

Dell Vostro 3015 Owner's Manual

Regulatory Model: W09B
Regulatory Type: W09B003



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.

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Rev. A00


Working on Your Computer


Before Working Inside Your Computer


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.

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

1. Ensure that your work surface is flat and clean to prevent the computer cover from being scratched.
2. 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.**

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

Recommended Tools



The procedures in this document may require the following tools:

- Small flat-blade screwdriver
- Phillips screwdriver
- Small plastic scribe

Turning Off Your Computer

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


1. Shut down the operating system:

- In Windows 8:
 - Using a touch-enabled device:
 - a. Swipe in from the right edge of the screen, opening the Charms menu and select **Settings**.
 - b. Select the  and then select **Shut down**
 - Using a mouse:
 - a. Point to upper-right corner of the screen and click **Settings**.
 - b. Click the  and select **Shut down**.

- In Windows 7:

1. Click **Start** .
2. Click **Shut Down**.

or

1. Click **Start** .
2. Click the arrow in the lower-right corner of the **Start** menu as shown below, and then click



Shut Down..

2. 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 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 the Dell Diagnostics.

System Overview

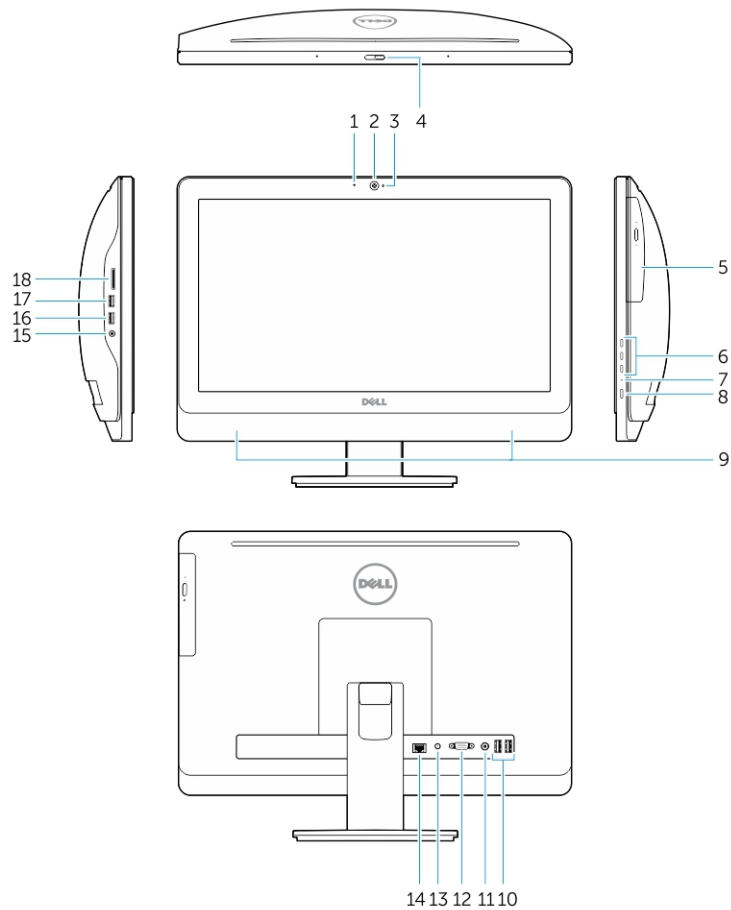


Figure 1. Features

1. Microphone
2. Camera
3. Camera-status light
4. Camera-privacy latch
5. Optical drive
6. On Screen Display (OSD) buttons
7. Hard-drive activity light
8. Power button/Power light

- 9. Speakers
- 10. USB 2.0 connectors
- 11. Line-out connector
- 12. VGA-out connector
- 13. Power connector
- 14. Network connector
- 15. Audio connector
- 16. USB 2.0 connector
- 17. USB 3.0 connector
- 18. Memory card reader

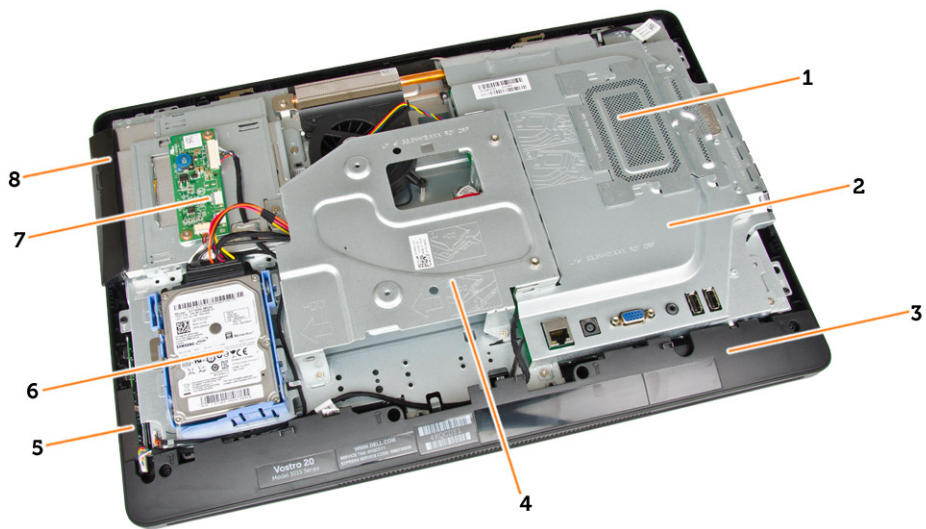


Figure 2. Inside View 1

- 1. Memory shield
- 2. System board shield
- 3. Speaker cover
- 4. VESA bracket
- 5. Power-switch board
- 6. Hard Drive
- 7. Converter board
- 8. Optical drive

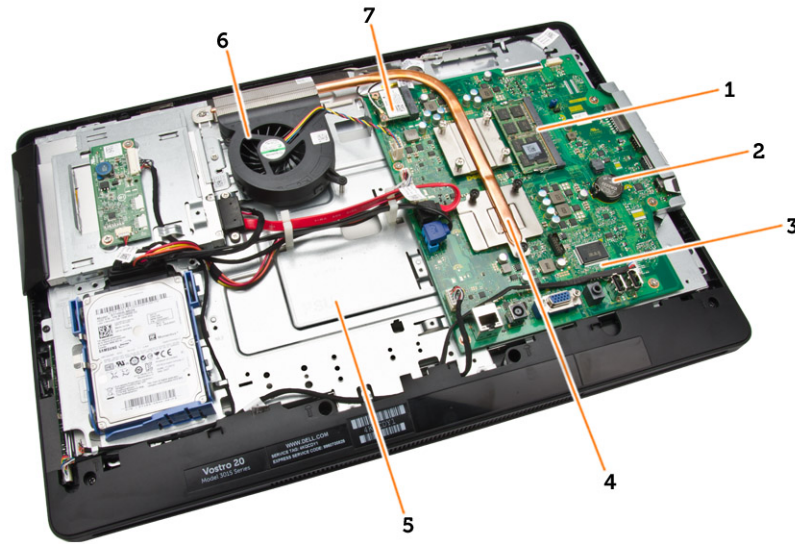
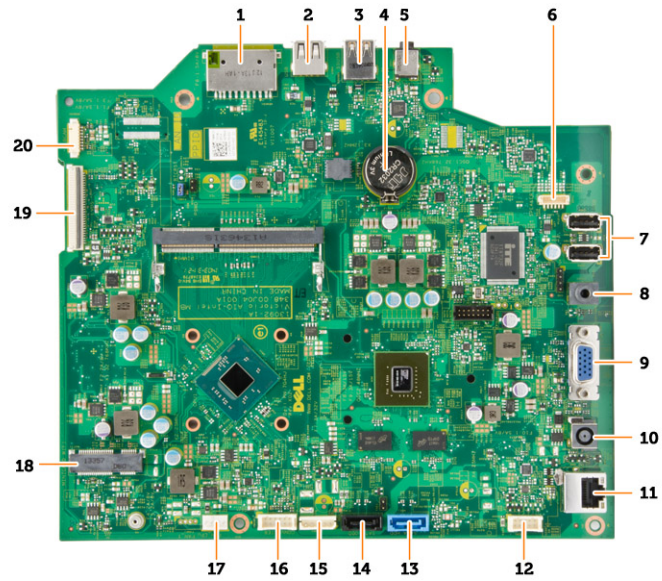


Figure 3. Inside View 2

1. Memory module
2. Coin-cell battery
3. System board
4. Heatsink
5. Display bracket
6. System fan
7. WLAN card

System Board Layout

The following image displays the system board layout of the computer.



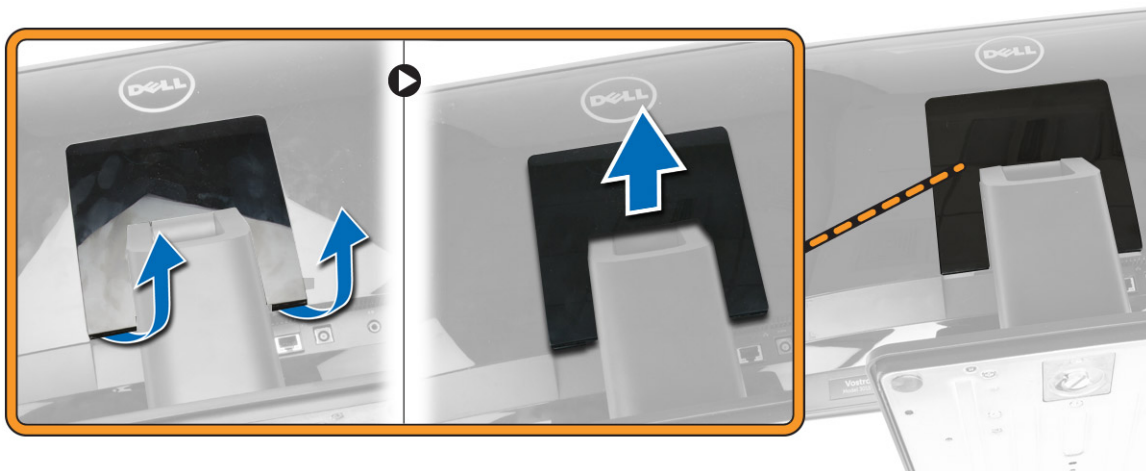
1. Memory-card reader
2. USB 2.0 connector
3. USB 3.0 connector
4. Coin-cell battery
5. Audio connector
6. Speaker connector
7. USB 2.0 connectors
8. line-out connector
9. VGA connector
10. Power connector
11. Network connector
12. Power-switch connector
13. Hard-drive connector
14. Optical-drive connector
15. Hard-drive/Optical-drive power connector
16. Converter board connector
17. System-fan connector
18. WLAN card connector
19. LVDS connector
20. Camera connector

Removing and Installing Components

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

Removing the Stand

1. Follow the procedures in *Before Working Inside Your Computer*.
2. Place the computer on a flat surface, display side facing downwards.
3. Pry and remove the panel from the computer.



