



## HP Envy 14 Sleekbook

Maintenance and Service Guide

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Not all features are available in all editions of Windows 8. This computer may require upgraded and/or separately purchased hardware, drivers and/or software to take full advantage of Windows 8 functionality. See <http://microsoft.com> for details.

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## Safety warning notice

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**⚠ WARNING!** To reduce the possibility of heat-related injuries or of overheating the device, do not place the device directly on your lap or obstruct the device air vents. Use the device only on a hard, flat surface. Do not allow another hard surface, such as an adjoining optional printer, or a soft surface, such as pillows or rugs or clothing, to block airflow. Also, do not allow the AC adapter to contact the skin or a soft surface, such as pillows or rugs or clothing, during operation. The device and the AC adapter comply with the user-accessible surface temperature limits defined by the International Standard for Safety of Information Technology Equipment (IEC 60950).

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# 1 Product description

| Category            | Description   |
|---------------------|---|
| <b>Product Name</b> | HP ENVY 14 Sleekbook  |
| <b>Processors</b>   | Intel Dual i7-4500U (1.8GHz, turbo up to 3.0GHz) 1600MHz/4MB Cache<br>Intel Dual i5-4200U (1.6GHz, turbo up to 2.6GHz) 1600MHz/3MB Cache<br>Intel Dual i3-4010U (1.7GHz) 1600MHz/3MB L3   |
| <b>Chipset</b>      | Intel Lynx Point — LP PCH (Integrated in MCP)   |
| <b>Graphics</b>     | Intel HD Graphics 4400 discrete-class graphics. Supports HD decode, and DX11 support and HDMI support<br>Intel HD Graphics 5000 discrete-class graphics. Supports HD decode, and DX11 support and HDMI support<br>Nvidia N14P-GV2 (GeForce GT 740M) with 2 GB of dedicated video memory   |
| <b>Panel</b>        | 35.6-mm (14.0-inch) HD WLED BrightView (1366x768) (Slim 3.0mm) SVA, 200 nits<br>35.6-mm (14.0-inch) HD+ WLED AntiGlare (1600x900) (Slim 3.0mm) SVA, 250 nits<br>35.6-mm (14.0-inch) Pentile QHD+ WLED BrightView (3200x1800) (Ultra Slim 2.8mm) SVA, 300 nits for Non-Touch, 260 nits for Touch<br>Touchscreen, multitouch enabled, 220 nits for HD+, 175 nits for HD<br>All display assemblies include 2 wireless local area network (WLAN) antenna cables.<br>Supports 16:9 wide aspect ratio<br>Support for non-flush glass panel cover (non-PMMA) |
| <b>Memory</b>       | Supports up to 16-GB max system memory in the following configurations: <ul style="list-style-type: none"><li>• 4096MB (2048MB x 2)</li><li>• 4096MB (4096MB x 1)</li><li>• 6144MB (2048MB x 1 + 4096MB x 1)</li><li>• 8192MB (4096MB x 2)</li><li>• 8192MB (8192MB x 1)</li><li>• 12288MB (8192MB + 4096MB)</li><li>• 16384MB (8192MB x 2)</li></ul>   |

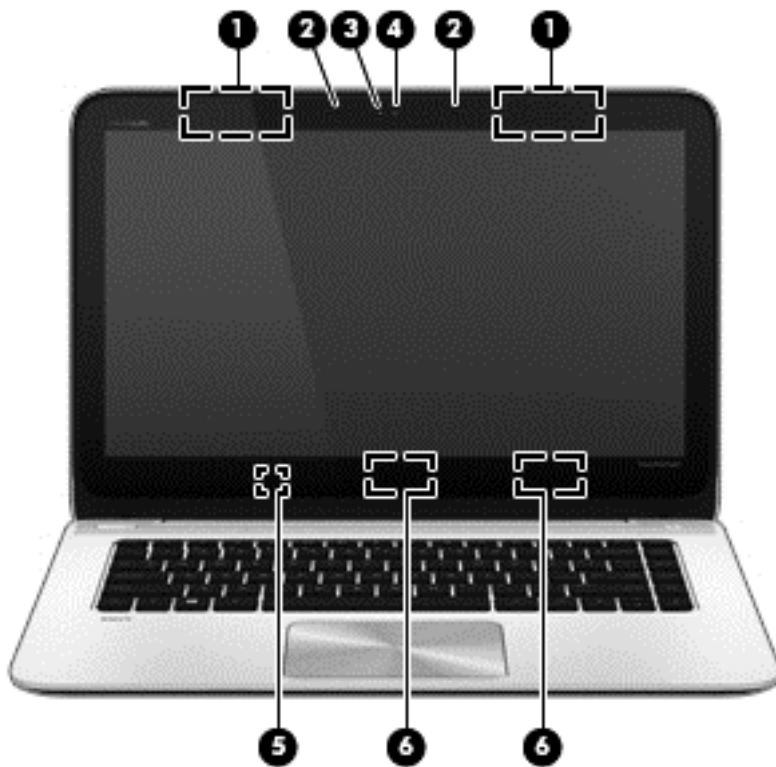
| Category                                | Description  |
|---|--|
|   | DDR3L - 1600MHz dual channel support   |
| <b>Hard Drives</b>                      | Supports 7-mm/9.5-mm, SATA, 2.5-in hard drives<br>Support Intel Smart Response Technology (SRT)<br>Accelerometer / HDD protection support  |
|   | SATA hard drive configurations: <ul style="list-style-type: none"> <li>• 1 TB, 5400 rpm, 9.5 mm</li> <li>• 1 TB, 5400 rpm, 8 GB NAND hybrid, 9.5 mm</li> <li>• 750 GB, 5400 rpm, 9.5 mm</li> <li>• 750 GB, 5400 rpm, 8 GB NAND hybrid, 9.5 mm</li> <li>• 500 GB, 5400 rpm, 7 mm</li> <li>• 500 GB, 5400 rpm, 8 GB NAND hybrid, 7 mm</li> </ul> |
|   | mSATA SSD configurations: <ul style="list-style-type: none"> <li>• 128-GB SSD MLC</li> <li>• 128-GB SSD TLC</li> </ul>   |
|   | mSATA cache configurations: <ul style="list-style-type: none"> <li>• 32-GB SSD</li> <li>• 24-GB SSD</li> </ul>   |
| <b>Optical Drives</b><br>(External USB) | 12.7 mm tray load, SATA, External USB<br>DVD+/-RW DL SuperMulti  |
| <b>Audio and video</b>                  | Dual array digital microphones   |
|   | Dual speakers  |
|   | Subwoofer  |
|   | Beats audio  |
|   | HP TrueVision high-definition webcam (fixed, no tilt, 1280x720 by 30 frames per second)  |
| <b>Ethernet</b>                         | Integrated 10/100/1000 GB network interface card (NIC)   |
| <b>Wireless</b>                         | Integrated WLAN options by way of wireless module  |
|   | Compatible with Miracast-certified devices for Windows 8.1   |

