

# OptiPlex 3030 All-in-One Owner's Manual

Regulatory Model: W10B  
Regulatory Type: W10B001



# 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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# 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](http://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

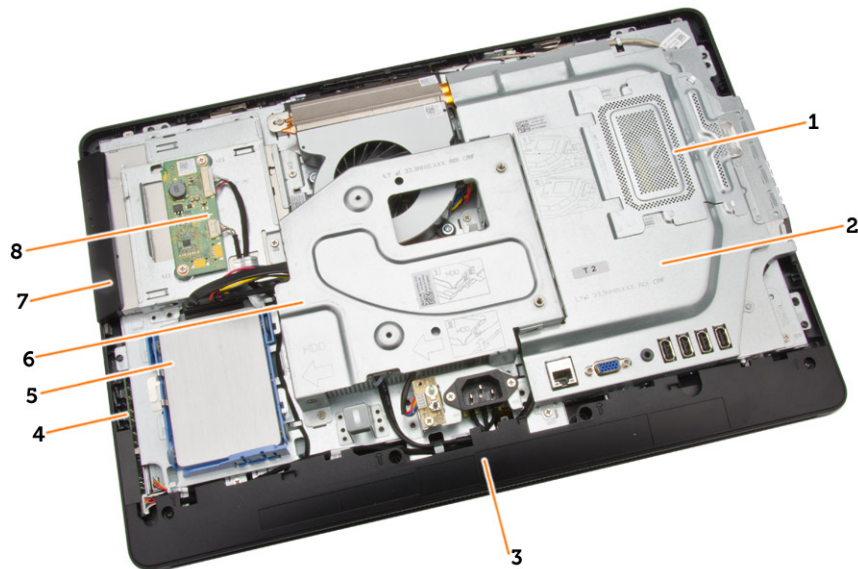


**Figure 1. Inside View – 1**

1. memory shield
2. system board shield
3. bottom cover
4. power-switch board
5. hard drive
6. VESA Bracket
7. optical drive
8. convertor board

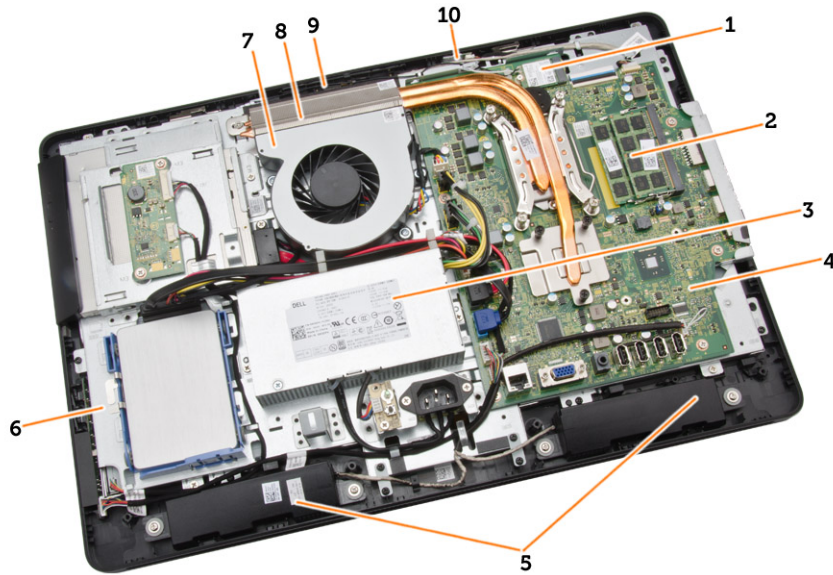
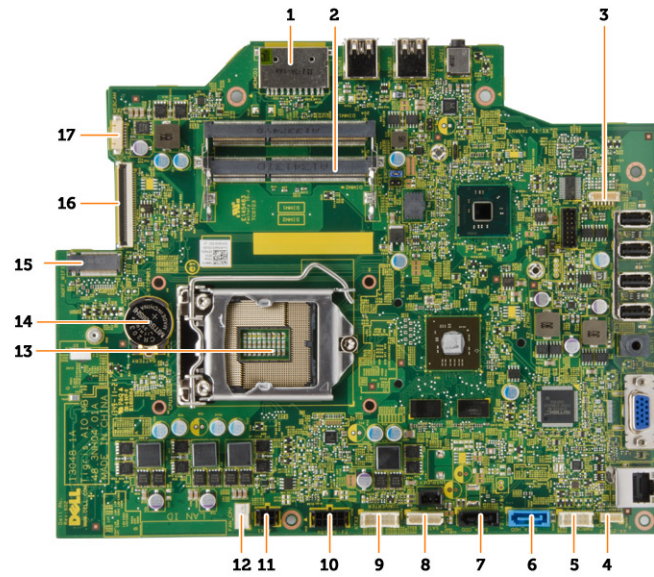


**Figure 2. Inside View – 2**

1. WLAN card
2. memory module
3. power supply unit
4. system board
5. speaker
6. display bracket
7. system fan
8. heatsink
9. camera
10. microphone

## **System Board Layout**

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



1. SD Memory card reader
2. memory module
3. speaker connector
4. touch connector
5. control board connector
6. HDD connector
7. ODD connector
8. SATA power connector
9. convertor board connector
10. power connector 2
11. power connector 1
12. system fan connector
13. processor connector
14. coin-cell Battery
15. WLAN connector
16. LVDS connector
17. camera

## 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. Remove the stand cover.
3. Remove the screws that secure the stand to the computer and remove the stand 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. Install stand cover.
4. 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:
  - a. stand cover
  - b. stand
3. Perform the following steps as shown in the illustration:
  - a. Using a scribe, pry the edges of the computer [1].

- b. Remove the back cover from the computer [2].

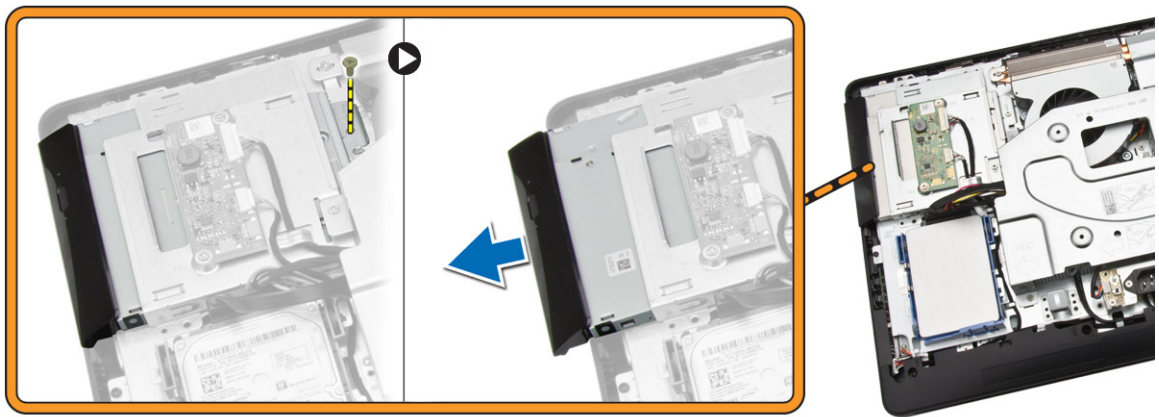


## Installing the Back Cover

1. Place the back cover on the computer.
2. Press at the corners of the back cover to secure it to the computer.
3. Install:
  - a. stand
  - b. stand cover
4. 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:
  - a. stand cover
  - b. stand
  - c. back cover
3. Remove the screw that secures the optical drive to the computer . Slide the optical drive out of the computer.