4. Remove the screws that secure the stand to the computer and remove it from the computer.



Installing the Stand

1. Align the stand on the computer, and tighten the screws to secure the stand to the computer.
2. Place and press the panel on the computer until it clicks into place.
3. Follow the procedures in *After Working Inside Your Computer*.

Removing the Back Cover

1. Follow the procedures in *Before Working Inside Your Computer*.
2. Remove the stand.
3. Pry up along the edges to release the back cover from the computer.



4. Remove the back cover from the computer.



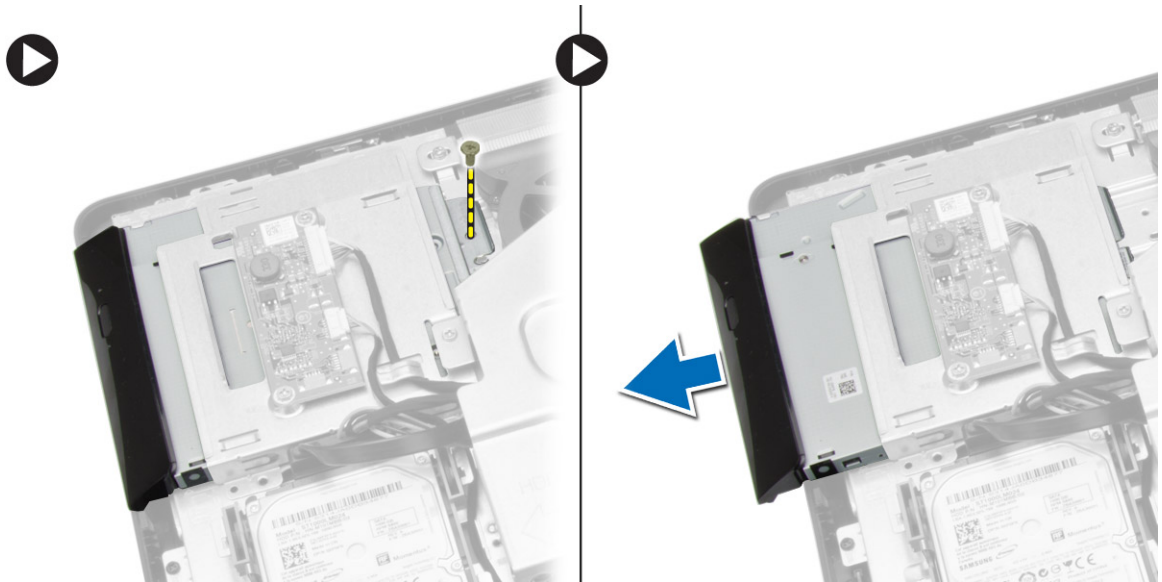
Installing the Back Cover

1. Align and press the back cover, until it clicks into place.
2. Install the stand.
3. Follow the procedures in *After Working Inside Your Computer*.

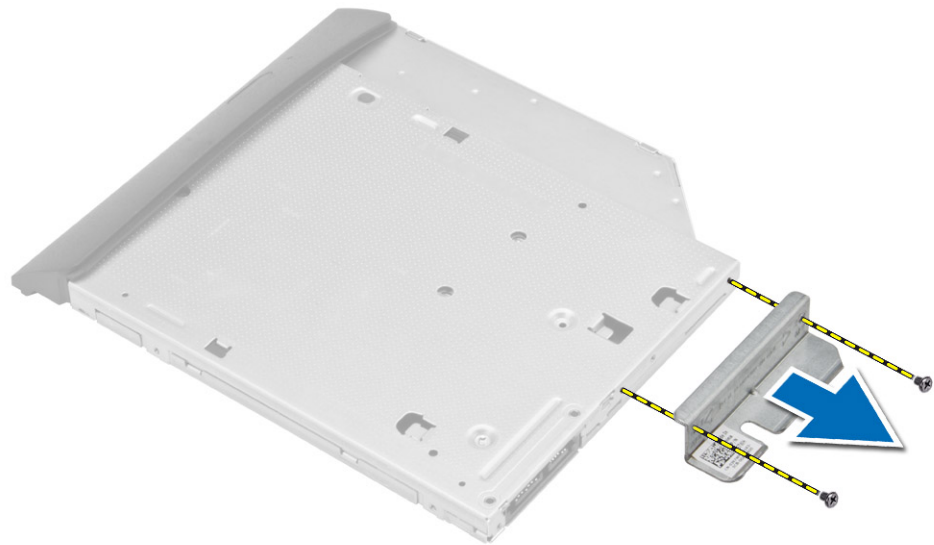
Removing the Optical Drive

1. Follow the procedures in *Before Working Inside Your Computer*.
2. Remove the stand.
3. Remove the back cover.

4. Remove the screw that secures the optical drive to the computer and slide to remove it from the computer.



5. Remove the screws that secure the optical-drive bracket, and remove it from the optical drive.



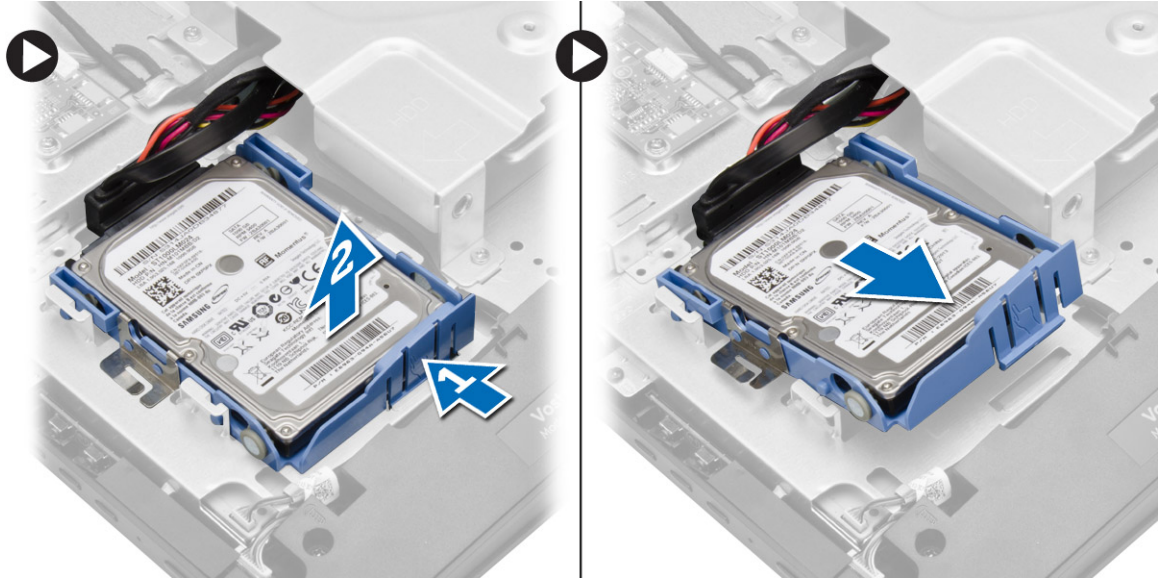
Installing the Optical Drive

1. Tighten the screws to secure the optical-drive bracket to the optical drive.
2. Insert the optical-drive into its slot.
3. Tighten the screw to secure the optical-drive to the computer.
4. Install:
 - a. back cover
 - b. stand

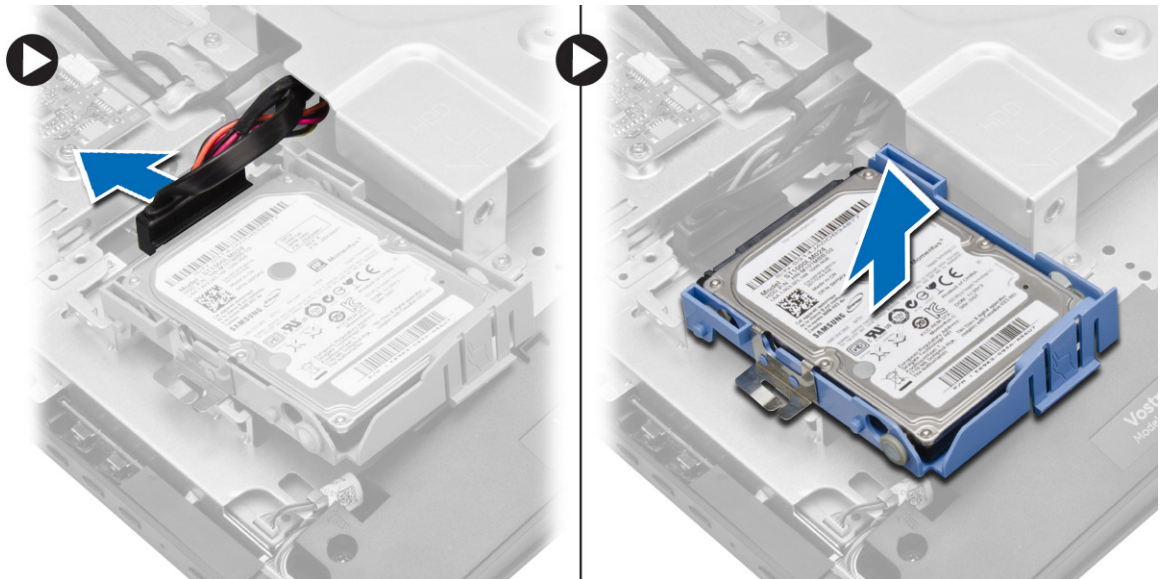
5. Follow the procedures in *After Working Inside Your Computer*.

Removing the Hard Drive

1. Follow the procedures in *Before Working Inside Your Computer*.
2. Remove the stand.
3. Remove the back cover.
4. Push the hard-drive bracket to release it from its lock and lift the hard drive from one edge. Slide and remove it to access the hard-drive cable.



