ALIENWARE® DESKTOP MANUAL

Notes, Cautions, and Warnings

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

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

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

CONTENTS

INTRODUCTION

Dear Valued Alienware Customer,

Welcome to the Alienware family. We are thrilled to include you among the growing number of savvy high-performance computer users.

The Alienware technicians who have crafted your computer have made certain that your high-performance computer is properly optimized and performs to its fullest potential. We build computers with a single unwavering purpose: Build It As If It Were Your Own. The technicians will not rest until your new computer meets or exceeds our very demanding criteria!

We have tested your computer extensively in order to ensure that you enjoy the highest levels of performance. In addition to a standard burn-in period, your computer has been evaluated using real-world tools such as synthetic performance benchmarks.

We invite you to share your experience with your new high-performance computer with us, so do not hesitate to either e-mail or call Alienware with any questions or concerns. The entire staff shares your enthusiasm for new technology and we hope that you enjoy using your new computer as much as Alienware enjoyed building it for you.

Sincerely,

Alienware Staff

CHAPTER 1: SETTING UP YOUR DESKTOP

Before Setting Up Your Desktop

Congratulations on the purchase of your Alienware® Area-51!

Read all safety and setup instructions before connecting your new desktop. Begin by carefully opening the box and removing all components that were shipped to you. Before setting up your desktop or components, be sure to inspect all items for any physical damage that may have occurred during shipment.

See the included invoice to verify that all items ordered are present. Report any missing components to customer service within 5 days of receiving the shipment. Anything reported missing after the first 5 days of receiving a shipment will not be honored. Some of the most common items to check for include:

- Computer
- Microsoft® CD-key located at the back of the desktop
- Keyboard (if ordered)
- Mouse (if ordered)
- Multimedia speakers and sub-woofer (if ordered)
- Joystick controllers (if ordered)

You may also need a small flathead and/or a Phillips head screwdriver for connecting peripheral cables to the desktop.

Product Documentation and Media

The documentation that ships with your Alienware® desktop is designed to provide answers to many of the questions that may arise as you explore your new desktop's capabilities. See the documentation for technical information or general use as required to answer questions in the future, or aid you in finding answers and solutions. The media included with your desktop is referenced in some sections of the documentation and may be needed to complete certain tasks. As always, our technical support staff is available to assist you.

Placing Your Desktop

⚠ WARNING: Do not place the desktop near or over a radiator or heating vent. If all or parts of your desktop are placed in a cabinet, ensure that adequate ventilation is provided. Do not place the desktop in a humid location or in any area where the desktop may be exposed to rain or water. Be careful not to spill liquid of any kind on or into the desktop.

When placing your desktop, ensure that:

- It is placed on a surface that is both level and stable.
- The power and other cable connectors are not jammed between the desktop and a wall – or any other object.
- Nothing obstructs airflow in front of, behind, or below the desktop.
- The desktop has enough room so that optical drives and other external storage drives can be easily accessed.

Connect the Display

Connect the display using the connector available on the graphics card on your computer.

⚠️ **NOTE:** A DVI, HDMI, or DisplayPort connector may be available on the graphics card you purchased.

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

Use the appropriate cable based on the connectors available on your computer and display.

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

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

Connect the Keyboard and Mouse
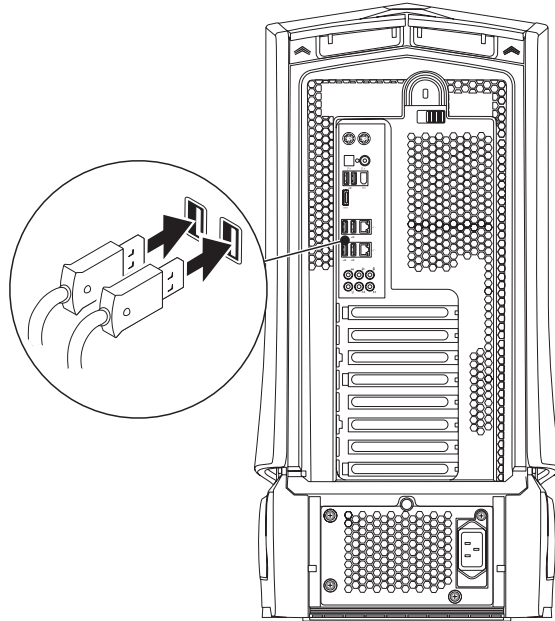
Connect the Network Cable (Optional)
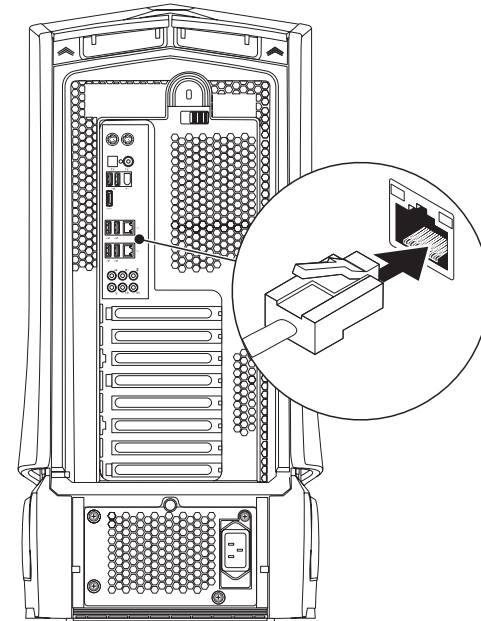
Connect the Power Cable

⚠️ WARNING: The power connectors and power strips vary among countries. Using an incompatible cable or improperly connecting the cable to a power strip or electrical outlet may cause fire or equipment damage.
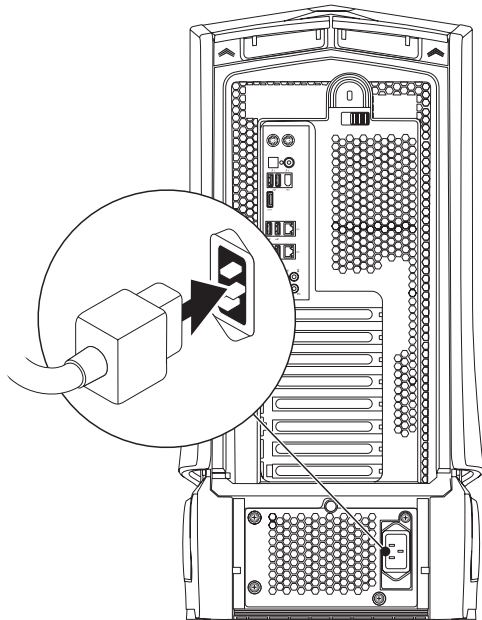
Press the Power Button

Press the power button on the top of the computer.
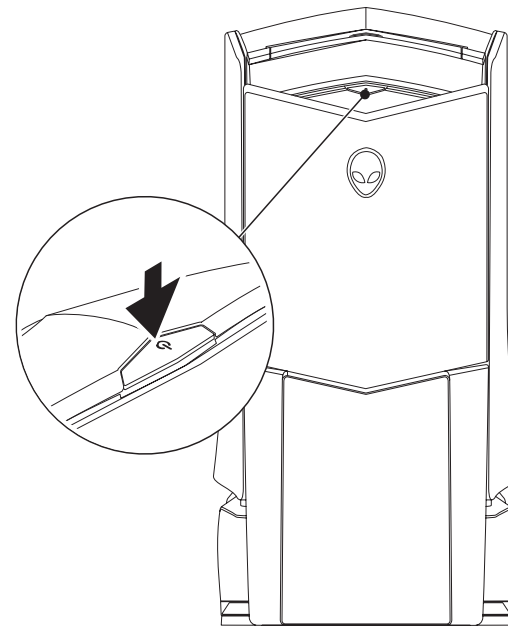
Set Up Microsoft Windows

⚠️ CAUTION: Do not interrupt the operating system's setup process. Doing so may render your desktop unusable.

Your computer is preconfigured with the operating system settings that you selected while ordering your computer. To configure the remaining settings, follow the instructions on the screen.

Connect to the Internet (Optional)

Setting Up a Wired Connection

- If you are using a dial-up connection, connect the telephone line to the optional external USB modem and to the telephone wall jack before you set up your Internet connection.

- If you are using a DSL or cable/satellite modem connection, contact your ISP or cellular telephone service for setup instructions.

To complete setting up your wired Internet connection, follow the instructions in "Setting Up Your Internet Connection" on page 12.

Setting Up a Wireless Connection

⚠️ NOTE: To set up your wireless router, see the documentation that shipped with your router.

Before you can use your wireless Internet connection, you need to connect to your wireless router.

To set up your connection to a wireless router:

Windows Vista®

1. Ensure that wireless is enabled on your computer.
2. Save and close any open files, and exit any open programs.
3. Click **Start** → **Connect To**.
4. Follow the instructions on the screen to complete the setup.

Windows® 7

1. Ensure that wireless is enabled on your computer.
2. Save and close any open files, and exit any open programs.
3. Click **Start** → **Control Panel**→ **Network and Internet**→ **Network and Sharing Center**→ **Connect to a network**.
4. Follow the instructions on the screen to complete the setup.

Setting Up Your Internet Connection

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

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

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

Windows Vista®

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

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

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

⚠ **NOTE:** If you do not know which type of connection to select, click **Help me choose** or contact your ISP.

Follow the instructions on the screen and use the setup information provided by your ISP to complete the setup.

Windows® 7

1. Click **Start** → **Control Panel**.
2. Click **Network and Internet**→ **Network and Sharing Center**→ **Set up a connection or Network**→ **Connect to the Internet**.

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

⚠ **NOTE:** If you do not know which type of connection to select, click **Help me choose** or contact your ISP.

Follow the instructions on the screen and use the setup information provided by your ISP to complete the setup.

CHAPTER 2: GETTING TO KNOW YOUR DESKTOP

This chapter provides information about your new desktop to familiarize you with its various features, and to get you up and running quickly.

