 1 Electronic Support Service

mobile_support@us.dell.com

support@us.dell.com

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

support.jp.dell.com (Japan only)

support.euro.dell.com (Europe only)

- 1 Electronic Quote Service

sales@dell.com

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

sales_canada@dell.com (Canada only)

- 1 Electronic Information Service

info@dell.com

AutoTech Service

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

When you call AutoTech, use your touch-tone telephone to select the subjects that correspond to your questions.

The AutoTech service is available 24 hours a day, 7 days a week. You can also access this service through the technical support service. For the telephone number to call, see the [contact numbers](#) for your region.

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, see the [contact numbers](#) for your region.

Technical Support Service

Dell's technical support service is available 24 hours a day, 7 days a week, to answer your questions about Dell hardware. Our technical support staff uses computer-based diagnostics to provide fast, accurate answers.

To contact Dell's technical support service, see "[Technical Assistance](#)" and then call the number for your country as listed in "[Contacting Dell](#)."

Problems With Your Order

If you have a problem with your order, such as missing parts, wrong parts, or incorrect billing, contact Dell for customer assistance. Have your invoice or packing slip handy when you call. For the telephone number to call, see the [contact numbers](#) for your region.

Product Information

If you need information about additional products available from Dell, or if you would like to place an order, visit the Dell website at www.dell.com. For the telephone number to call to speak to a sales specialist, see the [contact numbers](#) for your region.

Returning Items for Warranty Repair or Credit

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

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

For the telephone number to call, see the [contact numbers](#) for your region.

2. Include a copy of the invoice and a letter describing the reason for the return.
3. Include a copy of the [Diagnostics Checklist](#) indicating the tests you have run and any error messages reported by the Dell Diagnostics.
4. Include any accessories that belong with the item(s) being returned (power cables, software floppy disks, guides, and so on) if the return is for credit.
5. Pack the equipment to be returned in the original (or equivalent) packing materials.

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

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

Before You Call

NOTE: Have your Express Service Code ready when you call. The code helps Dell's automated-support telephone system direct your call more efficiently.

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

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

Diagnostics Checklist
Name:
Date:
Address:
Phone number:
Service Tag (bar code on the back of the computer):
Express Service Code:
Return Material Authorization Number (if provided by Dell support technician):
Operating system and version:
Devices:
Expansion cards:
Are you connected to a network? Yes No
Network, version, and network adapter:
Programs and versions:
See your operating system documentation to determine the contents of the system's start-up files. If the computer is connected to a printer, print each file. Otherwise, record the contents of each file before calling Dell.
Error message, beep code, or diagnostic code:
Description of problem and troubleshooting procedures you performed:

Contacting Dell

To contact Dell electronically, you can access the following websites:

- 1 www.dell.com
- 1 support.dell.com (technical support)
- 1 premiersupport.dell.com (technical support for educational, government, healthcare, and medium/large business customers, including Premier, Platinum, and Gold customers)

For specific web addresses for your country, find the appropriate country section in the table below.

NOTE: Toll-free numbers are for use within the country for which they are listed.

When you need to contact Dell, use the electronic addresses, telephone numbers, and codes provided in the following table. If you need assistance in determining which codes to use, contact a local or an international operator.

Country (City) International Access Code Country Code City Code	Department Name or Service Area, Website and E-Mail Address	Area Codes, Local Numbers, and Toll-Free Numbers
Anguilla	General Support	toll-free: 800-335-0031
Antigua and Barbuda	General Support	1-800-805-5924
Argentina (Buenos Aires)	Website: www.dell.com.ar	
International Access Code: 00	Tech Support and Customer Care	toll-free: 0-800-444-0733
Country Code: 54	Sales	0-810-444-3355
City Code: 11	Tech Support Fax	11 4515 7139
	Customer Care Fax	11 4515 7138
Aruba	General Support	toll-free: 800-1578
Australia (Sydney)	E-mail (Australia): au_tech_support@dell.com	
International Access Code: 0011	E-mail (New Zealand): nz_tech_support@dell.com	
Country Code: 61	Home and Small Business	1-300-65-55-33
City Code: 2	Government and Business	toll-free: 1-800-633-559
	Preferred Accounts Division (PAD)	toll-free: 1-800-060-889
	Customer Care	toll-free: 1-800-819-339
	Corporate Sales	toll-free: 1-800-808-385

	Transaction Sales	toll-free: 1-800-808-312
	Fax	toll-free: 1-800-818-341
Austria (Vienna)	Website: support.euro.dell.com	
International Access Code: 900	E-mail: tech_support_central_europe@dell.com	
Country Code: 43	Home/Small Business Sales	0820 240 530 00
City Code: 1	Home/Small Business Fax	0820 240 530 49
	Home/Small Business Customer Care	0820 240 530 14
	Preferred Accounts/Corporate Customer Care	0820 240 530 16
	Home/Small Business Technical Support	0820 240 530 14
	Preferred Accounts/Corporate Technical Support	0660 8779
	Switchboard	0820 240 530 00
Bahamas	General Support	toll-free: 1-866-278-6818
Barbados	General Support	1-800-534-3066
Belgium (Brussels)	Website: support.euro.dell.com	
International Access Code: 00	E-mail: tech_be@dell.com	
Country Code: 32	E-mail for French Speaking Customers: support.euro.dell.com/be/fr/emaildell/	
City Code: 2	Technical Support	02 481 92 88
	Customer Care	02 481 91 19
	Corporate Sales	02 481 91 00
	Fax	02 481 92 99
	Switchboard	02 481 91 00
Bermuda	General Support	1-800-342-0671
Bolivia	General Support	toll-free: 800-10-0238
Brazil	Website: www.dell.com/br	
International Access Code: 00	Customer Support, Technical Support	0800 90 3355
Country Code: 55	Tech Support Fax	51 481 5470
City Code: 51	Customer Care Fax	51 481 5480
	Sales	0800 90 3390
British Virgin Islands	General Support	toll-free: 1-866-278-6820
Brunei	Customer Technical Support (Penang, Malaysia)	604 633 4966
Country Code: 673	Customer Service (Penang, Malaysia)	604 633 4949
	Transaction Sales (Penang, Malaysia)	604 633 4955
Canada (North York, Ontario)	Online Order Status: www.dell.ca/ostatus	
International Access Code: 011	AutoTech (automated technical support)	toll-free: 1-800-247-9362
	TechFax	toll-free: 1-800-950-1329
	Customer Care (Home Sales/Small Business)	toll-free: 1-800-847-4096
	Customer Care (med./large business, government)	toll-free: 1-800-326-9463
	Technical Support (Home Sales/Small Business)	toll-free: 1-800-847-4096
	Technical Support (med./large bus., government)	toll-free: 1-800-387-5757
	Sales (Home Sales/Small Business)	toll-free: 1-800-387-5752
	Sales (med./large bus., government)	toll-free: 1-800-387-5755
	Spare Parts Sales & Extended Service Sales	1 866 440 3355
Cayman Islands	General Support	1-800-805-7541
Chile (Santiago)	Sales, Customer Support, and Technical Support	toll-free: 1230-020-4823
Country Code: 56		
City Code: 2		
China (Xiamen)	Tech Support website: support.dell.com.cn	
Country Code: 86	Tech Support E-mail: cn_support@dell.com	
City Code: 592	Tech Support Fax	818 1350
	Technical Support (Dimension™ and Inspiron™)	toll-free: 800 858 2969
	Technical Support (OptiPlex™, Latitude™, and Dell Precision™)	toll-free: 800 858 0950
	Technical Support (servers and storage)	toll-free: 800 858 0960
	Technical Support (projectors, PDAs, printers, switches, routers, and so on)	toll-free: 800 858 2920
	Customer Experience	toll-free: 800 858 2060
	Home and Small Business	toll-free: 800 858 2222
	Preferred Accounts Division	toll-free: 800 858 2557

	Large Corporate Accounts GCP	toll-free: 800 858 2055
	Large Corporate Accounts Key Accounts	toll-free: 800 858 2628
	Large Corporate Accounts North	toll-free: 800 858 2999
	Large Corporate Accounts North Government and Education	toll-free: 800 858 2955
	Large Corporate Accounts East	toll-free: 800 858 2020
	Large Corporate Accounts East Government and Education	toll-free: 800 858 2669
	Large Corporate Accounts Queue Team	toll-free: 800 858 2222
	Large Corporate Accounts South	toll-free: 800 858 2355
	Large Corporate Accounts West	toll-free: 800 858 2811
	Large Corporate Accounts Spare Parts	toll-free: 800 858 2621
Colombia	General Support	980-9-15-3978
Costa Rica	General Support	0800-012-0435
Czech Republic (Prague)	Website: support.euro.dell.com	
International Access Code: 00	E-mail: czech_dell@dell.com	
Country Code: 420	Technical Support	02 2186 27 27
City Code: 2	Customer Care	02 2186 27 11
	Fax	02 2186 27 14
	TechFax	02 2186 27 28
	Switchboard	02 2186 27 11
Denmark (Copenhagen)	Website: support.euro.dell.com	
International Access Code: 00	E-mail Support (portable computers): den_nbk_support@dell.com	
Country Code: 45	E-mail Support (desktop computers): den_support@dell.com	
	E-mail Support (servers): Nordic_server_support@dell.com	
	Technical Support	7023 0182
	Customer Care (Relational)	7023 0184
	Home/Small Business Customer Care	3287 5505
	Switchboard (Relational)	3287 1200
	Fax Switchboard (Relational)	3287 1201
	Switchboard (Home/Small Business)	3287 5000
	Fax Switchboard (Home/Small Business)	3287 5001
Dominica	General Support	toll-free: 1-866-278-6821
Dominican Republic	General Support	1-800-148-0530
Ecuador	General Support	toll-free: 999-119
El Salvador	General Support	01-899-753-0777
Finland (Helsinki)	Website: support.euro.dell.com	
International Access Code: 990	E-mail: fin_support@dell.com	
Country Code: 358	E-mail Support (servers): Nordic_support@dell.com	
City Code: 9	Technical Support	09 253 313 60
	Technical Support Fax	09 253 313 81
	Relational Customer Care	09 253 313 38
	Home/Small Business Customer Care	09 693 791 94
	Fax	09 253 313 99
	Switchboard	09 253 313 00
France (Paris) (Montpellier)	Website: support.euro.dell.com	
International Access Code: 00	E-mail: support.euro.dell.com/fr/fr/emaildell/	
Country Code: 33	Home and Small Business	
City Codes: (1) (4)	Technical Support	0825 387 270
	Customer Care	0825 823 833
	Switchboard	0825 004 700
	Switchboard (calls from outside of France)	04 99 75 40 00
	Sales	0825 004 700
	Fax	0825 004 701
	Fax (calls from outside of France)	04 99 75 40 01
	Corporate	
	Technical Support	0825 004 719
	Customer Care	0825 338 339
	Switchboard	01 55 94 71 00
	Sales	01 55 94 71 00
	Fax	01 55 94 71 01

Germany (Langen) International Access Code: 00 Country Code: 49 City Code: 6103	Website: support.euro.dell.com	
	E-mail: tech_support_central_europe@dell.com	
	Technical Support	06103 766-7200
	Home/Small Business Customer Care	0180-5-224400
	Global Segment Customer Care	06103 766-9570
	Preferred Accounts Customer Care	06103 766-9420
	Large Accounts Customer Care	06103 766-9560
	Public Accounts Customer Care	06103 766-9555
Switchboard	06103 766-7000	
Greece International Access Code: 00 Country Code: 30	Website: support.euro.dell.com	
	E-mail: support.euro.dell.com/gr/en/emaiddell/	
	Technical Support	080044149518
	Gold Technical Support	08844140083
	Switchboard	2108129800
	Sales	2108129800
Fax	2108129812	
Grenada	General Support	toll-free: 1-866-540-3355
Guatemala	General Support	1-800-999-0136
Guyana	General Support	toll-free: 1-877-270-4609
Hong Kong International Access Code: 001 Country Code: 852	Website: support.ap.dell.com	
	E-mail: ap_support@dell.com	
	Technical Support (Dimension™ and Inspiron™)	2969 3189
	Technical Support (OptiPlex™, Latitude™, and Dell Precision™)	2969 3191
	Technical Support (PowerApp™, PowerEdge™, PowerConnect™, and PowerVault™)	2969 3196
	Gold Queue EEC Hotline	2969 3187
	Customer Advocacy	3416 0910
	Large Corporate Accounts	3416 0907
	Global Customer Programs	3416 0908
	Medium Business Division	3416 0912
	Home and Small Business Division	2969 3105
India	Technical Support	1600 33 8045
	Sales	1600 33 8044
Ireland (Cherrywood) International Access Code: 16 Country Code: 353 City Code: 1	Website: support.euro.dell.com	
	E-mail: dell_direct_support@dell.com	
	Technical Support	1850 543 543
	U.K. Technical Support (dial within U.K. only)	0870 908 0800
	Home User Customer Care	01 204 4014
	Small Business Customer Care	01 204 4014
	U.K. Customer Care (dial within U.K. only)	0870 906 0010
	Corporate Customer Care	1850 200 982
	Corporate Customer Care (dial within U.K. only)	0870 907 4499
	Ireland Sales	01 204 4444
	U.K. Sales (dial within U.K. only)	0870 907 4000
	Fax/SalesFax	01 204 0103
	Switchboard	01 204 4444
Italy (Milan) International Access Code: 00 Country Code: 39 City Code: 02	Website: support.euro.dell.com	
	E-mail: support.euro.dell.com/it/it/emaiddell/	
	Home and Small Business	
	Technical Support	02 577 826 90
	Customer Care	02 696 821 14
	Fax	02 696 821 13
	Switchboard	02 696 821 12
	Corporate	
	Technical Support	02 577 826 90
	Customer Care	02 577 825 55
	Fax	02 575 035 30
	Switchboard	02 577 821
	Jamaica	General Support (dial from within Jamaica only)

