Dell Vostro 3267/3268

Owner's Manual

Notes, cautions, and warnings

ⓘ | **NOTE: A NOTE indicates important information that helps you make better use of your product.**

△ | **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

Working on your computer

Safety instructions

Use the following safety guidelines to help protect your computer from potential damage and to help to ensure your personal safety. Unless otherwise noted, each procedure included in this document assumes that the following conditions exist:

- You have read the safety information that shipped with your computer.
- A component can be replaced or--if purchased separately--installed by performing the removal procedure in reverse order.

> **WARNING: Disconnect all power sources before opening the computer cover or panels. After you finish working inside the computer, replace all covers, panels, and screws before connecting to the power source.**

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

> **CAUTION: Many repairs may only be done by a certified service technician. You should only perform troubleshooting and simple repairs as authorized in your product documentation, or as directed by the online or telephone service and support team. Damage due to servicing that is not authorized by Dell is not covered by your warranty. Read and follow the safety instructions that came with the product.**

> **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: 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, not by its pins.**

> **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.**

> **NOTE: The color of your computer and certain components may appear differently than shown in this document.**

Before working inside your computer

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

1   Ensure that you follow the Safety instructions.
2   Ensure that your work surface is flat and clean to prevent the computer cover from being scratched.
3   Turn off your computer (see Turning off your computer).

> **CAUTION: To disconnect a network cable, first unplug the cable from your computer and then unplug the cable from the network device.**

4   Disconnect all network cables from the computer.
5   Disconnect your computer and all attached devices from their electrical outlets.
6   Press and hold the power button while the computer is unplugged to ground the system board.
7   Remove the cover.

> **CAUTION: 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 static electricity, which could harm internal components.**

Turning off your computer

Turning off your computer — Windows 10

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

1   Click or tap ⊞ .

2   Click or tap ⏻ and then click or tap **Shut down**.

> ⓘ **NOTE: Ensure that the computer and all attached devices are turned off. If your computer and attached devices did not automatically turn off when you shut down your operating system, press and hold the power button for about 6 seconds to turn them off.**

After working inside your computer

After you complete any replacement procedure, ensure that you connect any external devices, cards, and cables before turning on your computer.

1   Replace the cover.

> ⚠️ **CAUTION: To connect a network cable, first plug the cable into the network device and then plug it into the computer.**

2   Connect any telephone or network cables to your computer.

3   Connect your computer and all attached devices to their electrical outlets.

4   Turn on your computer.

5   If required, verify that the computer works correctly by running **Dell Diagnostics**.

Removing and installing components

This section provides detailed information on how to remove or install the components from your computer.

Recommended tools

The procedures in this document require the following tools:

- Small flat blade screwdriver
- Phillips # 1 screwdriver
- Small plastic scribe
- Hex screwdriver

Cover

Removing the cover

1   Follow the procedure in Before working inside your computer.
2   Follow the steps to remove the cover:
    a   Remove the 6-32xL6.35 screws that secure the cover to the computer [1].
    b   Slide the computer cover towards the back of the computer [2].
    c   Lift and remove the cover from the computer [3].
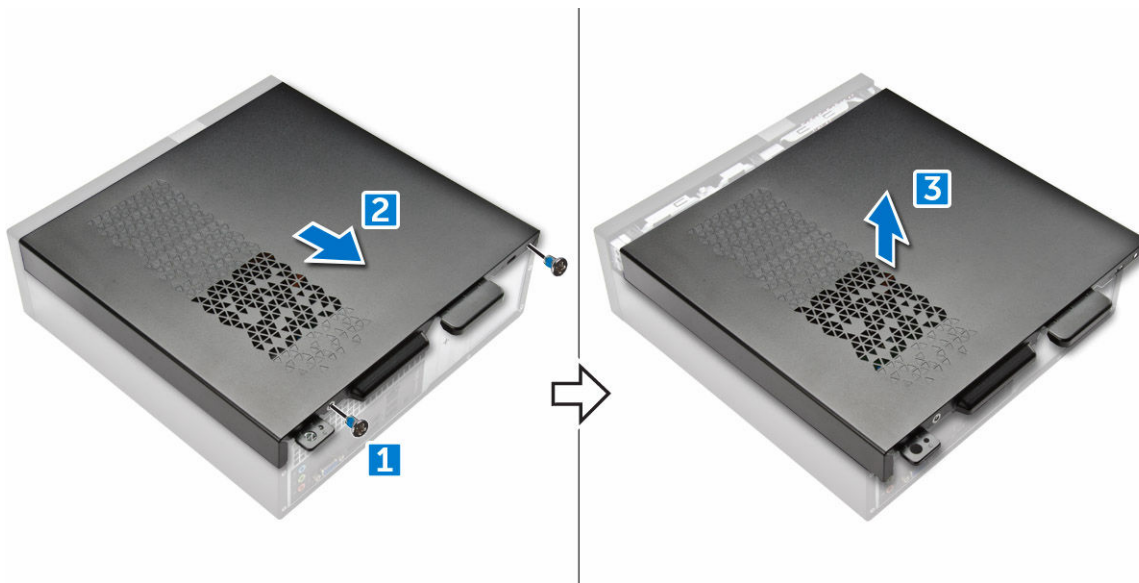
Installing the cover

1   Slide the cover from the back of the computer, until the latches snap-in.
2   Tighten the 6-32xL6.35 screws to secure the cover.

Front Bezel

Removing the front bezel

1   Follow the procedure in Before working inside your computer.
2   Remove cover.
3   Follow the steps to remove the front bezel:
    a   Lift the tabs [1], and pull the front bezel [2].
    b   Lift the front bezel to remove it from the computer [3].
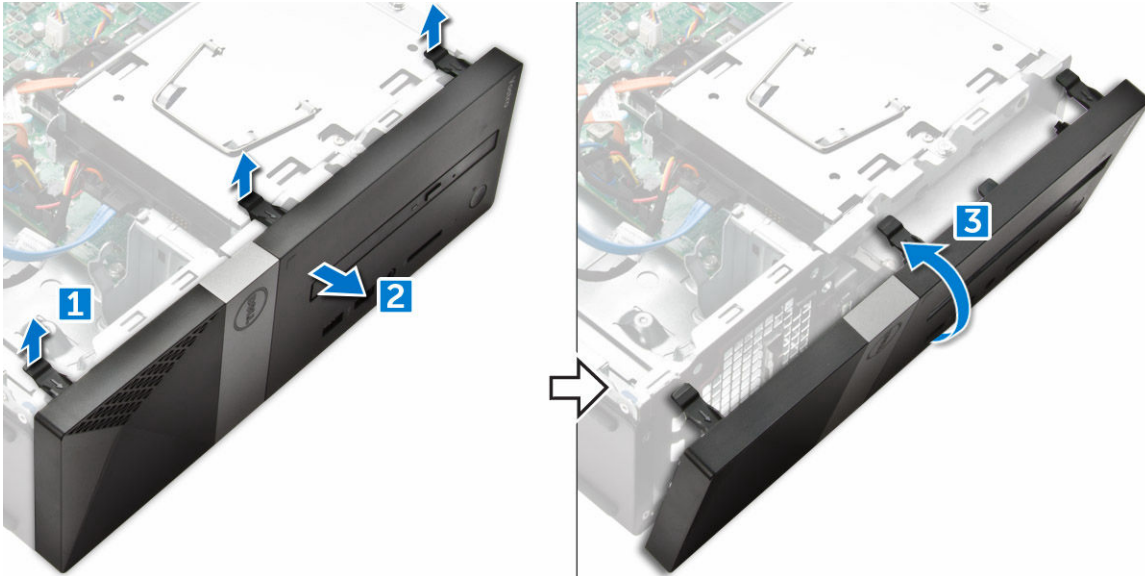
Installing the front bezel

1   Hold the bezel and ensure that the hooks on the tabs snap into the notches on the computer.
2   Rotate the front bezel toward the front of the computer.
3   Press the front bezel until the tabs snap in.
4   Install the cover.
5   Follow the procedure in After Working Inside Your Computer.

Cooling shroud

Removing the cooling shroud

ⓘ | **NOTE: Cooling shroud is not a mandatory removal but recommended for easier access to the cables.**

1   Follow the procedure in Before working inside your computer.
2   Remove the cover
3   Follow the steps to remove the heat sink fan cover:
    a   Pry the plastic notches that secure the fan cover in an outward direction [1].
    b   Remove the fan cover from the heat sink assembly [2].
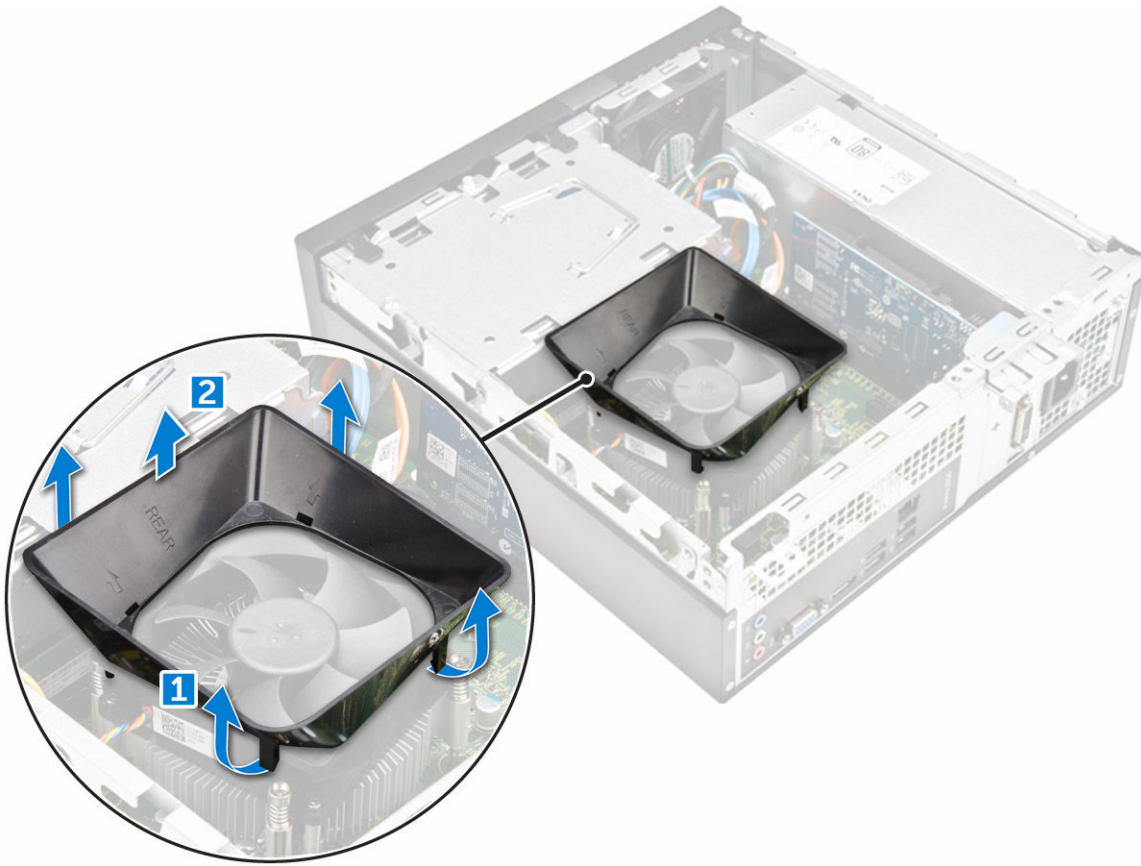
Installing the cooling shroud

1   Align the tabs on the cooling shroud with the securing slots on the computer.
2   Lower the cooling shroud into the chassis until it is firmly seated.
3   Install the cover.
4   Follow the procedure in After Working Inside Your Computer.

Expansion card

Removing the expansion card

1   Follow the procedure in Before working inside your computer.
2   Remove the cover.
3   Perform the following steps to remove the expansion card:
    a   Pull the metal tab to release the expansion card [1].
    b   Push the tab forward [2], and remove the expansion card from the slot on the computer [3].
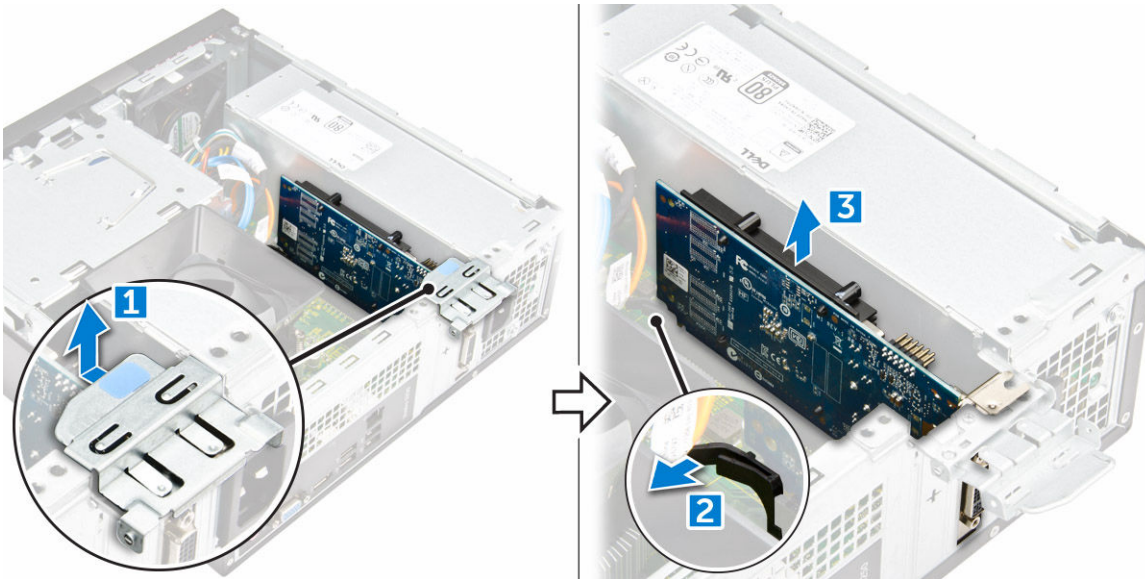
Installing the expansion card

1. Insert the expansion card on the slot.
2. Push the card- retention latch to secure the expansion card.
3. Push the metal tab until it snaps in place.
4. Install the cover
5. Follow the procedure in After Working Inside Your Computer.

Hard drive

Removing the hard drive assembly

1. Follow the procedure in Before working inside your computer.
2. Remove the:
    a. cover
    b. bezel
    c. cooling shroud
3. Disconnect the power and the data cables from the hard drive.

    ⓘ **NOTE: For easy access to the power and the data cables, it is recommended to remove the cooling shroud.**
4. Follow the steps to remove the hard drive assembly:
    a. Remove the 6-32xL3.6 screws that secure the hard drive to the drive bay.
    b. Press the blue tab, and slide the hard drive from the hard drive bay.

