Dell OptiPlex 3020M
Owner's Manual

Notes, cautions, and warnings

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

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

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

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Contents

4

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.**

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.

6

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.

Installing the Accessories

This section provides detailed information on how to install the following accessories:

- Power Adapter
- Dell OptiPlex Micro Dual VESA Mount
- Dell OptiPlex Micro VESA Mount
- Dell OptiPlex Micro Vertical Stand
- Dell OptiPlex Micro Console with DVD-RW
- Dell OptiPlex Micro All-in-One Mount

Installing the Power Adapter

1. Perform the following steps as shown in the illustration:
   a. Slide to open the cover of the power adapter [1].
   b. Install the power cable to the power adapter and place the power adapter in the box [2,3].
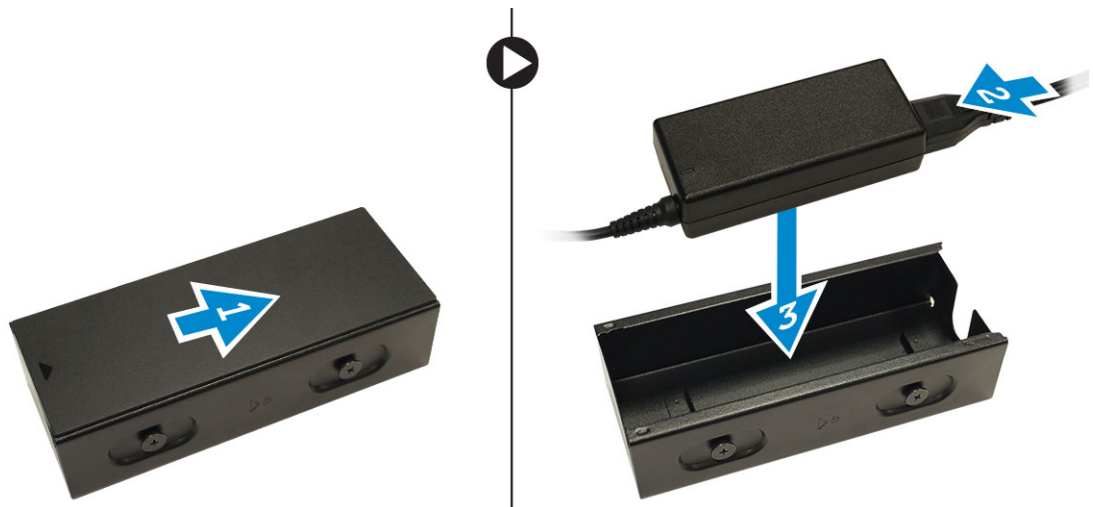
2. Insert the cable into the box and slide back the cover to lock it.

Installing the Dell OptiPlex Micro Dual VESA Mount

Recommended Screws:
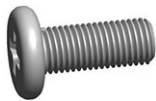
	Screw Type	Used in
	M4 x L10 mm, Pan head screw	Monitor

Prerequisite: Install the power adapter.

1. Align the dual VESA mount behind the monitor and tighten the screws to secure the dual VESA mount to the monitor.
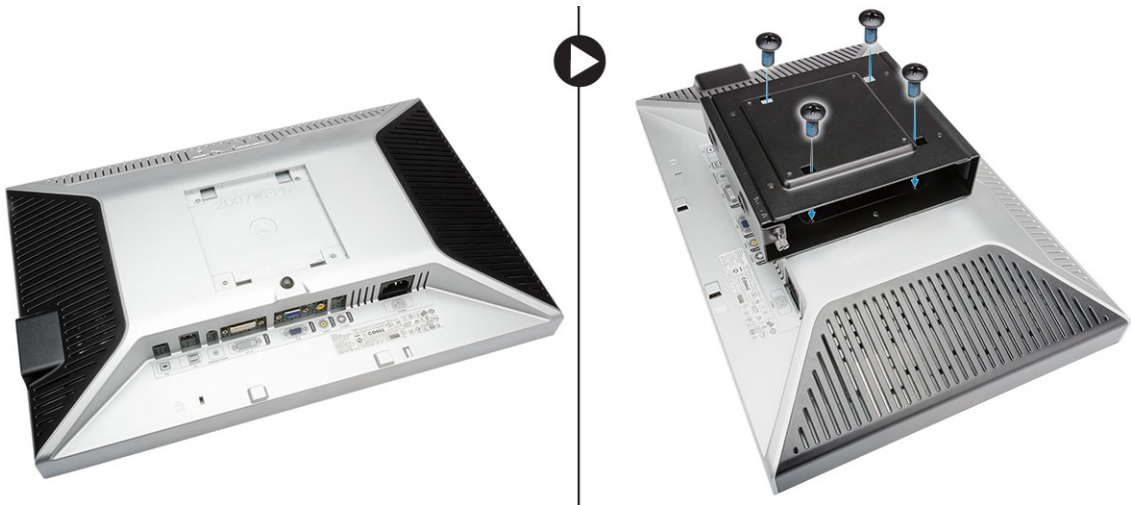
2. Perform the following steps as shown in the illustration:
   a. Slide the computer into the dual VESA mount. [1]
   b. Rotate the screw in clockwise direction to secure the computer to the dual VESA mount. [2]

3. Slide the power adapter case through the grooves at the bottom of the dual dual VESA mount to lock it.

4. Connect all the cables and antenna to the computer.

10
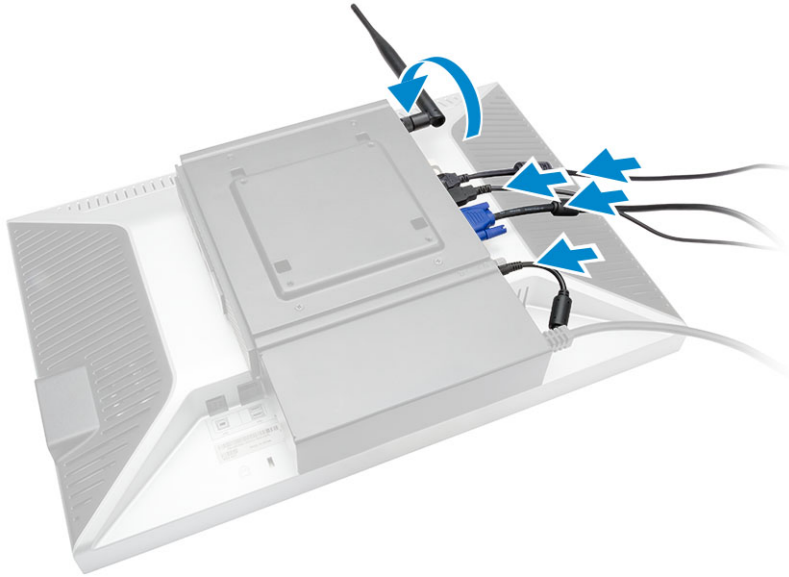
5. Tighten the screws to secure the arm stand to the dual VESA mount.
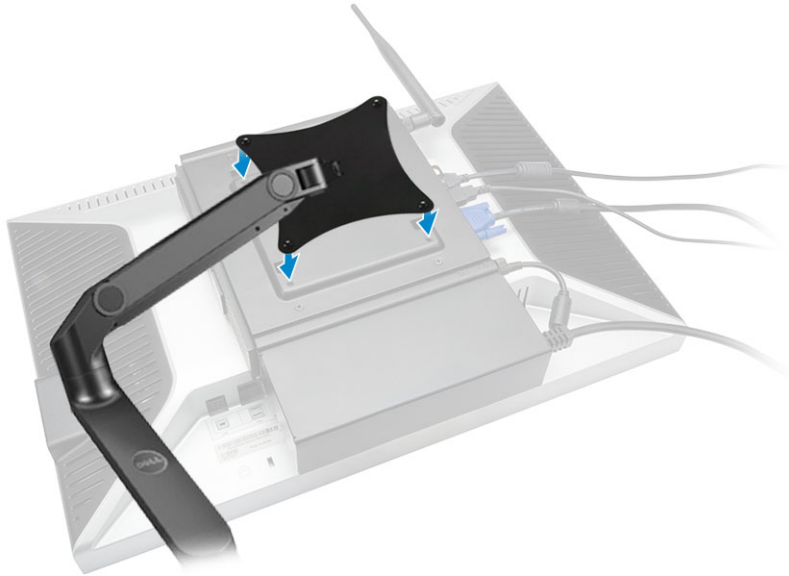
Installing the Dell OptiPlex Micro VESA Mount

Recommended Screws:

Screw Type	Used in
M4 x L10 mm, Pan head screw	Monitor

| | ST4 x L13 mm, Wooden screw | Wooden table |

Prerequisite: Install the power adapter.

1. Perform the following steps as shown in the illustration:
    a. Tighten the screws to secure the VESA mount to the table.
    b. Slide the computer into the VESA mount [1].
    c. Tighten the screw to secure the computer to the VESA mount [2].
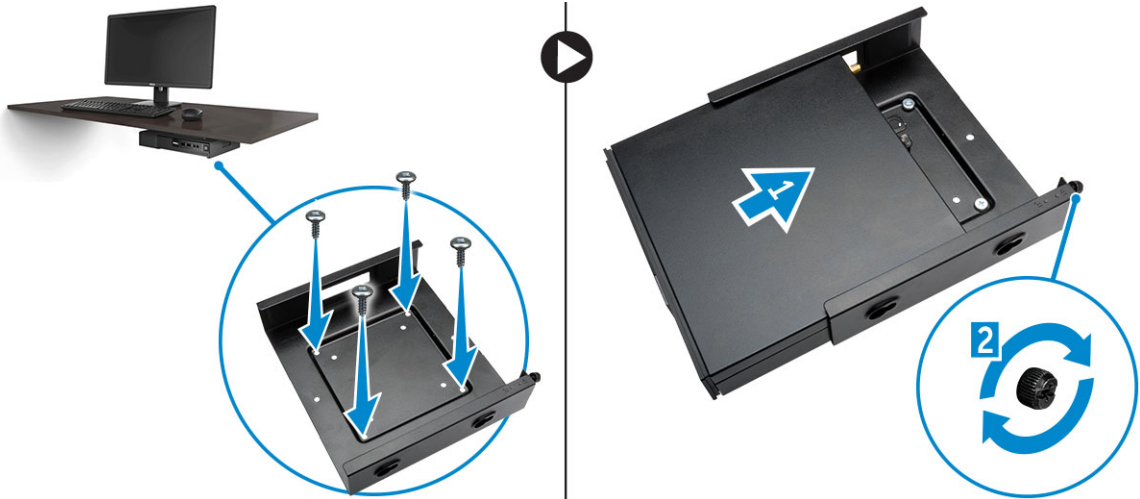
2. Perform the following steps as shown in the illustration:
    a. Slide the power adapter case through the grooves at the bottom of the VESA mount to lock it.
    b. Connect all the cables and install antenna to the computer.
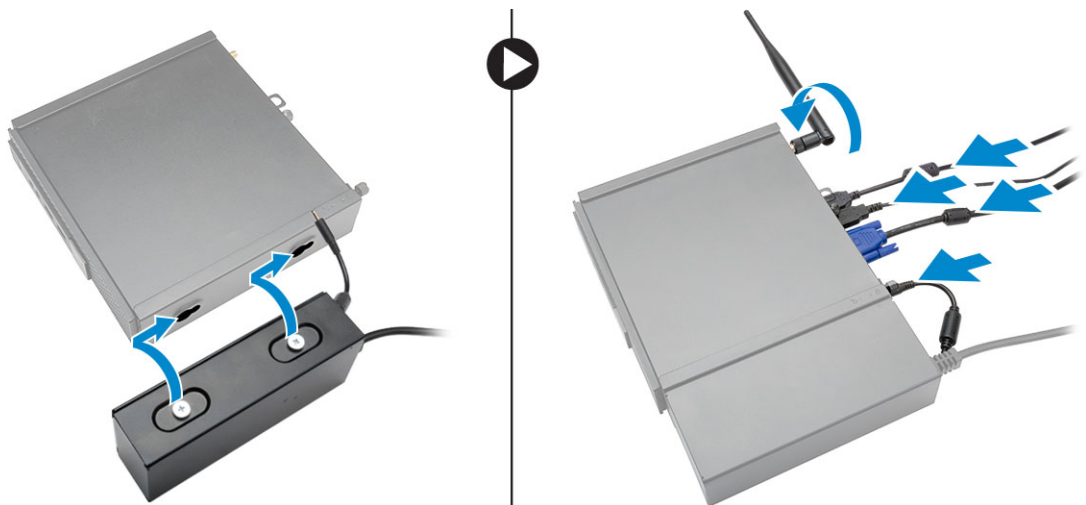
Installing the Dell OptiPlex Micro Vertical Stand

Align the computer on the vertical stand and ensure the tab on the vertical stand fits into the groove or notch on the system.