5. Disconnect the hard-drive cable from the hard drive, and remove it from the computer.



6. Pry the hard-drive bracket apart to release the hard drive. Remove the hard drive from the hard-drive bracket.



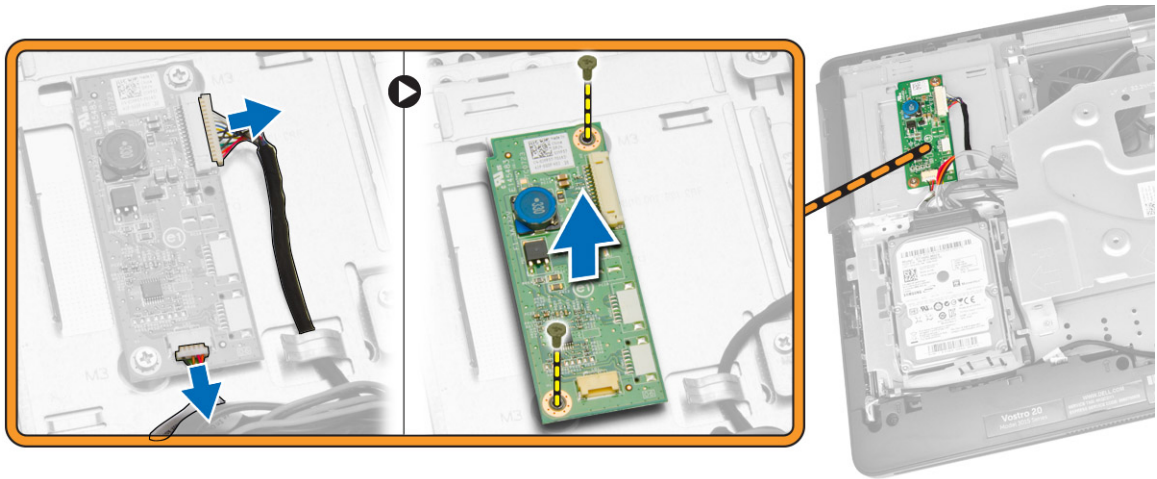
Installing the Hard Drive

1. Insert the hard drive into the hard-drive bracket.
2. Connect the hard-drive cable to the hard drive and align the hard drive to its slot on the computer.
3. Install:
 - a. back cover
 - b. stand
4. Follow the procedures in *After Working Inside Your Computer*.

Removing the Converter Board

1. Follow the procedures in *Before Working Inside Your Computer*.
2. Remove the stand.
3. Remove the back cover.

4. Disconnect the cables from the convertor board. Remove the screws and lift the convertor board from the computer.



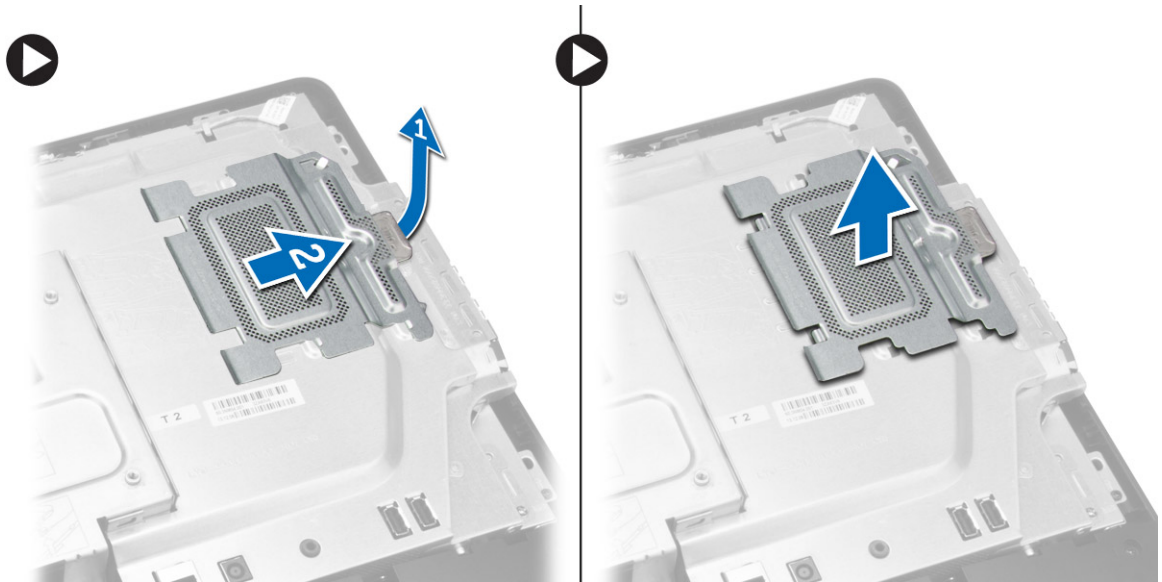
Installing the Convertor Board

1. Tighten the screws to secure the convertor board to the computer. Connect the cables to the convertor board.
2. Install:
 - a. back cover
 - b. stand
3. Follow the procedures in *After Working Inside Your Computer*.

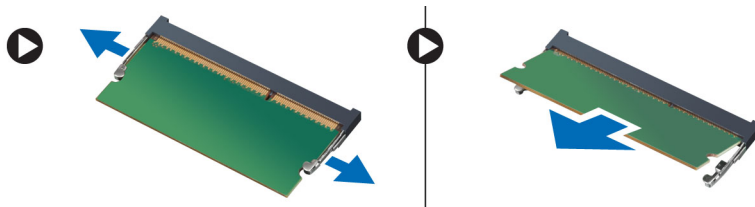
Removing the Memory

1. Follow the procedures in *Before Working Inside Your Computer*.
2. Remove the stand.
3. Remove the back cover.


- Slide and lift the memory shield to remove it from the computer.



- Pry the retention clips away from the memory module until it pops-up. Lift and remove the memory module from its connector.



Installing the Memory

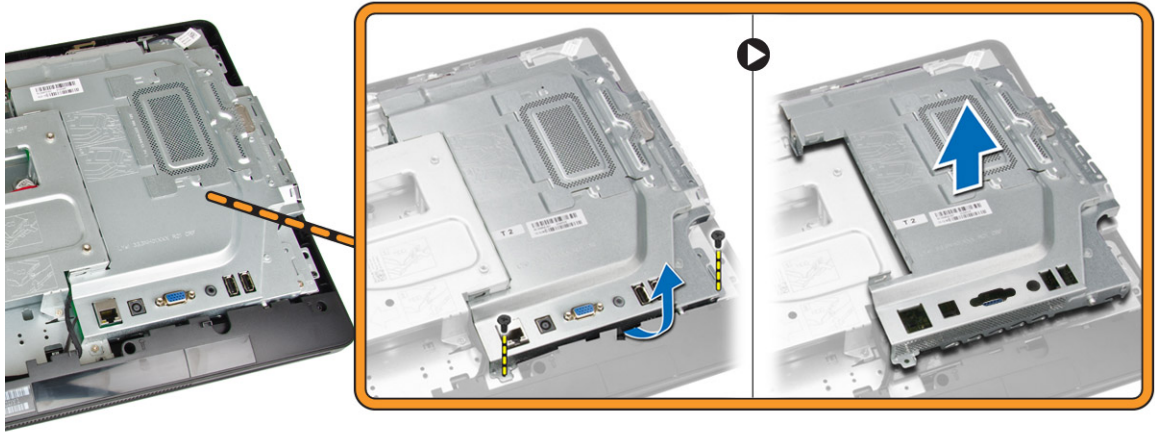
 **NOTE:** Please use DIMM 2 slot if there is only one memory module available.

- Align the notch on the memory-card with the tab in the system-board connector.
- Press down on the memory module until the release tabs spring back to secure them in place.
- Place the memory cage back into its place.
- Install:
 - back cover
 - stand
- Follow the procedures in *After Working Inside Your Computer*.

Removing the System-Board Shield

- Follow the procedures in *Before Working Inside Your Computer*.
- Remove the stand.
- Remove the back cover.

4. Remove the screws that secure the system-board shield to the computer. Lift and remove the system-board shield from the computer.

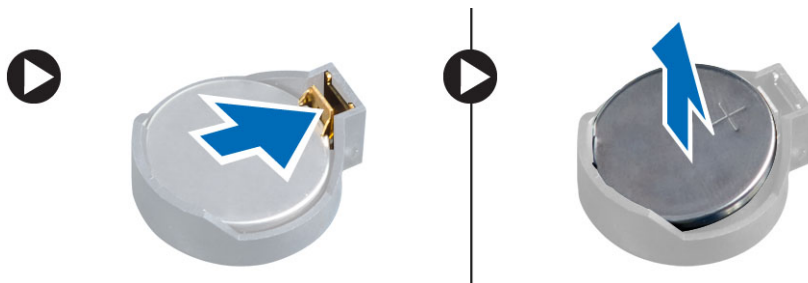


Installing the System-Board Shield

1. Align the system-board shield on the system board. Tighten the screws to secure it to the computer.
2. Install:
 - a. back cover
 - b. stand
3. Follow the procedures in *After Working Inside Your Computer*.

Removing the Coin-Cell Battery

1. Follow the procedures in *Before Working Inside Your Computer*.
2. Remove the:
 - a. stand
 - b. back cover
 - c. system-board shield
3. Press the release latch away from the battery; the battery pops out from the socket.

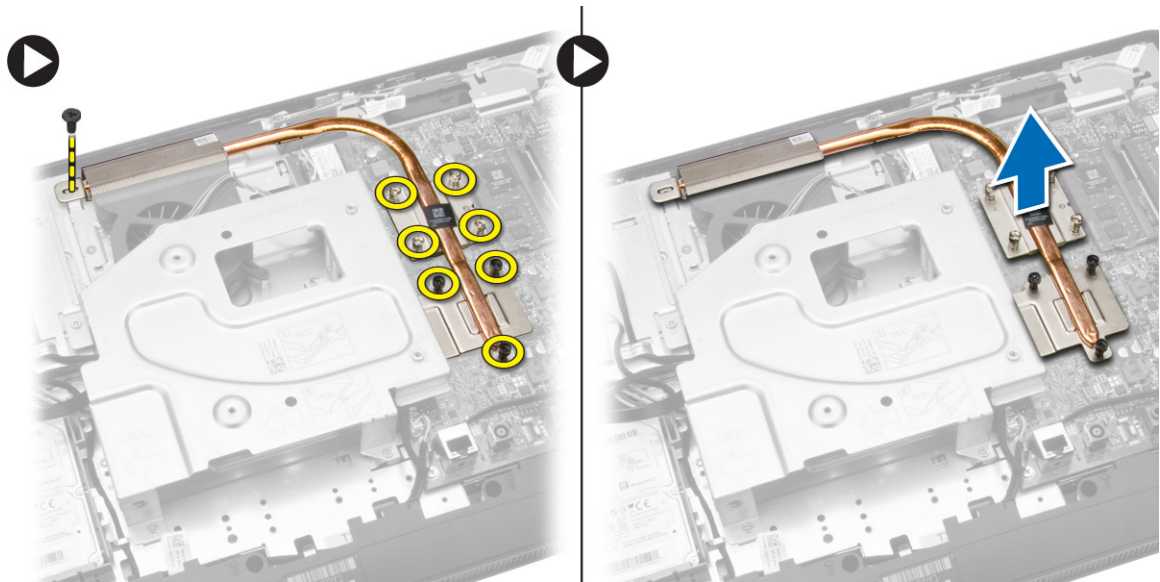


Installing the Coin-Cell Battery

1. Place the coin cell battery into its slot on the system board.
2. Press the coin cell battery downward until the release latch springs back into place and secures it.
3. Install:
 - a. system-board shield
 - b. back cover
 - c. stand
4. Follow the procedures in *After Working Inside Your Computer*.