Removing the hard drive from the hard drive bracket

1. Follow the procedures in Before Working Inside Your Computer.
2. Remove:
    a. cover
    b. front bezel
    c. cooling shroud

    d   hard drive assembly

3   Follow the steps to remove hard drive bracket:

    a   Remove the screw that secures the hard drive to the bracket.

    b   Slide and remove the hard drive from the bracket.

Installing the hard drive into the hard drive bracket

1   Slide the hard drive and tighten the screws to secure the hard drive to the bracket.

2   Install:

    a   hard drive assembly

    b   cooling shroud

    c   front bezel

    d   cover

3   Follow the procedure in After Working Inside Your Computer.

Installing the hard drive assembly

1   Slide the hard drive assembly into the drive bay.

2   Tighten the 6-32xL3.6 screws to secure the hard-drive assembly to the computer.

3   Connect the data and power cables to the hard drive.

4   Install:

    a   cooling shroud

    b   front bezel

    c   cover

5   Follow the procedures in After Working Inside Your Computer.

Optical drive

Removing the optical drive

1   Follow the procedure in Before working inside your computer.

2   Remove the:

    a   cover

    b   bezel

    c   cooling shroud

    d   hard drive assembly

3   Follow the steps to release the optical drive:

    a   Remove the 6-32xL3.6 screw that secures the optical drive to the drive bay [1].

    b   Press the blue tab to loosen the optical drive [2].

    c   Slide the optical drive bracket from the computer [3].

4. Follow the steps to remove the optical drive:

    a. Disconnect the power and the data cables from the optical drive [1].

    > ⓘ NOTE: For easy access to the power and the data cables, it is recommended to remove the cooling shroud.

    b. Slide the optical drive [2] and lift it up to remove it from the chassis [3].

Removing the optical drive bracket

1. Follow the procedure in Before working inside your computer.

2. Remove the:

    a. cover
    b. bezel
    c. cooling shroud
    d. hard drive assembly
    e. optical drive

3. Follow the steps to remove the bracket from the optical drive.

    a. Remove the M2L2(04) screws that secure the bracket to the optical drive.

b   Slide the optical drive from the bracket.
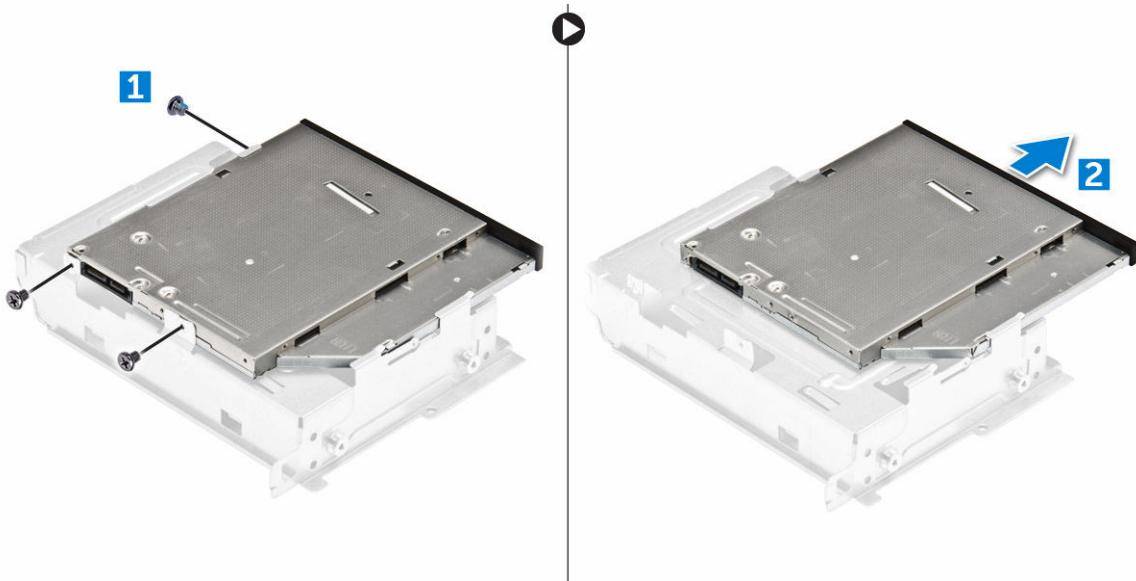
ⓘ **NOTE: Remove the optical-drive bracket only if you are replacing with a new optical drive. Otherwise, if optical drive removal is only a pre-requisite to remove other components, then ignore Step 5 and Step 6**

Installing the optical drive bracket

1   Slide the optical drive into the drive bay until it snaps.
2   Tighten the M2L2(04) screw to secure the optical drive to the bracket.
3   Install the:
    a   optical drive
    b   hard drive assembly
    c   cooling shroud
    d   front bezel
    e   cover
4   Follow the procedures in After Working Inside Your Computer.

Installing the optical drive

1   Insert the optical drive into the slot until it clicks into place.
2   Tighten the 6-32xL3.6 screw to secure the drive to the chassis.
3   Connect the data and power cables to the optical drive.
4   Install the:
    a   hard drive assembly
    b   cooling shroud
    c   front bezel
    d   cover
5   Follow the procedure in After Working Inside Your Computer.

WLAN card

Removing the WLAN card

1   Follow the procedure in Before working inside your computer.
2   Remove the:
    a   cover
    b   bezel
    c   cooling shroud
    d   hard drive assembly
    e   optical drive
3   Perform the following steps to remove the WLAN card from the computer:
    a   Remove the M2L3.5 screw to release the plastic tab that secures the WLAN card to the computer [1, 2].
    b   Disconnect the WLAN cables from the connectors on the WLAN card [3].
    c   Remove the WLAN card from its connector on the system board [4].
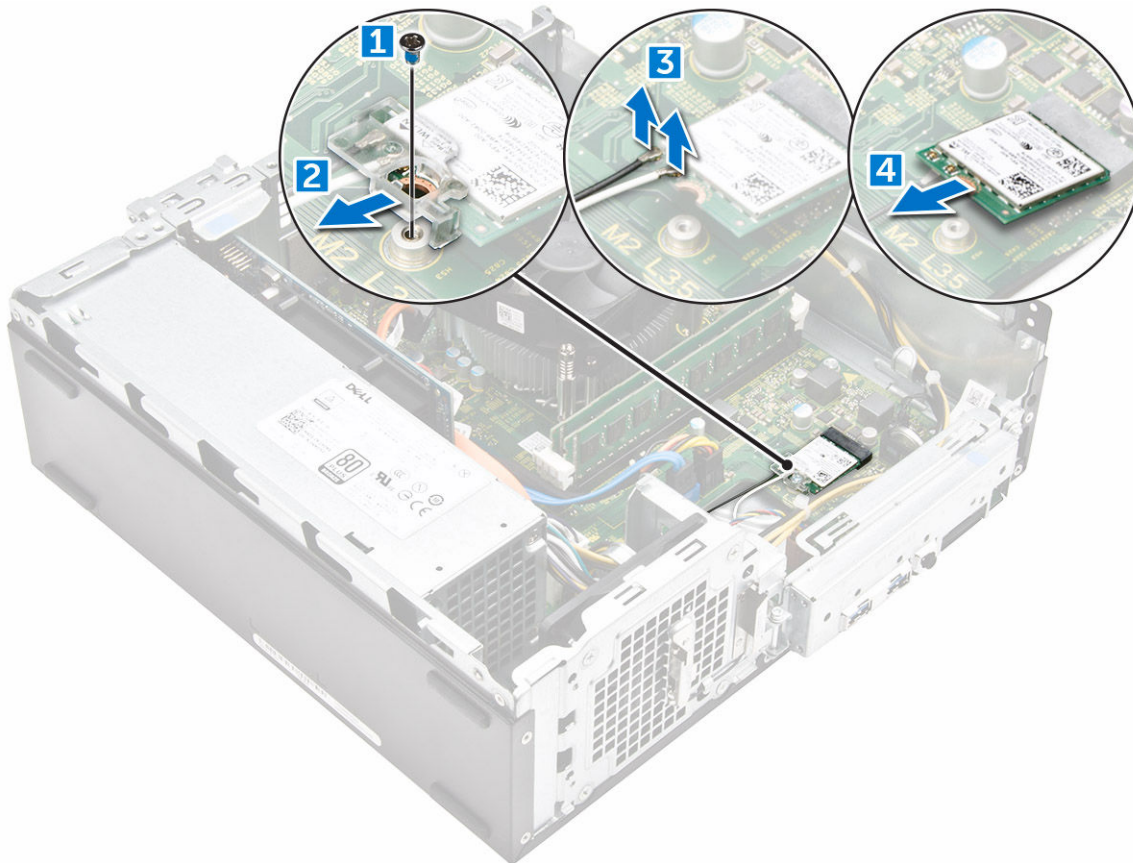
Installing the WLAN card

1   Insert the WLAN card to the connector on the system board.
2   Connect the WLAN cables to the connectors on the WLAN card.
3   Place the plastic tab and tighten the M2L3.5 screw to secure the WLAN card to the system board.
4   Install:
    a   optical drive

    b   hard drive assembly

    c   cooling shroud

    d   front bezel

    e   cover

5   Follow the procedure in After Working Inside Your Computer.

Heat sink
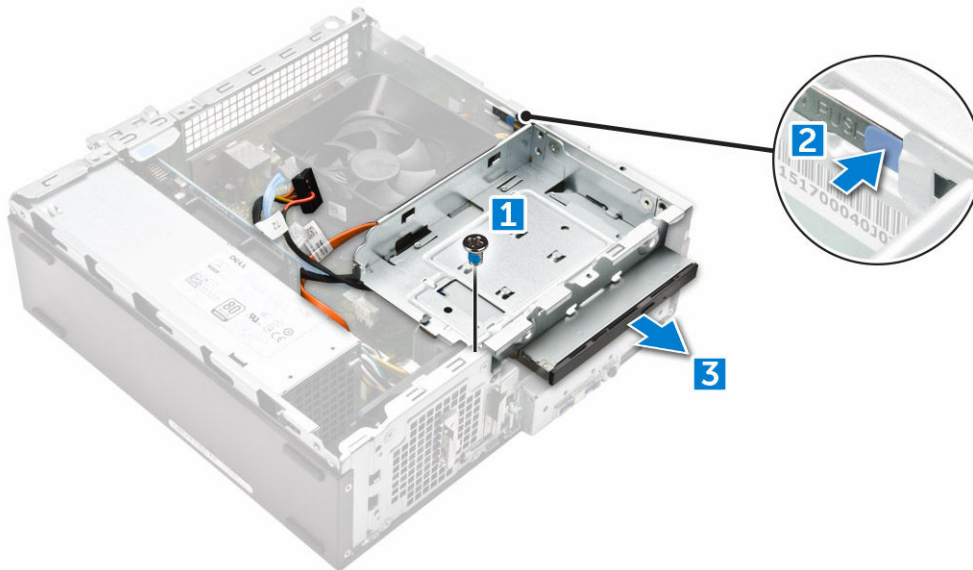
Removing the heat sink assembly
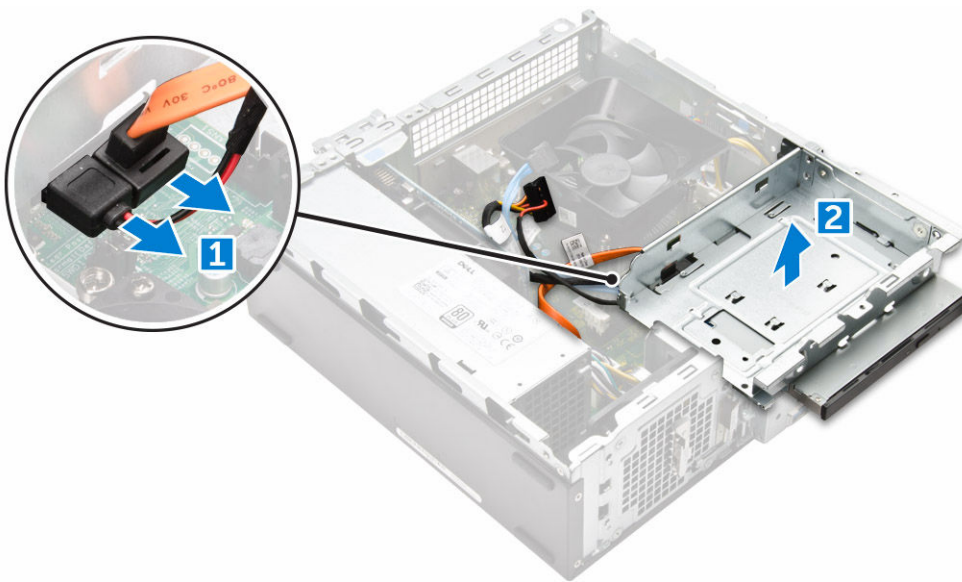
1   Follow the procedure in Before working inside your computer.

2   Remove the:

    a   cover

    b   bezel

    c   cooling shroud

    d   hard drive assembly

    e   optical drive

3   Follow the steps to remove the heat sink assembly:

    a   Disconnect the heat sink assembly cable from the system board [1].

    b   Remove the screws to loosen the processor fan and the heat sink [2].

    c   Lift the heat sink and remove it from the chassis [3].

Installing the heat sink assembly

1   Place the heat sink assembly in the slot by aligning with the screw holders.

2   Tighten the screws to secure the heat sink assembly to the system board.

3   Connect the heat sink assembly cable to the system board.

4   Install:

    a   optical drive

    b   hard drive assembly

    c   cooling shroud

    d   front bezel

    e   cover

5   Follow the procedure in After Working Inside Your Computer.

Memory module

Removing the memory module

1   Follow the procedure in Before working inside your computer.
2   Remove the cover.
3   To remove the front memory module:
    a   Pull the clips securing the memory module until the memory module pops up.
    b   Remove the memory module from the system board.
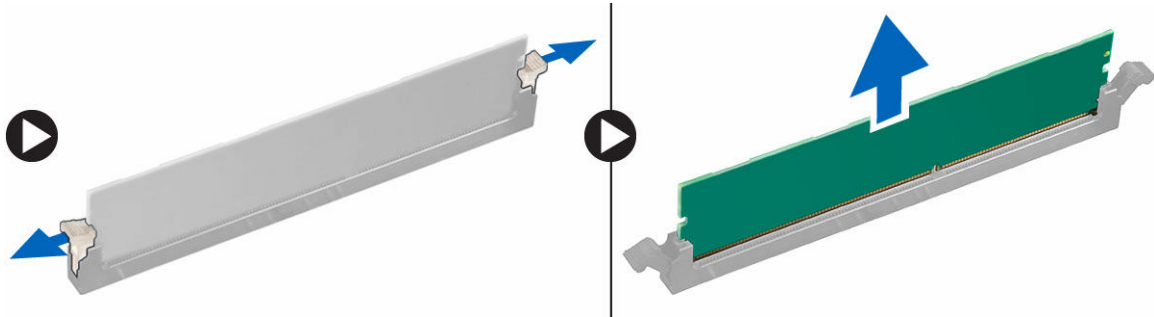
Installing the memory module

1   Insert the memory module into the memory module socket until the clips secure the memory module.
2   Install the cover.
3   Follow the procedure in After working inside your computer.