| Category                                 | Description   |
|--|---|
|  | <p>Supports the following WLAN formats:</p> <ul style="list-style-type: none"> <li>• Intel Wireless-N 7260BN 802.11 bgn 2x2 WiFi + BT 4.0 combo Adapter</li> <li>• Intel Dual Band Wireless-AC 3160 802.11 ac 1x1 WiFi + BT 4.0 Combo Adapter</li> <li>• Broadcom BCM43241 802.11 abgn 2x2 Wi-Fi + BT 4.0 Combo Adapter</li> <li>• Broadcom BCM 4352 802.11 ac 2x2 WiFi + BT 4.0 Combo Adapter</li> <li>• Ralink RT3290LE 802.11 bgn 1x1 Wi-Fi + BT 4.0 Combo Adapter</li> <li>• Qualcomm QCA9565 802.11 bgn 1x1 Wi-Fi + BT4.0 Combo Adapter</li> </ul> |
| <b>External expansion card</b>           | <p>Push-push insertion/removal</p> <p>HP Multi-Format Media Reader supports the following digital card formats:</p> <ul style="list-style-type: none"> <li>• Secure Digital (SD) Card</li> <li>• Secure Digital High-Capacity (SDHC) Card</li> <li>• Secure Digital Extended Capacity (SDxC) Card</li> </ul>  |
| <b>Internal expansion card</b>           | <p>One half-size mini-card slot for WLAN</p> <p>One full-size mini-card slot for Intel mSATA Cache</p> <p>One NGFF slot for WLAN</p> <p>One NGFF slot for WWAN</p>  |
| <b>Ports</b>                             | <ul style="list-style-type: none"> <li>• 3-pin AC power (Smart pin)</li> <li>• Audio-in (mono microphone), supports jack detection</li> <li>• Audio-out (stereo headphone), supports jack detection</li> <li>• HDMI version 1.4 supporting up to 1920x1200 @ 60Hz</li> <li>• RJ-45 (Ethernet, includes link and activity lights)</li> <li>• USB 3.0 ports (2)</li> <li>• USB 2.0 charging port (1)</li> </ul>   |
| <b>Backlit keyboard/pointing devices</b> | <p>Full-size island-style keyboard</p> <ul style="list-style-type: none"> <li>• Standard keyboard, black, Dura coat</li> <li>• Backlit keyboard, 3-coat, black</li> </ul> <p>TouchPad with multi-touch gestures</p> <p>Clickpad with imaging sensor</p> <p>Taps enabled as default</p> <p>Supports Windows 8 modern trackpad gestures</p>   |

| <b>Category</b>           | <b>Description</b>   |
|---------------------------|--|
| <b>Power requirements</b> | <p><b>Supports the following HP AC adapters:</b></p> <ul style="list-style-type: none"> <li>• 65-W Smart Pin, 4.5 mm connector</li> <li>• 65-W Smart Pin, 4.5 mm connector, EM</li> <li>• 65-W Smart Pin, 4.5 mm connector, MSH</li> </ul> <p>Power cord, 1 m</p> <p><b>Supports the following batteries:</b></p> <ul style="list-style-type: none"> <li>• 3-cell, 5.0Whr 4.56 AH battery</li> </ul> |
| <b>Operating system</b>   | <p><b>Preinstalled:</b></p> <ul style="list-style-type: none"> <li>• Windows 8.1</li> <li>• Windows 8 Standard</li> <li>• Windows 8 Professional</li> <li>• Ubuntu Linux</li> </ul>  |
| <b>Serviceability</b>     | <p><b>End-user replaceable parts:</b></p> <ul style="list-style-type: none"> <li>• AC adapter</li> <li>• Memory</li> <li>• Optical drive</li> <li>• Hard drive</li> <li>• Battery</li> <li>• MiniCard components</li> </ul>  |

## 2 External component identification

### Display




| Component                                   | Description  |
|---|--|
| (1) WWAN antennas (2)* (select models only) | Send and receive wireless signals to communicate with wireless wide area networks (WWAN).  |
| (2) Internal microphones (2)                | Record sound.  |
| (3) Webcam light                            | On: The webcam is in use.  |
| (4) HP TrueVision HD Webcam                 | Records video, captures still photographs, and provides access to video conferences and online chat by means of streaming video.<br><br>To use the webcam, from the Start screen, type <b>c</b> , and then select <b>CyberLink YouCam</b> from the list of applications. |

| Component                   | Description   |
|-----------------------------|---|
| (5) Internal display switch | Turns off the display and initiates Sleep if the display is closed while the power is on.<br><br><b>NOTE:</b> The internal display switch is not visible from the outside of the computer.  |
| (6) WLAN antennas (2)*      | Send and receive wireless signals to communicate with wireless local area networks (WLANs).<br><br><b>NOTE:</b> To set up a WLAN and connect to the Internet, you need a broadband modem (either DSL or cable) (purchased separately), high-speed Internet service purchased from an Internet service provider, and a wireless router (purchased separately). |