Front View Features
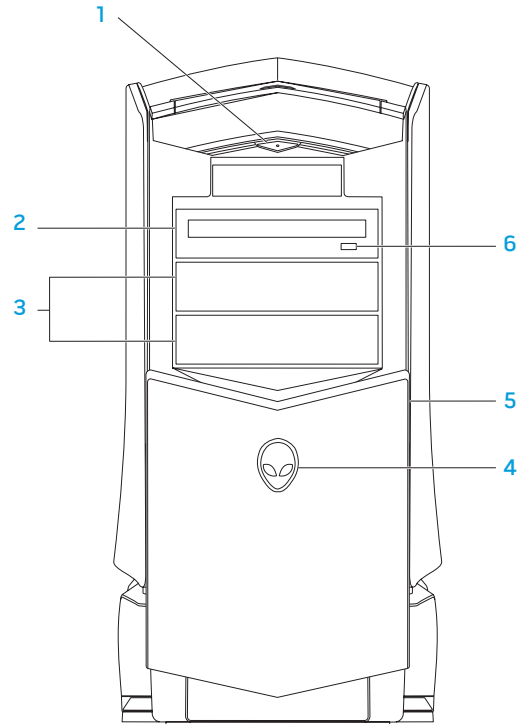
1 ⏻ **Power button** — Turns the computer on or off when pressed. This button illuminates indicating that the computer is turned on. The color of the button rim indicates the power status.

- Off — the computer is either turned off, in hibernate mode, or is not receiving power.
- Solid white — the computer is on.
- Blinking white — the computer is in standby mode.

2 **Optical drive** — Plays or records CDs, DVDs, and Blu-ray discs.

3 **Optical drive bays (2)** — Supports additional optical drive(s) (optional).

4 **Alienhead**

- Area-51 Standard — Press the Alienhead and then manually lower or close the drive panel.
- Area-51 ALX — Press the Alienhead to lower or close the drive panel using the motorized door.
  When the computer is turned off, push the drive panel down to lower it.

5 **Drive panel** — Covers the optical drive(s) or optical drive bays.

6 **Optical drive eject button** — Ejects the optical drive tray.

Back View Features
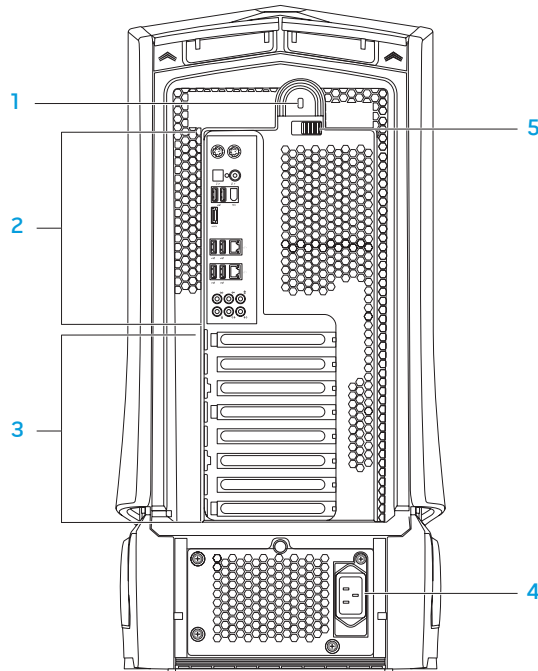
1 **Security lock slot** — Attaches a commercially available security cable to the computer.

NOTE: Before you buy a security cable, ensure that it works with the security lock slot on your computer.

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

For more information, see "Back Panel Connectors" on page 16.

3 **Expansion card slots** — Access connectors for any installed PCI and PCI express cards.

4 **Power connector** — Connects to the power cable.

5 **Latch** — Closes or opens the security lock slot and locks or unlocks the release panel. Slide the latch to the left to access the security lock slot and to lock the release panel.

For information on the side panel, see "Opening and Closing the Side Panel" on page 38.

Back Panel Connectors
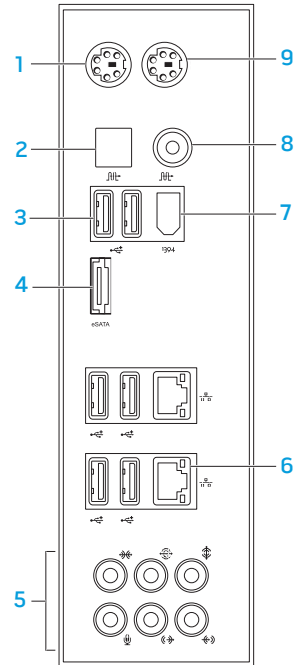
1 **PS/2 Keyboard connector** — Connects to a standard PS/2 keyboard.

2 **Optical S/PDIF connector** — Connects to amplifiers, speakers, or TVs for digital audio output through optical digital cables. This format carries an audio signal without going through an analog audio conversion process.

3 **USB 2.0 connectors (6)** — Connects to USB devices, such as a mouse, keyboard, printer, external drive, or MP3 player.

4 **eSATA connector** — Connects to eSATA compatible storage devices such as external hard drives or optical drives.

5 **Audio connectors** — Connects to speakers, microphone, and headphones.
NOTE: For information on audio connectors, see "Connecting External Speakers" on page 20.

6 **Network connectors (2)** — Connects your computer to a network or broadband device.

7 **IEEE 1394 connector** — Connects to high-speed serial multimedia devices such as digital video cameras.

8 **Coaxial S/PDIF connector** — Connects to amplifiers, speakers, or TVs for digital audio output through coaxial digital cables. This format carries an audio signal without going through an analog audio conversion process.

9 **PS/2 Mouse connector** — Connects to a standard PS/2 mouse.

Back Light Button

Press the back light button to turn on the light to view the back panel connectors. This light automatically turns off after a few seconds.
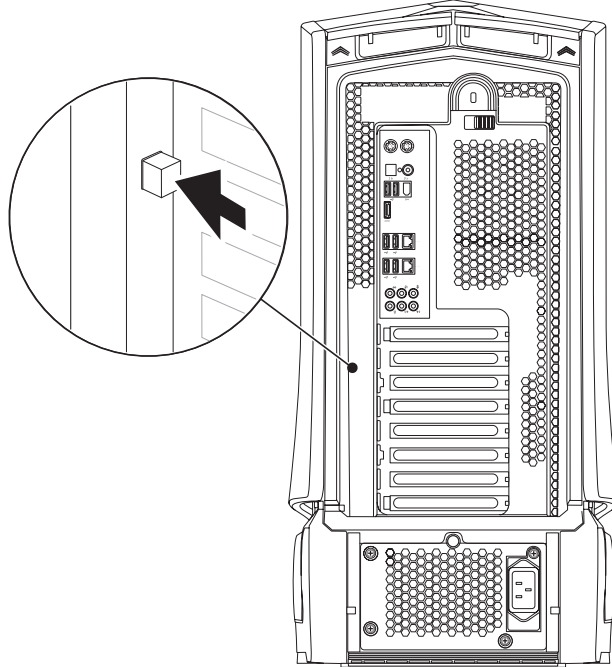
Top View Features
Accessing the Top Panel Connectors

Press the top panel downwards to access the top panel connectors.
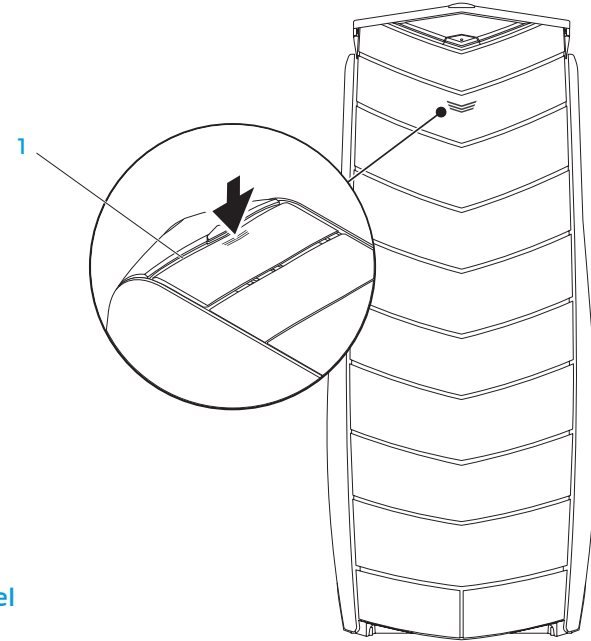
1   Top panel

Top Panel Connectors
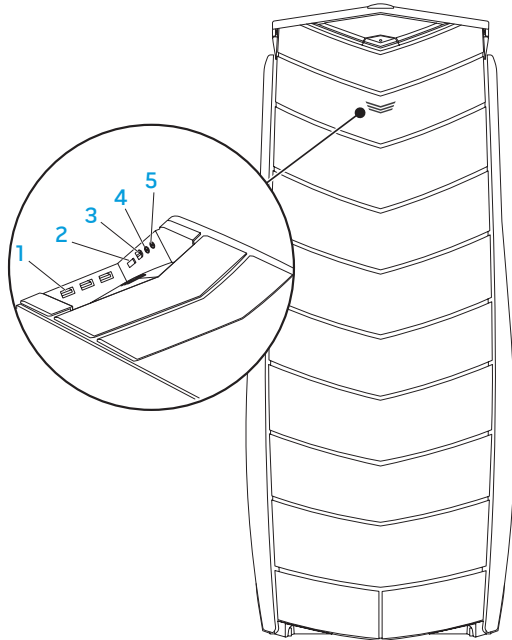
1 USB 2.0 connectors (3) — Connects to USB devices, such as a mouse, keyboard, printer, external drive, or MP3 player.

2 eSATA connector — Connects to eSATA compatible storage devices such as external hard drives or optical drives.

3 IEEE 1394 — Connects to high speed serial multimedia devices such as digital video cameras.

4 Headphone connector — Connects to headphones.

NOTE: To connect to a powered speaker or sound system, use the audio out connector or one of the S/PDIF connectors on the back of your computer.

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

CHAPTER 3: CONNECTING DEVICES

This chapter provides information about connecting optional devices to your desktop to enhance your audio, video, and digital experience.

