Notes, cautions, and warnings

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

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

WARNING: A WARNING indicates a potential for property damage, personal injury, or death.
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Before working inside your computer

NOTE: The images in this document may differ from your computer depending on the configuration you ordered.

Before you begin

1. Save and close all open files and exit all open applications.
2. Shut down your computer.
   The shut-down instruction varies depending on the operating system installed on your computer.
   - Windows 10: Click or tap Start → 🔄 Power → Shut down.
   - Windows 8.1: On the Start screen, click or tap the power icon 🔄 → Shut down.
   - Windows 7: Click or tap Start → Shut down.

   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 cables such as telephone cables and network cables, from your computer.
5. Disconnect all attached devices and peripherals, such as keyboard, mouse, and monitor, from your computer.
6. Remove any media card and optical disc from your computer, if applicable.

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 more safety best practices, see the Regulatory Compliance home page at www.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 electrical outlet.

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: You should only perform troubleshooting and repairs as authorized or directed by the Dell technical assistance team. Damage due to servicing that is not authorized by Dell is not covered by your warranty. See the safety instructions that shipped with the product or at www.dell.com/regulatory_compliance.

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 ports and connectors are correctly oriented and aligned.

CAUTION: Press and eject any installed card from the media-card reader.

Recommended tools

The procedures in this document may require the following tools:

- Phillips screwdriver
# Screw list

<table>
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<th>Component</th>
<th>Secured to</th>
<th>Screw type</th>
<th>Quantity</th>
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</thead>
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<td>Power-adapter port</td>
<td>Palm-rest assembly</td>
<td>M2x3</td>
<td>1</td>
</tr>
<tr>
<td>Wireless card</td>
<td>Palm-rest assembly</td>
<td>M2x3</td>
<td>1</td>
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<tr>
<td>I/O bracket</td>
<td>Palm-rest assembly</td>
<td>M2x3</td>
<td>1</td>
</tr>
<tr>
<td>Solid-state drive</td>
<td>Palm-rest assembly</td>
<td>M2x3</td>
<td>1</td>
</tr>
<tr>
<td>Power and volume-buttons board</td>
<td>Palm-rest assembly</td>
<td>M2x3</td>
<td>1</td>
</tr>
<tr>
<td>Battery</td>
<td>Palm-rest assembly</td>
<td>M2x3</td>
<td>2</td>
</tr>
<tr>
<td>Fan</td>
<td>Palm-rest assembly</td>
<td>M2x3</td>
<td>2</td>
</tr>
<tr>
<td>I/O board</td>
<td>Palm-rest assembly</td>
<td>M2x3</td>
<td>2</td>
</tr>
<tr>
<td>Hard-drive bracket</td>
<td>Palm-rest assembly</td>
<td>M2x3</td>
<td>3</td>
</tr>
<tr>
<td>Graphics daughter-board</td>
<td>Palm-rest assembly</td>
<td>M2x3</td>
<td>4</td>
</tr>
<tr>
<td>Control board</td>
<td>Display-panel assembly</td>
<td>M2x2 Big Head</td>
<td>1</td>
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<tr>
<td>System board</td>
<td>Palm-rest assembly</td>
<td>M2x2 Big Head</td>
<td>4</td>
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<tr>
<td>Graphics daughter-board</td>
<td>Palm-rest assembly</td>
<td>M2x2 Big Head</td>
<td>1</td>
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<td>Graphics daughter-board</td>
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<td>M2x2 Big Head</td>
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<td>Keyboard bracket</td>
<td>Palm-rest assembly</td>
<td>M2x2 Big Head</td>
<td>17</td>
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<td>Touch-pad bracket</td>
<td>Palm-rest assembly</td>
<td>M2x2.5</td>
<td>5</td>
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<tr>
<td>Display hinge</td>
<td>Display back-cover and antenna assembly</td>
<td>M2.5x6 Big Head</td>
<td>4</td>
</tr>
<tr>
<td>Base cover</td>
<td>Palm-rest assembly</td>
<td>M2.5x8</td>
<td>10</td>
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<tr>
<td>Display hinge</td>
<td>Palm-rest assembly</td>
<td>M2x2.5</td>
<td>2</td>
</tr>
<tr>
<td>Display hinge</td>
<td>Display back-cover and antenna assembly</td>
<td>M2.5x3</td>
<td>6</td>
</tr>
<tr>
<td>Component</td>
<td>Secured to</td>
<td>Screw type</td>
<td>Quantity</td>
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<tr>
<td>Touch pad</td>
<td>Palm-rest assembly</td>
<td>M2x2 Big Head (Dia.5)</td>
<td>4</td>
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<td>Keyboard assembly</td>
<td>Palm-rest assembly</td>
<td>M1.2x1.4</td>
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<td>Hard-drive bracket</td>
<td>M3x3</td>
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After working inside your computer

⚠️ CAUTION: Leaving stray or loose screws inside your computer may severely damage your computer.

1. Replace all screws and ensure that no stray screws remain inside your computer.
2. Connect any external devices, peripherals, or cables you removed before working on your computer.
3. Replace any media cards, discs, or any other parts that you removed before working on your computer.
4. Connect your computer and all attached devices to their electrical outlets.
5. Turn on your computer.
Removing the base cover

⚠️ WARNING: Before working inside your computer, read the safety information that shipped with your computer and follow the steps in Before working inside your computer. After working inside your computer, follow the instructions in After working inside your computer. For more safety best practices, see the Regulatory Compliance home page at www.dell.com/regulatory_compliance.

Procedure

1. Close the display and turn the computer over.
2. Remove the screws that secure the base cover to the palm-rest assembly.

1 screws (12)  2 base cover
3 Using your fingertips, pry the base cover off the palm-rest assembly.

1 palm-rest assembly  2 base cover
Replacing the base cover

⚠️ WARNING: Before working inside your computer, read the safety information that shipped with your computer and follow the steps in Before working inside your computer. After working inside your computer, follow the instructions in After working inside your computer. For more safety best practices, see the Regulatory Compliance home page at www.dell.com/regulatory_compliance.

Procedure

1. Align the base cover with the palm-rest assembly and snap it into place.
2. Replace the screws that secure the base cover to the palm-rest assembly.
Removing the battery

⚠️ WARNING: Before working inside your computer, read the safety information that shipped with your computer and follow the steps in Before working inside your computer. After working inside your computer, follow the instructions in After working inside your computer. For more safety best practices, see the Regulatory Compliance home page at www.dell.com/regulatory_compliance.

Prerequisites

Remove the base cover.

Procedure

1. Disconnect the battery cable from the system board.
2. Remove the screws that secure the battery to the palm-rest assembly.
3 Lift the battery off the palm-rest assembly.

1 battery cable
2 screws (4)
3 battery
4 palm-rest assembly

4 Press and hold the power button for five seconds to ground the system board.
Replacing the battery

⚠️ WARNING: Before working inside your computer, read the safety information that shipped with your computer and follow the steps in Before working inside your computer. After working inside your computer, follow the instructions in After working inside your computer. For more safety best practices, see the Regulatory Compliance home page at www.dell.com/regulatory_compliance.

Procedure

1. Align the screw holes on the battery with the screw holes on the palm-rest assembly.
2. Replace the screws that secure the battery to the palm-rest assembly.
3. Connect the battery cable to the system board.

Post-requisites

Replace the base cover.
Removing the memory modules

⚠️ WARNING: Before working inside your computer, read the safety information that shipped with your computer and follow the steps in Before working inside your computer. After working inside your computer, follow the instructions in After working inside your computer. For more safety best practices, see the Regulatory Compliance home page at www.dell.com/regulatory_compliance.

Prerequisites

1. Remove the base cover.
2. Remove the battery.
Procedure

1 Lift the Mylar to access the memory module.

2 Use your fingertips to carefully spread apart the securing-clips on each end of the memory-module slot until the memory module pops up.
Slide and remove the memory module from the memory-module slot.

1 securing clips (2)  
2 memory module  
3 memory-module slot
Replacements the memory modules

⚠️ WARNING: Before working inside your computer, read the safety information that shipped with your computer and follow the steps in Before working inside your computer. After working inside your computer, follow the instructions in After working inside your computer. For more safety best practices, see the Regulatory Compliance home page at www.dell.com/regulatory_compliance.

Procedure

1. Lift the Mylar to access the memory-module slot.
2. Align the notch on the memory module with the tab on the memory-module slot.
3 Slide the memory module firmly into the slot at an angle and press the memory module down until it clicks into place.

NOTE: If you do not hear the click, remove the memory module and reinstall it.

---

1 memory module
2 memory-module slot
3 notch
4 tab
5 Mylar

Post-requisites

1 Replace the battery.
2 Replace the base cover.
Removing the solid-state drive

⚠️ WARNING: Before working inside your computer, read the safety information that shipped with your computer and follow the steps in Before working inside your computer. After working inside your computer, follow the instructions in After working inside your computer. For more safety best practices, see the Regulatory Compliance home page at www.dell.com/regulatory_compliance.

⚠️ CAUTION: Solid-state drives are fragile. Exercise care when handling the solid-state drive.