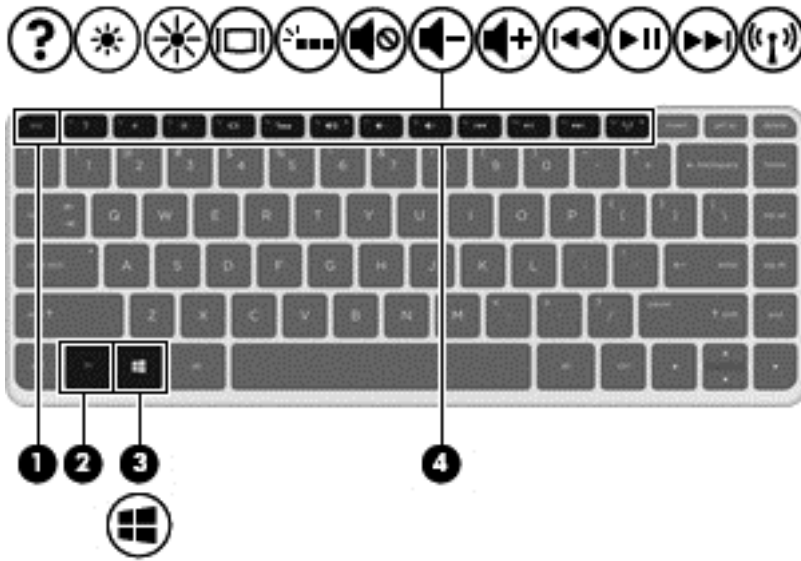
\*The antennas are not visible from the outside of the computer. For optimal transmission, keep the areas immediately around the antennas free from obstructions. For wireless regulatory notices, see the section of the *Regulatory, Safety, and Environmental Notices* that applies to your country or region. To access this guide, see your User guide.


## Buttons and speakers



| Component  | Description  |
|--|--|
| (1)  Power button | <ul style="list-style-type: none"> <li>• When the computer is off, press the button to turn on the computer.</li> <li>• When the computer is in the Sleep state, press the button briefly to exit Sleep.</li> <li>• When the computer is in Hibernation, press the button briefly to exit Hibernation.</li> </ul> <p><b>CAUTION:</b> Pressing and holding down the power button will result in the loss of unsaved information.</p> <p>If the computer has stopped responding and Microsoft Windows shutdown procedures are ineffective, press and hold the power button down for at least 5 seconds to turn off the computer.</p> <p><b>NOTE:</b> For select models, the Intel Rapid Start Technology feature is enabled at the factory. Rapid Start Technology allows your computer to resume quickly from inactivity.</p> <p>To learn more about your power settings, see your power options. From the Start screen, type <code>power</code>, select <b>Settings</b>, and then select <b>Power Options</b> from the list of applications.</p> |
| (2) Speakers (2)   | Produce sound.   |

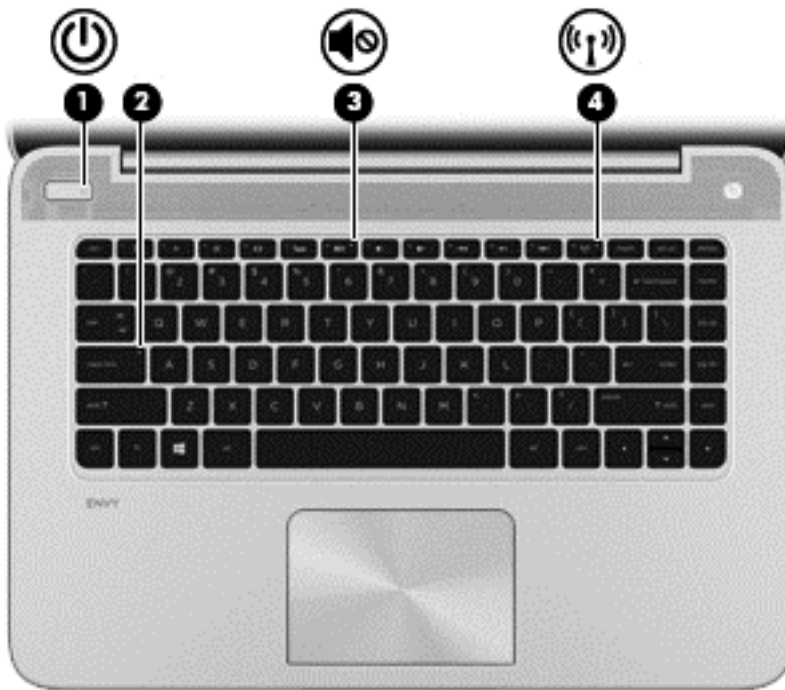
# Keys






| Component |  | Description   |
|-----------|--|---|
| (1)       | esc key  | Reveals system information when pressed in combination with the <b>fn</b> key.  |
| (2)       | fn key   | Executes frequently used system functions when pressed in combination with the <b>esc</b> key.  |
| (3)       |  Windows button | Returns you to the Start screen from an open app or the Windows desktop.<br><br><b>NOTE:</b> Pressing the Windows key again will return you to the previous screen. |
| (4)       | Action keys  | Execute frequently used system functions.<br><br><b>NOTE:</b> On select models, the <b>f5</b> action key turns the backlight keyboard feature off or on.            |