Power supply unit

Removing the power supply unit (PSU)

1   Follow the procedure in Before working inside your computer.
2   Remove the:
    a   cover
    b   bezel
    c   cooling shroud
    d   hard drive assembly
    e   optical drive
3   Perform the following steps to remove the power supply unit (PSU) from the computer:
    a   Disconnect the PSU cables from the connectors on the system board [1, 2].
    b   Unroute the PSU cables from the holder [3,4].
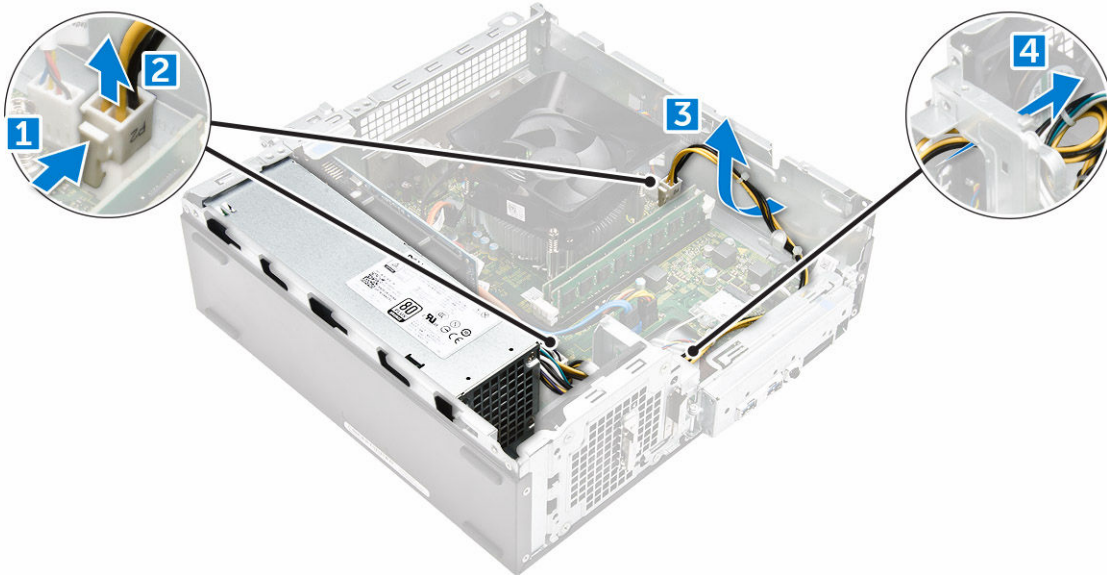
4   Perform the following steps to remove the PSU:
   a   Remove the 6-32xL6.35 screws that secure the PSU [1].
   b   Press the blue release tab to release the PSU [2].
   c   Slide and remove the PSU from the computer [3].
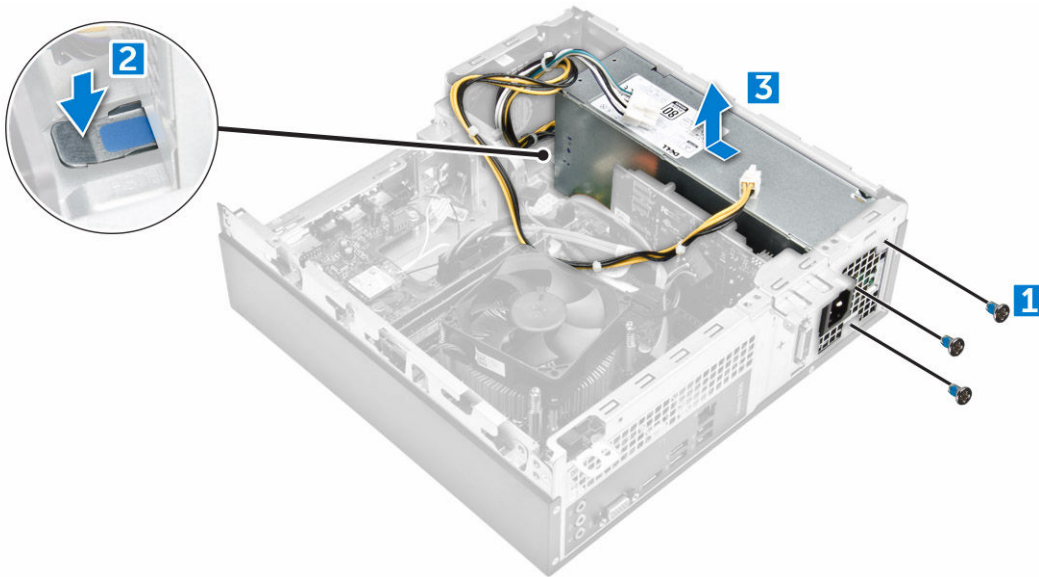
Installing the power supply unit (PSU)

1   Slide the PSU towards the back of the computer until it snaps into place.
2   Tighten the 6-32xL6.35 screws to secure the power supply unit to the computer.
3   Route the PSU cables through the placeholder.
4   Connect the PSU cables to their connectors on the system board.
5   Install the:
   a   optical drive
   b   hard drive assembly
   c   cooling shroud
   d   front bezel
   e   cover

6   Follow the procedure in After Working Inside Your Computer.

System fan

Removing the system fan

1   Follow the procedure in Before working inside your computer.
2   Remove the:
-     a   cover
-     b   bezel
-     c   cooling shroud
-     d   hard drive assembly
-     e   optical drive
3   Perform the following steps to remove the system fan from the computer:
-     a   Disconnect the system fan cable from the connector on the system board [1].
-     b   Unroute the system fan cable [2].
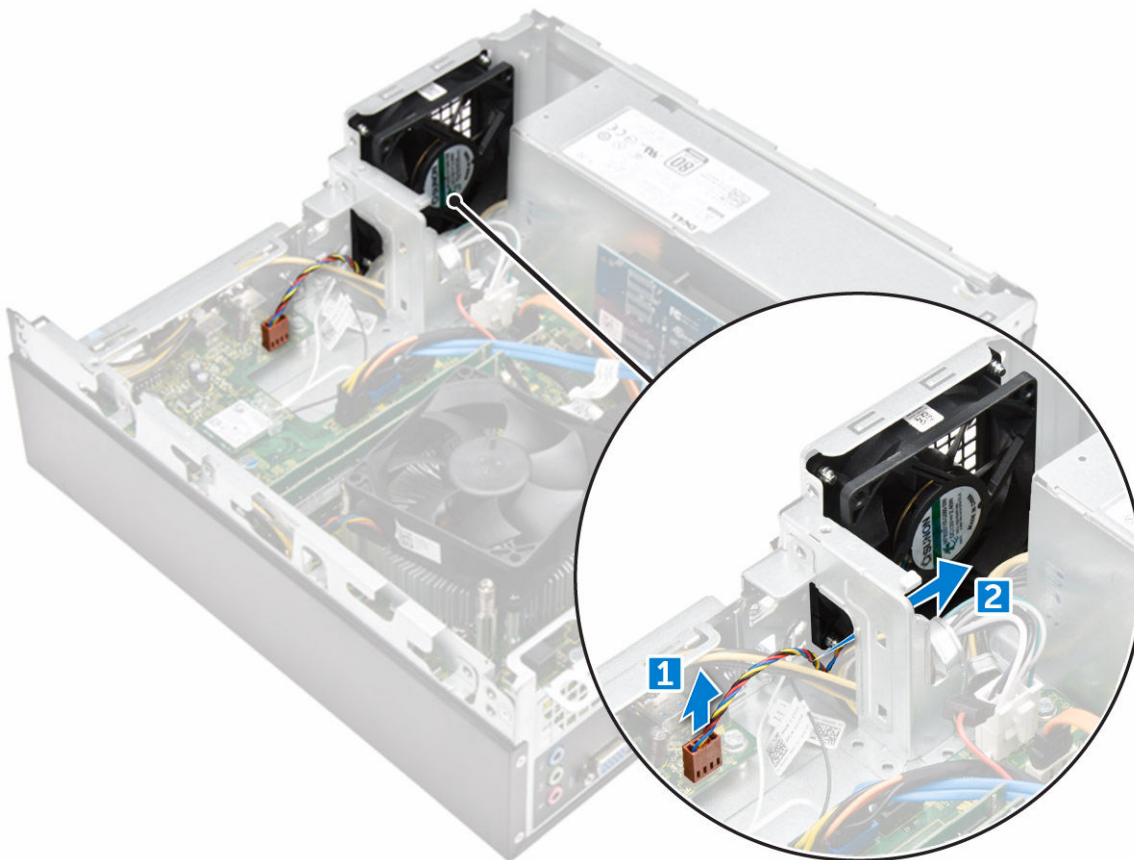
4   Remove the M6xL10 screws that secure the system fan to the computer chassis and remove it from the computer. [1,2]
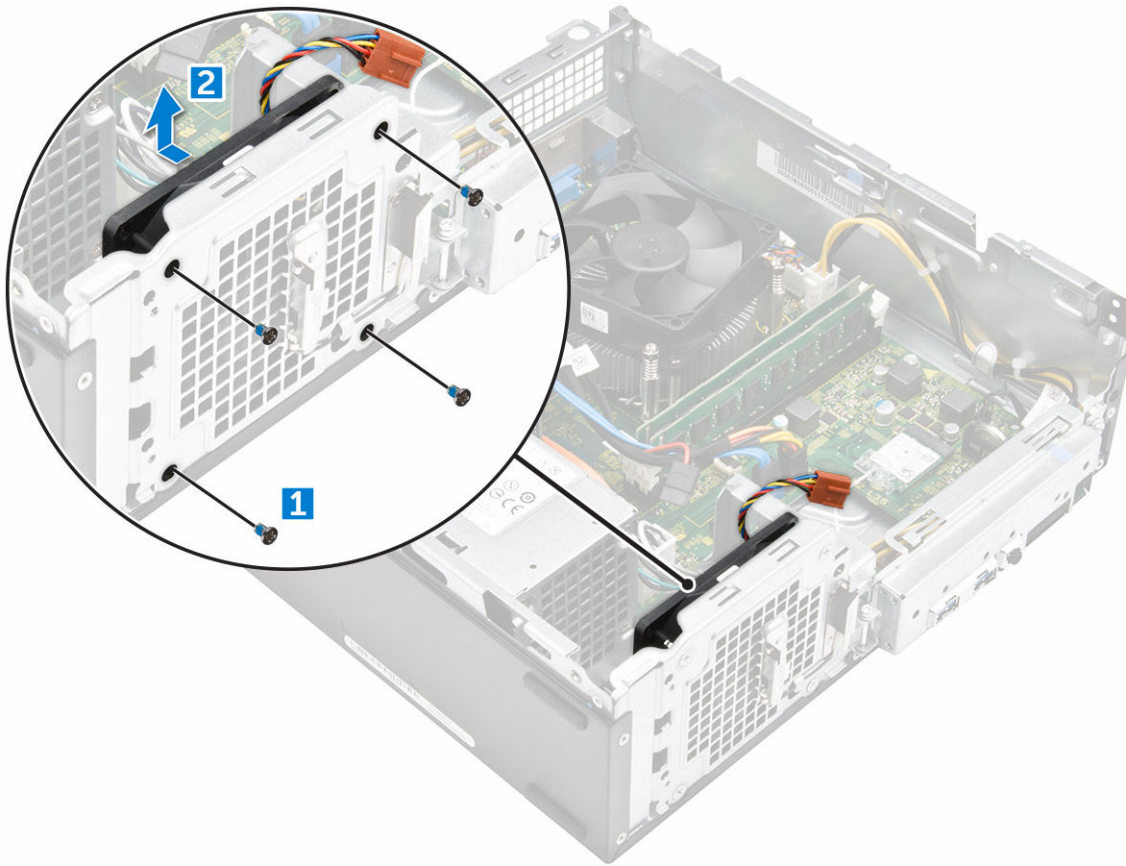
Installing the system fan

1 Place the system fan on the computer.
2 Tighten the M6xL10 screws to secure the system fan to the computer.
3 Route and connect the system fan cable to the connector on the system board.
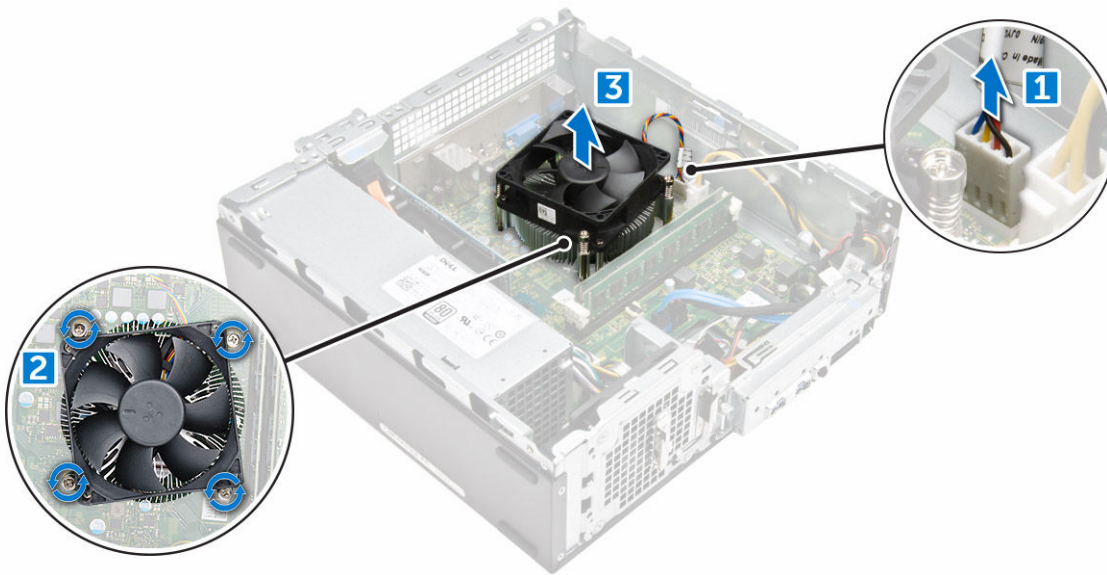4 Install the:
    a optical drive
    b hard drive assembly
    c cooling shroud
    d front bezel
    e cover
5 Follow the procedure in After Working Inside Your Computer.