12
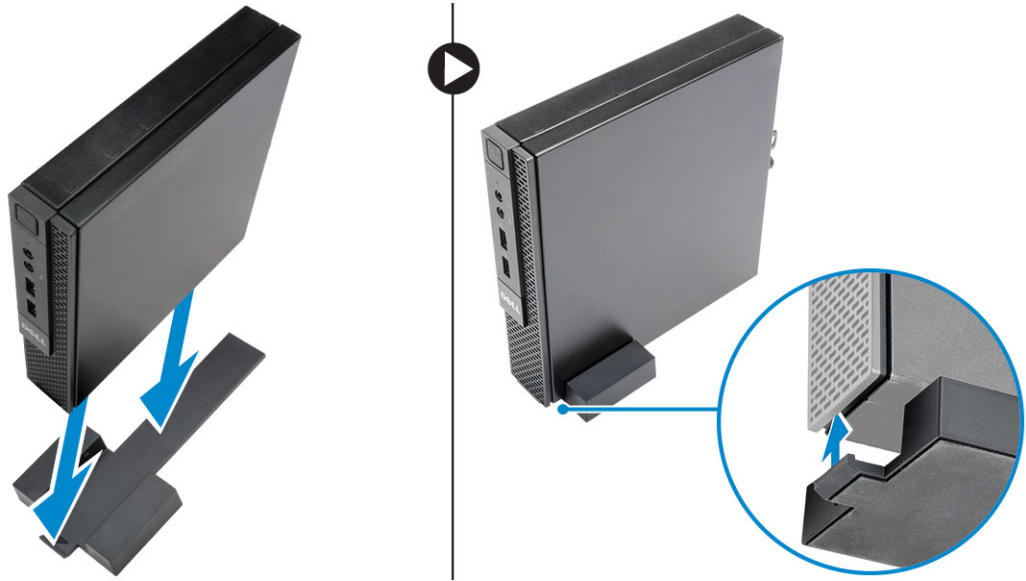
Installing the Dell OptiPlex Micro Console with DVD-RW

Recommended Screws:

	Screw Type	Used in
	ST4 x 13 mm, Wooden screw	Wooden table

1. Perform the following steps as shown in the illustration:
   a. Loosen the screws that secure the cover to the optical drive console [1].
   b. Slide and lift the cover upwards to remove it from the console [2].
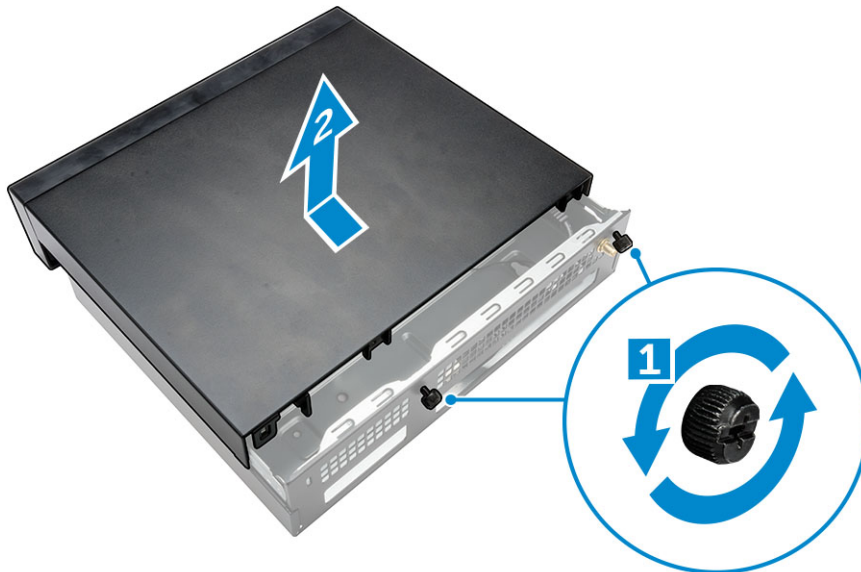
13

2. Perform the following steps as shown in the illustration:
   a. Slide the computer into the slot [1].
   b. Tighten the screw to secure the computer to the optical drive console [2].
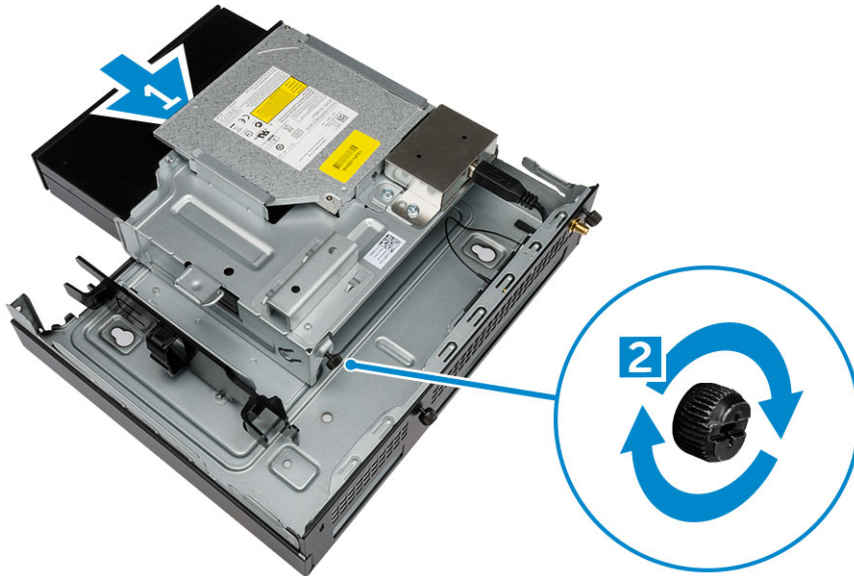
3. Perform the following steps as shown in the illustration:
   a. Cut the strap of the power adapter cable [1].
   b. Slide and insert the power adapter into the slot [2].
   c. Route the cable through the notch to secure it [3].
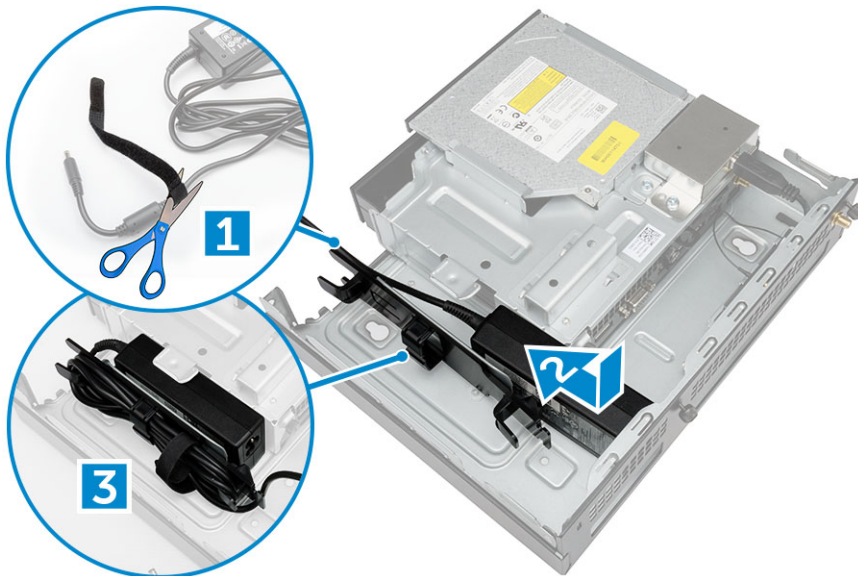
4. Perform the following steps as shown in the illustration:
   a. Open the cable management clip [1].
   b. Lift the antenna cable out [2].
   c. Connect the antenna cable to the antenna connector [3].
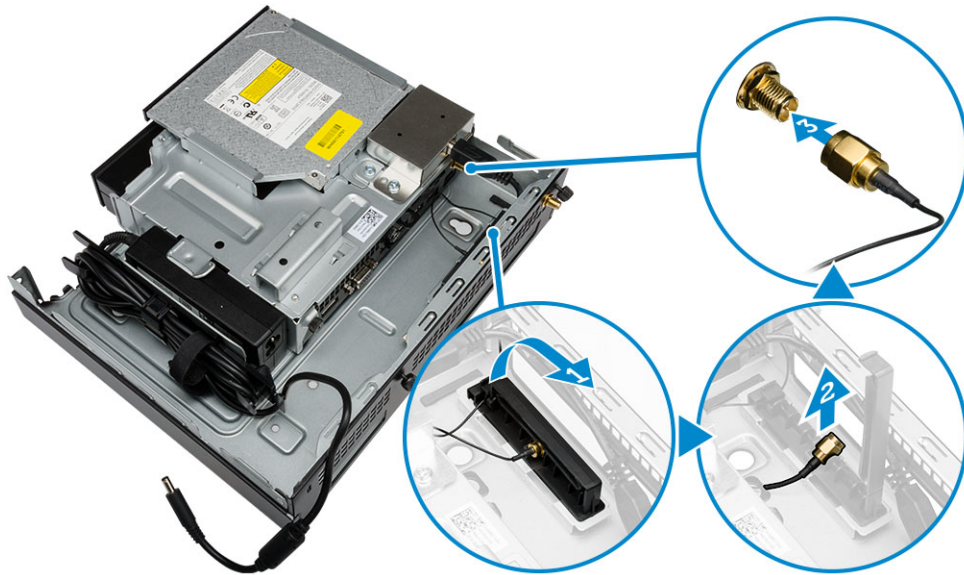
5. Route the USB cables through the cable management clip and connect them to the computer. Close the cable management clip.

6. Perform the following steps as shown in the illustration:
   a. Prepare the wooden table by installing screws for mounting the optical drive console.
   b. Align the slots on the optical drive console with the screws on the table and slide the optical drive console and lock it.
   c. Tighten the screws to secure the optical drive console to the wooden table.