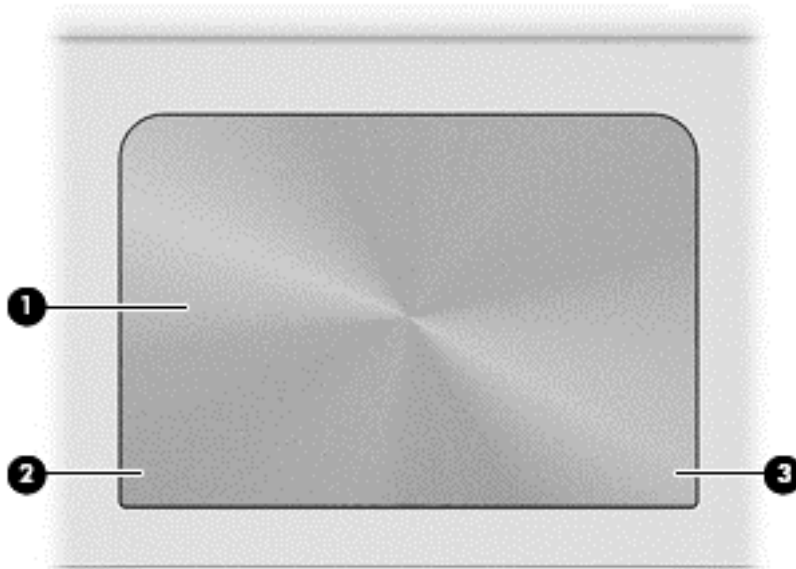


# Lights



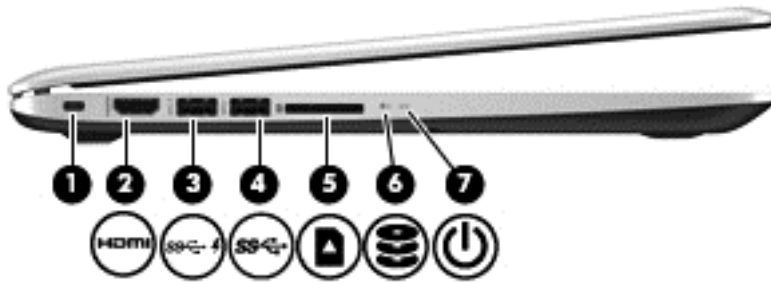
| Component  | Description  |
|--|--|
| (1)  Power light    | <ul style="list-style-type: none"><li>• On: The computer is on.</li><li>• Blinking: The computer is in the Sleep state, which is an energy-saving mode. The computer shuts off power to the display and other unneeded components.</li><li>• Off: The computer is off or in Hibernation. Hibernation is an energy-saving mode that uses the least amount of power.</li></ul> <p><b>NOTE:</b> For select models, the Intel Rapid Start Technology feature is enabled at the factory. Rapid Start Technology allows your computer to resume quickly from inactivity.</p> |
| (2) Caps lock light  | On: Caps lock is on, which switches the keys to all capital letters.   |
| (3)  Mute light     | <ul style="list-style-type: none"><li>• Amber: Computer sound is off.</li><li>• Off: Computer sound is on.</li></ul>   |
| (4)  Wireless light | White: An integrated wireless device, such as a wireless local area network (WLAN) device and/or a Bluetooth device, is on.  |
|  | <p><b>NOTE:</b> On some models, the wireless light is amber when all wireless devices are off.</p>   |






# TouchPad





| Component                 | Description  |
|---------------------------|--|
| (1) TouchPad zone         | Reads your finger gesture to move the pointer or activate items on the screen. |
| (2) Left TouchPad button  | Functions like the left button of an external mouse.                           |
| (3) Right TouchPad button | Functions like the right button on an external mouse.                          |

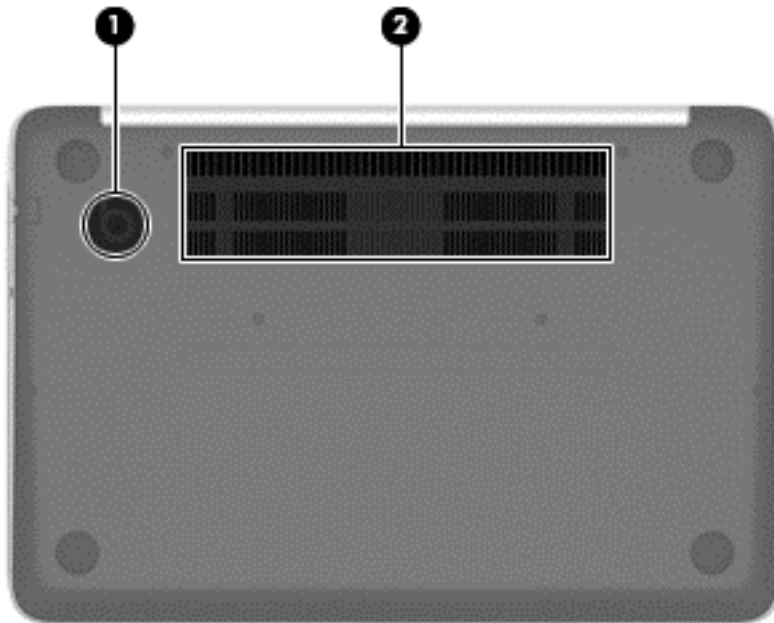
# Left side



| Component   | Description   |
|---|---|
| (1)  Security cable slot                 | Attaches an optional security cable to the computer.<br><b>NOTE:</b> The security cable is designed to act as a deterrent, but it may not prevent the computer from being mishandled or stolen.   |
| (2)  HDMI port                           | Connects an optional video or audio device, such as a high-definition television, any compatible digital or audio component, or a high-speed HDMI device.   |
| (3)  USB 3.0 charging (powered) port (1) | Connects an optional USB device. USB charging ports allow you to charge connected USB devices. Standard USB ports will not charge all USB devices or will charge using a low current. Some USB devices require power and require you to use a powered port.<br><b>NOTE:</b> USB charging ports can also charge select models of cell phones and MP3 players, even when the computer is off. |
| (4)  USB 3.0 port (1)                  | Connects an optional USB 3.0 device and provides enhanced USB power performance.  |
| (5)  Memory Card Reader                | Supports the following media formats: <ul style="list-style-type: none"><li>• Secure Digital (SD) Memory Card</li><li>• Secure Digital High Capacity (SDHC) Memory Card</li><li>• Secure Digital Extended Capacity (SDxC) Memory Card</li></ul>   |

| Component |  | Description  |
|-----------|--|--|
| (6)       |  Hard drive light | <ul style="list-style-type: none"><li>• Blinking white: The hard drive is being accessed.</li><li>• Amber: HP3D DriveGuard has temporarily parked the hard drive.</li></ul>  |
| (7)       |  Power light      | <ul style="list-style-type: none"><li>• On: The computer is on.</li><li>• Blinking: The computer is in the Sleep state, which is an energy-saving mode. The computer shuts off power to the display and other unneeded components.</li><li>• Off: The computer is off or in Hibernation. Hibernation is an energy-saving mode that uses the least amount of power.</li></ul> |