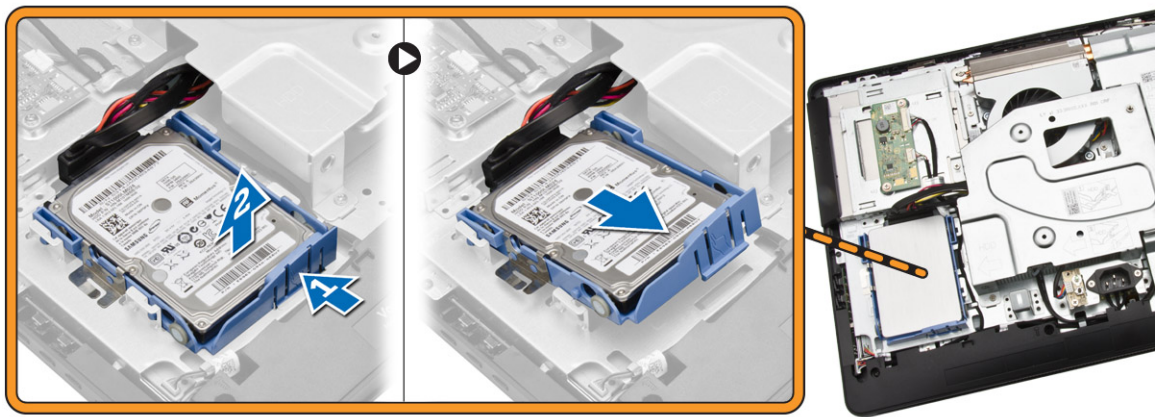


## Installing the Optical Drive

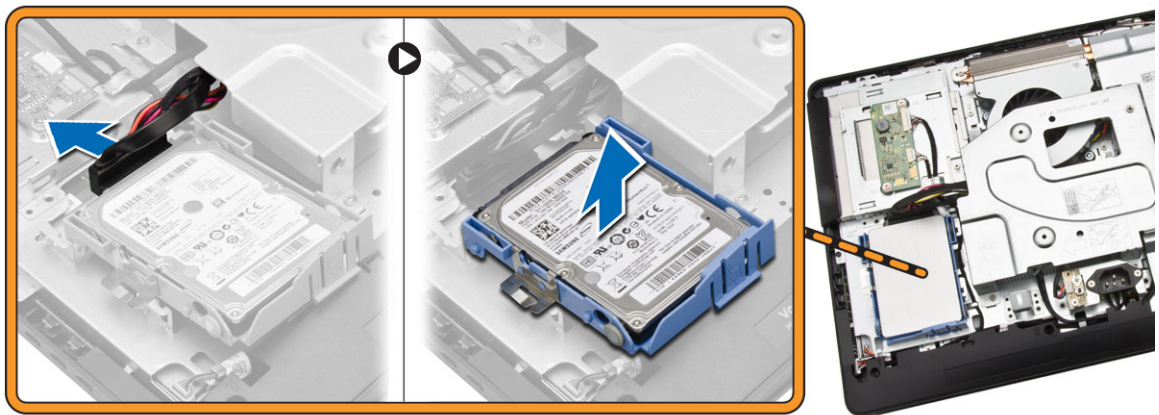
1. Slide the optical drive to the computer and tighten the screw to secure it.
2. Install:
  - a. back cover
  - b. stand
  - c. stand cover
3. Follow the procedures in *After Working Inside Your Computer*.

## Removing the Hard Drive

1. Follow the procedures in *Before Working Inside Your Computer*.
2. Remove:
  - a. stand cover
  - b. stand
  - c. back cover
3. Perform the following steps as shown in the illustration:
  - a. Push the hard-drive bracket to release it from its lock [1].
  - b. Lift the hard drive from one edge [2].



4. 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.

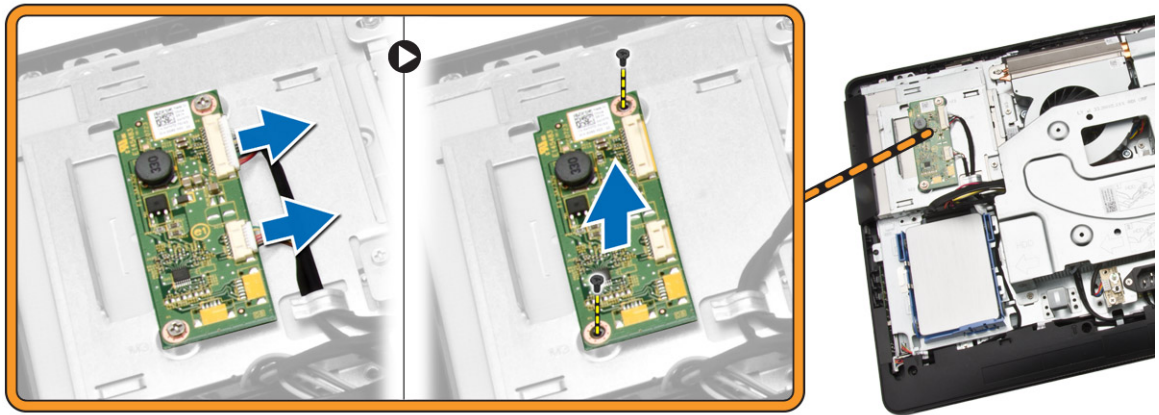


## Installing the Hard Drive

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
  - c. stand cover
4. Follow the procedures in *After Working Inside Your Computer*.

## Removing the Convertor Board

1. Follow the procedures in *Before Working Inside Your Computer*.
2. Remove:
  - a. stand cover
  - b. stand
  - c. back cover
3. Disconnect the cables from the convertor board. Remove the screws and lift the convertor board from the computer.

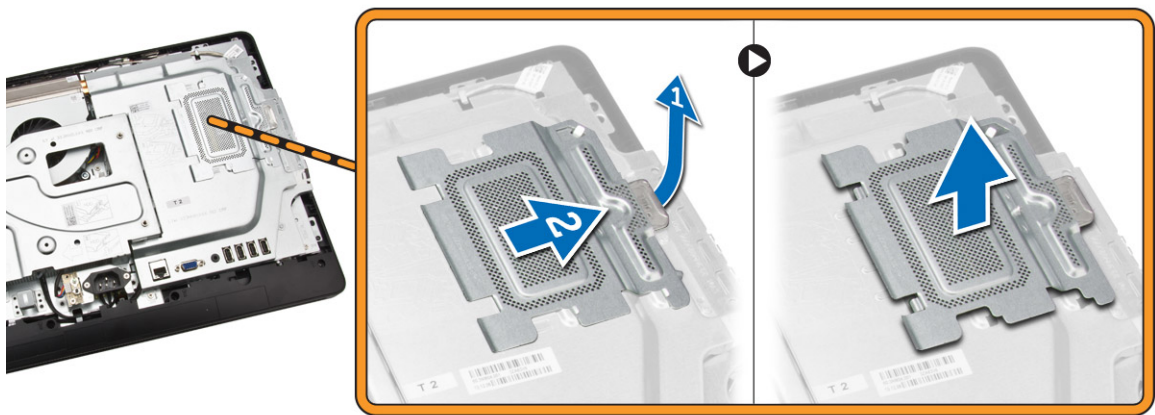


## Installing the Converter Board

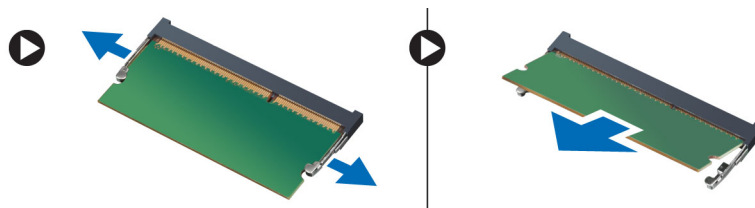
1. Tighten the screws to secure the converter board to the computer. Connect the cables to the converter board.
2. Install:
  - a. back cover
  - b. stand
  - c. stand cover
3. Follow the procedures in *After Working Inside Your Computer*.

## Removing the Memory

1. Follow the procedures in *Before Working Inside Your Computer*.
2. Remove:
  - a. stand cover
  - b. stand
  - c. back cover
3. Perform the following steps as shown in the illustration:
  - a. Slide to release the memory cover from the computer [1].
  - b. Remove the memory cover from the computer [2].



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

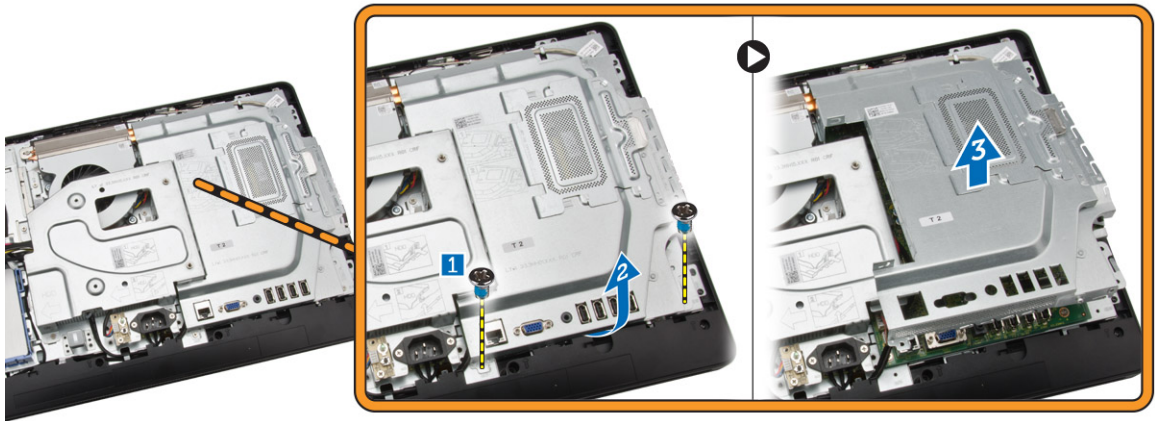


## Installing the Memory

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

## Removing the System-Board Shield

1. Follow the procedures in *Before Working Inside Your Computer*.
2. Remove:
  - a. stand cover
  - b. stand
  - c. back cover
3. Perform the following steps as shown in the illustration:
  - a. Remove the screws that secure the system-board shield to the computer [1].
  - b. Lift the system-board shield from the computer [2].
  - c. Remove the system-board shield from the computer [3].

