Dell XPS One 2710
Owner's Manual

Computer model: XPS One 2710

Regulatory model: W06C | Regulatory type: W06C001

Notes, Cautions, and Warnings

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

CAUTION: A CAUTION indicates potential damage to hardware or loss of data if instructions are not followed.

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

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1 Before You Begin

Turn Off Your Computer and Connected Devices

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

1. Save and close all open files and exit all open programs.
2. Click **Start** and click **Shut Down**.

   Microsoft Windows shuts down and then the computer turns off.

   NOTE: If you are using a different operating system, see the documentation of your operating system for shut-down instructions.
3. Disconnect your computer and all attached devices from their electrical outlets.
4. Disconnect all telephone cables, network cables, and attached devices from your computer.
5. After the computer is unplugged, press and hold the power button for about 5 seconds to ground the system board.

Recommended Tools

The procedures in this document may require the following tools:

- Phillips screwdriver
- Plastic scribe

Safety Instructions

Use the following safety guidelines to protect your computer from potential damage and ensure your personal safety.

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 dell.com/regulatory_compliance.

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.

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

CAUTION: To avoid damaging the computer, ensure that the work surface is flat and clean.

CAUTION: To avoid damaging the components and cards, handle them by their edges and avoid touching pins and contacts.

CAUTION: Only a certified service technician is authorized to remove the computer cover and access any of the components inside the computer. See the safety instructions for complete information about safety precautions, working inside your computer, and protecting against electrostatic discharge.

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.

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 or thumb-screws that you must disengage before disconnecting the cable. When disconnecting cables, keep them evenly aligned to avoid bending any connector pins. When connecting cables, ensure that the connectors and ports are correctly oriented and aligned.

2 After Working Inside Your Computer

After you complete the replacement procedures, ensure the following:

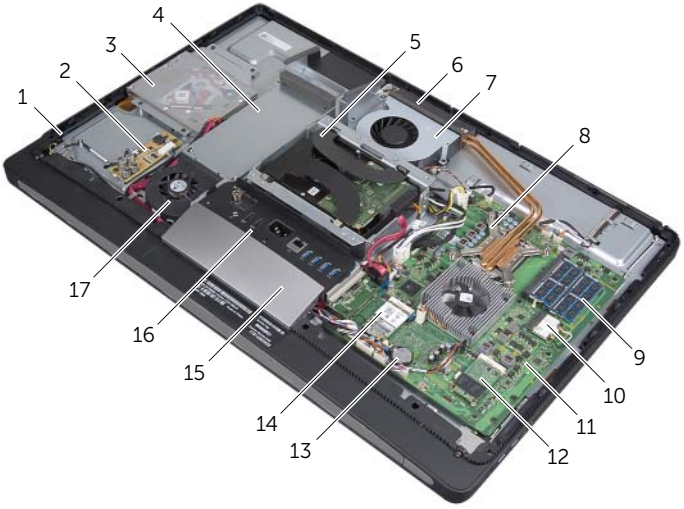
- Replace all screws and ensure that no stray screws remain inside your computer
- Connect any external devices, cables, cards, and any other part(s) you removed before working on your computer
- Connect your computer and all attached devices to their electrical outlets

CAUTION: Before turning on your computer, replace all screws and ensure that no stray screws remain inside the computer. Failure to do so may damage your computer.

3 Technical Overview

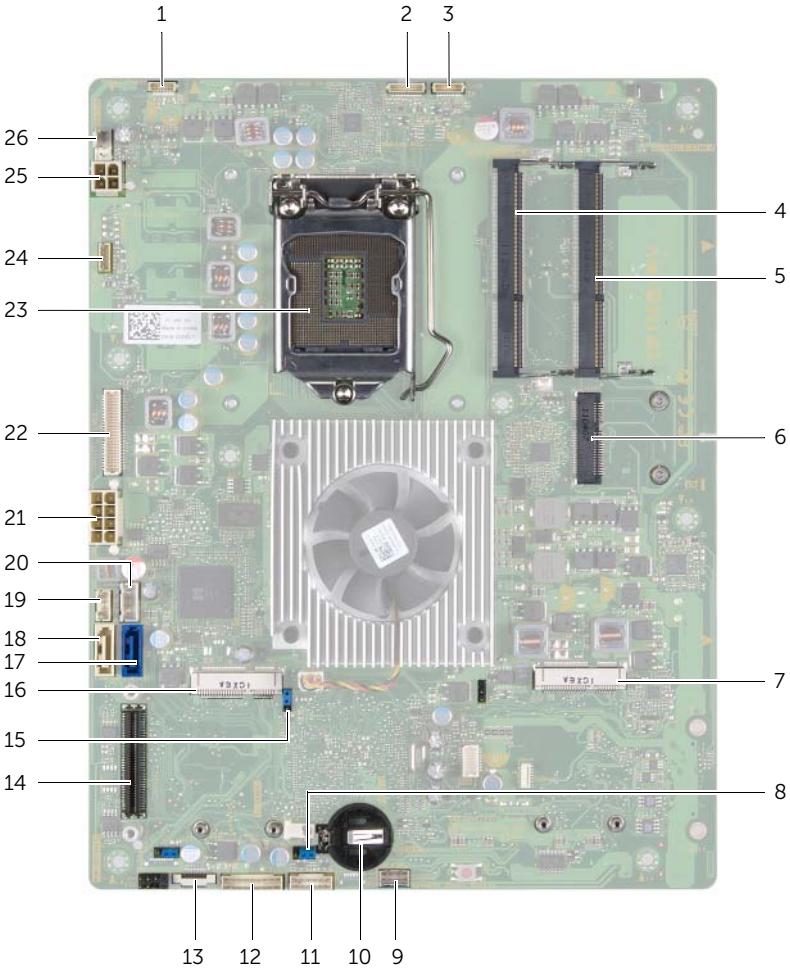
WARNING: Before working inside your computer, read the safety information that shipped with your computer and follow the steps in "Before You Begin" on page 11. After working inside your computer, follow the instructions in "After Working Inside Your Computer" on page 13. For additional safety best practices information, see the Regulatory Compliance Homepage at dell.com/regulatory_compliance.

Inside View of Your Computer



1	power-button assembly	2	converter board
3	optical-drive assembly	4	power-supply unit
5	hard-drive assembly	6	cooling vents
7	processor heat-sink fan	8	processor heat-sink
9	memory module(s)	10	wireless mini-card
11	system board	12	mSATA mini-card
13	coin-cell battery	14	TV-tuner card
15	trim cover	16	I/O panel
17	power-supply fan	18	

System-Board Components



1	display-power cable connector	2	camera-cable connector
3	Infrared-module cable connector	4	memory-module connector (DIMM 1)
5	memory-module connector (DIMM 2)	6	wireless mini-card connector
7	mSATA mini-card connector	8	CMOS jumper
9	speaker-cable connector	10	coin-cell battery socket
11	power-button cable connector	12	converter-board cable connector
13	volume/display-settings controls cable connector	14	I/O-board connector

15	password jumper	16	TV-tuner mini-card connector
17	hard-drive data-cable connector	18	optical-drive data-cable connector
19	optical-drive power-cable connector	20	hard-drive power-cable connector
21	main (8-pin) power-cable connector	22	LVDS-cable connector
23	processor socket	24	touchscreen-cable connector
25	processor (4-pin) power-cable connector	26	processor heat-sink fan-cable connector

4 Removing the Back Cover

WARNING: Before working inside your computer, read the safety information that shipped with your computer and follow the steps in "Before You Begin" on page 11. After working inside your computer, follow the instructions in "After Working Inside Your Computer" on page 13. For additional safety best practices information, see the Regulatory Compliance Homepage at dell.com/regulatory_compliance.

Procedure

1. Place the computer face-down on a clean and flat surface.
2. Loosen the captive screws that secure the back cover to the inner frame.
3. Slide the back cover toward the top of the computer and lift the back cover off the computer base.

1	back cover	2	captive screws (2)
3	inner frame		

5 Replacing the Back Cover

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Procedure

1. Place the back cover over the inner frame and slide the back cover toward the bottom of the computer.
2. Tighten the captive screws that secure the back cover to the inner frame.

6 Removing the Converter Board

WARNING: Before working inside your computer, read the safety information that shipped with your computer and follow the steps in "Before You Begin" on page 11. After working inside your computer, follow the instructions in "After Working Inside Your Computer" on page 13. For additional safety best practices information, see the Regulatory Compliance Homepage at dell.com/regulatory_compliance.

Prerequisites

1 Remove the back cover. See "Removing the Back Cover" on page 19.

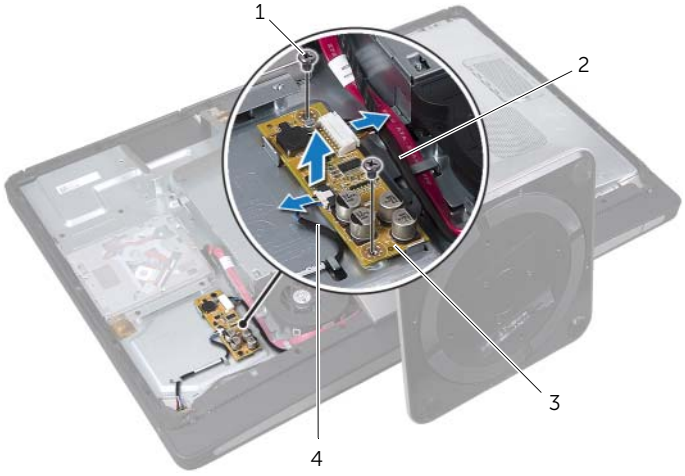
Procedure

1 Lift the securing tab on the display-backlight cable connector and then disconnect the display-backlight cable from the convertor board.

2 Disconnect the converter cable from the converter board.

3 Remove the screws that secure the converter board to the computer base.

4 Lift the converter board off the computer base.



1	screws (2)	2	converter cable
3	converter board	4	display-backlight cable

7 Replacing the Converter Board

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Procedure

1. Align the screw holes on the converter board with the screw holes on the computer base.
2. Replace the screws that secure the converter board to the computer base.
3. Connect the converter cable to the converter board.
4. Connect the display-backlight cable to the convertor board and secure the tab.

Postrequisites

1. Replace the back cover. See "Replacing the Back Cover" on page 21.

8 Removing the Optical Drive

WARNING: Before working inside your computer, read the safety information that shipped with your computer and follow the steps in "Before You Begin" on page 11. After working inside your computer, follow the instructions in "After Working Inside Your Computer" on page 13. For additional safety best practices information, see the Regulatory Compliance Homepage at dell.com/regulatory_compliance.

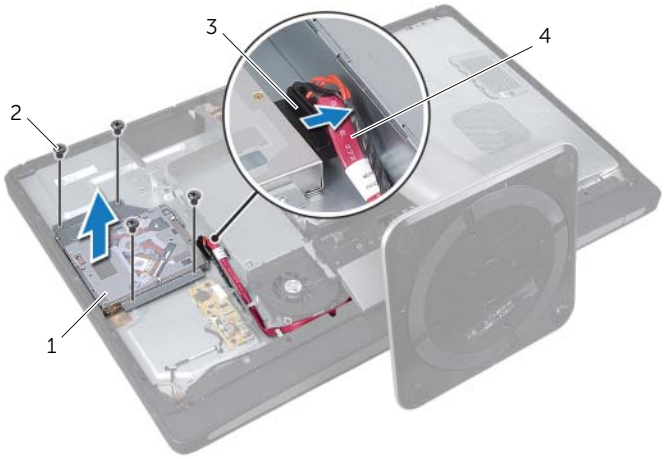
Prerequisites

1 Remove the back cover. See "Removing the Back Cover" on page 19.

Procedure

1 Remove the screws that secure the optical-drive assembly to the computer base.

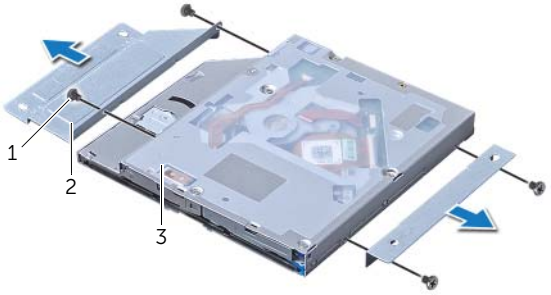
2 Gently lift the optical-drive assembly from the computer base and disconnect the power and data-cable connector from the optical-drive assembly.



1	optical-drive assembly	2	screws (4)
3	power and data-cable connector	4	power and data cables

3 Remove the screws that secure the optical-drive brackets to the optical drive.

4 Remove the optical-drive brackets from the optical drive.



1	screws (4)	2	optical-drive brackets (2)
3	optical drive		

9 Replacing the Optical Drive

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Procedure

1. Align the screw holes on the optical-drive brackets with the screw holes on the optical drive and replace the screws that secure the optical-drive brackets to the optical drive.
2. Connect the power and data-cable connector to the optical-drive assembly.
3. Align the screw holes on the optical-drive assembly with the screw holes on the computer base.
4. Replace the screws that secure the optical-drive assembly to the computer base.

Postrequisites

1. Replace the back cover. See "Replacing the Back Cover" on page 21.

10 Removing the System-Board Shield

WARNING: Before working inside your computer, read the safety information that shipped with your computer and follow the steps in "Before You Begin" on page 11. After working inside your computer, follow the instructions in "After Working Inside Your Computer" on page 13. For additional safety best practices information, see the Regulatory Compliance Homepage at dell.com/regulatory_compliance.

Prerequisites

1 Remove the back cover. See "Removing the Back Cover" on page 19.

Procedure

1 Remove the screws that secure the system-board shield to the computer base.

2 Lift the system-board shield off the computer base.

1	screws (8)	2	system-board shield

11 Replacing the System-Board Shield

WARNING: Before working inside your computer, read the safety information that shipped with your computer and follow the steps in "Before You Begin" on page 11. After working inside your computer, follow the instructions in "After Working Inside Your Computer" on page 13. For additional safety best practices information, see the Regulatory Compliance Homepage at dell.com/regulatory_compliance.

Procedure

1 Align the screw holes on the system-board shield with the screw holes on the computer base.

2 Replace the screws that secure the system-board shield to the computer base.

Postrequisites

1 Replace the back cover. See "Replacing the Back Cover" on page 21.

12 Removing the Power-Supply Unit

WARNING: Before working inside your computer, read the safety information that shipped with your computer and follow the steps in "Before You Begin" on page 11. After working inside your computer, follow the instructions in "After Working Inside Your Computer" on page 13. For additional safety best practices information, see the Regulatory Compliance Homepage at dell.com/regulatory_compliance.

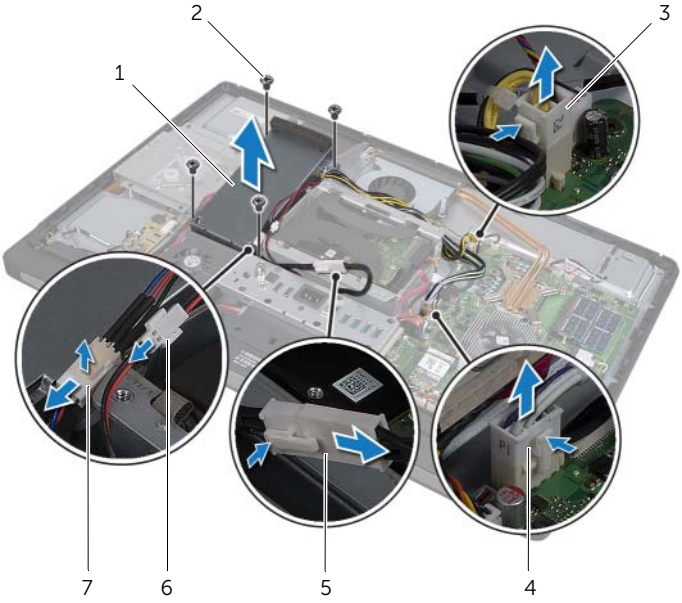
Prerequisites

1. Remove the back cover. See "Removing the Back Cover" on page 19.
2. Remove the stand. See "Removing the Stand" on page 47.
3. Remove the system-board shield. See "Removing the System-Board Shield" on page 31.
4. Remove the trim cover. See "Removing the Trim Cover" on page 87.
5. Remove the I/O panel. See "Removing the I/O Panel" on page 91.