Japan (Kawasaki) International Access Code: 001 Country Code: 81 City Code: 44	Website: support.jp.dell.com	
	Technical Support (servers)	toll-free: 0120-198-498
	Technical Support outside of Japan (servers)	81-44-556-4162
	Technical Support (Dimension™ and Inspiron™)	toll-free: 0120-198-226
	Technical Support outside of Japan (Dimension and Inspiron)	81-44-520-1435
	Technical Support (Dell Precision™, OptiPlex™, and Latitude™)	toll-free: 0120-198-433
	Technical Support outside of Japan (Dell Precision, OptiPlex, and Latitude)	81-44-556-3894
	Technical Support (Axim™)	toll-free: 0120-981-690
	Technical Support outside of Japan (Axim)	81-44-556-3468
	Faxbox Service	044-556-3490
	24-Hour Automated Order Service	044-556-3801
	Customer Care	044-556-4240
	Business Sales Division (up to 400 employees)	044-556-1465
	Preferred Accounts Division Sales (over 400 employees)	044-556-3433
	Large Corporate Accounts Sales (over 3500 employees)	044-556-3430
	Public Sales (government agencies, educational institutions, and medical institutions)	044-556-1469
	Global Segment Japan	044-556-3469
Individual User	044-556-1760	
Switchboard	044-556-4300	
Korea (Seoul) International Access Code: 001 Country Code: 82 City Code: 2	Technical Support	toll-free: 080-200-3800
	Sales	toll-free: 080-200-3600
	Customer Service (Seoul, Korea)	toll-free: 080-200-3800
	Customer Service (Penang, Malaysia)	604 633 4949
	Fax	2194-6202
Switchboard	2194-6000	
Latin America	Customer Technical Support (Austin, Texas, U.S.A.)	512 728-4093
	Customer Service (Austin, Texas, U.S.A.)	512 728-3619
	Fax (Technical Support and Customer Service) (Austin, Texas, U.S.A.)	512 728-3883
	Sales (Austin, Texas, U.S.A.)	512 728-4397
	SalesFax (Austin, Texas, U.S.A.)	512 728-4600 or 512 728-3772
Luxembourg International Access Code: 00 Country Code: 352	Website: support.euro.dell.com	
	E-mail: tech_be@dell.com	
	Technical Support (Brussels, Belgium)	3420808075
	Home/Small Business Sales (Brussels, Belgium)	toll-free: 080016884
	Corporate Sales (Brussels, Belgium)	02 481 91 00
	Customer Care (Brussels, Belgium)	02 481 91 19
	Fax (Brussels, Belgium)	02 481 92 99
Switchboard (Brussels, Belgium)	02 481 91 00	
Macao Country Code: 853	Technical Support	toll-free: 0800 582
	Customer Service (Penang, Malaysia)	604 633 4949
	Transaction Sales	toll-free: 0800 581
Malaysia (Penang) International Access Code: 00 Country Code: 60 City Code: 4	Technical Support (Dell Precision, OptiPlex, and Latitude)	toll-free: 1 800 88 0193
	Technical Support (Dimension and Inspiron)	toll-free: 1 800 88 1306
	Customer Service	04 633 4949
	Transaction Sales	toll-free: 1 800 888 202
	Corporate Sales	toll-free: 1 800 888 213
Mexico International Access Code: 00 Country Code: 52	Customer Technical Support	001-877-384-8979 or 001-877-269-3383
	Sales	50-81-8800 or 01-800-888-3355
	Customer Service	001-877-384-8979 or 001-877-269-3383
	Main	50-81-8800 or 01-800-888-3355
	General Support	toll-free: 1-866-278-6822
Montserrat	General Support	toll-free: 1-866-278-6822

Netherlands Antilles	General Support	001-800-882-1519
Netherlands (Amsterdam)	Website: support.euro.dell.com	
International Access Code: 00	E-mail (Technical Support):	
Country Code: 31	(Enterprise): nl_server_support@dell.com	
City Code: 20	(Latitude): nl_latitude_support@dell.com	
	(Inspiron): nl_inspiron_support@dell.com	
	(Dimension): nl_dimension_support@dell.com	
	(OptiPlex): nl_optiplex_support@dell.com	
	(Dell Precision): nl_workstation_support@dell.com	
	Technical Support	020 674 45 00
	Technical Support Fax	020 674 47 66
	Home/Small Business Customer Care	020 674 42 00
	Relational Customer Care	020 674 4325
	Home/Small Business Sales	020 674 55 00
	Relational Sales	020 674 50 00
	Home/Small Business Sales Fax	020 674 47 75
	Relational Sales Fax	020 674 47 50
	Switchboard	020 674 50 00
	Switchboard Fax	020 674 47 50
New Zealand	E-mail (New Zealand): nz_tech_support@dell.com	
International Access Code: 00	E-mail (Australia): au_tech_support@dell.com	
Country Code: 64	Home and Small Business	0800 446 255
	Government and Business	0800 444 617
	Sales	0800 441 567
	Fax	0800 441 566
Nicaragua	General Support	001-800-220-1006
Norway (Lysaker)	Website: support.euro.dell.com	
International Access Code: 00	E-mail Support (portable computers):	
Country Code: 47	nor_nbk_support@dell.com	
	E-mail Support (desktop computers):	
	nor_support@dell.com	
	E-mail Support (servers):	
	nordic_server_support@dell.com	
	Technical Support	671 16882
	Relational Customer Care	671 17514
	Home/Small Business Customer Care	23162298
	Switchboard	671 16800
	Fax Switchboard	671 16865
Panama	General Support	001-800-507-0962
Peru	General Support	0800-50-669
Poland (Warsaw)	Website: support.euro.dell.com	
International Access Code: 011	E-mail: pl_support_tech@dell.com	
Country Code: 48	Customer Service Phone	57 95 700
City Code: 22	Customer Care	57 95 999
	Sales	57 95 999
	Customer Service Fax	57 95 806
	Reception Desk Fax	57 95 998
	Switchboard	57 95 999
Portugal	Website: support.euro.dell.com	
International Access Code: 00	E-mail: support.euro.dell.com/pt/en/emailldell/	
Country Code: 351	Technical Support	707200149
	Customer Care	800 300 413
	Sales	800 300 410 or 800 300 411 or 800 300 412 or 21 422 07 10
	Fax	21 424 01 12
Puerto Rico	General Support	1-800-805-7545

St. Kitts and Nevis	General Support	toll-free: 1-877-441-4731
St. Lucia	General Support	1-800-882-1521
St. Vincent and the Grenadines	General Support	toll-free: 1-877-270-4609
Singapore (Singapore)	Technical Support	toll-free: 800 6011 051
International Access Code: 005	Customer Service (Penang, Malaysia)	604 633 4949
	Transaction Sales	toll-free: 800 6011 054
Country Code: 65	Corporate Sales	toll-free: 800 6011 053
South Africa (Johannesburg)	Website: support.euro.dell.com	
International Access Code: 09/091	E-mail: dell_za_support@dell.com	
	Technical Support	011 709 7710
	Customer Care	011 709 7707
Country Code: 27	Sales	011 709 7700
	Fax	011 706 0495
City Code: 11	Switchboard	011 709 7700
Southeast Asian and Pacific Countries	Customer Technical Support, Customer Service, and Sales (Penang, Malaysia)	604 633 4810
Spain (Madrid)	Website: support.euro.dell.com	
International Access Code: 00	E-mail: support.euro.dell.com/es/es/emailldell/	
	Home and Small Business	
Country Code: 34	Technical Support	902 100 130
	Customer Care	902 118 540
	Sales	902 118 541
City Code: 91	Switchboard	902 118 541
	Fax	902 118 539
	Corporate	
	Technical Support	902 100 130
	Customer Care	902 118 546
	Switchboard	91 722 92 00
	Fax	91 722 95 83
Sweden (Upplands Vasby)	Website: support.euro.dell.com	
International Access Code: 00	E-mail: swe_support@dell.com	
	E-mail Support for Latitude and Inspiron: Swe-nbk_kats@dell.com	
Country Code: 46	E-mail Support for OptiPlex: Swe_kats@dell.com	
	E-mail Support for Servers: Nordic_server_support@dell.com	
City Code: 8	Technical Support	08 590 05 199
	Relational Customer Care	08 590 05 642
	Home/Small Business Customer Care	08 587 70 527
	Employee Purchase Program (EPP) Support	20 140 14 44
	Fax Technical Support	08 590 05 594
	Sales	08 590 05 185
Switzerland (Geneva)	Website: support.euro.dell.com	
International Access Code: 00	E-mail: Tech_support_central_Europe@dell.com	
	E-mail for French-speaking HSB and Corporate Customers: support.euro.dell.com/ch/fr/emailldell/	
Country Code: 41	Technical Support (Home and Small Business)	0844 811 411
	Technical Support (Corporate)	0844 822 844
City Code: 22	Customer Care (Home and Small Business)	0848 802 202
	Customer Care (Corporate)	0848 821 721
	Fax	022 799 01 90
	Switchboard	022 799 01 01
Taiwan	Technical Support (portable and desktop computers)	toll-free: 00801 86 1011
International Access Code: 002	Technical Support (servers)	toll-free: 0080 60 1256
	Transaction Sales	toll-free: 0080 651 228
Country Code: 886	Corporate Sales	toll-free: 0080 651 227
Thailand	Technical Support	toll-free: 0880 060 07
International Access Code: 001	Customer Service (Penang, Malaysia)	604 633 4949

Country Code: 66	Sales	toll-free: 0880 060 09
Trinidad/Tobago	General Support	1-800-805-8035
Turks and Caicos Islands	General Support	toll-free: 1-866-540-3355
U.K. (Bracknell)	Website: support.euro.dell.com	
International Access Code: 00	Customer Care website: support.euro.dell.com/uk/en/ECare/Form/Home.asp	
Country Code: 44	E-mail: dell_direct_support@dell.com	
City Code: 1344	Technical Support (Corporate/Preferred Accounts/PAD [1000+ employees])	0870 908 0500
	Technical Support (direct/PAD and general)	0870 908 0800
	Global Accounts Customer Care	01344 373 186
	Home and Small Business Customer Care	0870 906 0010
	Corporate Customer Care	01344 373 185
	Preferred Accounts (500-5000 employees) Customer Care	0870 906 0010
	Central Government Customer Care	01344 373 193
	Local Government & Education Customer Care	01344 373 199
	Health Customer Care	01344 373 194
	Home and Small Business Sales	0870 907 4000
	Corporate/Public Sector Sales	01344 860 456
	Home and Small Business Fax	0870 907 4006
Uruguay	General Support	toll-free: 000-413-598-2521
U.S.A. (Austin, Texas)	Automated Order-Status Service	toll-free: 1-800-433-9014
International Access Code: 011	AutoTech (portable and desktop computers)	toll-free: 1-800-247-9362
Country Code: 1	Consumer (Home and Home Office)	
	Technical Support	toll-free: 1-800-624-9896
	Customer Service	toll-free: 1-800-624-9897
	DellNet™ Service and Support	toll-free: 1-877-DellNet (1-877-335-5638)
	Employee Purchase Program (EPP) Customers	toll-free: 1-800-695-8133
	Financial Services website: www.dellfinancialservices.com	
	Financial Services (lease/loans)	toll-free: 1-877-577-3355
	Financial Services (Dell Preferred Accounts [DPA])	toll-free: 1-800-283-2210
	Business	
	Customer Service and Technical Support	toll-free: 1-800-822-8965
	Employee Purchase Program (EPP) Customers	toll-free: 1-800-695-8133
	Printers and Projectors Technical Support	toll-free: 1-877-459-7298
	Public (government, education, and healthcare)	
	Customer Service and Technical Support	toll-free: 1-800-456-3355
	Employee Purchase Program (EPP) Customers	toll-free: 1-800-234-1490
	Dell Sales	toll-free: 1-800-289-3355 or toll-free: 1-800-879-3355
	Dell Outlet Store (Dell refurbished computers)	toll-free: 1-888-798-7561
	Software and Peripherals Sales	toll-free: 1-800-671-3355
	Spare Parts Sales	toll-free: 1-800-357-3355
	Extended Service and Warranty Sales	toll-free: 1-800-247-4618
	Fax	toll-free: 1-800-727-8320
	Dell Services for the Deaf, Hard-of-Hearing, or Speech-Impaired	toll-free: 1-877-DELLTTY (1-877-335-5889)
U.S. Virgin Islands	General Support	1-877-673-3355
Venezuela	General Support	8001-3605

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Glossary

Dell™ OptiPlex™ SX280 User's Guide

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

A

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

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

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

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

APR — advanced port replicator — A docking device that allows you to conveniently use a monitor, keyboard, mouse, and other devices with your portable computer.