Removing the Heatsink

1. Follow the procedures in *Before Working Inside Your Computer*.
2. Remove:
 - a. stand
 - b. back cover
 - c. system-board shield
3. Remove the screws that secure the heatsink to the computer. Lift and remove the heatsink from the computer.

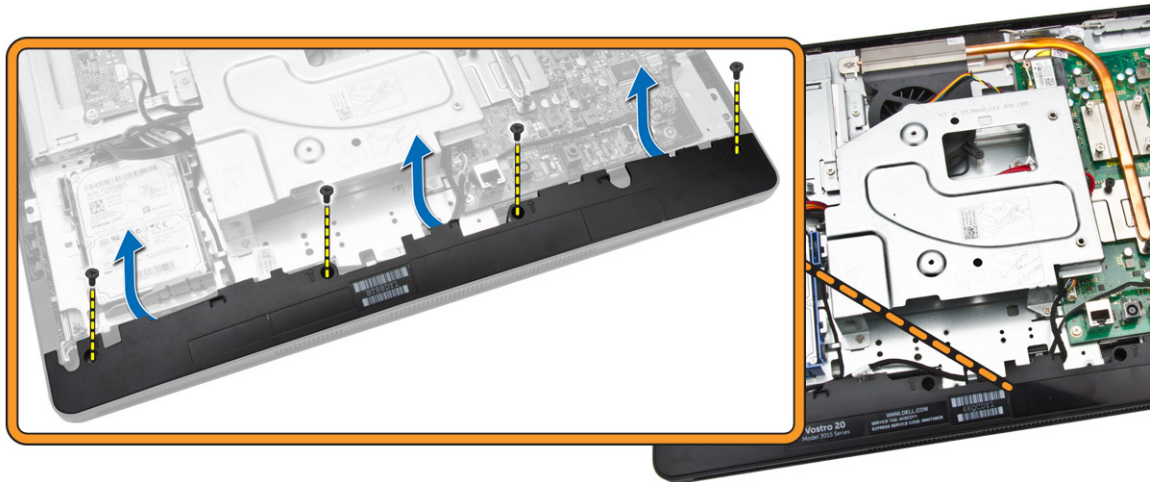


Installing the Heatsink

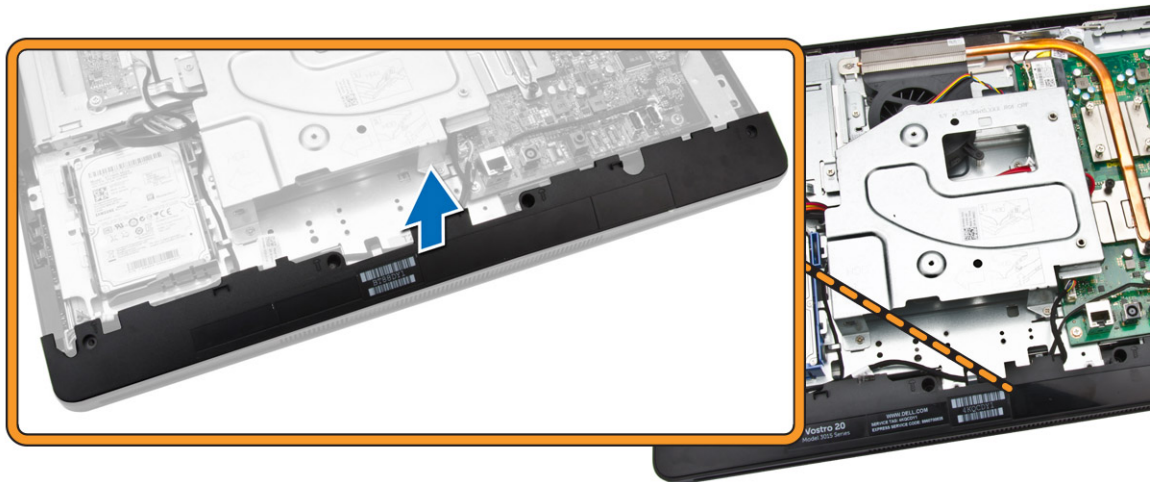
1. Align the heatsink on the system board. Tighten the screws to secure it to the computer.
2. Install:
 - a. system-board shield
 - b. back cover
 - c. stand
3. Follow the procedures in *After Working Inside Your Computer*.

Removing the Speakers

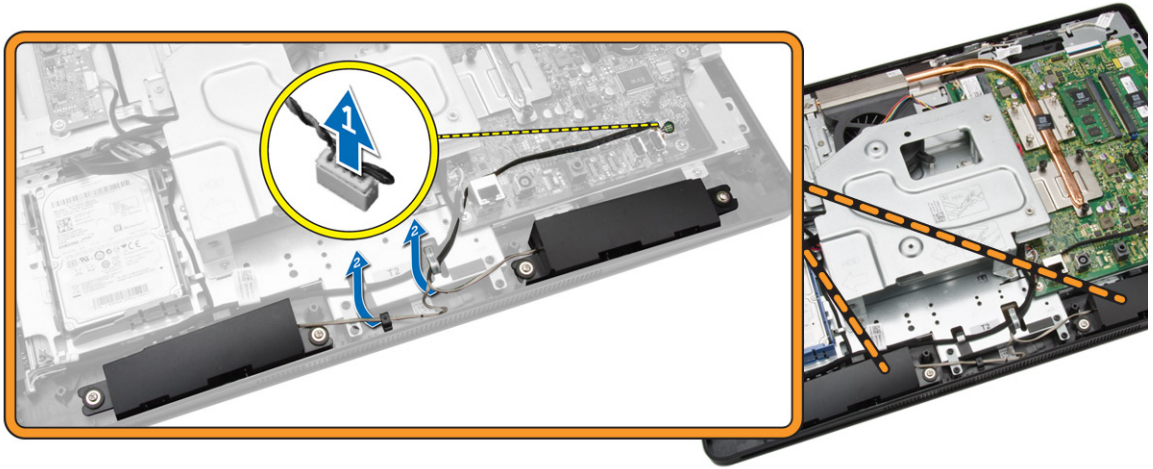
1. Follow the procedures in *Before Working Inside Your Computer*.
2. Remove:
 - a. stand
 - b. back cover
 - c. system-board shield
3. Remove the screws that secure the speaker cover to the computer. Release the speaker cover from the computer.



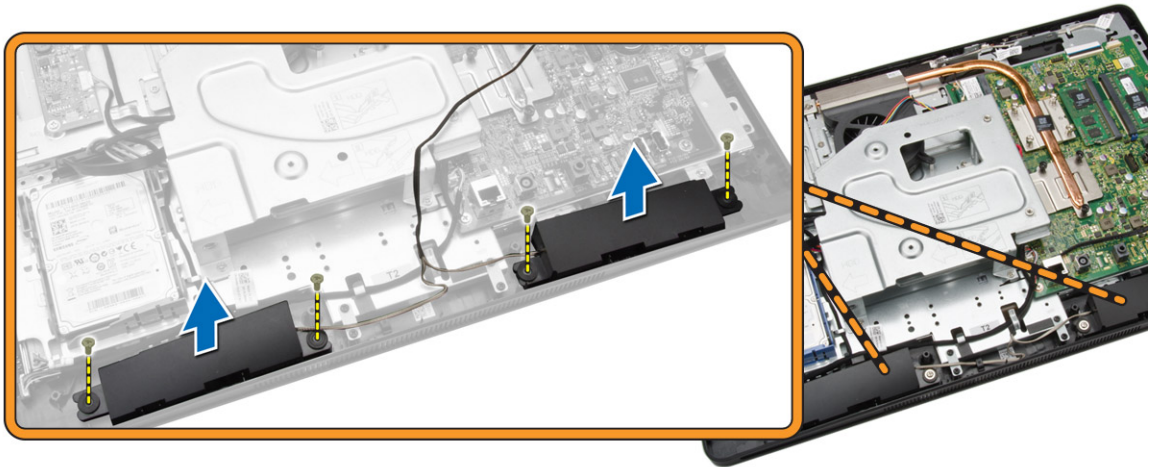
4. Remove the speaker cover from the computer.



5. Disconnect the speaker cable from the system board and release the cable from the tabs on the computer.



6. Remove the screws that secure the speakers to the computer. Remove the speakers from the computer.

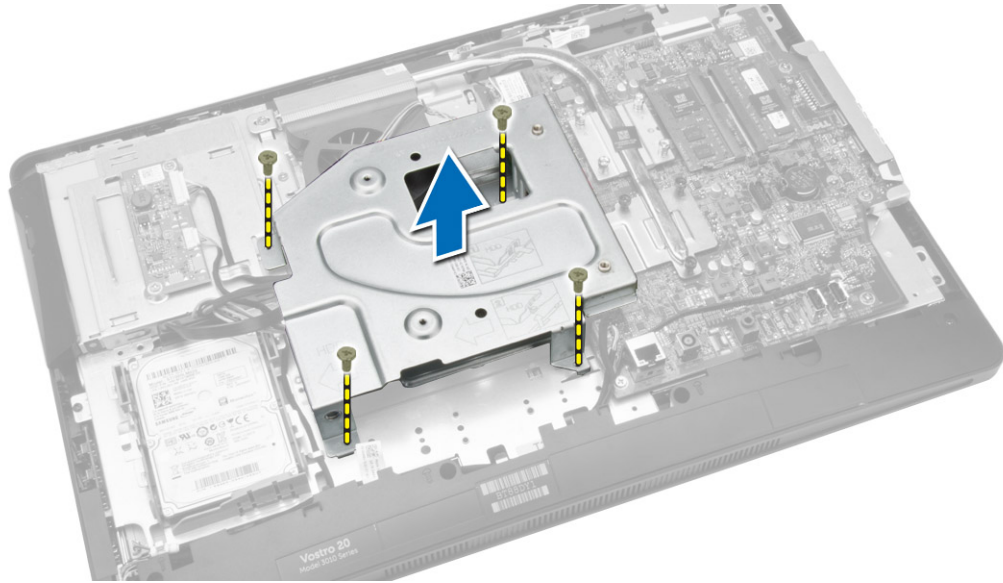


Installing the Speakers

1. Align the speakers on the computer. Tighten the screws to secure them to the computer.
2. Align the speaker cables through their tabs on the computer and connect the speaker cable to the system board.
3. Align the speaker cover on the computer and tighten the screws to secure it.
4. Install:
 - a. system-board shield
 - b. back cover
 - c. stand
5. Follow the procedures in *After Working Inside Your Computer*.