Procedure

1. Press the securing clips and disconnect the main and processor power-supply cables from the system board.
2. Remove the main and processor power-supply cables from their routing guides.
3. Press the securing clip on the power-port cable connector and disconnect the power-port cable from the power-supply unit.
4. Disconnect the power-supply indicator cable from the power-supply unit.
5. Lift the securing clip and disconnect the power-supply fan cable from the power-supply unit.
6. Remove the screws that secure the power-supply unit to the computer base.

7 Lift the power-supply unit off the computer base.



1	power-supply unit	2	screws (4)
3	processor power-supply cable connector	4	main power-supply cable connector
5	power-port cable	6	power-supply indicator cable connector
7	power-supply fan cable connector		

13 Replacing the Power-Supply Unit

WARNING: Before working inside your computer, read the safety information that shipped with your computer and follow the steps in "Before You Begin" on page 11. After working inside your computer, follow the instructions in "After Working Inside Your Computer" on page 13. For additional safety best practices information, see the Regulatory Compliance Homepage at dell.com/regulatory_compliance.

Procedure

1. Align the screw holes on the power-supply unit with the screw holes on the computer base and replace the screws that secure the power-supply unit to the computer base.
2. Connect the power-supply fan cable to the power-supply unit.
3. Connect the power-supply indicator cable to the power-supply unit.
4. Connect the power-port cable to the power-supply unit.
5. Route the processor and main power-supply cables through their routing guides.
6. Connect the processor and main power-supply cables to the system board.

Postrequisites

1. Replace the I/O panel. See "Replacing the I/O Panel" on page 93.
2. Replace the trim cover. See "Replacing the Trim Cover" on page 89.
3. Replace the system-board shield. See "Replacing the System-Board Shield" on page 33.
4. Replace the stand. See "Replacing the Stand" on page 49.
5. Replace the back cover. See "Replacing the Back Cover" on page 21.

14 Removing the Memory Module(s)

WARNING: Before working inside your computer, read the safety information that shipped with your computer and follow the steps in "Before You Begin" on page 11. After working inside your computer, follow the instructions in "After Working Inside Your Computer" on page 13. For additional safety best practices information, see the Regulatory Compliance Homepage at dell.com/regulatory_compliance.

Prerequisites

1 Remove the Back Cover. See "Removing the Back Cover" on page 19.

Procedure

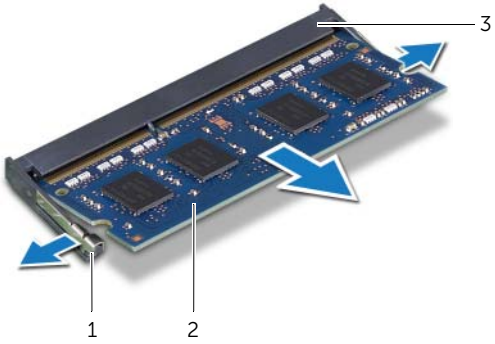
1 Remove the screw that secures the memory-module shield to the system-board shield.

2 Slide the memory-module shield toward the bottom of the computer to remove it from the system-board shield.

1	memory-module shield	2	screw
3	system-board shield		

3 Use your fingertips to carefully spread apart the securing clips on each end of the memory-module connector until the memory module pops up.

4 Remove the memory module from the memory-module connector.



1	securing-clips (2)	2	memory module
3	memory-module connector		

15 Replacing the Memory Module(s)

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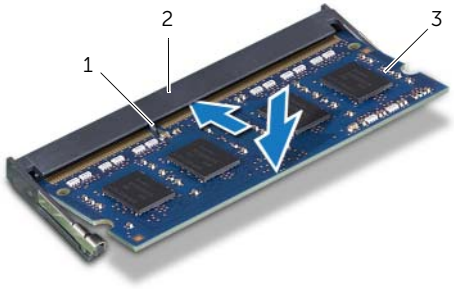
Procedure

1 Align the notch on the memory module with the tab on the memory-module connector.

2 Slide the memory module firmly into the connector at a 45-degree angle and press the memory module down until it clicks into place.
If you do not hear the click, remove the memory module and reinstall it.



1	tab	2	memory-module connector
3	memory module		

3 Slide the memory-module shield on the system-board shield and replace the screw that secures the memory-module shield to the system-board shield.

Postrequisites

1 Replace the back cover. See "Replacing the Back Cover" on page 21.

16 Removing the Coin-Cell Battery

WARNING: Before working inside your computer, read the safety information that shipped with your computer and follow the steps in "Before You Begin" on page 11. After working inside your computer, follow the instructions in "After Working Inside Your Computer" on page 13. For additional safety best practices information, see the Regulatory Compliance Homepage at dell.com/regulatory_compliance.

WARNING: The battery may explode if installed incorrectly. Replace the battery only with the same or equivalent type. Discard used batteries according to the manufacturer's instructions.

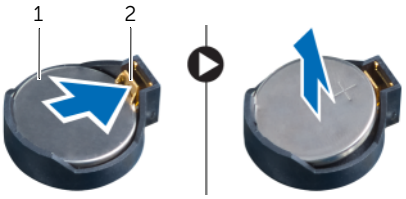
CAUTION: Removing the coin-cell battery resets the BIOS settings to default. It is recommended that you note the BIOS settings before removing the coin-cell battery.

Prerequisites

1. Remove the back cover. See "Removing the Back Cover" on page 19.
2. Remove the system-board shield. See "Removing the System-Board Shield" on page 31.

Procedure

1. Press the securing clip away from the coin-cell battery till the coin-cell battery pops out.
2. Lift the coin-cell battery out of its socket.



1	coin-cell battery	2	securing clip

17 Replacing the Coin-Cell Battery

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WARNING: The battery may explode if installed incorrectly. Replace the battery only with the same or equivalent type. Discard used batteries according to the manufacturer's instructions.

Procedure

1 With the positive-side facing up, snap the coin-cell battery into the coin-cell battery socket on the system board.

Postrequisites

1 Replace the system-board shield. See "Replacing the System-Board Shield" on page 33.

2 Replace the back cover. See "Replacing the Back Cover" on page 21.

18 Removing the Stand

WARNING: Before working inside your computer, read the safety information that shipped with your computer and follow the steps in "Before You Begin" on page 11. After working inside your computer, follow the instructions in "After Working Inside Your Computer" on page 13. For additional safety best practices information, see the Regulatory Compliance Homepage at dell.com/regulatory_compliance.

Prerequisites

1 Remove the Back Cover. See "Removing the Back Cover" on page 19.

Procedure

1 Remove the screws that secure the stand to the hard-drive cage.

2 Lift the stand off the computer base.

1	screws (6)	2	stand

19 Replacing the Stand

WARNING: Before working inside your computer, read the safety information that shipped with your computer and follow the steps in "Before You Begin" on page 11. After working inside your computer, follow the instructions in "After Working Inside Your Computer" on page 13. For additional safety best practices information, see the Regulatory Compliance Homepage at dell.com/regulatory_compliance.

Procedure

1 Insert the tab at the top of the stand into the slot on the computer base.
2 Align the screw holes on the stand with the screw holes on the hard-drive cage.
3 Replace the screws that secure the stand to the hard-drive cage.

Postrequisites

1 Replace the back cover. See "Replacing the Back Cover" on page 21.

20 Removing the Hard Drive

WARNING: Before working inside your computer, read the safety information that shipped with your computer and follow the steps in "Before You Begin" on page 11. After working inside your computer, follow the instructions in "After Working Inside Your Computer" on page 13. For additional safety best practices information, see the Regulatory Compliance Homepage at dell.com/regulatory_compliance.

CAUTION: To avoid data loss, do not remove the hard drive while the computer is in Sleep or On state.

CAUTION: Hard drives are extremely fragile. Exercise care when handling the hard drive.

Prerequisites

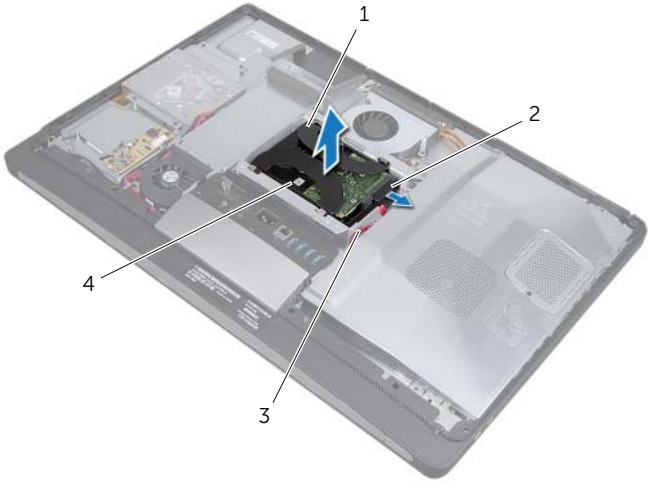
1 Remove the back cover. See "Removing the Back Cover" on page 19.

2 Remove the stand. See "Removing the Stand" on page 47.

Procedure

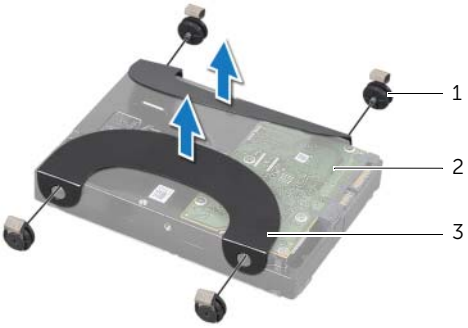
1 Using the straps on the hard-drive assembly, gently lift the hard-drive assembly out of the hard-drive cage.

2 Disconnect the power and data-cable connector from the hard-drive assembly.



1	straps (2)	2	power and data-cable connector
3	power and data cables	4	hard-drive assembly

3 Remove the screws that secure the straps to the hard drive and remove the straps from the hard drive.



1	screws (4)	2	hard drive
3	straps (2)		

21 Replacing the Hard Drive

WARNING: Before working inside your computer, read the safety information that shipped with your computer and follow the steps in "Before You Begin" on page 11. After working inside your computer, follow the instructions in "After Working Inside Your Computer" on page 13. For additional safety best practices information, see the Regulatory Compliance Homepage at dell.com/regulatory_compliance.

CAUTION: Hard drives are extremely fragile. Exercise care when handling the hard drive.

Procedure

1 Align the screw holes on the straps with the screw holes on the hard drive and replace the screws that secure the straps to the hard drive.

2 Connect the power and data-cable connector to the hard-drive assembly.

3 With the straps facing up, align the hard-drive assembly screws with the slots on the hard-drive cage, and then gently press down the hard-drive assembly.

Postrequisites

1 Replace the stand. See "Replacing the Stand" on page 49.

2 Replace the back cover. See "Replacing the Back Cover" on page 21.

22 Removing the Hard-Drive Cage

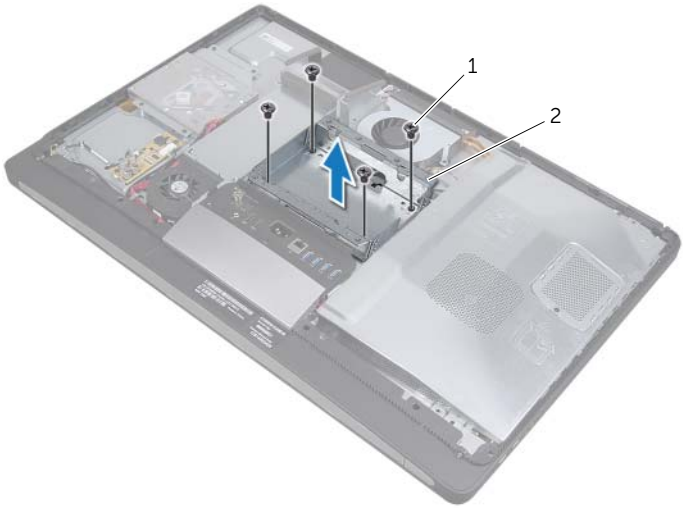
WARNING: Before working inside your computer, read the safety information that shipped with your computer and follow the steps in "Before You Begin" on page 11. After working inside your computer, follow the instructions in "After Working Inside Your Computer" on page 13. For additional safety best practices information, see the Regulatory Compliance Homepage at dell.com/regulatory_compliance.

Prerequisites

1. Remove the back cover. See "Removing the Back Cover" on page 19.
2. Remove the stand. See "Removing the Stand" on page 47.
3. Follow step 1 to step 2 in "Removing the Hard Drive" on page 51.

Procedure

1. Remove the screws that secure the hard-drive cage to the computer base.
2. Remove the power cables from the routing guides on the hard-drive cage.
3. Lift the hard-drive cage off the computer base.



1	screws (4)	2	hard-drive cage

23 Replacing the Hard-Drive Cage

WARNING: Before working inside your computer, read the safety information that shipped with your computer and follow the steps in "Before You Begin" on page 11. After working inside your computer, follow the instructions in "After Working Inside Your Computer" on page 13. For additional safety best practices information, see the Regulatory Compliance Homepage at dell.com/regulatory_compliance.

Procedure

1. Align the screw holes on the hard-drive cage with the screw holes on the computer base.
2. Replace the screws that secure the hard-drive cage to the computer base.

Postrequisites

1. Follow step 2 to step 3 in "Replacing the Hard Drive" on page 53.
2. Replace the stand. See "Replacing the Stand" on page 49.
3. Replace the back cover. See "Replacing the Back Cover" on page 21.

24 Removing the Power-Supply Fan

WARNING: Before working inside your computer, read the safety information that shipped with your computer and follow the steps in "Before You Begin" on page 11. After working inside your computer, follow the instructions in "After Working Inside Your Computer" on page 13. For additional safety best practices information, see the Regulatory Compliance Homepage at dell.com/regulatory_compliance.

Prerequisites

1 Remove the back cover. See "Removing the Back Cover" on page 19.

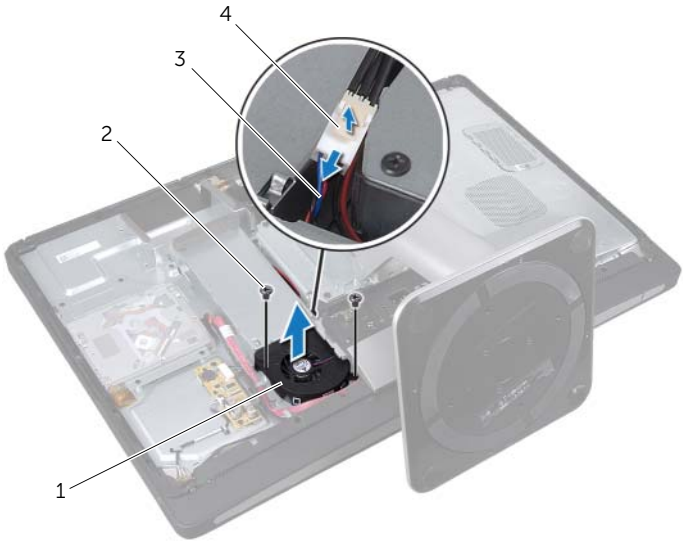
Procedure

1 Lift the securing tab and disconnect the power-supply fan cable from the power-supply unit.

2 Remove the screws that secure the power-supply fan to the computer base.

3 Gently lift the power-supply fan and ease the power-supply fan cable from under the I/O-board assembly.

4 Lift the power-supply fan off the computer base.



1	power-supply fan	2	screws (2)
3	power-supply fan cable	4	securing tab

25 Replacing the Power-Supply Fan

WARNING: Before working inside your computer, read the safety information that shipped with your computer and follow the steps in "Before You Begin" on page 11. After working inside your computer, follow the instructions in "After Working Inside Your Computer" on page 13. For additional safety best practices information, see the Regulatory Compliance Homepage at dell.com/regulatory_compliance.

Procedure

1 Route the power-supply fan cable under the I/O-board assembly and then connect the power-supply fan cable to the power-supply unit.