15
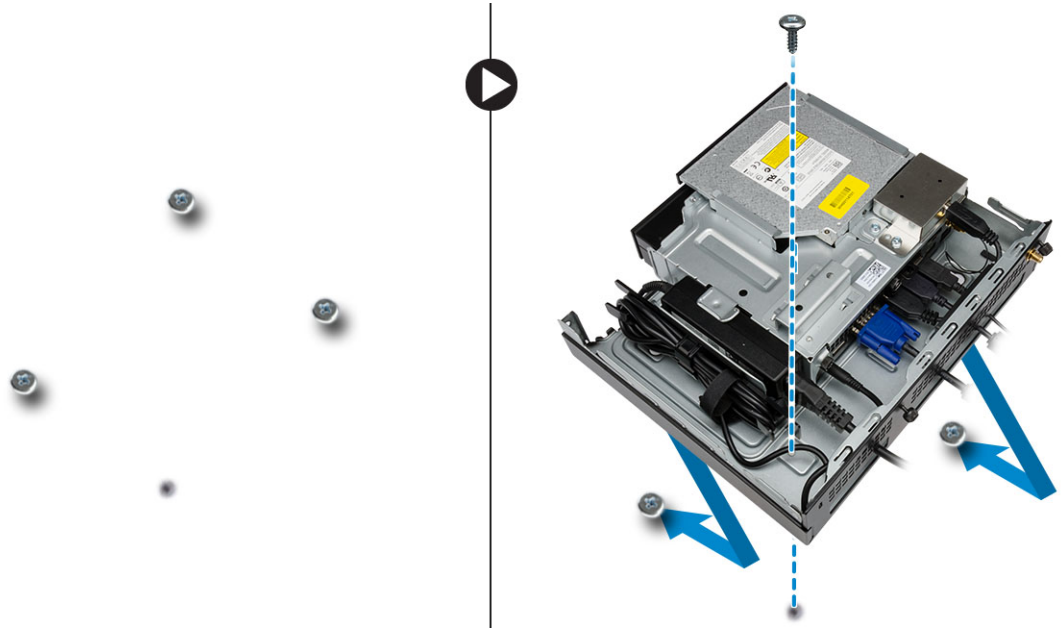
7. Install the antenna to the optical drive console.
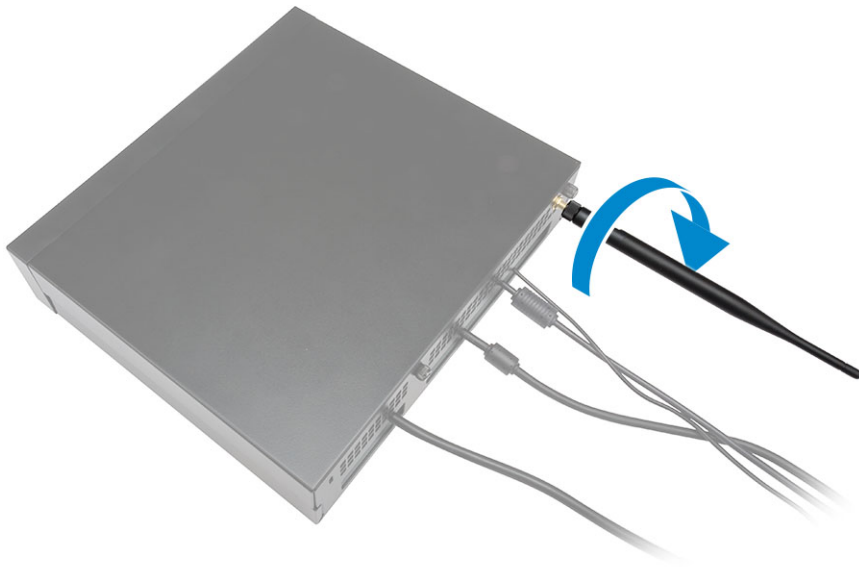
8. Perform the following steps as shown in the illustration:
   a. Slide and insert the cover to its position [1].
   b. Tighten the screws to secure the cover to the chassis [2].

16
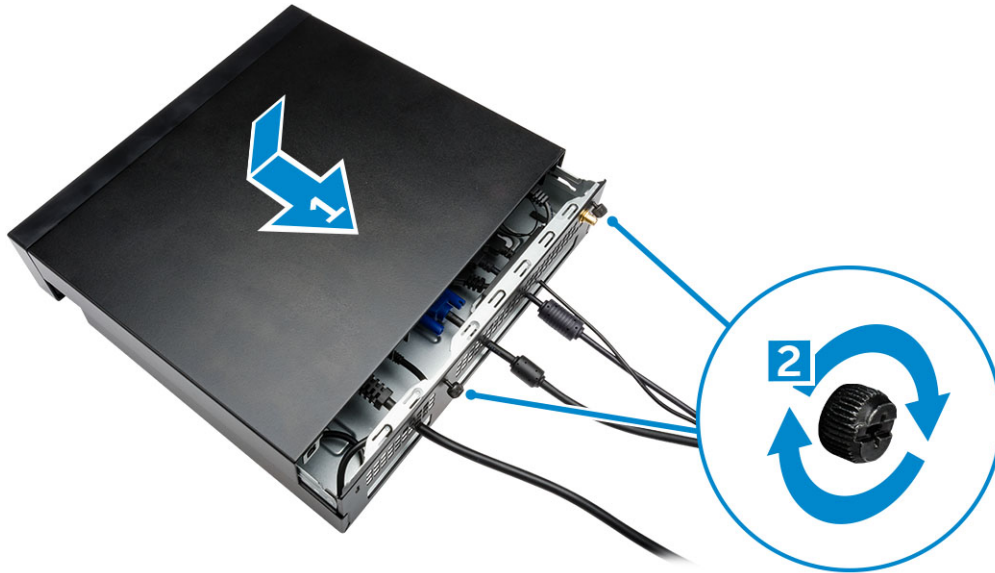
Installing the Dell OptiPlex Micro All-in-One Mount Behind the Monitor

Recommended Screws:

	Screw Type	Used with
	M4 X L8 mm, pitch 0.7 mm, self-tapping screw	PUZ plate without thread screw holes— Dell P,U,PU,UZ- series monitors
	M4 X L8 mm, pitch 0.5 mm, machine screw	PUZ plate with thread screw holes — Dell P,U,PU,UZ- series monitors

|		
	M3 X L8 mm, pitch 0.5 mm, self-tapping screw	E Plate without thread screw holes— Dell E-series monitors
	M3 X L8 mm, pitch 0.35 mm, machine screw	E Plate with thread screw holes— Dell E-series monitors
		U Plate — Universal monitors

1. Perform the following steps as shown in the illustration:
   a. Remove the screws that secure the cover to the chassis [1].
   b. Slide and lift the cover upwards to remove it from the chassis [2].

18

2. Perform the following steps as shown in the illustration:
   a. Slide the computer into the slot [1].
   b. Rotate the screw in clockwise direction to secure the computer to the chassis [2].
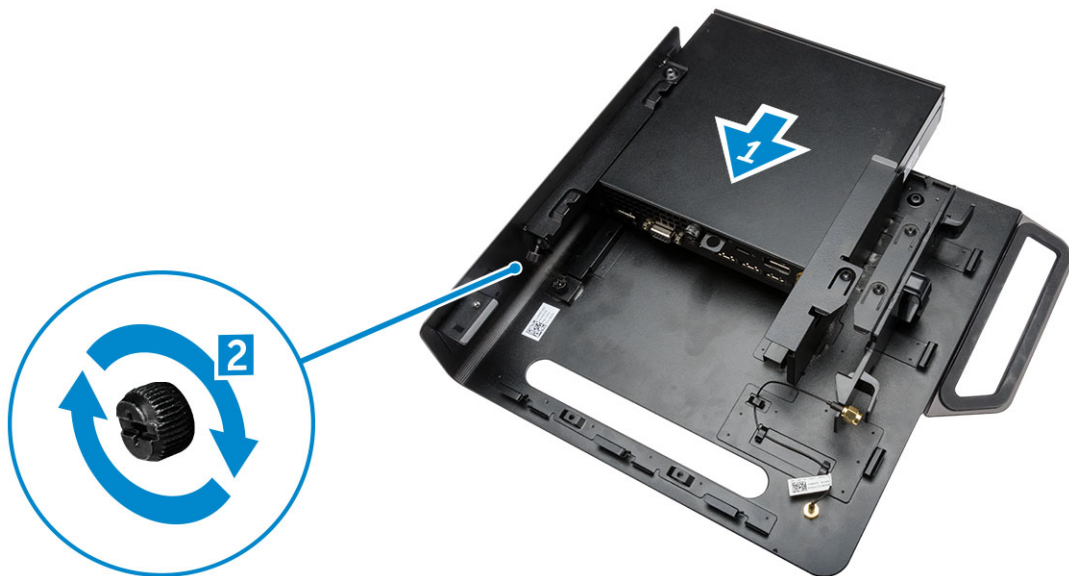
3. Perform the following steps as shown in the illustration:
   a. Lift up the antenna cable [1].
   b. Connect the antenna cable to the antenna connector on the computer [2].

19
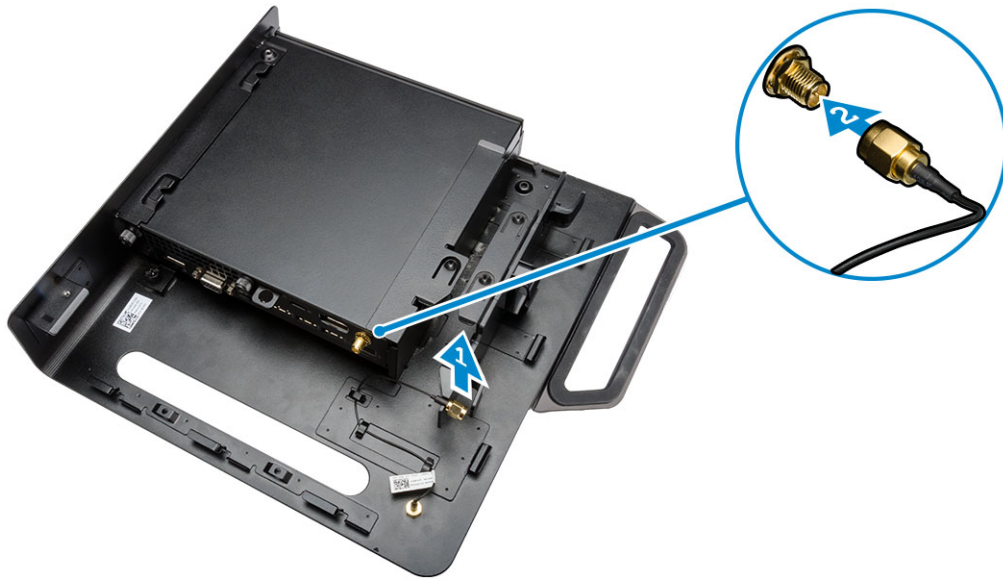
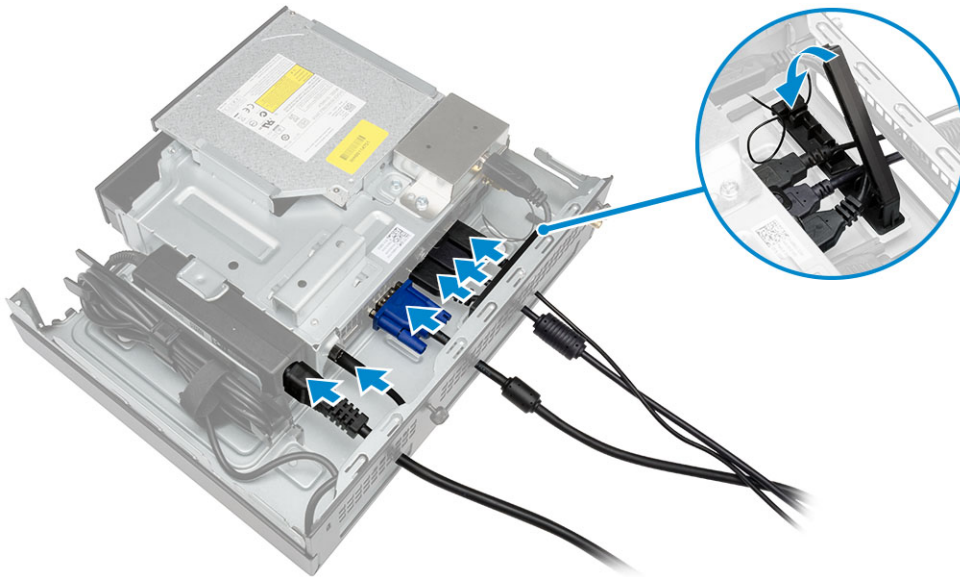4. Perform the following steps as shown in the illustration:
   a. Cut the strap of power adapter cable [1].
   b. Slide the power adapter into the slot [2].
   c. Route the cable through the clip [3].
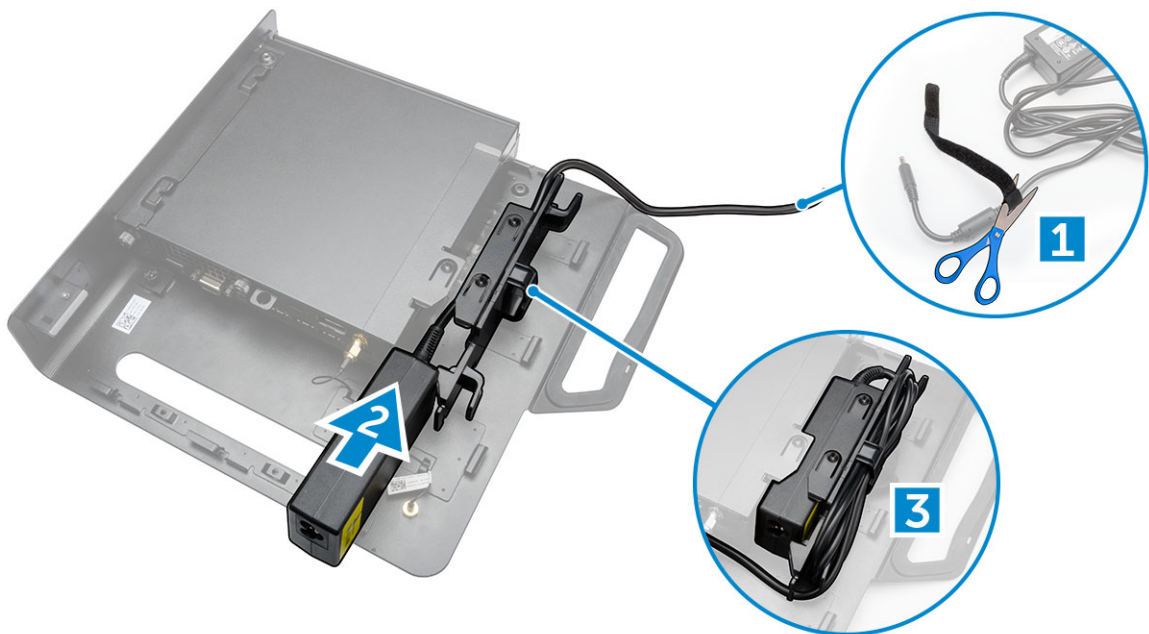
5. Perform the following steps as shown in the illustration:
   a. Route the cable through the clip [1].
   b. Connect the cable to the adapter [2].