Removing the VESA Bracket

1. Follow the procedures in *Before Working Inside Your Computer*.
2. Remove:
 - a. stand
 - b. back cover
3. Remove the screws that secure the VESA bracket to the computer and remove it from the computer.



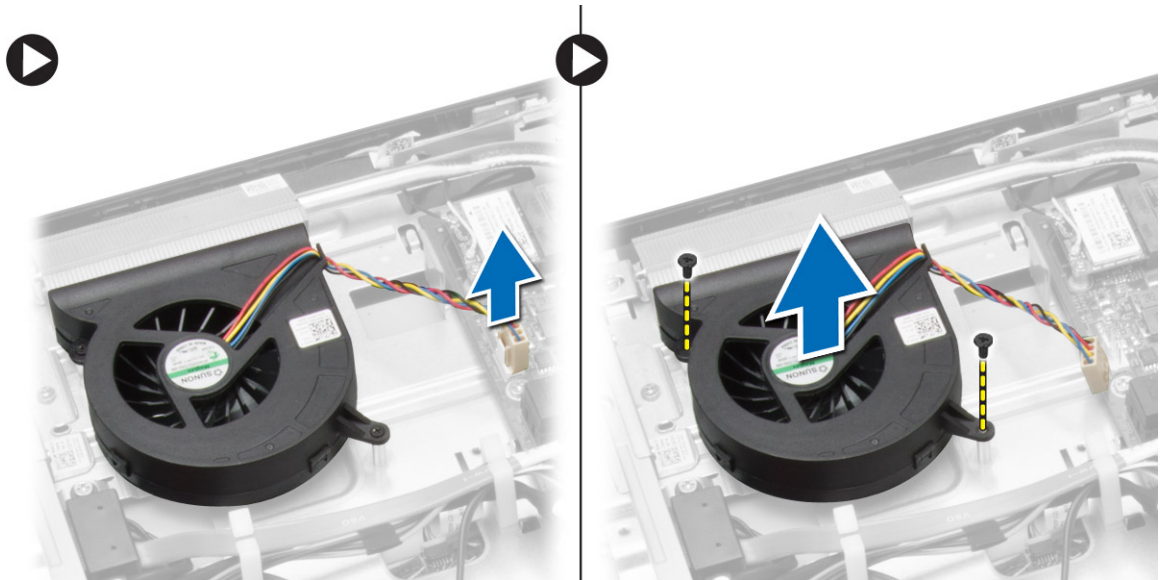
Installing the VESA Bracket

1. Align the VESA bracket on the computer. Tighten the screws to secure it to the computer.
2. Install:
 - a. back cover
 - b. stand
3. Follow the procedures in *After Working Inside Your Computer*.

Removing the System Fan

1. Follow the procedures in *Before Working Inside Your Computer*.
2. Remove:
 - a. stand
 - b. back cover
 - c. System-board shield
 - d. VESA bracket

3. Disconnect the system-fan cable from the system board. Remove the screws that secure the system fan and remove it from the computer.



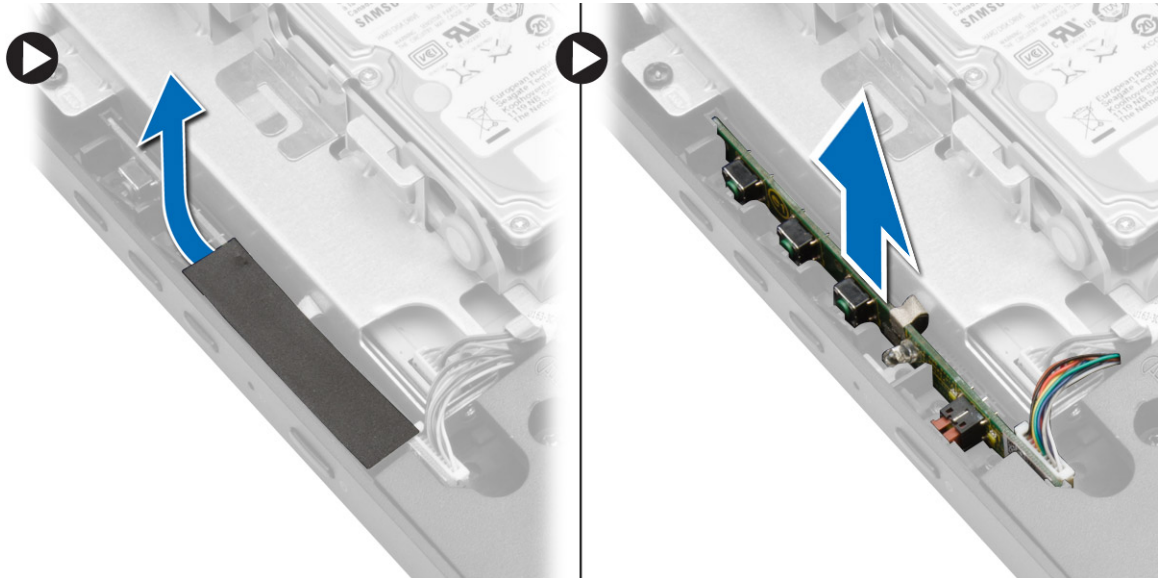
Installing the System Fan

1. Align the system fan with the heatsink on the computer and tighten the screws to secure it to the computer.
2. Connect the system-fan cable to the system board.
3. Install:
 - a. VESA bracket
 - b. system-board shield
 - c. back cover
 - d. stand
4. Follow the procedures in *After Working Inside Your Computer*.