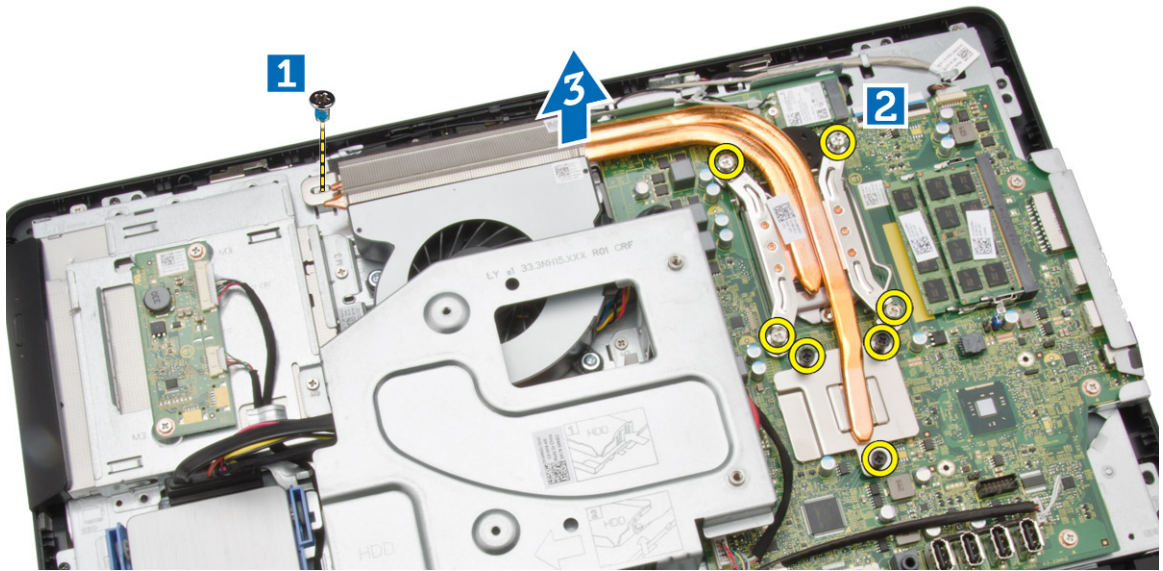


## Installing the System-Board Shield

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
  - c. stand cover
3. 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 cover
  - b. stand
  - c. back cover
  - d. system-board shield
3. Perform the following steps as shown in the illustration:
  - a. Remove the screw that secure the heatsink to the computer [1].
  - b. Remove the screws that secure around CPU to the computer [2].
  - c. Lift and remove the heatsink from the computer [3].

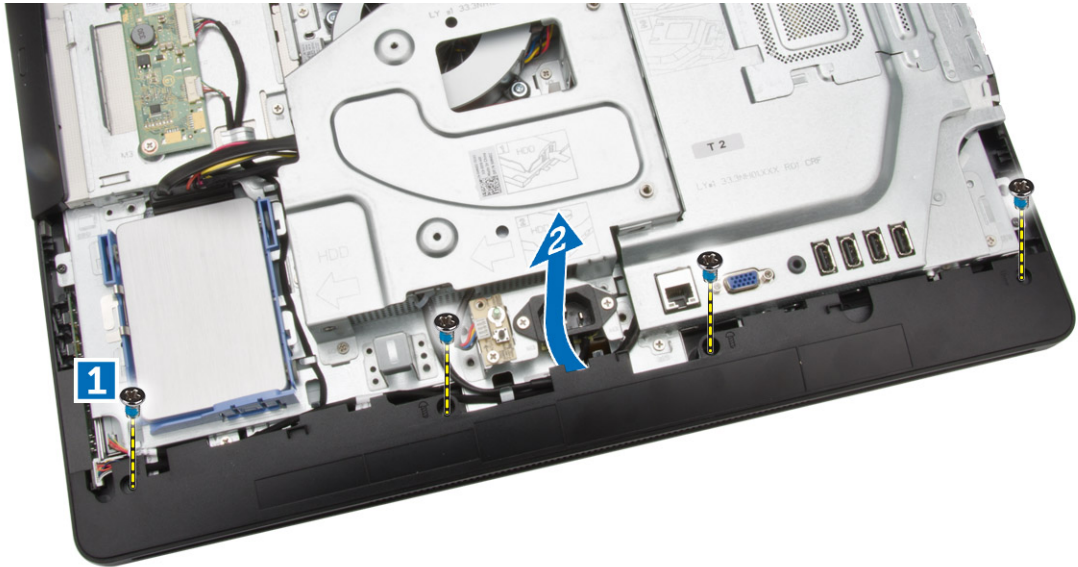


## Installing the Heatsink

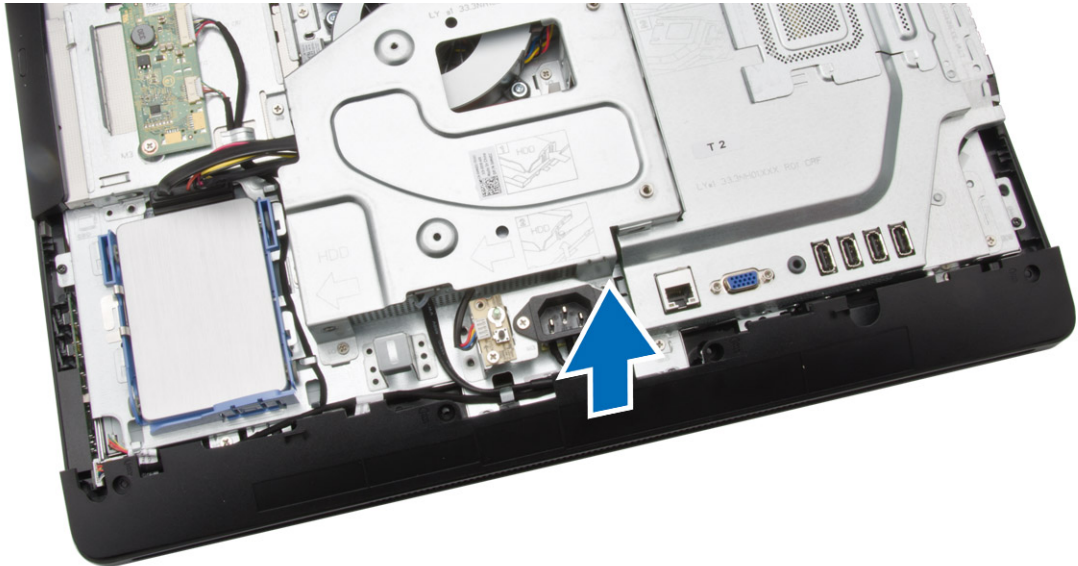
1. Align the heatsink on the system board. Tighten the screws to secure it to the computer.
2. Install:
  - a. system-board shield
  - b. back cover
  - c. stand
  - d. stand cover
3. Follow the procedures in *After Working Inside Your Computer*.

## Removing the Speakers

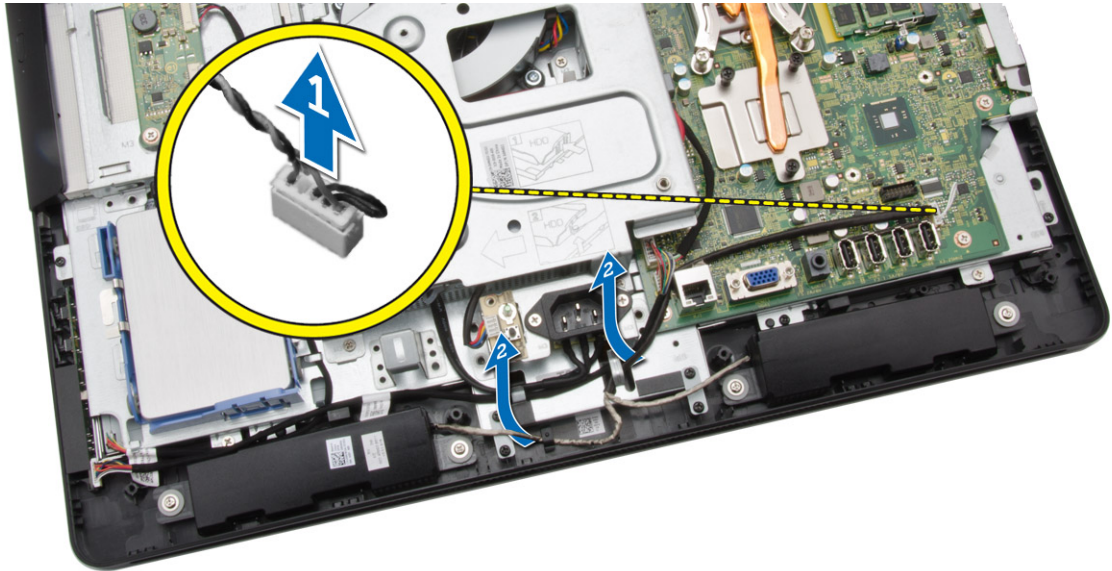
1. Follow the procedures in *Before Working Inside Your Computer*.
2. Remove:
  - a. stand cover
  - b. stand
  - c. back cover
  - d. system-board shield
3. Perform the following steps as shown in the illustration:
  - a. Remove the screws that secure the speaker cover to the computer [1].
  - b. Release the speaker cover from the computer.[2].



4. Remove the speaker cover from the computer.



5. Perform the following steps as shown in the illustration:
  - a. Disconnect the speaker cable from the system board [1].
  - b. Release the cable from the tabs on the computer [2].