⚠️ CAUTION: To avoid data loss, do not remove the solid-state drive while the computer is in sleep or on state.

Prerequisites

1. Remove the base cover.
2. Remove the battery.

Procedure

1. Remove the screw that secures the solid-state drive to the palm-rest assembly.
2 Slide and remove the solid-state drive from the solid-state drive slot.

1 screw

2 solid-state drive

3 solid-state drive slot
Replacing the solid-state drive

⚠️ WARNING: Before working inside your computer, read the safety information that shipped with your computer and follow the steps in Before working inside your computer. After working inside your computer, follow the instructions in After working inside your computer. For more safety best practices, see the Regulatory Compliance home page at www.dell.com/regulatory_compliance.

⚠️ CAUTION: Solid-state drives are fragile. Exercise care when handling the solid-state drive.

Procedure

1. Align the notch on the solid-state drive with the tab on the solid-state drive slot.
2. Slide the solid-state drive firmly into the solid-state drive slot at an angle.
3 Press the other end of the solid-state drive and replace the screw that secures the solid-state drive to the palm-rest assembly.

1 screw
2 notch
3 tab
4 solid-state drive
5 solid-state drive slot

Post-requisites

1 Replace the battery.
2 Replace the base cover.
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 working inside your computer. After working inside your computer, follow the instructions in After working inside your computer. For more safety best practices, see the Regulatory Compliance home page at www.dell.com/regulatory_compliance.

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

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

Prerequisites

1. Remove the base cover.
2. Remove the battery.

Procedure

1. Remove the screws that secure the hard-drive assembly to the palm-rest assembly.
2. Using the pull tab, disconnect the hard-drive cable from the system board.
3 Lift the hard-drive assembly, along with its cable, off the palm-rest assembly.

1 screws (3)  
3 palm-rest assembly  
5 pull tab  
2 hard-drive assembly  
4 hard-drive cable
4 Disconnect the interposer from the hard-drive assembly.

5 Remove the screws that secure the hard-drive bracket to the hard drive.

6 Lift the hard-drive bracket off the hard drive.
Replacing the hard drive

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

Procedure

1. Align the screw holes on the hard-drive bracket with the screw holes on the hard drive.
2. Replace the screws that secure the hard-drive bracket to the hard drive.
3. Connect the interposer to the hard-drive assembly.
4. Align the screw holes on the hard-drive assembly with the screw holes on the palm-rest assembly.
5. Replace the screws that secure the hard-drive assembly to the palm-rest assembly.
6. Connect the hard-drive cable to the system board.

Post-requisites

1. Replace the battery.
2. Replace the base cover.
Removing the coin-cell battery

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

Prerequisites

1. Remove the base cover.
2. Remove the battery.

Procedure

1. Disconnect the coin-cell battery cable from the I/O board.
2 Peel the coin-cell battery off the palm-rest assembly.

1 coin-cell battery cable
2 coin-cell battery
3 I/O board
4 palm-rest assembly
Replacing the coin-cell battery

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Procedure

1. Adhere the coin-cell battery to the palm-rest assembly.
2. Connect the coin-cell battery cable to the I/O board.

Post-requisites

1. Replace the battery.
2. Replace the base cover.
Removing the wireless card

⚠️ WARNING: Before working inside your computer, read the safety information that shipped with your computer and follow the steps in Before working inside your computer. After working inside your computer, follow the instructions in After working inside your computer. For more safety best practices, see the Regulatory Compliance home page at www.dell.com/regulatory_compliance.

Prerequisites

1. Remove the base cover.
2. Remove the battery.

Procedure

1. Remove the screw that secures the wireless-card bracket to the wireless card and palm-rest assembly.
2. Remove the wireless-card bracket and disconnect the antenna cables from the wireless card.
3 Slide and remove the wireless card from the wireless-card slot.

1 screw
2 wireless-card bracket
3 wireless-card slot
4 wireless card
5 antenna cables (2)
Replacing the wireless card

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**Procedure**

⚠️ **CAUTION:** To avoid damage to the wireless card, do not place any cables under it.

1. Align the notch on the wireless card with the tab on the wireless-card slot.
2. Insert the wireless card at an angle into the wireless-card slot.
3. Connect the antenna cables to the wireless card.
   The following table provides the antenna-cable color scheme for the wireless card supported by your computer.

<table>
<thead>
<tr>
<th>Connectors on the wireless card</th>
<th>Antenna-cable color</th>
</tr>
</thead>
<tbody>
<tr>
<td>Main (white triangle)</td>
<td>White</td>
</tr>
<tr>
<td>Auxiliary (black triangle)</td>
<td>Black</td>
</tr>
</tbody>
</table>

4. Align the screw hole on the wireless-card bracket with the screw hole on the wireless card and palm-rest assembly.
5 Replace the screw that secures the wireless-card bracket to the wireless card and palm-rest assembly.

Post-requisites

1 Replace the battery.
2 Replace the base cover.
Removing the keyboard daughter-board

⚠️ WARNING: Before working inside your computer, read the safety information that shipped with your computer and follow the steps in Before working inside your computer. After working inside your computer, follow the instructions in After working inside your computer. For more safety best practices, see the Regulatory Compliance home page at www.dell.com/regulatory_compliance.

Prerequisites

1. Remove the base cover.
2. Remove the battery.

Procedure

1. Open the latches and disconnect the keyboard cables, keyboard-backlight cable, status-light board cable and the touch-pad cable from the keyboard daughter-board.
Using a plastic scribe, gently pry out the keyboard daughter-board from the palm-rest assembly.

1. keyboard cables (2)
2. keyboard backlight-cable
3. touch-pad cable
4. latches (5)
5. status-light board cable
6. plastic scribe
7. keyboard daughter-board
8. palm-rest assembly
Replacing the keyboard daughter-board

⚠️ WARNING: Before working inside your computer, read the safety information that shipped with your computer and follow the steps in Before working inside your computer. After working inside your computer, follow the instructions in After working inside your computer. For more safety best practices, see the Regulatory Compliance home page at www.dell.com/regulatory_compliance.

Procedure

1. Adhere the keyboard daughter-board to the palm-rest assembly.
2. Slide the keyboard cables, keyboard-backlight cable, status-light board cable and the touch-pad cable into their respective connectors on the keyboard daughter-board and close the latches to secure the cables.

Post-requisites

1. Replace the battery.
2. Replace the base cover.
Removing the speakers

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Prerequisites

1. Remove the base cover.
2. Remove the battery.

Procedure

1. Disconnect the speaker cable from the system board.
2. Remove the speaker cable from the routing guides on the palm-rest assembly.
3 Remove the speakers from the alignment posts and lift the speakers off the palm-rest assembly.

1 speaker cable
2 routing guides (2)
3 palm-rest assembly
4 alignment posts (4)
5 speakers (2)
Replacing the speakers

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Procedure

1. Using the alignment posts on the palm-rest assembly, place the speakers on the palm-rest assembly.
2. Route the speaker cable through the routing guides on the palm-rest assembly.
3. Connect the speaker cable to the system board.

Post-requisites

1. Replace the battery.
2. Replace the base cover.
Removing the status-light board

⚠️ WARNING: Before working inside your computer, read the safety information that shipped with your computer and follow the steps in Before working inside your computer. After working inside your computer, follow the instructions in After working inside your computer. For more safety best practices, see the Regulatory Compliance home page at www.dell.com/regulatory_compliance.

Prerequisites

1. Remove the base cover.
2. Remove the battery.
Procedure

1. Remove the speaker cable from the routing guides on the palm-rest assembly.

2. Open the latch and disconnect the status-light board cable from the keyboard daughter-board.

3. Remove the speaker cable from the routing guides on the palm-rest assembly.

4. Peel off the foam that secures the status-light board to the palm-rest assembly.
5 Slide the status-light board under the speaker cable and lift the status-light board off the palm-rest assembly.

1 foam 2 speaker cable
3 status-light board 4 status-light board cable
5 latch
Replacing the status-light board

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Procedure

1. Slide the status-light board under the speaker cable.
2. Place the status-light board into the slot on the palm-rest assembly.
3. Adhere the foam that secures the status-light board to the palm-rest assembly.
4. Slide the status-light board cable into the connector on the keyboard daughter-board and close the latch to secure the cable.
5. Route the speaker cable through the routing guides on the palm-rest assembly.

Post-requisites

1. Replace the battery.
2. Replace the base cover.
Removing the touch pad

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Prerequisites

1. Remove the base cover.
2. Remove the battery.
3. Remove the status-light board.

Procedure

1. Open the latches, and then disconnect the keyboard cable from the keyboard daughter-board and the system board.
2. Open the latches, and then disconnect the touch-pad cable from the keyboard daughter-board and the touch-pad assembly.

3. Peel off the tapes that secure the touch-pad assembly to the palm-rest assembly.

4. Remove the screws that secure the touch-pad bracket to the palm-rest assembly.
5 Lift the touch-pad bracket off the palm-rest assembly.