20
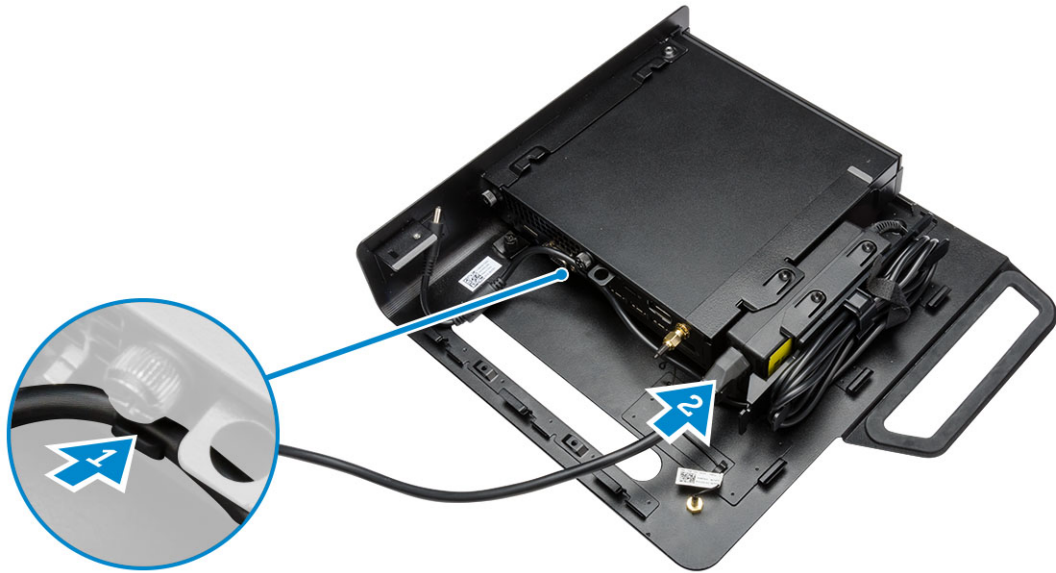
6. Align the PUZ plate to the bottom of monitor and tighten the screws.

7. Perform the following steps as shown in the illustration:
   a. Slide and lock the chassis to the PUZ plate [1].
   b. Rotate the screw in clockwise direction to secure the computer [2].
   c. Flip the computer along with the monitor [3].
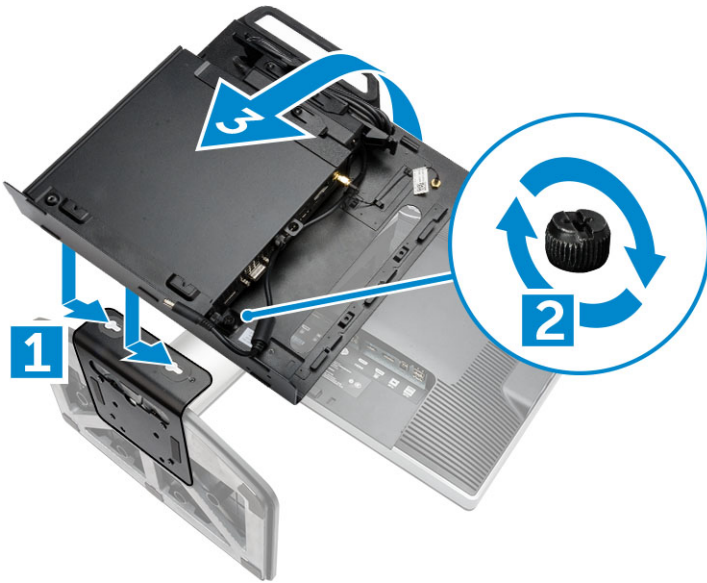
8. Perform the following steps as shown in the illustration:
   a. Connect all the cables to the computer.
   b. Slide the cover to its original position [1].
   c. Tighten the screws to secure the cover to the chassis [2].
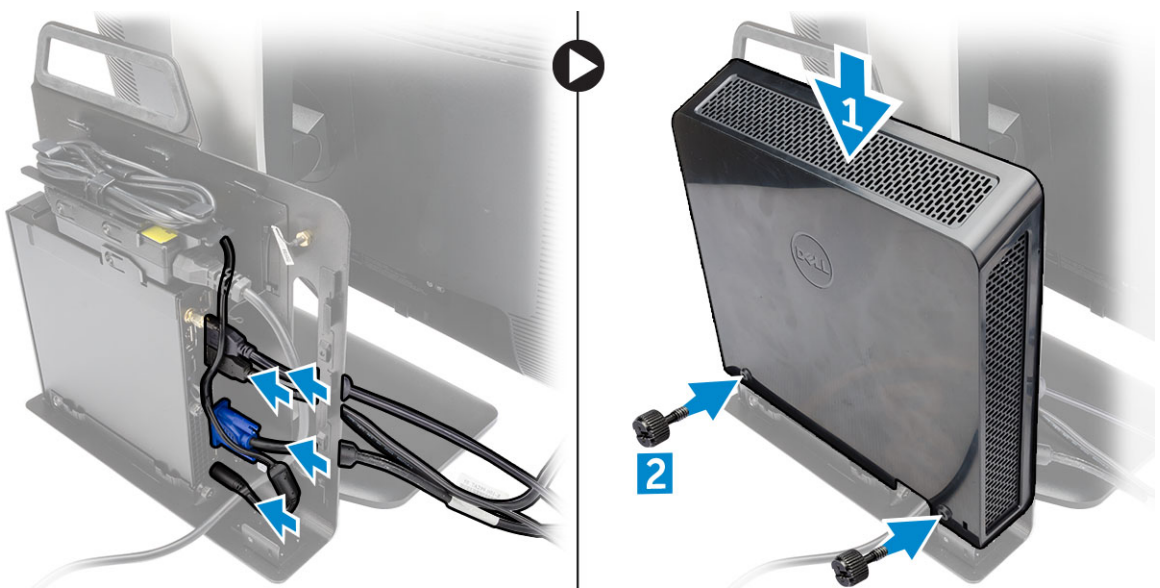
List of Compatible Monitor Models

E-Plate	P/U-Plate and UZ-Plate	U-Plate
E1715S	P1914S	Supports all monitor models that are not compatible with E-Plate / PUZ-Plate displays.
E1914H	P2014H	
E2014H	P2214H	
E2015Hv	P2314H	
E2214H / E2214Hv	P2714H	
E2215Hv	P2715Q	
E2314H	UP2414Q	
E2414H	UP3214Q	
E2715H	UZ2215H	
	UZ2315H	
	UZ2715H	
	S2415H	
	S2715H	

Removing and Installing Components

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

Front and Back View
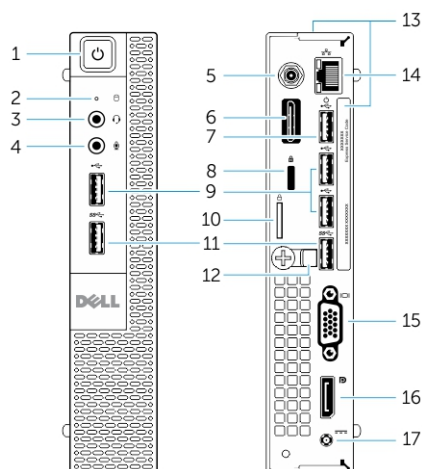
Figure 1. Front and Back View

1.	power button or power light	2.	hard-drive activity light
3.	headset connector	4.	microphone connector
5.	Wi-Fi antenna connector (optional)	6.	serial and PS2 connector (optional)
7.	USB 2.0 connector (hibernate wake-up)	8.	security-cable slot
9.	USB 2.0 connectors	10.	padlock ring
11.	USB 3.0 connectors	12.	cable holder
13.	service tag	14.	network connector (Integrated Connector Module)
15.	VGA connector	16.	DisplayPort connector
17.	power cable connector		

Removing the Cover

1. Follow the procedures in Before Working Inside Your Computer.
2. Rotate the power cable clip to the position as shown in the illustration.
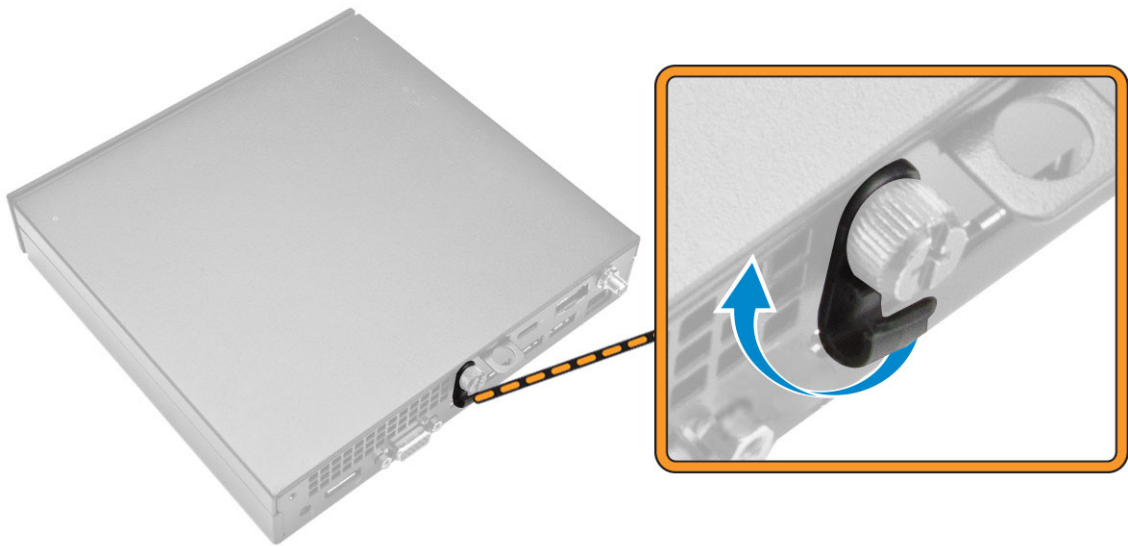
24