2 Align the screw holes on the power-supply fan with the screw holes on the computer base and replace the screws that secure the power-supply fan to the computer base.

Postrequisites

1 Replace the back cover. See "Replacing the Back Cover" on page 21.

26 Removing the TV-Tuner Mini-Card

WARNING: Before working inside your computer, read the safety information that shipped with your computer and follow the steps in "Before You Begin" on page 11. After working inside your computer, follow the instructions in "After Working Inside Your Computer" on page 13. For additional safety best practices information, see the Regulatory Compliance Homepage at dell.com/regulatory_compliance.

Prerequisites

1. Remove the back cover. See "Removing the Back Cover" on page 19.
2. Remove the system-board shield. See "Removing the System-Board Shield" on page 31.

Procedure

1. Disconnect the TV-in port cable from the TV-tuner mini-card.
2. Remove the screws that secure the TV-tuner mini-card to the system board.
3. Slide and remove the TV-tuner card out of the TV-tuner mini-card connector.

1	TV-in port cable	2	TV-tuner mini-card
3	TV-tuner mini-card connector	4	screws (2)

27 Replacing the TV-Tuner Mini-Card

WARNING: Before working inside your computer, read the safety information that shipped with your computer and follow the steps in "Before You Begin" on page 11. After working inside your computer, follow the instructions in "After Working Inside Your Computer" on page 13. For additional safety best practices information, see the Regulatory Compliance Homepage at dell.com/regulatory_compliance.

Procedure

1. Align the notch on the TV-tuner mini-card with the tab on the TV-tuner mini-card connector.
2. Insert the TV-tuner mini-card at a 45-degree angle into the TV-tuner mini-card connector.
3. Press the outer end of the TV-tuner mini-card down and replace the screws that secure the TV-tuner mini-card to the system board.
4. Connect the TV-in port cable to the TV-tuner mini-card.

Postrequisites

1. Replace the system-board shield. See "Replacing the System-Board Shield" on page 33.
2. Replace the back cover. See "Replacing the Back Cover" on page 21.

28 Removing the Wireless Mini-Card

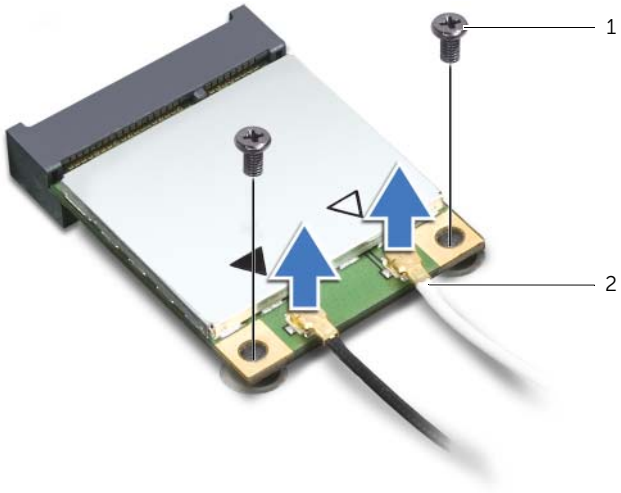
WARNING: Before working inside your computer, read the safety information that shipped with your computer and follow the steps in "Before You Begin" on page 11. After working inside your computer, follow the instructions in "After Working Inside Your Computer" on page 13. For additional safety best practices information, see the Regulatory Compliance Homepage at dell.com/regulatory_compliance.

Prerequisites

1. Remove the back cover. See "Removing the Back Cover" on page 19.
2. Remove the system-board shield. See "Removing the System-Board Shield" on page 31.

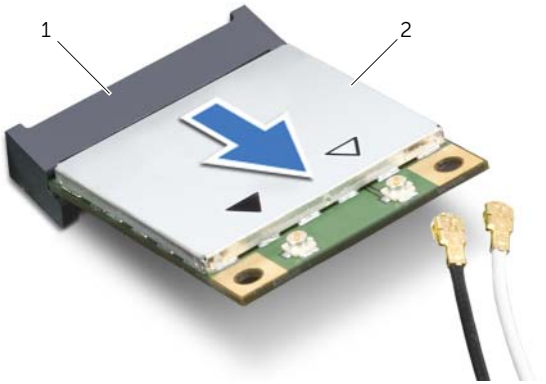
Procedure

1. Disconnect the antenna cables from the wireless mini-card.
2. Remove the screws that secure the wireless mini-card to the system board.



1	screws (2)	2	antenna cables (2)

3 Slide and remove the wireless mini-card out of the wireless mini-card connector.



1	wireless mini-card connector	2	wireless mini-card

29 Replacing the Wireless Mini-Card

WARNING: Before working inside your computer, read the safety information that shipped with your computer and follow the steps in "Before You Begin" on page 11. After working inside your computer, follow the instructions in "After Working Inside Your Computer" on page 13. For additional safety best practices information, see the Regulatory Compliance Homepage at dell.com/regulatory_compliance.

Procedure

CAUTION: To avoid damage to the mini-card, ensure that no cables are placed under the wireless mini-card.

1. Align the notch on the wireless mini-card with the tab on the wireless mini-card connector.
2. Insert the wireless mini-card at a 45-degree angle into the wireless mini-card connector.
3. Press the outer end of the wireless mini-card down and replace the screws that secure the wireless mini-card to the system board.
4. Connect the antenna cables to the wireless mini-card.

   The following table provides the wireless-antenna cable color schemes for the wireless mini-cards supported by your computer.

Connectors on the mini-card	Wireless-antenna cable color schemes
WLAN + Bluetooth (2 cables)	
Main WLAN + Bluetooth (white triangle)	white
Auxiliary WLAN + Bluetooth (black triangle)	black

Postrequisites

1. Replace the system-board shield. See "Replacing the System-Board Shield" on page 33.
2. Replace the back cover. See "Replacing the Back Cover" on page 21.

30 Removing the mSATA Mini-Card

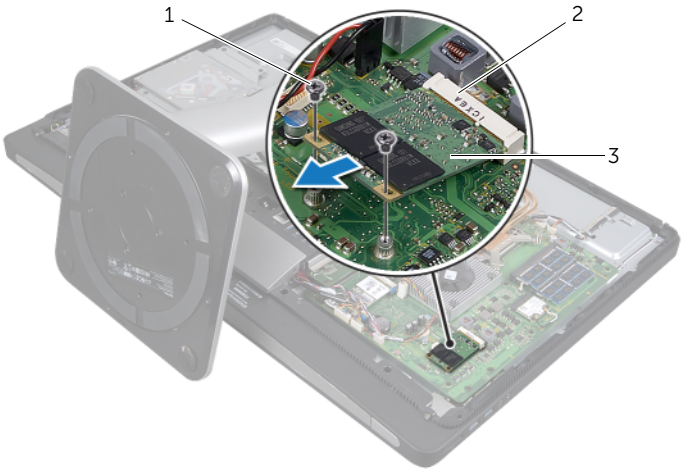
WARNING: Before working inside your computer, read the safety information that shipped with your computer and follow the steps in "Before You Begin" on page 11. After working inside your computer, follow the instructions in "After Working Inside Your Computer" on page 13. For additional safety best practices information, see the Regulatory Compliance Homepage at dell.com/regulatory_compliance.

Prerequisites

1. Remove the back cover. See "Removing the Back Cover" on page 19.
2. Remove the system-board shield. See "Removing the System-Board Shield" on page 31.

Procedure

1. Remove the screws that secure the mSATA mini-card to the system board.
2. Slide and remove the mSATA mini-card from the mSATA mini-card connector.



1	screws (2)	2	mSATA mini-card connector
3	mSATA mini-card		

31 Replacing the mSATA Mini-Card

WARNING: Before working inside your computer, read the safety information that shipped with your computer and follow the steps in "Before You Begin" on page 11. After working inside your computer, follow the instructions in "After Working Inside Your Computer" on page 13. For additional safety best practices information, see the Regulatory Compliance Homepage at dell.com/regulatory_compliance.

Procedure

1. Align the notch on the mSATA mini-card with the tab on the mSATA mini-card connector.
2. Insert the mSATA mini-card at a 45-degree angle into the mSATA mini-card connector.
3. Replace the screws that secure the mSATA mini-card to the system board.

Postrequisites

1. Replace the system-board shield. See "Replacing the System-Board Shield" on page 33.
2. Replace the back cover. See "Replacing the Back Cover" on page 21.

32 Removing the Processor Heat-Sink Fan

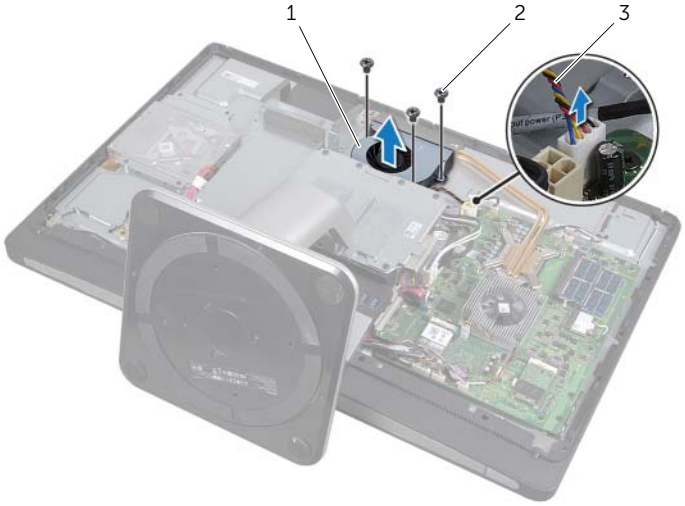
WARNING: Before working inside your computer, read the safety information that shipped with your computer and follow the steps in "Before You Begin" on page 11. After working inside your computer, follow the instructions in "After Working Inside Your Computer" on page 13. For additional safety best practices information, see the Regulatory Compliance Homepage at dell.com/regulatory_compliance.

Prerequisites

1. Remove the back cover. See "Removing the Back Cover" on page 19.
2. Remove the system-board shield. See "Removing the System-Board Shield" on page 31.

Procedure

1. Disconnect the processor heat-sink fan cable from the system board.
2. Remove the screws that secure the processor heat-sink fan to the computer base.
3. Lift the processor heat-sink fan off the computer base.



1	processor heat-sink fan	2	screw (3)
3	processor heat-sink fan cable		

33 Replacing the Processor Heat-Sink Fan

WARNING: Before working inside your computer, read the safety information that shipped with your computer and follow the steps in "Before You Begin" on page 11. After working inside your computer, follow the instructions in "After Working Inside Your Computer" on page 13. For additional safety best practices information, see the Regulatory Compliance Homepage at dell.com/regulatory_compliance.

Procedure

1 Align the screw holes on the processor heat-sink fan with the screw holes on the computer base and replace the screws that secure the processor heat-sink fan to the computer base.

2 Connect the processor heat-sink fan cable to the system board.

Postrequisites

1 Replace the system-board shield. See "Replacing the System-Board Shield" on page 33.

2 Replace the back cover. See "Replacing the Back Cover" on page 21.

34 Removing the Processor Heat-Sink

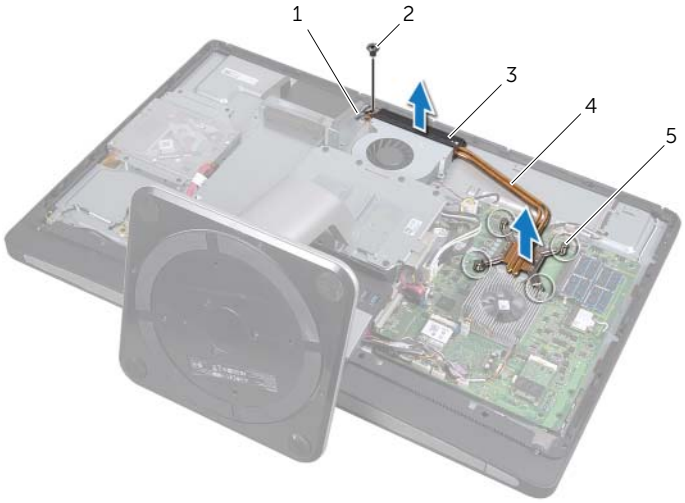
WARNING: Before working inside your computer, read the safety information that shipped with your computer and follow the steps in "Before You Begin" on page 11. After working inside your computer, follow the instructions in "After Working Inside Your Computer" on page 13. For additional safety best practices information, see the Regulatory Compliance Homepage at dell.com/regulatory_compliance.

Prerequisites

1. Remove the back cover. See "Removing the Back Cover" on page 19.
2. Remove the system-board shield. See "Removing the System-Board Shield" on page 31.

Procedure

1. Remove the screw that secures the cooling vents and the grounding cable to the computer base.
2. In sequential order (indicated on the processor heat-sink), loosen the captive screws that secure the processor heat-sink to the system board.
3. Lift the processor heat-sink off the system board.



1	grounding cable	2	screw
3	cooling vents	4	processor heat-sink
5	captive screws (4)		

35 Replacing the Processor Heat-Sink

WARNING: Before working inside your computer, read the safety information that shipped with your computer and follow the steps in "Before You Begin" on page 11. After working inside your computer, follow the instructions in "After Working Inside Your Computer" on page 13. For additional safety best practices information, see the Regulatory Compliance Homepage at dell.com/regulatory_compliance.

Procedure

NOTE: The original thermal grease can be reused if the original system board and heat sink are reinstalled together. If either the system board or the heat sink is replaced with a new one, use the thermal pad provided in the kit to ensure that thermal conductivity is achieved.

1. Clean the thermal grease from the bottom of the processor heat-sink and reapply the thermal grease.
2. Align the captive screws on the processor heat-sink with the screw holes on the system board.
3. In sequential order (indicated on the processor heat-sink), tighten the captive screws that secure the processor heat-sink to the system board.
4. Replace the screw that secures the cooling vents and the grounding cable to the computer base.

Postrequisites

1. Replace the system-board shield. See "Replacing the System-Board Shield" on page 33.
2. Replace the back cover. See "Replacing the Back Cover" on page 21.

36 Removing the Processor

WARNING: Before working inside your computer, read the safety information that shipped with your computer and follow the steps in "Before You Begin" on page 11. After working inside your computer, follow the instructions in "After Working Inside Your Computer" on page 13. For additional safety best practices information, see the Regulatory Compliance Homepage at dell.com/regulatory_compliance.

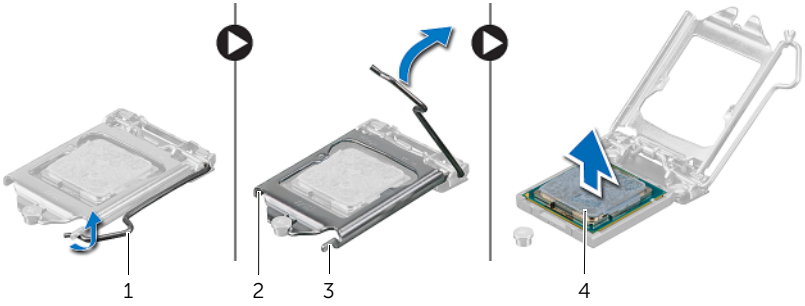
CAUTION: Processors are extremely fragile. Handle the processor only by the edges and do not touch the metal pins.

Prerequisites

1. Remove the back cover. See "Removing the Back Cover" on page 19.
2. Remove the system-board shield. See "Removing the System-Board Shield" on page 31.
3. Remove the processor heat-sink. See "Removing the Processor Heat-Sink" on page 79

Procedure

1. Press the release-lever down and then pull it outwards to release it from the securing tab.
2. Extend the release-lever completely to open the processor cover.
3. Gently lift the processor and remove it from the processor socket.



1	release lever	2	processor cover
3	securing tab	4	processor

37 Replacing the Processor

WARNING: Before working inside your computer, read the safety information that shipped with your computer and follow the steps in "Before You Begin" on page 11. After working inside your computer, follow the instructions in "After Working Inside Your Computer" on page 13. For additional safety best practices information, see the Regulatory Compliance Homepage at dell.com/regulatory_compliance.