6 Remove the screws that secure the touch pad to the palm-rest assembly.
Lift the touch pad off the palm-rest assembly.

1 screws (4)  2 palm-rest assembly
3 touch pad
Replacing the touch pad

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Procedure

1. Align the screw holes on the touch pad with the screw holes on the palm-rest assembly.
2. Replace the screws that secure the touch pad to the palm-rest assembly.
3. Align the screw holes on the touch-pad bracket with the screw holes on the palm-rest assembly.
4. Replace the screws that secure the touch-pad bracket to the palm-rest assembly.
5. Adhere the tapes that secure the touch-pad assembly to the palm-rest assembly.
6. Slide both ends of the touch-pad cable into their respective connectors and close the latches to secure the cable.
7. Slide both ends of the keyboard cable into their respective connectors and close the latches to secure the cable.

Post-requisites

1. Replace the status-light board.
2. Replace the battery.
3. Replace the base cover.
Removing the fan

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Prerequisites

1. Remove the base cover.
2. Remove the battery.

Procedure

1. Remove the screws that secure the fan to the palm-rest assembly.
2. Disconnect the fan cable from the system board.
3. Peel off tape that secures the fan cable to the palm-rest assembly.
4 Lift the fan off the palm-rest assembly.

1 screws (2)  
2 fan  
3 tape  
4 fan cable
Replacing the fan

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Procedure

1. Align the screw holes on the fan with the screw holes on the palm-rest assembly.
2. Replace the screws that secure the fan to the palm-rest assembly.
3. Connect the fan cable to the system board.

Post-requisites

1. Replace the battery.
2. Replace the base cover.
Removing the heat sink

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⚠️ WARNING: The heat sink may become hot during normal operation. Allow sufficient time for the heat sink to cool before you touch it.

⚠️ CAUTION: For maximum cooling of the processor, do not touch the heat transfer areas on the heat sink. The oils in your skin can reduce the heat transfer capability of the thermal grease.

Prerequisites

1. Remove the base cover.
2. Remove the battery.

Procedure

1. In sequential order (as indicated on the heat sink), loosen the captive screws that secure the heat sink to the system board.
Lift the heat sink off the system board.

1 heat sink
2 captive screws (7)
3 system board
Replacing the heat sink

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⚠️ CAUTION: Incorrect alignment of the heat sink can damage the system board and processor.

📝 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, use the thermal pad provided in the kit to ensure that thermal conductivity is achieved.

**Procedure**

1. Align the screw holes on the heat sink with the screw holes on the system board.

2. In sequential order (indicated on the heat sink), tighten the captive screws that secure the heat sink to the system board.

**Post-requisites**

1. Replace the **battery**.

2. Replace the **base cover**.


Removing the power-adapter port

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Prerequisites

1. Remove the base cover.
2. Remove the battery.

Procedure

1. Disconnect the power-adapter port cable from the system board.
2. Remove the screw that secures the power-adapter port to the palm-rest assembly.
3 Lift the power-adapter port off the palm-rest assembly.

1 power-adapter port cable  
2 screw  
3 power-adapter port  
4 palm-rest assembly
Replacing the power-adapter port

⚠️ WARNING: Before working inside your computer, read the safety information that shipped with your computer and follow the steps in Before working inside your computer. After working inside your computer, follow the instructions in After working inside your computer. For more safety best practices, see the Regulatory Compliance home page at www.dell.com/regulatory_compliance.

Procedure

1. Place the power-adapter port into the slot on the palm-rest assembly.
2. Align the screw hole on the power-adapter port with the screw hole on the palm-rest assembly.
3. Replace the screw that secures the power-adapter port to the palm-rest assembly.
4. Connect the power-adapter port cable to the system board.

Post-requisites

1. Replace the battery.
2. Replace the base cover.
Removing the power and volume-buttons board

⚠️ WARNING: Before working inside your computer, read the safety information that shipped with your computer and follow the steps in Before working inside your computer. After working inside your computer, follow the instructions in After working inside your computer. For more safety best practices, see the Regulatory Compliance home page at www.dell.com/regulatory_compliance.

Prerequisites

1. Remove the base cover.
2. Remove the battery.
3. Remove the coin-cell battery.

Procedure

1. Peel off the tape that secures the power and volume-buttons board cable to the palm-rest assembly.
2. Disconnect the power and volume-buttons board cable from the I/O board.
3. Remove the power and volume-buttons board cable from the routing guides on the palm-rest assembly.
4. Remove the screw that secures the power and volume-buttons board to the palm-rest assembly.
Lift the power and volume-buttons board off the palm-rest assembly.

1 power and volume-buttons board cable
2 tape
3 screw
4 power and volume-buttons board
5 palm-rest assembly
6 routing guides (2)
Replacing the power and volume-buttons board

WARNING: Before working inside your computer, read the safety information that shipped with your computer and follow the steps in Before working inside your computer. After working inside your computer, follow the instructions in After working inside your computer. For more safety best practices, see the Regulatory Compliance home page at www.dell.com/regulatory_compliance.

Procedure

1. Align the screw hole on the power and volume-buttons board with the screw hole on the palm-rest assembly.
2. Replace the screw that secures the power and volume-buttons board to the palm-rest assembly.
3. Route the power and volume-buttons board cable through the routing guides on the palm-rest assembly.
4. Connect the power and volume-buttons board cable to the I/O board.
5. Adhere the tape that secures the power and volume-buttons board cable to the palm-rest assembly.

Post-requisites

1. Replace the coin-cell battery.
2. Replace the battery.
3. Replace the base cover.
Removing the graphics daughter-board

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Prerequisites

1. Remove the base cover.
2. Remove the battery.
3. Remove the heat sink.

Procedure

1. Remove the screws from the graphics daughter-board brackets that secure the graphics daughter-board to the system board.
2 Lift the graphics daughter-board brackets off the palm-rest assembly.

3 Remove the screws that secure the graphics daughter-board to the palm-rest assembly.
4 Lift the graphics daughter-board off the palm-rest assembly.

1 graphics daughter-board
2 screws (2)
3 palm-rest assembly
Replacing the graphics daughter-board

⚠️ WARNING: Before working inside your computer, read the safety information that shipped with your computer and follow the steps in Before working inside your computer. After working inside your computer, follow the instructions in After working inside your computer. For more safety best practices, see the Regulatory Compliance home page at www.dell.com/regulatory_compliance.

Procedure

1. Align the screw holes on the graphics daughter-board with the screw holes on the palm-rest assembly.
2. Replace the screws that secure the graphics daughter-board to the palm-rest assembly.
3. Align the screw holes on the graphics daughter-board brackets with the screw holes on the graphics daughter-board and the system board.
4. Replace the screws that secure the graphics daughter-board brackets to the graphics daughter-board and the system board.

Post-requisites

1. Replace the heat sink.
2. Replace the battery.
3. Replace the base cover.
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 working inside your computer. After working inside your computer, follow the instructions in After working inside your computer. For more safety best practices, see the Regulatory Compliance home page at www.dell.com/regulatory_compliance.

Prerequisites

1. Remove the base cover.
2. Remove the battery.
3. Remove the wireless card.

Procedure

1. Peel off the tape that secures the I/O-board cable to the I/O board.
2. Open the latch and disconnect the I/O-board cable from the I/O board.
3. Disconnect the power and volume-buttons board cable from the I/O board.
4. Disconnect the coin-cell battery cable from the I/O board.
5. Remove the screws that secure the I/O board to the palm-rest assembly.
Lift the I/O board off the palm-rest assembly.

1. I/O board
2. tape
3. I/O-board cable
4. screw
5. palm-rest assembly
6. latch
7. coin-cell battery cable
8. power and volume-buttons board cable
Replacing the I/O board

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Procedure

1. Using the alignment posts, place the I/O board on the palm-rest assembly.
2. Align the screw holes on the I/O board with the screw holes on the palm-rest assembly.
3. Replace the screws that secure the I/O board to the palm-rest assembly.
4. Connect the power and volume-buttons board cable and coin-cell battery cable to the I/O board.
5. Connect the I/O-board cable to the I/O board.
6. Adhere the tape that secures the I/O-board cable to the I/O board.

Post-requisites

1. Replace the wireless card.
2. Replace the battery.
3. Replace the base cover.
Removing the display assembly

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Prerequisites

1. Remove the base cover.
2. Remove the battery.
3. Remove the wireless card.

Procedure

1. Peel off the tape that secures the antenna cables to the palm-rest assembly.
2. Peel off the tapes that secure the display cable and touch-screen board cable to the system board.
3. Open the latches and disconnect the display cable and the touch-screen board cable from the system board.
4 Peel off the display cable and the touch-screen board cable from the system board.

5 Turn the computer over and open the display as far as possible.

⚠️ **CAUTION:** Place the computer on a soft and clean surface to avoid scratching the display.

6 Place the computer face down on a flat surface.

1 antenna cables (2)                              2 tape
3 palm-rest assembly                               4 touch-screen board cable
5 display cable                                     6 tapes (2)
7 latches (2)
7 Remove the screws that secure the display assembly to the palm-rest assembly.

1 display assembly
2 screws (4)
3 display hinges (2)
4 palm-rest assembly
8 Lift the display assembly off the palm-rest assembly.