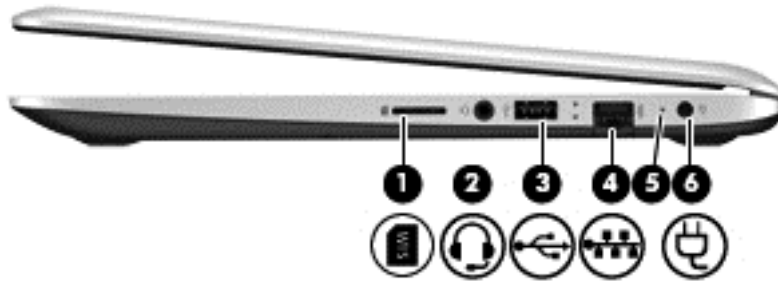
# Bottom








| Component |                                 | Description                                 |
|-----------|---------------------------------|---|
| (1)       | HP Triple Bass Reflex Subwoofer | Provides superior bass sound.               |
| (2)       | Vents (2)                       | Enable airflow to cool internal components. |

**NOTE:** The computer fan starts up automatically to cool internal components and prevent overheating. It is normal for the internal fan to cycle on and off during routine operation.

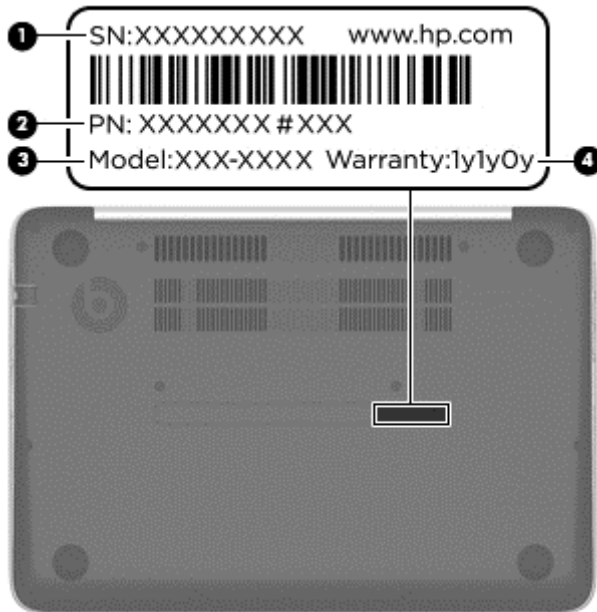
## Right side



| Component   | Description   |
|---|---|
| (1)  SIM slot (select models only)                         | Supports a wireless subscriber identity module (SIM).   |
| (2)  Audio-out (headphone) jack/Audio-in (microphone) jack | Connects optional powered stereo speakers, headphones, earbuds, a headset, or a television audio cable. Also connects an optional headset microphone. This jack does not support optional microphone-only devices.<br><br><b>WARNING!</b> To reduce the risk of personal injury, adjust the volume before putting on headphones, earbuds, or a headset. For additional safety information, refer to the <i>Regulatory, Safety, and Environmental Notices</i> . To access this guide, see your User guide.<br><br><b>NOTE:</b> When a device is connected to the jack, the computer speakers are disabled.<br><br><b>NOTE:</b> Be sure that the device cable has a 4-conductor connector that supports both audio-out (headphone) and audio-in (microphone). |
| (3)  USB 2.0 port  | Connects an optional USB device.  |
| (4)  RJ-45 (network) jack                                | Connects a network cable.   |
| (5) AC adapter light  | <ul style="list-style-type: none"><li>• White: The AC adapter is connected and the battery is charged.</li><li>• Amber: The AC adapter is connected and the battery is charging.</li><li>• Off: The computer is using DC power.</li></ul>   |
| (6)  Power connector                                     | Connects an AC adapter.   |

# Service label

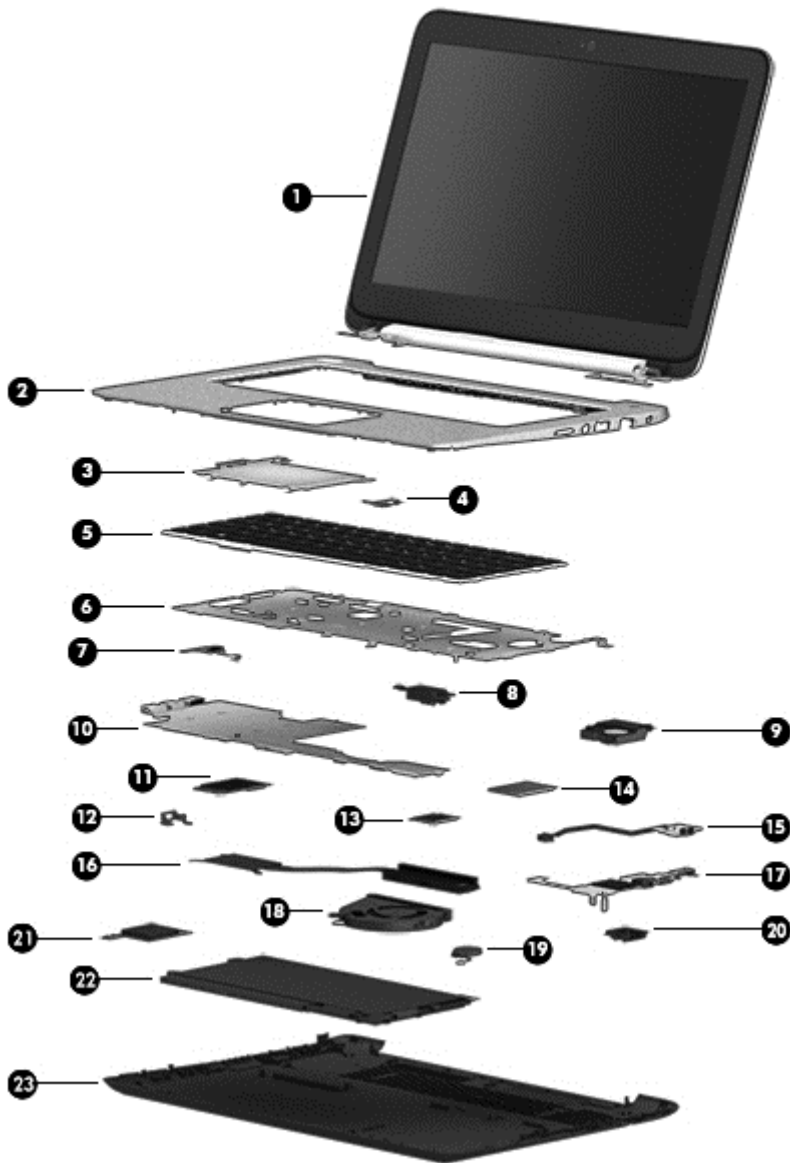
When ordering parts or requesting information, provide the computer serial number and model number provided on the service label, which is found on the bottom of the computer.