3. Perform the following steps as shown in the illustration:
   a. Remove the screw that secures the cover to the computer [1].
   b. Slide the cover outwards [2].
   c. Lift the cover up to remove it from the computer [3].
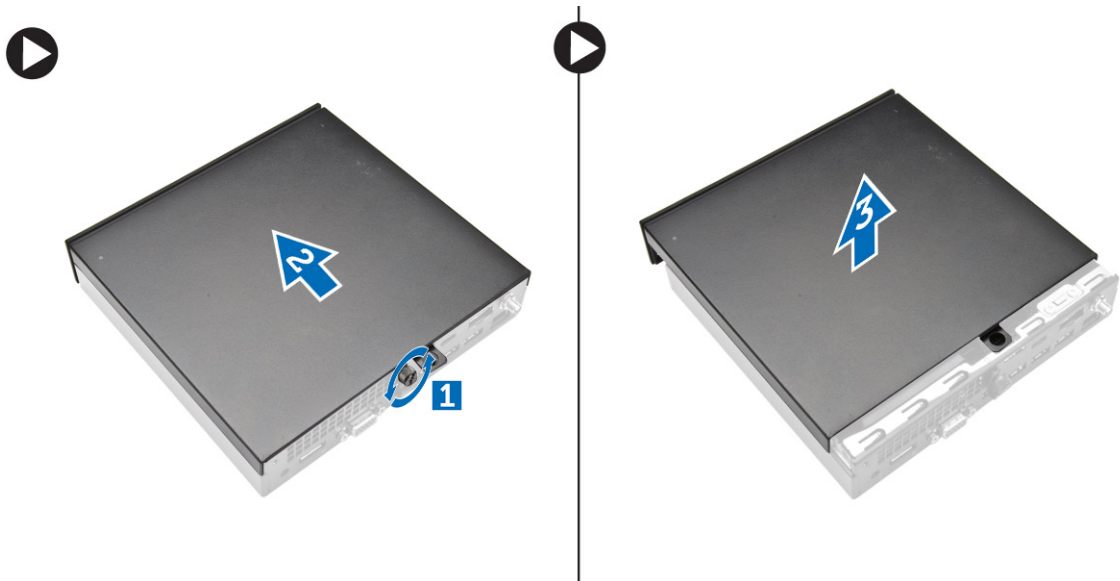
Installing the Cover

1. Align the cover to its original position on the computer.
2. Tighten the screw to secure the cover to the computer.
3. Follow the procedures in [After Working Inside Your Computer](#).

Removing the Processor Fan Module

1. Follow the procedures in [Before Working Inside Your Computer](#).
2. Remove the [cover](#).
3. Perform the following steps as shown in the illustration:
   a. Press the securing tabs on the sides [1].
   b. Slide the processor fan module outwards [2].
   c. Lift the processor fan module away from the computer [3].
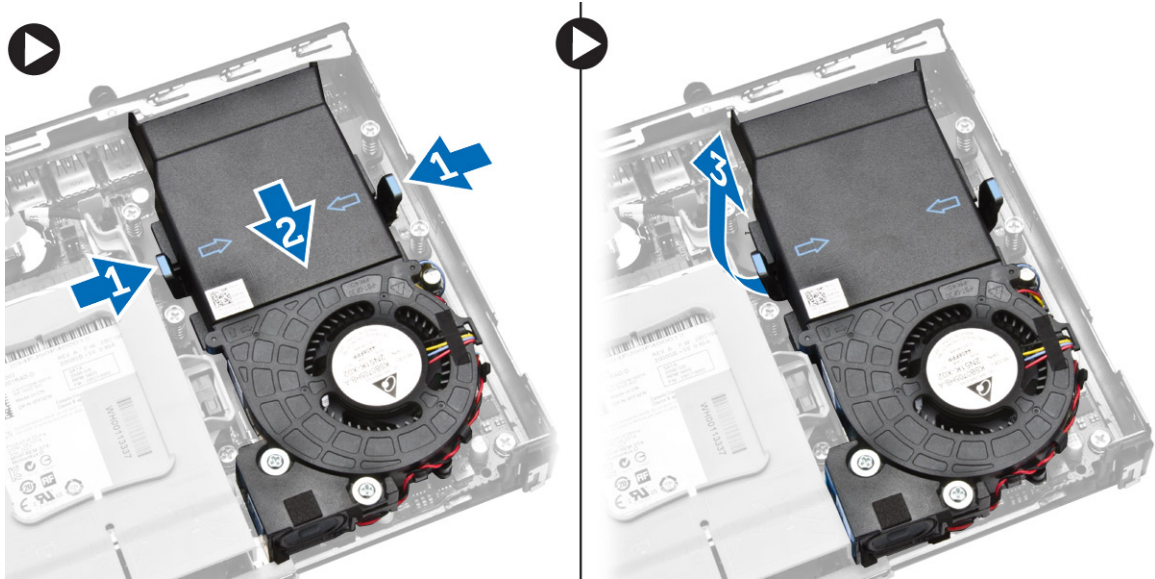
4. Disconnect the speaker and fan cables from the system board.
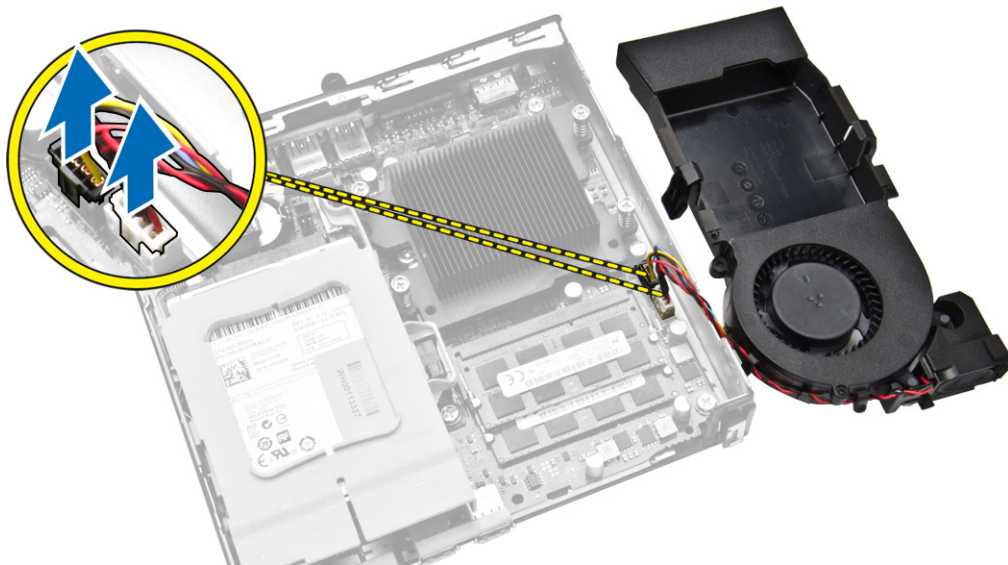
Installing the Processor Fan Module

1. Connect the speaker and fan cable to the connectors on the system board.
2. Place the processor fan module on the slot and slide it until it is secured.
3. Install the cover.
4. Follow the procedures in After Working Inside Your Computer.

Removing the Speaker

1. Follow the procedures in Before Working Inside Your Computer.
2. Remove the:
   a. cover
   b. processor fan module
3. Perform the following steps as shown in the illustration:
   a. Unthread the speaker cables from the cable clips [1].
   b. Remove the screws that secure the speakers to the processor fan module [2].
   c. Lift the speakers away from the processor fan module [3].
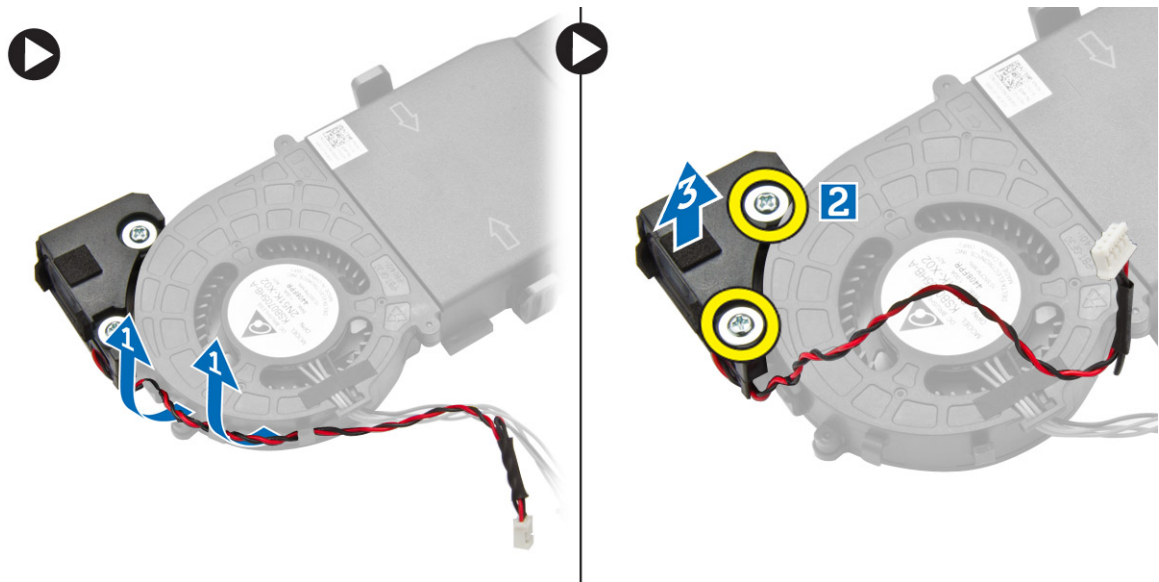
NOTE: The speaker is a part of the processor fan module.

Installing the Speaker

1. Place and align the speakers on the processor fan module.
2. Tighten the screws to secure the speaker to the processor fan module.
3. Thread the cables through the cable clips to secure it.
4. Install:
   a. processor fan module
   b. cover

27

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 cover.
3. Perform the following steps as shown in the illustration:
   a. Press the securing tabs to release the hard-drive assembly [1].
   b. Slide the hard-drive assembly to release it from the slot [2].
   c. Lift the hard-drive assembly away from the computer [3].
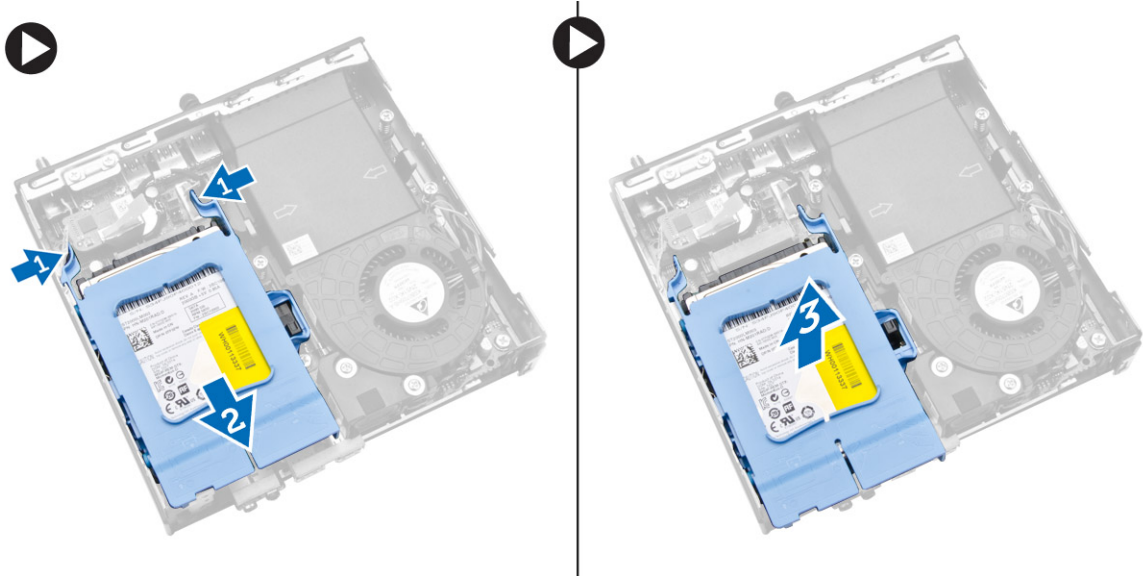
4. Perform the following steps as shown in the illustration:
   a. Pry the hard-drive bracket apart to release the hard drive [1].
   b. Lift the hard drive away from hard-drive bracket [2].