Connecting External Speakers

Your Alienware desktop has five integrated audio out connectors and one audio in connector. The audio out connectors deliver quality sound and support 7.1 surround audio. You can connect the audio input connector from a home stereo or speaker system for a heightened gaming and media experience.

⚠️ **NOTE:** On computers with a sound card, use the connector on the card.
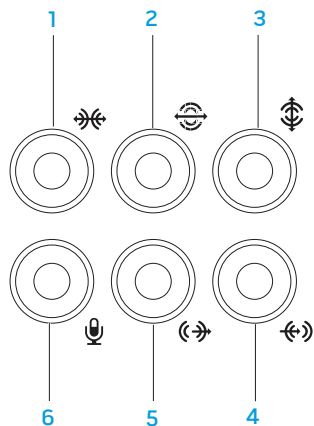
1   **Side L/R surround connector** — Connects to side L/R surround speakers.

2   **Rear L/R surround connector** — Connects to rear L/R surround speakers.

3   **Center/subwoofer connector** — Connects to a center speaker or subwoofer.

4   **Line-in connector** — Connects to recording or playback devices such as a microphone, cassette player, CD player, or VCR.

5   **Front L/R line-out connector** — Connects to front L/R speakers.

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

Two types of audio connectors:

1 ——————————————————— 2
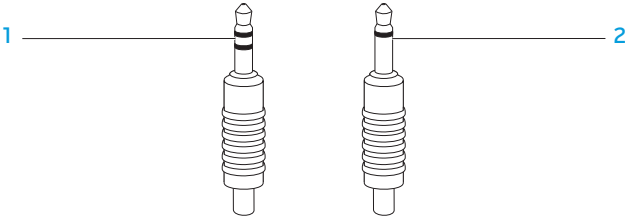
1   **Stereo jack** — Your headphone jack should have this type of connector.

2   **Mono jack** — Your microphone jack should have this type of connector.

Connecting Printers

Connecting a Plug and Play Printer

If your printer supports plug and play, your operating system will detect it and attempt to install the printer automatically. In some cases, Windows may require a driver for the printer. This driver is located on the software CD that is included with the printer.

1.   Connect the printer's USB cable to an available USB connector, on your desktop.

2.   Connect the printer's power cable to a grounded, three-prong power-strip, uninterruptible power supply, or electrical outlet.

3.   Turn on the printer and Microsoft Windows automatically detects and installs the appropriate driver.

Connecting a Non Plug and Play Printer

Windows Vista®

1. Click **Start** → **Control Panel.**
2. Click **Hardware and Sound**→ **Add a printer.**
3. Follow the instructions on the screen.

Windows® 7

1. Click **Start** → **Control Panel.**
2. Click **Hardware and Sound**→ **Devices and Printers**→ **Add a printer.**
3. Follow the instructions on the screen.

For further information, see the documentation that shipped with your printer.

Connecting USB Devices

Connect USB devices into an available USB connector on your desktop. Microsoft Windows will detect the device and attempt to install the appropriate driver automatically. In some cases, Windows may require a driver. This driver is located on the software CD that is included with the device.

If your keyboard or mouse has a USB connector, connect it to an available USB connector on the desktop.

Connecting IEEE 1394 (FireWire) Devices

Connect the IEEE 1394 device into the IEEE 1394 connector on your desktop. Your operating system will detect the device and attempt to install the appropriate driver automatically. In some cases, Windows may require a driver. This driver is located on the software CD that is included with the device.

For further information, see the documentation that shipped with your device.

CHAPTER 4: USING YOUR DESKTOP

Alienware Command Center

The Alienware® Command Center gives you access to Alienware's exclusive software and is a continuously upgradable control panel. As Alienware releases new programs, they download directly into the Command Center allowing you to build a library of system management, optimization, and customization tools.

To access the Command Center, click **Start** → **All Programs**→ **Alienware**→ **Command Center**→ **Command Center**.

AlienFX

AlienFX lets you customize the lighting behavior on your computer. You can assign lighting behaviors to events like receiving new e-mail, computer going into standby mode, and opening a new application.

AlienFusion

AlienFusion gives you access to your Alienware computer's power management controls to help increase energy efficiency.

Thermal Controls

Thermal Controls lets you control the thermal and venting capabilities of your computer by changing the fan speed and behavior of the vents present on the top of your computer.

Working With RAID

A redundant array of independent disks (RAID) is a disk storage configuration that increases performance or data redundancy. There are four basic RAID levels discussed in this section.

- RAID level 0 is recommended for higher performance (faster throughput).
- RAID level 1 is recommended for users who need a high level of data integrity.
- RAID level 5 is recommended for higher performance and fault tolerance.
- RAID level 10 is recommended for higher performance and data integrity.

⚠️ **NOTE:** RAID requires multiple hard drives. The number of hard drives required varies depending on the RAID configuration.

RAID Level 0

⚠️ **CAUTION: RAID level 0 provides no redundancy. Therefore, a failure of one drive results in the loss of all data. Perform regular backups to protect your data.**

RAID level 0 uses data striping to provide a high data access rate. Data striping writes consecutive segments, or stripes, of data sequentially across the physical drive(s) to create a large virtual drive. This allows one of the drives to read data while the other drive is searching for and reading the next block.

RAID 0

Disk 0   Disk 1
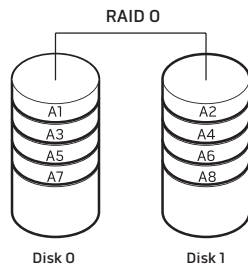
RAID 0 uses the full storage capacities of both drives. For example, two 2 GB hard drives combine to provide 4 GB of hard drive space on which to store data.

⚠️ **NOTE:** In a RAID 0 configuration, the size of the configuration is equal to the size of the smallest drive multiplied by the number of drives in the configuration.

RAID Level 1

RAID level 1 uses data mirroring to enhance data integrity. When data is written to the primary drive, the data is also duplicated, or mirrored, on the secondary drive in the configuration. RAID 1 sacrifices high data-access rates for data redundancy.

RAID 1

Disk 0   Disk 1
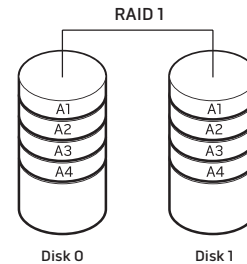
If a drive failure occurs, read and write operations are directed to the remaining drive. A replacement drive can then be rebuilt using the data from the remaining drive.

⚠️ **NOTE:** In a RAID 1 configuration, the size of the configuration is equal to the size of the smallest drive in the configuration.

RAID Level 5

RAID level 5 uses data parity. RAID level 5 stripes both data and parity information across three or more drives. It provides data striping at the byte level and also stripe error correction information (rotating parity array). This results in excellent performance and good fault tolerance.

If a drive failure occurs, subsequent read and write operations are directed to the other surviving drives. A replacement drive can then be rebuilt using the data from the surviving drives. Since data is duplicated on the primary and additional drives, four 120-GB drives collectively have a maximum of 360-GB on which to store data.

RAID 5

	Disk 0	Disk 1	Disk 2	Disk 3
	A1	A2	A3	Ap
	B1	B2	Bp	B3
	C1	Cp	C2	C3
	Dp	D1	D2	D3
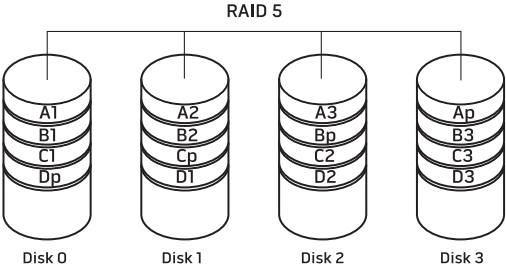
RAID Level 10

RAID 10, a combination of RAID 1 and RAID 0, uses disk striping across mirrored disks. It provides high data throughput and complete data redundancy. RAID 10 can support up to eight spans, and up to 32 physical disks per span.

RAID 1+0

RAID 1   RAID 1

	Disk 0	Disk 1	Disk 2	Disk 3
	A1	A1	A2	A2
	A3	A3	A4	A4
	A5	A5	A6	A6
	A7	A7	A8	A8
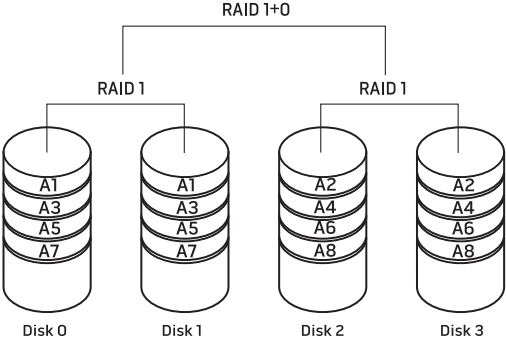
Optimizing Performance

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

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

System Setup Based Performance Tuning

⚠ **CAUTION: It is not recommended to operate the processor or other system components beyond the preset settings in the BIOS. Doing so may cause system instability, reduced component operating life, or permanent component damage.**

For computers with the Intel® Core™i7 Extreme Edition processor, the BIOS has preset overclocking levels that allow you to easily overclock your computer. The following options are available in the **Frequency/Voltage Control** page of the **System Setup:**

- Level 1 OC Setting
- Level 2 OC Setting
- Level 3 OC Setting

For more information, see "Configuring the BIOS" on page 28.

Software Based Performance Tuning

Your computer may be preinstalled with utilities like the **Intel Extreme Tuning Utility**, that allow you to optimize your computer's performance.

For more information on the options available, see the help file of the utility.

Configuring the BIOS

System Setup

The System Setup options allow you to:

- Change the system configuration information after you add, change, or remove any hardware in your desktop.
- Set or change a user-selectable option.
- View the installed amount of memory or set the type of hard drive installed.

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

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

Entering System Setup

1. Turn on (or restart) your desktop.
2. While the desktop is booting, press <F2> immediately before the operating system logo appears to access the **BIOS Setup Utility**.

⚠ **NOTE:** If an error occurs during POST (Power On Self Test), press <F2> when the prompt appears to enter the **BIOS Setup Utility.**

⚠ **NOTE** If you wait too long and the operating system logo appears, continue to wait until you see the Microsoft® Windows® desktop, then shut down your desktop and try again.