Procedure

1 Ensure that the release lever on the processor socket is fully extended in the open position.

CAUTION: You must position the processor correctly in the processor socket to avoid permanent damage to the processor.

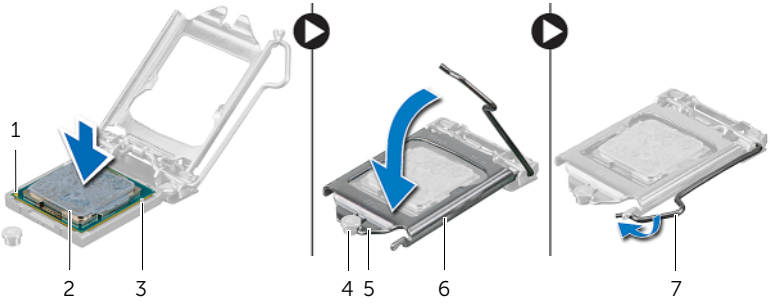
2 Align the notches on the processor with the tabs on the processor socket.

3 Align the pin-1 corner on the processor with the pin-1 corner on the processor socket, and then place the processor in the processor socket.

CAUTION: Ensure that the processor-cover notch is positioned underneath the alignment post.

4 When the processor is fully seated in the socket, close the processor cover.

5 Pivot the release-lever down and place it under the tab on the processor cover.



1	processor pin-1 indicator	2	processor
3	alignment tabs (2)	4	alignment post
5	processor-cover notch	6	processor cover
7	release lever		

Postrequisites

1. Replace the processor heat-sink. See "Replacing the Processor Heat-Sink" on page 81.
2. Replace the system-board shield. See "Replacing the System-Board Shield" on page 33.
3. Replace the back cover. See "Replacing the Back Cover" on page 21.

38 Removing the Trim Cover

WARNING: Before working inside your computer, read the safety information that shipped with your computer and follow the steps in "Before You Begin" on page 11. After working inside your computer, follow the instructions in "After Working Inside Your Computer" on page 13. For additional safety best practices information, see the Regulatory Compliance Homepage at dell.com/regulatory_compliance.

Prerequisites

1 Remove the back cover. See "Removing the Back Cover" on page 19.

Procedure

1 Using a plastic scribe, press-in on the tabs to release the trim cover from the inner frame.

2 Slide the trim cover toward the top of the computer and then lift the trim cover off the computer base.

1	tabs (2)	2	trim cover

39 Replacing the Trim Cover

WARNING: Before working inside your computer, read the safety information that shipped with your computer and follow the steps in "Before You Begin" on page 11. After working inside your computer, follow the instructions in "After Working Inside Your Computer" on page 13. For additional safety best practices information, see the Regulatory Compliance Homepage at dell.com/regulatory_compliance.

Procedure

1 Insert the tabs at the bottom of the trim cover into the slots on the inner frame.

2 Press down on the trim cover until the tabs on the inner frame are secured in the slots on either side of the trim cover.

Postrequisites

1 Replace the back cover. See "Replacing the Back Cover" on page 21.

40 Removing the I/O Panel

WARNING: Before working inside your computer, read the safety information that shipped with your computer and follow the steps in "Before You Begin" on page 11. After working inside your computer, follow the instructions in "After Working Inside Your Computer" on page 13. For additional safety best practices information, see the Regulatory Compliance Homepage at dell.com/regulatory_compliance.

Prerequisites

1. Remove the back cover. See "Removing the Back Cover" on page 19.
2. Remove the stand. See "Removing the Stand" on page 47.
3. Remove the trim cover. See "Removing the Trim Cover" on page 87.

Procedure

1. Press the I/O panel towards the top of the computer and then pivot the I/O panel upward.
2. Ease the securing tabs on the I/O panel and lift the I/O panel off the computer base.

1	securing tabs	2	I/O panel

41 Replacing the I/O Panel

WARNING: Before working inside your computer, read the safety information that shipped with your computer and follow the steps in "Before You Begin" on page 11. After working inside your computer, follow the instructions in "After Working Inside Your Computer" on page 13. For additional safety best practices information, see the Regulatory Compliance Homepage at dell.com/regulatory_compliance.

Procedure

1. Align the slots on the I/O panel with the ports on the I/O assembly.
2. Press down on the I/O panel till it snaps into place.

Postrequisites

1. Replace the trim cover. See "Replacing the Trim Cover" on page 89.
2. Replace the stand. See "Replacing the Stand" on page 49.
3. Replace the back cover. See "Replacing the Back Cover" on page 21.

42 Removing the Inner Frame

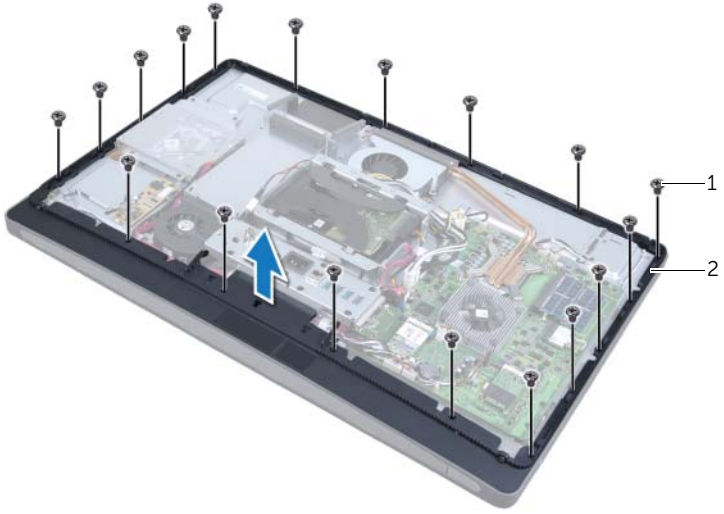
WARNING: Before working inside your computer, read the safety information that shipped with your computer and follow the steps in "Before You Begin" on page 11. After working inside your computer, follow the instructions in "After Working Inside Your Computer" on page 13. For additional safety best practices information, see the Regulatory Compliance Homepage at dell.com/regulatory_compliance.

Prerequisites

1. Remove the back cover. See "Removing the Back Cover" on page 19.
2. Remove the stand. See "Removing the Stand" on page 47.
3. Remove the system-board shield. See "Removing the System-Board Shield" on page 31.
4. Remove the trim cover. See "Removing the Trim Cover" on page 87.
5. Remove the I/O panel. See "Removing the I/O Panel" on page 91.

Procedure

1. Remove the screws that secure the inner frame to the computer base.
2. Gently pry the inner frame from the sides and lift the inner frame off the computer base.



1	screws (18)	2	inner frame

43 Replacing the Inner Frame

WARNING: Before working inside your computer, read the safety information that shipped with your computer and follow the steps in "Before You Begin" on page 11. After working inside your computer, follow the instructions in "After Working Inside Your Computer" on page 13. For additional safety best practices information, see the Regulatory Compliance Homepage at dell.com/regulatory_compliance.

Procedure

1 Align the screw holes on the inner frame with the screw holes on the computer base.

NOTE: Ensure that all cables are routed through their routing guides and no cables are placed between the inner frame and the computer base.

2 Replace the screws that secure the inner frame to the computer base.

Postrequisites

1 Replace the I/O panel. See "Replacing the I/O Panel" on page 93.
2 Replace the trim cover. See "Replacing the Trim Cover" on page 89.
3 Replace the system-board shield. See "Replacing the System-Board Shield" on page 33.
4 Replace the stand. See "Replacing the Stand" on page 49.
5 Replace the back cover. "Replacing the Back Cover" on page 21.

44 Removing the I/O-Board

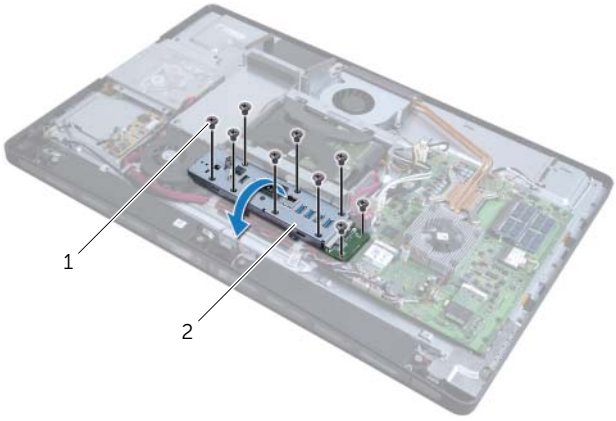
WARNING: Before working inside your computer, read the safety information that shipped with your computer and follow the steps in "Before You Begin" on page 11. After working inside your computer, follow the instructions in "After Working Inside Your Computer" on page 13. For additional safety best practices information, see the Regulatory Compliance Homepage at dell.com/regulatory_compliance.

Prerequisites

1. Remove the back cover. See "Removing the Back Cover" on page 19.
2. Remove the stand. See "Removing the Stand" on page 47.
3. Remove the trim cover. See "Removing the Trim Cover" on page 87.
4. Remove the I/O panel. See "Removing the I/O Panel" on page 91.
5. Remove the system-board shield. See "Removing the System-Board Shield" on page 31.
6. Remove the inner frame. See "Removing the Inner Frame" on page 95.

Procedure

1. Remove the screws that secure the I/O-board assembly to the computer base.
2. Gently lift the I/O-board assembly from the computer base and turn the I/O-board assembly over.

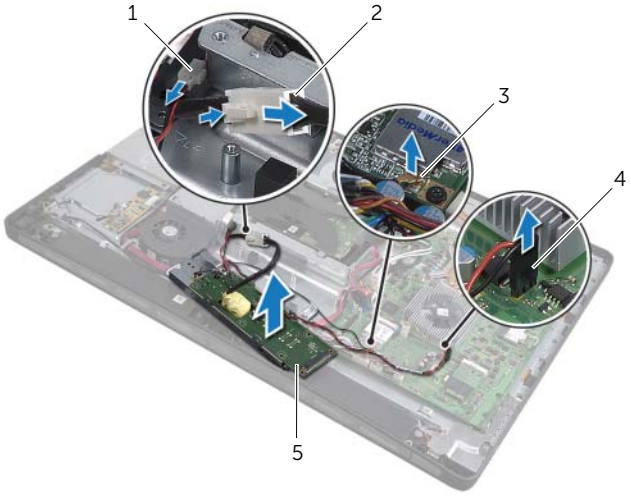


1	screws (9)	2	I/O-board assembly

3. Press the securing clip and disconnect the power-port cable.
4. Note the routing of the TV-in port cable, infrared-emitter port cable, and the power-supply light cable, and then disconnect the cables from the system board.

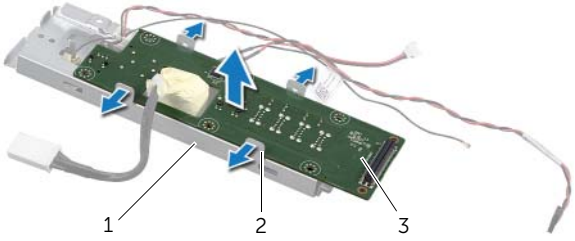
5 Remove the TV-in port cable and the infrared-emitter port cable from their routing guides.

6 Lift the I/O-board assembly off the computer base.



1	power-supply light cable	2	power-port cable
3	TV-in port cable	4	infrared-emitter port cable
5	I/O-board assembly		

7 Push the securing tabs outward to release the I/O board and then lift the I/O board away from the I/O-board bracket.



1	I/O-board bracket	2	securing tabs (4)
3	I/O board		

45 Replacing the I/O Board

WARNING: Before working inside your computer, read the safety information that shipped with your computer and follow the steps in "Before You Begin" on page 11. After working inside your computer, follow the instructions in "After Working Inside Your Computer" on page 13. For additional safety best practices information, see the Regulatory Compliance Homepage at dell.com/regulatory_compliance.

Procedure

1. Slide the power-port cable and power-supply light cable through the slot on the I/O-board bracket.
2. Place the I/O board in the I/O-board bracket and press the securing tabs to secure the I/O board to the I/O-board bracket.
3. Route the TV-in port cable, infrared-emitter port cable, and the power-supply light cable through their routing guides and connect the cables to the system board.
4. Connect the power-port cable to the power-supply unit.
5. Align the screw holes on the I/O-board assembly with the screw holes on the computer base.
6. Press down on the I/O-board assembly to connect the I/O board to the system board.

   NOTE: Ensure that no cables are placed under the I/O-board assembly.
7. Replace the screws that secure the I/O-board assembly to the computer base.

Postrequisites

1. Replace the inner frame. See "Replacing the Inner Frame" on page 97.
2. Replace the system-board shield. See "Replacing the System-Board Shield" on page 33.
3. Replace the I/O panel. See "Replacing the I/O Panel" on page 93.
4. Replace the trim cover. See "Replacing the Trim Cover" on page 89.
5. Replace the stand. See "Replacing the Stand" on page 49.
6. Replace the back cover. See "Replacing the Back Cover" on page 21.

46 Removing the TV-In Port

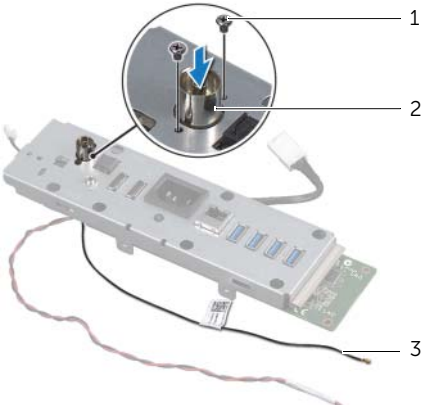
WARNING: Before working inside your computer, read the safety information that shipped with your computer and follow the steps in "Before You Begin" on page 11. After working inside your computer, follow the instructions in "After Working Inside Your Computer" on page 13. For additional safety best practices information, see the Regulatory Compliance Homepage at dell.com/regulatory_compliance.

Prerequisites

1. Remove the back cover. See "Removing the Back Cover" on page 19.
2. Remove the stand. See "Removing the Stand" on page 47.
3. Remove the trim cover. See "Removing the Trim Cover" on page 87.
4. Remove the I/O panel. See "Removing the I/O Panel" on page 91.
5. Remove the system-board shield. See "Removing the System-Board Shield" on page 31.
6. Remove the inner frame. See "Removing the Inner Frame" on page 95.
7. Follow step 1 to step 6 in "Removing the I/O-Board" on page 99.

Procedure

1. Remove the screws that secure the TV-in port to the I/O-board bracket.
2. Slide and remove the TV-in port through the slot on the I/O bracket.



1	screws (2)	2	TV-in port
3	TV-in port cable		

47 Replacing the TV-In Port

WARNING: Before working inside your computer, read the safety information that shipped with your computer and follow the steps in "Before You Begin" on page 11. After working inside your computer, follow the instructions in "After Working Inside Your Computer" on page 13. For additional safety best practices information, see the Regulatory Compliance Homepage at dell.com/regulatory_compliance.

Procedure

1. Slide the TV-in port cable through the slot on the I/O-board bracket.
2. Replace the screws that secure the TV-in port to the I/O-board bracket.

Postrequisites

1. Follow step 3 to step 7 in "Replacing the I/O Board" on page 101.
2. Replace the inner frame. See "Replacing the Inner Frame" on page 97.
3. Replace the system-board shield. See "Replacing the System-Board Shield" on page 33.
4. Replace the I/O panel. See "Replacing the I/O Panel" on page 93.
5. Replace the trim cover. See "Replacing the Trim Cover" on page 89.
6. Replace the stand. See "Replacing the Stand" on page 49.
7. Replace the back cover. See "Replacing the Back Cover" on page 21.

48 Removing the Infrared-Emitter Port

WARNING: Before working inside your computer, read the safety information that shipped with your computer and follow the steps in "Before You Begin" on page 11. After working inside your computer, follow the instructions in "After Working Inside Your Computer" on page 13. For additional safety best practices information, see the Regulatory Compliance Homepage at dell.com/regulatory_compliance.