6. Perform the following steps as shown in the illustration:
  - a. Remove the screws that secure the speakers to the computer [1].
  - b. Remove the speakers from the computer [2].



## 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
  - d. stand cover
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 cover
  - b. stand
  - c. back cover
3. Perform the following steps as shown in the illustration:
  - a. Remove the screws that secure the VESA bracket to the computer [1].
  - b. Remove the VESA it from the computer [2].



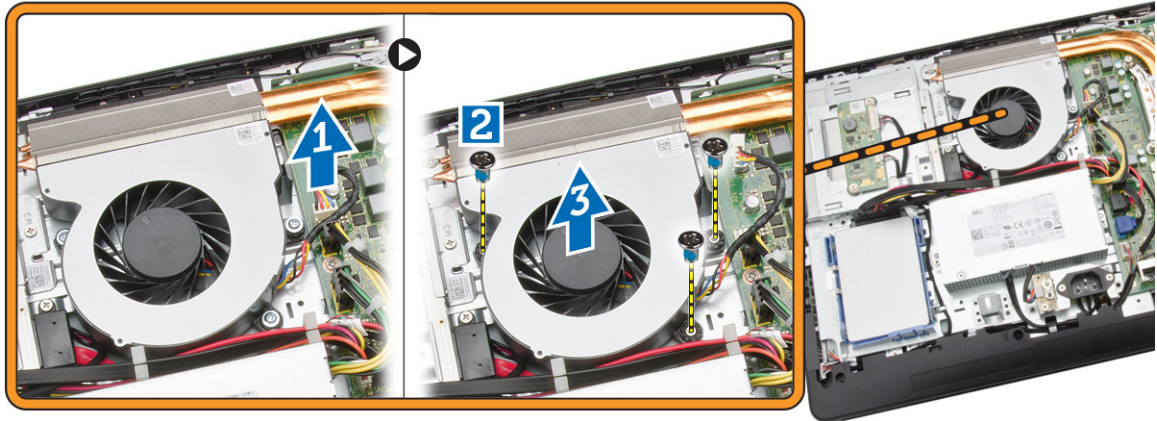
## Installing the VESA Bracket

1. Align the VESA bracket on the computer. Tighten the screws to secure it to the computer.
2. Install:
  - a. back cover
  - b. stand
  - c. stand cover
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 cover
  - b. stand
  - c. back cover
  - d. System-board shield
  - e. VESA bracket
3. Perform the following steps as shown in the illustration:
- a. Disconnect the system-fan cable from the system board [1].
  - b. Remove the screws that secure the system fan [2].
  - c. Remove system fan from the computer [3].

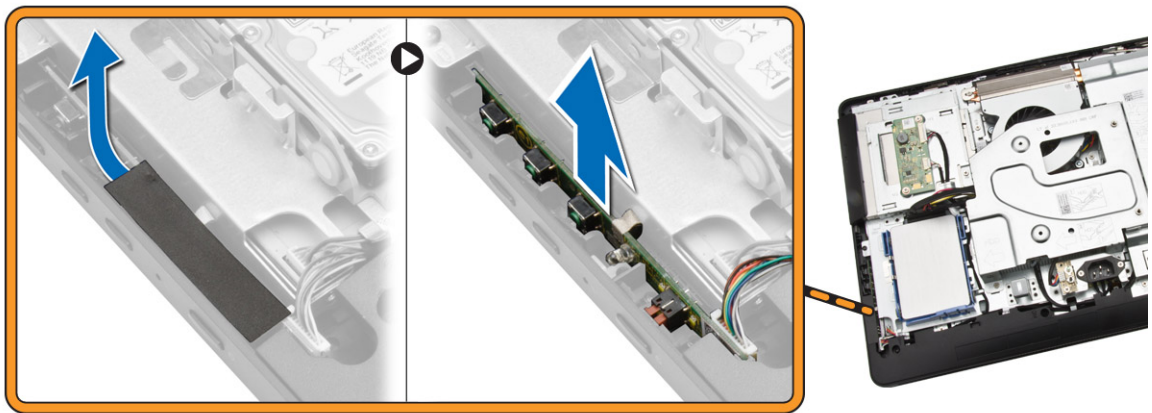


## Installing the System Fan

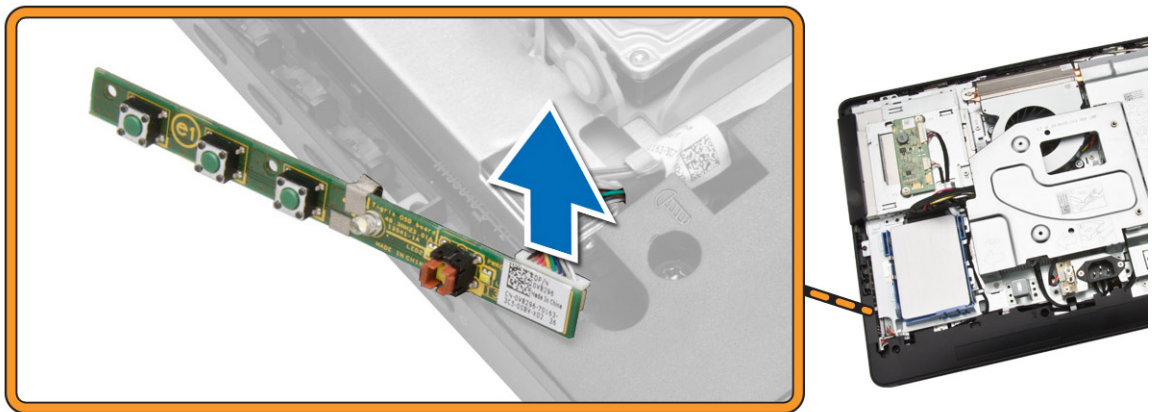
1. Align the system fan with the heatsink on the computer and tighten the screws to secure it to the computer.
2. Connect the system-fan cable to the system board.
3. Install:
  - a. VESA bracket
  - b. system-board shield
  - c. back cover
  - d. stand
  - e. stand cover
4. Follow the procedures in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

## Removing the Power-Switch Board

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

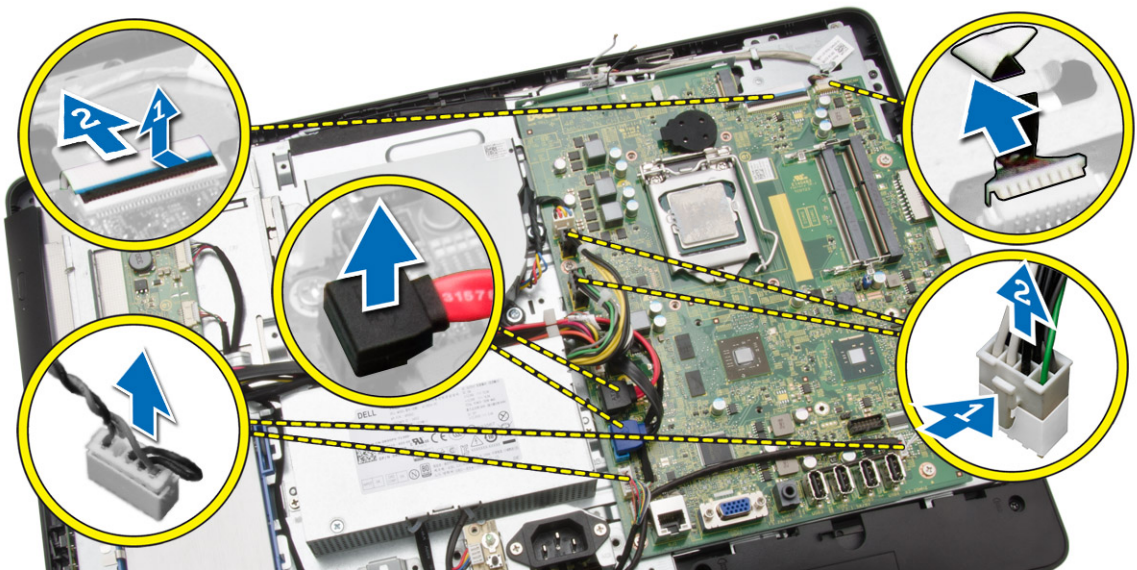
## Removing the System Board

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

- c. back cover
- d. memory
- e. VESA bracket
- f. system-board shield
- g. heatsink
- h. WLAN card

**3.** Disconnect the following from 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. power-switch cable
- i. touch cable (if available)
- j. speaker cable