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

System Setup Screens

The **BIOS Setup Utility** window displays current or changeable configuration information for your desktop.

Key functions appear at the bottom of the **BIOS Setup Utility** window and lists keys and their functions within the active field.

System Setup Options

⚠ **NOTE:** The items listed in this section may or may not appear exactly as listed depending on your computer model and installed devices.

⚠ **NOTE:** For the updated system setup information, see the *Service Manual* at **support.dell.com/manuals**.

System Information

Product Name	Displays the product name.
BIOS Version	Displays the BIOS version, number, and date information.
Input Service Tag	Allows you to input the service tag.
Service Tag	Displays the service tag of the computer.
Asset Tag	Displays the asset tag of the computer.

System Information

Memory Installed	Displays the amount of memory installed in your computer.
Memory Available	Displays the amount of memory available in your computer.
Memory Technology	Displays the type of memory technology used.
Memory Speed	Displays the memory speed.
CPU ID/uCode ID	Displays the processor ID.
CPU Speed	Displays the processor speed.
Current QPI Speed	Displays the QPI speed.
Cache L2	Displays the processor L2 cache size.
Cache L3	Displays the processor L3 cache size.

Standard CMOS Features

`System Time (hh:mm:ss)`	Displays the current time.
`System Date (mm:dd:yy)`	Displays the current date.
`SATA 1`	Displays the SATA 1 drive integrated in your computer.
`SATA 2`	Displays the SATA 2 drive integrated in your computer.
`SATA 3`	Displays the SATA 3 drive integrated in your computer.
`SATA 4`	Displays the SATA 4 drive integrated in your computer.
`SATA 5`	Displays the SATA 5 drive integrated in your computer.
`SATA 6`	Displays the SATA 6 drive integrated in your computer.
`SATA 7`	Displays the SATA 7 drive integrated in your computer.
`SATA 8`	Displays the SATA 8 drive integrated in your computer.
`IDE Master`	Displays the IDE master drive integrated in your computer.
`IDE Slave`	Displays the IDE slave drive integrated in your computer.
`Wait For 'F1' If Error`	If enabled, the computer displays errors detected during POST. Press <F1> to continue.

Advanced BIOS Features

`Bootup Num-Lock`	Select power-on state for num-lock.
`ACPI APIC support`	Include ACPI APIC table pointer to RSDT pointer list.
`OptionRom Display Screen`	Set display mode for Raid Option Rom screen. (Hide; Display)
`CD/DVD Drives`	Sets the CD/DVD drive boot priority.

Boot Configuration Features

`1st Boot Device`	Displays the first boot device.
`2nd Boot Device`	Displays the second boot device.
`Hard Disk Drives`	Sets the hard drive boot priority. The items displayed are dynamically updated according to the hard drives detected.
`CD/DVD Drives`	Sets the CD/DVD drive boot priority.

CPU Configuration

`XD Bit Capability`	Enable XD Bit Capability to allow the processor to distinguish between the bits of code that can be executed and the ones that cannot be executed.
`Intel® Speedstep™ tech`	If enabled, the processor clock speed and core voltage are adjusted dynamically based on the processor load.
`Intel® C State Tech`	If enabled, C State: Processor idle is set to C2/C3/C4.

Integrated Devices

`USB Functions`	Allows you to enable or disable the integrated USB controller.
`HD Audio Controller`	Allows you to enable or disable the integrated audio controller.
`Onboard IEEE1394 Controller`	Allows you to enable or disable the onboard IEEE1394 controller.

Integrated Devices

`LAN1 BCM5784 Device`	Allows you to enable or disable the onboard LAN1 controller.
`LAN1 Option ROM`	Allows you to enable or disable the network controller's boot option.
`LAN2 BCM5784 Device`	Allows you to enable or disable the onboard LAN2 controller.
`LAN2 Option ROM`	Allows you to enable or disable the network controller's boot option.
`JMicron 363 ATA Controller`	Allows you to enable or disable the onboard ATA controller.
`SiL3132 E-Sata Device`	Allows you to enable and disable the e-SATA controller.
`Configure SATA#1-6 as`	Allows you to configure the integrated hard drive controller to AHCI or RAID.
`AHCI CD/DVD Boot Time out`	Allows you to set the wait time for SATA or CD/DVD in AHCI mode.

Power Management Setup

Suspend Mode	Sets the energy-saving mode of the ACPI function.
AC Recovery	Sets what action the computer takes when power is restored.
Remote Wakeup	Sets the system to wake up from an onboard LAN, PCIE-X1 LAN card, or a PCI LAN card.
Auto Power On	Allows the computer to start up at a certain time.

Frequency/Voltage Control

CPU Speed	Displays the current processor speed.
Memory Speed	Displays the current memory speed.
Current QPI Speed	Displays current QPI Speed.
QPI Frequency	Allows you to change the QPI frequency.
Memory Ratio	Allows you to change the memory ratio.

Frequency/Voltage Control

CPU Core (Non-Turbo) Ratio	Displays the ratio between the processor core clock and the FSB frequency.
Advance DRAM Configuration	Allows you to access the Advance DRAM Configuration submenu
Overclock Configuration	Allows you to access the Overclock Configuration submenu
Overvoltage Configuration	Allows you to access the Overvoltage Configuration submenu
Load Level 1 OC Setting	Allows you to restore the Level 1 overclocking settings that were shipped from the factory. Only displayed with an XE processor.
Load Level 2 OC Setting	Allows you to restore the Level 2 overclocking settings that were shipped from the factory. Only displayed with an XE processor.
Load Level 3 OC Setting	Allows you to restore the Level 3 overclocking settings that were shipped from the factory. Only displayed with an XE processor.

Advance DRAM Configuration Submenu

Memory-Z	Opens submenu to display the SPD configuration for each memory module.
Advanced Memory Settings	Allows you to toggle to Manual mode and set all of the timing parameters.
tCL	Displays the Column Address Strobe Latency (editable in Manual Mode).
tRCD	Displays timing of RAS to CAS delay (editable in Manual Mode).
tRP	Displays timing of RAS Precharge (editable in Manual Mode).
tRAS	Displays timing of Row Address Strobe (editable in Manual Mode).
tRFC	Displays timing of Refresh to Archive/ Refresh cycle time (editable in Manual Mode).
tWR	Displays timing of Write Recover (editable in Manual Mode).
tWTR	Displays Write to Read Delay (editable in Manual Mode).
tRRD	Displays RAS to RAS delay (editable in Manual Mode).

Advance DRAM Configuration Submenu

tRTP	Displays Read to Precharge Command Delay (editable in Manual Mode).
1T/2T Timing	Displays the Command Rate (editable in Manual Mode).

Overclock Configuration Submenu

Adjust CPU BClk (MHz)	Allows you to adjust BClk of processor.
Spread Spectrum	Enable/Disable Spread Spectrum Modulation.
Adjust PCI Frequency (MHz)	Allows you to adjust PCI Frequency.
Adjust PCI-E Frequency (MHz)	Allows you to adjust PCI-E Frequency.
Intel® Turbo Mode tech	If enabled, allows processor to run at faster frequencies than marked.
[1-4] Core CPU Turbo Ratio Limit	Limit ratio for cores 1-4.
Turbo Mode TDC Limit Override	Allows you to program the current thresholds for the processor while in turbo mode.
Turbo Mode TDP Limit Override	Allows you to program the power thresholds for the processor while in turbo mode.

Overvoltage Configuration Submenu

CPU Temperature Sensor	Displays the processor temperature in Celsius and Fahrenheit.
VCore	Displays processor Core voltage.
Dynamic CPU VCore Offset	Processor Core Voltage Offset.
DDR3 Memory Voltage	Adjust the DDR3 Memory Voltage.
IOH Voltage	Adjust the IOH Voltage.
QPI and Uncore Voltage	Adjust QPI and Uncore Voltage.

BIOS Security Features

Change Supervisor Password	Allows you to set or change the supervisor password.
Change User Password	Allows you to set or change the user password. You cannot use the user password to make change to the BIOS settings.

Exit

Exit Options	Provides options to Save Changes and Exit, Discard Changes and Exit, and Load Optimal Defaults.

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CHAPTER 5: INSTALLING ADDITIONAL OR REPLACEMENT COMPONENTS

This chapter provides guidelines and instructions for increasing the processing power and storage space by upgrading equipment. You can purchase components for your desktop at **www.dell.com** or **www.alienware.com**.

⚠️ **NOTE:** See the *Service Manual* at **support.dell.com/manuals** for installation instructions of all serviceable components. Parts purchased from Dell and Alienware ship with specific replacement instructions.

Before You Begin

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

- You have performed the steps in "Turning Off Your Desktop" and "Before Working Inside Your Desktop" in this section.
- You have read the safety information that shipped with your desktop.
- A component can be replaced or—if purchased separately—installed by performing the removal procedure in reverse order.

Turning Off Your Desktop

⚠ CAUTION: To avoid losing data, save and close all open files and exit all open programs before you turn off your desktop.

1. Save and close all open files and exit all open programs.
2. Click **Start** → **Shut Down**.
   The desktop turns off after the operating system shutdown process finishes.
3. Ensure that the desktop and any attached devices are turned off. If your desktop and attached devices do not automatically turn off when you shut down your operating system, press and hold the power button for at least 8 to 10 seconds until the desktop turns off.

Before Working Inside Your Desktop

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

⚠️ WARNING: Before working inside your desktop, read the safety information in the "SAFETY, ENVIRONMENTAL, AND REGULATORY INFORMATION" that shipped with your computer. For additional safety best practices information, see the Regulatory Compliance Homepage at www.dell.com/regulatory_compliance.

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

⚠️ CAUTION: Only a certified service technician should perform repairs on your desktop. Damage due to servicing that is not authorized by Dell is not covered by your warranty.

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

⚠️ CAUTION: When you disconnect a cable, pull on its connector or on its pull-tab, not on the cable itself. Some cables have connectors 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.

To avoid damaging the desktop, perform the following steps before you begin working inside the desktop.