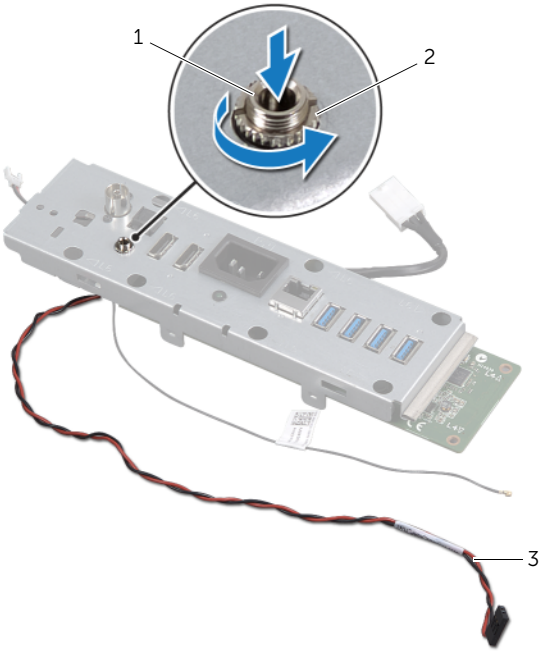
Prerequisites

1. Remove the back cover. See "Removing the Back Cover" on page 19.
2. Remove the stand. See "Removing the Stand" on page 47.
3. Remove the trim cover. See "Removing the Trim Cover" on page 87.
4. Remove the I/O panel. See "Removing the I/O Panel" on page 91.
5. Remove the system-board shield. See "Removing the System-Board Shield" on page 31.
6. Remove the inner frame. See "Removing the Inner Frame" on page 95.
7. Follow step 1 to step 6 in "Removing the I/O-Board" on page 99.

Procedure

1 Remove the nut that secures the infrared-emitter port to the I/O-board bracket.

2 Remove the infrared-emitter port and the infrared-emitter port cable from the I/O-board assembly.



1	Infrared-emitter port	2	nut
3	infrared-emitter port cable		

49 Replacing the Infrared-Emitter Port

WARNING: Before working inside your computer, read the safety information that shipped with your computer and follow the steps in "Before You Begin" on page 11. After working inside your computer, follow the instructions in "After Working Inside Your Computer" on page 13. For additional safety best practices information, see the Regulatory Compliance Homepage at dell.com/regulatory_compliance.

Procedure

1. Slide the infrared-emitter port through the slot on the I/O-board bracket.
2. Replace the nut that secures the infrared-emitter port to the I/O-board bracket.

Postrequisites

1. Follow step 3 to step 7 in "Replacing the I/O Board" on page 101.
2. Replace the inner frame. See "Replacing the Inner Frame" on page 97.
3. Replace the system-board shield. See "Replacing the System-Board Shield" on page 33.
4. Replace the I/O panel. See "Replacing the I/O Panel" on page 93.
5. Replace the trim cover. See "Replacing the Trim Cover" on page 89.
6. Replace the stand. See "Replacing the Stand" on page 49.
7. Replace the back cover. See "Replacing the Back Cover" on page 21.

50 Removing the System Board

WARNING: Before working inside your computer, read the safety information that shipped with your computer and follow the steps in "Before You Begin" on page 11. After working inside your computer, follow the instructions in "After Working Inside Your Computer" on page 13. For additional safety best practices information, see the Regulatory Compliance Homepage at dell.com/regulatory_compliance.

NOTE: Your computer's Service Tag is stored in the system board. You must enter the Service Tag in system setup after you replace the system board.

NOTE: Before disconnecting the cables from the system board, note the location of the connectors so that you can reconnect them correctly after you replace the system board.

Prerequisites

1. Remove the back cover. See "Removing the Back Cover" on page 19.
2. Remove the stand. See "Removing the Stand" on page 47.
3. Remove the trim cover. See "Removing the Trim Cover" on page 87.
4. Remove the I/O panel. See "Removing the I/O Panel" on page 91.
5. Remove the system-board shield. See "Removing the System-Board Shield" on page 31.
6. Remove the inner frame. See "Removing the Inner Frame" on page 95.
7. Follow step 1 to step 6 in "Removing the I/O-Board" on page 99.
8. Remove the memory modules. See "Removing the Memory Module(s)" on page 39.
9. Remove the TV-tuner mini-card. See "Removing the TV-Tuner Mini-Card" on page 63.
10. Remove the mSATA mini-card. See "Removing the mSATA Mini-Card" on page 71.
11. Remove the wireless mini-card. See "Removing the Wireless Mini-Card" on page 67.
12. Remove the processor heat-sink. See "Removing the Processor Heat-Sink" on page 79.
13. Remove the processor. See "Removing the Processor" on page 83.

Procedure

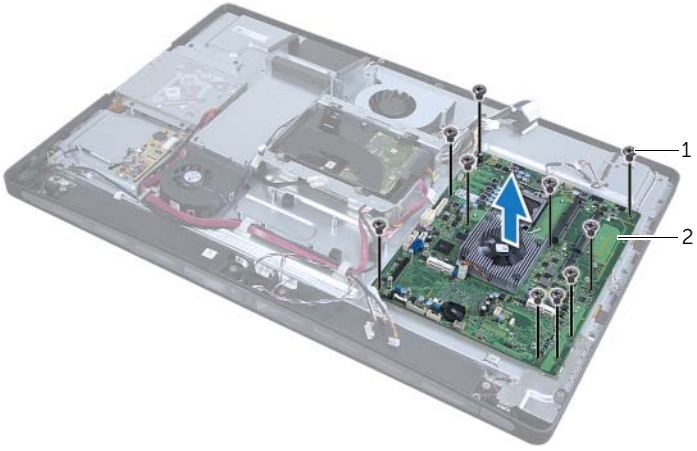
1 Disconnect the following cables from the system board:

- Speaker cable
- Power-button cable
- Converter cable
- Volume/Display-settings control cable
- Hard-drive data cable
- Hard-drive power cable
- Optical-drive data cable
- Optical-drive power cable
- Main and processor power-supply cables
- LVDS cable
- Touchscreen cable
- Processor heat-sink fan cable
- Display-power cable
- Camera cable
- Infrared-receiver cable

NOTE: For information on the location of the connectors, see "System-Board Components" on page 16.

2 Remove the screws that secure the system board to the computer base.

3 Lift the system board off the computer base.



1	screws (10)	2	system board

51 Replacing the System Board

WARNING: Before working inside your computer, read the safety information that shipped with your computer and follow the steps in "Before You Begin" on page 11. After working inside your computer, follow the instructions in "After Working Inside Your Computer" on page 13. For additional safety best practices information, see the Regulatory Compliance Homepage at dell.com/regulatory_compliance.

NOTE: Your computer's Service Tag is stored in the system board. You must enter the Service Tag in the system setup after you replace the system board.

Procedure

1. Align the screw holes on the system board with the screw holes on the computer base.
2. Replace the screws that secure the system board to the computer base.
3. Connect the following cables to the system board:
   - Speaker cable
   - Power-button cable
   - Converter cable
   - Volume/Display-settings control cable
   - Hard-drive power cable
   - Hard-drive data cable
   - Optical-drive power cable
   - Optical-drive data cable
   - Main and processor power-supply cables
   - LVDS cable
   - Touchscreen cable
   - Processor heat-sink fan cable
   - Display-power cable
   - Camera cable
   - Infrared-receiver cable

Postrequisites

1. Replace the processor. See "Replacing the Processor" on page 85.
2. Replace the processor heat-sink. See "Replacing the Processor Heat-Sink" on page 81.
3. Replace the wireless mini-card. See "Replacing the Wireless Mini-Card" on page 69.
4. Replace the mSATA mini-card. See "Replacing the mSATA Mini-Card" on page 73.
5. Replace the TV-tuner mini-card. See "Replacing the TV-Tuner Mini-Card" on page 65.
6. Replace the memory modules. See "Replacing the Memory Module(s)" on page 41.
7. Follow step 3 to step 7 in "Replacing the I/O Board" on page 101.
8. Replace the inner frame. See "Replacing the Inner Frame" on page 97.
9. Replace the system-board shield. See "Replacing the System-Board Shield" on page 33.
10. Replace the I/O panel. See "Replacing the I/O Panel" on page 93.
11. Replace the trim cover. See "Replacing the Trim Cover" on page 89.
12. Replace the stand. See "Replacing the Stand" on page 49.
13. Replace the back cover. See "Replacing the Back Cover" on page 21.

Entering the Service Tag in system setup

1. Turn on the computer.
2. Press <F2> during POST to enter the system setup program.
3. Navigate to the **Main** tab and enter the Service Tag in the **Service Tag Input** field.

52 Removing the Speakers

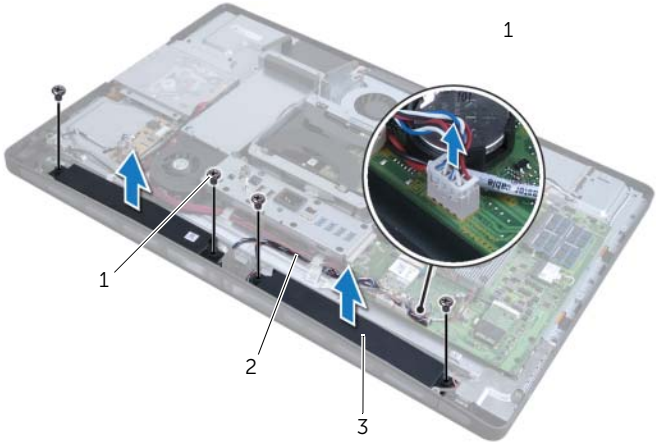
WARNING: Before working inside your computer, read the safety information that shipped with your computer and follow the steps in "Before You Begin" on page 11. After working inside your computer, follow the instructions in "After Working Inside Your Computer" on page 13. For additional safety best practices information, see the Regulatory Compliance Homepage at dell.com/regulatory_compliance.

Prerequisites

1. Remove the back cover. See "Removing the Back Cover" on page 19.
2. Remove the system-board shield. See "Removing the System-Board Shield" on page 31.
3. Remove the trim cover. See "Removing the Trim Cover" on page 87.
4. Remove the inner frame. See "Removing the Inner Frame" on page 95.

Procedure

1. Disconnect the speaker cable from the system board.
2. Note the routing of the speaker cable and remove the speaker cable from its routing guides.
3. Remove the screws that secure the speakers to the computer base.
4. Lift the speakers off the computer base.



1	screws (4)	2	speakers cable
3	speakers (2)		

53 Replacing the Speakers

WARNING: Before working inside your computer, read the safety information that shipped with your computer and follow the steps in "Before You Begin" on page 11. After working inside your computer, follow the instructions in "After Working Inside Your Computer" on page 13. For additional safety best practices information, see the Regulatory Compliance Homepage at dell.com/regulatory_compliance.

Procedure

1. Align the screws holes on the speakers with the screw holes on the computer base.
2. Replace the screws that secure the speakers to the computer base.
3. Route the speaker cable through the routing guides and connect the speaker cable to the system board.

Postrequisites

1. Replace the inner frame. See "Replacing the Inner Frame" on page 97.
2. Replace the trim cover. See "Replacing the Trim Cover" on page 89.
3. Replace the system-board shield. See "Replacing the System-Board Shield" on page 33.
4. Replace the back cover. See "Replacing the Back Cover" on page 21.

54 Removing the Power-Button Assembly

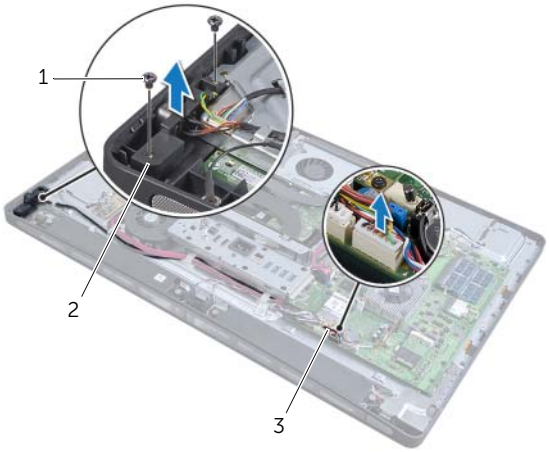
WARNING: Before working inside your computer, read the safety information that shipped with your computer and follow the steps in "Before You Begin" on page 11. After working inside your computer, follow the instructions in "After Working Inside Your Computer" on page 13. For additional safety best practices information, see the Regulatory Compliance Homepage at dell.com/regulatory_compliance.

Prerequisites

1. Remove the back cover. See "Removing the Back Cover" on page 19.
2. Remove the system-board shield. See "Removing the System-Board Shield" on page 31.
3. Remove the trim cover. See "Removing the Trim Cover" on page 87.
4. Remove the inner frame. See "Removing the Inner Frame" on page 95

Procedure

1. Disconnect the power-button cable from the system board.
2. Remove the power-button cable from its routing guides.
3. Remove the screws that secure the power-button assembly to the computer base.
4. Press the power button inward to release it from the slot on the computer base and then gently lift the power-button assembly off the computer base.



1	screws (2)	2	power-button assembly
3	power-button cable		

55 Replacing the Power-Button Assembly

WARNING: Before working inside your computer, read the safety information that shipped with your computer and follow the steps in "Before You Begin" on page 11. After working inside your computer, follow the instructions in "After Working Inside Your Computer" on page 13. For additional safety best practices information, see the Regulatory Compliance Homepage at dell.com/regulatory_compliance.

Procedure

1. Place the power-button assembly in the computer base and ensure that the power button fits in the slot on the computer base.
2. Align the screw holes on the power-button assembly with the screws holes on the computer base and replace the screws that secure the power-button assembly to the computer base.
3. Route the power-button cable through the routing guides and connect the power-button cable to the system board.

Postrequisites

1. Replace the inner frame. See "Replacing the Inner Frame" on page 97.
2. Replace the trim cover. See "Replacing the Trim Cover" on page 89.
3. Replace the system-board shield. See "Replacing the System-Board Shield" on page 33.
4. Replace the back cover. See "Replacing the Back Cover" on page 21.

56 Removing the Side I/O-Board

WARNING: Before working inside your computer, read the safety information that shipped with your computer and follow the steps in "Before You Begin" on page 11. After working inside your computer, follow the instructions in "After Working Inside Your Computer" on page 13. For additional safety best practices information, see the Regulatory Compliance Homepage at dell.com/regulatory_compliance.

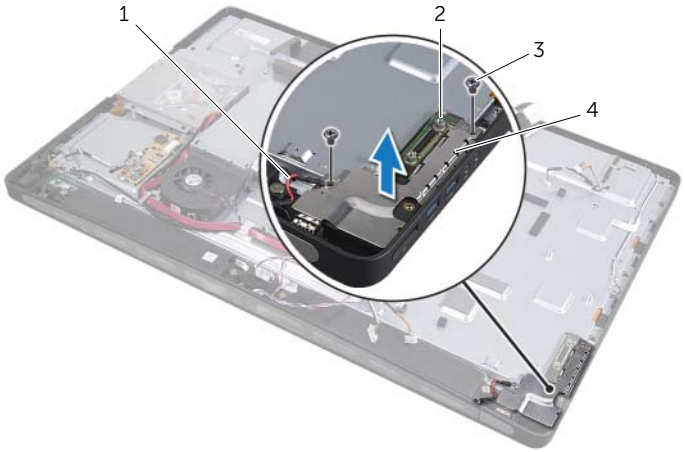
Prerequisites

1. Remove the back cover. See "Removing the Back Cover" on page 19.
2. Remove the stand. See "Removing the Stand" on page 47.
3. Remove the trim cover. See "Removing the Trim Cover" on page 87.
4. Remove the I/O panel. See "Removing the I/O Panel" on page 91.
5. Remove the system-board shield. See "Removing the System-Board Shield" on page 31.
6. Remove the inner frame. See "Removing the Inner Frame" on page 95.
7. Follow step 1 to step 6 in "Removing the I/O-Board" on page 99.
8. Disconnect the antenna cables from the wireless mini-card. See "Removing the Wireless Mini-Card" on page 67.
9. Remove the processor heat-sink. See "Removing the Processor Heat-Sink" on page 79.
10. Follow step 1 to step 3 in "Removing the System Board" on page 111.