1 display assembly
Replacing the display assembly

⚠️ **WARNING:** Before working inside your computer, read the safety information that shipped with your computer and follow the steps in *Before working inside your computer*. After working inside your computer, follow the instructions in *After working inside your computer*. For more safety best practices, see the Regulatory Compliance home page at [www.dell.com/regulatory_compliance](http://www.dell.com/regulatory_compliance).

**Procedure**

⚠️ **CAUTION:** Place the computer on a soft and clean surface to avoid scratching the display.

1. Place the display assembly on the palm-rest assembly.
2. Align the screw holes on the display hinges with the screw holes on the palm-rest assembly.
3. Replace the screws that secure the display assembly to the palm-rest assembly.
4. Close the display and turn the computer over.
5. Adhere the tape that secures the antenna cables to the palm-rest assembly.
6. Slide the display cable and the touch-screen board cable into their respective connectors on the system board and close the latches to secure the cables.
7. Adhere the tapes that secure the display cable and the touch-screen board cable to their respective connectors on the system board.

**Post-requisites**

1. Replace the [wireless card](#).
2. Replace the [battery](#).
3. Replace the [base cover](#).
Removing the system board

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

NOTE: Replacing the system board removes any changes you have made to the BIOS using the BIOS setup program. You must make the appropriate changes again 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 the cables correctly after you replace the system board.

Prerequisites

1. Remove the base cover.
2. Remove the battery.
3. Remove the memory modules.
4. Remove the heat sink.
5. Remove the solid-state drive.

Procedure

1. Peel off the pieces of tape that secure the display cable and touch-screen board cable to the connectors on the system board.
2. Open the latches and disconnect the display cable and the touch-screen board cable from the system board.
3. Peel off the display cable and the touch-screen board cable from the system board.
4. Disconnect the power-adapter cable and the speaker cable from the system board.
5  Open the latch and disconnect the keyboard cable from the system board.
6  Using the pull tab, disconnect the hard-drive cable from the system board.
7  Disconnect the fan cable from the system board.
8  Peel off the tape that secures the I/O-board cable to the system board.
Open the latch and disconnect the I/O-board cable from the system board.

1. latches (2)
2. display cable
3. touch-screen board cable
4. tapes (2)
5. power-adapter port cable
6. speaker cable
7. latch
8. keyboard cable
9. pull tab
10. hard-drive cable
11. I/O-board cable
12. tape
13. fan cable
10. Remove the screws that secure the graphics daughter-board brackets to the graphics daughter-board and the system board.

11. Remove the screws that secure the I/O bracket to the system board and the palm-rest assembly.

12. Remove the screws that secure the system board to the palm-rest assembly.
13  Lift the system board off the palm-rest assembly.

1  screws (4)  2  system board
3  palm-rest assembly
Replacing the system board

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

💡 NOTE: Replacing the system board removes any changes you have made to the BIOS using the BIOS setup program. You must make the appropriate changes again after you replace the system board.

Procedure

1. Align the screw holes on the system board with the screw holes on the palm-rest assembly.
2. Replace the screws that secure the system board to the palm-rest assembly.
3. Align the screw holes on the I/O bracket with the screw holes on the system board and the palm-rest assembly.
4. Replace the screws that secure the I/O bracket to the system board and the palm-rest assembly.
5. Align the screw holes on the graphics daughter-board brackets with the screw holes on the graphics daughter-board and the system board.
6. Replace the screws that secure the graphics daughter-board brackets to the graphics daughter-board and the system board.
7. Slide the I/O-board cable into the connector on the system board and close the latch to secure the cable.
8. Adhere the tape that secures the I/O-board cable to the system board.
9. Connect the hard-drive cable and fan cable to the system board.
10. Slide the keyboard cable into the connector on the system board and close the latch to secure the cable.
11. Connect the power-adapter port cable and the speaker cable to the system board.
Slide the display cable and the touch-screen board cable into their respective connectors on the system board and close the latches to secure the cables.

Adhere the tapes that secure the display cable and touch-screen board cable to their respective connectors on the system board.

**Post-requisites**

1. Replace the **solid-state drive**.
2. Replace the **heat sink**.
3. Replace the **memory modules**.
4. Replace the **battery**.
5. Replace the **base cover**.

**Entering the Service Tag in the BIOS setup program**

1. Turn on or restart your computer.
2. Press F2 when the Dell logo is displayed to enter the BIOS setup program.
3. Navigate to the **Main** tab and enter the Service Tag in the **Service Tag Input** field.
Removing the keyboard

⚠️ WARNING: Before working inside your computer, read the safety information that shipped with your computer and follow the steps in Before working inside your computer. After working inside your computer, follow the instructions in After working inside your computer. For more safety best practices, see the Regulatory Compliance home page at www.dell.com/regulatory_compliance.

Prerequisites

1. Remove the base cover.
2. Remove the battery.
3. Remove the memory modules.
4. Remove the solid-state drive.
5. Remove the wireless card.
6. Remove the fan.
7. Remove the display assembly.
8. Remove the graphics daughter-board.
9. Remove the heat sink.
10. Remove the I/O board.
11. Remove the power-adapter port.
12. Remove the system board.

Procedure

1. Remove the screws that secure the keyboard bracket to the palm-rest assembly.
2. Peel off the tapes that secure the keyboard bracket to the palm-rest assembly.
3 Lift the keyboard bracket off the palm-rest assembly.

4 Open the latches and disconnect the keyboard cable and keyboard-backlight cable from the keyboard daughter-board.

5 Remove the screws that secure the keyboard to the palm-rest assembly.
6 Lift the keyboard off the palm-rest assembly.

1 keyboard 2 screws (18)
3 keyboard cable 4 keyboard backlight-cable
Replacing the keyboard

⚠️ WARNING: Before working inside your computer, read the safety information that shipped with your computer and follow the steps in Before working inside your computer. After working inside your computer, follow the instructions in After working inside your computer. For more safety best practices, see the Regulatory Compliance home page at www.dell.com/regulatory_compliance.

Procedure

1. Align the screw holes on the keyboard with the screw holes on the palm-rest assembly.
2. Slide the keyboard cable and the keyboard-backlight cable into their respective connectors on the keyboard daughter-board and close the latches to secure the cables.
3. Replace the screws that secure the keyboard to the palm-rest assembly.
4. Align the screw holes on the keyboard bracket with the screw holes on the palm-rest assembly.
5. Replace the screws that secure the keyboard bracket to the palm-rest assembly.
6. Adhere the tapes that secure the keyboard bracket to the palm-rest assembly.

Post-requisites

1. Replace the system board.
2. Replace the power-adapter port.
3. Replace the I/O board.
4. Replace the heat sink.
5. Replace the graphics daughter-board.
6. Replace the display assembly.
7. Replace the fan.
8. Replace the wireless card.
9. Replace the solid-state drive.
10. Replace the memory modules.
11 Replace the **battery**.
12 Replace the **base cover**.
Removing the palm rest

WARNING: Before working inside your computer, read the safety information that shipped with your computer and follow the steps in Before working inside your computer. After working inside your computer, follow the instructions in After working inside your computer. For more safety best practices, see the Regulatory Compliance home page at www.dell.com/regulatory_compliance.

Prerequisites

1. Remove the base cover.
2. Remove the battery.
3. Remove the memory modules.
4. Remove the coin-cell battery.
5. Remove the solid-state drive.
6. Follow the procedure from step 1 to step 3 in “Removing the hard drive”.
7. Remove the wireless card.
8. Remove the fan.
9. Remove the status-light board.
10. Remove the touch pad.
11. Remove the display assembly.
12. Remove the graphics daughter-board.
13. Remove the heat sink.
14. Remove the I/O board.
15. Remove the keyboard.
16. Remove the keyboard daughter-board.
17. Remove the power-adapter port.
18. Remove the power and volume-buttons board.
19. Remove the speakers.
20. Remove the system board.

Procedure

After performing the steps in prerequisites we are left with the palm rest.
1 palm rest
Replacing the palm rest

⚠️ WARNING: Before working inside your computer, read the safety information that shipped with your computer and follow the steps in Before working inside your computer. After working inside your computer, follow the instructions in After working inside your computer. For more safety best practices, see the Regulatory Compliance home page at www.dell.com/regulatory_compliance.

Procedure

Place the palm rest on a flat surface.

Post-requisites

1. Replace the system board.
2. Replace the speakers.
3. Replace the power and volume-buttons board.
4. Replace the power-adapter port.
5. Replace the keyboard daughter-board.
6. Replace the keyboard.
7. Replace the I/O board.
8. Replace the heat sink.
9. Replace the graphics daughter-board.
10. Replace the display assembly.
11. Replace the touch pad.
12. Replace the status-light board.
13. Replace the fan.
14. Replace the wireless card.
15. Follow the procedure from step 4 to step 6 in “Replacing the hard drive”.
16. Replace the solid-state drive.
17. Replace the coin-cell battery.
18. Replace the memory modules.
19. Replace the battery.
20. Replace the base cover.
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 working inside your computer. After working inside your computer, follow the instructions in After working inside your computer. For more safety best practices, see the Regulatory Compliance home page at www.dell.com/regulatory_compliance.