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

B

backup — A copy of a program or data file on a floppy disk, CD, or hard drive. As a precaution, back up the data files from your hard drive regularly.

battery — An internal power source used to operate portable computers when not connected to an AC adapter and an electrical outlet.

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

battery operating time — The length of time (minutes or hours) that a portable computer battery holds a charge while powering the computer.

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

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

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

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

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

bootable disk — A disk that you can use to start your computer. In case your hard drive is damaged or your computer has a virus, ensure that you always have a bootable CD or floppy disk available.

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

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

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

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

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

C

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

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

L1 cache — Primary cache stored inside the processor.

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

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

CD — compact disc — An optical form of storage media, typically used for audio and software programs.

CD drive — A drive that uses optical technology to read data from CDs.

CD player — The software used to play music CDs. The CD player displays a window with buttons that you use to play a CD.

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

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

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

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

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

COA — Certificate of Authenticity — The Windows alpha-numeric code located on a sticker on your computer. You may need the COA to complete the operating system setup or reinstallation. Also referred to as the *Product Key* or *Product ID*.

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

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

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

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

D

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

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

device driver — See *driver*.

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

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

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

docking device — See *APR*.

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

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

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

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

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

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

DVD — digital versatile disc — A disc usually used to store movies. DVDs are double-sided, whereas CDs are single-sided. DVD drives read most CD media as well.

DVD drive — A drive that uses optical technology to read data from DVDs and CDs.

DVD player — The software used to watch DVD movies. The DVD player displays a window with buttons that you use to watch a movie.

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

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

DVI — digital video interface — A standard for digital transmission between a computer and a digital video display; the DVI adapter works through the computer's integrated graphics.

E

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

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

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

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

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

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

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

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

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

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

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

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

F

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

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

floppy drive — A disk drive that can read and write to floppy disks.

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

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

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

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

G

G — gravity — A measurement of weight and force.

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

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

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

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

H

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

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

help file — A file that contains descriptive or instructional information about a product. Some help files are associated with a particular program, such as *Help* in Microsoft Word. Other help files function as stand-alone reference sources. Help files typically have a filename extension of **.hlp** or **.chm**.

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

HTML — hypertext markup language — A set of codes inserted into an Internet web page intended for display on an Internet browser.

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

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

I

IC — Industry Canada — The Canadian regulatory body responsible for regulating emissions from electronic equipment, much as the FCC does in the United States.

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

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

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

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

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

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

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

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

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

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

K

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

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

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

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

L

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

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

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

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

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

M

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

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

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

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

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

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

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

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

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

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

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

monitor — The high-resolution TV-like device that displays computer output.

mouse — A pointing device that controls the movement of the cursor on your screen. Typically you roll the mouse over a hard, flat surface to move the pointer or cursor on your screen.

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

N

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

NIC — See *network adapter*.

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

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

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

O

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

P

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

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

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

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

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

PIN — personal identification number — A sequence of numerals and/or letters used to restrict unauthorized access to computer networks and other secure systems.

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

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

Plug-and-Play — The ability of the computer to automatically configure devices. Plug and Play provides automatic installation, configuration, and compatibility

with existing hardware if the BIOS, operating system, and all devices are Plug and Play compliant.

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

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

program — Any software that processes data for you, including spreadsheet, word processor, database, and game packages. Programs require an operating system to run.

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

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

R

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

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

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

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

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

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

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

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

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

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

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

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

S

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

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

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

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

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

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

shutdown — The process of closing windows and exiting programs, exiting the operating system, and turning off your computer. You can lose data if you turn off your computer before completing a shutdown.

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

software — Anything that can be stored electronically, such as computer files or programs.

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

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

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

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

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

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

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

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

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

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

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

system tray — See *notification area*.

T

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

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

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

U

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

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

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

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

V

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

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

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

video resolution — See *resolution*.

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

A common type of virus is a boot virus, which is stored in the boot sectors of a floppy disk. If the floppy disk is left in the drive when the computer is shut down and then turned on, the computer is infected when it reads the boot sectors of the floppy disk expecting to find the operating system. If the computer is infected, the boot virus may replicate itself onto all the floppy disks that are read or written in that computer until the virus is eradicated.

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

W

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

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

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

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

X

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

Z

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





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

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

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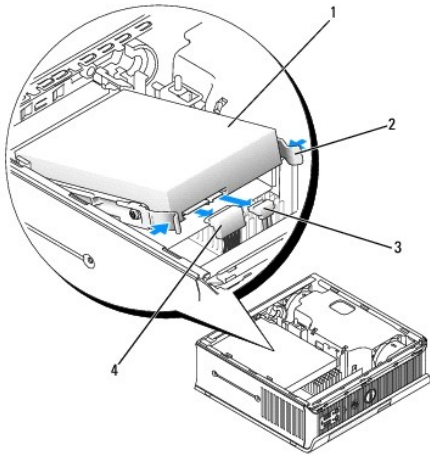
Hard Drive

Dell™ OptiPlex™ SX280 User's Guide

-  **CAUTION:** Before you begin any of the procedures in this section, follow the safety instructions in the *Product Information Guide*.
 -  **CAUTION:** To guard against electrical shock, always unplug your computer from the power supply before removing the hard drive.
 -  **NOTICE:** To prevent static damage to components inside your computer, discharge static electricity from your body before you touch any of your computer's electronic components. You can do so by touching an unpainted metal surface on the computer chassis.
 -  **NOTICE:** To avoid damage to the drive, do not set it on a hard surface. Instead, set the drive on a surface, such as a foam pad, that will sufficiently cushion it.
-

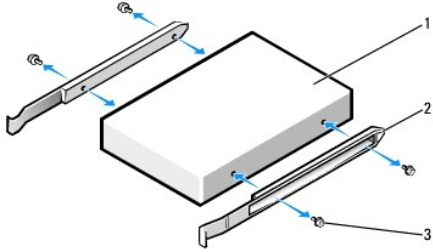
Installing a Hard Drive

1. If you are installing a new drive, rather than replacing a drive, [attach the drive rails](#) — located inside the cover — to the new drive and proceed with [step 8](#).
2. If you are replacing a hard drive that contains data you want to keep, back up your files before you begin this procedure.
3. Check the documentation for the drive to verify that the drive is configured for your computer.
4. Follow the procedures in "[Before You Begin](#)."
5. Grasp the drive rails, push the two rails toward each other, slide the drive slightly forward, and rotate the hard drive up (see the illustration below) and away from the bracket.



1	hard drive	3	power cable connector
2	drive rails (2)	4	data cable connector

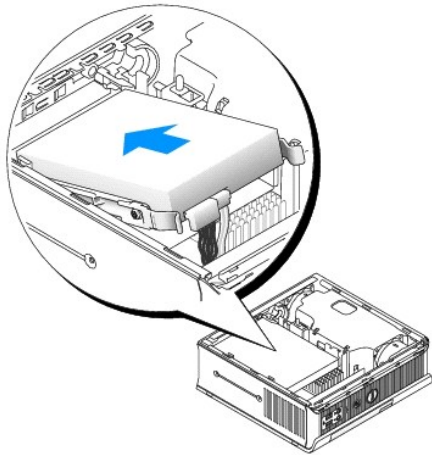
6. Remove the data and power cables from the drive connectors.
7. Remove the drive rails from the old hard drive, and attach the drive rails to the replacement hard drive.



1	drive
2	drive rails (2)
3	screws (4)

➔ **NOTICE:** Serial ATA data and power connectors are keyed for correct insertion; that is, a notch or a missing pin on one connector matches a tab or a filled-in hole on the other connector. When connecting cables to a drive, ensure that the connectors are oriented properly before you attach the cables to the drive.

8. Attach the data and power cables to the hard drive connectors, ensuring that the connectors are properly oriented before connecting them.
9. Slide the hard drive into the bracket.



10. Replace the cover.
11. Replace the cable cover, if used.

➔ **NOTICE:** To connect a network cable, first plug the cable into the network wall jack, and then plug it into the computer.

12. Connect your computer to the power adapter and devices to their electrical outlets, and turn them on.

See the documentation that came with the drive for instructions on installing any software required for drive operation.

13. Reboot the computer.
14. After you replace the cover, the chassis intrusion detector, if enabled, causes the following message to appear on the screen at the next computer start-up:

ALERT! Cover was previously removed.

15. [Reset the chassis intrusion detector](#) by changing **Chassis Intrusion** to **On** or **On-Silent**.

🔍 **NOTE:** If an admin password has been assigned by someone else, contact your network administrator for information on resetting the chassis intrusion detector.

16. Partition and logically format your drive before you proceed to the next step.

For instructions, see the documentation that came with your operating system.

17. Test the hard drive by running the [Dell Diagnostics](#).
18. Install your operating system on the hard drive.

For instructions, see the documentation that came with your operating system.

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Memory

Dell™ OptiPlex™ SX280 User's Guide

- [Memory Installation Guidelines](#)
 - [Installing Memory](#)
 - [Removing Memory](#)
-

Memory Installation Guidelines

For information on the type of memory supported by your computer, look under "[Memory](#)" in the Technical Specifications section.

 **NOTICE:** Before you install new memory modules, download the most recent BIOS for your computer from the Dell Support website at support.dell.com.

DDR2 Memory Overview


For best performance, DDR2 memory modules should be installed in *pairs of matched memory size, speed, and technology*. If the DDR2 memory modules are not installed in matched pairs, the computer will continue to operate, but with a slight reduction in performance.

The recommended memory configurations are:


- 1 A memory module installed in connector CHA_DIMM.

or

- 1 A pair of matched memory modules installed in connectors CHA_DIMM and CHB_DIMM.


 **NOTICE:** Do not install ECC memory modules.

- 1 Be sure to install a single memory module in CHA_DIMM, the connector closest to the processor, before you install a module in the other connector.

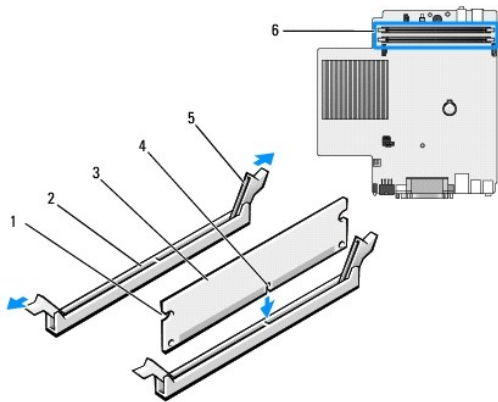
 **NOTE:** Memory purchased from Dell is covered under your computer warranty.

Installing Memory

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

 **CAUTION:** To prevent static damage to components inside your computer, discharge static electricity from your body before you touch any of your computer's electronic components. You can do so by touching an unpainted metal surface on the computer chassis.

1. Follow the procedures in "[Before You Begin](#)."
2. Press out the securing clip at each end of the memory module connector.



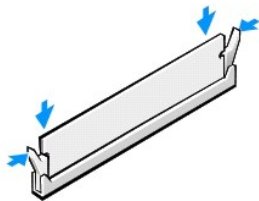
1	cutouts (2)	4	notch
2	connector	5	securing clips (2)
3	memory module	6	memory connectors on system board

3. Align the notch on the bottom of the module with the crossbar in the connector.

➡ **NOTICE:** To avoid damage to the memory module, press the module straight down into the connector while you apply equal force to each end of the module.

4. Insert the module into the connector until the module snaps into position.

If you insert the module correctly, the securing clips snap into the cutouts at each end of the module.



5. Replace the computer cover.

➡ **NOTICE:** To connect a network cable, first plug the cable into the network wall jack and then plug it into the computer.

6. Connect your computer and devices to electrical outlets, and turn them on.

After you open and close the cover, the chassis intrusion detector, if enabled, causes the following message to appear on the screen at the next computer start-up:

ALERT! Cover was previously removed.

7. [Reset the chassis intrusion detector](#) by changing **Chassis Intrusion** to **On** or **On-Silent**.

🔍 **NOTE:** If an admin password has been assigned by someone else, contact your network administrator for information on resetting the chassis intrusion detector.

8. The computer detects that the new memory does not match the existing configuration information and generates the following message:


The amount of system memory has changed.
Strike the F1 key to continue, F2 to run the setup utility


9. Press <F2> to enter system setup and check the value for **System Memory**.

The computer should have changed the value of **System Memory** to reflect the newly installed memory capacity, speed, and mode (single or dual). Verify that the information is correct. If it is correct, skip to [step 11](#).