| Item | Component                       | Description   |
|------|---------------------------------|---|
| (1)  | Serial number (SN)              | This is an alphanumeric identifier that is unique to each product.  |
| (2)  | Part number/Product number (PN) | This number provides specific information about the product's hardware components. The part number helps a service technician determine what components and parts are needed. |
| (3)  | Model                           | This is the model number of the computer.   |
| (4)  | Warranty                        | This number describes the duration of the warranty period for the computer.   |

# 3 Illustrated parts catalog

## Computer major components





| <b>Item</b> | <b>Component</b>   | <b>Spare part number</b> |
|-------------|--|--------------------------|
| <b>(1)</b>  | <b>Display assembly</b>  |                          |
|             | Touchscreen models (35.6-mm (14.0-inch), WLED):  |                          |
|             | • HD ,Brightview display panel in Natural Silver (Touchscreen)                                   | 727484-001               |
|             | • HD , Brightview display panel in Ruby Red (Touchscreen)  | 727485-001               |
|             | • HD, AntiGlare display panel in Natural Silver (Touchscreen)                                    | 727486-001               |
|             | • HD, AntiGlare display panel in Ruby Red (Touchscreen)  | 727487-001               |
|             | • QHD, Brightview display panel in Natural Silver (Touchscreen)                                  | 727488-001               |
|             | • QHD, Brightview display panel in Ruby Red (Touchscreen)  | 727489-001               |
|             | • HD, Brightview display panel in Natural Silver (Touchscreen) for computers equipped with WWAN  | 727490-001               |
|             | • HD, AntiGlare display panel in Natural Silver (Touchscreen) for computers equipped with WWAN   | 727491-001               |
|             | • QHD, Brightview display panel in Natural Silver (Touchscreen) for computers equipped with WWAN | 727492-001               |
|             | Non-touchscreen models (35.6-mm (14.0-inch), WLED):  |                          |
|             | • HD, Brightview display panel in Natural Silver   | 727493-001               |
|             | • HD, Brightview display panel in Ruby Red   | 727494-001               |
|             | • HD, AntiGlare display panel in Natural Silver  | 727495-001               |
|             | • HD, AntiGlare display panel in Ruby Red  | 727496-001               |
|             | • QHD, Brightview display panel in Natural Silver  | 727497-001               |
|             | • QHD, Brightview display panel in Ruby Red  | 727498-001               |
|             | • HD, Brightview display panel in Natural Silver for computers equipped with WWAN                | 727499-001               |
|             | • HD, AntiGlare display panel in Natural Silver for computers equipped with WWAN                 | 727500-001               |
|             | • QHD, Brightview display panel in Natural Silver for computers equipped with WWAN               | 727501-001               |
| <b>(2)</b>  | <b>Top cover</b> (includes TouchPad and security bracket)  |                          |
|             | For use in non-touchscreen models without WWAN   | 727536-001               |
|             | For use in non-touchscreen models with WWAN  | 727537-001               |
|             | For use in touchscreen models without WWAN   | 729732-001               |
|             | For use in touchscreen models with WWAN  | 729733-001               |
| <b>(3)</b>  | <b>TouchPad</b> (includes cable)   | 727540-001               |
| <b>(4)</b>  | <b>NFC board</b>   | not spared               |
| <b>(5)</b>  | <b>Keyboard</b> (includes keyboard cable):   |                          |
|             | Keyboard without backlight for use in the United States  | 727502-001               |