Prerequisites

1. Remove the base cover.
2. Remove the battery.
3. Remove the wireless card.
4. Remove the display assembly.

Procedure

1. Remove the display cable from the routing guide inside the hinge cover.
2. Using a plastic scribe, release the tabs that secure the display-panel assembly to the display back-cover and antenna assembly.
3 Lift the display-panel assembly off the display back-cover and antenna assembly.

1 plastic scribe
2 display back-cover and antenna assembly
3 display-panel assembly
4 display cable

⚠️ CAUTION: Place the display-panel assembly on a soft and clean surface to avoid scratching the display.

4 Turn the display-panel assembly over and place it on a flat surface with the display facing down.

5 Remove the camera.

6 Remove the touch-screen board.

7 Remove the sensor board.
8  Remove the **display cable**.

After performing the above steps, we are left with the display panel.

1  display panel
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 working inside your computer. After working inside your computer, follow the instructions in After working inside your computer. For more safety best practices, see the Regulatory Compliance home page at www.dell.com/regulatory_compliance.

Procedure

1. Place the display panel on a flat surface.
2. Replace the display cable.
3. Replace the sensor board.
4. Replace the touch-screen board.
5. Replace the camera.
6. Turn the display-panel assembly over.
7. Route the display cable through the routing guide inside the hinge cover.
8. Align the tabs on the display-panel assembly with the slots on the display back-cover and antenna assembly and gently snap the display-panel assembly into place.

Post-requisites

1. Replace the display assembly.
2. Replace the wireless card.
3. Replace the battery.
4. Replace the base cover.
Removing the display back-cover and antenna assembly

⚠️ WARNING: Before working inside your computer, read the safety information that shipped with your computer and follow the steps in Before working inside your computer. After working inside your computer, follow the instructions in After working inside your computer. For more safety best practices, see the Regulatory Compliance home page at www.dell.com/regulatory_compliance.

Prerequisites

1. Remove the base cover.
2. Remove the battery.
3. Remove the wireless card.
4. Remove the display assembly.
5. Follow the procedure from step 1 to step 3 in “Removing the display panel”.

Procedure

After performing all the prerequisites, we are left with the display back-cover and antenna assembly.
1 display back-cover and antenna assembly
Replacing the display back-cover and antenna assembly

⚠️ WARNING: Before working inside your computer, read the safety information that shipped with your computer and follow the steps in Before working inside your computer. After working inside your computer, follow the instructions in After working inside your computer. For more safety best practices, see the Regulatory Compliance home page at www.dell.com/regulatory_compliance.

Procedure

Place the display back-cover and antenna assembly on a flat surface.

Post-requisites

1. Follow the procedure from step 6 to step 8 in “Replacing the display panel”.
2. Replace the display assembly.
3. Replace the wireless card.
4. Replace the battery.
5. Replace the base cover.
Removing the camera

⚠️ WARNING: Before working inside your computer, read the safety information that shipped with your computer and follow the steps in Before working inside your computer. After working inside your computer, follow the instructions in After working inside your computer. For more safety best practices, see the Regulatory Compliance home page at www.dell.com/regulatory_compliance.

Prerequisites

1. Remove the base cover.
2. Remove the battery.
3. Remove the wireless card.
4. Remove the display assembly.
5. Follow the procedure from step 1 to step 4 in “Removing the display panel”.

Procedure

1. Using a plastic scribe, gently pry the camera module off the display-panel assembly.
2. Turn the camera module over.
3 Disconnect the camera cable from the camera module.

1 display-panel assembly
2 plastic scribe
3 camera module
4 camera cable
Replacing the camera

⚠️ WARNING: Before working inside your computer, read the safety information that shipped with your computer and follow the steps in Before working inside your computer. After working inside your computer, follow the instructions in After working inside your computer. For more safety best practices, see the Regulatory Compliance home page at www.dell.com/regulatory_compliance.

Procedure

1. Connect the camera cable to the camera module.
2. Turn the camera module over.
3. Using the alignment post, adhere the camera to the display-panel assembly.

Post-requisites

1. Follow the procedure from step 6 to step 8 in “Replacing the display panel”.
2. Replace the display assembly.
3. Replace the wireless card.
4. Replace the battery.
5. Replace the base cover.
Removing the touch-screen board

WARNING: Before working inside your computer, read the safety information that shipped with your computer and follow the steps in Before working inside your computer. After working inside your computer, follow the instructions in After working inside your computer. For more safety best practices, see the Regulatory Compliance home page at www.dell.com/regulatory_compliance.

Prerequisites

1. Remove the base cover.
2. Remove the battery.
3. Remove the wireless card.
4. Remove the display assembly.
5. Follow the procedure from step 1 to step 4 in “Removing the display panel”.

Procedure

1. Peel off the tapes that secure the display cables to the touch-screen board.
2. Open the latches and disconnect the display cables from the touch-screen board.
Pry the touch-screen board off the tabs on the display-panel assembly.

1. tabs (2)
2. tape
3. touch-screen board
4. display cables (3)
5. latches (3)
6. tape
7. 

110
Replacing the touch-screen board

⚠️ WARNING: Before working inside your computer, read the safety information that shipped with your computer and follow the steps in Before working inside your computer. After working inside your computer, follow the instructions in After working inside your computer. For more safety best practices, see the Regulatory Compliance home page at www.dell.com/regulatory_compliance.

Procedure

1. Align the touch-screen board with the tabs on the display-panel assembly and snap the touch-screen board in place.
2. Slide the display cables into their respective connectors on the touch-screen board and close the latches to secure the cables.
3. Adhere the tapes that secure the display cables to the touch-screen board.

Post-requisites

1. Follow the procedure from step 6 to step 8 in “Replacing the display panel”.
2. Replace the display assembly.
3. Replace the wireless card.
4. Replace the battery.
5. Replace the base cover.
Removing the sensor board

⚠️ WARNING: Before working inside your computer, read the safety information that shipped with your computer and follow the steps in Before working inside your computer. After working inside your computer, follow the instructions in After working inside your computer. For more safety best practices, see the Regulatory Compliance home page at www.dell.com/regulatory_compliance.

Prerequisites

1. Remove the base cover.
2. Remove the battery.
3. Remove the wireless card.
4. Remove the display assembly.
5. Follow the procedure from step 1 to step 4 in “Removing the display panel”.

Procedure

1. Remove the screw that secures the sensor board to the display-panel assembly.
2. Peel off the tape that secures the sensor-board cable to the sensor board.
3. Open the latch and disconnect the sensor-board cable from the sensor board.
4 Lift the sensor board off the display-panel assembly.

1 sensor board
2 screw
3 tape
4 sensor-board cable
5 latch
Replacing the sensor board

⚠️ WARNING: Before working inside your computer, read the safety information that shipped with your computer and follow the steps in Before working inside your computer. After working inside your computer, follow the instructions in After working inside your computer. For more safety best practices, see the Regulatory Compliance home page at www.dell.com/regulatory_compliance.

Procedure

1. Align the sensor board on the display-panel assembly and snap the sensor board in place.
2. Slide the sensor-board cable into the connector on sensor board and press down the latch to secure the cable.
3. Adhere the tape that secures the sensor-board cable to the sensor board.
4. Replace the screw that secures the sensor board to the display-panel assembly.

Post-requisites

1. Follow the procedure from step 6 to step 8 in "Replacing the display panel".
2. Replace the display assembly.
3. Replace the wireless card.
4. Replace the battery.
5. Replace the base cover.
Removing the display cable

⚠️ WARNING: Before working inside your computer, read the safety information that shipped with your computer and follow the steps in Before working inside your computer. After working inside your computer, follow the instructions in After working inside your computer. For more safety best practices, see the Regulatory Compliance home page at www.dell.com/regulatory_compliance.

Prerequisites

1. Remove the base cover.
2. Remove the battery.
3. Remove the wireless card.
4. Remove the display assembly.
5. Follow the procedure from step 1 to step 4 in “Removing the display panel”.
6. Remove the touch-screen board.

Procedure

1. Peel off the tapes that secure the display cable to the display-panel assembly and sensor board.
2. Open the latches and disconnect the display cable from the display-panel assembly and the sensor board.
3 Lift the display cable off the display-panel assembly.
Replacing the display cable

⚠️ **WARNING:** Before working inside your computer, read the safety information that shipped with your computer and follow the steps in Before working inside your computer. After working inside your computer, follow the instructions in After working inside your computer. For more safety best practices, see the Regulatory Compliance home page at www.dell.com/regulatory_compliance.

**Procedure**

1. Slide the display cable into their respective connectors on the display-panel assembly and sensor board and close the latches to secure the cable.
2. Adhere the tapes that secure the display cable to the display-panel assembly and sensor board.

**Post-requisites**

1. Replace the touch-screen board.
2. Follow the procedure from step 6 to step 8 in “Replacing the display panel”.
3. Replace the display assembly.
4. Replace the wireless card.
5. Replace the battery.
6. Replace the base cover.
**Flashing the BIOS**

You may need to flash (update) the BIOS when an update is available or when you replace the system board. To flash the BIOS:

1. Turn on your computer.
2. Go to [www.dell.com/support](http://www.dell.com/support).
3. Click or tap **Product support**, enter the Service Tag of your computer, and then click or tap **Submit**.