10. If the memory total is incorrect, turn off and disconnect your computer and devices from their electrical outlets. Open the computer cover and check the installed memory modules to ensure that they are seated properly in their sockets. Then repeat steps [5](#), [6](#), and [7](#).
 11. When the **System Memory** total is correct, press <Esc> to exit system setup.
 12. Run the [Dell Diagnostics](#) to verify that the memory modules are operating properly.
-

Removing Memory

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

 **CAUTION:** To prevent static damage to components inside your computer, discharge static electricity from your body before you touch any of your computer's electronic components. You can do so by touching an unpainted metal surface on the computer chassis.

1. Follow the procedures in "[Before You Begin](#)."
2. Press out the securing clip at each end of the memory module connector.
3. Grasp the module and pull up.

If the module is difficult to remove, gently ease the module back and forth to remove it from the connector.

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Module Bay

Dell™ OptiPlex™ SX280 User's Guide

- [Installing a Device When Your Computer Is Turned Off](#)
- [Installing a Device When Your Computer Is Running Microsoft® Windows®](#)
- [Securing a Device in the Module Bay](#)

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

You can install a Dell™ portable device such as a floppy drive, CD/DVD drive, or second hard drive in the module bay.

Your Dell computer ships with either a CD/DVD drive or an airbay (filler blank) installed in the module bay. You can secure a device in the module bay by two methods:

- 1 locking switch (accessed by opening the cover)
- 1 [device screw](#) (packaged separately.)

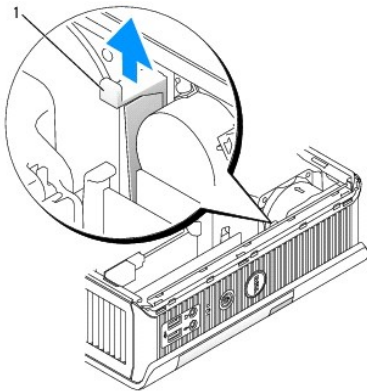
See "[Securing a Device in the Module Bay](#)" for more information about securing a device in your computer.

➡ NOTICE: To prevent damage to devices, place them in a safe, dry place when they are not installed in the computer. Avoid pressing down on them or placing heavy objects on top of them.

Installing a Device When Your Computer Is Turned Off

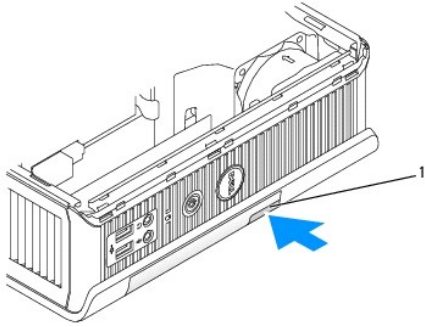
To install a device in the module bay:

1. If the module bay contains an airbay instead of a device, grasp the airbay and pull it out of the module bay and skip to [step 5](#). If the airbay is locked, remove the [device screw](#).
2. If the module bay contains a device that is locked, [remove the cover](#) and move the module locking switch to the unlocked position by raising the locking switch. If a device screw is used, remove the screw.



1 module locking switch

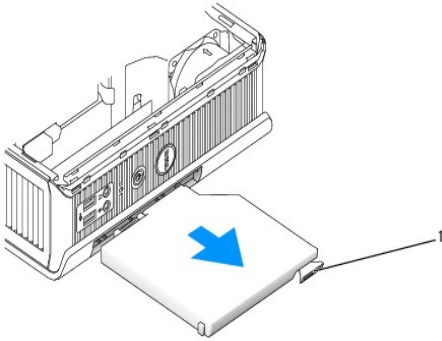
3. Press the device latch release so that the latch release pops out.



1 device latch release

➡ **NOTICE:** Do not place any heavy objects on top of the computer. Doing so may cause difficulty in removing a module device.

4. Pull the device by the latch release to remove the device from the module bay.



1 latch release

5. Slide the new device into the module bay.
6. If desired, you may lock the new device in the module bay by moving the module locking switch to the locked position.
7. If you removed the cover to lock the device in the module bay, replace the cover.

Installing a Device When Your Computer Is Running Microsoft® Windows®

1. If a device is installed in the module bay, double-click the **Safely Remove Hardware** icon on the taskbar.
2. Click the device you want to eject.

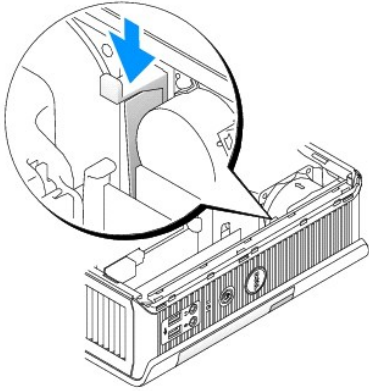
🚫 **NOTE:** You cannot remove a device if your computer is turned on and the device is locked in the module bay. You must shut down the computer and follow the steps in "[Installing a Device When Your Computer Is Turned Off](#)" to remove a locked device.

➡ **NOTICE:** Do not place any heavy objects on top of the computer. Doing so may cause difficulty in removing a module device.

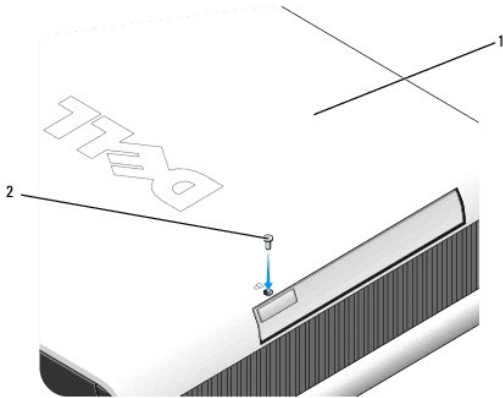
3. When a computer message indicates that you can remove the device, unplug the device from the computer.
4. Slide the new device into the module bay.

Securing a Device in the Module Bay

1. To secure a device in the module bay, your computer is equipped with a module locking switch. To access this switch, [remove the computer cover](#).



2. You may also secure a device in the module bay by using a device screw (packaged separately).



1	bottom of computer
2	device locking screw

Adding and Removing Parts

Dell™ OptiPlex™ SX280 User's Guide

- [Before You Begin](#)
 - [Removing the Computer Cover](#)
 - [Battery](#)
 - [Chassis Intrusion Switch](#)
 - [Chassis Speaker](#)
 - [Hard Drive](#)
 - [Memory](#)
 - [Module Bay](#)
 - [Processor](#)
 - [Replacing the Computer Cover](#)
-

Before You Begin

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

- 1 You have performed the steps in "[Shutting Down Your Computer.](#)"
- 1 You have read the safety information in the *Product Information Guide* that shipped with your computer.









Recommended Tools

The procedures in this document may require the following tools:

- 1 Small flat-blade screwdriver
- 1 Phillips screwdriver
- 1 Flash BIOS update program floppy disk or CD

Shutting Down Your Computer

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

-  **CAUTION:** Before you begin any of the procedures in this section, follow the safety instructions in the *Product Information Guide*.
 -  **CAUTION:** Handle components and cards with care. Do not touch the components or contacts on a card. Hold a card by its edges or by its metal mounting bracket. Hold a component such as a processor by its edges or by its metal mounting bracket. Hold a component such as a processor by its edges, not by its pins.
 -  **NOTICE:** Only a certified service technician should perform repairs on your computer. Damage due to servicing that is not authorized by Dell is not covered by your warranty.
 -  **NOTICE:** When you disconnect a cable, pull on its connector or on its strain-relief loop, not on the cable itself. Some cables have a connector with locking tabs; if you are disconnecting this type of cable, press in on the locking tabs before you disconnect the cable. As you pull connectors apart, keep them evenly aligned to avoid bending any connector pins. Also, before you connect a cable, ensure that both connectors are correctly oriented and aligned.
 -  **NOTICE:** To avoid damaging the computer, perform the following steps before you begin working inside the computer.
 1. Shut down the computer.
 2. Ensure that the computer and any attached devices are turned off. If your computer and attached devices did not automatically turn off when you shut down your computer, turn them off now.
 -  **NOTICE:** To disconnect a network cable, first unplug the cable from your computer and then unplug it from the network wall jack.
 3. Disconnect any telephone or telecommunication lines from the computer.
 4. Disconnect your computer and all attached devices from their electrical outlets, and then press the power button to ground the system board.
 -  **CAUTION:** To guard against electrical shock, always unplug your computer from the electrical outlet before opening the cover.
 5. Remove the cable cover, if used.
 6. [Remove the computer cover.](#)
 -  **NOTICE:** Before touching anything inside your computer, ground yourself by touching an unpainted metal surface, such as the metal at the back of the computer. While you work, periodically touch an unpainted metal surface to dissipate any static electricity that could harm internal components.
-

Processor

Dell™ OptiPlex™ SX280 User's Guide

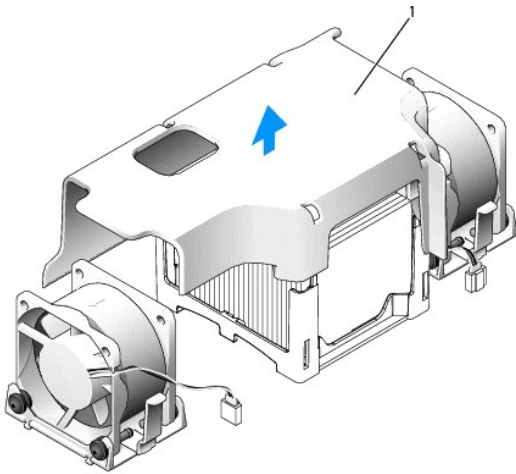
⚠ CAUTION: Before you begin any of the procedures in this section, follow the safety instructions in the *Product Information Guide*.

⚠ CAUTION: To guard against electrical shock, always unplug your computer from the electrical outlet before removing the cover.

👉 NOTICE: When replacing the processor, do not touch the underside of the new processor.

👉 NOTICE: When replacing the processor, do not touch any of the pins inside the socket or allow any objects to fall on the pins in the socket.

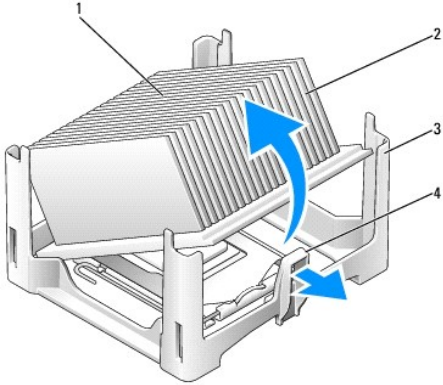
1. Follow the procedures in "[Before You Begin](#)."
2. Remove the fan shroud by lifting the fan shroud up and away from the computer.



1 fan shroud

⚠ CAUTION: The heat sink can get extremely hot. Be sure the heat sink has had sufficient time to cool before you touch it.

3. Remove the heat sink.
 - a. Remove the memory module (see "[Removing Memory](#)") closest to the heat sink.
 - b. Press the lever on the retention base until the heat sink is released.

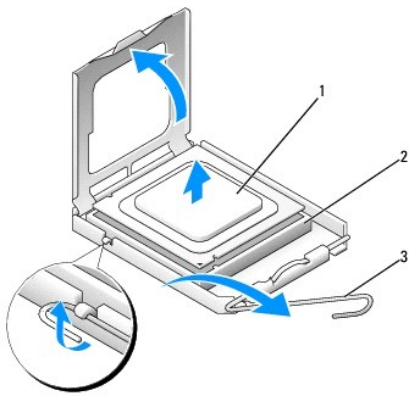


1	top of heat sink	3	retention base
2	heat sink	4	lever

c. Gently lift the heat sink from the processor.

➔ **NOTICE:** Lay the heat sink down on its top, with the thermal grease facing upward.

4. Pull the release lever straight up until the processor is released, and then remove the processor from the socket.



1	processor
2	socket
3	release lever

➔ **NOTICE:** Ground yourself by touching an unpainted metal surface on the back of the computer.

➔ **NOTICE:** When replacing the processor, do not touch any of the pins inside the socket or allow any objects to fall on the pins in the socket.

5. Unpack the new processor, being careful not to touch the underside of the processor.

6. If the release lever on the socket is not fully extended, move it to that position.

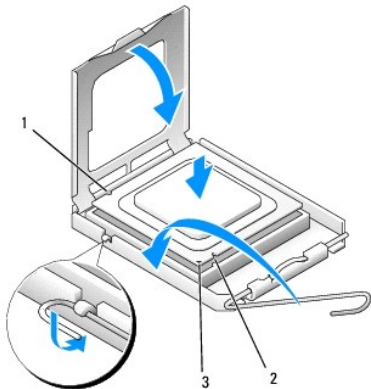
7. Orient the front and rear alignment notches on the processor with the front and rear alignment notches on the socket.

8. Align the pin-1 corners of the processor and socket.

➔ **NOTICE:** To avoid damage, ensure that the processor aligns properly with the socket, and do not use excessive force when you install the processor.