Procedure

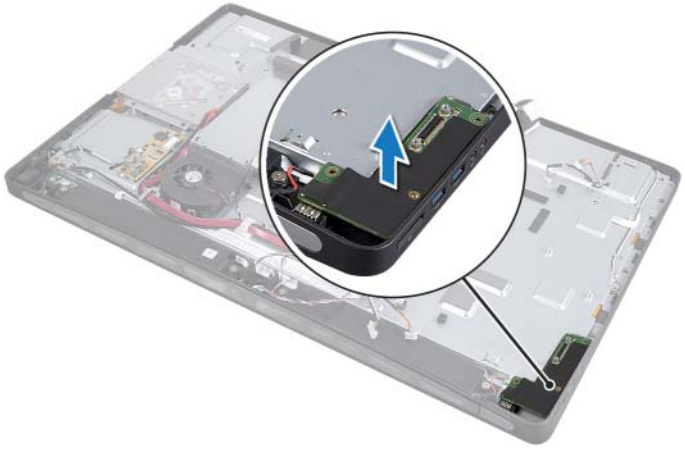
1 Remove the screws that secure the side I/O-board shield to the computer base.

2 Remove the side I/O-board shield.



1	grounding cable	2	side I/O-board
3	screws (2)	4	side-I/O-board shield

3 Gently lift the side I/O-board starting from the inner edge and then ease the ports on the side I/O-board out of the slots on the computer base.



57 Replacing the Side-I/O Board

WARNING: Before working inside your computer, read the safety information that shipped with your computer and follow the steps in "Before You Begin" on page 11. After working inside your computer, follow the instructions in "After Working Inside Your Computer" on page 13. For additional safety best practices information, see the Regulatory Compliance Homepage at dell.com/regulatory_compliance.

Procedure

1. Align the screw holes on the side I/O-board with the screw holes on the computer base and gently insert the ports on the side I/O-board into the slots on the computer base.
2. Align the screw holes on the side I/O-board shield with the screw holes on the computer base and place the side I/O-board shield on the side-I/O board.
3. Replace the screws that secure the side I/O-board shield to computer base.

NOTE: Ensure that you also secure the grounding cable with the same screw that secures the side I/O-shield to the computer base.

Postrequisites

1. Follow step 1 to step 3 in "Replacing the System Board" on page 113.
2. Replace the processor heat-sink. See "Replacing the Processor Heat-Sink" on page 81.
3. Connect the antenna cables to the wireless mini-card. See "Replacing the Wireless Mini-Card" on page 69.
4. Follow step 3 to step 7 in "Replacing the I/O Board" on page 101.
5. Replace the inner frame. See "Replacing the Inner Frame" on page 97.
6. Replace the system-board shield. See "Replacing the System-Board Shield" on page 33.
7. Replace the I/O panel. See "Replacing the I/O Panel" on page 93.
8. Replace the trim cover. See "Replacing the Trim Cover" on page 89.
9. Replace the stand. See "Replacing the Stand" on page 49.
10. Replace the back cover. See "Replacing the Back Cover" on page 21.

58 Removing the Middle Cover

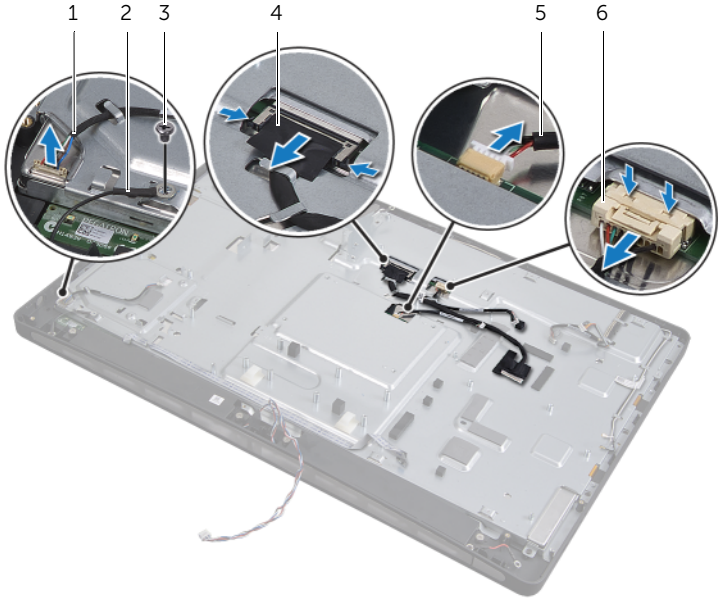
WARNING: Before working inside your computer, read the safety information that shipped with your computer and follow the steps in "Before You Begin" on page 11. After working inside your computer, follow the instructions in "After Working Inside Your Computer" on page 13. For additional safety best practices information, see the Regulatory Compliance Homepage at dell.com/regulatory_compliance.

Prerequisites

1. Remove the back cover. See "Removing the Back Cover" on page 19.
2. Remove the stand. See "Removing the Stand" on page 47.
3. Follow step 1 to step 2 in "Removing the Hard Drive" on page 51.
4. Remove the hard-drive cage. See"Removing the Hard-Drive Cage" on page 55.
5. Follow step 1 to step 2 in "Removing the Optical Drive" on page 27.
6. Remove the trim cover. See "Removing the Trim Cover" on page 87.
7. Remove the I/O panel. See "Removing the I/O Panel" on page 91.
8. Remove the system-board shield. See "Removing the System-Board Shield" on page 31.
9. Remove the inner frame. See "Removing the Inner Frame" on page 95.
10. Follow step 1 to step 6 in "Removing the I/O-Board" on page 99.
11. Remove the processor heat-sink. See "Removing the Processor Heat-Sink" on page 79.
12. Remove the processor heat-sink fan. See "Removing the Processor Heat-Sink Fan" on page 75.
13. Remove the power-supply fan. See "Removing the Power-Supply Fan" on page 59.
14. Remove the power-supply unit. See "Removing the Power-Supply Unit" on page 35.
15. Remove the converter board. See "Removing the Converter Board" on page 23.
16. Follow step 1 to step 3 in "Removing the System Board" on page 111.
17. Remove the side I/O-board. See "Removing the Side I/O-Board" on page 123.

Procedure

1. Disconnect the display-backlight cable from the display assembly.
2. Remove the screw that secures the grounding cable to the computer base.
3. Remove the plastic shield above the LVDS and display-power cables.
4. Press the securing clips and disconnect the LVDS cable from the display assembly.
5. Disconnect the touchscreen cable from the display assembly.
6. Press the securing clip and disconnect the display-power cable from the display assembly.

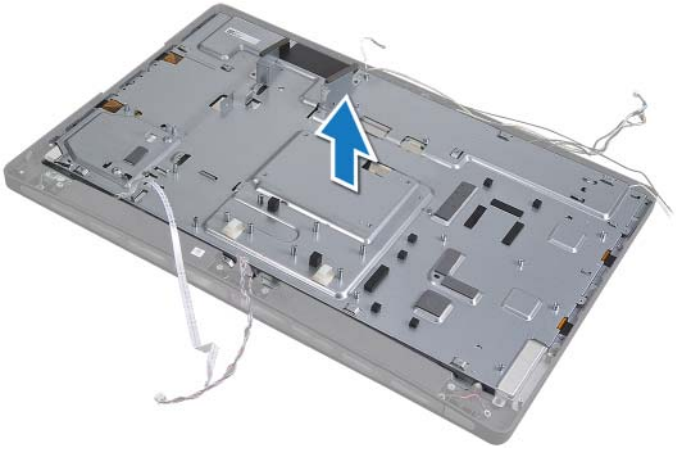


1	display-backlight cable	2	grounding cable
3	grounding-cable screw	4	LVDS cable
5	touchscreen cable	6	display-power cable

7 Remove the following cables from the routing guides on the middle frame:

- LVDS cable
- Display-power cable
- Infrared-receiver cable
- Camera cable
- Hard-drive power and data cable
- Optical-drive power and data cable
- Converter cable
- Power-button cable
- Display-backlight cable

8 Lift the middle cover off the computer base.



59 Replacing the Middle Cover

WARNING: Before working inside your computer, read the safety information that shipped with your computer and follow the steps in "Before You Begin" on page 11. After working inside your computer, follow the instructions in "After Working Inside Your Computer" on page 13. For additional safety best practices information, see the Regulatory Compliance Homepage at dell.com/regulatory_compliance.

Procedure

1. Place the middle cover on the computer base and route the cables through their slots on the middle cover.
2. Route the following cables through their routing guides on the middle frame:
   - LVDS cable
   - Display-power cable
   - Infrared-receiver cable
   - Camera cable
   - Hard-drive power and data cable
   - Optical-drive power and data cable
   - Converter cable
   - Power-button cable
   - Display-backlight cable
3. Replace the plastic shield above the LVDS and display-power cables.
4. Connect the LVDS, display-power, and touchscreen cables to the display assembly.
5. Replace the screw that secures the grounding cable to the middle cover.
6. Connect the display-backlight cable to the display assembly.

Postrequisites

1. Replace the side I/O-board. See "Replacing the Side-I/O Board" on page 125.
2. Follow step 1 to step 3 in "Replacing the System Board" on page 113.
3. Replace the converter board. See "Replacing the Converter Board" on page 25.
4. Replace the power-supply unit. See "Replacing the Power-Supply Unit" on page 37.
5. Replace the power-supply fan. See "Replacing the Power-Supply Fan" on page 61.
6. Replace the processor heat-sink fan. See "Replacing the Processor Heat-Sink Fan" on page 77.
7. Replace the processor heat-sink. See "Replacing the Processor Heat-Sink" on page 81.
8. Follow step 3 to step 7 in "Replacing the I/O Board" on page 101.
9. Replace the inner frame. See "Replacing the Inner Frame" on page 97.
10. Replace the system-board shield. See "Replacing the System-Board Shield" on page 33.
11. Replace the I/O panel. See "Replacing the I/O Panel" on page 93.
12. Replace the trim cover. See "Replacing the Trim Cover" on page 89.
13. Follow step 2 to step 4 in "Replacing the Optical Drive" on page 29.
14. Replace the hard-drive cage. See"Replacing the Hard-Drive Cage" on page 57.
15. Follow step 2 to step 3 in "Replacing the Hard Drive" on page 53.
16. Replace the stand. See "Replacing the Stand" on page 49.
17. Replace the back cover. See "Replacing the Back Cover" on page 21.

60 Removing the Display Panel

WARNING: Before working inside your computer, read the safety information that shipped with your computer and follow the steps in "Before You Begin" on page 11. After working inside your computer, follow the instructions in "After Working Inside Your Computer" on page 13. For additional safety best practices information, see the Regulatory Compliance Homepage at dell.com/regulatory_compliance.

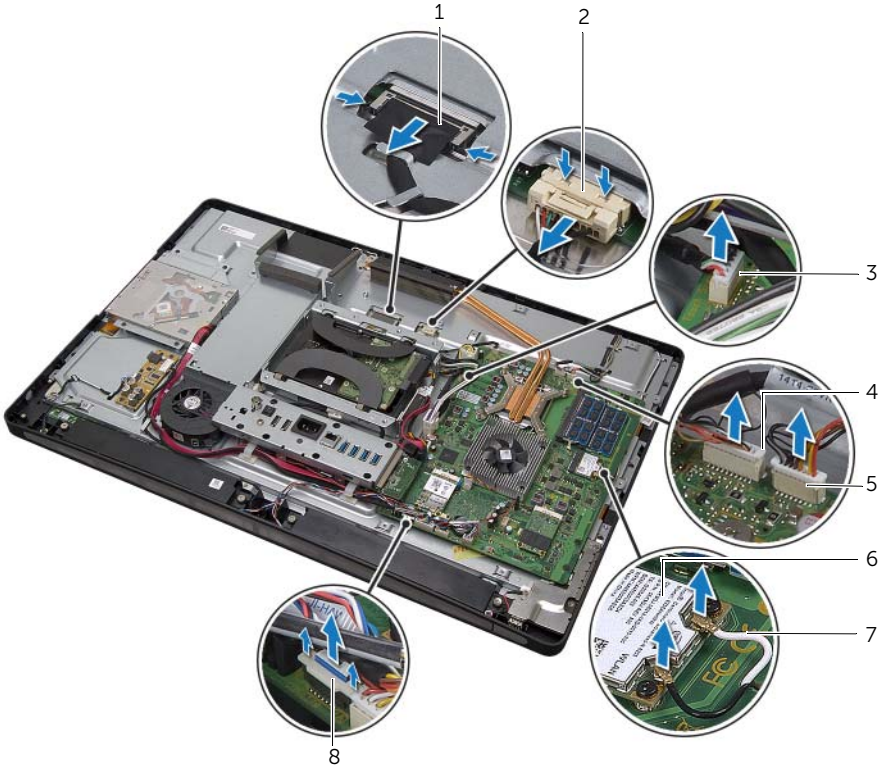
Prerequisites

1. Remove the back cover. See "Removing the Back Cover" on page 19.
2. Remove the stand. See "Removing the Stand" on page 47.
3. Remove the system-board shield. See "Removing the System-Board Shield" on page 31.
4. Remove the trim cover. See "Removing the Trim Cover" on page 87.
5. Remove the processor heat-sink fan. See "Removing the Processor Heat-Sink Fan" on page 75.
6. Remove the inner frame. See "Removing the Inner Frame" on page 95.

Procedure

1. Disconnect the power-button cable from the system board and remove the power-button cable from its routing guides.
2. Disconnect the speaker cable from the system board and remove the speaker cable from its routing guides.
3. Disconnect the antenna cables from the wireless mini-card and remove the antenna cables from their routing guides.
4. Disconnect the camera and infrared-module cables from the system board and remove the cables from their routing guides.
5. Disconnect the display-power, touchscreen, and LVDS cables from the system board.

6 Remove the plastic shield and remove the display-power, LVDS, and touchscreen cables from their routing guides.



1	LVDS cable	2	display-power cable
3	touchscreen cable	4	camera cable
5	infrared-module cable	6	wireless mini-card
7	wireless-antenna cables (2)	8	volume/display-settings controls cable

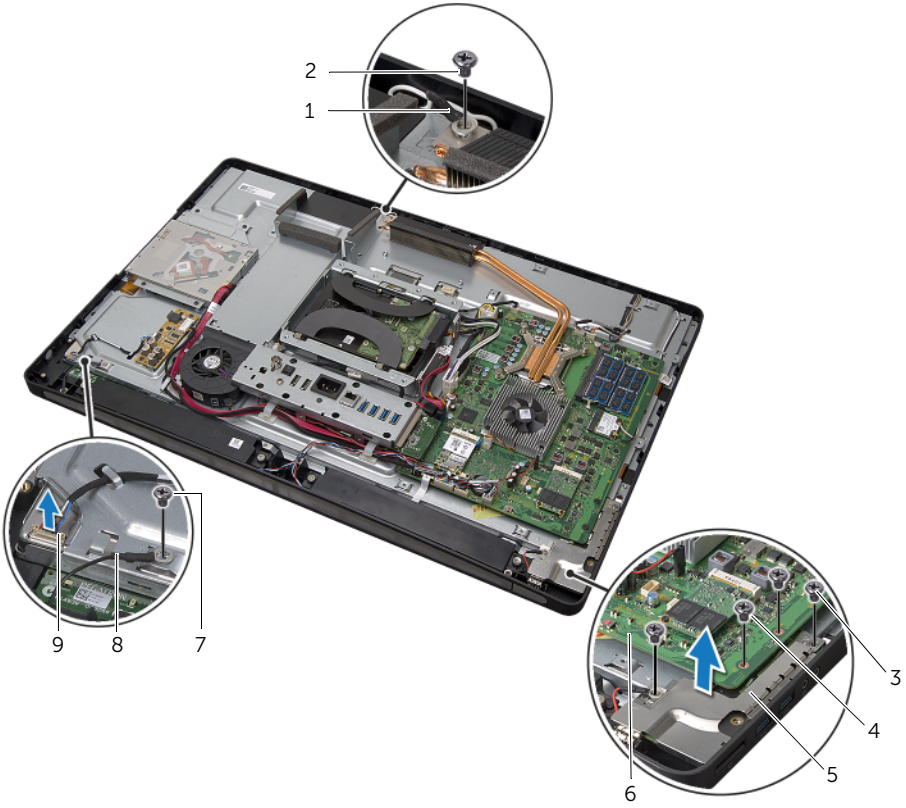
7 Disconnect the display-backlight cable from the display assembly.