   ![NOTE] If you do not have the Service Tag, use the auto-detect feature or manually browse for your computer model.

4. Click or tap **Drivers & downloads → Find it myself**.
5. Select the operating system installed on your computer.
6. Scroll down the page and expand **BIOS**.
7. Click or tap **Download** to download the latest version of the BIOS for your computer.
8. After the download is complete, navigate to the folder where you saved the BIOS update file.
9. Double-click or double-tap the BIOS update file icon and follow the instructions on the screen.
Technology and components

Audio

The Inspiron 17-7779 is shipped with Realtek ALC3253CG with Waves MaxxAudio Pro, which is the utility to adjust various audio settings.

⚠️ NOTE: The audio drivers are already installed when you receive your computer.

Downloading the audio driver

1. Turn on your computer.
2. Go to www.dell.com/support.
3. Click or tap Product support, enter the Service Tag of your computer, and then click or tap Submit.

⚠️ NOTE: If you do not have the Service Tag, use the auto-detect feature or manually browse for your computer model.
4. Click or tap Drivers & downloads → Find it myself.
5. Scroll down the page and expand Audio.
6. Click or tap Download to download the audio driver for your computer.
7. After the download is complete, navigate to the folder where you saved the audio driver file.
8. Double-click or double-tap the audio driver file icon and follow the instructions on the screen to install the driver.

Identifying the audio controller

1. On the taskbar, click or tap the search box, and then type Device Manager.
2. Click or tap Device Manager. The Device Manager window is displayed.
3  Expand **Sound, video and game controllers** to view the audio controller.

<table>
<thead>
<tr>
<th>Before installation</th>
<th>After installation</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image" alt="Sound, video and game controllers" /></td>
<td><img src="image" alt="Sound, video and game controllers" /></td>
</tr>
</tbody>
</table>

**Changing the audio settings**

1  On the taskbar, click or tap the search box, and then type **Dell Audio**.
2  Click or tap **Dell Audio** and change the audio settings as required.

**Camera**

The Inspiron 17-7779 is shipped with an integrated 0.92 megapixel high-speed camera with a maximum of 1280 x 720 HD resolution at 30 FPS. The camera has built-in digital-array microphones.

The depth-sensing feature of the camera enhances security when paired with Windows Hello.

**NOTE:** You must replace the camera module if you encounter any issues with the built-in microphones.

**Identifying the webcam in device manager**

1  On the taskbar, click or tap the search box, and then type **Device Manager**.
2  Click or tap **Device Manager**. The **Device Manager** window is displayed.
3  Expand **Imaging devices**.

**Starting the camera application**

1  On the taskbar, click or tap the search box, and then type **Camera**.
Getting the Dell Webcam Central

A CD is shipped along with your computer, which contains the Dell Webcam Central software. If you do not have the software, you can download it by registering through My Account on the Dell website.

NOTE: The Dell Webcam Central is not available for download from the support site or the resource CD.
Display

The Inspiron 17-7779 is shipped with 17.3-inch full HD touch screen with 1920 x 1080 resolution.

Adjusting the brightness

1. Right-click or touch and hold on your desktop and select **Display settings**.
2. Drag or swipe the **Adjust brightness level** slider to adjust the brightness.

You can press F11 to decrease brightness and F12 to increase brightness.

Changing the screen resolution

1. Right-click or touch and hold on your desktop and select **Display settings**.
2. Click or tap **Advanced display settings**.
3. Select the appropriate resolution from the drop-down list.
4 Click or tap **Apply**.

Rotating the display

1 Right-click or touch and hold on your desktop.
2 Select **Display Settings**.
   The **Settings** window is displayed.
3 From the **Orientation** drop-down list, select one of the following options:
   – Landscape
   – Portrait
   – Landscape (flipped)
   – Portrait (flipped)
4 Click **Apply**.

Cleaning the display

⚠️ **CAUTION**: Do not use substances such as alcohol, chemicals, or household cleaners for cleaning the display.

⚠️ **CAUTION**: To avoid damaging the display, do not apply force when cleaning and wipe off any remaining liquid after cleaning.

>Note: A commercial display cleaning kit should be used for cleaning. If unavailable, use a soft, damp microfiber cloth lightly sprayed with distilled water.

1 Turn off your computer and display before cleaning.
2 Gently wipe the display in circular motions to remove any dust or dirt particles.
3 Let the display dry thoroughly before turning it on.

HDMI

The Inspiron 17-7779 supports HDMI to connect a TV or another HDMI-in enabled device. It provides video and audio output. The HDMI port is located on the left side of your computer.

NOTE: Appropriate converters (sold separately) are required to connect standard DVI and DisplayPort devices.

Connecting to external display devices

1 Connect the HDMI cable to your computer and the external display device.
2 Press F8 to display different display modes.
3 Select one of the following display modes:

- PC screen only
- Duplicate
- Extend
- Second screen only

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

---

### Graphics

The Inspiron 17-7779 is shipped with the following options:
Integrated | Discrete
---|---
Intel HD Graphics 620 | NVIDIA GeForce 940M

**Downloading the graphics driver**

1. Turn on your computer.
2. Go to [www.dell.com/support](http://www.dell.com/support).
3. Click or tap **Product support** enter the Service Tag of your computer, and then click or tap **Submit**.
   
   **NOTE:** If you do not have the Service Tag, use the auto-detect feature or manually browse for your computer model.
4. Click or tap **Drivers & downloads → Find it myself**.
5. Scroll down the page and expand **Video**.
6. Click or tap **Download** to download the graphics driver for your computer.
7. After the download is complete, navigate to the folder where you saved the graphics driver file.
8. Double-click or double-tap the graphics driver file icon and follow the instructions on the screen.

**Identifying the display adapter**

1. On the taskbar, click or tap the search box, and then type **Device Manager**.
2. Click or tap **Device Manager**.
   
   The **Device Manager** window is displayed.
3. Expand **Display adapters**.
Changing the display settings in Intel HD Graphics Control Panel

1. Right-click or touch and hold on the desktop and select Intel Graphics Settings to launch the Intel HD Graphics Control Panel.

2. Click or tap Display.

3. Change the display settings as required.

USB

The following table shows the USB ports available in Inspiron 17-7779.

<table>
<thead>
<tr>
<th>Ports</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>USB Type-C port</td>
<td>Left side</td>
</tr>
<tr>
<td>USB 3.0 port with PowerShare</td>
<td>Left side</td>
</tr>
<tr>
<td>USB 2.0 port</td>
<td>Right side</td>
</tr>
</tbody>
</table>

NOTE: USB 3.0 needs the driver to be installed before it can detect any USB devices.

Downloading the USB 3.0 driver

1. Turn on your computer.
Go to www.dell.com/support.

Click or tap Product support enter the Service Tag of your computer, and then click or tap Submit.

⚠️ NOTE: If you do not have the Service Tag, use the auto-detect feature or manually browse for your computer model.

Click or tap Drivers & downloads → Find it myself.

Scroll down the page and expand Chipset.

Click or tap Download to download the USB 3.0 driver for your computer.

After the download is complete, navigate to the folder where you saved the USB 3.0 driver file.

Double-click or double-tap the driver file icon and follow the instructions on screen.

Enabling or disabling the USB in BIOS setup program

1. Turn on or restart your computer.
2. Press F2 when the Dell logo is displayed on the screen to enter the BIOS setup program.

The BIOS setup program is displayed.

3. On the left pane, select Settings → System Configuration → USB Configuration.

The USB configuration is displayed on the right pane.

4. Select or clear the Enable External USB Port check box to enable or disable it respectively.

5. Save the BIOS setup program settings and exit.

Fixing a no-boot issue caused by USB emulation

Sometimes the computer does not boot to the operating system when USB devices are connected to the computer during startup. This behavior occurs because the computer is looking for bootable files in the USB devices. Follow these steps to fix the no-boot issue:

1. Turn on or restart your computer.
2. Press F2 when the Dell logo is displayed on the screen to enter the BIOS setup program.

The BIOS setup program is displayed.
3 On the left pane, select **Settings → System Configuration → USB Configuration**.
   The USB configuration is displayed on the right pane.
4 Clear the **Enable Boot Support** check box to disable it.
5 Save the settings and exit.

**Wi-Fi**

The Inspiron 17-7779 is shipped with Wi-Fi 802.11ac.

**Turning on or off Wi-Fi**

*NOTE:* There is no physical switch to enable or disable Wi-Fi. It has to be done through computer settings.

1 Swipe-in from the right edge of the display, or click or tap the **Action Center** icon on the taskbar to access the Action Center.
2 Click or tap **Wi-Fi** to turn Wi-Fi on or off.

**Downloading the Wi-Fi driver**

1 Turn on your computer.
2 Go to [www.dell.com/support](http://www.dell.com/support).
3 Click or tap **Product support** enter the Service Tag of your computer, and then click or tap **Submit**.

*NOTE:* If you do not have the Service Tag, use the auto-detect feature or manually browse for your computer model.