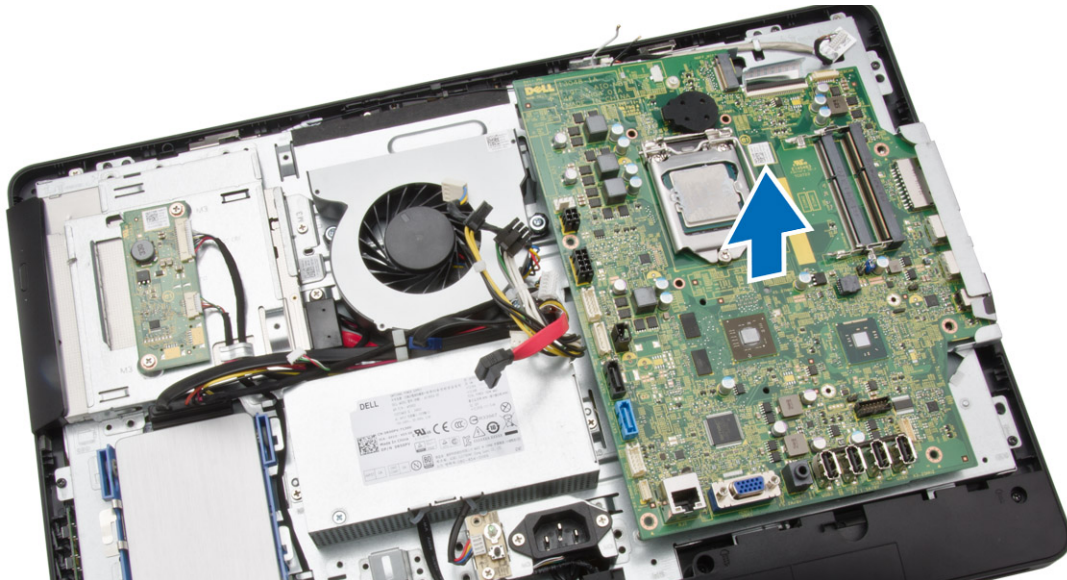


**4.** Perform the following steps as shown in the illustration:

- a. Remove the screws that secure the system board to the computer [1].
- b. Slide the system board to release it from the computer [2].



5. Remove the system board from the computer.



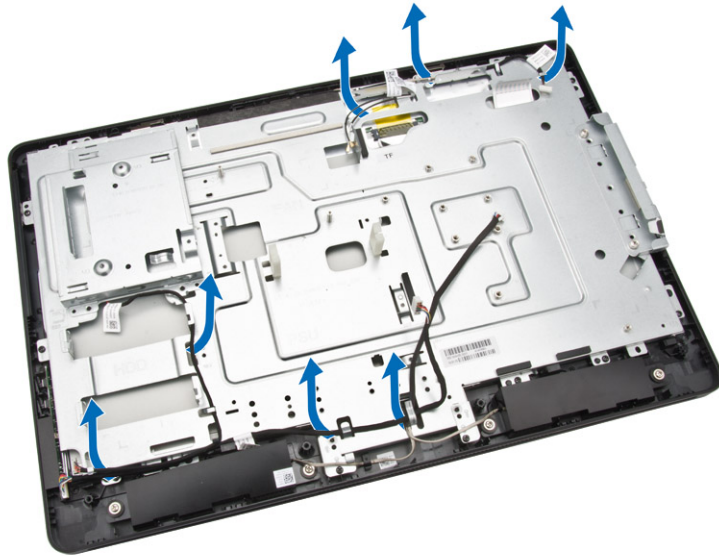
## Installing the System Board

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

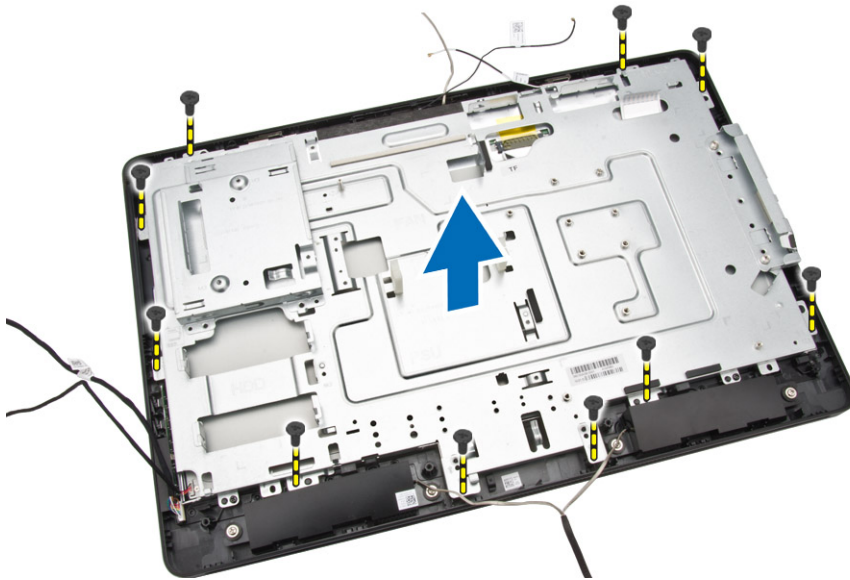
- f. hard-drive/optical-drive power cable
  - g. convertor-board cable
  - h. touch cable (if available)
  - i. power-switch cable
  - j. speaker cable
4. Install:
- a. WLAN card
  - b. heatsink
  - c. system-board shield
  - d. VESA bracket
  - e. memory
  - f. back cover
  - g. stand
  - h. stand cover
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 cover
  - b. stand
  - c. back cover
  - d. optical drive
  - e. hard drive
  - f. memory
  - g. VESA bracket
  - h. system-board shield
  - i. speakers
  - j. heatsink
  - k. system fan
  - l. WLAN card
  - m. convertor board
  - n. 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.



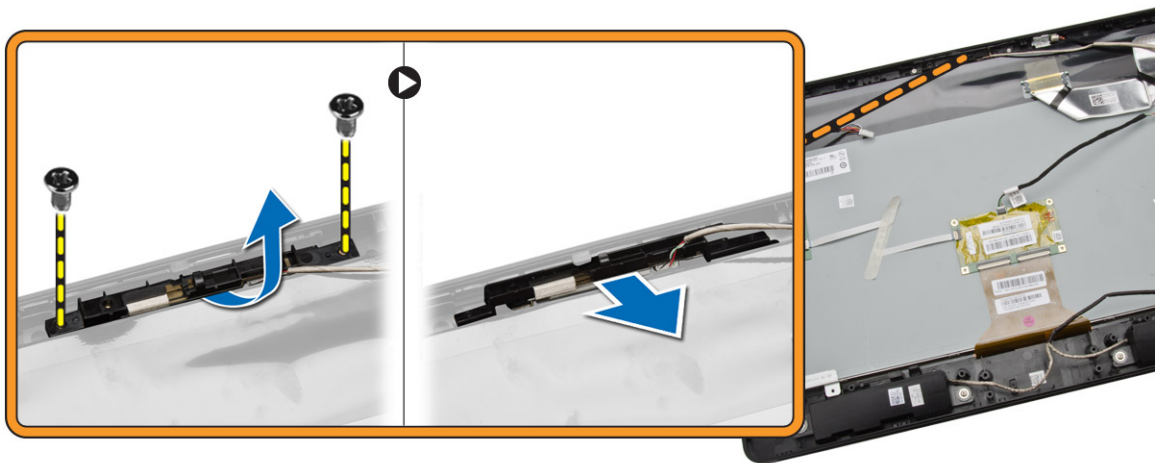
## Installing the Display Bracket

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

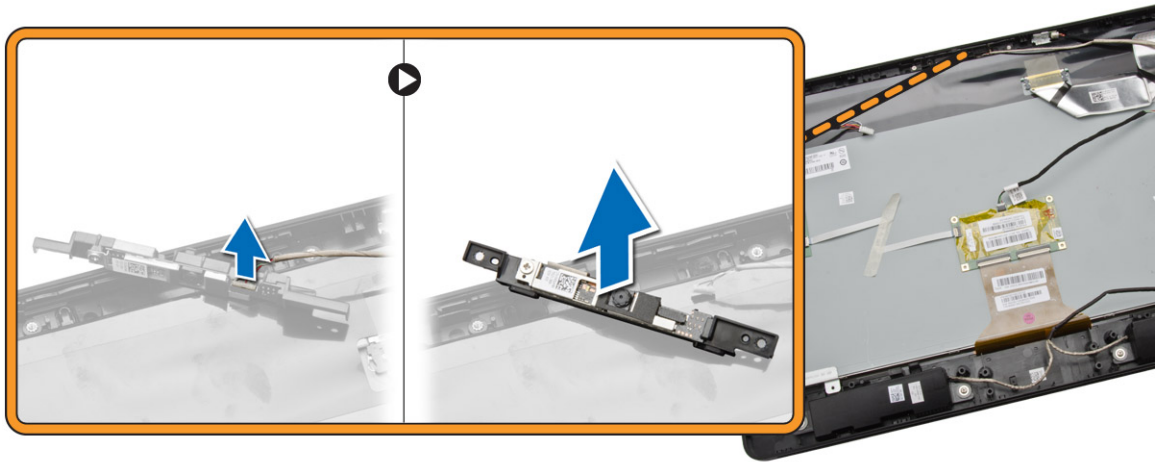
- d. system fan
  - e. heatsink
  - f. speakers
  - g. system-board shield
  - h. VESA bracket
  - i. memory
  - j. hard drive
  - k. optical drive
  - l. back cover
  - m. stand
  - n. stand cover
5. Follow the procedures in *After Working Inside Your Computer*.