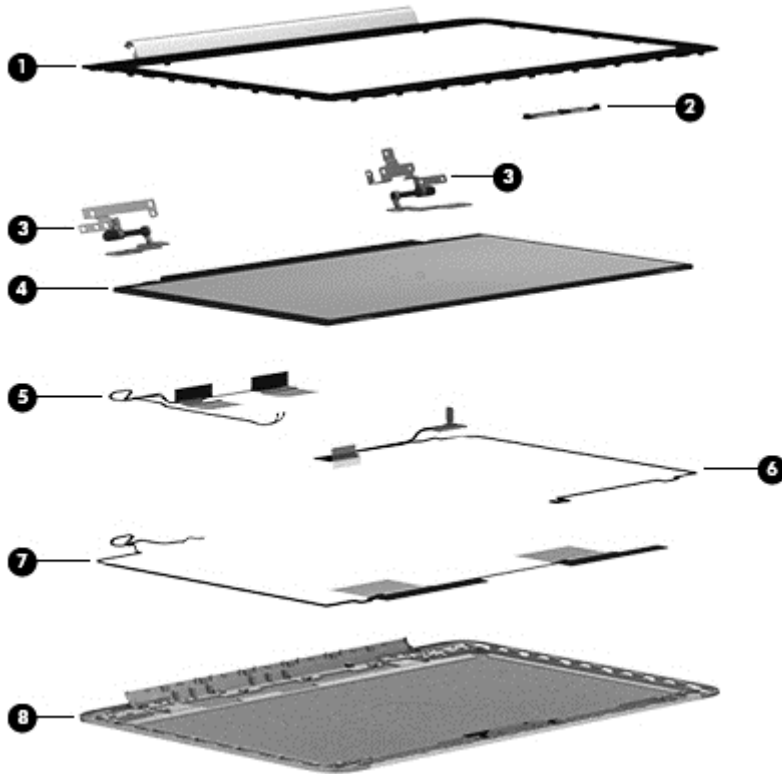
| <b>Item</b> | <b>Component</b>   | <b>Spare part number</b> |
|-------------|--|--------------------------|
|             | Keyboard with backlight for use in the United States   | 727503-001               |
|             | Keyboard with backlight for use in Latin America   | 727503-161               |
|             | Keyboard with backlight for use in Thailand  | 727503-281               |
|             | Keyboard with backlight for use in Japan   | 727503-291               |
|             | Keyboard with backlight for use in Taiwan  | 727503-AB1               |
|             | Keyboard with backlight for use in South Korea   | 727503-AD1               |
|             | Keyboard with backlight for use in Canada  | 727503-DB1               |
| <b>(6)</b>  | <b>Keyboard support bracket</b>  | 728181-001               |
| <b>(7)</b>  | <b>Power button board</b>  | 727504-001               |
|             | <b>Speaker Kit</b> , includes:   | 727513-001               |
| <b>(8)</b>  | <b>Left subwoofer/speaker</b> (includes cable)   |                          |
| <b>(9)</b>  | <b>Right speaker</b>   |                          |
| <b>(10)</b> | <b>System board</b>  |                          |
|             | For use in models with discrete graphics:  |                          |
|             | <ul style="list-style-type: none"> <li>For use only with model numbers 14-k100 - 14-k199 equipped with an Intel Core i7-4500U processor and a non-Windows 8 operating system</li> </ul>                  | 744760-001               |
|             | <ul style="list-style-type: none"> <li>For use only with model numbers 14-k100 - 14-k199 equipped with an Intel Core i7-4500U processor and Windows 8 Standard operating system</li> </ul>               | 744760-501               |
|             | <ul style="list-style-type: none"> <li>For use only with model numbers 14-k100 - 14-k199 equipped with an Intel Core i7-4500U processor and Windows 8 Professional operating system</li> </ul>           | 744760-601               |
|             | <ul style="list-style-type: none"> <li>For use only with model numbers 14-k000 - 14-k099 equipped with an Intel Core i7-4500U processor and a non-Windows 8 operating system</li> </ul>                  | 727527-001               |
|             | <ul style="list-style-type: none"> <li>For use only with model numbers 14-k000 - 14-k099 equipped with an Intel Core i7-4500U processor and Windows 8 Standard operating system</li> </ul>               | 727527-501               |
|             | <ul style="list-style-type: none"> <li>For use only with model numbers 14-k000 - 14-k099 equipped with an Intel Core i7-4500U processor and Windows 8 Professional operating system</li> </ul>           | 727527-601               |
|             | <ul style="list-style-type: none"> <li>For use only with model numbers 14-k000 - 14-k099 equipped with an Intel Core i5-4200U processor and a non-Windows 8 operating system</li> </ul>                  | 727530-001               |
|             | <ul style="list-style-type: none"> <li>For use only with model numbers 14-k000 - 14-k099 equipped with an Intel Core i5-4200U processor Windows 8 Standard operating system</li> </ul>                   | 727530-501               |
|             | <ul style="list-style-type: none"> <li>For use only with model numbers 14-k000 - 14-k099 equipped with an Intel Core i5-4200U processor and Windows 8 Professional operating system</li> </ul>           | 727530-601               |
|             | <ul style="list-style-type: none"> <li>For use only with model numbers 14-k000 - 14-k099 equipped with an Intel Core i5-4200U processor, QHD display, and a non-Windows 8 operating system</li> </ul>    | 737595-001               |
|             | <ul style="list-style-type: none"> <li>For use only with model numbers 14-k000 - 14-k099 equipped with an Intel Core i5-4200U processor, QHD display, and Windows 8 Standard operating system</li> </ul> | 737595-501               |

| <b>Item</b> | <b>Component</b>   | <b>Spare part number</b> |
|-------------|--|--------------------------|
|             | <ul style="list-style-type: none"> <li>For use only with model numbers 14-k000 - 14-k099 equipped with an Intel Core i5-4200U processor, QHD display, and Windows 8 Professional operating system</li> </ul> | 737595-601               |
|             | <ul style="list-style-type: none"> <li>For use only with model numbers 14-k100 - 14-k199 equipped with an Intel Core i5-4200U processor and a non-Windows 8 operating system</li> </ul>                      | 744761-001               |
|             | <ul style="list-style-type: none"> <li>For use only with model numbers 14-k100 - 14-k199 equipped with an Intel Core i5-4200U processor Windows 8 Standard operating system</li> </ul>                       | 744761-501               |
|             | <ul style="list-style-type: none"> <li>For use only with model numbers 14-k100 - 14-k199 equipped with an Intel Core i5-4200U processor and Windows 8 Professional operating system</li> </ul>               | 744761-601               |
|             | <ul style="list-style-type: none"> <li>For use only with model numbers 14-k100 - 14-k199 equipped with an Intel Core i5-4200U processor, QHD display, and a non-Windows 8 operating system</li> </ul>        | 744762-001               |
|             | <ul style="list-style-type: none"> <li>For use only with model numbers 14-k100 - 14-k199 equipped with an Intel Core i5-4200U processor, QHD display, and Windows 8 Standard operating system</li> </ul>     | 744762-501               |
|             | <ul style="list-style-type: none"> <li>For use only with model numbers 14-k100 - 14-k199 with an Intel Core i5-4200U processor, QHD display, and Windows 8 Professional operating system</li> </ul>          | 744762-601               |
|             | System board for use in models with UMA graphics:  |                          |
|             | <ul style="list-style-type: none"> <li>For use only with model numbers 14-k000 - 14-k099 equipped with Intel Core i5-4200U processor, WWAN, and a non-Windows 8 operating system</li> </ul>                  | 737453-001               |
|             | <ul style="list-style-type: none"> <li>For use only with model numbers 14-k000 - 14-k099 equipped with Intel Core i5-4200U processor, WWAN, and Windows 8 Standard operating system</li> </ul>               | 737453-501               |
|             | <ul style="list-style-type: none"> <li>For use only with model numbers 14-k000 - 14-k099 equipped with Intel Core i5-4200U processor, WWAN, and Windows 8 Professional operating system</li> </ul>           | 737453-601               |
|             | <ul style="list-style-type: none"> <li>For use only with model numbers 14-k000 - 14-k099 equipped with Intel i5-4200U processor and a non-Windows 8 operating system</li> </ul>                              | 727518-001               |
|             | <ul style="list-style-type: none"> <li>For use only with model numbers 14-k000 - 14-k099 equipped with Intel i5-4200U processor and the Windows 8 Standard operating system</li> </ul>                       | 727518-501               |
|             | <ul style="list-style-type: none"> <li>For use only with model numbers 14-k000 - 14-k099 equipped with Intel i5-4200U processor and the Windows 8 Professional operating system</li> </ul>                   | 727518-601               |
|             | <ul style="list-style-type: none"> <li>For use only with model numbers 14-k100 - 14-k199 equipped with Intel i5-4200U processor and a non-Windows 8 operating system</li> </ul>                              | 744758-001               |
|             | <ul style="list-style-type: none"> <li>For use only with model numbers 14-k100 - 14-k199 equipped with Intel i5-4200U processor and the Windows 8 Standard operating system</li> </ul>                       | 744758-501               |
|             | <ul style="list-style-type: none"> <li>For use only with model numbers 14-k100 - 14-k199 equipped with Intel i5-4200U processor and the Windows 8 Professional operating system</li> </ul>                   | 744758-601               |
|             | <ul style="list-style-type: none"> <li>For use only with model numbers 14-k100 - 14-k199 equipped with Intel Core i5-4200U processor, WWAN, and a non-Windows 8 operating system</li> </ul>                  | 744759-001               |
|             | <ul style="list-style-type: none"> <li>For use only with model numbers 14-k100 - 14-k199 equipped with Intel Core i5-4200U processor, WWAN, and Windows 8 Standard operating system</li> </ul>               | 744759-501               |
|             | <ul style="list-style-type: none"> <li>For use only with model numbers 14-k100 - 14-k199 equipped with Intel Core i5-4200U processor, WWAN, and Windows 8 Professional operating system</li> </ul>           | 744759-601               |