4 Click or tap **Drivers & downloads → Find it myself**.
5 Scroll down the page and expand **Network**.
6 Click or tap **Download** to download the Wi-Fi driver for your computer.
7 After the download is complete, navigate to the folder where you saved the Wi-Fi driver file.
8 Double-click or double-tap the driver file icon and follow the on-screen instructions to install the driver.

**Configuring the Wi-Fi**

1 Turn on Wi-Fi. For more information, see **Turning Wi-Fi on or off**.
2 Swipe-in from the right edge of the display, or click or tap the Action Center icon on the taskbar to access the Action Center.
3 Touch and hold Wi-Fi, and then click or tap Go to settings. A list of available networks is displayed.
4 Select your network and click or tap Connect.

![Wi-Fi settings window]

**NOTE:** Type the network security key, if prompted.

## Bluetooth

The Inspiron 17-7779 is shipped with Bluetooth 4.0.

### Turning on or off Bluetooth

**NOTE:** There is no physical switch to enable or disable Bluetooth. It has to be done through the computer settings.

1. Swipe-in from the right edge of the display, or click or tap the Action Center icon on the taskbar to access the Action Center.
2. Click or tap Bluetooth to turn Bluetooth on or off.

### Pairing the Bluetooth-enabled devices

1. Turn on Bluetooth. For more information, see Turning on or off Bluetooth.
2. Swipe-in from the right edge of the display, or click or tap the Action Center icon on the taskbar to access the Action Center.
3. Touch and hold Bluetooth, and then click or tap Go to settings.
4. Select the required Bluetooth device for pairing.
5 Click or tap **Pair** to pair the bluetooth devices.

![Pairing Bluetooth devices](image)

6 Click or tap **Yes** to confirm the passcodes on both the devices.

![Confirming passcodes](image)

**Removing the Bluetooth device**

1 Swipe-in from the right edge of the display, or click or tap the **Action Center** icon on the taskbar to access the Action Center.

2 Touch and hold **Bluetooth**, and then click or tap **Go to settings**.
Click or tap the device you want to remove, and then click or tap **Remove device**.

Transferring files between devices using Bluetooth

1. Swipe-in from the right edge of the display, or click or tap the **Action Center** icon on the taskbar to access the Action Center.
2. Touch and hold **Bluetooth**, and then click or tap **Go to settings**.
3. Select your Bluetooth device.
4. Click or tap **Send or receive files via Bluetooth**.
5. In the **Bluetooth File Transfer** window, click or tap **Send files**, and then select the file you want to transfer.
Hard drive

The following table shows the hard-drive options available in Inspiron 17-7779.

<table>
<thead>
<tr>
<th>Options</th>
<th>Dimensions</th>
</tr>
</thead>
<tbody>
<tr>
<td>SSD</td>
<td>M.2 drive/2.5–inch drive</td>
</tr>
<tr>
<td>HDD</td>
<td>2.5–inch drive</td>
</tr>
</tbody>
</table>

**Identifying the hard drive**

1. On the taskbar, click or tap the search box, and then type Device Manager.
2. Click or tap Device Manager.
   The Device Manager window is displayed.
3. Expand Disk drives.

**Identifying the hard drive in BIOS setup program**

1. Turn on or restart your computer.
2. Press F2 when the Dell logo is displayed on the screen to enter the BIOS setup program.
   A list of hard drives is displayed under the System Information in the General group.

**Media-card reader**

The Inspiron 17-7779 has one SD-card slot located on the right side of your computer.

**Downloading the media-card reader driver**

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

   **NOTE:** If you do not have the Service Tag, use the auto-detect feature or manually browse for your computer model.

4 Click or tap **Drivers & downloads → Find it myself**.

5 Scroll down the page and expand **Chipset**.

6 Click or tap **Download** to download the media-card reader driver for your computer.

7 After the download is complete, navigate to the folder where you saved the media-card reader driver file.

8 Double-click or double-tap the card reader driver file icon and follow the instructions on screen.

### Browsing a media card

1 Insert the media card with the metal contacts facing down.
The card will auto-play and a notification appears on the screen.

2 Follow the instructions on the screen.

### Keyboard

The Inspiron 17-7779 is shipped with a backlit keyboard.

### Changing the keyboard language

1 Click or tap **Start**.

2 Click or tap **Settings**.

3 Click or tap **Time & language → Region & language**.

4 Click or tap **Add a language**.

5 Choose the language you want to add and select a country for the language.

6 Under **Languages**, click or tap the language that you want to set as the default language.

7 Click or tap **Set as default**.
# Keyboard shortcuts

<table>
<thead>
<tr>
<th>Icons</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>F1</td>
<td>Mute audio</td>
</tr>
<tr>
<td>F2</td>
<td>Decrease volume</td>
</tr>
<tr>
<td>F3</td>
<td>Increase volume</td>
</tr>
<tr>
<td>F4</td>
<td>Play previous track/chapter</td>
</tr>
<tr>
<td>F5</td>
<td>Play/Pause</td>
</tr>
<tr>
<td>F6</td>
<td>Play next track/chapter</td>
</tr>
<tr>
<td>F8</td>
<td>Switch to external display</td>
</tr>
<tr>
<td>F9</td>
<td>Search</td>
</tr>
<tr>
<td>F10</td>
<td>Toggle keyboard backlight</td>
</tr>
<tr>
<td>F11</td>
<td>Decrease brightness</td>
</tr>
<tr>
<td>F12</td>
<td>Increase brightness</td>
</tr>
<tr>
<td>Fn + PrtScr</td>
<td>Turn off/on wireless</td>
</tr>
<tr>
<td>Fn + B</td>
<td>Pause/Break</td>
</tr>
<tr>
<td>Fn + Insert</td>
<td>Sleep</td>
</tr>
<tr>
<td>Fn + S</td>
<td>Toggle scroll lock</td>
</tr>
<tr>
<td>Fn + H</td>
<td>Toggle between power and battery-status light/hard-drive activity light</td>
</tr>
<tr>
<td>Fn + R</td>
<td>System request</td>
</tr>
</tbody>
</table>
Touch pad

The Inspiron 17-7779 is shipped with a Precision touch pad. A precision touch pad is a new class of input device that provides high precision pointer input and gesture functionality. Precision touch pads interact with the operating system directly without a driver. The operating system handles the overall functionality of the touch pad and there are no separate drivers available for download.

Identifying the touch pad

1. On the taskbar, click or tap the search box, and then type Device Manager.
2. Click or tap Device Manager. The Device Manager window is displayed.
3. Expand Mice and other pointing devices.
### Touch pad gestures

<table>
<thead>
<tr>
<th>Gesture</th>
<th>Procedure</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tap to click</td>
<td>Tap on the touch pad</td>
<td>Selects an item</td>
</tr>
<tr>
<td>Tap, tap-slide to highlight or drag</td>
<td>Tap, tap-slide on the touch pad</td>
<td>Highlights text, and drags and drops an item</td>
</tr>
<tr>
<td>Slide to scroll</td>
<td>Place two fingers on the touch pad, and then slide.</td>
<td>Scrolls the page. Pages can scroll left and right, up and down, or both.</td>
</tr>
<tr>
<td>Pinch or stretch to zoom</td>
<td>Place two fingers on the touch pad and move them toward each other or away from each other</td>
<td>Zooms out or zooms in on the touch pad.</td>
</tr>
<tr>
<td>Swipe for Action Center</td>
<td>Swipe in from the right edge</td>
<td>Opens the Action Center. Swipe again to hide the Action Center.</td>
</tr>
<tr>
<td>Swipe for adding new desktop</td>
<td>Swipe in from the left edge</td>
<td>Click or tap <strong>New desktop</strong> to add a new desktop.</td>
</tr>
</tbody>
</table>

### Power adapter

The Inspiron 17-7779 is shipped with a 65 W power adapter.

⚠️ **WARNING:** When you disconnect the power adapter cable from the computer, pull on its connector, not the cable itself. When disconnecting cable, keep it evenly aligned to avoid bending any connector pins. When connecting the cable, ensure that the port and the connector are correctly oriented and aligned.

⚠️ **WARNING:** The power adapter works with electrical outlets worldwide. However, power connectors and power strips vary among countries. Using an incompatible cable or improperly connecting the cable to the power strip or electrical outlet may cause fire or equipment damage.

📝 **NOTE:** Depending on the region, two or three pin adapters are available. Please verify part numbers from SPMD before replacing the power adapter.
Battery

The Inspiron 17-7779 is shipped with the 4-cell 56 WHr smart lithium ion battery.

NOTE: Batteries are covered for a period of one year from the invoice date unless stated otherwise in the invoice.

Chipset

The chipset is virtually divided into two sections — Northbridge and Southbridge. All computer components communicate with the CPU through the chipset.

The Inspiron 17-7779 is shipped with the chipset that is integrated in the processor.

Downloading the chipset driver

1 Turn on your computer.
2 Go to www.dell.com/support.
3 Click or tap Product support, enter the Service Tag of your computer, and then click or tap Submit.