28

Installing the Hard Drive

1. Insert the hard drive into the hard-drive bracket.
2. Align and place the hard-drive assembly to its slot on the computer.
3. Install the [cover](#).
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 the:
   a. [cover](#)
   b. [processor fan module](#)
3. Perform the following steps as shown in the illustration:
   a. Remove the screws that secure the heatsink to the system board [1].
   b. Lift the heatsink away from the system board [2].
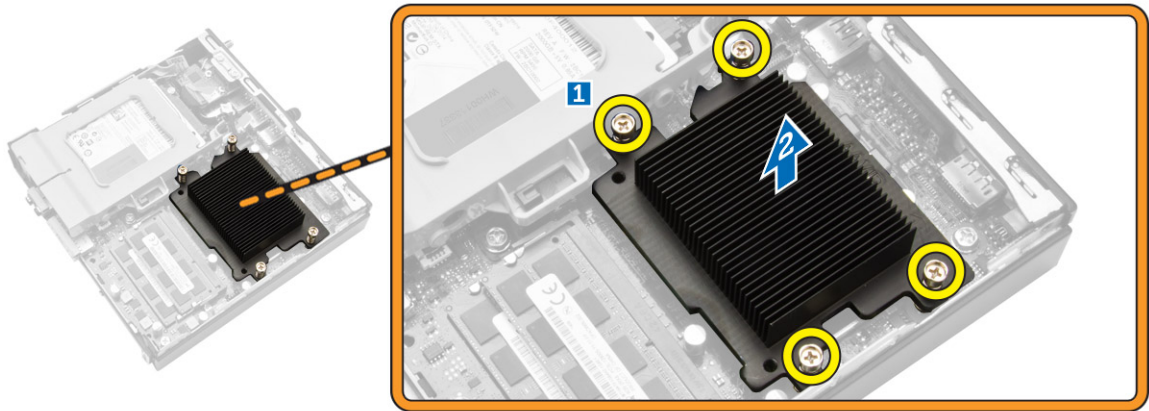
Installing the Heatsink

1. Place the heat sink on the system board.
2. Tighten the screws to secure the heatsink.
3. Install:
   a. processor fan module
   b. cover
4. Follow the procedures in After Working Inside Your Computer.

Removing the PS2 and Serial Connector Board

1. Follow the procedures in Before Working Inside Your Computer.
2. Remove the cover.
3. Perform the following steps as shown in the illustration:
   a. Disconnect the cable from the PS2 and serial connector board [1].
   b. Remove the screws that secure the PS2 and serial connector board to the base panel [2].
   c. Slide and lift the PS2 and serial connector board away from the computer [3].
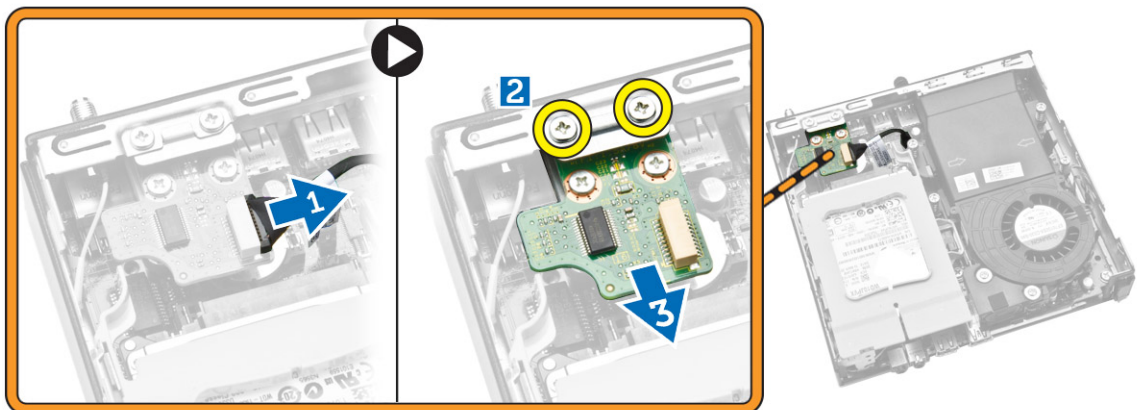
Installing the PS2 and Serial Connector Board

1. Place the PS2 and serial connector board into its slot.
2. Tighten the screws that secure the PS2 and serial connector board to the base panel.
3. Connect the cable to the PS2 and serial connector board.
4. Install the [cover](#).
5. Follow the procedures in [After Working Inside Your Computer](#).

Removing the WLAN Card

1. Follow the procedures in [Before Working Inside Your Computer](#).
2. Remove the:
   a. [cover](#)
   b. [hard drive](#)
3. Perform the following steps as shown in the illustration:
   a. Remove the screw that secures the WLAN card to the system board [1].
   b. Remove the WLAN bracket from the system board [2].
   c. Disconnect the WLAN cables [3].
   d. Slide the WLAN card from the system board [4].

Installing the WLAN Card

1. Align and place the WLAN card on the connector.
2. Connect the WLAN cables.
3. Place the WLAN bracket into its slot.
4. Tighten the screws to secure the WLAN card to the system board.
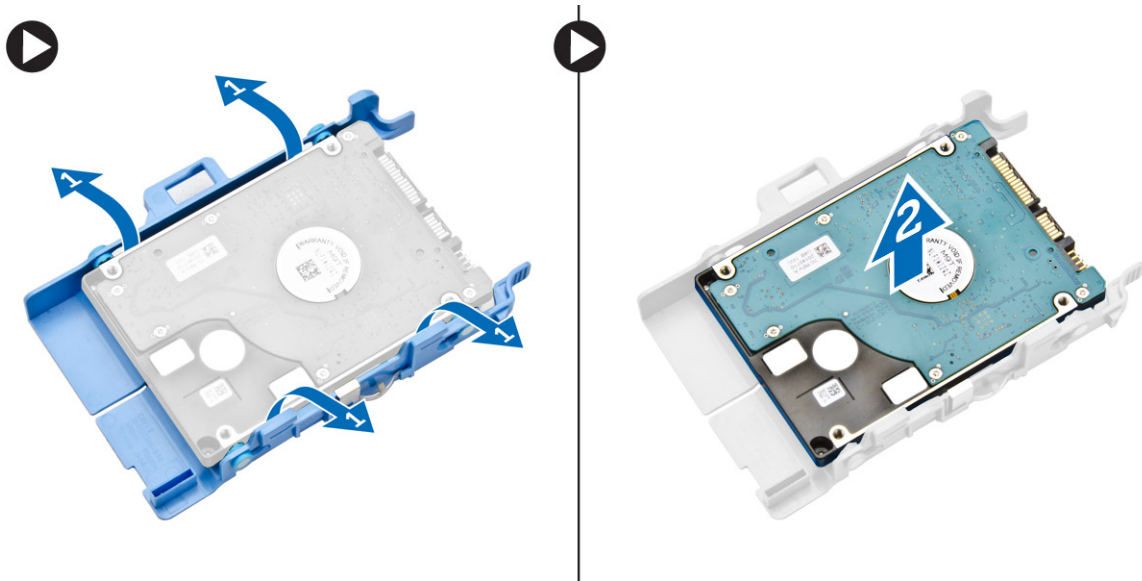5. Install:
   a. [hard drive](#)
   b. [cover](#)
6. Follow the procedures in [After Working Inside Your Computer](#).

Removing the Processor

1. Follow the procedures in Before Working Inside Your Computer.
2. Remove the:
   a. hard drive
   b. cover
3. Perform the following steps as shown in the illustration:
   a. Press the release lever down [1].
   b. Move the lever outward to release it from the retention hook that secures it [2].
   c. Lift the processor cover and remove the processor from its socket [3].

Installing the Processor

1. Insert the processor into the processor socket. Ensure that the processor is properly seated.
2. Press the release lever down and then move it inward to secure it with the retention hook.
3. Install the:
   a. hard drive
   b. cover
4. 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:
   a. cover
   b. processor fan module
3. Pry the retention clips away from the memory module until it pops-up. Lift and remove the memory module from its connector.

32
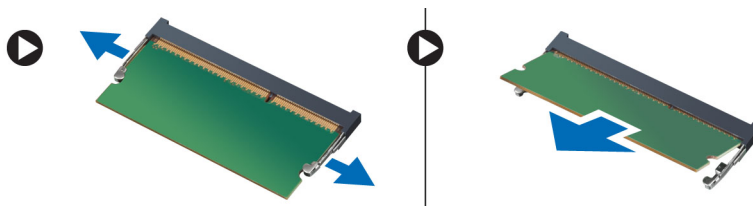
Installing the Memory

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

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 retention clips spring back to secure them in place.
3. Install the:
   a. [processor fan module](#)
   b. [cover](#)
4. 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. [cover](#)
   b. [hard drive](#)
   c. [PS2 and serial connector board](#)
3. Press the release latch away from the battery. The battery pops out from the socket; lift the coin-cell battery out of the computer.
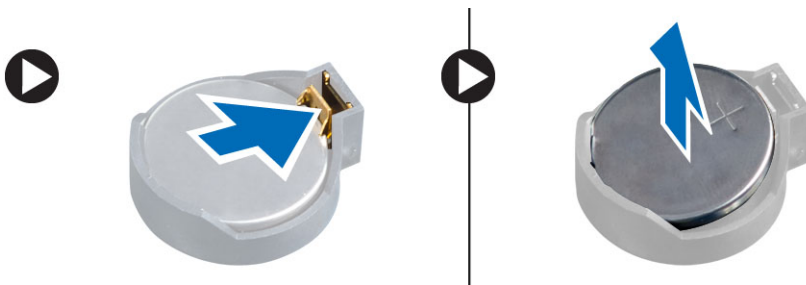
Installing the Coin-Cell Battery

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 the:
   a. [PS2 and serial connector board](#)
   b. [hard drive](#)
   c. [cover](#)
4. Follow the procedures in [After Working Inside Your Computer](#).