8 Remove the screw that secures the grounding cable to the processor cooling vents.

9 Remove the screw that secures the grounding cable from the right-speaker mesh to the middle cover.

10 Remove the screws that secure the system board to the side I/O-board.

11 Remove the screws that secure the side I/O-board shield to the computer base and remove the side I/O-board shield.



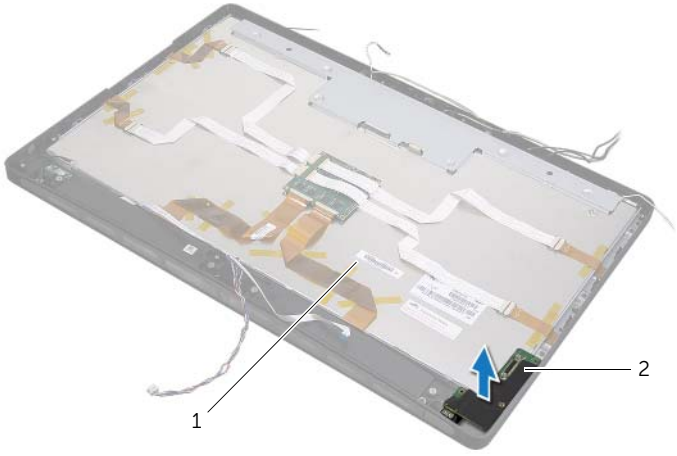
1	processor cooling-vents grounding cable	2	grounding-cable screw
3	side I/O-board shield screws (2)	4	system-board screws (2)
5	side I/O-board shield	6	system board
7	grounding-cable screw	8	speaker grounding cable
9	display-backlight cable		

WARNING: The middle cover is heavy when the components are attached to it. It is recommended that two people remove and replace the middle cover while the components are attached to it.

12 Using the hard-drive cage, gently lift the middle-cover assembly along with the components and ease the cables out of the slots.

1	hard-drive cage	2	middle-cover assembly

13 Remove the side-I/O board.



1	display assembly	2	side I/O board

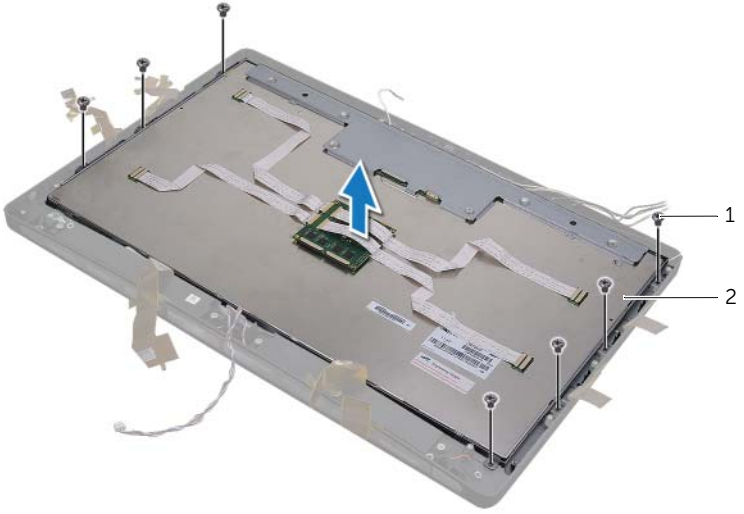
14 Push the tabs and disconnect the ribbon cables from the display assembly.

15 Peel off the tapes securing the ribbon cables to the display assembly.

1	tabs	2	ribbon cables (6)
3	tape		

16 Remove the screws that secure the display assembly to the computer base.

17 Lift the display assembly from the computer base.



1	screws (7)	2	display assembly

18 Remove the screws that secure the display brackets to the display panel.

19 Remove the display brackets from the display panel.

1	display panel	2	display brackets (2)
3	screws (4)		

61 Replacing the Display Panel

WARNING: Before working inside your computer, read the safety information that shipped with your computer and follow the steps in "Before You Begin" on page 11. After working inside your computer, follow the instructions in "After Working Inside Your Computer" on page 13. For additional safety best practices information, see the Regulatory Compliance Homepage at dell.com/regulatory_compliance.

WARNING: The middle cover is heavy when the components are attached to it. It is recommended that two people remove and replace the middle cover while the components are attached to it.

Procedure

1. Align the screw holes on the display brackets with the screw holes on the display panel.
2. Replace the screws that secure the display brackets to the display panel.
3. Align the screw holes on the display assembly with the screws holes on the computer base and gently place the display assembly over the computer base.

   NOTE: Ensure that no cables are placed under the display assembly.
4. Replace the screws that secure the display assembly to the computer base.
5. Insert the ribbon cables into their connectors and press the tabs to secure the cables.
6. Adhere the tapes that secure the ribbon cables to the display assembly.
7. Replace the side-I/O board.
8. Align the bottom of the middle cover with the computer base and lower the middle-cover assembly into the computer base.
9. Route the display-power, LVDS, and touchscreen cables through the slots in the middle cover.
10. Place the middle-cover assembly into the computer base.

    NOTE: Ensure that all cables are routed through their routing guides and no cables are placed under the middle cover.
11. Align the screw holes on the middle cover with the screw holes on the computer base.
12. Replace the screws that secure the middle-cover assembly to the computer base.
13. Align the screw holes on the side I/O-board shield with the screw holes on the computer base and replace the screws that secure the side I/O-board shield to the computer base.

    NOTE: Ensure that you also secure the grounding cable with the same screw that secures the side I/O-board shield to the computer base.
14. Connect the display-power, LVDS, and touchscreen cables to the system board.

15 Route the display-power, LVDS, and touchscreen cables through their routing guides and replace the plastic shield.

16 Route the camera and infrared-module cables through their routing guides and connect the cables to the system board.

17 Route the wireless-antenna cables through their routing guides and connect the antenna cables to the wireless mini-card.

18 Route the speaker cables through their routing guides and connect the speaker cable to the system board.

19 Route the power-button cable through its routing guides and connect the power-button cable to the system board.

20 Connect the display-backlight cable to the display assembly.

21 Replace the screw that secures the grounding cable to the processor cooling-vents.

22 Replace the screw that secures the grounding cable from the right-speaker mesh to the middle cover.

Postrequisites

1 Replace the inner frame. See "Replacing the Inner Frame" on page 97.

2 Replace the processor heat-sink fan. See "Replacing the Processor Heat-Sink Fan" on page 77.

3 Replace the trim cover. See "Replacing the Trim Cover" on page 89.

4 Replace the system-board shield. See "Replacing the System-Board Shield" on page 33.

5 Replace the stand. See "Replacing the Stand" on page 49.

6 Replace the back cover. See "Replacing the Back Cover" on page 21.

62 Removing the Camera Module

WARNING: Before working inside your computer, read the safety information that shipped with your computer and follow the steps in "Before You Begin" on page 11. After working inside your computer, follow the instructions in "After Working Inside Your Computer" on page 13. For additional safety best practices information, see the Regulatory Compliance Homepage at dell.com/regulatory_compliance.

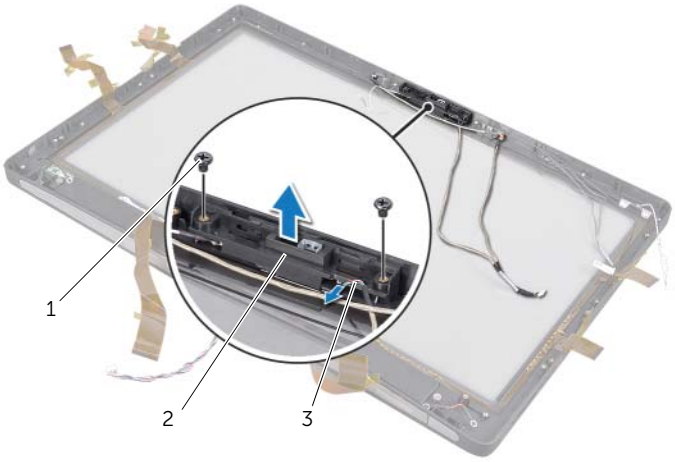
Prerequisites

1. Remove the back cover. See "Removing the Back Cover" on page 19.
2. Remove the stand. See "Removing the Stand" on page 47.
3. Remove the system-board shield. See "Removing the System-Board Shield" on page 31.
4. Remove the trim cover. See "Removing the Trim Cover" on page 87.
5. Remove the processor heat-sink fan. See "Removing the Processor Heat-Sink Fan" on page 75.
6. Remove the inner frame. See "Removing the Inner Frame" on page 95.
7. Follow step 1 to step 12 in "Removing the Display Panel" on page 133.

Procedure

1 Remove the screws that secure the camera assembly to the computer base.

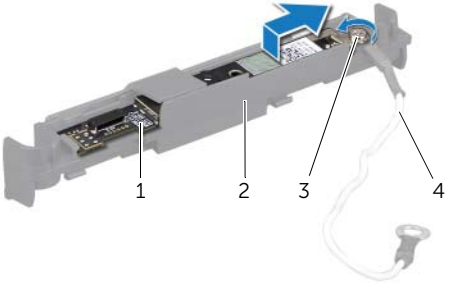
2 Gently lift the camera assembly and disconnect the camera cable from the camera assembly.



1	screws (2)	2	camera assembly
3	camera cable		

3 Loosen the captive screw that secures the camera module and the grounding cable to the camera assembly.

4 Slide the camera module out of the camera bracket.



1	camera module	2	camera bracket
3	captive screw	4	grouding cable

63 Replacing the Camera Module

WARNING: Before working inside your computer, read the safety information that shipped with your computer and follow the steps in "Before You Begin" on page 11. After working inside your computer, follow the instructions in "After Working Inside Your Computer" on page 13. For additional safety best practices information, see the Regulatory Compliance Homepage at dell.com/regulatory_compliance.

Procedure

1. Slide the camera module into the camera assembly.
2. Tighten the captive screw that secures the camera module and the grounding cable to the camera assembly.
3. Connect the camera cable to the camera assembly and place the camera in the computer base.
4. Replace the screws that secure the camera assembly to the computer base.

Postrequisites

1. Follow step 8 to step 19 in "Replacing the Display Panel" on page 139.
2. Replace the inner frame. See "Replacing the Inner Frame" on page 97.
3. Replace the processor heat-sink fan. See "Replacing the Processor Heat-Sink Fan" on page 77.
4. Replace the trim cover. See "Replacing the Trim Cover" on page 89.
5. Replace the system-board shield. See "Replacing the System-Board Shield" on page 33.
6. Replace the stand. See "Replacing the Stand" on page 49.
7. Replace the back cover. See "Replacing the Back Cover" on page 21.

64 Removing the Microphone Modules

WARNING: Before working inside your computer, read the safety information that shipped with your computer and follow the steps in "Before You Begin" on page 11. After working inside your computer, follow the instructions in "After Working Inside Your Computer" on page 13. For additional safety best practices information, see the Regulatory Compliance Homepage at dell.com/regulatory_compliance.

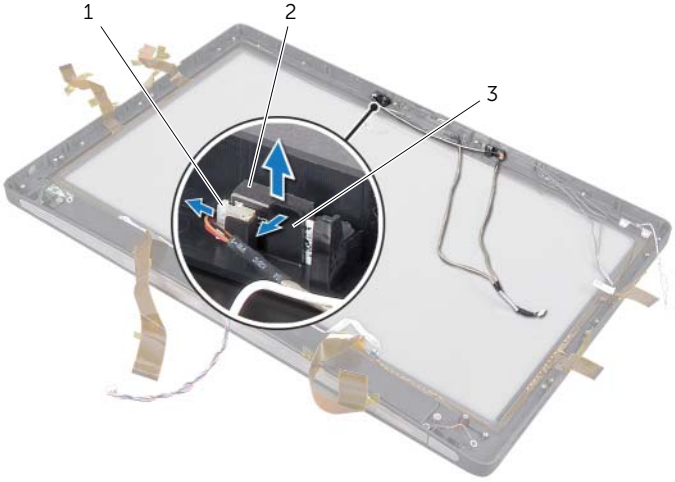
Prerequisites

1. Remove the back cover. See "Removing the Back Cover" on page 19.
2. Remove the stand. See "Removing the Stand" on page 47.
3. Remove the system-board shield. See "Removing the System-Board Shield" on page 31.
4. Remove the trim cover. See "Removing the Trim Cover" on page 87.
5. Remove the processor heat-sink fan. See "Removing the Processor Heat-Sink Fan" on page 75.
6. Remove the inner frame. See "Removing the Inner Frame" on page 95.
7. Follow step 1 to step 12 in "Removing the Display Panel" on page 133.

Procedure

1 Disconnect the microphone cables from the microphone modules.

2 Using a plastic scribe, pull the securing tabs and slide the microphone module upward.



1	microphone cable	2	microphone modules (2)
3	securing tab		

3 Remove the microphone module out of the microphone-module socket.

65 Replacing the Microphone Modules

WARNING: Before working inside your computer, read the safety information that shipped with your computer and follow the steps in "Before You Begin" on page 11. After working inside your computer, follow the instructions in "After Working Inside Your Computer" on page 13. For additional safety best practices information, see the Regulatory Compliance Homepage at dell.com/regulatory_compliance.

Procedure

1. Align the microphone modules with the microphone-module socket and insert the microphone modules into the microphone-module socket. Ensure that the microphone modules are secured by the tabs on the microphone-module socket.
2. Connect the microphone cables to the microphone modules.

Postrequisites

1. Follow step 8 to step 19 in "Replacing the Display Panel" on page 139.
2. Replace the inner frame. See "Replacing the Inner Frame" on page 97.
3. Replace the processor heat-sink fan. See "Replacing the Processor Heat-Sink Fan" on page 77.
4. Replace the trim cover. See "Replacing the Trim Cover" on page 89.
5. Replace the system-board shield. See "Replacing the System-Board Shield" on page 33.
6. Replace the stand. See "Replacing the Stand" on page 49.
7. Replace the back cover. See "Replacing the Back Cover" on page 21.

66 Removing the Infrared (IR) Module

WARNING: Before working inside your computer, read the safety information that shipped with your computer and follow the steps in "Before You Begin" on page 11. After working inside your computer, follow the instructions in "After Working Inside Your Computer" on page 13. For additional safety best practices information, see the Regulatory Compliance Homepage at dell.com/regulatory_compliance.

Prerequisites

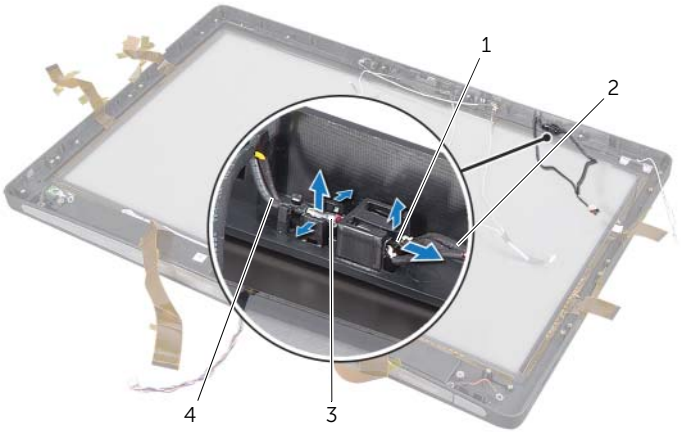
1. Remove the back cover. See "Removing the Back Cover" on page 19.
2. Remove the stand. See "Removing the Stand" on page 47.
3. Remove the system-board shield. See "Removing the System-Board Shield" on page 31.
4. Remove the trim cover. See "Removing the Trim Cover" on page 87.
5. Remove the processor heat-sink fan. See "Removing the Processor Heat-Sink Fan" on page 75.
6. Remove the inner frame. See "Removing the Inner Frame" on page 95.
7. Follow step 1 to step 12 in "Removing the Display Panel" on page 133.