9. Set the processor lightly in the socket and ensure that the processor is positioned correctly.

10. When the processor is fully seated in the socket, pivot the release lever back toward the socket until it snaps into place to secure the processor.

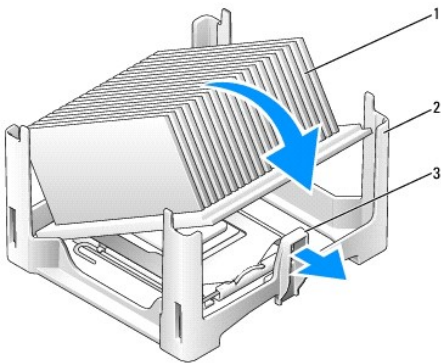


1	rear alignment notch
2	front alignment notch
3	pin-1 corners of processor and socket aligned

- ⚡ **NOTICE:** Ground yourself by touching an unpainted metal surface on the back of the computer.

If you are installing a processor replacement kit from Dell, return the processor to Dell in the same package in which your replacement kit was sent.

11. Place one end of the heat sink under the tab on the retention base on the side opposite the lever (see the illustration). Lower the heat sink onto the processor so that the heat sink fits securely under the tab on the other end of the retention base.



1	heat sink
2	retention base
3	lever

12. Replace the computer cover.
13. [Replace the cable cover](#), if used.


- ⚡ **NOTICE:** To connect a network cable, first plug the cable into the network wall jack, and then plug it into the computer.

14. Connect your computer to the adapter cable and devices to electrical outlets, and turn them on.

After you replace the cover, the chassis intrusion detector, if enabled, causes the following message to appear on the screen at the next computer start-up:

ALERT! Cover was previously removed.

15. [Reset the chassis intrusion detector](#) by changing the **Chassis Intrusion** option to **On** or **On-Silent**.

 **NOTE:** If an admin password has been assigned by someone else, contact your network administrator for information on resetting the chassis intrusion detector.

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Reinstalling Drivers and the Operating System

Dell™ OptiPlex™ SX280 User's Guide

- [Drivers](#)
- [Using Microsoft® Windows® XP System Restore](#)
- [Reinstalling Microsoft Windows XP](#)

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

 **NOTICE:** You must use Microsoft® Windows® XP Service Pack 1 or later when you reinstall Windows XP.

 **NOTE:** If you installed a unique image on your computer or if you had to reinstall your operating system, run the DSS utility. DSS is available on your *Drivers and Utilities* CD and at support.dell.com.


Drivers

What Is a Driver?

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

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

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

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

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

- 1 Upgrade your operating system.
- 1 Reinstall your operating system.
- 1 Connect or install a new device.

Identifying Drivers


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

Windows XP

1. Click the **Start** button and click **Control Panel**.
2. Under **Pick a Category**, click **Performance and Maintenance**.
3. Click **System**.
4. In the **System Properties** window, click the **Hardware** tab.
5. Click **Device Manager**.
6. Scroll down the list to see if any device has an exclamation point (a yellow circle with a [!]) on the device icon.

If an exclamation point is next to the device name, you may need to [reinstall the driver](#) or install a new driver.

Reinstalling Drivers and Utilities

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

Using Windows XP Device Driver Rollback


If a problem occurs on your computer after you install or update a driver, use Windows XP Device Driver Rollback to replace the driver with the previously installed version.

1. Click the **Start** button and click **Control Panel**.
2. Under **Pick a Category**, click **Performance and Maintenance**.
3. Click **System**.
4. In the **System Properties** window, click the **Hardware** tab.
5. Click **Device Manager**.
6. Right-click the device for which the new driver was installed and click **Properties**.
7. Click the **Drivers** tab.
8. Click **Roll Back Driver**.

If Device Driver Rollback does not resolve the problem, then use System Restore to return your computer to the operating state that existed before you installed the new driver.

Using the Drivers and Utilities CD

If using Device Driver Rollback or [System Restore](#) does not resolve the problem, then reinstall the driver from the *Drivers and Utilities* CD (also known as the Resource CD).

 **NOTE:** To access device drivers and user documentation, you must use the Drivers and Utilities CD while your computer is running Windows.

1. Insert the *Drivers and Utilities* CD.

If this is your first time to use the *Drivers and Utilities* CD, the Installation window opens to inform you that the CD will begin the installation. Click OK and respond to the installation program prompts to complete the installation.

2. Click **Next** at the **Welcome Dell System Owner** screen.
3. Choose the appropriate selections for **System Model**, Operating System, **Device Type**, and **Topic**.
4. Click **My Drivers** in the **Topic** drop-down menu.

The *Drivers and Utilities* CD scans your computer's hardware and operating system and then displays a list of device drivers for your system configuration.

5. Click the appropriate driver and follow the instructions to download the driver for your computer.


To view a list of all available drivers for your computer, click **Drivers** in the **Topic** drop-down menu.

To access the help files on the *Drivers and Utilities* CD, click the question mark button or the **Help** link at the top of the screen.

Using Microsoft® Windows® XP System Restore

The Microsoft Windows XP operating system provides System Restore to allow you to return your computer to an earlier operating state (without affecting data files) if changes to the hardware, software, or other system settings have left the computer in an undesirable operating state. See the Windows Help


and Support Center for information on using System Restore.

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

Creating a Restore Point

1. Click the **Start** button and click **Help and Support**.
2. Click **System Restore**.
3. Follow the instructions on the screen.

Restoring the Computer to an Earlier Operating State

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

1. Click the **Start** button, point to **All Programs**→**Accessories**→**System Tools**, and then click **System Restore**.
2. Ensure that **Restore my computer to an earlier time** is selected and click **Next**.
3. Click a calendar date to which you want to restore your computer.

The **Select a Restore Point** screen provides a calendar that allows you to see and select restore points. All calendar dates with available restore points appear in boldface type.

4. Select a restore point and click **Next**.

If a calendar date has only one restore point, then that restore point is automatically selected. If two or more restore points are available, click the restore point that you prefer.


5. Click **Next**.

The **Restoration Complete** screen appears after System Restore finishes collecting data and then the computer restarts.

6. After the computer restarts, click **OK**.

To change the restore point, you can either repeat the steps using a different restore point, or you can undo the restoration.

Undoing the Last System Restore

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

1. Click the **Start** button, point to **All Programs**→**Accessories**→**System Tools**, and then click **System Restore**.
2. Click **Undo my last restoration** and click **Next**.
3. Click **Next**.

The **System Restore** screen appears and the computer restarts.

4. After the computer restarts, click **OK**.


Enabling System Restore


If you reinstall Windows XP with less than 200 MB of free hard-disk space available, System Restore is automatically disabled. To see if System Restore is enabled:

1. Click the **Start** button and click **Control Panel**.
2. Click **System**.

3. Click the **System Restore** tab.
 4. Ensure that **Turn off System Restore** is unchecked.
-


Reinstalling Microsoft Windows XP

 **NOTICE:** You must use Microsoft Windows XP Service Pack 1 or later when you reinstall Windows XP.

 **NOTE:** If you installed a unique image on your computer or if you had to reinstall your operating system, run the DSS utility. DSS is available on your *Drivers and Utilities* CD and at support.dell.com.


Before You Begin

If you are considering reinstalling the Windows XP operating system to correct a problem with a newly installed driver, first try using Windows XP [Device Driver Rollback](#). If Device Driver Rollback does not resolve the problem, then use [System Restore](#) to return your operating system to the operating state it was in before you installed the new device driver.

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

To reinstall Windows XP, you need the following items:


1. Dell™ Operating System CD
1. Dell *Drivers and Utilities* CD


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

Reinstalling Windows XP

To reinstall Windows XP, perform all the steps in the following sections in the order in which they are listed.

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

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

 **NOTICE:** To prevent conflicts with Windows XP, disable any virus protection software installed on your computer before you reinstall Windows XP. See the documentation that came with the software for instructions.

Booting From the Operating System CD

1. Save and close any open files and exit any open programs.
2. Insert the *Operating System* CD. Click **Exit** if the **Install Windows XP** message appears.
3. Restart the computer.
4. Press <F12> immediately after the DELL™ logo appears.

If the operating system logo appears, wait until you see the Windows desktop, and then shut down the computer and try again.


5. Press the arrow keys to select CD-ROM, and press <Enter>.
6. When the **Press any key to boot from CD** message appears, press any key.


Windows XP Setup

1. When the Windows XP Setup screen appears, press <Enter> to select **To set up Windows now**.

2. Read the information on the **Microsoft Windows Licensing Agreement** screen, and press <F8> to accept the license agreement.
3. If your computer already has Windows XP installed and you want to recover your current Windows XP data, type \times to select the repair option, and remove the CD.
4. If you want to install a new copy of Windows XP, press <Esc> to select that option.
5. Press <Enter> to select the highlighted partition (recommended), and follow the instructions on the screen.


The Windows XP Setup screen appears, and the operating system begins to copy files and install the devices. The computer automatically restarts multiple times.

 **NOTE:** The time required to complete the setup depends on the size of the hard drive and the speed of your computer.


 **NOTICE:** Do not press any key when the following message appears: *Press any key to boot from the CD.*

6. When the **Regional and Language Options** screen appears, select the settings for your location and click **Next**.
7. Enter your name and organization (optional) in the **Personalize Your Software** screen, and click **Next**.
8. At the **Computer Name and Administrator Password** window, enter a name for your computer (or accept the one provided) and a password, and click **Next**.
9. If the **Modem Dialing Information** screen appears, enter the requested information and click **Next**.
10. Enter the date, time, and time zone in the **Date and Time Settings** window, and click **Next**.
11. If the **Networking Settings** screen appears, click **Typical** and click **Next**.
12. If you are reinstalling Windows XP Professional and you are prompted to provide further information regarding your network configuration, enter your selections. If you are unsure of your settings, accept the default selections.

Windows XP installs the operating system components and configures the computer. The computer automatically restarts.

 **NOTICE:** Do not press any key when the following message appears: *Press any key to boot from the CD.*

13. When the **Welcome to Microsoft** screen appears, click **Next**.
14. When the *How will this computer connect to the Internet?* message appears, click **Skip**.
15. When the **Ready to register with Microsoft?** screen appears, select **No, not at this time** and click **Next**.
16. When the **Who will use this computer?** screen appears, you can enter up to five users.
17. Click **Next**.
18. Click **Finish** to complete the setup, and remove the CD.
19. [Reinstall the appropriate drivers](#) with the *Drivers and Utilities* CD.
20. Reinstall your virus protection software.
21. Reinstall your programs.

 **NOTE:** To reinstall and activate your Microsoft Office or Microsoft Works Suite programs, you need the Product Key number located on the back of the Microsoft Office or Microsoft Works Suite CD sleeve.

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Solving Problems

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- [Battery Problems](#)
- [Drive Problems](#)
- [Keyboard Problems](#)
- [Lockups and Software Problems](#)
- [Memory Problems](#)
- [Mouse Problems](#)
- [Network Problems](#)
- [Power Problems](#)
- [Printer Problems](#)
- [Restoring Default Settings](#)
- [Serial or Parallel Device Problems](#)
- [Sound and Speaker Problems](#)
- [Video and Monitor Problems](#)

Battery Problems

Fill out the [Diagnostics Checklist](#) as you complete these checks.

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

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 "[Battery](#)"). If the battery still does not work properly, [contact Dell](#).

Drive Problems

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

Fill out the [Diagnostics Checklist](#) as you complete these checks.

Test the drive —

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

Clean the drive or disk — See "[Cleaning Your Computer](#)."

Check the cable connections

[Check for Software and Hardware Conflicts](#)

Run the [Dell Diagnostics](#)

CD and DVD drive problems

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

Adjust the Windows volume control —

- 1 Click the speaker icon in the lower-right corner of your screen.
- 1 Ensure that the volume is turned up by clicking the sidebar and dragging it up.
- 1 Ensure that the sound is not muted by clicking any boxes that are checked.

Check the speakers and subwoofer — See "[Sound and Speaker Problems](#)."

Problems writing to a CD/DVD-RW drive

Close other programs — The CD/DVD-RW drive must receive a steady stream of data when writing. If the stream is interrupted, an error occurs. Try closing all programs before you write to the CD/DVD-RW.

Turn off Standby mode in Windows before writing to a CD/DVD-RW disc — See [power management modes](#).

Hard drive problems

Running the Dell IDE Hard Drive Diagnostics —

The Dell IDE Hard Drive Diagnostics is a utility that tests the hard drive to troubleshoot or confirm a hard drive failure.


1. Turn on your computer (if your computer is already on, restart it).
2. When F2 = Setup appears in the upper-right corner of the screen, press <Ctrl><Alt><d>.
3. Follow the instructions on the screen.

Run Check Disk —

Windows XP

1. Click the **Start** button and click **My Computer**.
2. Right-click **Local Disk C:**.
3. Click **Properties**.
4. Click the **Tools** tab.
5. Under **Error-checking**, click **Check Now**.
6. Click **Scan for and attempt recovery of bad sectors**.
7. Click **Start**.