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

2. Turn off your desktop (for more information, see "Turning Off Your Desktop" on page 36).

⚠️ CAUTION: To disconnect a network cable, first unplug the cable from your desktop and then unplug the cable from the network device.

3. Disconnect all telephone or network cables from the desktop.
4. Disconnect your desktop and all attached devices from their electrical outlets.
5. Press the power button to ground the system board.

Opening and Closing the Side Panel

⚠ CAUTION: Before opening the side panel, disconnect the power cable from your desktop.

1. Follow the instructions in "Before You Begin" on page 36.

⚠ NOTE: Ensure that any attached security cable is removed before attempting to lift the release panel.

2. Lift the release panel to open the side panel.

⚠ NOTE: Theater lighting turns on automatically when the side panel is removed. Theater lighting is powered by internal batteries.

⚠ NOTE: To open the side panel on the right side, lift the release panel on the right side.

To close the side panel, push the side panel against the side of the computer until it locks into place.
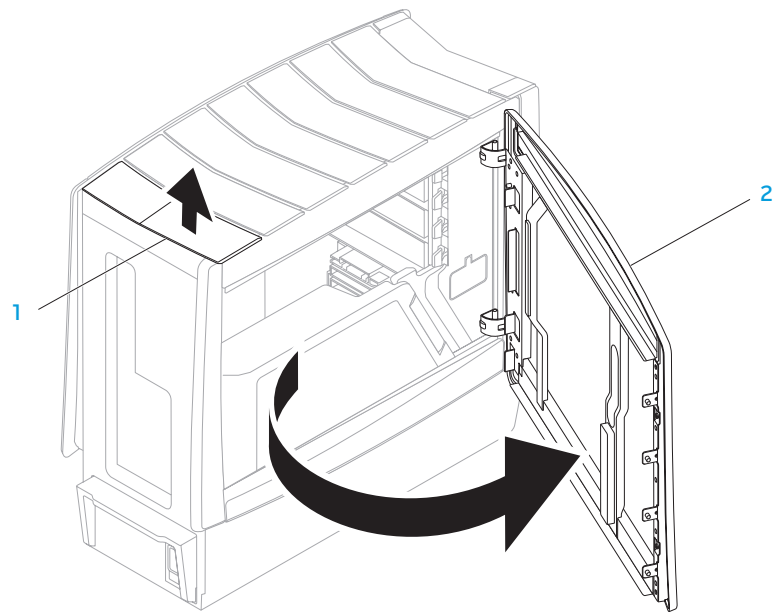
| 1 | release panel | 2 | side panel |

Inside View of Your Computer
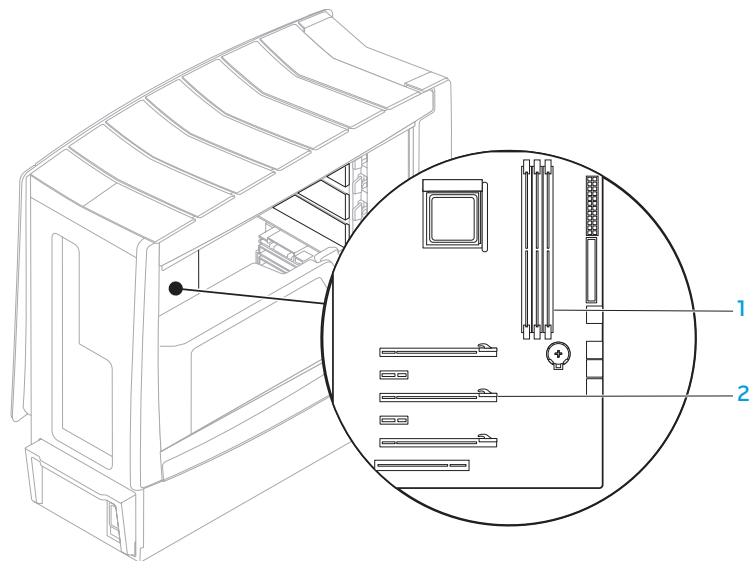
1   memory module connectors (3)   2   expansion card slots (6)

Removing and Replacing Memory Module(s)

1. Follow the instructions in "Before You Begin" on page 36.
2. Open the side panel (see "Opening and Closing the Side Panel" on page 38).
3. Locate the memory module connectors on the system board (see "Inside View of Your Computer" on page 39).

⚠️ CAUTION: The memory module(s) may become very hot during normal operation. Allow the memory module(s) to cool before touching them.

⚠️ NOTE: For better access to memory module(s), remove the graphics card if the card is full length.

4. Spread apart the securing clips at both ends of the memory module connector.
5. Lift the memory module off the memory module connector. If the memory module is difficult to remove, gently ease the memory module back and forth to remove it from the memory module connector.

To replace memory module(s):

1. Align the notch on the bottom of the memory module with the tab on the memory module connector.
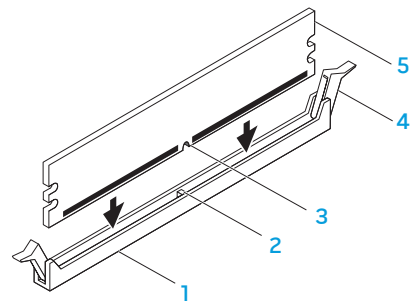
1	memory module connector	4	securing clips (2)
2	tab	5	memory module
3	notch		

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

2. Insert the memory module into the memory module connector until the memory module snaps into position.

⚠ **NOTE:** If the memory module is not installed properly, the computer may not boot.

3. If you insert the memory module correctly, the securing clips snap into the cutouts at each end of the memory module.
4. Close the side panel (see "Opening and Closing the Side Panel" on page 38).
5. Connect the power cable, and all the external peripherals to the computer.
6. Turn on the computer.

As the computer boots, it detects the additional memory and automatically updates the system configuration information. To confirm the amount of memory installed in the computer:

Windows Vista®

Click **Start** 🟦→ **Control Pane**l→ **System and Maintenance**.

Windows® 7

Click **Start** 🟦→ **Control Panel**→ **System and Security**→ **System.**

Removing and Replacing Hard Drive(s)

1. Follow the instructions in "Before You Begin" on page 36.
2. Lift the release panel to open the side panel on the right side.

3. Press the two release tabs together and slide the hard drive towards the top and out of the computer.
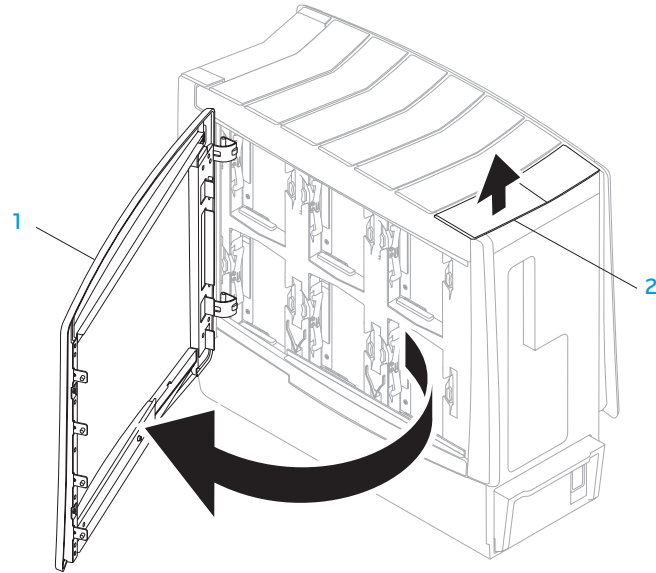
1	side panel	2	release panel
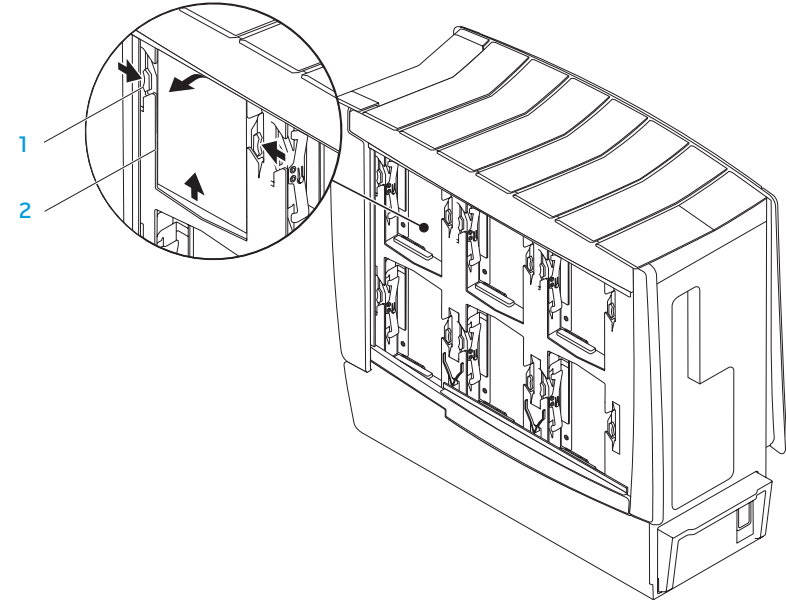
1	release tabs (2)	2	hard drive

To replace a hard drive:

1. See the documentation that shipped with your new hard drive to verify that it is configured for your computer.

2. Slide the new hard drive into the hard drive bay and press it down until the hard drive snaps into place.

3. Close the side panel on the right side.
4. Reconnect the power cable, and all the external peripherals to the computer.
5. Turn on the computer.