Procedure

1 Lift the securing tab and slide the IR receiver out of the IR-receiver socket.

2 Ease the IR-activity light out of the IR-activity light socket.

3 Remove the IR module from the computer base.



1	IR receiver	2	IR-receiver cable
3	IR-activity light	4	IR-activity light cable

67 Replacing the Infrared (IR) Module

WARNING: Before working inside your computer, read the safety information that shipped with your computer and follow the steps in "Before You Begin" on page 11. After working inside your computer, follow the instructions in "After Working Inside Your Computer" on page 13. For additional safety best practices information, see the Regulatory Compliance Homepage at dell.com/regulatory_compliance.

Procedure

1. With the sensor side facing toward the front of the computer, slide the IR receiver into the IR-receiver socket till the IR receiver locks in place.
2. With the LED facing toward the front of the computer, press the IR-activity light into the IR-activity light slot.

Postrequisites

1. Follow step 8 to step 19 in "Replacing the Display Panel" on page 139.
2. Replace the inner frame. See "Replacing the Inner Frame" on page 97.
3. Replace the processor heat-sink fan. See "Replacing the Processor Heat-Sink Fan" on page 77.
4. Replace the trim cover. See "Replacing the Trim Cover" on page 89.
5. Replace the system-board shield. See "Replacing the System-Board Shield" on page 33.
6. Replace the stand. See "Replacing the Stand" on page 49.
7. Replace the back cover. See "Replacing the Back Cover" on page 21.

68 Removing the Antenna Module(s)

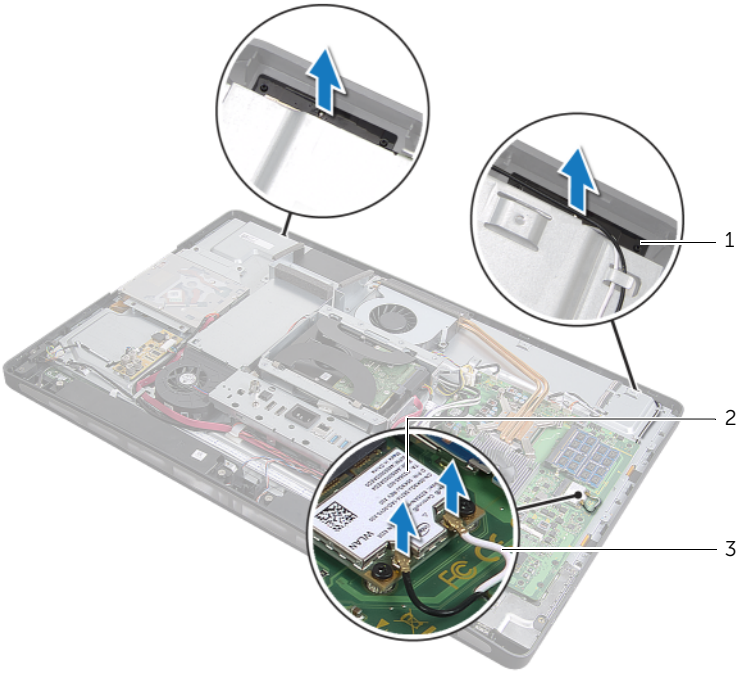
WARNING: Before working inside your computer, read the safety information that shipped with your computer and follow the steps in "Before You Begin" on page 11. After working inside your computer, follow the instructions in "After Working Inside Your Computer" on page 13. For additional safety best practices information, see the Regulatory Compliance Homepage at dell.com/regulatory_compliance.

Prerequisites

1. Remove the back cover. See "Removing the Back Cover" on page 19.
2. Remove the stand. See "Removing the Stand" on page 47.
3. Remove the system-board shield. See "Removing the System-Board Shield" on page 31.
4. Remove the trim cover. See "Removing the Trim Cover" on page 87.
5. Remove the processor heat-sink fan. See "Removing the Processor Heat-Sink Fan" on page 75.
6. Remove the inner frame. See "Removing the Inner Frame" on page 95.
7. Follow step 1 to step 12 in "Removing the Display Panel" on page 133.

Procedure

1. Disconnect the wireless-antenna cables from the wireless mini-card.
2. Note the routing of the antenna cables and remove the cables from the routing guides.
3. Peel the antennas modules off the computer base.
4. Lift the antenna modules out of the computer base.



1	antenna modules (2)	2	wireless mini-card
3	wireless-antenna cables (2)		

69 Replacing the Antenna Module(s)

WARNING: Before working inside your computer, read the safety information that shipped with your computer and follow the steps in "Before You Begin" on page 11. After working inside your computer, follow the instructions in "After Working Inside Your Computer" on page 13. For additional safety best practices information, see the Regulatory Compliance Homepage at dell.com/regulatory_compliance.

Procedure

1. Align the antenna modules with the alignment posts on the computer base and adhere the antenna modules to the computer base.
2. Route the wireless-antenna cables through their routing guides and connect the wireless-antenna cables to the wireless mini-card.

Postrequisites

1. Follow step 8 to step 19 in "Replacing the Display Panel" on page 139.
2. Replace the inner frame. See "Replacing the Inner Frame" on page 97.
3. Replace the processor heat-sink fan. See "Replacing the Processor Heat-Sink Fan" on page 77.
4. Replace the trim cover. See "Replacing the Trim Cover" on page 89.
5. Replace the system-board shield. See "Replacing the System-Board Shield" on page 33.
6. Replace the stand. See "Replacing the Stand" on page 49.
7. Replace the back cover. See "Replacing the Back Cover" on page 21.

70 System Setup

Overview

Use system setup to:

- Get information about the hardware installed in your computer, such as the amount of RAM, the size of the hard drive, and so on
- Change the system configuration information
- Set or change a user-selectable option, such as the user password, type of hard drive installed, enabling or disabling base devices, and so on

CAUTION: Unless you are an expert computer user, do not change the settings in the system setup program. Certain changes can make your computer work incorrectly.

NOTE: Before you change system setup, it is recommended that you write down the system setup screen information for future reference.

Entering System Setup

1 Turn on (or restart) your computer.

2 During POST, when the DELL logo is displayed, watch for the F2 prompt to appear and then press <F2> immediately.

NOTE: The F2 prompt indicates that the keyboard has initialized. This prompt can appear very quickly, so you must watch for it, and then press <F2>. If you press <F2> before the F2 prompt, this keystroke is lost. If you wait too long and the operating system logo appears, continue to wait until you see the operating system's desktop. Then, turn off your computer and try again.

System Setup Screens

The system setup screen displays current or changeable configuration information for your computer. Information on the screen is divided into three areas: the **setup item**, active **help screen**, and **key functions**.

Setup Item — This field appears on the left side of the system setup window. This field is a scrollable list containing features that define the configuration of your computer, including installed hardware, power conservation, and security features. Scroll up and down the list with the up- and down-arrow keys. As an option is highlighted, the **Help Screen** displays more information about that option and available settings.	**Help Screen** — This field appears on the right side of the system setup window and contains information about each option listed in the **Setup Item**. In this field you can view information about your computer and make changes to your current settings. Press the up- and down-arrow keys to highlight an option. Press <Enter> to make that selection active and return to the **Setup Item**. **NOTE:** Not all settings listed in the **Setup Item** are changeable.
Key Functions — This field appears below the **Help Screen** and lists keys and their functions within the active system setup field.	

System Setup Options

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

Main → System Information	
`BIOS Revision`	Display the BIOS revision.
`BIOS Build Date`	Displays the BIOS release date.
`System Name`	Displays the system name.
`System Time (hh:mm:ss)`	Displays the current date.
`System Date (mm:dd:yy)`	Displays the current time.
`Service Tag`	Displays the Service Tag of your computer.
`Service Tag Input`	Allows you to enter the Service Tag of your computer.
`Asset Tag`	Displays the Asset Tag of the computer.

Main → Processor Information	
Processor Type	Displays the processor type.
Processor ID	Displays the processor identification code.
Processor Core Count	Displays the number of processor cores in your computer.
Processor L1 Cache	Displays the processor's total L1 cache size.
Processor L2 Cache	Displays the processor's total L2 cache size.
Processor L3 Cache	Displays the processor's total L3 cache size.
Main → Memory Information	
Memory Installed	Displays the total memory (RAM) installed in your computer.
Memory Available	Displays the amount of memory (RAM) available on your computer.
Memory Running Speed	Displays the running speed of the memory (RAM) in your computer.
Memory Technology	Displays the type of memory (RAM) technology used in your computer.
Main → SATA Information	
SATA 1	
Device Type	Displays the type of device connected.
Device ID	Displays the device identification code.
Device Size	Displays the size of the SATA device present in your computer.
SATA 2	
Device Type	Displays the type of device connected.
Device ID	Displays the device identification code.
Device Size	Displays the size of the SATA device present in your computer.
Advanced → CPU Feature	
Intel(R) Hyper-Threading Technology	If enabled, each physical processor core appears as two logical processor cores.
Intel(R) SpeedStep Technology	If enabled, the processor clock speed and core voltage are adjusted dynamically based on the processor load.
Intel(R) Virtualization Technology	If enabled, a Virtual Machine Monitor (VMM) will be able to access your computer.

CPU XD Support	If enabled, will allow your computer to use Executive Display (XD) to hinder software that exploits buffer overflows.
Limit CPUID Value	If enabled, limits the maximum value the processor CPUID function will support.
Multi Core Support	If enabled, allows your computer to use all cores available in the processor.
Intel(R) Turbo Boost Technology	If enabled, allows your computer to use turbo boost when required.
Advanced → USB Configuration	
Rear USB Ports	Allows you to enable or disable the USB ports at the back of your computer.
Side USB Ports	Allows you to enable or disable the USB ports at the side of your computer.
Advanced → Onboard Device Configuration	
Onboard Audio Controller	Allows you to enable or disable the onboard audio controller.
SATA Mode	Allows you to configure the integrated hard drive controller to ATA or AHCI.
Onboard LAN Controller	Allows you to enable or disable the onboard LAN controller.
Onboard LAN boot ROM	Allows you to enable or disable the ROM of the onboard LAN controller.
Boot	
Numlock Key	Select power-on state for numlock.
Keyboard Errors	Displays keyboard related errors during boot.
USB Boot Support	Allows you to enable or disable boot from USB mass-storage devices.
Boot Mode	Allows you to select the type of boot
1st Boot	Displays the first boot device.
2nd Boot	Displays the second boot device.
3rd Boot	Displays the third boot device.
4th Boot	Displays the fourth boot device.
5th Boot	Displays the fifth boot device.

Power	
Wake Up by Integrated LAN/WLAN	If enabled, will wake the system using a network message
AC Recovery	Allows you to select the action the computer takes when power is restored.
DeepSx Power Policies	Allows you to configure the DeepSx mode.
USB PowerShare in S4/S5 State	Allows you to charge USB devices when the computer is in S4/S5 state.
USB PowerShare in Sleep State	Allows you to charge USB devices when the computer is in sleep state, but the wake-up function is disabled.
Auto Power On	Allows the computer to start up automatically at a pre-configured time.
Auto Power On Mode	Allows you to set the auto power-on mode.
Auto Power On Date	Allows you to set the auto power-on date.
Auto Power On Time	Allows you to set the auto power-on time.
Security	
Supervisor Password	Displays the status of the supervisor password.
User Password	Allows you to change the user password. You cannot use the user password to enter the BIOS setup during POST.
Set Supervisor Password	Allows you to set a supervisor password.
User Access Level	Allows you to set the user-access level.
Set User Password	Allows you to set a user password.
Password Check	Allows you to configure when the computer prompts for passwords. (When entering system setup or at every boot)
Exit	
Save Changes and Reset	Allows you to save the changes.
Discard Changes and Reset	Allows you to discard the changes.
Load Default	Allows you to load the default BIOS settings.

Changing Boot Sequence

Changing Boot Sequence for the Current Boot

You can use this feature to change the current boot sequence, for example, to boot from the optical drive to run Dell Diagnostics from the *Drivers and Utilities* disc. The previous boot sequence is restored at the next boot.

1. If you are booting from a USB device, connect the USB device to a USB port.
2. Turn on (or restart) your computer.
3. When `F2 Setup, F12 Boot Options` appears in the lower-right corner of the screen, press <F12>.

   NOTE: If you wait too long and the operating system logo appears, continue to wait until you see the operating system's desktop. Then shut down your computer and try again.

   The **Boot Device Menu** appears, listing all available boot devices.
4. On the Boot Device Menu choose the device you want to boot from.

   For example, if you are booting to a USB memory key, highlight **USB Storage Device** and press <Enter>.

Changing Boot Sequence for Future Boots

1. Enter system setup. See "Entering System Setup" on page 157.
2. Use the arrow keys to highlight the **Boot** menu option and press <Enter> to access the menu.

   NOTE: Write down your current boot sequence in case you want to restore it.
3. Press the up- and down-arrow keys to move through the list of devices.
4. Press plus (+) or minus (–) to change the boot priority of the device.

Clearing Forgotten Passwords

WARNING: Before working inside your computer, read the safety information that shipped with your computer and follow the steps in "Before You Begin" on page 11. After working inside your computer, follow the instructions in "After Working Inside Your Computer" on page 13. For additional safety best practices information, see the Regulatory Compliance Homepage at dell.com/regulatory_compliance.

1. Remove the back cover. See "Removing the Back Cover" on page 19.
2. Remove the system-board shield. See "Removing the System-Board Shield" on page 31.
3. Locate the password-reset jumper on the system board. See "System-Board Components" on page 16.
4. Remove the 2-pin jumper plug from pins 2 and 3 and fix it on pins 1 and 2.

5. Wait for approximately five seconds to clear the password setting.
6. Remove the 2-pin jumper plug from pins 1 and 2 and replace it on pins 2 and 3.
7. Replace the system-board shield. See "Replacing the System-Board Shield" on page 33.
8. Replace the back cover. See "Replacing the Back Cover" on page 21.

Clearing CMOS Settings

WARNING: Before working inside your computer, read the safety information that shipped with your computer and follow the steps in "Before You Begin" on page 11. After working inside your computer, follow the instructions in "After Working Inside Your Computer" on page 13. For additional safety best practices information, see the Regulatory Compliance Homepage at dell.com/regulatory_compliance.

1. Remove the back cover. See "Removing the Back Cover" on page 19.
2. Remove the system-board shield. See "Removing the System-Board Shield" on page 31.
3. Locate the CMOS reset jumper on the system board. See "System-Board Components" on page 16.
4. Remove the 2-pin jumper plug from pins 2 and 3 and fix it on pins 1 and 2.

5. Wait for approximately five seconds to clear the CMOS setting.
6. Remove the 2-pin jumper plug from pins 1 and 2 and replace it on pins 2 and 3.
7. Replace the system-board shield. See "Replacing the System-Board Shield" on page 33.
8. Replace the back cover. See "Replacing the Back Cover" on page 21.

71 Flashing the BIOS

You may need to flash the BIOS when an update is available or after replacing the system board. To flash the BIOS:

1. Turn on the computer.
2. Go to **support.dell.com/support/downloads**.
3. Locate the BIOS update file for your computer:

   NOTE: The Service Tag for your computer is located on a label at the back of your computer. For more information, see the *Quick Start Guide* that shipped with your computer.

   If you have your computer's Service Tag or Express Service Code:

   a. Enter your computer's Service Tag or Express Service Code in the **Service Tag or Express Service Code** field.

   b. Click **Submit** and proceed to step 4.

   If you do not have your computer's Service Tag or Express Service Code:

   a. Select one of the following options:

      - **Automatically detect my Service Tag for me**
      - **Choose from My Products and Services List**
      - **Choose from a list of all Dell products**

   b. Click **Continue** and follow the instructions on the screen.
4. A list of results appears on the screen. Click **BIOS**.
5. Click **Download File** to download the latest BIOS file.
6. In the **Please select your download method below** window, click **For Single File Download via Browser**, and then click **Download Now**.
   The **File Download** window appears.
7. In the **Save As** window, select an appropriate location to download the file on your computer.
8. If the **Download Complete** window appears, click **Close**.
9. Navigate to the folder where you downloaded the BIOS update file.
10. Double-click the BIOS update file icon and follow the instructions that appear on the screen.