## Removing the Camera

1. Follow the procedures in *Before Working Inside Your Computer*.
2. Remove:
  - a. stand cover
  - b. stand
  - c. back cover
  - d. optical drive
  - e. hard drive
  - f. memory
  - g. VESA bracket
  - h. system-board shield
  - i. speakers
  - j. heatsink
  - k. system fan
  - l. WLAN card
  - m. convertor board
  - n. system board
  - o. 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.



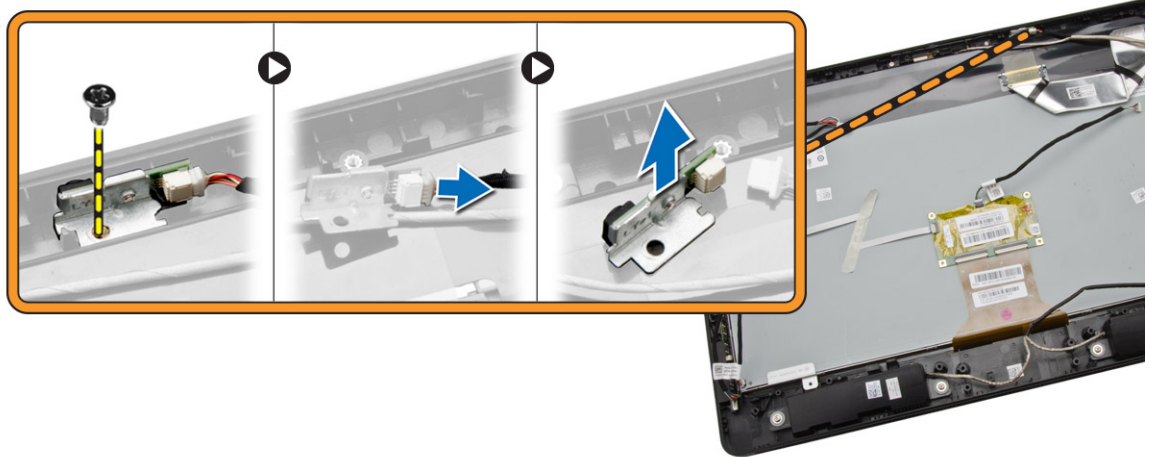
## Installing the Camera

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
  - o. stand cover
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 cover
  - b. stand
  - c. back cover
3. Perform the following steps as shown in the illustration:

- 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
  - c. stand cover
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.                                                                                                                                                        |
|            |  <b>NOTE:</b> 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.                                                                                                                                                 |

## System Setup Options

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

**Table 2. General**

| Option                       | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>System Board</b>          | <p>This section lists the primary hardware features of your computer.</p> <ul style="list-style-type: none"> <li>• System Information</li> <li>• Memory Information</li> <li>• PCI Information</li> <li>• Processor Information</li> <li>• Device Information</li> </ul>                                                                                                                                                                                                                                                                                                   |
| <b>Boot Sequence</b>         | <p>Allows you to change the order in which the computer attempts to find an operating system.</p> <ul style="list-style-type: none"> <li>• <b>Boot Sequence</b> <ul style="list-style-type: none"> <li>• Diskette drive</li> <li>• SATA HDD Drive</li> <li>• USB Storage Device</li> <li>• CD/DVD/CD-RW Drive</li> <li>• Onboard NIC</li> </ul> </li> <li>• <b>Boot List Option</b> <ul style="list-style-type: none"> <li>• Allows you to change the boot list option. <ul style="list-style-type: none"> <li>– Legacy</li> <li>– UEFI</li> </ul> </li> </ul> </li> </ul> |
| <b>Advanced Boot Options</b> | Allows you to Enable Legacy Option ROMs                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |

| Option           | Description                                                                                               |
|------------------|-----------------------------------------------------------------------------------------------------------|
|                  | <ul style="list-style-type: none"> <li>• <b>Enabled Legacy Options ROMs</b> (Default: Enabled)</li> </ul> |
| <b>Date/Time</b> | Allows you to set the date and time. The changes to the system date and time takes effect immediately.    |

**Table 3. System Configuration**

| Option                   | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|--------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Integrated NIC</b>    | <p>Allows you to configure the integrated network controller. The options are:</p> <ul style="list-style-type: none"> <li>• Enable UEFI Network Stack</li> <li>• Disabled</li> <li>• Enabled</li> <li>• <b>Enabled w/PXE</b> (Default)</li> <li>• Enabled w/Cloud Desktop</li> </ul>                                                                                                                                                                                           |
| <b>SATA Operation</b>    | <p>Allows you to configure the internal SATA hard-drive controller. The options are:</p> <ul style="list-style-type: none"> <li>• Disabled</li> <li>• ATA</li> <li>• <b>AHCI</b> (Default)</li> </ul>                                                                                                                                                                                                                                                                          |
| <b>Drives</b>            | <p>Allows you to enable or disable the various drives on-board:</p> <ul style="list-style-type: none"> <li>• SATA-0</li> <li>• SATA-1</li> </ul> <p>Default Setting: <b>All drives are enabled.</b></p>                                                                                                                                                                                                                                                                        |
| <b>SMART Reporting</b>   | <p>Allows you to enable SMART reporting on hard drives during system startup.</p> <ul style="list-style-type: none"> <li>• <b>Enable SMART Reporting</b> - This option is disabled by default.</li> </ul>                                                                                                                                                                                                                                                                      |
| <b>USB Configuration</b> | <p>Allows you to enable or disable the internal USB configuration. The options are:</p> <ul style="list-style-type: none"> <li>• Enable Boot Support</li> <li>• Rear USB Ports <ul style="list-style-type: none"> <li>– Port 1 (left)</li> <li>– Port 2 (Center Left)</li> <li>– Port 3 (Center Right)</li> <li>– Port 4 (Right)</li> </ul> </li> <li>• Side USB Ports <ul style="list-style-type: none"> <li>– Port 1 (Top)</li> <li>– Port 2 (Bottom)</li> </ul> </li> </ul> |

| Option                       | Description                                                                                                                                                                                                                                                                                    |
|------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                              | Default Setting: <b>All devices are enabled.</b>                                                                                                                                                                                                                                               |
| <b>Audio</b>                 | <p>Allows you enable or disable the audio feature.</p> <ul style="list-style-type: none"> <li>• Enable Audio <ul style="list-style-type: none"> <li>– Enable Microphone</li> <li>– Enable Internal Speaker</li> </ul> </li> </ul> <p>Default Setting: <b>All devices are enabled.</b></p>      |
| <b>OSD Button Management</b> | <p>Allows you to disable the OSD (On-Screen Display) buttons.</p> <ul style="list-style-type: none"> <li>• Disable OSD Buttons</li> </ul> <p>Default Setting: <b>OSD buttons are not disabled</b></p>                                                                                          |
| <b>Miscellaneous Devices</b> | <p>Allows you to enable or disable various on-board devices.</p> <ul style="list-style-type: none"> <li>• <b>Enable Camera</b> - This option is selected by default.</li> <li>• <b>Enable Media Card</b> - This option is selected by default.</li> <li>• <b>Disable Media Card</b></li> </ul> |

Table 4. Security

| Option                         | Description                                                                                                                                                                                                                                                                                                                                                                           |
|--------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Admin Password</b>          | <p>This field lets you set, change, or delete the administrator (admin) password (sometimes called the setup password). The admin password enables several security features. The drive does not have a password set by default.</p> <ul style="list-style-type: none"> <li>• Enter the old password</li> <li>• Enter the new password</li> <li>• Confirm the new password</li> </ul> |
| <b>System Password</b>         | <p>This field lets you set, change, or delete the system password. The system password enables several security features. The drive does not have a password set by default.</p> <ul style="list-style-type: none"> <li>• Enter the old password</li> <li>• Enter the new password</li> <li>• Confirm the new password</li> </ul>                                                     |
| <b>Internal HDD_0 Password</b> | <p>Allows you to set, change, or delete the password on the computer's internal hard disk drive (HDD) Successful change to this password take effect immediately. The drive does not have a password set by default</p> <ul style="list-style-type: none"> <li>• Enter the old password</li> <li>• Enter the new password</li> </ul>                                                  |

| Option                        | Description                                                                                                                                                                                                                                                                                                                                             |
|-------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                               | <ul style="list-style-type: none"> <li>Confirm the new password</li> </ul>                                                                                                                                                                                                                                                                              |
| <b>Strong Password</b>        | <b>Enable strong password</b> - This option is disabled by default.                                                                                                                                                                                                                                                                                     |
| <b>Password Configuration</b> | <p>This field controls the minimum and maximum number of characters allowed for the admin and system passwords.</p> <ul style="list-style-type: none"> <li>Admin Password Min</li> <li>Admin Password Max</li> <li>System Password Min</li> <li>System Password Max</li> </ul> <p>By default the minimum characters are set to 4 and maximum to 32.</p> |
| <b>Password Bypass</b>        | <p>Allows you to bypass the <i>System Password</i> and the internal HDD password prompts during a system restart.</p> <ul style="list-style-type: none"> <li>Disabled - This option is selected by default.</li> <li>Reboot Bypass</li> </ul>                                                                                                           |
| <b>Password Change</b>        | <p>Allows you to determine whether changes to the system and hard disk passwords are permitted when an administrator password is set.</p> <ul style="list-style-type: none"> <li><b>Allow Non-Admin Password Changes</b> - This option is enabled by default.</li> </ul>                                                                                |
| <b>TPM Security</b>           | <p>Allows you to control whether the Trusted Platform Module (TPM) in the system is enabled and visible to the operating system.</p> <p><b>TPM Security</b> - This option is disabled by default.</p>                                                                                                                                                   |
| <b>Computrace</b>             | <p>Allows you to activate, deactivate or disable the BIOS module interface of the optional <i>Computrace Service</i> from <i>Absolute Software</i>.</p> <ul style="list-style-type: none"> <li><b>Deactivate</b> - This option is disabled by default.</li> <li>Disable</li> <li>Activate</li> </ul>                                                    |
| <b>CPU XD Support</b>         | <p>Allows you to enable or disable the execute disable mode of the processor.</p> <ul style="list-style-type: none"> <li><b>Enable CPU XD Support</b> - This option is enabled by default.</li> </ul>                                                                                                                                                   |
| <b>Admin Setup Lockout</b>    | <p>Allows you to enable or disable the option to enter setup when an admin password is set.</p> <ul style="list-style-type: none"> <li><b>Enable Admin Setup Lockout</b> - This option is disabled by default.</li> </ul>                                                                                                                               |