Coin cell battery

Removing the coin cell battery

1 Follow the procedures in Before working inside your computer.
2 Remove the:
    a cover
    b bezel
    c cooling shroud
    d hard drive assembly

     e   optical drive
3   Perform the following steps to remove the coin cell battery:
     a   Press the release latch away from the battery to allow the battery to pop up from the socket [1].
     b   Lift the coin cell battery out of the computer [2].
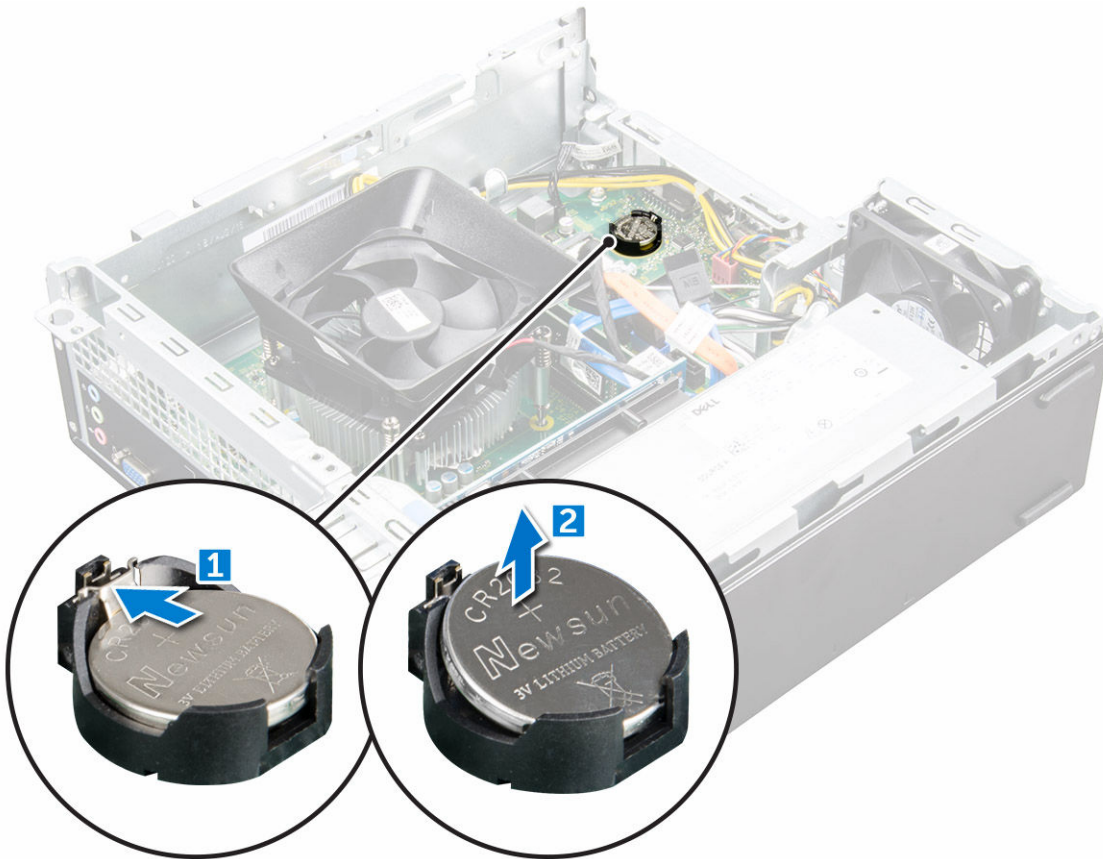
Installing the coin cell battery

1   Place the coin cell battery in its slot on the system board.
2   Press until the release latch springs back into place and secures it.
3   Install the:
     a   optical drive
     b   hard drive assembly
     c   cooling shroud
     d   front bezel
     e   cover
4   Follow the procedures in After Working Inside Your Computer.

System board

Removing the system board

1   Follow the procedure in Before working inside your computer.
2   Remove the
     a   cover

b   bezel
c   expansion cards
d   memory module
e   cooling shroud
f   hard drive assembly
g   optical drive
h   WLAN card
i   heat sink assembly
j   power supply unit
k   system fan
l   coin cell battery

3   Disconnect the cables from the system board:
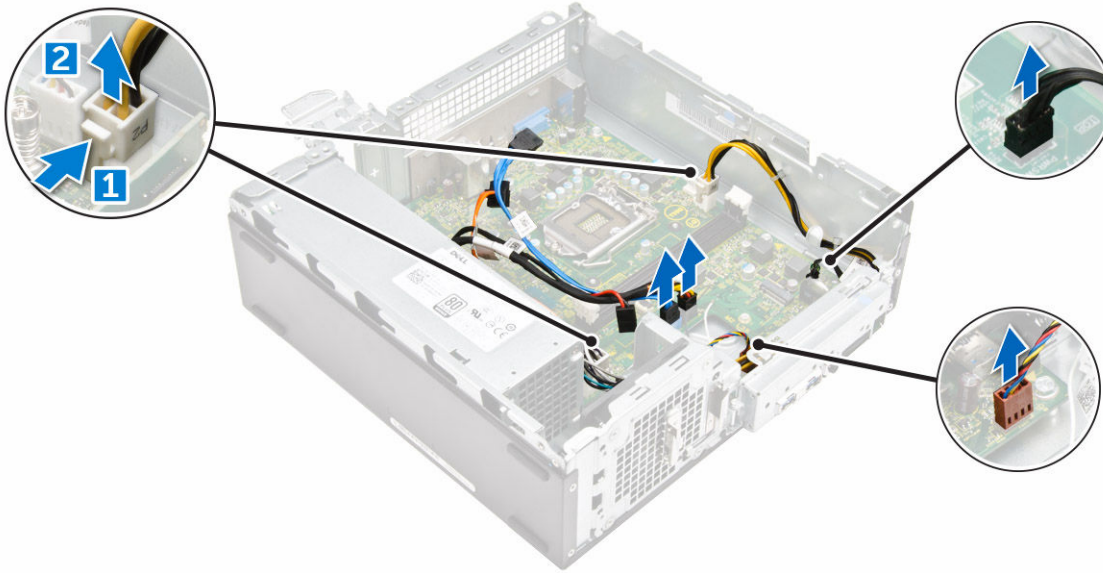
4   Follow the steps to release the I/O panel:

a   Remove the 6-32xL6.35 screw that secures the I/O panel to the chassis [1].

b   Press the tab to release the I/O panel from the chassis [2].

c   Pull the I/O panel to release the I/O panel.
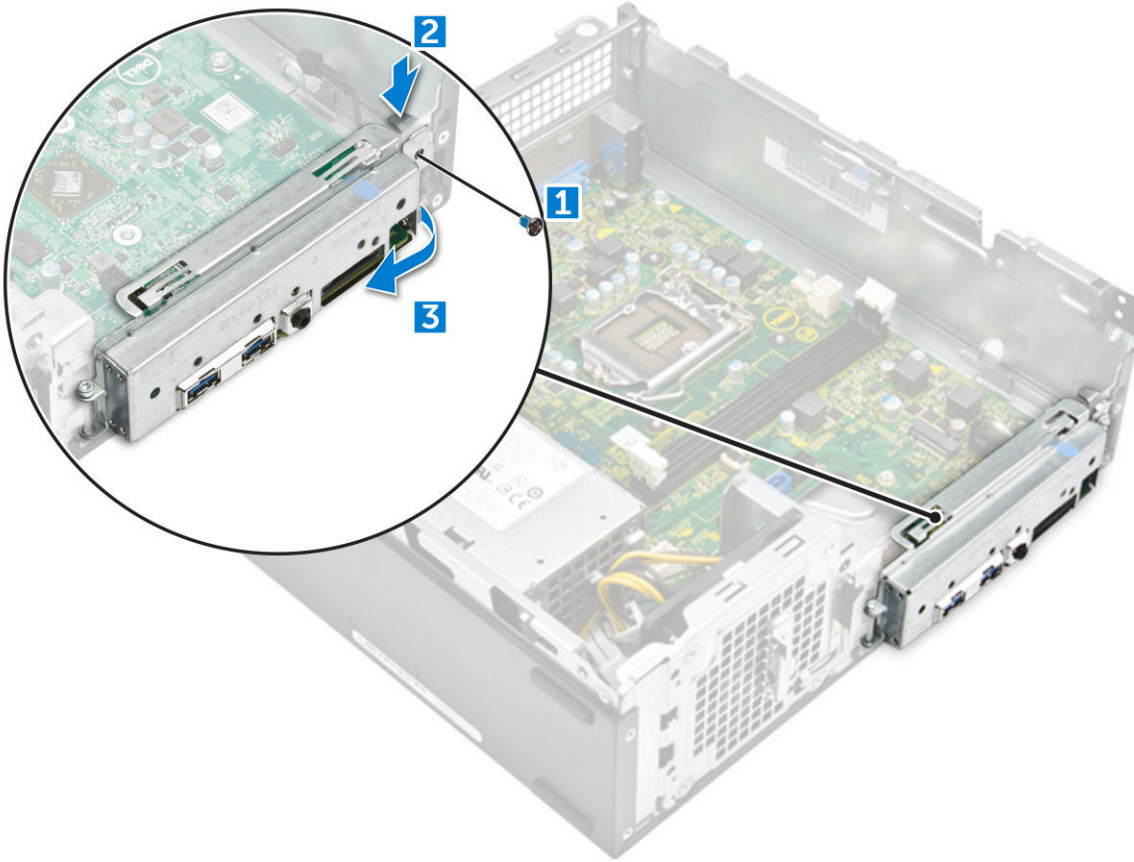
5   Follow the steps to remove the system board:

    a   Remove the 6-32xL6.35 screws that secure system board to the chassis [1].

    b   Lift the system board from the chassis.
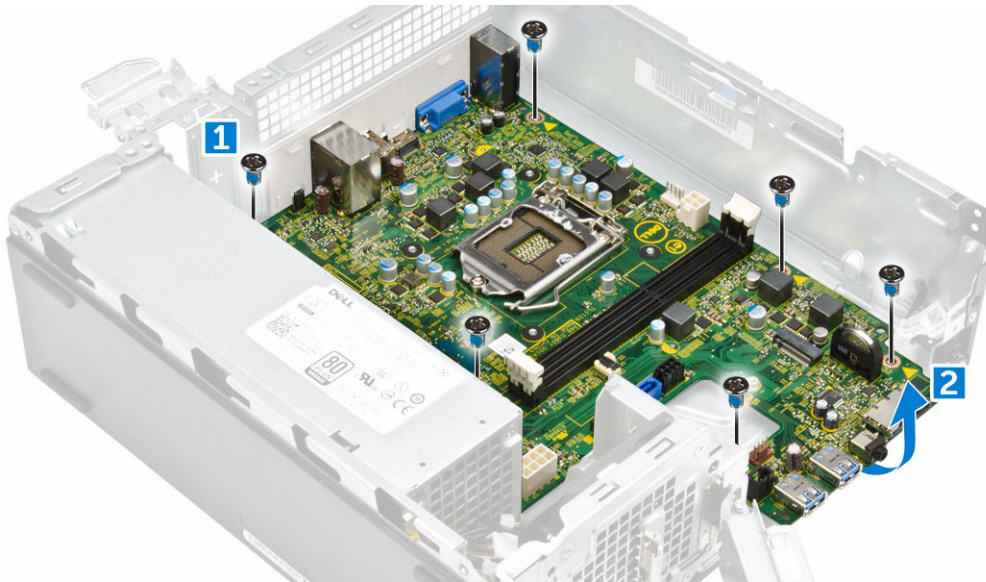
Installing the system board

1   Insert the system board and ensure that ports are aligned to the holes on the back panel.

2   Tighten the 6-32xL6.35 screws to secure the system board.

3 Push the I/O panel to its original position until it snaps in.

4 Tighten the 6-32xL6.35 screw to secure the I/O panel to the chassis.

5 Connect the cables to the system board.

6 Install the:

    a coin cell battery

    b system fan

    c power supply unit

    d heat sink assembly

    e WLAN card

    f optical drive

    g hard drive assembly

    h cooling shroud

    i memory module

    j expansion card

    k front bezel

    l cover

7 Follow the procedures in After Working Inside Your Computer.

System board layout
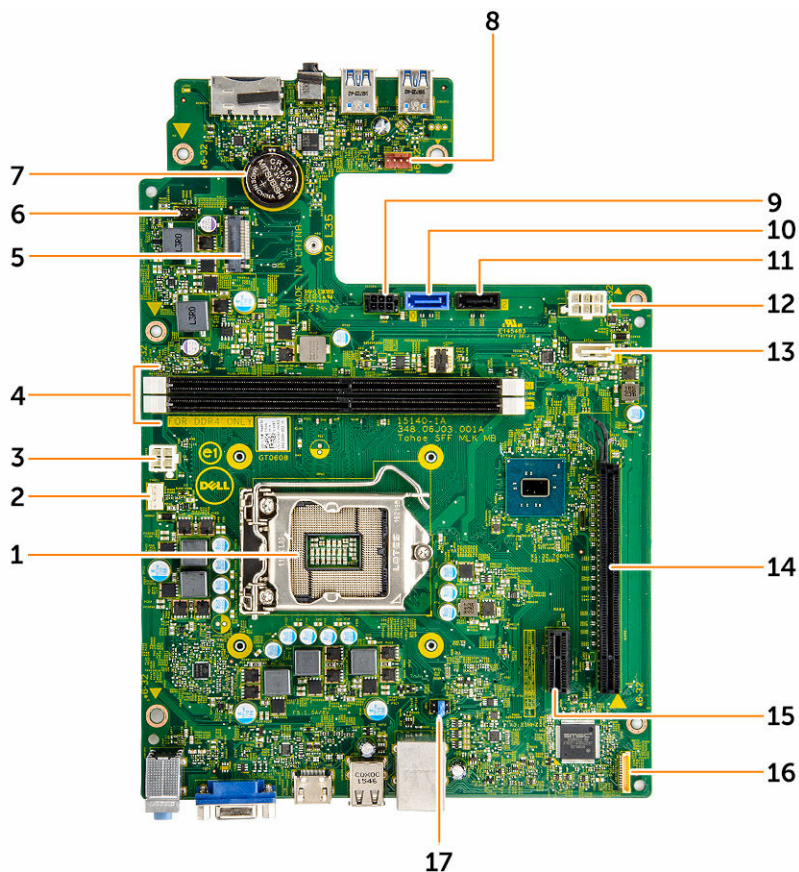
1	Processor socket	2	CPU fan connector
3	PSU connector	4	Memory slot
5	WLAN card slot	6	Power button cable connector
7	Coin cell battery connector	8	System fan connector

9	SATA power connector	10	SATA0 connector
11	SATA2 connector	12	PSU connector
13	SATA1 connector	14	PCIex16 card slot
15	PCIex1 card slot	16	Clear CMOS Jumper
17	Clear password		

Technology and components

Processors

Vostro 3267 systems are shipped with Intel 6th generation core processor technology. Vostro 3268 systems are shipped with Intel 7th generation core processor technology.