Removing and Replacing Expansion Card(s)

1. Follow the instructions in "Before You Begin" on page 36.
2. Open the side panel (see "Opening and Closing the Side Panel" on page 38).
3. Press the shroud button to release the shroud and then rotate the shroud away from the computer.
4. Locate the expansion card on the system board (see "Inside View of Your Computer" on page 39).
5. Disconnect any cables connected to the card (if applicable).
6. Remove the card.
   For a PCI or PCI Express x1 card, grasp the card by its top corners, and ease it out of its connector.
   For a PCI Express x16 card, push the retention mechanism on the card connector as you grasp the card by its top corners, and then ease the card out of the connector.
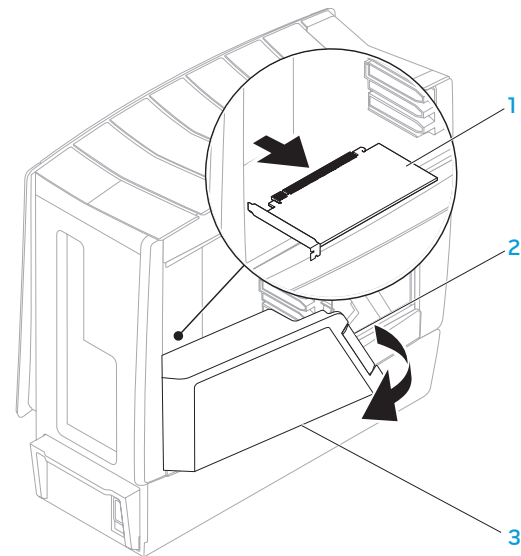
1	expansion card	3	shroud
2	shroud button		
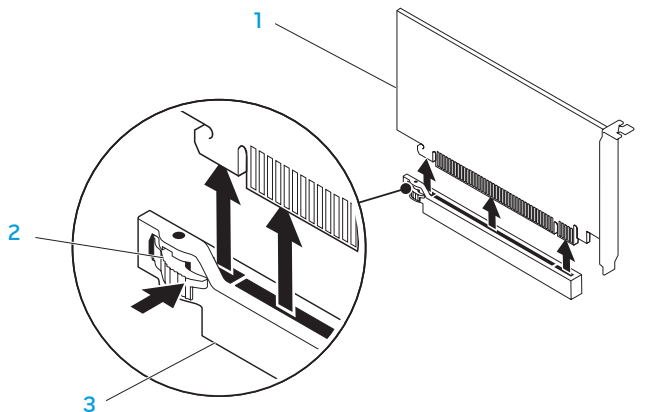
1	PCI Express x16 card	3	PCI Express x16 connector
2	retention mechanism		

⚠ **NOTE:** If you are not replacing a card, install a filler bracket in the empty card-slot opening.

To replace a card:

1. Remove the filler bracket to create a card-slot opening (if applicable).
2. For information on configuring, customizing, and making internal connections on the card, see the documentation that shipped with the card.

3. Align the card with the connector on the system board.
4. Place the card in the connector and press down firmly. Ensure that the card is firmly seated in the connector.
   If you are installing the PCI Express card into the x16 card connector, gently push the retention mechanism and place the card in the connector.
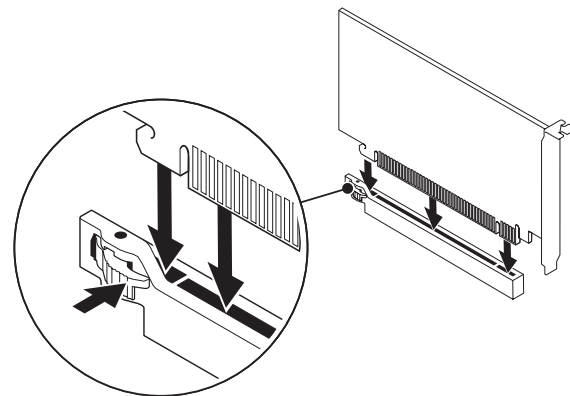
5. Connect any cables that should be attached to the card (if applicable).
6. Push the shroud to snap it into place.
7. Close the side panel (see "Opening and Closing the Side Panel" on page 38).
8. Connect the computer and devices to electrical outlets, and then turn them on.

CHAPTER 6: TROUBLESHOOTING

Basic Hints and Tips

- Computer does not turn on: Is your computer securely connected to a working electrical outlet? If connected to a power strip, ensure that the strip is actually working.

- Connections: Check all the cables to make sure that there are no loose connections anywhere.

- Power Savings: Make sure that your computer is not in hibernate or standby mode by pressing the power button for less than 4 seconds. The power status light will fade from blue to black while in standby mode; in hibernate mode it will be off.

Backup and General Maintenance

- Always backup your important data on a regular basis and keep copies of your operating system and software safe. Do not forget to note the serial numbers if you are storing them outside of their original cases - for example in a CD wallet.

- Run maintenance programs as often as you can. You may schedule these programs to run at times when you are not using your computer. You can use those provided with your operating system, or buy more powerful, dedicated programs to do so.

- Write down your passwords and keep them safe (away from your computer). This is especially important if you choose to password-protect your computer's BIOS and operating system.

- Document vital settings such as network, dialup, mail and Internet settings.

When troubleshooting your computer, remember the following safety guidelines:

- Before touching any of the computer's internal components, touch an unpainted portion of the chassis. Doing so will safely discharge any static electricity, which could damage your computer.

- Turn off your computer and any connected peripherals.

- Disconnect any peripherals from your computer.

Things to check before troubleshooting

- Ensure that the power cable is properly connected to your computer and a power outlet. Make sure that the power outlet is working.

- Make sure the UPS or power strip is turned on (if applicable).

- If your peripheral devices (such as keyboard, mouse, printer, and so on) are not working, ensure that all connections are secure.

- If any computer components were added or removed before the problem began, check to see if you performed the removal and installation procedure properly.

- If an error message appears on the screen, write down the exact error message prior to calling Alienware Technical Support to aid in diagnosing and resolving your issue.

- If an error occurs in a specific program, see the program's documentation.

Software Diagnostic Tools

Pre-Boot System Assessment (PSA)

The computer runs the Pre-boot System Assessment (PSA), a series of initial tests for the system board, keyboard, display, memory, hard drive, and so on.

To invoke PSA:

1. Restart the computer.
2. Press <F12> to access the **Boot Menu**.
3. Select **Diagnostics** and press <Enter>.
4. During the assessment, answer any questions that appear on the screen.
   - If a component fails the test, the computer stops and beeps. To stop the assessment and restart the computer, press <n>; to continue to the next test, press <y>; to retest the component that failed, press <r>.

   - If you receive error code(s) during the Pre-boot System Assessment, write down the error code(s) and contact Alienware (for details, see "CONTACTING ALIENWARE" on page 70).

If the Pre-boot System Assessment completes successfully, the following message will appear on your screen.

"Do you want to run the remaining memory tests? This will take about 30 minutes or more. Do you want to continue? (Recommended)."

5. Press <y> to continue if you are experiencing memory issue, otherwise press <n> to finish PSA testing. The following message will appear on the screen.

"Pre-boot System Assessment complete." No Diagnostic Utility Partition identified. Select OK to reboot your computer."

6. Press <o> to reboot your computer.

Alienware® Diagnostics

If you experience a problem with your Alienware desktop, run the Alienware Diagnostics. It is recommended that you print these procedures before you begin.

⚠️ **NOTE:** Back up all data before initiating a system recovery. Backup functionality is included in AlienRespawn™ v2.0, but as a precaution it would be better to backup critical files onto an external media before initiating recovery.

⚠️ **NOTE:** The *Support* CD/DVD contains drivers for your computer. You can also download the latest drivers and software for your computer from **support.dell.com**.

Review your desktop's configuration information, and ensure that the device that you want to test appears in the system setup program and is active. Start the Alienware Diagnostics from the *Support* CD/DVD.

Starting Alienware Diagnostics From the Support CD/DVD

1. Insert the *Support* CD/DVD.
2. Shut down and restart the desktop.
   When the Alienware logo appears, press <F12> immediately.

⚠️ **NOTE:** If you wait too long and the operating system logo appears, continue to wait until you see the Microsoft® Windows® desktop; then, shut down your computer and try again.

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

3. When the boot device list appears, highlight **CD/DVD/CD-RW** and press <Enter>.
4. Select **Boot from CD-ROM** from the menu that appears and press <Enter>.
5. Select **Alienware Diagnostics** from the numbered list. If multiple versions are listed, select the version appropriate for your computer.
6. When the Alienware Diagnostics **Main Menu** appears, select the test you want to run.

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

7. After all tests have completed, close the test window to return to the Alienware Diagnostics **Main Menu**.
8. Remove your *Support* CD/DVD, then close the **Main Menu** window to exit the Alienware Diagnostics and restart the computer.

Answers to Common Problems
CD-ROM, DVD-ROM, CD-R/W, DVD±R/W, or Blu-ray Disc™ Drive

The computer does not recognize the disc or drive

- Check to see if the disc is properly inserted into the drive with the label facing up.
- Try another disc.
- Shut down and restart the computer.
- Clean the disc.
- Restart the computer and enter the BIOS setup utility by pressing <F2> as the computer restarts.
- Check the BIOS to ensure that the SATA controllers are enabled. Check the drive configuration to make sure it is properly configured; see any documentation that may be included with your drive.

⚠️ **WARNING: Before working inside your desktop, read the safety information in the "SAFETY, ENVIRONMENTAL, AND REGULATORY INFORMATION" that shipped with your computer. For additional safety best practices information, see the Regulatory Compliance Homepage at www.dell.com/regulatory_compliance.**

- Shut down your computer, disconnect the power cable, and open your computer. Make sure that the cables are properly connected to the drive and the SATA connector on your system board or controller card (see the *Service Manual*).

An audio CD does not produce sound

- Check to see if the audio CD is properly placed on the drive with the label facing up.
- Check the volume controls to ensure they are turned up.
- Make sure that the mute control is not enabled.
- Check the speaker cables to ensure they are properly connected to the audio connectors.
- Clean the CD.
- If the computer has two CD drives, try the audio CD in the other drive.
- Shut down and restart your computer.
- Reinstall the audio device drivers.

A DVD or Blu-ray Disc does not play

- Shut down and restart your computer.
- Clean the disc.
- Reinstall the provided DVD or Blu-ray Disc playback software.
- Try another disc. Some discs may have conflict with the drive if the encoding on the DVD or Blu-ray disc does not match the encoding recognized by the drive.

Computer

The computer fails the POST:

The computer POST (Power On Self Test) ensures that all hardware is working properly before starting the remainder of the boot process. If the computer passes the POST, the computer will continue to start normally. However, if the computer fails the POST, the computer will emit a series of beeps during start-up if the monitor cannot display errors or problems. The following repetitive beep codes help you troubleshoot problems with your computer. For assistance, contact Alienware (for details, see "CONTACTING ALIENWARE" on page 70).