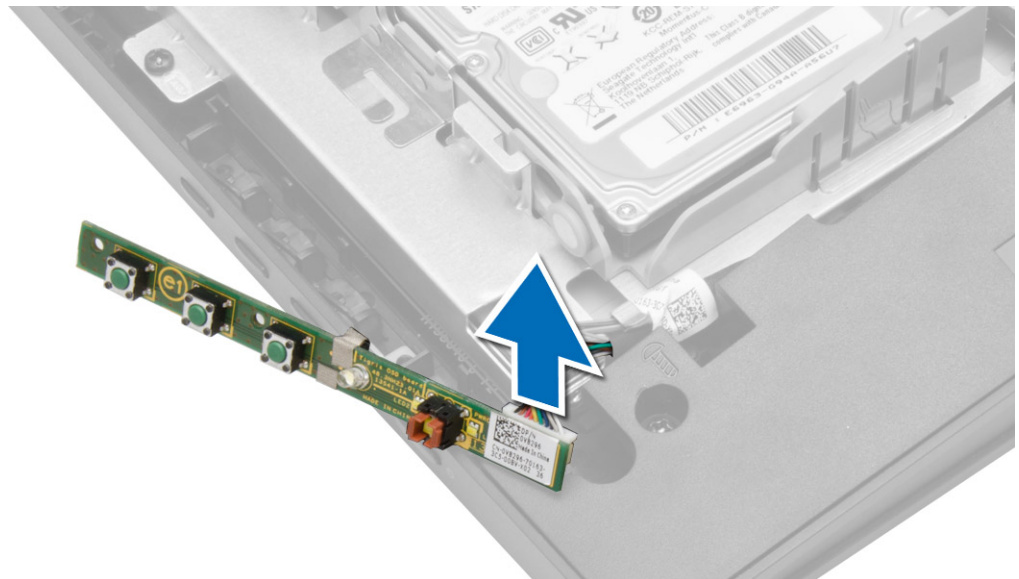
Removing the Power-Switch Board

1. Follow the procedures in *Before Working Inside Your Computer*.
2. Remove:
 - a. stand
 - b. back cover

3. Peel the tape that secures the power-switch board to the computer. Lift the power-switch board to access the cable.



4. Disconnect the power-switch cable from the power-switch board to remove it from the computer.

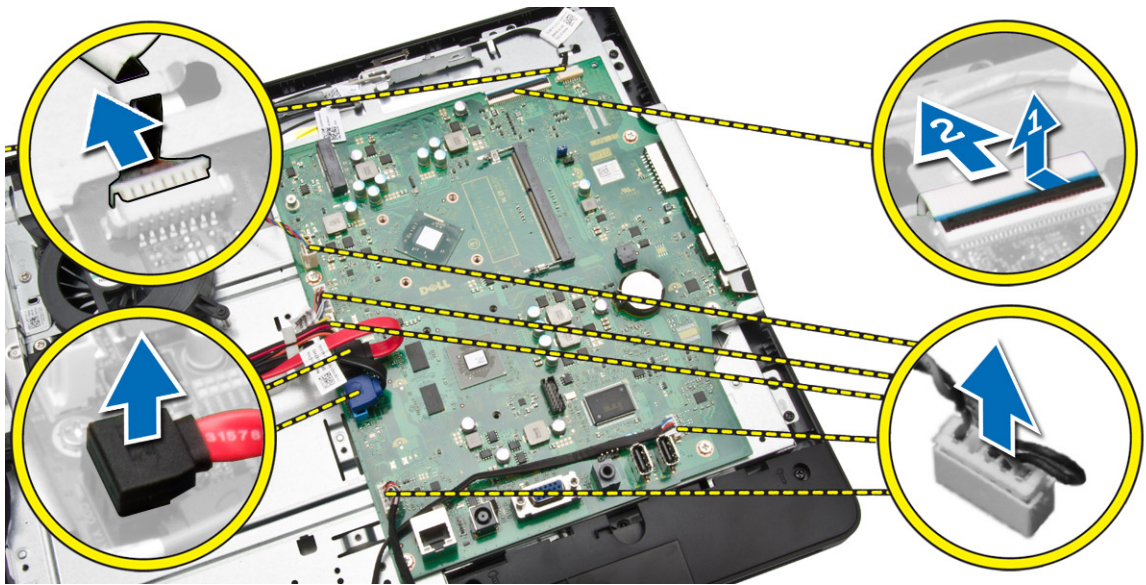


Installing the Power-Switch Board

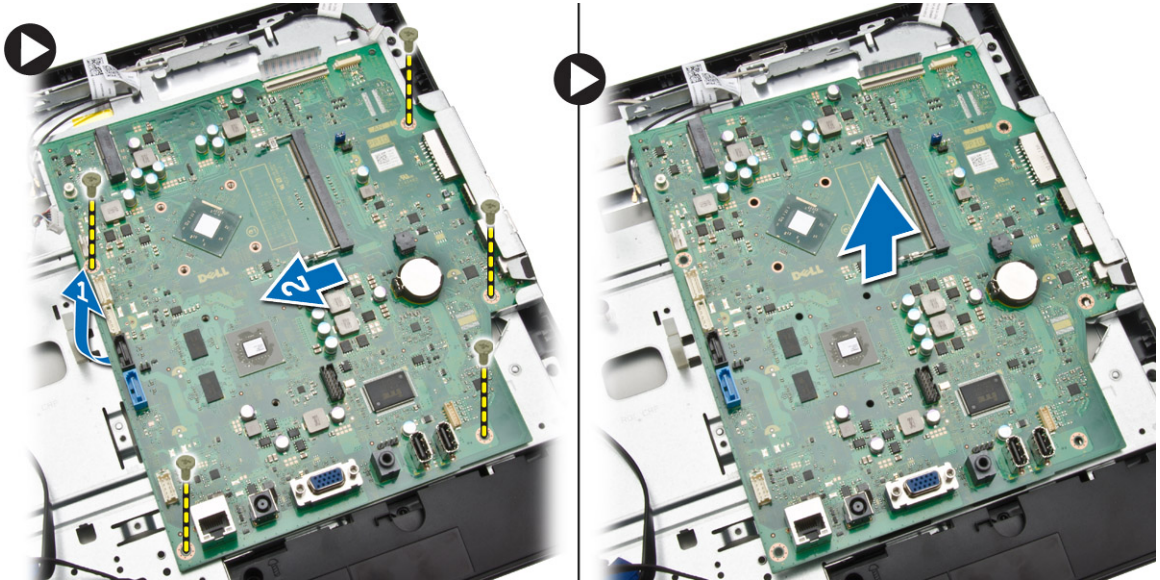
1. Insert the power-switch board into its slot on the computer and fix the tape to secure it. Connect the power-switch cable to the power-switch board.
2. Install:
 - a. back cover
 - b. stand
3. Follow the procedures in *After Working Inside Your Computer*.

Removing the System Board

1. Follow the procedures in *Before Working Inside Your Computer*.
2. Remove:
 - a. stand
 - b. back cover
 - c. memory
 - d. VESA bracket
 - e. system-board shield
 - f. heatsink
 - g. WLAN card
3. Disconnect the following from the system board:
 - a. camera cable
 - b. LVDS cable
 - c. system-fan cable
 - d. hard-drive/optical-drive power cable
 - e. optical-drive cable
 - f. hard-drive cable
 - g. convertor-board cable
 - h. power-switch cable
 - i. speaker cable



4. Remove the screws that secure the system board to the computer. Lift to release the system board and remove it from the computer.

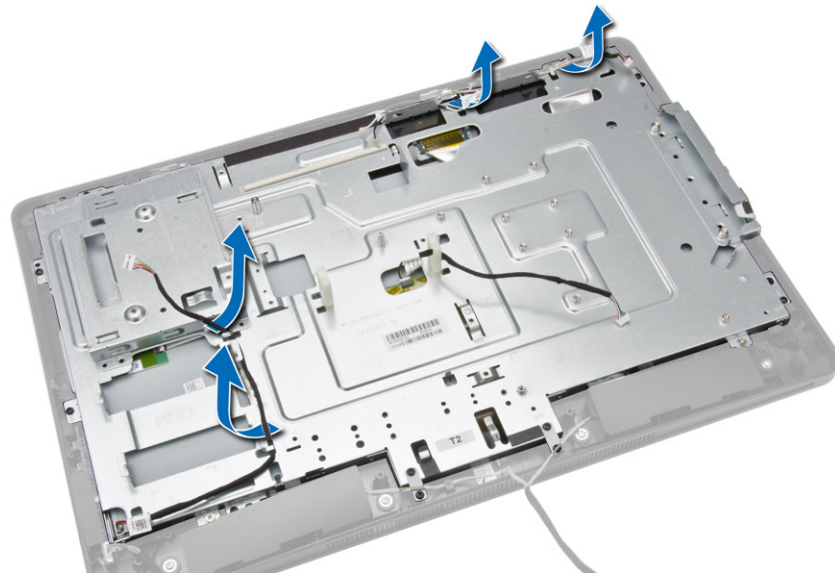


Installing the System Board

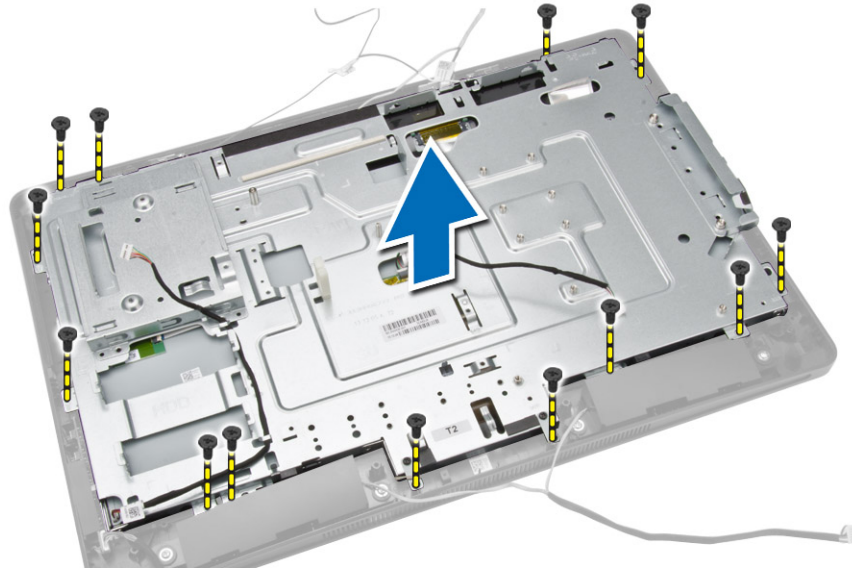
1. Align the system board on the computer.
2. Tighten the screws to secure the system board to the computer.
3. Connect the following cables to the system board:
 - a. camera cable
 - b. LVDS cable
 - c. system fan cable
 - d. optical-drive cable
 - e. hard-drive cable
 - f. hard-drive/optical-drive power cable
 - g. convertor-board cable
 - h. touch cable (if available)
 - i. power-switch cable
 - j. speaker cable
4. Install:
 - a. WLAN card
 - b. heatsink
 - c. system-board shield
 - d. VESA bracket
 - e. memory
 - f. back cover
 - g. stand
5. Follow the procedures in *After Working Inside Your Computer*.

Removing the Display Bracket

1. Follow the procedures in *Before Working Inside Your Computer*.
2. Remove:
 - a. stand
 - b. back cover
 - c. optical drive
 - d. hard drive
 - e. memory
 - f. VESA bracket
 - g. system-board shield
 - h. speakers
 - i. heatsink
 - j. system fan
 - k. WLAN card
 - l. convertor board
 - m. system board
3. Release the LVDS, camera, convertor-board cables from their tabs on the display bracket.



4. Remove the screws that secure the display bracket to the computer. Lift and remove the display bracket from the computer.