   NOTE: If you do not have the Service Tag, use the auto-detect feature or manually browse for your computer model.
4 Click or tap Drivers & downloads → Find it myself.
5 Scroll down the page and expand Chipset.
6 Click or tap Download to download the chipset driver for your computer.
7 After the download is complete, navigate to the folder where you saved the chipset driver file.
8 Double-click or double-tap the chipset driver file icon and follow the instructions on the screen.

Identifying the chipset

1 On the taskbar, click or tap the search box, and then type Device Manager.
2 Click or tap Device Manager.
   The Device Manager window is displayed.
3 Expand **System devices**.

### Memory

The Inspiron 17-7779 has two SODIMM (RAM) slots, which are accessible by removing the base cover. Your computer supports 4 GB, 8 GB, 12 GB, and 16 GB dual-channel DDR4 memory of up to 2133 MHz.

#### Checking the system memory in Windows

1 Click or tap **Start**.
2 Select **Settings**.
3 Click or tap **System → About**.

### Checking the system memory in BIOS setup program

1 Turn on or restart your computer.
2 Press F2 when the Dell logo is displayed on the screen to enter the BIOS setup program.
3 On the left pane, select **Settings → General → System Information**.
   The memory information is displayed on the right pane.

### Testing memory using ePSA

1 Turn on or restart your computer.
2 Press F12 after the Dell logo is displayed on the screen to access the boot menu.
3 Use the arrow keys to highlight the **Diagnostics** menu option and press **Enter**.
4 Follow the instructions on the screen to complete the ePSA Pre-boot System Assessment (PSA).

   **NOTE:** If the operating system logo appears, wait until you see the desktop. Turn off your computer and try again.

### Processors

The Inspiron 17-7779 is shipped with the following processor options:

- 7th generation Intel Core i5
- 7th generation Intel Core i7

### Identifying the processors in Windows

1 On the taskbar, click or tap the search box, and then type **Device Manager**.
2 Click or tap **Device Manager**.
   The **Device Manager** window is displayed.
3 Expand **Processors**.

![Expand Processors](image)

**Checking the processor usage in the task manager**

1. Right-click or double-tap on the taskbar.
2. Click or tap **Task Manager**.
   The **Task Manager** window is displayed.
3. Click **More Details**.
4. Click or tap **Performance** tab to display the processor performance details.

![Task Manager](image)

**Operating System**

The Inspiron 17-7779 is shipped with the Windows 10 factory installation.
Service Tag location

The service tag is a unique alphanumeric identifier that allows Dell service technicians to identify the hardware components in your computer and access warranty information.

Device drivers

Intel Dynamic Platform and Thermal Framework

In the Device Manager, check if the Intel Dynamic Platform and Thermal Framework is installed.
Install the driver updates from www.dell.com/support.

Intel Chipset Software Installation Utility

In the Device Manager, check if the chipset driver is installed.
Install the Intel chipset updates from www.dell.com/support.
Video drivers

In the Device Manager, check if the video driver is installed. Install the video driver update from www.dell.com/support.

Intel Serial IO driver

In the Device Manager, check if the Intel Serial IO driver is installed.
Install the driver updates from [www.dell.com/support](http://www.dell.com/support).
Intel Trusted Execution Engine Interface

In the Device Manager, check if the Intel Trusted Execution Engine Interface driver is installed.
Install the driver update from www.dell.com/support.
**Intel Virtual Button driver**

In the Device Manager, check if the Intel Virtual Button driver is installed. Install the driver updates from [www.dell.com/support](http://www.dell.com/support).
Intel Wireless 3165 Wi-Fi and Bluetooth drivers

In the Device Manager, check if the network card driver is installed.
Install the driver updates from www.dell.com/support.

In the Device Manager, check if the Bluetooth driver is installed.
Install the driver updates from www.dell.com/support.
BIOS overview

The BIOS manages data flow between the computer’s operating system and attached devices such as hard disk, video adapter, keyboard, mouse, and printer.

Entering the BIOS setup program

1. Turn on or restart your computer.
2. Press F2 when the Dell logo is displayed on the screen to enter the BIOS setup program.

You can change the user-defined settings in BIOS setup program.

Boot menu

The Inspiron 17-7779 includes a one-time boot menu. By using this feature, you can change the sequence of devices that your computer attempts to boot from, for example, floppy, CD-ROM, or hard drive.

Boot menu enhancements

The boot menu enhancements are as follows:

- **Easier Access** — Press F12 to access the boot selection menu.
- **User Prompting** — The user is prompted to use the keystroke on the BIOS screen.
- **Diagnostics Options** — The boot menu includes the ePSA diagnostic options.

Timing key sequences

The keyboard is not the first device initialized by Setup. As a result, if you press a keystroke too early, the keyboard is locked out. In such case, a keyboard error message is displayed on the screen, and you cannot restart your computer with the Ctrl+Alt+Del key combination.
To prevent the keyboard from locking, wait until the keyboard is initialized completely. The keyboard is initialized if one of the following occurs:

- The keyboard lights flash.
- The F2=Setup prompt appears at the top-right corner of the screen during boot.
System diagnostic lights

Power and battery-status light/hard-drive activity light
Indicates the battery-charge status or the hard-drive activity.

- **NOTE:** Press Fn+H to toggle this light between power and battery-status light and hard-drive activity light.

Hard-drive activity light
Turns on when the computer reads from or writes to the hard drive.

Power and battery-status light
Indicates the power and battery-charge status

- **Solid white** — Power adapter is connected and the battery has more than 5 percent charge.
- **Amber** — Computer is running on battery and the battery has less than 5 percent charge.
- **Off**
  - Power adapter is connected and the battery is fully charged.
  - Computer is running on battery and the battery has more than 5 percent charge.
  - Computer is in sleep state, hibernation, or turned off

The power and battery-status light blinks amber along with beep codes indicating failures.
For example, the power and battery-status light blinks amber two times followed by a pause, and then blinks white three times followed by a pause. This 2,3 pattern continues until the computer is turned off indicating no memory or RAM is detected.

The following table shows different light patterns, what they indicate, and the suggested solutions.

<table>
<thead>
<tr>
<th>Light pattern</th>
<th>Problem description</th>
<th>Suggested solution</th>
</tr>
</thead>
<tbody>
<tr>
<td>2,1</td>
<td>CPU failure</td>
<td>Replace the system board.</td>
</tr>
<tr>
<td>2,2</td>
<td>System board: BIOS and ROM failure</td>
<td>Flash latest BIOS version. If problem persists, replace the system board.</td>
</tr>
<tr>
<td>2,3</td>
<td>No memory or RAM detected</td>
<td>Confirm that the memory module is installed properly. If</td>
</tr>
<tr>
<td>Light pattern</td>
<td>Problem description</td>
<td>Suggested solution</td>
</tr>
<tr>
<td>---------------</td>
<td>------------------------------</td>
<td>-------------------------------------</td>
</tr>
<tr>
<td>2,4</td>
<td>Memory or RAM failure</td>
<td>Replace the memory module.</td>
</tr>
<tr>
<td>2,5</td>
<td>Invalid memory installed</td>
<td>Replace the memory module.</td>
</tr>
<tr>
<td>2,6</td>
<td>System board or chipset error</td>
<td>Replace the system board.</td>
</tr>
<tr>
<td>2,7</td>
<td>LCD failure</td>
<td>Replace the LCD.</td>
</tr>
<tr>
<td>3,1</td>
<td>CMOS battery failure</td>
<td>Replace the CMOS battery.</td>
</tr>
<tr>
<td>3,2</td>
<td>PCI or video card or chip failure</td>
<td>Replace the CMOS battery.</td>
</tr>
<tr>
<td>3,3</td>
<td>Recovery image not found</td>
<td>Reimage the system.</td>
</tr>
<tr>
<td>3,4</td>
<td>Recovery image found but invalid</td>
<td>Reimage the system.</td>
</tr>
</tbody>
</table>

**Camera status light:** Indicates whether the camera is in use.

- Solid white — Camera is in use.
- Off — Camera is not in use.

**Caps Lock status light:** Indicates whether Caps Lock is enabled or disabled.

- Solid white — Caps Lock enabled.
- Off — Caps Lock disabled.
Getting help and contacting Dell

Self-help resources

You can get information and help on Dell products and services using these self-help resources:

- Information about Dell products and services
  - www.dell.com

- Windows 8.1 and Windows 10
  - Dell Help & Support app

- Windows 10
  - Get started app

- Windows 8.1
  - Help + Tips app

- Accessing help in Windows 8, Windows 8.1, and Windows 10
  - In Windows search, type Help and Support, and press Enter.

- Accessing help in Windows 7
  - Click Start → Help and Support.

- Online help for operating system
  - www.dell.com/support/windows
  - www.dell.com/support/linux
  - www.dell.com/support

- Troubleshooting information, user manuals, setup instructions, product specifications, technical help blogs, drivers, software updates, and so on.

- Learn about your operating system, setting up and using your computer, data backup, diagnostics, and so on.
  - See Me and My Dell at www.dell.com/support/manuals.
Contacting Dell

To contact Dell for sales, technical support, or customer service issues, see www.dell.com/contactdell.

**NOTE**: Availability varies by country and product, and some services may not be available in your country.

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