Keyboard Problems

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


Check the keyboard cable —


1. Ensure that the keyboard cable is firmly connected to the computer.
1. Shut down the computer, reconnect the keyboard cable as shown in the *Quick Reference Guide* for your computer, and then restart the computer.


Run the [Dell Diagnostics](#)

Check for [Software and Hardware Conflicts](#)

Lockups and Software Problems

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

 **NOTE:** You must use Microsoft® Windows® XP Service Pack 1 or later when you reinstall Windows XP.


 **NOTE:** If you installed a unique image on your computer or if you had to reinstall your operating system, run the DSS utility. DSS is available on your Drivers and Utilities CD and at support.dell.com

The computer does not start up.

[Check the computer's diagnostic lights](#)

Ensure that the power cable is firmly connected to the computer and to the electrical outlet

The computer stops responding

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

Turn the computer off — If you are unable to get a response by pressing a key on your keyboard or moving your mouse, press and hold the power button for at least 8 to 10 seconds until the computer turns off. Then restart your computer.

A program stops responding

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**.

A program crashes repeatedly

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

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

A solid blue screen appears

Ensure that the Original Version of Windows XP (Gold) is not installed on your computer

Turn the computer off — If you are unable to get a response by pressing a key on your keyboard or moving your mouse, press and hold the power button for at least 8 to 10 seconds until the computer turns off. Then restart your computer.

Other software problems

Check the software documentation or contact the software manufacturer for troubleshooting information —

1. Ensure that the program is compatible with the operating system installed on your computer.
1. Ensure that your computer meets the minimum hardware requirements needed to run the software. See the software documentation for information.
1. Ensure that the program is installed and configured properly.
1. Verify that the device drivers do not conflict with the program.
1. If necessary, uninstall and then reinstall the program.

Back up your files immediately

Use a virus-scanning program to check the hard drive, floppy disks, or CDs

Save and close any open files or programs and shut down your computer through the Start menu

Run the [Dell Diagnostics](#) — If all tests run successfully, the error condition is related to a software problem.

Memory Problems

Fill out the [Diagnostics Checklist](#) as you complete these checks.

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

If you receive an insufficient memory message —

1. Save and close any open files and exit any open programs you are not using to see if that resolves the problem.
1. See the software documentation for minimum memory requirements. If necessary, [install additional memory](#).
1. Reseat the memory modules to ensure that your computer is successfully communicating with the memory.
1. Run the [Dell Diagnostics](#).

If you experience other memory problems —

1. [Reseat the memory modules](#) to ensure that your computer is successfully communicating with the memory.
1. Ensure that you are following the memory installation guidelines (see "[Memory Installation Guidelines](#).")

1. Run the [Dell Diagnostics](#).

Mouse Problems

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

Clean the mouse — See "[Cleaning Your Computer](#)."

Check the mouse cable —

1. Remove and reconnect the mouse cable as shown in the *Quick Reference Guide* for your computer.

Check the mouse settings —

Windows XP

1. Click the **Start** button, click **Control Panel**, and then click **Printers and Other Hardware**.
2. Click **Mouse**.
3. Try adjusting the settings.

Run the [Dell Diagnostics](#)

Check for [Software and Hardware Conflicts](#)

Network Problems

Fill out the [Diagnostics Checklist](#) as you complete these checks.

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

Check the network cable connector — Ensure that the network cable is firmly inserted into both the network connector on the back of the computer and the network jack.

Check the network lights on the back of the computer — Check the network lights on the back of the computer. If the link integrity light is off, no network communication exists. Replace the network cable.

Restart the computer and log on to the network again

Check your network settings — Contact your network administrator or the person who set up your network to verify that your network settings are correct and that the network is functioning.

Check for [Software and Hardware Conflicts](#)

Power Problems

Fill out the [Diagnostics Checklist](#) as you complete these checks.

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

If the power light is green and the computer is not responding — Check the diagnostic lights on the back of your computer and see "[Diagnostic Lights](#)."

If the power light is blinking green — The computer is in standby mode. Press the power button to resume normal operation.

If the power light is yellow and green or steady yellow — The computer is receiving electrical power, but a device might be malfunctioning or incorrectly installed.

1. Remove and then reinstall the memory modules.
1. Reseat the processor (see "[Processor](#)."

If the power light is off — The computer is either turned off or is not receiving power.

1. Reseat the power cable into both the power connector on the back of the computer and the connector on the adapter. Then, ensure that the adapter is properly connected to an electrical outlet.
1. 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.

- 1 Unplug the power adapter from the computer and from the power outlet, wait one minute, and then reconnect the power adapter to the power outlet and to the computer.
- 1 Ensure that the electrical outlet is working by testing it with another device, such as a lamp.

If the power light is blinking yellow — The computer is receiving electrical power, but an internal power problem might exist.


- 1 Ensure that all power cables are securely connected to the system board (see "[System Board Components](#).”)


Eliminate interference — Some possible causes of interference are:

- 1 Power extension cables
- 1 Too many devices on a power strip
- 1 Multiple power strips connected to the same electrical outlet

Printer Problems

Fill out the [Diagnostics Checklist](#) as you complete these checks.

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

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

Check the printer documentation — See the printer documentation for setup and troubleshooting information.

Check the printer cable connections —

- 1 See the printer documentation for cable connection information.
- 1 Ensure that the printer cables are securely connected to the printer and the computer.

Test the electrical outlet — Ensure that the electrical outlet is working by testing it with another device, such as a lamp.

Verify that the printer is recognized by Windows —

1. Click the **Start** button, click **Control Panel**, and then click **Printers and Other Hardware**.
2. Click View installed printers or fax printers.

If the printer is listed, right-click the printer icon.

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

Reinstall the printer driver — See the printer documentation for instructions.

Restoring Default Settings

To restore the computer's system settings to their default values —

1. Turn on or restart your computer.
2. When Press <F2> to Enter Setup appears in the upper-right corner of the screen, press <F2> immediately.

If you wait too long and the Microsoft® Windows® logo appears, continue to wait until you see the Windows desktop. Then shut down your computer through the Start menu and try again.

3. Under System Management, select the [Maintenance](#) option and follow the directions on the screen.

Serial or Parallel Device Problems

Fill out the [Diagnostics Checklist](#) as you complete these checks.

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


 **NOTE:** If you are having a problem with a printer, see "[Printer Problems](#)."

Check the option setting — See the device's documentation for the recommended settings. Then [enter system setup](#) and go to the **Legacy Select** option setting. Ensure that the **Serial Port** setting or the **Parallel Port** setting matches the recommended settings.


Run the [Dell Diagnostics](#)

Sound and Speaker Problems

Fill out the [Diagnostics Checklist](#) as you complete these checks.

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

No sound from speakers

 **NOTE:** The volume control in some MP3 players overrides the Windows volume setting. If you have been listening to MP3 songs, ensure that you did not turn the player volume down or off.

Check the speaker cable connections — Ensure that the speakers are connected as shown on the setup diagram supplied with the speakers.

Ensure that the subwoofer and the speakers are turned on — See the setup diagram supplied with the speakers. If your speakers have volume controls, adjust the volume, bass, or treble to eliminate distortion.

Adjust the Windows volume control — Click or double-click the speaker icon in the lower-right corner of your screen. Ensure that the volume is turned up and that the sound is not muted.

Disconnect headphones from the headphone connector — Sound from the speakers is automatically disabled when headphones are connected to the computer's front-panel headphone connector.

Enable digital mode — Your speakers do not work if the CD drive is operating in analog mode.

1. Click the **Start** button, click **Control Panel**, and then click **Sounds, Speech, and Audio Devices**.
2. Click **Sounds and Audio Devices**.
3. Click the **Hardware** tab.
4. Double-click the name of your CD drive.
5. Click the **Properties** tab.
6. Check the **Enable digital CD audio for this CD-ROM device** box.

Eliminate possible interference — Turn off nearby fans, fluorescent lights, or halogen lamps to check for interference.

Run the speaker diagnostics

[Reinstall the audio driver](#)

Check the device option setting — [Enter system setup](#) and ensure that the audio controller option is set to **On**. Exit system setup and restart your computer.

Run the [Dell Diagnostics](#)

Check for [Software and Hardware Conflicts](#)

No sound from headphones


Check the headphone cable connection — Ensure that the headphone cable is securely inserted into the headphone connector.

Plug the headphones into the back audio-out connector


Adjust the Windows volume control — Click or double-click the speaker icon in the lower-right corner of your screen. Ensure that the volume is turned up and that the sound is not muted.

Video and Monitor Problems

Fill out the [Diagnostics Checklist](#) as you complete these checks.

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

If the screen is blank

 **NOTE:** See the monitor documentation for troubleshooting procedures.

Check the monitor cable connection —

1. Ensure that your monitor is properly connected (see the *Quick Reference Guide* that came with your computer).
1. If you are using a graphics extension cable and removing the cable solves the problem, the cable is defective.
1. Swap the computer and monitor power cables to determine if the power cable is defective.
1. Check the connector for bent or broken pins. (It is normal for monitor cable connectors to have missing pins.)

Check the monitor power light — If the power light is off, firmly press the button to ensure that the monitor is turned on. If the power light is lit or blinking, the monitor has power. If the power light is blinking, press a key on the keyboard or move the mouse.

Test the electrical outlet — Ensure that the electrical outlet is working by testing it with another device, such as a lamp.

Test the monitor — Connect a properly working monitor to the computer, and try using the monitor. If the new monitor works, the original monitor is faulty.

[Check the computer's diagnostic lights](#)

Run the Monitor's self test. See the monitor documentation for more information.

If the screen is difficult to read

Check the monitor settings — See the monitor documentation for instructions on adjusting the contrast and brightness, demagnetizing (degaussing) the monitor, and running the monitor self-test.

Move the subwoofer away from the monitor — If your speaker system includes a subwoofer, ensure that the subwoofer is at least 60 cm (2 ft) away from the monitor.

Move the monitor away from external power sources — Fans, fluorescent lights, halogen lamps, and other electrical devices can cause the screen image to appear "shaky." Turn off nearby devices to check for interference.

Adjust the Windows display settings —

1. Click the **Start** button, click **Control Panel**, and then click **Appearance and Themes**.
2. Click **Display** and click the **Settings** tab.
3. Try different settings for **Screen resolution** and **Color quality**.

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Chassis Speaker

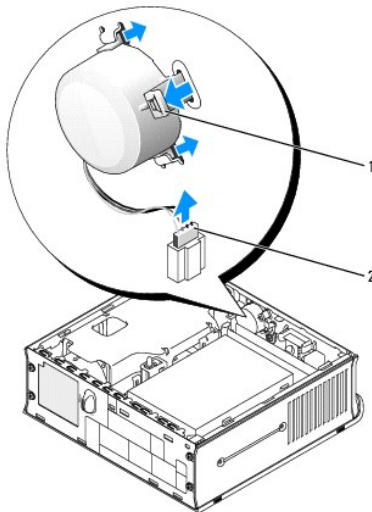
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⚠ CAUTION: Before you begin any of the procedures in this section, follow the safety instructions in the *Product Information Guide*.

⚠ CAUTION: To guard against electrical shock, always unplug your computer from the electrical outlet before opening the cover.

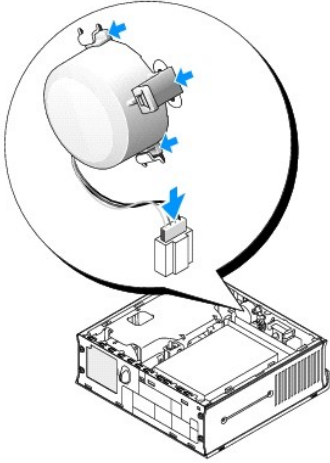
Your computer may ship with an optional chassis speaker. If you need to replace this speaker or install a new speaker, perform the following steps:

1. Follow the procedures in "[Before You Begin](#)."
2. If you are installing a new speaker, skip to [step 4](#).
3. If you are replacing the speaker:
 - a. Disconnect the speaker cable from the system board.
 - b. Press on the tab and slide the speaker out of the slot and remove the speaker and its attached cable from the computer.



1	tab
2	speaker cable

4. Insert the chassis speaker into the slot and then slide the speaker until the speaker is secured.



5. Connect the speaker cable to the connector on the system board.
6. Replace the computer cover.
7. Replace the cable cover, if used.

➡ **NOTICE:** To connect a network cable, first plug the cable into the network wall jack, and then plug it into the computer.

8. Connect your computer to the adapter cable, and connect devices to electrical outlets, and turn them on.

After you replace the cover, the chassis intrusion detector, if enabled, causes the following message to appear on the screen at the next computer start-up:

ALERT! Cover was previously removed.

9. [Reset the chassis intrusion detector](#) by changing the **Chassis Intrusion** option to **On** or **On-Silent**.

🔍 **NOTE:** If an admin password has been assigned by someone else, contact your network administrator for information on resetting the chassis intrusion detector.