System Board Layout

The following image displays the system board layout of the computer.
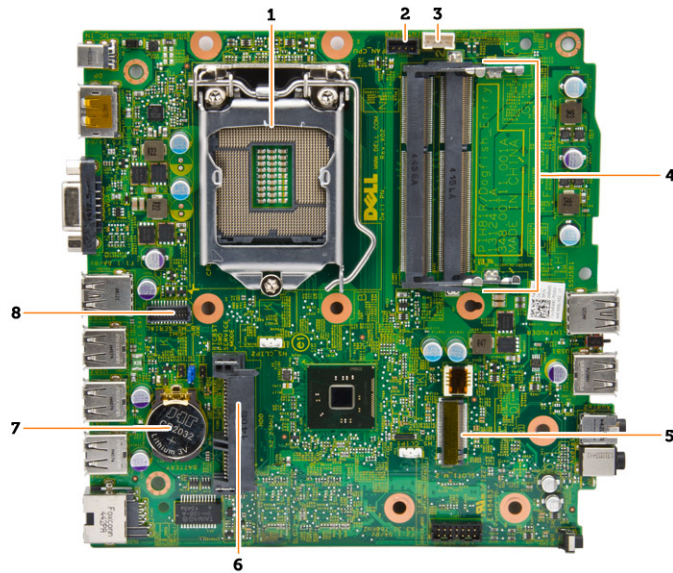
1. processor socket
2. processor fan connector
3. speaker connector
4. memory connectors (SODIMM sockets)
5. WLAN connector
6. SATA HDD connector
7. coin-cell battery
8. PS2 and serial connector

Removing the System Board

1. Follow the procedures in [Before Working Inside Your Computer](#).
2. Remove the:
    a. [cover](#)
    b. [processor fan module](#)
    c. [hard drive](#)
    d. [heatsink](#)
    e. [memory](#)
    f. [processor](#)
    g. [PS2 or serial connector board](#)
    h. [WLAN card](#)
    i. [coin-cell battery](#)
3. Perform the following steps as shown in the illustration.
    a. Remove the screws that secure the hard-drive holder to the system board [1].
    b. Lift the hard drive holder away from the system board [2].
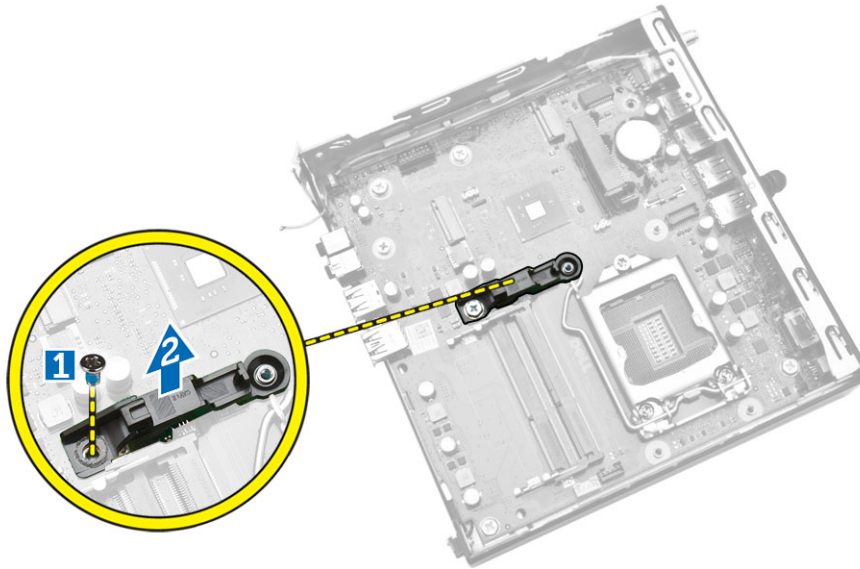
34

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 [2,3].
   c. Lift the system board away from the computer [4].
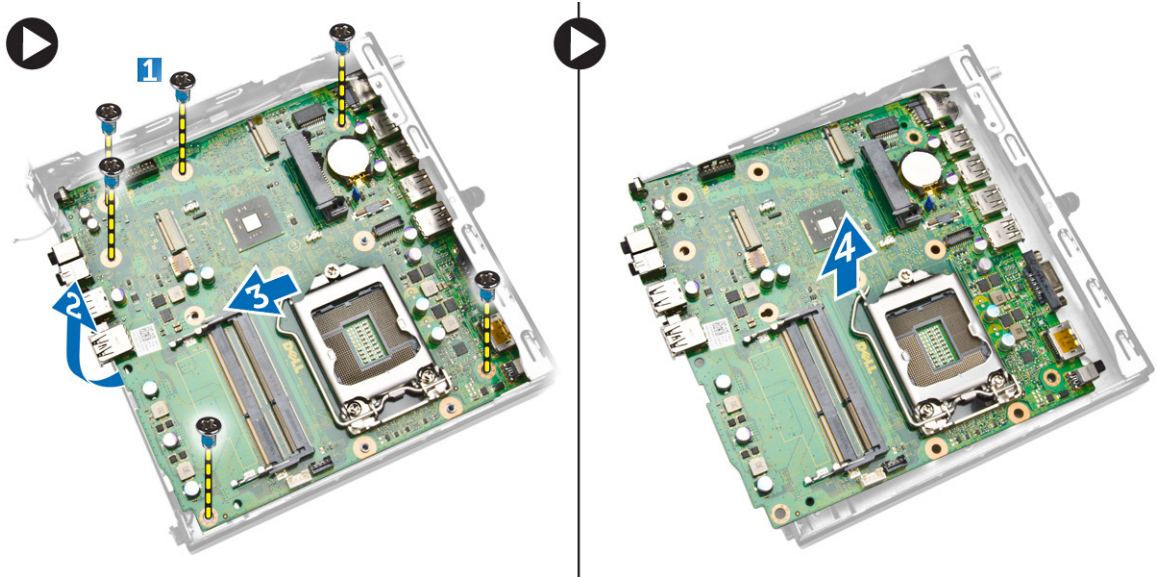
Installing the System Board

1. Place the system board on the computer.
2. Tighten the screws to secure the system board to the base panel.
3. Place the hard drive holder on the system board.
4. Tighten the screws that secure the hard-drive holder to the system board.
5. Install:

35

a. coin-cell battery
b. WLAN card
c. PS2 or serial connector board
d. processor
e. memory
f. heatsink
g. hard drive
h. processor fan module
i. cover

6. Follow the procedures in After Working Inside Your Computer.

36

4

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.

System Setup Options

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

Table 2. General

Option	Description
System Information	Displays the following information: • **System Information** - Displays BIOS Version, Service Tag, Asset Tag, Ownership Tag, Ownership Date, Manufacture Date, Express Service Code, and Signed Firmware Update is enabled. • **Memory Information** - Displays Memory Installed, Memory Available, Memory Speed, Memory Channels Mode, Memory Technology, DIMM 1 Size, and DIMM 2 Size. • **Processor Information** - Displays Processor Type, Core Count, Processor ID, Current Clock Speed, Minimum Clock Speed, Maximum Clock Speed, Processor L2 Cache, Processor L3 Cache, HT Capable, and 64-Bit Technology. • **Device Information** - Displays M-SATA, SATA-0, LOM MAC Address, Audio Controller, Video Controller, Wi-Fi Device, and Bluetooth Device.
Boot Sequence	Allows you to specify the order in which the computer attempts to find an operating system. The options are: • Diskette drive • Internal HDD • USB Storage Device • CD/DVD/CD-RW Drive • Onboard NIC
Advanced Boot Options	• Legacy • UEFI

38

Option	Description
Advance Boot Options	**Enable Legacy Option ROMs** - This option is required for legacy boot mode. This option is not allowed if Secure Boot is enabled.
Date/Time	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
Integrated NIC	Allows you to enable or disable the integrated network card. You can set the integrated NIC to: • Enable UEFI Network Stack (disable by default) • Disabled • Enabled • **Enabled w/PXE**- This option is enabled by default. • Enabled w/Cloud Desktop NOTE: Depending on the computer and the devices installed, the items listed in this section may or may not appear.
Serial Port	Identifies and defines the serial port settings. This option appear only if your system installed serial port card. You can set the serial port to: • Disabled • COM1 (Default) • COM2 • COM3 • COM4 NOTE: The operating system may allocate resources even if the setting is disabled.
SATA Operation	Allows you to configure the operating mode of the integrated hard drive controller. • **Disabled** - The SATA controllers are hidden. • **ATA** - SATA is configured for ATA mode. • **AHCI** - SATA is configured for AHCI mode. This option is enabled by default.
Drives	Allows you to enable or disable the on-board drive: • SATA-0
SMART Reporting	This field controls if the hard drive errors for the integrated drives are reported during system startup. This technology is part of the SMART (Self Monitoring Analysis and Reporting Technology) specification. • **Enable SMART Reporting** - This option is disabled by default.
USB Configuration	This field configures the integrated USB controller. If *Boot Support* is enabled, the system is allowed to boot any type of USB mass storage devices (HDD, memory key, floppy).

Option	Description
	If USB port is enabled, device attached to this port is enabled and available for operation system.
	If USB port is disabled, the operation system cannot see any device attached to this port.

	USB configuration:
	• Enable Boot Support
	• Rear USB Ports
	
	    a. Port 1 (Top)
	    b. Port 2 (Upper Middle)
	    c. Port 3 (Lower Middle)
	    d. Port 4 (Bottom)*
	• Front USB 3.0 Ports
	
	    a. Port 1 (Top)
	    b. Port 2 (Bottom)*
	
	NOTE: * indicates USB 3.0 port
	
	NOTE: USB keyboard and mouse always work in the BIOS setup irrespective of these settings.

Audio	Allows you to enable or disable the integrated audio controller. • Enable Audio • Enable Microphone • Enable Internal Speaker This option is **enabled** by default.

Table 4. Security

Option	Description
Admin Password	Allows you to set, change, or delete the administrator (admin) password. NOTE: You must set the admin password before you set the system or hard drive password. Deleting the admin password automatically deletes the system password and the hard drive password. NOTE: Successful password changes take effect immediately. Default Setting: Not set
System Password	Allows you to set, change or delete the system password. NOTE: Successful password changes take effect immediately. Default Setting: Not set
Internal HDD-0 Password	This field lets you set, change, or delete the administrator (admin) password (sometimes called the setup password). The admin password enables several security features.

40

Option	Description
	The drive does not have a password set by default.
	- Enter the old password - Enter the new password - Confirm the new password
Strong Password	**Enable strong password** - This option is **disabled** by default.
Password Configuration	This field controls the minimum and maximum number of characters allowed for the admin and system passwords. - Admin Password Min - Admin Password Max - System Password Min - System Password Max
Password Bypass	Allows you to bypass the *System Password* and the internal HDD password prompts during a system restart. This option is disabled by default. - Disabled – Always prompt for the system and internal HDD password when they are set. - Reboot Bypass – Bypass the password prompts on restarts (warm boots). **NOTE:** The system will always prompt for the system and internal HDD passwords when powered on from the off state (a cold boot). Also, the system will always prompt for passwords on any module bay HDDs that may be present.
Password Change	Allows you to determine whether changes to the system and hard disk passwords are permitted when an administrator password is set. **Allow Non-Admin Password Changes** - This option is enabled by default.
TPM Security	This option lets you control whether the Trusted Platform Module (TPM) in the system is enabled and visible to the operating system. **TPM Security** - This option is disabled by default. **NOTE:** Activation, deactivation, and clear options are not affected if you load the setup program's default values. Changes to this option take effect immediately.
Computrace	This field lets you activate or disable the BIOS module interface of the optional *Computrace Service* from *Absolute Software*. **Deactivate** - This option is selected by default. - Disable - Activate
Chassis Intrusion	- Enable - Disable **On-Silent**– This option is selected by default.
CPU XD Support	Allows you to enable or disable the execute disable mode of the processor.

Option	Description
	• **Enable CPU XD Support** - This option is enabled by default.
Admin Setup Lockout	Allows you to enable or disable the option to enter setup when an admin password is set. • **Enable Admin Setup Lockout** - This option is not set by default.
HDD Protection Support	Allows you to enable or disable the HDD Protection feature • **HDD Protection Support** - This option is not set by default.

Table 5. Secure Boot

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

Table 6. Performance

Option	Description
Multi Core Support	Specifies whether the process will have one or all cores enabled. The performance of some applications will improve with the additional cores. • All - This option is enabled by default • 1

42

Option	Description
	• 2
Intel SpeedStep	Allows you to enable or disable the Intel SpeedStep mode of the processor. • Enable Intel SpeedStep - This option is enabled by default.
C States Control	Allows you to enable or disable the additional processor sleep states. • C States - This option is enabled by default.
Limit CPUID Value	This field limits the maximum value the processor Standard CPUID Function will support. • Enable CPUID Limit - This option is not set by default. 📝 NOTE: Some Operating system will not complete installation when the maximum CPUID Function is greater than 3.
Intel TurboBoost	Allows you to enable or disable Intel TurboBoost mode of the processor. • Disabled - Does not allow the TurboBoost driver to increase the performance state of the processor above the standard performance. • Enabled - Allows the Intel TurboBoost driver to increase the performance of the CPU or graphics processor.
Hyper-Thread Control	Allows you to enable or disable the HyperThreading in the processor. Default Setting: **Enabled**.