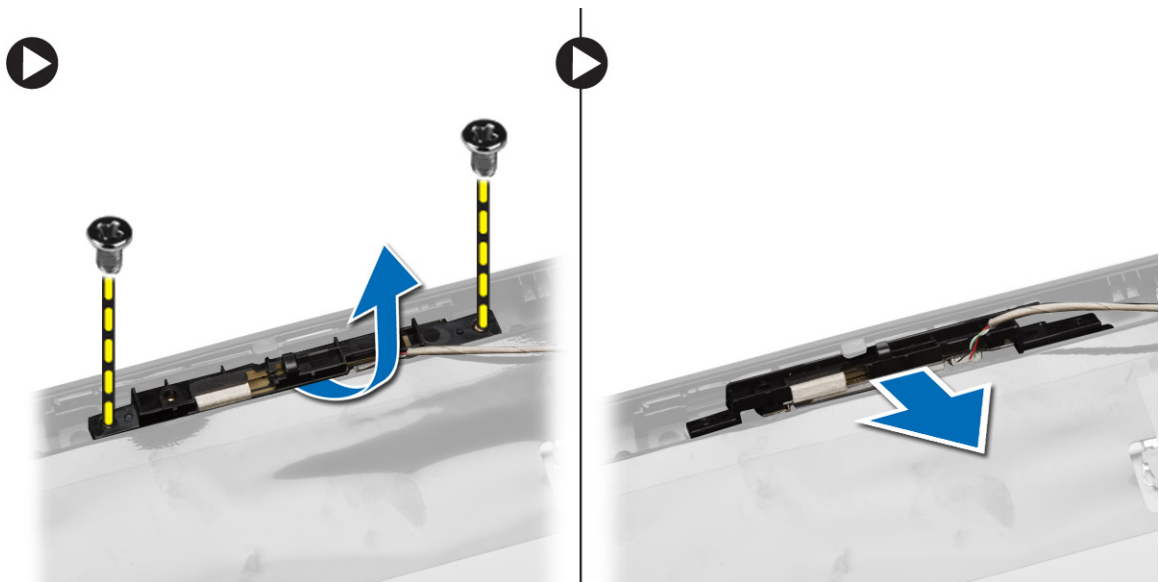


Installing the Display Bracket

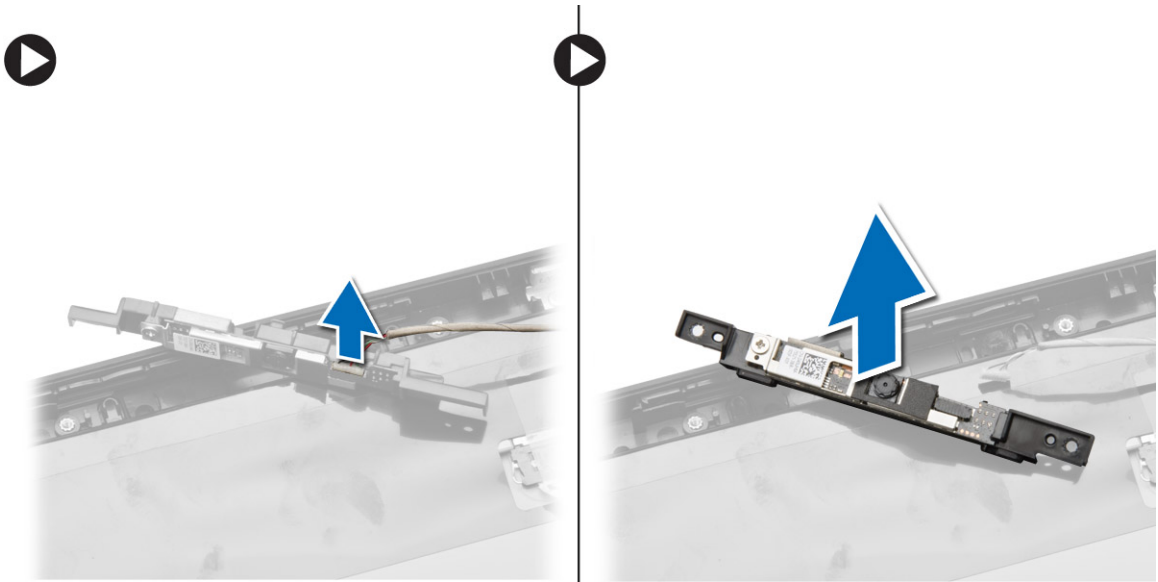
1. Align the display bracket on the computer.
2. Tighten the screws to secure the display bracket to the computer.
3. Align the LVDS, camera, convertor-board cables through their tabs on the display bracket.
4. Install:
 - a. system board
 - b. convertor board
 - c. WLAN card
 - d. system fan
 - e. heatsink
 - f. speakers
 - g. system-board shield
 - h. VESA bracket
 - i. memory
 - j. hard drive
 - k. optical drive
 - l. back cover
 - m. stand
5. Follow the procedures in *After Working Inside Your Computer*.

Removing the Camera

1. Follow the procedures in *Before Working Inside Your Computer*.
2. Remove:
 - a. stand
 - b. back cover
 - c. optical drive
 - d. hard drive
 - e. memory
 - f. VESA bracket
 - g. system-board shield
 - h. speakers
 - i. heatsink
 - j. system fan
 - k. WLAN card
 - l. convertor board
 - m. system board
 - n. display bracket
3. Remove the screws that secure the camera to the computer and release the camera from its slot to access the camera cable.



4. Disconnect the camera cable from the camera and remove the camera from the computer.



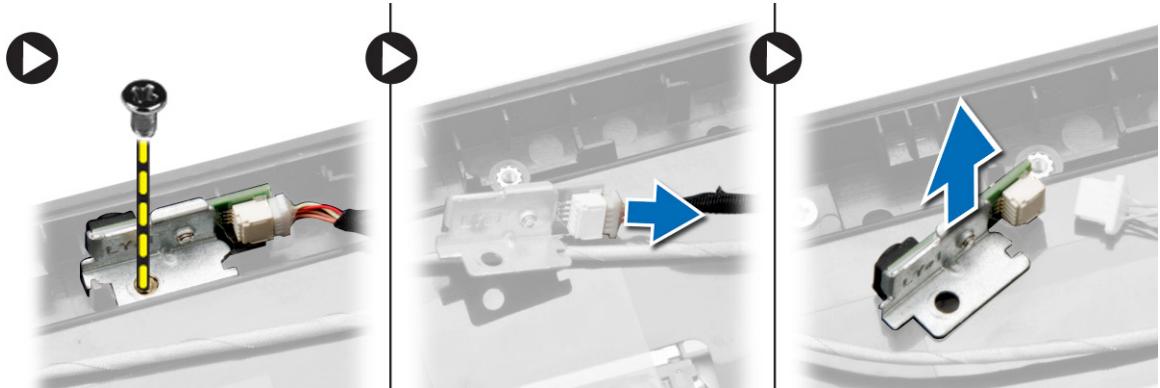
Installing the Camera

1. Connect the camera cable to the camera.
2. Align the camera into its slot and tighten the screws to secure it to the computer.
3. Install:
 - a. display bracket
 - b. system board
 - c. convertor board
 - d. WLAN card
 - e. system fan
 - f. heatsink
 - g. speakers
 - h. system-board shield
 - i. VESA bracket
 - j. memory
 - k. hard drive
 - l. optical drive
 - m. back cover
 - n. stand
4. Follow the procedures in *After Working Inside Your Computer*.

Removing the Microphone

1. Follow the procedures in *Before Working Inside Your Computer*.
2. Remove:
 - a. stand
 - b. back cover

3.
 - a. Remove the screw that secures the microphone.
 - b. Disconnect the microphone cable from the microphone.
 - c. Remove the microphone from the computer.



Installing the Microphone

1. Connect the microphone cable to the microphone.
2. Align the microphone into its slot and tighten the screws to secure it to the computer.
3. Install:
 - a. back cover
 - b. stand
4. Follow the procedures in *After Working Inside Your Computer*.

System Setup

System Setup enables you to manage your computer hardware and specify BIOS-level options. From the System Setup, you can:

- Change the NVRAM settings after you add or remove hardware
- View the system hardware configuration
- Enable or disable integrated devices
- Set performance and power management thresholds
- Manage your computer security

Boot Sequence

Boot Sequence allows you to bypass the System Setup-defined boot device order and boot directly to a specific device (for example: optical drive or hard drive). During the Power-on Self Test (POST), when the Dell logo appears, you can:

- Access System Setup by pressing <F2> key
- Bring up the one-time boot menu by pressing <F12> key

The one-time boot menu displays the devices that you can boot from including the diagnostic option. The boot-menu options are:

- Removable Drive (if available)
- STXXXX Drive
 - ✎ **NOTE:** XXX denotes the SATA drive number.
- Optical Drive
- Diagnostics
 - ✎ **NOTE:** Choosing Diagnostics, will display the **ePSA diagnostics** screen.


The boot sequence screen also displays the option to access the System Setup screen.

Navigation Keys

The following table displays the system setup navigation keys.

- ✎ **NOTE:** For most of the system setup options, changes that you make are recorded but do not take effect until you re-start the system.

Table 1. Navigation Keys

Keys	Navigation
Up arrow	Moves to the previous field.
Down arrow	Moves to the next field.
<Enter>	Allows you to select a value in the selected field (if applicable) or follow the link in the field.
Spacebar	Expands or collapses a drop-down list, if applicable.
<Tab>	Moves to the next focus area.
	 NOTE: For the standard graphics browser only.
<Esc>	Moves to the previous page till you view the main screen. Pressing <Esc> in the main screen displays a message that prompts you to save any unsaved changes and restarts the system.
<F1>	Displays the System Setup help file.

Setup Utility Options

Main

The Main tab lists out the primary hardware features of the computer. The table below defines the function of each option.

System Information

BIOS Revision	Displays the BIOS revision
BIOS Build Date	Displays the date the BIOS was last updated
System Name	Displays the computer model number
System Time	Resets the time on the computer's internal clock
System Date	Resets the date on the computer's internal calendar
Service Tag	Displays the Service Tag of your computer
Asset Tag	Displays the asset tag of your computer

Processor Information

Processor Type	Displays the type of processor
Processor ID	Displays the processor ID
Processor Core Count	Displays the number of cores in the processor
Processor L1 Cache	Displays the processor L1 cache size
Processor L2 Cache	Displays the processor L2 cache size

Memory Information

Memory Installed	Displays the total computer memory
Memory Available	Displays the available memory
System Memory Speed	Displays the memory speed
Memory Technology	Displays the memory type
SATA Information	
SATA 1	Displays the type, model number, and capacity of the hard drive.
SATA 2	Displays the model number and capacity of the hard drive or the device connected.

Advanced

The Advanced tab allows you to set various functions that affect the performance of the computer. The table below defines the function of each option and its default value.

Processor Configuration		
Intel SpeedStep Technology	Enable or disable Intel SpeedStep Technology	Default: Enabled
Intel Virtualization Technology	Enable or disable Intel Virtualization Technology	Default: Enabled
CPU XD Support	Enable or disable CPU XD Support	Default: Enabled
Limit CPUID Value	Enable or disable Limit CPUID Value	Default: Disabled
Multi Core Support	Enable or disable Multi Core Support	Default: Enabled
USB Configuration		
USB 3.0 Port Compatibility	Allows you to select between USB 2.0 and USB 3.0	Default: USB 2.0
Rear USB Ports	Enable or disable the rear USB ports.	Default: Enabled
Side USB Ports	Enable or disable the side USB ports.	Default: Enabled
Onboard Device Configuration		
Onboard Audio Controller	Enable or disable the onboard audio controller	Default: Enabled
SATA Mode	Allows you to select the SATA operation mode	Default: AHCI

Onboard LAN Controller	Enable or disable the onboard LAN controller	Default: Enabled
Onboard LAN Boot ROM	Enable or disable the onboard LAN boot ROM	Default: Disabled
AC Power Adapter Detection	Enable or disable the AC power adapter detection	Default: Enabled

Boot

The Boot tab allows you to change the boot sequence.

Numlock Key	Allows you to select Numlock power-on state	Default: On
Keyboard Errors	Allows you to choose whether the keyboard-related errors are reported during boot process	Default: Report
USB Boot Support	Enable or disable booting from USB devices	Default: Enabled
Boot Meu Security	Enable or disable the boot menu security	Default: Disabled
Load Legacy OPRM	This option control whether CSM should be loaded during POST.	Default: Disabled
Boot Mode	Allows you to select the boot mode	Default: UEFI
1st Boot Device	Allows you to select the 1st boot device preference	Default: Internal HDD Devices
2nd Boot Device	Allows you to select the 2nd boot device preference	Default: USB Storage Devices
3rd Boot Device	Allows you to select the 3rd boot device preference	Default: Internal ODD Devices
4th Boot Device	Allows you to select the 4th boot device preference	Default: USB Floppy Devices

5th Boot Device	Allows you to select the 5th boot device preference	Default: Onboard NIC Devices
Internal HDD Devices		Default: Windows Boot Manager
	Windows Boot Manager	Allows you to select this option
Onboard NIC Device		Default: UEFI Onboard LAN IPv4
	UEFI Onboard LAN IPv4	Allows you to select this option
	UEFI Onboard LAN IPv6	Allows you to select this option
Clear Invalid Boot Option	Enable or disable clear invalid boot option	Default: Disabled
Secure Boot	Enable or disable the secure boot	Default: Enabled
Secure Boot Mode	Allows you to select the between standard and custom modes	Default: Standard

Power

The Power tab allows you to configure auto power modes.