Vostro 3267:

- Intel 6th Generation Celeron G3900 (2 MB Cache, 2.80 GHz)
- Intel 6th Generation Pentium G4400 (3 MB Cache, 3.30 GHz)
- Intel 6th Generation Core i3-6100 (3 MB Cache, 3.70 GHz)
- Intel 6th Generation Core i5-6400 (6 MB Cache, up to 3.30 GHz)

Vostro 3268:

- Intel 7th Generation Celeron G3930 (2 MB Cache, 2.90 GHz)
- Intel 7th Generation Pentium G4560 (3 MB Cache, 3.50 GHz)
- Intel 7th Generation Core i3-7100 (3 MB Cache, 3.90 GHz)
- Intel 7th Generation Core i5-7400 (6 MB Cache, up to 3.50 GHz)
- Intel 7th Generation Core i7-7700 (8 MB Cache, up to 4.20 GHz)

ⓘ **NOTE: The clock speed and performance varies depending on the workload and other variables. Total cache up to 8 MB cache depending on processor type.**

Identifying processors in Windows 10

1 Tap **Search the Web and Windows**.
2 Type `Device Manager`.
3 Tap **Processor**.
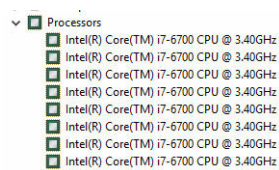
The basic information of the processor is displayed.

Verifying the processor usage in Task Manager

1 Right click on the desktop.
2 Select **Start Task Manager**.
    The **Windows Task Manager** window is displayed.
3 Click the **Performance** tab in the **Windows Task Manager** window.
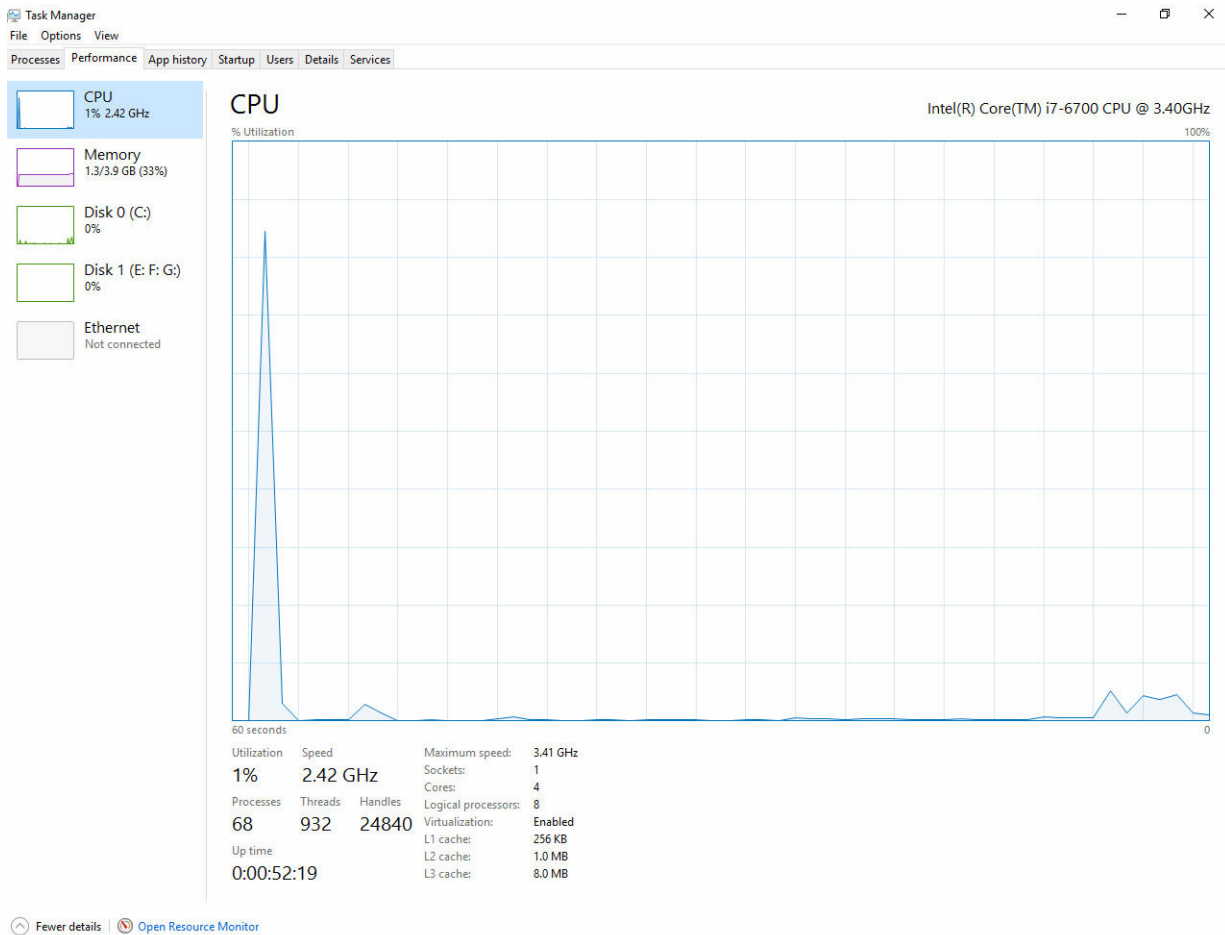
Verifying the processor usage in Resource Monitor

1   Right click the desktop.
2   Select **Start Task Manager**.
    The **Windows Task Manager** window is displayed.
3   Click the **Performance** tab in the **Windows Task Manager** window.
    The processor performance details are displayed.
4   Click **Open Resource Monitor**.
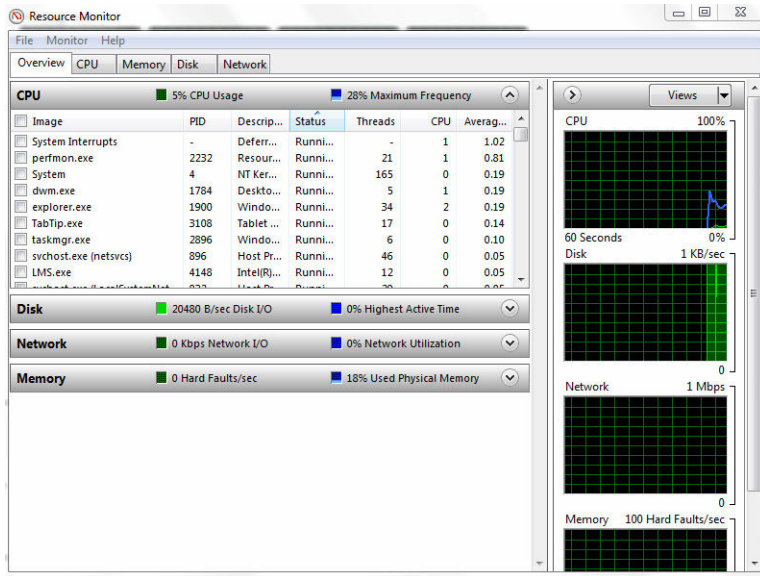
Chipsets

All Desktops communicate with the CPU through the chipset. This system is shipped with the Intel 100 Series chipset.

Downloading the chipset driver

1. Turn on the computer.
2. Go to **Dell.com/support**.
3. Click **Product Support**, enter the Service Tag of your computer, and then click **Submit**.

> ⓘ **NOTE: If you do not have the Service Tag, use the autodetect feature or manually browse for your computer model.**

4. Click **Drivers and Downloads**.
5. Select the operating system installed in your computer.
6. Scroll down the page, expand **Chipset**, and select your chipset driver.
7. Click **Download File** to download the latest version of the chipset driver for your computer.
8. After the download is complete, navigate to the folder where you saved the driver file.
9. Double-click the chipset driver file icon and follow the instructions on the screen.

Identifying the chipset in Device Manager on Windows 10

1. Click **All Settings** ⚙ on the Windows 10 Charms Bar.
2. From the **Control Panel**, select **Device Manager**.
3. Expand **System Devices** and search for the chipset.

- System devices
  - ACPI Fan
  - ACPI Fan
  - ACPI Fan
  - ACPI Fan
  - ACPI Fan
  - ACPI Fixed Feature Button
  - ACPI Power Button
  - ACPI Processor Aggregator
  - ACPI Thermal Zone
  - ACPI Thermal Zone
  - Composite Bus Enumerator
  - High Definition Audio Controller
  - High precision event timer
  - Intel(R) 100 Series/C230 Series Chipset Family LPC Controller - A143
  - Intel(R) 100 Series/C230 Series Chipset Family PCI Express Root Port #7 - A116
  - Intel(R) 100 Series/C230 Series Chipset Family PCI Express Root Port #6 - A115
  - Intel(R) 100 Series/C230 Series Chipset Family PCI Express Root Port #5 - A114
  - Intel(R) 100 Series/C230 Series Chipset Family PMC - A121
  - Intel(R) 100 Series/C230 Series Chipset Family SMBus - A123
  - Intel(R) 100 Series/C230 Series Chipset Family Thermal subsystem - A131
  - Intel(R) Management Engine Interface
  - Intel(R) Power Engine Plug-in
  - Intel(R) Xeon(R) E3 - 1200/1500 v5/6th Gen Intel(R) Core(TM) PCIe Controller (x16) - 1901
  - IWD Bus Enumerator
  - Legacy device
  - Microsoft ACPI-Compliant System
  - Microsoft System Management BIOS Driver
  - Microsoft UEFI-Compliant System
  - Microsoft Virtual Drive Enumerator
  - Microsoft Windows Management Interface for ACPI
  - NDIS Virtual Network Adapter Enumerator
  - Numeric data processor
  - PCI Express Root Complex
  - PCI Express to PCI/PCI-X Bridge
  - PCI standard host CPU bridge
  - Plug and Play Software Device Enumerator
  - Programmable interrupt controller
  - Remote Desktop Device Redirector Bus
  - System CMOS/real time clock
  - System timer
  - UMBus Root Bus Enumerator

Intel chipset drivers

Verify if the Intel chipset drivers are already installed in the computer.

Table 1. Intel chipset drivers

Before installation	After installation

- Other devices
  - PCI Data Acquisition and Signal Processing Controller
  - PCI Device
  - PCI Memory Controller
  - PCI Simple Communications Controller
  - SM Bus Controller
  - Unknown device
- System devices
  - ACPI Fan
  - ACPI Fan
  - ACPI Fan
  - ACPI Fan
  - ACPI Fan
  - ACPI Fixed Feature Button
  - ACPI Power Button
  - ACPI Processor Aggregator
  - ACPI Thermal Zone
  - ACPI Thermal Zone
  - Composite Bus Enumerator
  - High Definition Audio Controller
  - High precision event timer
  - Intel(R) Power Engine Plug-in
  - Legacy device
  - Microsoft ACPI-Compliant Embedded Controller
  - Microsoft ACPI-Compliant System
  - Microsoft System Management BIOS Driver
  - Microsoft UEFI-Compliant System
  - Microsoft Virtual Drive Enumerator
  - Microsoft Windows Management Interface for ACPI
  - Microsoft Windows Management Interface for ACPI
  - NDIS Virtual Network Adapter Enumerator
  - Numeric data processor
  - PCI Express Root Complex
  - PCI Express Root Port
  - PCI Express Root Port
  - PCI Express Root Port
  - PCI standard host CPU bridge
  - PCI standard ISA bridge
  - Plug and Play Software Device Enumerator
  - Programmable interrupt controller
  - Remote Desktop Device Redirector Bus
  - System CMOS/real time clock
  - System timer
  - UMBus Root Bus Enumerator
	- System devices
	  - ACPI Fan
	  - ACPI Fan
	  - ACPI Fan
	  - ACPI Fan
	  - ACPI Fan
	  - ACPI Fixed Feature Button
	  - ACPI Power Button
	  - ACPI Processor Aggregator
	  - ACPI Thermal Zone
	  - ACPI Thermal Zone
	  - Composite Bus Enumerator
	  - High Definition Audio Controller
	  - High precision event timer
	  - Intel(R) 100 Series/C230 Series Chipset Family LPC Controller - A143
	  - Intel(R) 100 Series/C230 Series Chipset Family PCI Express Root Port #7 - A116
	  - Intel(R) 100 Series/C230 Series Chipset Family PCI Express Root Port #6 - A115
	  - Intel(R) 100 Series/C230 Series Chipset Family PCI Express Root Port #5 - A114
	  - Intel(R) 100 Series/C230 Series Chipset Family PMC - A121
	  - Intel(R) 100 Series/C230 Series Chipset Family SMBus - A123
	  - Intel(R) 100 Series/C230 Series Chipset Family Thermal subsystem - A131

Intel HD Graphics

This computer is shipped with the Intel HD Graphics graphics chipset.

Intel HD Graphics drivers

Verify if the Intel HD Graphics drivers are already installed in the computer.

Table 2. Intel HD Graphics drivers

Before installation	After installation
Display adapters — Microsoft Basic Display Adapter; Sound, video and game controllers — High Definition Audio Device, High Definition Audio Device	Display adapters — Intel(R) HD Graphics 530

Display options

Identifying the display adapter

1   Start the **Search Charm** and select **Settings**.
2   Type `Device Manager` in the search box and tap **Device Manager** from the left pane.
3   Expand **Display adapters**.

    The display adapters are displayed.
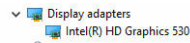
Downloading drivers

1   Turn on the computer.
2   Go to **Dell.com/support**.
3   Click **Product Support**, enter the Service Tag of your computer, and then click **Submit**.

    (i) **NOTE: If you do not have the Service Tag, use the auto detect feature or manually browse for your computer model.**
4   Click **Drivers and Downloads**.
5   Select the operating system installed on your computer.
6   Scroll down the page and select the graphic driver to install.
7   Click **Download File** to download the graphic driver for your computer.
8   After the download is complete, navigate to the folder where you saved the graphic driver file.
9   Double-click the graphic driver file icon and follow the instructions on the screen.

Changing the screen resolution

1   Right click on the desktop and select **Display Settings**.
2   Tap or click **Advanced display settings**.
3   Select the required resolution from the drop-down list and tap **Apply**.
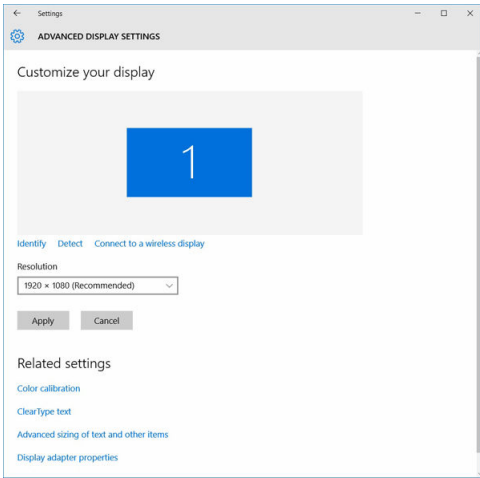
Adjusting brightness in Windows 10

To enable or disable automatic screen brightness adjustment:

1 Right click **All Settings** ⚙ → **System** → **Display**.
2 Use the **Adjust my screen brightness automatically** slider to enable or disable automatic-brightness adjustment.