Table 5. Secure Boot

| Option                | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|-----------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Secure Boot Enable    | <p>Allows you to enable or disable the Secure Boot Feature. The options are:</p> <ul style="list-style-type: none"> <li>• <b>Disabled</b> (Default)</li> <li>• Enabled</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Expert Key Management | <p>Allows you to manipulate the security key databases only if the system is in Custom Mode. The <b>Enable Custom Mode</b> option is disabled by default. The options are:</p> <ul style="list-style-type: none"> <li>• PK</li> <li>• KEK</li> <li>• db</li> <li>• dbx</li> </ul> <p>If you enable the <b>Custom Mode</b>, the relevant options for <b>PK, KEK, db, and dbx</b> appear. The options are:</p> <ul style="list-style-type: none"> <li>• <b>Save to File</b>- Saves the key to a user-selected file</li> <li>• <b>Replace from File</b>- Replaces the current key with a key from a user-selected file</li> <li>• <b>Append from File</b>- Adds a key to the current database from a user-selected file</li> <li>• <b>Delete</b>- Deletes the selected key</li> <li>• <b>Reset All Keys</b>- Resets to default setting</li> <li>• <b>Delete All Keys</b>- Deletes all the keys</li> </ul> <p> <b>NOTE:</b> If you disable the Custom Mode, all the changes made will be erased and the keys will restore to default settings.</p> |

Table 6. Performance

| Option             | Description                                                                                                                                                                                                                                                  |
|--------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Multi Core Support | <p>Specifies whether the process will have one or all cores enabled. The performance of some applications will improve with the additional cores.</p> <ul style="list-style-type: none"> <li>• All - Enabled by default</li> <li>• 1</li> <li>• 2</li> </ul> |
| Intel SpeedStep    | <p>Allows you to enable or disable the Intel SpeedStep feature.</p> <p>Default Setting: <b>Enable Intel SpeedStep</b></p>                                                                                                                                    |
| C States Control   | <p>Allows you to enable or disable the additional processor sleep states.</p> <p>Default Setting: <b>Enabled</b></p>                                                                                                                                         |

| Option                   | Description                                                                                                                                                                                                                                                                                                                                                                                             |
|--------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Limit CPUID Value</b> | <p>This field limits the maximum value the processor Standard CPUID Function will support</p> <ul style="list-style-type: none"> <li>• Enable CPUID Limit (Disabled by default)</li> </ul> <p> <b>NOTE:</b> Some Operating system will not complete installation when the maximum CPUID Function is greater than 3</p> |
| <b>Intel TurboBoost</b>  | <p>Allows you to enable or disable Intel TurboBoost mode of the processor. This option is enabled by default.</p> <ul style="list-style-type: none"> <li>• <b>Enable Intel TurboBoost</b> - Allows the Intel TurboBoost driver to increase the performance of the CPU or graphics processor. Enabled by default.</li> </ul>                                                                             |

Table 7. Power Management

| Option                      | Description                                                                                                                                                                                                                                                   |
|-----------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>AC Recovery</b>          | <p>Specifies how the computer will respond when AC power is applied after a AC power loss. You can set the AC Recovery to:</p> <ul style="list-style-type: none"> <li>• <b>Power Off</b> (Default)</li> <li>• Power On</li> <li>• Last Power State</li> </ul> |
| <b>Auto On Time</b>         | <p>Allows you to set the time at which the computer must turn on automatically. The options are:</p> <ul style="list-style-type: none"> <li>• <b>Disabled</b> (Default)</li> <li>• Every Day</li> <li>• Weekdays</li> <li>• Select Days</li> </ul>            |
| <b>Deep Sleep Control</b>   | <p>Allows you to define the controls when Deep Sleep is enabled.</p> <ul style="list-style-type: none"> <li>• Disabled</li> <li>• Enabled in S5 only</li> <li>• <b>Enabled in S4 and S5</b> Enabled</li> </ul>                                                |
| <b>Fan Control Override</b> | <p>Controls the speed of the system fan. This option is disabled by default.</p> <ul style="list-style-type: none"> <li>• <b>Fan Control Override</b> This option is disabled by default.</li> </ul>                                                          |
| <b>USB Wake Support</b>     | <p>This option allows you to enable USB devices to wake the computer from standby.</p> <ul style="list-style-type: none"> <li>• <b>Enable USB Wake Support</b> - This option is enabled by default.</li> </ul>                                                |
| <b>Wake on LAN/WLAN</b>     | <p>Allows you to power up the computer from the off state when triggered by a special LAN/WLAN signal.</p> <ul style="list-style-type: none"> <li>• <b>Disabled</b></li> </ul>                                                                                |

| Option                                | Description                                                                                                                                                                                                                                                                                                                       |
|---------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                       | <ul style="list-style-type: none"> <li>• LAN Only</li> <li>• WLAN only</li> <li>• LAN with PXE Boot</li> </ul> <p>This option is Disabled by default.</p>                                                                                                                                                                         |
| <b>Block Sleep</b>                    | <p>Allows you to block entering to sleep (S3 state) in OS Environment.</p> <ul style="list-style-type: none"> <li>• <b>Block Sleep (S3 State)</b> This option is disabled by default.</li> </ul>                                                                                                                                  |
| <b>Intel Smart Connect Technology</b> | <p>The option is disabled by default. If option enables will periodically sense nearby wireless connection while the system is asleep. It will synchronize emails or social media application that were open when system entered the sleep state.</p> <ul style="list-style-type: none"> <li>• <b>Smart Connection</b></li> </ul> |

Table 8. POST Behavior

| Option                 | Description                                                                                                                                                                                                                                         |
|------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Numlock LED</b>     | <p>Allows you to enable NumLock on when the computer boots. This option is enabled by default.</p> <ul style="list-style-type: none"> <li>• <b>Enable Numlock LED</b></li> </ul>                                                                    |
| <b>Keyboard Errors</b> | <p>Allows you to enable keyboard related error report when the computer boots. This option is enabled by default.</p> <ul style="list-style-type: none"> <li>• <b>Enable Keyboard Error Detection</b></li> </ul>                                    |
| <b>Fastboot</b>        | <p>Allows you to speed up the boot process by bypassing some compatibility steps. The options are:</p> <ul style="list-style-type: none"> <li>• Minimal</li> <li>• <b>Thorough</b> - This option is selected by default.</li> <li>• Auto</li> </ul> |

Table 9. Virtualization Support

| Option                | Description                                                                                                                                                                                                                                                                                               |
|-----------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Virtualization</b> | <p>This option specifies whether a Virtual Machine Monitor (VMM) can utilize the additional hardware capabilities provided by Intel Virtualization technology.</p> <ul style="list-style-type: none"> <li>• <b>Enable Intel Virtualization Technology</b> - This option is enabled by default.</li> </ul> |

Table 10. Wireless

| Option                        | Description                                                                                                      |
|-------------------------------|------------------------------------------------------------------------------------------------------------------|
| <b>Wireless Device Enable</b> | <p>Allows enabling/disabling the internal wireless devices. The options are is WLAN/WiFi(enabled by default)</p> |

Table 11. Maintenance

| 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 | Controls the SERR message mechanism. This option is enabled by default. Some graphics cards require that the SERR message mechanism be disabled. <ul style="list-style-type: none"> <li>• <b>Enable SERR Messages</b></li> </ul> |