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Technical Specifications

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Processor	
Processor type	Intel® Pentium® 4 and Celeron® (when available) processors. Design provides for future processor upgrades. Supported processor upgrades are available from Dell.
Level 1 (L1) cache	8 KB
Level 2 (L2) cache	256 KB or 1 MB, depending on processor
Memory	
Architecture	400-MHz DDR2 SDRAM
Dual in-line memory module (DIMM) sockets	two (non-ECC only)
DIMM capacities	128, 256, 512 MB, 1 GB
Minimum RAM	256 MB (dual channel mode) 128 MB (single channel mode)
Maximum RAM	2 GB (dual channel mode)
BIOS address	F0000h
Computer Information	
Computer chip set	915G
Data bus width	64 bits
Address bus width	32 bits
Interrupts	23
Computer BIOS	4-Mb flash chip
System bus speed	800- or 533-MHz quad-data rate; 200- or 133-MHz clock (matches external bus speed)
Network interface controller	Gigabit integrated network interface with ASF 1.03 support as defined by DMTF Capable of 10/100/1000 communication
Audio	
Audio type	AC97, Sound Blaster emulation; optional internal speaker
Audio controller	Integrated AC97 Codec
Stereo conversion	16-bit analog-to-digital; 20-bit digital-to-analog
Interfaces:	
Internal	PCI bus/AC97
External	stereo line-in minijack and line-out minijack on the rear I/O panel; headphone and microphone connectors on the front panel
Video	
Video type	integrated DVI-I
Video controller	integrated Intel 2D/3D graphics accelerator
Expansion Bus	
Bus type	USB 1.1 and 2.0
Memory module connector size	DDR2 — 240 pins
Drives	
Externally accessible bay	one bay for a Dell IDE or USB D-module portable device
Internally accessible bay	one bay for a Serial ATA hard drive
Connectors	
Externally accessible:	
Serial (data terminal equipment [DTE])	one 9-pin connector; 16550-compatible on the back I/O panel
Parallel	one 27-hole connector (bidirectional) on the back I/O panel
Video	DVI-I connector on the back I/O panel
Integrated network adapter	RJ45 connector on the back I/O panel; 10/100/1000
Audio	Green line-out and blue line-in connectors on the back I/O panel; microphone and headphone

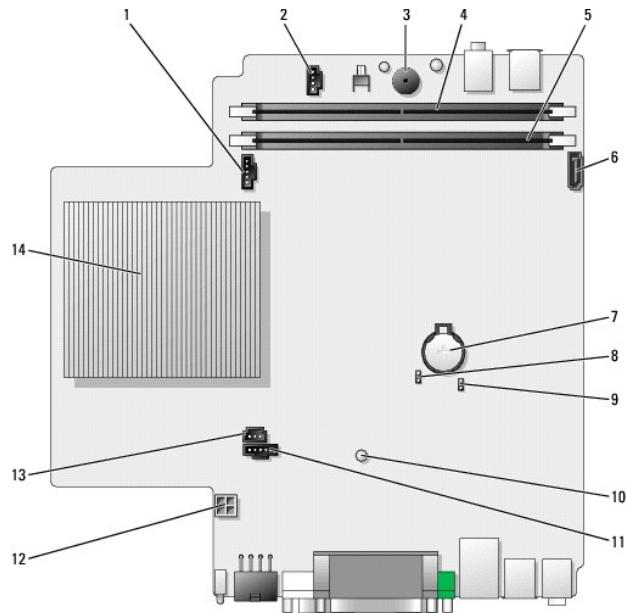
	connectors on the front of the computer.
USB	five USB 2.0-compliant connectors on the back I/O panel; two on the front panel
Internally accessible:	
Primary hard drive	serial ATA port
Fans	two 5-pin connectors
Chassis intrusion switch	one 3-pin connector
Key Combinations	
<Ctrl><Alt>	If running Microsoft® Windows® XP, brings up the Windows Security window. If in MS-DOS® mode, restarts (reboots) the computer
<F2> or <Ctrl><Alt><Enter>	starts embedded system setup (during start-up only)
<Ctrl><Alt>	automatically starts the computer from the network environment specified by the remote boot environment (PXE) rather than from one of the devices in the system setup Boot Sequence option (during start-up only)
<F12> or <Ctrl><Alt><F8>	displays a boot device menu that allows the user to enter a device for a single boot (during start-up only) as well as options to run hard-drive and system diagnostics
Controls and Lights	
Power control	push button
Power lights	green light on power button—blinking green in sleep state; solid green for power-on state amber light—blinking amber indicates a problem with an installed device; solid amber indicates an internal power problem (see "Power Problems")
Hard-drive access light	green light
Link integrity light (on integrated network adapter)	green light for 10-Mb operation; orange light for 100-Mb operation; yellow light for a 1000-Mb (1-Gb) operation
Activity light (on integrated network adapter)	yellow blinking light
Diagnostic lights	four yellow and/or green lights on back panel
Standby power light	yellow AUX_LED on the system board
Power supply light	green light on the power adapter
Power	
External DC power adapter:	
Wattage	220 W
Heat dissipation	455 BTU/hr (average)
Voltage	90 to 135 V at 60 Hz; 180 to 265 V at 50 Hz
Backup battery	3-V CR2032 lithium coin cell
Physical	
Vertical orientation width, depth, and height (without cable cover)	8.9 cm (3.5 inches), 25.3 cm (9.95 inches), 26.4 cm (10.375 inches)
Vertical orientation width, depth, and height (with standard cable cover)	8.9 cm (3.5 inches), 33 cm (13 inches), 26.4 cm (10.375 inches)
Vertical orientation width, depth, and height (with extended cable cover)	8.9 cm (3.5 inches), 36.1 cm (14.2 inches), 26.4 cm (10.375 inches)
Weight (without standard cable cover)	4.5 kg (10 lbs)
Weight (with standard cable cover)	4.9 kg (10.8 lbs)
Environmental	
Temperature:	
Operating	10° to 30°C (50° to 86°F)
Storage	-40° to 65°C (-40° to 149°F)
Relative humidity	20% to 80% (noncondensing)
Maximum vibration:	
Operating	desktop or vertical hanging orientation: 0.25 gravities (G) at 3 to 200 Hz at 0.5 octave/min; horizontal orientation: 0.25 G at 20 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	-16 to 3048 m (-50 to 10,000 ft)
Storage	-16 to 10,600 m (-50 to 35,000 ft)

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System Board Components

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1	fan shroud power connector (FAN1)	8	password jumper (PSWD)
2	optional speaker connector (SPEAKER)	9	Clear CMOS jumper (CLR_CMOS)
3	system board speaker	10	standby power indicator (AUX_LED)
4	channel B memory connector (CHB_DIMM)	11	fan shroud power connector (FAN2)
5	channel A memory connector (CHA_DIMM)	12	hard drive power cable connector (ATA_PWR)
6	SATA hard drive data cable connector	13	chassis intrusion switch power connector (INTRUDER)
7	battery	14	microprocessor heat sink

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Troubleshooting Tools and Utilities

Dell™ OptiPlex™ SX280 User's Guide


- [Dell Diagnostics](#)
- [Power Adapter Light](#)
- [System Lights](#)
- [Diagnostic Lights](#)
- [Beep Codes](#)
- [Error Messages](#)
- [Resolving Software and Hardware Incompatibilities](#)

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

If you experience a problem with your computer, run the Dell Diagnostics and perform the checks in this section before you contact Dell for technical assistance.

Dell Diagnostics

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


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

[Enter system setup](#), review your computer's configuration information, and ensure that the device you want to test displays in system setup and is active.

Start the Dell Diagnostics from either your [hard drive](#) or from the [Drivers and Utilities](#) CD (also known as the ResourceCD).

Starting the Dell Diagnostics From Your Hard Drive

1. Shut down and restart the computer.
2. When the DELL™ logo appears, press <F12> immediately.

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

If you wait too long and the Microsoft® Windows® logo appears, continue to wait until you see the Windows desktop. Then shut down your computer through the **Start** menu and try again.


3. When the boot device list appears, highlight **Boot to Utility Partition** and press <Enter>.
4. When the Dell Diagnostics **Main Menu** appears, select the test you want to run.

Starting the Dell Diagnostics From the Drivers and Utilities CD

1. Insert the *Drivers and Utilities* CD.
2. Shut down and restart the computer.

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

If you wait too long and the Windows logo appears, continue to wait until you see the Windows desktop. Then shut down your computer through the **Start** menu 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 system setup.

- When the boot device list appears, highlight **Onboard or USB CD-ROM Device** and press <Enter>.
- Select the **Boot from CD-ROM** option from the menu that appears.
- Type 1 to start the ResourceCD menu.
- Type 2 to start the Dell Diagnostics.
- Select **Run the 32 Bit Dell Diagnostics** from the numbered list. If multiple versions are listed, select the version appropriate for your computer.
- When the Dell Diagnostics **Main Menu** appears, select the test you want to run.


Dell Diagnostics Main Menu

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

Option	Function
Express Test	Performs a quick test of devices. This 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 devices. This test typically takes an hour or more and requires you to answer questions periodically.
Custom Test	Tests a specific device. You can customize the tests you want to run.
Symptom Tree	Lists the most common symptoms encountered and allows you to select a test based on the symptom of the problem you are having.

- 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 follow the instructions on the screen.

If you cannot resolve the error condition, [contact Dell](#).

 **NOTE:** The Service Tag for your computer is located at the top of each test screen. If you contact Dell, technical support will ask for your Service Tag. Your computer's Service Tag is listed in the **System Info** option in [system setup](#).

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

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

- When the tests are completed, if you are running the Dell Diagnostics from the *Drivers and Utilities* CD, remove the CD.
- Close the test screen to return to the **Main Menu** screen. To exit the Dell Diagnostics and restart the computer, close the **Main Menu** screen.

Power Adapter Light

The power adapter light can be used to diagnose power-related issues.

Power Adapter Light	Power Adapter State	Description	Suggested Resolution
Off	No AC power or the power supply detected a fault	The power adapter is not receiving power from the electrical outlet, or the power supply shut down due to a power fault event.	<p>Ensure that the electrical outlet is working by testing it with another device, such as a lamp.</p> <p>Verify that the AC power cable connection is properly seated in the power supply. Reseat the AC power connection on the power adapter.</p> <p>Disconnect the AC power cable from the power supply and the DC cable from</p>

			the system for at least 10 seconds. Reattach the AC power cable to the power supply. The light on the power supply should turn yellow. Reattach the DC cable to the system. The light on the power supply should turn green.
Yellow	AC power is present/no load	The power adapter is connected to an electrical outlet but not to the computer.	Ensure that the power adapter is firmly connected to the computer and the retention latch is engaged. Reseat the power adapter cable to the computer.
Green	AC power is present/power to load	The power adapter is receiving power from the electrical outlet and is properly connected to the computer.	Check the power button light and see the " System Lights " table.

System Lights




Your power button light may indicate a computer problem.










Power Button Light	Problem Description	Suggested Resolution
Solid green	Power is on, and the computer is operating normally.	No corrective action is required.
Blinking green	The computer is in the suspended state (Microsoft® Windows® 2000 and Windows XP).	Press the power button, move the mouse, or press a key on the keyboard to wake the computer.
Blinks green several times and then turns off	A configuration error exists.	Check the diagnostic lights to see if the specific problem is identified.
Solid yellow	The Dell Diagnostics is running a test, or a device on the system board may be faulty or incorrectly installed.	If the Dell Diagnostics is running, allow the testing to complete. Check the diagnostic lights to see if the specific problem is identified. If the computer does not boot, contact Dell for technical assistance.
Solid green and a beep code during POST	A problem was detected while the BIOS was executing.	See " Beep Codes " for instructions on diagnosing the beep code. Also, check the diagnostic lights to see if the specific problem is identified.
Solid green power light and no beep code and no video during POST	The monitor may be faulty or attached incorrectly.	Check the diagnostic lights to see if the specific problem is identified. See " Video and Monitor Problems. "
Solid green power light and no beep code but the computer locks up during POST	An integrated system board device may be faulty.	Check the diagnostic lights to see if the specific problem is identified. If the problem is not identified, contact Dell for technical assistance.

Diagnostic Lights

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

To help you troubleshoot a problem, your computer has four lights labeled "A," "B," "C," and "D" on the back panel. The lights can be amber or green. When the computer starts normally, the patterns or codes on the lights change as the boot process completes. If the POST portion of system boot completes successfully, all four lights display solid green. If the computer malfunctions during the POST process, the pattern displayed on the LEDs may help identify where in the process the computer halted.