> ⓘ NOTE: You can also use the Brightness level slider to adjust the brightness manually.

Connecting to external display devices

Follow these steps to connect your computer to an external display device:

1 Ensure that the projector is turned on and plug the projector cable into a video port on your computer.
2 Press the Windows logo+P key.
3 Select one of the following modes:
   - PC screen only
   - Duplicate
   - Extend
   - Second Screen only

> ⓘ NOTE: For more information, see the document that shipped with your display device.

Hard drive options

This computer supports HDD.

Identifying the hard drive in Windows 10

1 Click **All Settings** ⚙ on the Windows 10 Charms Bar.
2 Click **Control Panel**, select **Device Manager** , and expand **Disk drives**.

The hard drive is listed under **Disk drives**.

Entering BIOS setup

1   Turn on or restart your laptop.

2   When the Dell logo appears, perform one of the following actions to enter the BIOS setup program:
   - With keyboard — Tap F2 until the **Entering BIOS** setup message appears. To enter the Boot selection menu, tap F12.

Hard drive is listed under the **System Information** under the **General** group.
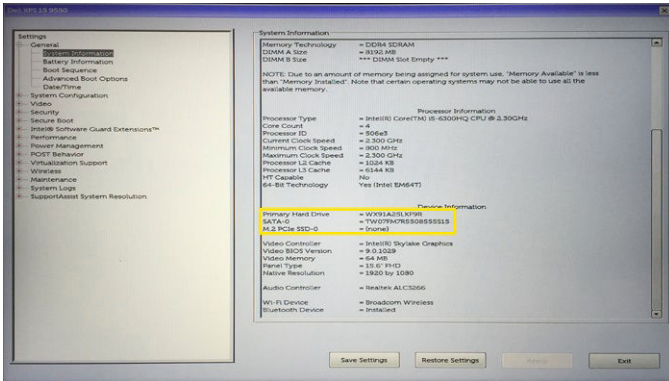
USB features

The Universal Serial Bus, or well known as USB was introduced to the PC world in 1996 which dramatically simplified the connection between host computer and peripheral devices such as mice and keyboards, external hard drive or optical devices, Bluetooth and many more peripheral devices in the market.

Let's take a quick look on the USB evolution referencing to the table below.

Table 3. USB evolution

Type	Data Transfer Rate	Category	Introduction Year
USB 3.0	4.8 Gbps	Super Speed	2010
USB 2.0	480 Mbps	High Speed	2000
USB 1.1	12 Mbps	Full Speed	1998
USB 1.0	1.5 Mbps	Low Speed	1996

USB 3.0 (SuperSpeed USB)

For years, the USB 2.0 has been firmly entrenched as the de facto interface standard in the PC world with about 6 billion devices sold, and yet the need for more speed grows by ever faster computing hardware and ever greater bandwidth demands. The USB 3.0 finally has the answer to the consumers' demands with a theoretically 10 times faster than its predecessor. In a nutshell, USB 3.0 features are as follows:

- Higher transfer rates (up to 4.8 Gbps)
- Increased maximum bus power and increased device current draw to better accommodate power-hungry devices
- New power management features
- Full-duplex data transfers and support for new transfer types
- Backward USB 2.0 compatibility
- New connectors and cable

The topics below cover some of the most commonly asked questions regarding USB 3.0.

Speed

Currently, there are 3 speed modes defined by the latest USB 3.0 specification. They are Super-Speed, Hi-Speed and Full-Speed. The new SuperSpeed mode has a transfer rate of 4.8Gbps. While the specification retains Hi-Speed, and Full-Speed USB mode, commonly known as USB 2.0 and 1.1 respectively, the slower modes still operate at 480Mbps and 12Mbps respectively and are kept to maintain backward compatibility.

USB 3.0 achieves the much higher performance by the technical changes below:

- An additional physical bus that is added in parallel with the existing USB 2.0 bus (refer to the picture below).
- USB 2.0 previously had four wires (power, ground, and a pair for differential data); USB 3.0 adds four more for two pairs of differential signals (receive and transmit) for a combined total of eight connections in the connectors and cabling.
- USB 3.0 utilizes the bidirectional data interface, rather than USB 2.0's half-duplex arrangement. This gives a 10-fold increase in theoretical bandwidth.
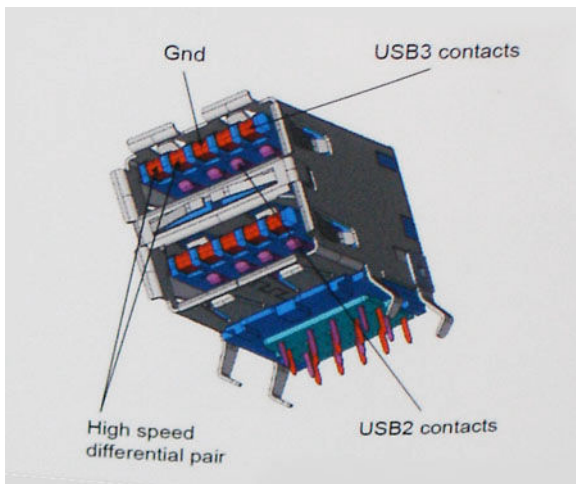
With today's ever increasing demands placed on data transfers with high-definition video content, terabyte storage devices, high megapixel count digital cameras etc., USB 2.0 may not be fast enough. Furthermore, no USB 2.0 connection could ever come close to the 480Mbps theoretical maximum throughput, making data transfer at around 320Mbps (40MB/s) — the actual real-world maximum. Similarly, USB 3.0 connections will never achieve 4.8Gbps. We will likely see a real-world maximum rate of 400MB/s with overheads. At this speed, USB 3.0 is a 10x improvement over USB 2.0.

Applications

USB 3.0 opens up the laneways and provides more headroom for devices to deliver a better overall experience. Where USB video was barely tolerable previously (both from a maximum resolution, latency, and video compression perspective), it's easy to imagine that with 5-10 times the bandwidth available, USB video solutions should work that much better. Single-link DVI requires almost 2Gbps throughput. Where 480Mbps was limiting, 5Gbps is more than promising. With its promised 4.8Gbps speed, the standard will find its way into some products that previously weren't USB territory, like external RAID storage systems.

Listed below are some of the available SuperSpeed USB 3.0 products:

- External Desktop USB 3.0 Hard Drives
- Portable USB 3.0 Hard Drives

- USB 3.0 Drive Docks & Adapters
- USB 3.0 Flash Drives & Readers
- USB 3.0 Solid-state Drives
- USB 3.0 RAIDs
- Optical Media Drives
- Multimedia Devices
- Networking
- USB 3.0 Adapter Cards & Hubs

Compatibility

The good news is that USB 3.0 has been carefully planned from the start to peacefully co-exist with USB 2.0. First of all, while USB 3.0 specifies new physical connections and thus new cables to take advantage of the higher speed capability of the new protocol, the connector itself remains the same rectangular shape with the four USB 2.0 contacts in the exact same location as before. Five new connections to carry receive and transmitted data independently are present on USB 3.0 cables and only come into contact when connected to a proper SuperSpeed USB connection.

Windows 8 will be bringing native support for USB 3.0 controllers. This is in contrast to previous versions of Windows, which continue to require separate drivers for USB 3.0 controllers.

Microsoft announced that Windows 7 would have USB 3.0 support, perhaps not on its immediate release, but in a subsequent Service Pack or update. It is not out of the question to think that following a successful release of USB 3.0 support in Windows 7, SuperSpeed support would trickle down to Vista. Microsoft has confirmed this by stating that most of their partners share the opinion that Vista should also support USB 3.0.

Super-Speed support for Windows XP is unknown at this point. Given that XP is a seven-year-old operating system, the likelihood of this happening is remote.

HDMI 1.4

This topic explains the HDMI 1.4 and its features along with the advantages.

HDMI (High-Definition Multimedia Interface) is an industry-supported, uncompressed, all-digital audio/video interface. HDMI provides an interface between any compatible digital audio/video source, such as a set-top box, DVD player, or A/V receiver and a compatible digital audio and/or video monitor, such as a digital TV (DTV). The intended applications for HDMI are set-top boxes, TVs, and DVD players. The primary advantage is cable reduction and content protection provisions. HDMI supports standard, enhanced, or high-definition video, plus multichannel digital audio on a single cable.

ⓘ **NOTE: The HDMI 1.4 will provide 5.1 channel audio support.**

HDMI 1.4 Features

- **HDMI Ethernet Channel** - Adds high-speed networking to an HDMI link, allowing users to take full advantage of their IP-enabled devices without a separate Ethernet cable
- **Audio Return Channel** - Allows an HDMI-connected TV with a built-in tuner to send audio data "upstream" to a surround audio system, eliminating the need for a separate audio cable
- **3D** - Defines input/output protocols for major 3D video formats, paving the way for true 3D gaming and 3D home theater applications
- **Content Type** - Real-time signaling of content types between display and source devices, enabling a TV to optimize picture settings based on content type
- **Additional Color Spaces** - Adds support for additional color models used in digital photography and computer graphics.
- **HDMI Micro Connector** - A new, smaller connector for phones and other portable devices, supporting video resolutions up to 1080p
- **Automotive Connection System** - New cables and connectors for automotive video systems, designed to meet the unique demands of the motoring environment while delivering true HD quality

Advantages of HDMI

- Quality HDMI transfers uncompressed digital audio and video for the highest, crispest image quality.
- Low -cost HDMI provides the quality and functionality of a digital interface while also supporting uncompressed video formats in a simple, cost-effective manner
- Audio HDMI supports multiple audio formats, from standard stereo to multichannel surround sound
- HDMI combines video and multichannel audio into a single cable, eliminating the cost, complexity, and confusion of multiple cables currently used in A/V systems
- HDMI supports communication between the video source (such as a DVD player) and the DTV, enabling new functionality

Memory features

In this computer, the memory (RAM) is a part of the system board.

- This computer supports 2133 MHz DDR4 for Vostro-3267 system.
- This computer supports DDR4 2133 MHz / 2400 MHzf or Vostro-3268 system.

ⓘ **NOTE: If this product is purchased with Intel 6th Gen CPUs or 7th Gen Celeron dual core CPU, the maximum MHz this product can achieve is 2133, though the memory material used is 2400 MHz.**

Verifying system memory

Windows 10

1 Clickthe **Windows** button and select **All Settings** ⚙ > **System** .
2 Under **System**, click **About**.

Verifying system memory in setup

1 Turn on or restart your computer..
2 Perform one of the following actions after the Dell logo is displayed:
   - With keyboard — Tap F2 until the Entering BIOS setup message appears. To enter the Boot selection menu, tap F12.
3 On the left pane, select **Settings** > **General** > **System Information**,
   The memory information is displayed on the right pane.

DDR4

DDR4 (double data rate fourth generation) memory is a higher-speed successor to the DDR2 and DDR3 technologies and allows up to 512 GB in capacity, compared to the DDR3's maximum of 128 GB per DIMM. DDR4 synchronous dynamic random-access memory is keyed differently from both SDRAM and DDR to prevent the user from installing the wrong type of memory into the system.

DDR4 needs 20 percent less or just 1.2 volts, compared to DDR3 which requires 1.5 volts of electrical power to operate. DDR4 also supports a new, deep power-down mode that allows the host device to go into standby without needing to refresh its memory. Deep power-down mode is expected to reduce standby power consumption by 40 to 50 percent.

Key Specifications

The table below shows the specifications comparison between DDR3 vs. DDR4:

Table 4. DDR3 vs DDR4

Feature/Option	DDR3	DDR4	DDR 4 Advantages
Chip Densities	512 Mb-8 Gb	4 Gb-16 Gb	Larger DIMM capacities
Data rates	800 Mb/s-2133 Mb/s	1600 Mb/s-3200 Mb/s	Migration to higher speed I/O
Voltage	1.5 V	1.2 V	Reduced memory power demand
Low voltage standard	Yes (DDR3L at 1.35V)	Anticipated at 1.05V	Memory Power Reductions
Internal banks	8	16	Higher data rates
Bank groups (BG)	0	4	Faster burst accesses
VREF inputs	2 —DQs and CMD/ADDR	1 — CMD/ADDR	VREFDQ Now Internal
tCK — DLL Enabled	300 Mhz-800 Mhz	667Mhz-1.6Ghz	Higher data rates
tCK — DLL Disabled	10MHz – 125MHz (optional)	Undefined to 125MHz	DLL-off now fully supported
Read Latency	AL+CL	AL+CL	Expanded values
Write Latency	AL+CWL	AL+CWL	Expanded values
DQ Driver (ALT)	40&Omega	48&Omega	Optimal for PtP Applications
DQ Bus	SSTL15	POD12	Less I/O Noise and Power
RTT Values (in Ω)	120,60,40,30,20	240,120,80,60,48,40,34	Support for higher data rates
RTT not allowed	READ Bursts	Disables during READ Bursts	Ease of use
ODT Modes	Nominal, Dynamic	Nominal, Dynamic,Park	Add'l Control Mode; OTF Value Change
ODT Control	ODT Signaling Required	ODT Signaling Not Required	Ease of ODT Control; Allows Non-ODT Routing, PtP Apps
Multi-Purpose Register	Four Registers – 1 Defined, 3 RFU	Four Registers – 3 Defined, 1 RFU	Provides Additional Specialty Readout
DIMM Types	RDIMM, LRDIMM, UDIMM, SODIMM	RDIMM, LRDIMM, UDIMM, SODIMM	
DIMM Pins	240 (R, LR, U); 204 (SODIMM)	288 (R, LR, U); 260 (SODIMM)	
RAS	ECC	CRC, Parity, Addressability, GDM	More RAS features; improved data integrity

DDR4 Details

There are subtle differences between DDR3 and DDR4 memory modules, as listed below.