Table 12. Cloud Desktop

| Option                | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|-----------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Server Lookup Method  | Specifies how the ImageServer looks up the server address. <ul style="list-style-type: none"> <li>• Static IP</li> <li>• <b>DNS</b> (enabled by default)</li> </ul>  <b>NOTE:</b> This field is only relevant when the <i>Integrated NIC</i> control in the <i>System Configuration</i> group is set to <i>Enabled with ImageServer</i> .                                                  |
| Server Name           | Displays the name of the server.                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Server IP Address     | Displays the primary static IP address of the ImageServer with which the client software communicates. The default IP address is <b>255.255.255.255</b> .  <b>NOTE:</b> This field is only relevant when the <i>Integrated NIC</i> control in the <i>System Configuration</i> group is set to <i>Enabled with ImageServer</i> and when <i>Lookup Method</i> is set to <i>Static IP</i> . |
| Server Port           | Displays the primary IP port of the ImageServer, which is used by the client to communicate. The default IP port is <b>06910</b> .  <b>NOTE:</b> This field is only relevant when the <i>Integrated NIC</i> control in the <i>System Configuration</i> group is set to <i>Enabled with ImageServer</i> .                                                                                 |
| Client Address Method | Specifies how the client obtains the IP address. <ul style="list-style-type: none"> <li>• Static IP</li> <li>• <b>DHCP</b> (enabled by default)</li> </ul>  <b>NOTE:</b> This field is only relevant when the <i>Integrated NIC</i> control in the <i>System Configuration</i> group is set to <i>Enabled with ImageServer</i> .                                                         |
| Client IP Address     | Displays the static IP address of the client. The default IP address is <b>255.255.255.255</b> .                                                                                                                                                                                                                                                                                                                                                                            |

| Option                   | Description                                                                                                                                                                                                                                                                                                                                                                                                         |
|--------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                          |  <b>NOTE:</b> This field is only relevant when the <i>Integrated NIC</i> control in the <i>System Configuration</i> group is set to <i>Enabled with ImageServer</i> and when <i>Client DHCP</i> is set to <i>Static IP</i> .                                                                                                       |
| <b>Client SubnetMask</b> | <p>Displays the subnet mask of the client. The default setting is <b>255.255.255.255</b>.</p>  <b>NOTE:</b> This field is only relevant when the <i>Integrated NIC</i> control in the <i>System Configuration</i> group is set to <i>Enabled with ImageServer</i> and when <i>Client DHCP</i> is set to <i>Static IP</i> .         |
| <b>Client Gateway</b>    | <p>Displays the gateway IP address for the client. The default setting is <b>255.255.255.255</b>.</p>  <b>NOTE:</b> This field is only relevant when the <i>Integrated NIC</i> control in the <i>System Configuration</i> group is set to <i>Enabled with ImageServer</i> and when <i>Client DHCP</i> is set to <i>Static IP</i> . |
| <b>DNS IP Address</b>    | Displays the DNS IP address of the client. The default setting is <b>255.255.255.255</b> .                                                                                                                                                                                                                                                                                                                          |
| <b>Domain Name</b>       | Displays the Domain Name of the client.                                                                                                                                                                                                                                                                                                                                                                             |
| Advanced                 | <p>Specifies for Advanced debugging</p> <ul style="list-style-type: none"> <li>• <b>Verbose Mode</b> (Disabled by default)</li> </ul>                                                                                                                                                                                                                                                                               |

**Table 13. System Logs**

| Option             | Description                                                                                                                         |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------------|
| <b>BIOS events</b> | <p>Displays the system event log and allows you to clear the log.</p> <ul style="list-style-type: none"> <li>• Clear Log</li> </ul> |

## 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 prompted. If you delete the System and/or Setup password, confirm the deletion when prompted.

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 14. System Information**

| Feature        | Specification                                                                                                                                 |
|----------------|-----------------------------------------------------------------------------------------------------------------------------------------------|
| Processor type | <ul style="list-style-type: none"> <li>Intel Core i3 / i5 series</li> <li>Intel Celeron Dual Core</li> <li>Intel Pentium Dual Core</li> </ul> |
| Total cache    | Up to 6 MB cache depending on processor type                                                                                                  |
| Chipset        | Intel H81 Chipset                                                                                                                             |

**Table 15. Memory**

| Feature        | Specification                                                       |
|----------------|---------------------------------------------------------------------|
| Type           | up to 1600 MHz, unbuffered non-ECC, dual-channel DDR3 configuration |
| Connectors     | two internally-accessible DDR3 SODIMM sockets                       |
| Capacity       | 2 GB, 4 GB, and 8 GB                                                |
| Minimum Memory | 2 GB                                                                |
| Maximum Memory | 16 GB                                                               |

**Table 16. Video**

| Feature           | Specification                                                                                                                                                                                                                          |
|-------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Video Controller: |                                                                                                                                                                                                                                        |
| Integrated        | <ul style="list-style-type: none"> <li>Integrated Intel HD Graphics 4600 - Intel Core i5</li> <li>Integrated Intel HD Graphics 4400 - Intel Core i3</li> <li>Integrated Intel HD Graphics - Intel Pentium/Celeron Dual Core</li> </ul> |
| Discrete          | AMD Radeon R5 A240                                                                                                                                                                                                                     |
| Video Memory:     |                                                                                                                                                                                                                                        |
| Integrated        | shared memory                                                                                                                                                                                                                          |

| Feature  | Specification |
|----------|---------------|
| Discrete | 1 GB DDR3     |

**Table 17. Audio**

| Feature                     | Specification                                                                           |
|-----------------------------|-----------------------------------------------------------------------------------------|
| Controller                  | ALC3661-CG (Realtek)                                                                    |
| Speaker                     | single 4-ohms, 2 W AVG speakers with 2.5 W Peak                                         |
| Internal speaker amplifier  | up to 6 W per channel                                                                   |
| Internal microphone support | single digital microphone                                                               |
| Volume controls             | Volume up/down buttons (Windows 7 only), program menus, and keyboard media-control keys |

**Table 18. Communications**

| Feature         | Specification                                                                        |
|-----------------|--------------------------------------------------------------------------------------|
| Network adapter | Intel 10/100/1000 Mbps Ethernet LAN on system board                                  |
| Wireless        | half mini-card <ul style="list-style-type: none"> <li>• Wi-Fi 7260 agn/ac</li> </ul> |

**Table 19. Cards**

| Feature | Specification |
|---------|---------------|
| M.2     | one           |

**Table 20. Displays**

| Feature            | Specification                       |
|--------------------|-------------------------------------|
| Type               | 19.5 inch HD+ WLED                  |
| Maximum resolution | 1600 x 900                          |
| Refresh rate       | 60 Hz                               |
| Operating angle    | 170° (horizontal) / 160° (vertical) |
| Pixel pitch        | 0.27 mm                             |
| Dimensions:        |                                     |
| Height             | 236.30 mm (9.30 inches)             |
| Width              | 433.90 mm (17.08 inches)            |
| Diagonal           | 495.30 mm (19.50 inches)            |

**Table 21. Drives**

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

**Table 22. Ports and Connectors**

| Feature           | Specification                          |
|-------------------|----------------------------------------|
| Audio:            | one universal audio jack/Line-out port |
| Network adapter   | one RJ45 connector                     |
| USB 2.0           | four connectors in the back panel      |
| USB 3.0           | two connectors on the side panel       |
| Media card reader | one 4-in-1 slot                        |

**Table 23. Power**

| Feature              | Specification                                |
|----------------------|----------------------------------------------|
| Type                 | 180 W                                        |
| Frequency            | 50 Hz - 60 Hz                                |
| Voltage              | 100 VAC - 240 VAC                            |
| Rated output voltage | 19.50 VDC                                    |
| Input current        | 2.9 A Maximum                                |
| Output current       | +12.0 V output (+12VA – 10A & +12VB – 14.5A) |



**NOTE:** +12VB Rated at 0.4 A when in Standby Mode.

Dimensions:

|                    |                                    |
|--------------------|------------------------------------|
| Height             | 30.00 mm (1.18 inches)             |
| Width              | 76.20 mm (3.00 inches)             |
| Depth              | 155.00 mm (6.10 inches)            |
| Weight             | 0.58 kg (1.28 lb)                  |
| Temperature range: |                                    |
| Operating          | 0 °C to 35 °C (30 °F to 95 °F)     |
| Storage            | -40 °C to 70 °C (-40 °F to 158 °F) |
| Coin-cell battery  | 3 V CR2032 lithium coin cell       |

**Table 24. Camera (optional)**

| Feature                | Specification    |
|------------------------|------------------|
| Image resolution       | 0.92 megapixel   |
| Video resolution       | 720p @ 30 FPS HD |
| Diagonal viewing angle | 74 degrees       |

**Table 25. Stand**

| Feature | Specification            |
|---------|--------------------------|
| Tilt    | –5 degrees to 30 degrees |

**Table 26. 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:                |                                                   |                                            |
| 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)  |
| Stand (Width x Depth) | 200.00 mm (7.87 inches) x 200.00 mm (7.87 inches) |                                            |



**NOTE:** The weight of your computer may vary depending on the configuration ordered and the manufacturing variability.

**Table 27. 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.                                                       |

| Feature                                              | Specification                                                                                                                                                                                                                                                                                                                                                    |
|------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Back panel:                                          |                                                                                                                                                                                                                                                                                                                                                                  |
| Link integrity light on integrated network adapter : | <p>Green — a good 10 Mbps connection exists between the network and the computer.</p> <p>Green— a good 100 Mbps connection exists between the network and the computer.</p> <p>Orange — a good 1000 Mbps connection exists between the network and the computer.</p> <p>Off (no light) — the computer is not detecting a physical connection to the network.</p> |
| 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 28. 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                    | –15.20 m to 3048 m (–50 ft 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.