Table 7. Power Management

Option	Description
AC Recovery	Specifies how the computer will respond when AC power is applied after an AC power loss. You can set the AC Recovery to: • Power Off - This option is enabled by default. • Power On • Last Power State
Auto On Time	This option sets the time of the day when you would like the system to turn on automatically. Time is kept in standard 12-hour format (hour:minutes:seconds). The startup time can be changed by typing the values in the time and A.M./P.M. fields. • **Disabled** - The system will not automatically power up. This option is selected by default. • **Every Day** - The system will power up every day at the time you specified above . • **Weekdays** - The system will power up Monday through Friday at the time you specified above. • **Select Days** - The system will power up on days selected above at the time you specified above.

Option	Description
	⬛ **NOTE:** This feature does not work if you turn off your computer using the switch on a power strip or surge protector or if **Auto Power is set to disabled**.
Deep Sleep Control	Allows you to define the controls when Deep Sleep is enabled. • Disabled • Enabled in S5 only • Enabled in S4 and S5 - This option is enabled by default.
Fan Control Override	Controls the speed of the system fan. This option is disabled by default. ⬛ **NOTE:** When enabled, the fan runs at full speed.
USB Wake Support from Standby (S3)/Hibernation (S4)	This option allows you to enable USB devices (keyboard or mouse) to wake the computer from standby (S3) or hibernation (S4). For waking up the computer from hibernation, you must connect USB device to a specific rear USB port(next to RJ45 connector). • USB Wake Support From Standby is enabled by default. • USB Wake Support From Hibernation is disabled by default.
Wake on LAN/WAN	This option allows the computer to power up from the off state when triggered by a special LAN signal. Wake-up from the Standby state is unaffected by this setting and must be enabled in the operating system. This feature only works when the computer is connected to AC power supply. The options differ based on the form factor. • **Disabled** - Does not allow the system to power on by special LAN signals when it receives a wake-up signal from the LAN or wireless LAN. • **LAN Only** - Allows the system to be powered on by special LAN signals. • **WLAN Only**- Allows the system to be powered on by special WLAN signals. • **LAN or WLAN**- Allows the system to be powered on by special LAN signals or special WLAN signals. • **LAN with PXE Boot** - Allows the system to be powered on by special LAN signals. After waking the system, do a PXE boot. This option is Disabled by default.
Block Sleep	This option lets you block entering to sleep (S3 state) in operating system environment. • **Block Sleep (S3 state)** - This option is disabled by default.

Table 8. POST Behavior

Option	Description
Adapter Warnings	Allows you to enable or disable the system setup (BIOS) warning messages when you use certain power adapters. • **Enable Adapter Warnings** This option is enabled by default.
Numlock LED	Specifies if the NumLock function can be enabled when the system boots. This option is enabled by default.

44

Option	Description
Keyboard Errors	Specifies whether keyboard related errors are reported when it boots. This option is enabled by default.

Table 9. Virtualization Support

Option	Description
Virtualization	This option specifies whether a Virtual Machine Monitor (VMM) can utilize the additional hardware capabilities provided by Intel Virtualization technology. • **Enable Intel Virtualization Technology** - This option is enabled by default.

Table 10. Wireless

Option	Description
Wireless Device Enable	Allows you to enable or disable the internal wireless devices. • WLAN/WiGig • Bluetooth All options are enabled by default.

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. Some graphics cards require that the SERR message mechanism be disabled. This option is enabled by default.

Table 12. Cloud Desktop

Option	Description
Server Lookup Method	Specifies how the Cloud Desktop software will looks up the server addresses. • Static IP • DNS - This option is enabled by default. NOTE: This field is only relevant when the *Integrated NIC* control in the *System Configuration* group is set to *Enable with Cloud Desktop*.
Server Name	Specifies server name of the server. NOTE: This field is only relevant when the *Integrated NIC* control in the *System Configuration* group is set to *Enable with Cloud Desktop*.
Server IP Address	Specifies the primary static IP address of the Cloud Desktop server with which the client software communicates. The default IP address is **255.255.255.255**.

Option	Description
	📝 NOTE: This field is only relevant when the *Integrated NIC* control in the *System Configuration* group is set to *Enable with Cloud Desktop* .
Server Port	Specifies the primary IP port of the Cloud Desktop, which is used by the client to communicate. The default IP port is **06910**.
	📝 NOTE: This field is only relevant when the *Integrated NIC* control in the *System Configuration* group is set to *Enable with Cloud Desktop*.
Client Address Method	Specifies how the client obtains the IP address. • Static IP • DHCP – This option is enabled by default.
	📝 NOTE: This field is only relevant when the *Integrated NIC* control in the *System Configuration* group is set to *Enable with Cloud Desktop*.
Client IP Address	Specifies the static IP address of the client. The default IP address is **255.255.255.255**.
	📝 NOTE: This field is only relevant when the *Integrated NIC* control in the *System Configuration* group is set to *Enable with Cloud Desktop*.
Client SubnetMask	Specifies the subnet mask of the client. The default setting is **255.255.255.255**.
	📝 NOTE: This field is only relevant when the *Integrated NIC* control in the *System Configuration* group is set to *Enable with Cloud Desktop* .
Client Gateway	Specifies the gateway IP address of the client. The default setting is **255.255.255.255**.
	📝 NOTE: This field is only relevant when the *Integrated NIC* control in the *System Configuration* group is set to *Enable with Cloud Desktop* .
DNS IP Address	Specifies the DNS IP Address of the client. The default setting is **255.255.255.255**.
	📝 NOTE: This field is only relevant when the *Integrated NIC* control in the *System Configuration* group is set to *Enable with Cloud Desktop*.
Domain Name	Specifies the Domain Name of the client.
	📝 NOTE: This field is only relevant when the *Integrated NIC* control in the *System Configuration* group is set to *Enable with Cloud Desktop*, and when the Client Address Method is set to Static IP.
Advanced	Specifies for Advanced debugging • Verbose Mode – This option is not set by default.
	📝 NOTE: This Option is only relevant when the integrated NIC control in the System Configuration group is set to enable with Cloud Desktop.

Table 13. System Logs

Option	Description
BIOS events	Displays the system event log and allows you to clear the log.

46

Option	Description
	• Clear Log

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.

Jumper Settings

To change a jumper setting, pull the plug off its pin(s) and carefully fit it down onto the pin(s) indicated on the system board. The following table displays the system board jumper settings.

Table 14. Jumper Settings

Jumper	Setting	Description
PSWD	Default	Password features are enabled
RTCRST	pin 1 and 2	Real-time clock reset. Can be used for troubleshooting.

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 are 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, ("), (+), (,), (-), (.), (/), (;), ([), (\), (]), (`).

   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>.

48

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.

Disabling a System Password

The system's software security features include a system password and a setup password. The password jumper disables any password(s) currently in use.

✐ **NOTE:** You can also use the following steps to disable a forgotten password.

1. Follow the procedures in *Before Working on Your Computer*.
2. Remove the cover.
3. Identify the PSWD jumper on the system board.
4. Remove the PSWD jumper from the system board.

   ✐ **NOTE:** The existing passwords are not disabled (erased) until the computer boots without the jumper.

5. Install the cover.

   ✐ **NOTE:** If you assign a new system and/or setup password with the PSWD jumper installed, the system disables the new password(s) the next time it boots.

6. Connect the computer to the electrical outlet and power-on the computer.
7. Power-off the computer and disconnect the power cable from the electrical outlet.
8. Remove the cover.
9. Replace the PSWD jumper on the system board.
10. Install the cover.
11. Follow the procedures in *After Working on Your Computer*.
12. Power-on the computer.
13. Go to the system setup, and assign a new system or setup password. See *Setting up a System Password*.

Specifications

📝 NOTE: Offerings may vary by region. For more information regarding the configuration of your computer, click Start 🏁 (Start icon) → **Help and Support**, and then select the option to view information about your computer.

Table 15. Processor

Feature	Specification
Processor type	• Intel Pentium • Intel Celeron • Intel Core i3 series • Intel Core i5 series
Total cache	Up to 8 MB cache depending on processor type

Table 16. Memory

Feature	Specification
Memory type	DDR3
Memory speed	1600MHz
Memory connectors	two DIMM slots
Memory capacity	2 GB, 4 GB, and 8 GB
Minimum memory	2 GB
Maximum memory	16 GB

Table 17. Video

Feature	Specification
Integrated	Intel HD Graphics

Table 18. Audio

Feature	Specification
Integrated	Realtek HDA Codec ALC3234

Table 19. Network

Feature	Specification
Integrated	Realtek RTL8151GD Ethernet capable of 10/100/1000 Mb/s communication

Table 20. System Information

Feature	Specification
System chipset	Intel H81 chipset

Table 21. Expansion Bus

Feature	Specification
Bus type	USB 2.0, USB 3.0, SATA 3, and PCle G2
Bus speed	480 Mbps, 5 Gbps, 6Gbps, and 5 Gbps,

Table 22. Cards

Feature	Specification
WLAN card	Intel Dual Band Wireless-AC 7260 (M.2)
	802.11 ac
	Bluetooth 4.0
	WiDi (Wireless Display)
	NOTE: For optimal performance, it is recommended to use the wireless display feature with an access point that supports 5 GHz standard.

Table 23. Drives

Feature	Specification
Internally Accessible:	2.5-inch SATA drive bays

Table 24. External Connectors

Feature	Specification
Audio:	
Front panel	one global headset and one microphone connector (re-taskable to headphone)
Network adapter	one RJ–45 connector
Serial	PS2 or serial connector (optional)
USB 2.0 (Front/Rear/Internal)	1/3/1
USB 3.0 (Front/Rear/Internal)	1/1/0

Feature	Specification
Video	• 15-pin VGA connector • one 20-pin Display port connectors

Table 25. Controls and Lights

Feature	Specification
Front of the computer:	
Power button light	White light — Solid white light indicates power-on state; breathing white light indicates sleep state of the computer.
Drive activity light	White light — Blinking white light indicates that the computer is reading data from or writing data to the hard drive.
Back of the computer:	
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 26. Power

Items	Wattage	Voltage
Power adaptor	65 W	19.5 VDC, 3.34 A
Coin-cell battery	3 V CR2032 lithium coin cell	

Table 27. Physical Dimension

Physical	Micro Entry
Height	18.2 cm (7.17 inches)
Width	3.6 cm (1.42 inches)
Depth	17.6 cm (6.93 inches)

Physical	Micro Entry
Weight	1.28 kg (2.82 lb)

Table 28. Environmental

Feature	Specification
Temperature range:	
Operating	5 °C to 35 °C (41 °F to 95 °F)
Non-Operating	−40 °C to 65 °C (−40 °F to 149 °F)
Relative humidity (maximum):	
Operating	20% to 80% (non-condensing)
Non-Operating	5% to 95% (non-condensing)
Maximum vibration:	
Operating	0.66 GRMS
Non-Operating	1.37 GRMS
Maximum shock:	
Operating	40 G
Non-Operating	105 G
Altitude:	
Operating	−15.2 m to 3048 m (−50 to 10,000 ft)
Non-Operating	−15.20 m to 10,668 m (−50 ft to 35,000 ft)
Airborne contaminant level	G1 or lower as defined by ANSI/ISA-S71.04-1985

6

Contacting Dell

📝 **NOTE:** If you do not have an active Internet connection, you can find the 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:

Go to **dell.com/contactdell.**

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