⚠ **NOTE:** To replace parts, see the *Service Manual* at **support.dell.com/manuals**.

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

The computer stops responding or a solid blue screen appears

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

If you are unable to get a response by pressing a key on your keyboard or moving your mouse, press and hold the power button for at least 6 seconds until the computer turns off, then restart your computer.

A program stops responding or crashes repeatedly

End the program:

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

Check the software documentation.

If necessary, uninstall and then reinstall the program.

A program is designed for an earlier version of Microsoft® Windows®

Run the Program Compatibility Wizard:

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

Windows Vista®

1. Click **Start** ⊕→ **Control Panel**→ **Programs**→ **Use an older program with this version of Windows**.

2. In the welcome screen, click **Next**.

Follow the instructions on the screen.

Windows® 7

1. Click **Start** ⊕→ **Control Panel**→ **Programs**→ **Programs and Features**→ **Use an older program with this version of Windows**.

2. In the welcome screen, click **Next**.

Follow the instructions on the screen.

Other software problems

Back up your files immediately

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

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

Scan the computer for spyware:

If you are experiencing slow computer performance, you frequently receive pop-up advertisements, or you are having problems connecting to the Internet, your computer might be infected with spyware. Use an anti-virus program that includes anti-spyware protection (your program may require an upgrade) to scan the computer and remove spyware.

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

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

Run the PSA Diagnostics:

If all the tests run successfully, the error condition is related to a software problem.

Hard Drive Problems

Allow the computer to cool before turning it on

A hot hard drive may prevent the operating system from starting. Try allowing the computer to return to room temperature before turning it on.

Run Check Disk:

Windows Vista® or *Windows® 7*

1. Click **Start** ⊕→ **Computer**.
2. Right-click **Local Disk C:**
3. Click **Properties**→ **Tools**→ **Check Now**.
   If the **User Account Control** window appears, click **Continue**.
4. Follow the instructions on the screen.

Internet

Cannot browse the Internet or the `Unable to locate host` error message appears

- Check if you are connected to the Internet.
- Check if the web address typed into the address bar is correct. Try a different web address, or URL.
- If the error message still appears, disconnect from the Internet Service Provider (ISP) and close the browser. Reconnect and open the browser.
- If the problem persists, your ISP may be experiencing technical difficulties.

Internet connection is slow

Internet performance can be affected by the following factors:

- The condition of the telephone or network cables being used.
- The condition of the network equipment at your ISP.
- The graphics or multimedia on Web pages.
- Multiple browsers, downloads, or programs open on your computer.

Keyboard

The keyboard is not responding

Clean the keyboard by using an aerosol can of compressed air with a proper extension to remove dust and lint trapped under the keys.

A keyboard character is repeating

- Ensure that there is nothing resting on any of the keys.
- Check that no key on the keyboard is stuck. Press each key to loosen any keys that may be stuck and then restart your computer.

Spills on the keyboard

If liquid of any kind is spilled on the keyboard, turn off the computer. Clean the keyboard using the appropriate cleaning materials and turn it over to drain the keyboard. Once the keyboard has dried, turn on the computer. If the keyboard does not work, it needs to be replaced.

Keyboards damaged due to spills are not covered under limited warranty.

Memory

Memory errors detected on start up

- Check memory modules for correct seating and orientation. Reseat the memory modules if applicable. For more information, see "Removing and Replacing Memory" on page 40.

- Computers using a dual-channel memory configuration require that memory modules be installed in pairs. If you require assistance, contact Alienware Technical Support (for more information, see "CONTACTING ALIENWARE" on page 70).

Display

If the display is blank

The computer may be in a power saving mode:

Press a key on the keyboard or press the power button to resume normal operation.

Test the electrical outlet:

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

If the display is difficult to read

Adjust the Windows display settings:

Windows Vista®

1. Click **Start** → **Control Panel**→ **Hardware and Software**→ **Personalization**→ **Display Settings**.
2. Adjust **Resolution** and **Colors settings**, as needed.

Windows® 7

1. Click **Start** → **Control Panel**→ **Appearance and Personalization**→ **Display**.
2. Adjust **Resolution** and **Calibrate color**, as needed.

Mouse

The mouse is not working

- Check if the mouse cable is properly connected to the USB connector on your computer.
- Check if the mouse cable is damaged. If the mouse cable is damaged, the mouse will have to be replaced.
- Restart your computer.
- Try a mouse that you know works in the same connector, to ensure that the USB connector is working.
- Reinstall the device driver.

Power

When you press the power button, the computer does not turn on

- If the computer is connected to a surge protector or UPS, make sure that the surge protector or UPS is securely connected to an electrical outlet, is switched on and is working correctly.

- Ensure that the electrical outlet is working properly by testing another device such as a radio or lamp that you know works. If the electrical outlet is not working, contact an electrician or your power company for further assistance.

- Ensure all devices on the computer are properly connected to your computer and that the computer is properly connected to the surge protector or UPS.

For further assistance, contact Alienware support (for more information, see "CONTACTING ALIENWARE" on page 70).

Printer

The printer does not turn on

- Ensure that the power cable is properly connected to an electrical outlet.
- Check if the electrical outlet is working properly by testing it with another device such as a radio or lamp that you know works. If the electrical outlet is not working, contact an electrician or your power company for further assistance.

The printer does not print

- Check if the power cable is properly connected and the printer is properly connected to the computer. Make sure that the printer is turned on.

- Check if the printer cable is damaged. If the printer cable is damaged, a replacement may be required.

- Check if the printer is online. If the printer is offline, press the online or offline button to switch it to online.

- If the printer is not the default printer, make sure that it is selected in the printer setup.

- Reinstall the printer driver.

Game Controllers

The computer does not recognize the game controller

- Check if the cable connecting the game controller to the computer is not damaged and that it is properly connected.
- Reinstall the device driver for the game controller.

Speakers

There is no sound from the speakers

Ensure that subwoofer and the speakers are turned on:

See the documentation that shipped with your speakers. If your speakers have volume controls, adjust the volume, bass, or treble to eliminate distortion.

Adjust the Windows volume control:

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

Disconnect headphones from the headphone connector:

Sound from the speakers is automatically disabled when headphones are connected to the headphone connector.

Test the power outlet:

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

Reinstall the audio driver

Run PSA Diagnostics

⚠️ **NOTE:** The volume control in some players overrides the Windows volume setting. Ensure that you did not turn the player volume down or off.

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CHAPTER 7: SYSTEM RECOVERY

Your computer ships with the following media:

- **Recovery CD or DVD** — Contains operating system installation media.
- **Support CD or DVD** — Contains drivers for your computer. You can also download the latest drivers and software for your computer from **support.dell.com**.

- Optional **AlienRespawn v2.0 disc** (if ordered) — Contains the AlienRespawn recovery image.

  ⚠ **NOTE:** Your computer ships with either AlienRespawn v2.0 or Dell DataSafe Local.

AlienRespawn v2.0

⚠️ **NOTE:** Back up all data before initiating a system recovery. Backup functionality is included in AlienRespawn™ v2.0, but as a precaution it is recommended to backup critical files onto an external media before initiating recovery.

AlienRespawn™ v2.0 is a recovery solution which is capable of resolving many software-related problems, including operating system configuration errors, driver installation errors, system file corruption, spyware or virus infection (when used in conjunction with antivirus software), and more.

Unlike other restoration methods, AlienRespawn v2.0 offers the ability to return your computer to its factory default settings without permanently losing your saved data.

If AlienRespawn v2.0 is unable to resolve your problem, contact Alienware Technical Support (for more information, see "CONTACTING ALIENWARE" on page 70).

Using AlienRespawn v2.0

1. Remove any CD or DVD media from your optical drive.
2. Turn on or restart your computer.

⚠️ **NOTE:** When your computer boots, it displays a prompt on the screen for five seconds prior to loading Windows. Press <F10>when the prompt appears.

3. Your computer now boots into the AlienRespawn v2.0 environment. If this is the first time you are running AlienRespawn v2.0, you must accept the license agreement before proceeding.

Recovery Options

⚠ **NOTE:** Back up all data before initiating a system recovery. Backup functionality is included in AlienRespawn v2.0, but as a precaution it is recommended to backup critical files onto an external media before initiating recovery.

AlienRespawn v2.0 offers three methods for system recovery. Each option offers a unique combination of restoration and data-backup features. The details of each method are described below.

Microsoft System Restore

This option provides access to Microsoft System Restore points stored on your computer without having to enter Windows itself. For more information on System Restore, see "Help and Support" within Windows.

This option is best for driver or operating system file corruption. It allows recovery through System Restore even if Windows cannot be accessed and resolves many operating system-related problems without altering user-created files.

System Restore points stored on your hard drive must be intact. If these files or the hard drive itself have been damaged, System Restore may not be accessible. Although System Restore resolves many operating system problems, it is possible for significant problems, such as certain types of virus or spyware infections, to persist after recovery.

Advanced Recovery

This method completely reformats your hard drive and return your computer to its original factory configuration resolving all software or configuration issues. This option is best for most software related issues.

A backup of your entire current hard drive will be created in **C:\BACKUP**, from which data files may be copied to permanent locations. Once you have retrieved all desired files, this directory may be safely deleted.

In cases of virus or spyware infection, it is advisable to thoroughly scan and clean **C:\BACKUP** prior to copying files out of it; for this reason, it is recommended that you install and run your preferred third-party antivirus or antispyware utilities prior to retrieving your data.

If viruses or spyware were present prior to running AlienRespawn v2.0, there is a chance of re-infection from backup files if these are not successfully cleaned.

Factory System Recovery

This option is for last-resort system recovery.

This method completely reformats your hard drive and returns your computer to its configuration as shipped. This is a complete system recovery – the entire configuration is restored to its factory default state, resolving all software and configuration issues. Viruses or spyware will be eliminated. However, it is advised that you scan all external storage media to prevent re-infection.

No data backup will be performed. All saved data will be lost.