Key notch difference

The key notch on a DDR4 module is in a different location from the key notch on a DDR3 module. Both notches are on the insertion edge but the notch location on the DDR4 is slightly different, to prevent the module from being installed into an incompatible board or platform.
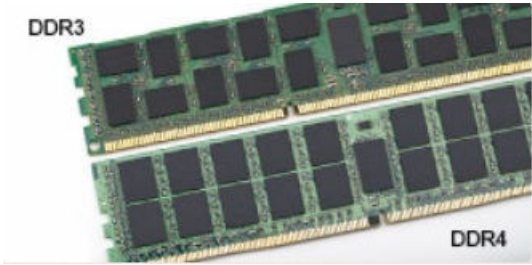
Figure 1. Notch difference

Increased thickness

DDR4 modules are slightly thicker than DDR3, to accommodate more signal layers.
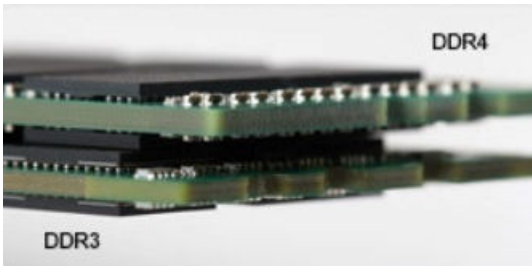
Figure 2. Thickness difference

Curved edge

DDR4 modules feature a curved edge to help with insertion and alleviate stress on the PCB during memory installation.
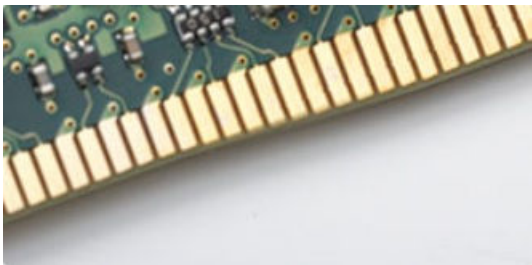
Figure 3. Curved edge

Troubleshooting

Memory errors on the system display the new ON-FLASH-FLASH or ON-FLASH-ON failure code. If all memory fails, the LCD does not turn on. Troubleshoot for possible memory failure by trying known good memory modules in the memory connectors on the bottom of the system or under the keyboard, as in some portable systems.

Testing memory using ePSA

1   Turn on or restart your computer.
2   Perform one of the following actions after the Dell logo is displayed:
    ·   With keyboard — Press F2.

    The PreBoot System Assessment (PSA) starts on your computer.

> (i) **NOTE:** If you wait too long and the operating system logo appears, continue to wait until you see the desktop. Turn off the computer and try again.

Realtek HD audio drivers

Verify if the Realtek audio drivers are already installed in the computer.

Table 5. Realtek HD audio drivers

Before installation	After installation
Audio inputs and outputs 　Microphone (High Definition Audio Device) 　Speakers (High Definition Audio Device) Sound, video and game controllers 　High Definition Audio Device 　Intel(R) Display Audio	Sound, video and game controllers 　Bluetooth Hands-free Audio 　Intel(R) Display Audio 　Realtek High Definition Audio

Troubleshooting your computer

You can troubleshoot your computer using indicators like diagnostic lights, beep codes, and error messages during the operation of the computer.

Diagnostics

The computer POST (Power On Self Test) ensures that it meets the basic computer requirements and the hardware is working appropriately before the boot process begins. If the computer passes the POST, the computer continues to start in a normal mode. However, if the computer fails the POST, the computer emits a series of LED codes during the start-up. The system LED is integrated on the Power button.

The following table shows different light patterns and what they indicate.

Table 6. Diagnostics

Number of LED flashes	Beep code	Problem description
2 amber	2	No memory or RAM detected
4 amber	4	Memory or RAM failure
5 amber	5	CMOS battery failure
3 amber, 4 white	3,4	Recovery image invalid
3 amber, 3 white	3,3	Recovery image not found

Diagnostic error messages

Table 7. Diagnostic error messages

Error messages	Description
AUXILIARY DEVICE FAILURE	The touchpad or external mouse may be faulty. For an external mouse, check the cable connection. Enable the **Pointing Device** option in the System Setup program.
BAD COMMAND OR FILE NAME	Ensure that you have spelled the command correctly, put spaces in the proper place, and used the correct path name.
CACHE DISABLED DUE TO FAILURE	The primary cache internal to the microprocessor has failed. Contact Dell.
CD DRIVE CONTROLLER FAILURE	The optical drive does not respond to commands from the computer.
DATA ERROR	The hard drive cannot read the data.
DECREASING AVAILABLE MEMORY	One or more memory modules may be faulty or improperly seated. Reinstall the memory modules or, if necessary, replace them.
DISK C: FAILED INITIALIZATION	The hard drive failed initialization. Run the hard drive tests in **Dell Diagnostics**.

Error messages	Description
DRIVE NOT READY	The operation requires a hard drive in the bay before it can continue. Install a hard drive in the hard drive bay.
ERROR READING PCMCIA CARD	The computer cannot identify the ExpressCard. Reinsert the card or try another card.
EXTENDED MEMORY SIZE HAS CHANGED	The amount of memory recorded in non-volatile memory (NVRAM) does not match the memory module installed in the computer. Restart the computer. If the error appears again, Contact Dell
THE FILE BEING COPIED IS TOO LARGE FOR THE DESTINATION DRIVE	The file that you are trying to copy is too large to fit on the disk, or the disk is full. Try copying the file to a different disk or use a larger capacity disk.
A FILENAME CANNOT CONTAIN ANY OF THE FOLLOWING CHARACTERS: \ / : * ? " < > | -	Do not use these characters in filenames.
GATE A20 FAILURE	A memory module may be loose. Reinstall the memory module or, if necessary, replace it.
GENERAL FAILURE	The operating system is unable to carry out the command. The message is usually followed by specific information. For example, Printer out of paper. Take the appropriate action.
HARD-DISK DRIVE CONFIGURATION ERROR	The computer cannot identify the drive type. Shut down the computer, remove the hard drive, and boot the computer from an optical drive. Then, shut down the computer, reinstall the hard drive, and restart the computer. Run the **Hard Disk Drive** tests in **Dell Diagnostics**.
HARD-DISK DRIVE CONTROLLER FAILURE 0	The hard drive does not respond to commands from the computer. Shut down the computer, remove the hard drive, and boot the computer from an optical drive. Then, shut down the computer, reinstall the hard drive, and restart the computer. If the problem persists, try another drive. Run the **Hard Disk Drive** tests in **Dell Diagnostics**.
HARD-DISK DRIVE FAILURE	The hard drive does not respond to commands from the computer. Shut down the computer, remove the hard drive, and boot the computer from an optical drive. Then, shut down the computer, reinstall the hard drive, and restart the computer. If the problem persists, try another drive. Run the **Hard Disk Drive** tests in **Dell Diagnostics**.
HARD-DISK DRIVE READ FAILURE	The hard drive may be defective. Shut down the computer, remove the hard drive, and boot the computer from an optical. Then, shut down the computer, reinstall the hard drive, and restart the computer. If the problem persists, try another drive. Run the **Hard Disk Drive** tests in **Dell Diagnostics**.
INSERT BOOTABLE MEDIA	The operating system is trying to boot to non-bootable media, such as an optical drive. Insert bootable media.
INVALID CONFIGURATION INFORMATION-PLEASE RUN SYSTEM SETUP PROGRAM	The system configuration information does not match the hardware configuration. The message is most likely to occur after a memory module is installed. Correct the appropriate options in the system setup program.
KEYBOARD CLOCK LINE FAILURE	For external keyboards, check the cable connection. Run the **Keyboard Controller** test in **Dell Diagnostics**.

Error messages	Description
KEYBOARD CONTROLLER FAILURE	For external keyboards, check the cable connection. Restart the computer, and avoid touching the keyboard or the mouse during the boot routine. Run the **Keyboard Controller** test in **Dell Diagnostics**.
KEYBOARD DATA LINE FAILURE	For external keyboards, check the cable connection. Run the **Keyboard Controller** test in **Dell Diagnostics**.
KEYBOARD STUCK KEY FAILURE	For external keyboards or keypads, check the cable connection. Restart the computer, and avoid touching the keyboard or keys during the boot routine. Run the **Stuck Key** test in **Dell Diagnostics**.
LICENSED CONTENT IS NOT ACCESSIBLE IN MEDIADIRECT	Dell MediaDirect cannot verify the Digital Rights Management (DRM) restrictions on the file, so the file cannot be played.
MEMORY ADDRESS LINE FAILURE AT ADDRESS, READ VALUE EXPECTING VALUE	A memory module may be faulty or improperly seated. Reinstall the memory module or, if necessary, replace it.
MEMORY ALLOCATION ERROR	The software you are attempting to run is conflicting with the operating system, another program, or a utility. Shut down the computer, wait for 30 seconds, and then restart it. Run the program again. If the error message still appears, see the software documentation.
MEMORY DOUBLE WORD LOGIC FAILURE AT ADDRESS, READ VALUE EXPECTING VALUE	A memory module may be faulty or improperly seated. Reinstall the memory module or, if necessary, replace it.
MEMORY ODD/EVEN LOGIC FAILURE AT ADDRESS, READ VALUE EXPECTING VALUE	A memory module may be faulty or improperly seated. Reinstall the memory module or, if necessary, replace it.
MEMORY WRITE/READ FAILURE AT ADDRESS, READ VALUE EXPECTING VALUE	A memory module may be faulty or improperly seated. Reinstall the memory module or, if necessary, replace it.
NO BOOT DEVICE AVAILABLE	The computer cannot find the hard drive. If the hard drive is your boot device, ensure that the drive is installed, properly seated, and partitioned as a boot device.
NO BOOT SECTOR ON HARD DRIVE	The operating system may be corrupted, Contact Dell.
NO TIMER TICK INTERRUPT	A chip on the system board may be malfunctioning. Run the **System Set** tests in **Dell Diagnostics**.
NOT ENOUGH MEMORY OR RESOURCES. EXIT SOME PROGRAMS AND TRY AGAIN	You have too many programs open. Close all windows and open the program that you want to use.
OPERATING SYSTEM NOT FOUND	Reinstall the operating system. If the problem persists, Contact Dell.
OPTIONAL ROM BAD CHECKSUM	The optional ROM has failed. Contact Dell.
SECTOR NOT FOUND	The operating system cannot locate a sector on the hard drive. You may have a defective sector or corrupted File Allocation Table (FAT) on the hard drive. Run the Windows error-checking utility to check the file structure on the hard drive. See **Windows Help and Support** for instructions (click **Start** > **Help and Support**). If a large number of sectors are defective, back up the data (if possible), and then format the hard drive.
SEEK ERROR	The operating system cannot find a specific track on the hard drive.

Error messages	Description
SHUTDOWN FAILURE	A chip on the system board may be malfunctioning. Run the **System Set** tests in **Dell Diagnostics**. If the message reappears, Contact Dell.
TIME-OF-DAY CLOCK LOST POWER	System configuration settings are corrupted. Connect your computer to an electrical outlet to charge the battery. If the problem persists, try to restore the data by entering the System Setup program, then immediately exit the program. If the message reappears, Contact Dell.
TIME-OF-DAY CLOCK STOPPED	The reserve battery that supports the system configuration settings may require recharging. Connect your computer to an electrical outlet to charge the battery. If the problem persists, Contact Dell.
TIME-OF-DAY NOT SET-PLEASE RUN THE SYSTEM SETUP PROGRAM	The time or date stored in the system setup program does not match the system clock. Correct the settings for the **Date and Time** options.
TIMER CHIP COUNTER 2 FAILED	A chip on the system board may be malfunctioning. Run the **System Set** tests in **Dell Diagnostics**.
UNEXPECTED INTERRUPT IN PROTECTED MODE	The keyboard controller may be malfunctioning, or a memory module may be loose. Run the **System Memory** tests and the **Keyboard Controller** test in **Dell Diagnostics** or Contact Dell.
X:\ IS NOT ACCESSIBLE. THE DEVICE IS NOT READY	Insert a disk into the drive and try again.

System error messages

System message	Description
Alert! Previous attempts at booting this system have failed at checkpoint [nnnn]. For help in resolving this problem, please note this checkpoint and contact Dell Technical Support	The computer failed to complete the boot routine three consecutive times for the same error.
CMOS checksum error	RTC is reset, **BIOS Setup** default has been loaded.
CPU fan failure	CPU fan has failed.
System fan failure	System fan has failed.
Hard-disk drive failure	Possible hard disk drive failure during POST.
Keyboard failure	Keyboard failure or loose cable. If reseating the cable does not solve the problem, replace the keyboard.
No boot device available	No bootable partition on hard disk drive, the hard disk drive cable is loose, or no bootable device exists. • If the hard drive is your boot device, ensure that the cables are connected and that the drive is installed properly and partitioned as a boot device. • Enter system setup and ensure that the boot sequence information is correct.
No timer tick interrupt	A chip on the system board might be malfunctioning or motherboard failure.

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

System Setup overview

System Setup allows you to:

- Change the system configuration information after you add, change, or remove any hardware in your computer.
- Set or change a user-selectable option such as the user password.
- Read the current amount of memory or set the type of hard drive installed.

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

⚠ **CAUTION: Unless you are an expert computer user, do not change the settings for this program. Certain changes can cause your computer to work incorrectly.**

Topics:

Accessing System Setup

1 Turn on (or restart) your computer.
2 After the white Dell logo appears, press F2 immediately.
   The System Setup page is displayed.

   ⓘ **NOTE: If you wait too long and the operating system logo appears, wait until you see the desktop. Then, shut down or restart your computer and try again.**

   ⓘ **NOTE: After the Dell logo appears, you can also press F12 and then select BIOS setup.**

System setup options

ⓘ **NOTE: Depending on the computer and its installed devices, the items listed in this section may or may not appear.**

General screen options

This section lists the primary hardware features of your computer.

Option	Description
System Information	- System Information: Displays BIOS Version, Service Tag, Asset Tag, Ownership Tag, Ownership Date, Manufacture Date, and the Express Service Code. - Memory Information: Displays Memory Installed, Memory Available, Memory Speed, Memory Channels Mode, Memory Technology, DIMM A Size, DIMM B Size. - Processor Information: Displays Processor Type, Core Count, Processor ID, Current Clock Speed, Minimum Clock Speed, Maximum Clock Speed, Processor L2 Cache, Processor L3 Cache, HT Capable, and 64-Bit technology.

Option	Description
	• Device Information: Displays Primary Hard Drive, SATA-0, M.2PCIe SSD-0, Dock eSATA Device, LOM MAC Address, Video Controller, Video BIOS Version, Video Memory, Panel Type, Native Resolution, Audio Controller, WiFi Device, WiGig Device, Cellular Device, Bluetooth Device.

Boot Sequence

	Boot Sequence	Allows you to change the order in which the computer attempts to find an operating system. The options are: • Windows Boot Manager By default, all the options are checked. You can also deselect any option or change the boot order.
	Boot List Options	Allows you to change the boot list option: • Legacy • UEFI

Advanced Boot Options	This option allows you the legacy option ROMs to load. By default, the **Enable Legacy Option ROMs** is disabled.
Date/Time	Allows you to change the date and time.