Light Pattern	Problem Description	Suggested Resolution
	The computer is in a normal off condition or a possible pre-BIOS failure has occurred.	Plug the computer into a working electrical outlet and press the power button.
	A possible BIOS failure has occurred; the computer is in recovery mode.	Run the BIOS Recovery utility, wait for recovery completion, and then restart the computer.
	A possible processor failure has occurred.	Reinstall the processor and restart the computer.

	yellow yellow		
	green green yellow yellow	Memory modules are detected, but a memory failure has occurred.	<ol style="list-style-type: none"> 1. If you have one memory module installed, reinstall it and restart the computer. 2. If you have two or more memory modules installed, remove the modules, reinstall one module, and then restart the computer. If the computer starts normally, reinstall an additional module. 3. If available, install properly working memory of the same type into your computer. 4. If the problem persists, contact Dell.
	yellow green green yellow	A possible floppy or hard drive failure has occurred.	Reseat all power and data cables and restart the computer.
	green green green yellow	A possible USB failure has occurred.	Reinstall all USB devices, check cable connections, and then restart the computer.
	yellow yellow yellow green	No memory modules are detected.	<ol style="list-style-type: none"> 1. If you have one memory module installed, reinstall it and restart the computer. 2. If you have two or more memory modules installed, remove the modules, reinstall one module, and then restart the computer. If the computer starts normally, reinstall an additional module. Continue until you have identified a faulty module or reinstalled all modules without error. 3. If available, install properly working memory of the same type into your computer. 4. If the problem persists, contact Dell.
	green yellow yellow green	CMOS RAM is not functioning.	Contact Dell .
	yellow green yellow green	Memory modules are detected, but a memory configuration or compatibility error exists.	<ol style="list-style-type: none"> 1. Ensure that no special memory module/memory connector placement requirements exist (see "Memory Installation Guidelines.") 2. Verify that the memory modules that you are installing are compatible with your computer. 3. If the problem persists, contact Dell.
	yellow green green green	General error.	<ol style="list-style-type: none"> 1. Ensure that the cables are properly connected to the system board from the hard drive. 2. Check the computer message that appears on your monitor screen. 3. If the problem persists, contact Dell.
	green green green green	The computer is in a normal operating condition after POST.	None.

Beep Codes

Your computer might emit a series of beeps during start-up if the monitor cannot display errors or problems. This series of beeps, called a beep code, identifies a problem. One possible beep code (code 1-3-1) consists of one beep, a burst of three beeps, and then one beep. This beep code tells you that the computer encountered a memory problem.

If your computer beeps during start-up:

1. Write down the beep code on the [Diagnostics Checklist](#).

2. Run the [Dell Diagnostics](#) to identify a more serious cause.
3. [Contact Dell](#) for technical assistance.

Code	Cause
1-1-2	Microprocessor register test in process
1-1-3	NVRAM read/write test in process or failure
1-1-4	ROM BIOS checksum in progress or failure
1-2-1	Programmable interval timer test in progress or failure
1-2-2	DMA initialization in progress or failure
1-2-3	DMA page register read/write test in progress or failure
1-3	Video Memory Test failure
1-3-1 through 2-4-4	Memory not being properly identified or used
3-1-1	Slave DMA register test in progress or failure
3-1-2	Master DMA register test in progress or failure
3-1-3	Master interrupt mask register test in progress or failure
3-1-4	Slave interrupt mask register test in progress or failure
3-2-2	Interrupt vector loading in progress
3-2-4	Keyboard Controller Test in progress or failure
3-3-1	NVRAM power fail and checksum test in progress
3-3-2	Invalid NVRAM configuration
3-3-3	RTC /keyboard controller not found
3-3-4	Video Memory Test in progress or failure
3-4-1	Screen initialization test in progress or failure
3-4-2	Screen retrace test in progress or failure
3-4-3	Search for video ROM in progress
4-2-1	Timer tick interrupt test in progress or failure
4-2-2	Shutdown test in progress or failure
4-2-3	Gate A20 failure
4-2-4	Unexpected interrupt in Protected Mode
4-3-1	Memory test in progress or failure above address 0FFFFh
4-3-3	Timer-chip counter 2 test in progress or failure
4-3-4	Time-of-day clock test in progress or stopped
4-4-1	Super I/O chip failure
4-4-4	Cache test failure

Error Messages

Fill out the Diagnostics Checklist as you complete these checks.

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

If the message is not listed, see the documentation for the operating system or the program that was running when the message appeared.

A filename cannot contain any of the following characters: \ / : * ? " < > — Do not use these characters in filenames.
A required .DLL file was not found — The program that you are trying to open is missing an essential file. To remove and then reinstall the program: <ol style="list-style-type: none"> 1. Click the Start button, click Control Panel, and then click Add or Remove Programs. 2. Select the program you want to remove. 3. Click the Change or Remove Program icon. 4. See the program documentation for installation instructions.
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 — Contact Dell and report the checkpoint code (nnnn) to the support technician.
Attachment failed to respond — See " Drive Problems ."
Bad command or file name — Ensure that you spelled the command correctly, put spaces in the proper place, and used the correct pathname.

Bad error-correction code (ECC) on disk read — See " Drive Problems ."
Controller has failed — See " Drive Problems ."
Data error — See " Drive Problems ."
Decreasing available memory — See " Lockups and Software Problems ."
Diskette drive 0 seek failure — See " Drive Problems ."
Diskette read failure — See " Drive Problems ."
Diskette subsystem reset failed — Run the Dell Diagnostics .
Diskette write protected — Slide the write-protect notch to the open position.
Drive not ready — Put a floppy disk in the drive.
Gate A20 failure — See " Lockups and Software Problems ."
Hard-disk configuration error — Hard-disk controller failure — Hard-disk drive failure — Hard-disk drive failure — See " Drive Problems ."
Insert bootable media — Insert a bootable floppy disk or CD.
Invalid configuration information - please run SETUP program — Enter system setup and correct the computer configuration information.
Keyboard failure — See " Keyboard Problems ."
Memory address line failure at address, read value expecting value — See " Lockups and Software Problems ."
Memory allocation error — <ol style="list-style-type: none"> 1. Turn off the computer, wait 30 seconds, and then restart the computer. 2. Try to run the program again. 3. If the error message appears again, see the software documentation for additional troubleshooting suggestions.
Memory data line failure at address, read value expecting value — Memory double word logic failure at address, read value expecting value — Memory odd/even logic failure at address, read value expecting value — Memory write/read failure at address, read value expecting value — Memory size in CMOS invalid — See " Lockups and Software Problems ."
No boot device available — <ol style="list-style-type: none"> 1. If the floppy drive is your boot device, ensure that a bootable floppy disk is in the drive. 1. 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. 1. Enter system setup and ensure that the boot sequence information is correct.
No boot sector on hard-disk drive — Enter system setup and ensure that the computer configuration information for the hard drive is correct.
No timer tick interrupt — Run the Dell Diagnostics .
Non-system disk or disk error — Replace the floppy disk with one that has a bootable operating system or remove the floppy disk from the module bay and restart the computer.
Not a boot diskette — Insert a bootable floppy disk and restart your computer.
Not enough memory or resources. Close some programs and try again — Close all windows and open the program that you want to use. In some cases, you might have to restart your computer to restore computer resources. If so, run the program that you want to use first.
Operating system not found — Contact Dell .
Read fault — Requested sector not found — Reset failed — See " Drive Problems ."
Sector not found — <ol style="list-style-type: none"> 1. Run the Windows error-checking utility to check the file structure on the floppy disk or hard drive. See Windows Help for instructions. 1. If a large number of sectors are defective, back up the data (if possible), and then reformat the floppy disk or hard drive.
Seek error — See " Drive Problems ."
Shutdown failure — Run the Dell Diagnostics .
Time-of-day clock stopped — Time-of-day not set- please run the System Setup program — Enter system setup and correct the date or time. If the problem persists, replace the battery.
Timer chip counter 2 failed — Run the Dell Diagnostics .
Unexpected interrupt in protected mode — Run the Dell Diagnostics .
WARNING: Dell's Disk Monitoring System has detected that drive [0/1] on the [primary/secondary] EIDE controller is operating

outside of normal specifications. It is advisable to immediately back up your data and replace your hard drive by calling your support desk or Dell —

If no replacement drive is immediately available and the drive is not the only bootable drive, enter system setup and change the appropriate drive setting to **None**. Then remove the drive from the computer.

Write fault —
Write fault on selected drive —

See "[Drive Problems](#)."

<drive letter>:\ is not accessible. The device is not ready — The floppy drive cannot read the disk. Insert a floppy disk into the drive and try again.

Resolving Software and Hardware Incompatibilities

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

Microsoft® Windows® XP

To resolve incompatibilities using Device Manager:

1. Click the **Start** button and click **Control Panel**.
2. Click **Performance and Maintenance** and click **System**.
3. Click the **Hardware** tab and click **Device Manager**.
4. In the **Device Manager** list, check for devices that are incorrectly configured.

Incorrectly configured devices are indicated by a yellow exclamation point (!) or a red x if the device has been disabled.

5. Double-click any device marked with an exclamation point to display the **Properties** window.

The **Device** status area in the **Properties** window reports the devices that need to be reconfigured.

6. Reconfigure the devices or remove the devices from the **Device Manager**. See the documentation that came with the device for information on configuring the device.

To resolve incompatibilities using the Windows XP Hardware Troubleshooter:

1. Click the **Start** button 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**.

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Warranty

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Dell Inc. ("Dell") manufactures its hardware products from parts and components that are new or equivalent to new in accordance with industry-standard practices. For information about the Dell warranty for your computer, see the *Product Information Guide* or separate paper warranty document that shipped with your computer.

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Microsoft® Windows® XP Features

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 - [User Accounts and Fast User Switching](#)
 - [Setting Up a Home and Office Network](#)
-

Transferring Information to a New Computer

The Microsoft® Windows® XP operating system provides a Files and Settings Transfer wizard to move data from the source computer to the new computer. You can move data such as:

- 1 E-mails
- 1 Toolbar settings
- 1 Window sizes
- 1 Internet bookmarks

You can transfer the data to the new computer over a network or serial connection, or you can store it on a removable medium, such as a writable CD or floppy disk.

To prepare the new computer for the file transfer:

1. Click the **Start** button, point to **All Programs**→ **Accessories**→ **System Tools**, and then click **Files and Settings Transfer Wizard**.
2. When the **Files and Settings Transfer Wizard** welcome screen appears, click **Next**.
3. On the **Which computer is this?** screen, click **New Computer** and click **Next**.
4. On the **Do you have a Windows XP CD?** screen, click **I will use the wizard from the Windows XP CD** and click **Next**.
5. When the **Now go to your old computer** screen appears, go to your old or source computer. *Do not* click **Next** at this time.

To copy data from the old computer:

1. On the old computer, insert the Windows XP *Operating System* CD.
2. On the **Welcome to Microsoft Windows XP** screen, click **Perform additional tasks**.
3. Under **What do you want to do?**, click **Transfer files and settings**.
4. On the **Files and Settings Transfer Wizard** welcome screen, click **Next**.
5. On the **Which computer is this?** screen, click **Old Computer** and click **Next**.
6. On the **Select a transfer method** screen, click the transfer method you prefer.
7. On the **What do you want to transfer?** screen, select the items you want to transfer and click **Next**.

After the information has been copied, the **Completing the Collection Phase** screen appears.

8. Click **Finish**.

To transfer data to the new computer:

1. On the **Now go to your old computer** screen on the new computer, click **Next**.
2. On the **Where are the files and settings?** screen, select the method you chose for transferring your settings and files and click **Next**.

The wizard reads the collected files and settings and applies them to your new computer.

When all of the settings and files have been applied, the **Finished** screen appears.

3. Click **Finished** and restart the new computer.
-


User Accounts and Fast User Switching

Adding User Accounts

After the Microsoft® Windows® XP operating system is installed, the administrator or a user with administrator rights can create additional user accounts.

1. Click the **Start** button and click **Control Panel**.
2. In the **Control Panel** window, click **User Accounts**.
3. Under **Pick a task**, click **Create a new account**.
4. Under **Name the new account**, type the name of the new user and click **Next**.
5. Under **Pick an account type**, click one of the following options:
 1. **Computer administrator** — You can change all computer settings.
 1. **Limited** — You can change only your own personal settings, such as your password. You cannot install programs or use the Internet.
6. Click **Create Account**.

Fast User Switching

 **NOTE:** Fast User Switching is unavailable if your computer is running Windows XP Professional and is a member of a computer domain, or if your computer has less than 128 MB of memory.

Fast User Switching allows multiple users to access one computer without requiring the previous user to log off.

1. Click the **Start** button and click **Log Off**.
2. In the **Log Off Windows** window, click **Switch User**.


When you use Fast User Switching, programs that previous users were using remain running in the background, so your computer might run slower. Also, multimedia programs, such as games and DVD software, might not work with Fast User Switching. For more information, see the Windows Help and Support Center.

Setting Up a Home and Office Network


Connecting to a Network Adapter

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

To connect a network cable:

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

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

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

2. Connect the other end of the network cable to a network connection device, such as a network wall jack.

Network Setup Wizard

The Microsoft® Windows® XP operating system provides a Network Setup Wizard to guide you through the process of sharing files, printers, or an Internet connection between computers in a home or small office.

1. Click the **Start** button, point to **All Programs**→ **Accessories**→ **Communications**, and then click **Network Setup Wizard**.
2. On the welcome screen, click **Next**.
3. Click **Checklist for creating a network**.



NOTE: Selecting the connection method **This computer connects directly to the Internet** enables the integrated firewall provided with Windows XP SP1.

4. Complete the checklist and required preparations.
5. Return to the Network Setup Wizard and follow the instructions on the screen.

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