Password Protection

Since AlienRespawn v2.0 has the ability to reformat your hard drive and can be accessed without entering Windows, the password-protection functionality has been included for your security.

This feature is disabled by default, but can be enabled through the Respawn Settings application, described below.

⚠ CAUTION: If you forget your password, you will not be able to access AlienRespawn v2.0, except by booting to the optional AlienRespawn v2.0 disc as described in "To Use the AlienRespawn v2.0 Disc" on page 62. Alienware Technical Support will not be able to recover your password. If you choose to enable password protection, you do so at your own risk.

To Enable or Change Password Settings

1. Start 🔵→ All Programs→ AlienRespawn v2.0.
2. Click on the icon labeled Respawn Settings.
3. The Respawn Settings application will launch.
   - If you are enabling password protection for the first time, enter the default password, "alienware" (case-sensitive), in the appropriate field, then click Submit.
   - If you have already defined a password, enter your current password in the appropriate field, then click Submit.
4. To change your password, enter the new password in both fields in the Change Password section, then click Apply.
5. To enable or disable password protection, select the check box labeled Enable Respawn Password Protection, then click Apply.
6. When password protection is enabled, you will be prompted to enter the password after pressing <F10> to run AlienRespawn v2.0. For more information, see "Using AlienRespawn v2.0" on page 59.

AlienRespawn v2.0 Disc

If you ordered the optional AlienRespawn v2.0 disc, you will receive it along with your computer. This disc will allow you to re-deploy AlienRespawn v2.0 to a new hard drive in the event of a hard drive failure.

To Use the AlienRespawn v2.0 Disc

⚠️ **NOTE:** The Alienware recovery system is set up to boot from your CD-ROM drive, verify (see "Boot Configuration Features" on page 30) that your computer is set to boot from the optical drive.

1. Insert the AlienRespawn v2.0 disc into your optical drive (main drive).
2. Turn on or restart your computer.
3. Your computer will automatically boot into AlienRespawn v2.0 environment.
   - If no recovery partition is detected on your computer, AlienRespawn v2.0 will proceed directly to the Complete Recovery option, restoring your system to its factory-shipped state.

   - If an existing AlienRespawn v2.0 recovery partition is detected, you will be prompted to choose to run the recovery process from either the hard drive or from the disc. Running from the hard drive is recommended; however, if this fails, running from the disc may resolve the problem.

Dell DataSafe Local Backup

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

This application allows you to:

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

To schedule backups:

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

To restore data:

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

> ⚠ **NOTE:** Do not disconnect the monitor, keyboard, mouse, and the power cable.

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

> ⚠ **NOTE:** If you wait too long and the operating system logo appears, continue to wait until you see the Microsoft® Windows® desktop; then, shut down your computer and try again.

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

> ⚠ **NOTE:** The restoration process might take an hour or more depending on the size of the data to be restored.

> ⚠ **NOTE:** For more information on Dell DataSafe Local Backup, see knowledge base article 353560 at **support.dell.com**.

CHAPTER 8: BASIC SPECIFICATIONS

This chapter provides the basic specifications of your desktop. For more detailed specifications, see the *Comprehensive Specifications* at **support.dell.com/manuals.**

Computer Model

Alienware Area-51

Dimensions

Width	249 mm (9.8 inches)
Depth	635 mm (25 inches)
Height	557.6 mm (22 inches) (with top vents closed)
	595.5 mm (23.4 inches) (with top vents open)
	15.4 mm (0.6 inches) (added height with the rear foot deployed)
Weight (starting at)	31.7 kg (70 lb)
	NOTE: The weight of your desktop will vary depending on the configuration and the manufacturing variability.

Processor and System Chipset

Processor	Intel® Core™ i7
System chipset	Intel X58 Express

Memory

Connectors	three internally-accessible DDR3 DIMM sockets
Capacities	2 GB and 4 GB
Memory types	DDR3 and DDR3-XMP
Minimum	6 GB
Maximum	12 GB

Back Panel Connectors

IEEE 1394	one 6-pin serial connector
Network adapter	two 10/100/1000 Mbps RJ45 connectors
USB	six 4-pin USB 2.0-compliant connectors
eSATA	one 4-pin eSATA connector
S/PDIF	one optical and one coaxial output connector
PS/2	two 6-pin PS/2 connectors
Audio	7.1 channel line output, stereo microphone and stereo line input connectors
Expansion slots	eight full-height expansion slot openings to six physical expansion slot connectors on the system board

Top Panel Connectors

IEEE 1394	one 6-pin serial connector
USB	three 4-pin USB 2.0-compliant connectors
Audio	stereo headphone and microphone connectors
eSATA	one 4-pin eSATA connector

Communications

Network adapter	10/100/1000 Mbps Ethernet LAN on system board
Wireless (optional)	WiFi/Bluetooth wireless technology

Drives

Externally accessible	three 5.25-inch drive bays for Blu-ray Disc™ combo, Blu-ray Disc writer, DVD+/-RW, or DVD combo one 3.5-inch drive bay for media card reader
Internally accessible	six 3.5-inch drive bays for SATA-II hard drives

Expansion Bus

PCI:

Connector	one
Connector size	124-pin connector

PCI Express x1:

Connectors	two
Connector size	36-pin connectors

PCI Express x16:

Connectors	two
Connector size	164 pins connectors
Lanes	16

PCI Express x16:

Connector	one
Connector size	164 pins connector
Lanes	4

Power

Voltage	100-240 V AC, 50-60 Hz
	NOTE: For information on voltage settings, see the safety information that shipped with your computer.

Computer Environment

Temperature ranges:

Operating	10°C to 35°C (50°F to 95°F)
Storage	−10°C to 45°C (14°F to 113°F)
Relative humidity (maximum)	20% to 80% (noncondensing)

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

Operating	0.25 GRMS
Non-Operating	2.2 GRMS

Computer Environment

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

Operating	40G for 2 ms with a change in velocity of 20 in/s (51 cm/s)
Non- Operating	50G for 26 ms with a change in velocity of 320 in/s (813 cm/s)

Altitude (maximum):

Operating	−15.2 to 3048 m (−50 to 10,000 ft)
Storage	−15.2 to 10,668 m (−50 to 35,000 ft)
Airborne contaminant level	G2 or lower as defined by ISA-S71.04-1985

APPENDIX A: GENERAL AND ELECTRICAL SAFETY PRECAUTIONS

Computer Setup

- Read all instructions marked on the product and in the documentation before operating your computer.
- Retain all safety and operating instructions.
- Never use this product near water or a heat source.
- Only set-up the computer on a stable work surface.
- Only operate the computer using the power source type indicated on the rating label.
- Never block or cover any openings or fans in the computer case. These are required for ventilation.
- Never insert objects of any kind into the ventilation openings.
- Make sure that your computer is properly grounded when in use.
- Do not attempt to connect your computer into an outlet that is not properly grounded.
- If an extension cable is used with your computer, ensure that the total ampere rating on the computer does not exceed the maximum rating on the extension cable.

Computer Use

- Route the power cable and all cables away from where people might walk or trip over them. Do not allow anything to rest on the power cable.
- Do not spill anything on or into your computer.
- To avoid electrical shock, always disconnect all power, modem and any other cables from the electrical outlets before handling the computer.

Electrostatic Discharge (ESD) Warning

Electrostatic Discharge (ESD) can cause damage to internal system components if precautions are not taken. ESD is caused by static electricity and the damage caused is usually permanent.

Computer technicians wear a special wrist-strap that grounds them to the computer's case to prevent ESD damage. You can reduce the chances of ESD damage by doing the following:

- Turn off your computer's power and wait several minutes before starting to work.
- Ground yourself by touching the case of the computer.
- Touch only those items which must be replaced.
- Avoid walking around while replacing items inside the case, especially if you are on a carpet or during low temperature and low humidity.
- If you have to remove peripheral cards for any reason, place them on the portion of the computer's case that was removed. Do not touch the edge connectors at the bottom of the card that mate to the system board.

General Safety Precautions

- Mechanical Shock: Your computer should never be subjected to severe mechanical shocks. Careless handling of your desktop may cause damage. Mechanical Shock is not covered by the warranty.
- Electrical Shock: If you do not open up your system unit, there is nothing to worry about. Your computer protects itself against most irregularities in the power source.

When Should You Contact Alienware?

- The, power cable or connector is damaged.
- Your computer has had liquid spilled into it.
- Your computer was dropped or the case was damaged.
- Normal operation of the computer does not occur when the operating instructions are followed.

Replacement Components or Accessories

- It is only advised to use replacement parts or accessories recommended by Alienware.
- Retain all boxes that were originally shipped to you in case you need to return any merchandise.

APPENDIX B: CONTACTING ALIENWARE

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

Dell provides several online and telephone-based support and service options. Because availability varies by country and product, some services may not be available in your area.

To contact Dell for sales, technical support, or customer service issues:

1. Visit **www.dell.com/contactdell**.
2. Select your country or region.
3. Select the appropriate service or support link based on your need.
4. Choose the method of contacting Dell that is convenient for you.

Websites

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

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

You can access Alienware Support through the following websites:

- **support.dell.com**
- **support.jp.dell.com** (Japan only)
- **support.euro.dell.com** (Europe only)
- **support.la.dell.com** (Argentina, Brazil, Chile, Mexico)

APPENDIX C: IMPORTANT INFORMATION

NVIDIA GeForce GTX 295 Graphics Cards

- When you utilize dual NVIDIA GeForce GTX 295 graphics cards in a Quad SLI configuration, HDMI output is not supported.

  ⚠ **NOTE:** NVIDIA GeForce GTX 295 graphics card's HDMI output is limited to single-card configurations only.

- When Quad SLI is enabled on a GeForce GTX 295 graphics card, the video quality can be optimized using the Dual Link DVI.
- When you utilize a single GeForce GTX 295 graphics card with HDMI output and not DVI or VGA, no image is displayed for about 30 seconds until Windows loads the display driver.

For more information about the functionality of the NVIDIA GeForce GTX295 graphics card, see the NVIDIA website at **http://nvidia.custhelp.com/cgi-bin/ nvidia.cfg/php/enduser/std_adp.php?p_faqid=2354**.

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