System Configuration screen options

Option	Description
Integrated NIC	Allows you to configure the integrated network controller. The options are: • Disabled • Enabled • Enabled w/PXE: This option is enabled by default.
SATA Operation	Allows you to configure the internal SATA hard-drive controller. The options are: • Disabled • AHCI : This option is enabled by default.
Drives	Allows you to configure the SATA drives on board. All drives are enabled by default. The options are: • SATA-0 • SATA-1 • SATA-2
SMART Reporting	This field controls whether hard drive errors for integrated drives are reported during system startup. This technology is part of the SMART (Self-Monitoring Analysis and Reporting Technology) specification. This option is disabled by default. • Enable SMART Reporting
USB Configuration	This field configures the integrated USB controller. If Boot Support is enabled, the system is allowed to boot any type of USB Mass Storage Devices (HDD, memory key, floppy).

Option	Description
	If USB port is enabled, device attached to this port is enabled and available for OS.
	If USB port is disabled, the OS cannot see any device attached to this port.
	· Enable Boot Support · Enable Front USB Ports · Enable Rear USB Ports
	ⓘ	**NOTE: USB keyboard and mouse always work in the BIOS setup irrespective of these settings.**
Front USB Configuration	This field field enables or disables the rear USB configuration · Rear Port 1(Bottom Left): This option is enabled by default. · Rear Port 2 (Bottom Right): This option is enabled by default. · Rear Port 1 (Top Left): This option is enabled by default. · Rear Port 2 (Top Right): This option is enabled by default.
Rear USB Configuration	This field field enables or disables the front USB configuration · Front Port 1(Left): This option is enabled by default. · Front Port 2 (Right): This option is enabled by default.
Audio	This field enables or disables the integrated audio controller. By default, the **Enable Audio** option is selected. The options are: · Enable Microphone: This option is enabled by default.
Miscellaneous Devices	Allows you to enable or disable the following devices: · Enable Camera · Enabled Secure Digital (SD) Card
	ⓘ	**NOTE: All devices are enabled by default.**

Video screen options

Option	Description
Primary Display	This option option determines which video controller becomes the primary display when multiple controllers are available in the system · Auto: This option is enabled by default. · Intel HD Graphics: This option is enabled by default.

Security screen options

Option	Description
Admin Password	Allows you to set, change, or delete the administrator (admin) password.

Option	Description
	ⓘ **NOTE: You must set the admin password before you set the system or hard drive password. Deleting the admin password automatically deletes the system password and the hard drive password.**
	ⓘ **NOTE: Successful password changes take effect immediately.**
	Default setting: Not set
System Password	Allows you to set, change, or delete the system password.
	ⓘ **NOTE: Successful password changes take effect immediately.**
	Default setting: Not set
Internal HDD-0 Password	Allows you to set, change, or delete the password on the system's internal hard-disk drive.
	ⓘ **NOTE: Successful password changes take effect immediately.**
	Default Setting: Not set
Strong Password	Allows you to enforce the option to always set strong passwords.
	Default Setting: Enable Strong Password is not selected.
	ⓘ **NOTE: If Strong Password is enabled, the Admin and System passwords must contain at least one uppercase character, one lowercase character and be at least 8 characters long.**
Password Configuration	Allows you to determine the minimum and maximum length of the Administrator and System passwords.
Password Bypass	Allows you to enable or disable the permission to bypass the System and the Internal HDD password, when they are set. The options are:
	· Disabled
	· Reboot bypass
	Default setting: Disabled
Password Change	Allows you to enable the disable permission to the System and Hard Drive passwords when the admin password is set.
	Default setting: **Allow Non-Admin Password Changes** is selected.
UEFI Capsule Firmware Update	This option controls whether the system allows the BIOS updates through UEFI capsule update packages. This option is disabled by default.
Non-Admin Setup Changes	Allows you to determine whether changes to the setup options are allowed when an Administrator Password is set. If disabled the setup options are locked by the admin password.
TPM 2.0 Security	Allows you to enable the Trusted Platform Module (TPM) during POST. The options are:
	· TPM On (enabled by default)
	· Clear
	· PPI Bypass for Enabled Commands
	· PPI Bypass for Disabled Commands
	· Attestation Enable (enabled by default)
	· Key Storage Enable (enabled by default)
	· SHA-256 (enabled by default)
	· Disabled

Option	Description
	• Enabled (enabled by default) • Optional hardware TPM 2.0 ⓘ **NOTE: To upgrade or downgrade TPM1.2/2.0, download the TPM wrapper tool (software).**
Computrace	Allows you to activate or disable the optional Computrace software The options are: • Deactivate • Disable • Activate ⓘ **NOTE: The Activate and Disable options will permanently activate or disable the feature and no further changes are allowed** Default setting: Deactivate
CPU XD Support	Allows you to enable the Execute Disable mode of the processor. Enable CPU XD Support (default)
Admin Setup Lockout	Allows you to prevent users from entering the setup when an Administrator password is set. Default Setting: Enable Admin Setup Lockout is not selected.

Secure Boot screen options

Option	Description
Secure Boot Enable	This option enables or disables the **Secure Boot** feature. • Disabled • Enabled Default setting: Enabled.
Expert Key Management	Allows you to manipulate the security key databases only if the system is in Custom Mode. The **Enable Custom Mode** option is disabled by default. The options are: • PK • KEK • db • dbx If you enable the **Custom Mode**, the relevant options for **PK, KEK, db, and dbx** appear. The options are: • **Save to File**—Saves the key to a user-selected file. • **Replace from File**—Replaces the current key with a key from a user-selected file. • **Append from File**—Adds a key to the current database from a user-selected file • **Delete**—Deletes the selected key • **Reset All Keys**—Resets to default setting • **Delete All Keys**—Deletes all the keys ⓘ **NOTE: If you disable the Custom Mode, all the changes made are erased and the keys restore to default settings.**

Intel Software Guard Extensions screen options

Option	Description
Intel SGX Enable	This field specifies you to provide a secured environment for running code/storing sensitive information in the context of the main OS. The options are: • Disabled • Enabled Default setting: Disabled
Enclave Memory Size	This option sets **SGX Enclave Reserve Memory Size**. The options are: • 32 MB • 64 MB • 128 MB

Performance screen options

Option	Description
Multi Core Support	This field specifies whether the process has one or all cores enabled. The performance of some applications improve with the additional cores. This option is enabled by default. Allows you to enable or disable multi-core support for the processor. The installed processor supports two cores. If you enable Multi Core Support, two cores are enabled. If you disable Multi Core Support, one core is enabled. • All (enabled by default) • 1 • 2 • 3
Intel SpeedStep	Allows you to enable or disable the Intel SpeedStep feature. • Enable Intel SpeedStep Default setting: The option is enabled.
C-States Control	Allows you to enable or disable the additional processor sleep states. • C states Default setting: The option is enabled.
Limited CPUID Value	This field limits the maximum value the processor standard CPUID function supports. • Enable CPUID Limit
Intel TurboBoost	Allows you to enable or disable the Intel TurboBoost mode of the processor. • Enable Intel TurboBoost

Option	Description
	Default Setting: The option is enabled.

Power Management screen options

Option	Description
AC Behavior	Allows you to enable or disable the computer from turning on automatically when an AC adapter is connected.
	• Power Off (default)
	• Power On
	• Last Power State
Auto On Time	Allows you to set the time at which the computer must turn on automatically. The options are:
	• Disabled
	• Every Day
	• Weekdays
	• Select Days
	Default setting: Disabled
Deep Sleep Control	Allows you to aggressive the system is at conserving power while Shut down (S5) or in Hybernate (S4) mode.
	• Disabled (default)
	• Enabled in S5 only
	• Enabled in S4 and S5
USB Wake Support	Allows you to enable USB devices to wake the system from Standby.
	(i) **NOTE: This feature is only functional when the AC power adapter is connected. If the AC power adapter is removed during Standby, the system setup removes power from all the USB ports to conserve battery power.**
	• Enable USB Wake Support
	Default setting: The option is disabled.
Wake on LAN/ WLAN	Allows you to enable or disable the feature that powers on the computer from the Off state when triggered by a LAN signal.
	• Disabled: This option is enabled by default.
	• LAN Only
	• WLAN Only
	• LAN or WLAN
	• LAN with PXE Boot
Block Sleep	This option lets you block entering to sleep (S3 state) in operating system environment.
	Block Sleep (S3 state)
	Default setting: This option is disabled

Option	Description
Intel Ready Mode	Allows you to replace sleep S3 to put your PC in an always aware state that allows the user to interact with it even while the PC is asleep • Eanble Intel Ready Mode: The option is disabled.

POST Behavior screen options

Option	Description
Numlock LED	This option option specifies whether the NumLock LED should be on when the system boots. • Enable Numlock LED: The option is enabled.
Keyboard Errors	This option option specifies whether the keyboard related errors are reported when it boots. • Enables Keyboard Error Detection: The option is disabled.
Fastboot	Allows you to speed up the boot process by bypassing some of the compatibility steps. The options are: • Minimal(default) • Thorough • Auto

Virtualization support screen options

Option	Description
Virtualization	Allows you to enable or disable the Intel Virtualization Technology. Enable Intel Virtualization Technology (default).
VT for Direct I/O	Enables or disables the Virtual Machine Monitor (VMM) from utilizing the additional hardware capabilities provided by Intel® Virtualization technology for direct I/O. Enable VT for Direct I/O - enabled by default.

Maintenance screen options

Option	Description
Service Tag	Displays the Service Tag of your computer.
Asset Tag	Allows you to create a system asset tag if an asset tag is not already set. This option is not set by default.
SERR Messages	This field controls the SERR message mechanism. Some graphic card required the SERR message. • Enable SERR Messages (default)
BIOS Downgrade	This field controls flashing of the system firmware to pervious revisions. Allows BIOS Downgrade (Enabled by default)

Option	Description
Data Wipe	This field enables user to erase data from all internal storage device.
BIOS Recovery	Allows you to recover from certain corrupted BIOS conditions from a recover file on the user primary hard drive or an external USB key. Enabled by default.

System Log screen options

Option	Description
BIOS Events	Allows you to view and clear the System Setup (BIOS) POST events.

SupportAssist System Resolution screen options

Option	Description
Auto OS Recovery Threshold	Allows you to control the automatic boot flow for SupportAssist System. Options are: · Off · 1 · 2 (Enabled by default) · 3
SupportAssist OS Recovery	Allows you to recover the SupportAssist OS Recovery (Disabled by default)

Specifications

> (i) **NOTE:** Offerings may vary by region. The following specifications are only those required by law to ship with your computer. For more information about the configuration of your computer, go to Help and Support in your Windows operating system and select the option to view information about your computer.

Processor

Feature	Specification
Type	For Vostro 3267: • Intel 6th Generation Celeron G3900 • Intel 6th Generation Pentium G4400 • Intel 6th Generation Core i3-6100 • Intel 6th Generation Core i5-6400 For Vostro 3268: • Intel 7th Generation Celeron G3930 • Intel 7th Generation Pentium G4560 • Intel 7th Generation Core i3-7100 • Intel 7th Generation Core i5-7400 • Intel 7th Generation Core i7-7700

System information

Feature	
Chipset	Intel H110

Memory

Feature	Specification
Memory module connector	Two DDR4 U-DIMM slots
Memory module capacity	2 GB, 4 GB, and 8 GB
Type	2133 MHz for Vostro 3267 system 2400 MHz for Vostro 3268 systems

> (i) **NOTE:** If this product is purchased with Intel 6th Gen CPUs or 7th Gen Celeron dual core CPU, the maximum MHz this product can achieve is 2133, though the memory material used is 2400 MHz.

Minimum memory	2 GB

Feature	Specification
	ⓘ **NOTE: Depending on the operating system installed, the requirement of the minimum memory might vary.**
Maximum memory	16 GB
	ⓘ **NOTE: Each UDIMM slot supports a maximum of 8 GB memory.**

Video

Feature	Specification
Integrated Controller	Intel HD graphics
Integrated video memory	Shared system memory
Discrete video	PCI express x16 graphics card
	• NVIDIA GT 710 LP(Low Profile) with 2 GB memory DDR3

Audio

Feature	Specification
Type	Integrated 5.1 high-definition audio

Communication

Feature	Specification
Type	
	• Dell Wireless Combo Card DW1707 and DW1810ac, and Intel 3165ac
	• 10/100/1000 Gigabit Ethernet
	• Bluetooth v4.0 +LE

Expansion bus

Feature	Specification
SATA	6 Gbps for hard drive; 1.5 Gbps for optical drive
USB 2.0	480 Mbps
USB 3.0	5 Gbps

Drives

Feature	Specification
Externally Accessible — 5.25–inch optical drive bays	One

Feature	Specification
Internally Accessible — 3.5–inch/2.5– inch drive bays	One 3.5–inch or Two 2.5-inch drive bays

Cards

Feature	Specification
PCIe	• one PCIe x16 full height card • one PCIe x1 full height card
M2 Slot	One M.2 card slot for Wi-Fi and Bluetooth combo card

External connectors

Feature	Specification
Audio — Back panel	Three
Audio — Front Panel	One headset connector
Network	One RJ-45 connector
USB — Back panel	Four USB 2.0 connectors
USB — Front Panel	Two USB 3.0 connectors
Video	• one 15-hole VGA connector • one 19-pin HDMI connector
Memory-card reader	One

Control Lights And Diagnostic Lights

Feature	Specification
Power button light	• White light—solid white light indicates power-on state; blinking white light indicates sleep/stand-by state of the computer. • Amber light—solid amber light indicates boot failure - System Power Error; blinking amber light indicates boot failure - System Power OK.
Drive activity light	White light—blinking white light indicates that the computer is reading data from, or writing data to the hard drive.

Power

Feature	Specification
Coin-cell battery	3 V CR2032 lithium coin-cell
Input voltage	100 VAC — 240 VAC
Input frequency	50 Hz–60 Hz

Feature	Specification
Input current	3 A
Output current	3.34 A / 4.62 A
Maximum heat dissipation	ⓘ │ **NOTE: Heat dissipation is calculated by using the power supply wattage rating.**

Physical Dimensions of Chassis

Feature	Specification
Height	293.1 mm (11.54 inches)
Width	92.60 mm (3.65 inches)
Depth	314.5 mm (12.38 inches)
Weight—Minimum	4.40 kg (9.71 pounds)

Environmental specifications

Feature	Specification
Temperature — Operating	10 °C to 35 °C (50 °F to 95 °F)
Temperature — Storage	−40 °C to 65 °C (−40 °F to 149 °F)
Relative humidity	20 % to 80 % (non-condensing)
Altitude — Operating	−15.20 m to 5000 m (−50 ft to 10,000 ft)
Altitude — Storage	−15.20 m to 10668 m (−50 ft to 35,000 ft)
Airborne contaminant level	G1 as defined by ISA-S71.04–1985

Contacting Dell

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

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

1   Go to **Dell.com/support.**
2   Select your support category.
3   Verify your country or region in the **Choose a Country/Region** drop-down list at the bottom of the page.
4   Select the appropriate service or support link based on your need.