Wake Up by Integrated LAN/WLAN	Enable or disable wake on PME	Default: Disabled
AC Recovery	Allows you to select the power state of the computer after an AC power loss	Default: Power Off
Auto Wake on S5	Enable or disable auto wake on S5	Default: Disabled

Security

The Security tab displays the security status and allows you to manage the security features of the computer.

Admin Password	Specifies whether an admin password has been assigned. (Default: Not installed)
System Password	Specifies whether a system password has been assigned. (Default: Not installed)
Set Admin Password	Allows you to set an admin password
Set System Password	Allows you to set a system password.



HDD Password Setting	Allows you to select the hard drive that you wish to password protect
Password Change	Allows you to restrict any change in password (Default: Permitted)
Password Bypass	Allows you to set or disable the password bypass (Default: Disabled)
HDD Protection	Enable or disable HDD protection

Exit

This section allows you to save, discard and load default settings before exiting from Setup Utility.

Updating the BIOS

It is recommended to update your BIOS (system setup), on replacing the system board or if an update is available. For laptops, ensure that your computer battery is fully charged and connected to a power outlet

1. Re-start the computer.
2. Go to **dell.com/support**.
3. Enter the **Service Tag** or **Express Service Code** and click **Submit**.
 -  **NOTE:** To locate the Service Tag, click **Where is my Service Tag?**
 -  **NOTE:** If you cannot find your Service Tag, click **Detect My Product**. Proceed with the instructions on screen.
4. If you are unable to locate or find the Service Tag, click the Product Category of your computer.
5. Choose the **Product Type** from the list.
6. Select your computer model and the **Product Support** page of your computer appears.
7. Click **Get drivers** and click **View All Drivers**.
The Drivers and Downloads page opens.
8. On the Drivers and Downloads screen, under the **Operating System** drop-down list, select **BIOS**.
9. Identify the latest BIOS file and click **Download File**.
You can also analyze which drivers need an update. To do this for your product, click **Analyze System for Updates** and follow the instructions on the screen.
10. Select your preferred download method in the **Please select your download method below window**; click **Download File**.
The **File Download** window appears.
11. Click **Save** to save the file on your computer.
12. Click **Run** to install the updated BIOS settings on your computer.
Follow the instructions on the screen.


System and Setup Password

You can create a system password and a setup password to secure your computer.

Password Type	Description
System password	Password that you must enter to log on to your system.
Setup password	Password that you must enter to access and make changes to the BIOS settings of your computer.


 **CAUTION:** The password features provide a basic level of security for the data on your computer.

 **CAUTION:** Anyone can access the data stored on your computer if it is not locked and left unattended.

 **NOTE:** Your computer is shipped with the system and setup password feature disabled.

Assigning a System Password and Setup Password

You can assign a new **System Password** and/or **Setup Password** or change an existing **System Password** and/or **Setup Password** only when **Password Status** is **Unlocked**. If the Password Status is **Locked**, you cannot change the System Password.

 **NOTE:** If the password jumper is disabled, the existing System Password and Setup Password is deleted and you need not provide the system password to log on to the computer.

To enter a system setup, press <F2> immediately after a power-on or re-boot.

1. In the **System BIOS** or **System Setup** screen, select **System Security** and press <Enter>. The **System Security** screen appears.
2. In the **System Security** screen, verify that **Password Status** is **Unlocked**.
3. Select **System Password**, enter your system password, and press <Enter> or <Tab>. Use the following guidelines to assign the system password:
 - A password can have up to 32 characters.
 - The password can contain the numbers 0 through 9.
 - Only lower case letters are valid, upper case letters are not allowed.
 - Only the following special characters are allowed: space, ("), (+), (.), (-), (.), (/), (:), (I), (\), (I), (').


Re-enter the system password when prompted.

4. Type the system password that you entered earlier and click **OK**.
5. Select **Setup Password**, type your system password and press <Enter> or <Tab>. A message prompts you to re-type the setup password.
6. Type the setup password that you entered earlier and click **OK**.
7. Press <Esc> and a message prompts you to save the changes.
8. Press <Y> to save the changes. The computer reboots.

Deleting or Changing an Existing System and/or Setup Password

Ensure that the **Password Status** is **Unlocked** (in the System Setup) before attempting to delete or change the existing System and/or Setup password. You cannot delete or change an existing System or Setup password, if the **Password Status** is **Locked**.

To enter the System Setup, press <F2> immediately after a power-on or reboot.

1. In the **System BIOS** or **System Setup** screen, select **System Security** and press <Enter>. The **System Security** screen is displayed.
2. In the **System Security** screen, verify that **Password Status** is **Unlocked**.
3. Select **System Password**, alter or delete the existing system password and press <Enter> or <Tab>.
4. Select **Setup Password**, alter or delete the existing setup password and press <Enter> or <Tab>.
 **NOTE:** If you change the System and/or Setup password, re-enter the new password when promoted. If you delete the System and/or Setup password, confirm the deletion when promoted.
5. Press <Esc> and a message prompts you to save the changes.
6. Press <Y> to save the changes and exit from the System Setup.
The computer reboots.

Technical Specifications


 **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.

Table 2. System Information

Feature	Specification
Processor type	<ul style="list-style-type: none"> Intel Celeron J1900 Intel Celeron J1800 Intel Pentium J2900
Total cache	Up to 2 MB cache depending on processor type

Table 3. Memory

Feature	Specification
Type	up to 1333 DDR3L
Connectors	one DIMM slot
Capacity	2 GB, 4 GB, and 8 GB
Minimum Memory	2 GB
Maximum Memory	8 GB

Table 4. Video

Feature	Specification
Video Controller:	
Integrated	Integrated Intel HD Graphics
Discrete	NVIDIA GeForce 820M 1 GB DDR3
Video Memory	
Integrated	shared memory
Discrete	1 GB

Table 5. Audio

Feature	Specification
Controller	ALC3661-CG (Realtek)
Speaker	single 4-ohms, 2.5 W AVG speakers
Internal speaker amplifier	up to 3 W per channel
Internal microphone support	single digital microphone (optional)

Table 6. Communications

Feature	Specification
Network adapter	Intel 10/100/1000 Mbps Ethernet LAN
Wireless	half mini-card (Wi-Fi b/g/n supporting Wi-Fi display) (optional)

Table 7. Displays

Feature	Specification
Type	19.5 inch HD+ WLED
Maximum resolution	1600 x 900
Refresh rate	60 Hz
Brightness	Brightness up/down buttons
Operating angle	178 horizontal / 178 vertical
Pixel pitch	0.2652 mm
Controls	on-screen controls
Dimensions:	
Height	249.08 mm (9.81 inches)
Width	442.80 mm (17.43 inches)
Diagonal	508.00 mm (20.00 inches)

Table 8. Drives

Feature	Specification
Hard drive	one 2.5-inch SATA drive
Optical drive (optional)	one DVD-ROM, DVD+/- RW

Table 9. Ports and Connectors

Feature	Specification
Audio	one audio combo connector
Network adapter	one RJ-45 connector

Feature	Specification
USB 2.0	three
USB 3.0	one
Media card reader	one 4-in-1 slot

Table 10. Power Adapter

Feature	Specification
Type:	
with UMA graphics	65 W
with discrete graphics	90 W
Frequency	50 Hz – 60 Hz
Voltage	100 VAC – 240 VAC
Input current	<ul style="list-style-type: none"> • Maximum 1.5 A • Maximum 0.8 A
Adapter Physical Dimensions:	
Height	32.00 mm (1.26 inches)
Width	52.00 mm (2.05 inches)
Depth	128.00 mm (5.04 inches)
Coin-cell battery	3 V CR2032 lithium coin cell

Table 11. Camera (optional)

Feature	Specification
Image resolution	2.0 Megapixel
Video resolution	HD / 720P / 0.92 Megapixels (1280 x 720 pixels)
Diagonal viewing angle	66.2 degrees

Table 12. Stand

Feature	Specification
Tilt	–5 degrees to 30 degrees

Table 13. Physical Dimensions

Feature	Without Stand	With Stand
Width	489.92 mm (19.29 inches)	489.92 mm (19.29 inches)
Height	328.84 mm (12.95 inches)	385.58 mm (15.18 inches)
Depth:		

Feature	Without Stand	With Stand
non-touch	67.62 mm (2.66 inches)	204.58 mm (8.05 inches)
touch	66.72 mm (2.63 inches)	204.97 mm (8.07 inches)
Weight:		
non-touch	4.18 kg to 4.37 kg (9.21 lb to 9.63 lb)	5.68 kg to 5.87 kg (12.52 lb to 12.94 lb)
touch	4.87 kg to 5.06 kg (10.74 lb to 11.15 lb)	6.37 kg to 6.56 kg (14.04 lb to 14.46 lb)



NOTE: The weight of your computer may vary depending on the configuration ordered and the manufacturing variability. The above weight is without an optical disk drive.

Table 14. Controls and Lights

Feature	Specification
Power button light	White light — Solid white light indicates power-on state; blinking white light indicates sleep state of the computer.
Hard Drive activity light	White light — Blinking white light indicates that the computer is reading data from or writing data to the hard drive.
Camera LED	White light — solid while light indicates that the camera is on.
Back panel:	
Link integrity light on integrated network adapter :	Green — a good 10 Mbps connection exists between the network and the computer. Green— a good 100 Mbps connection exists between the network and the computer. Orange — a good 1000 Mbps connection exists between the network and the computer. Off (no light) — the computer is not detecting a physical connection to the network.
Network activity light on integrated network adapter	Yellow light — A blinking yellow light indicates that network activity is present.
Power supply diagnostic light	Green light — The power supply is turned on and is functional. The power cable must be connected to the power connector (at the back of the computer) and the electrical outlet.

Table 15. Environmental

Feature	Specification
Temperature range:	
Operating	5 °C to 35 °C (41 °F to 95 °F)
Storage	-40 °C to 65 °C (-40 °F to 149 °F)
Relative humidity (maximum):	
Operating	10% to 90% (non-condensing)
Storage	10% to 95% (non-condensing)
Maximum vibration:	
Operating	0.66 GRMS
Storage	1.30 GRMS
Maximum shock:	
Operating	110 G
Storage	160 G
Altitude:	
Operating	-15.2 m to 3048 m (-50 to 10,000 ft)
Storage	-15.20 m to 10,668 m (-50 ft to 35,000 ft)
Airborne contaminant level	G2 or lower as defined by ANSI/ISA-S71.04-1985

Contacting Dell

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. Visit **dell.com/support**
2. Select your support category.
3. Verify your country or region in the Choose a Country/Region drop-down menu at the top of page.
4. Select the appropriate service or support link based on your need.