| <b>Item</b> | <b>Component</b>  | <b>Spare part number</b> |
|-------------|---|--------------------------|
|             | <ul style="list-style-type: none"> <li>For use only with model numbers 14-k100 - 14-k199 equipped with Intel Core i5-4200U processor, WWAN, QHD display, and a non-Windows 8 operating system</li> </ul>        | 744763-001               |
|             | <ul style="list-style-type: none"> <li>For use only with model numbers 14-k100 - 14-k199 equipped with Intel Core i5-4200U processor, WWAN, QHD display, and Windows 8 Standard operating system</li> </ul>     | 744763-501               |
|             | <ul style="list-style-type: none"> <li>For use only with model numbers 14-k100 - 14-k199 equipped with Intel Core i5-4200U processor, WWAN, QHD display, and Windows 8 Professional operating system</li> </ul> | 744763-601               |
|             | <ul style="list-style-type: none"> <li>For use only with model numbers 14-k000 - 14-k099 equipped with an Intel Core i3-4010U processor and a non-Windows 8 operating system</li> </ul>                         | 727521-001               |
|             | <ul style="list-style-type: none"> <li>For use only with model numbers 14-k000 - 14-k099 equipped with an Intel Core i3-4010U processor and Windows 8 Standard operating system</li> </ul>                      | 727521-501               |
|             | <ul style="list-style-type: none"> <li>For use only with model numbers 14-k000 - 14-k099 equipped with an Intel Core i3-4010U processor and Windows 8 Professional operating system</li> </ul>                  | 727521-601               |
| <b>(11)</b> | <b>Solid-state drive (SSD)</b>  |                          |
|             | 128-GB SSD, MLC   | 727514-001               |
|             | 128-GB SSD, TLC   | 747210-001               |
|             | 24-GB SSD   | 734247-001               |
| <b>(12)</b> | <b>Security bracket</b> (included in top cover spare part kits)   |                          |
| <b>(13)</b> | <b>WLAN module:</b>   |                          |
|             | Intel Centrino N 2320+ Bluetooth combo w/* 2 Antennas (802.11 b/g/n)  | 670290-001               |
|             | Qualcomm Atheros AR9565 802.11b/g/n WiFi Adapter  | 733476-001               |
|             | Intel Dual Band Wireless-AC + Bluetooth combo w/* 2 Antennas (802.11 ac)  | 717384-001               |
|             | Ralink RT 3290LE + Bluetooth combo w/* 2 Antennas (802.11 b/g/n)  | 690020-001               |
|             | Mediatek MT 7630 + Bluetooth combo w/* 2 Antennas (802.11 b/g/n)  | 710418-001               |
|             | Intel Dual Band Wireless-AC 3160 802.11 a/b/g/n/ac (1x1) WiFi with Bluetooth 4.0 combo  | 710662-001               |
|             | Broadcom BCM 4352 802.11 ac 2x2 WiFi + BT 4.0 Combo Adapter   | 724935-001               |
| <b>(14)</b> | <b>HP hs3114 HSPA+ Mobile Broadband Module (WWAN)</b>   | 723896-001               |
| <b>(15)</b> | <b>Power connector cable</b>  | 736358-001               |
|             | <b>Heat sink</b>  |                          |
|             | For computers equipped with discrete memory (not illustrated)   | 727480-001               |
| <b>(16)</b> | For computers equipped with UMA memory  | 728132-001               |
| <b>(17)</b> | <b>USB/audio board</b>  |                          |
|             | For use on models without WWAN  | 729607-001               |
|             | For use on models with WWAN   | 727507-001               |
| <b>(18)</b> | <b>Fan</b>  | 725445-001               |

| <b>Item</b> | <b>Component</b>  | <b>Spare part number</b> |
|-------------|---|--------------------------|
| <b>(19)</b> | <b>RTC battery</b>  | 725458-001               |
| <b>(20)</b> | <b>RJ-45 cover</b>  |                          |
|             | Black   | 729606-001               |
|             | Red   | 733475-001               |
| <b>(21)</b> | <b>Card reader board</b>                                  | 728133-001               |
| <b>(22)</b> | <b>Battery</b> (3-cell, 5.0 WHr, 4.52 AH, Li-ion battery) | 715050-001               |
| <b>(23)</b> | <b>Service cover</b>                                      |                          |
|             | Black   | 727508-001               |
|             | Red   | 728180-001               |

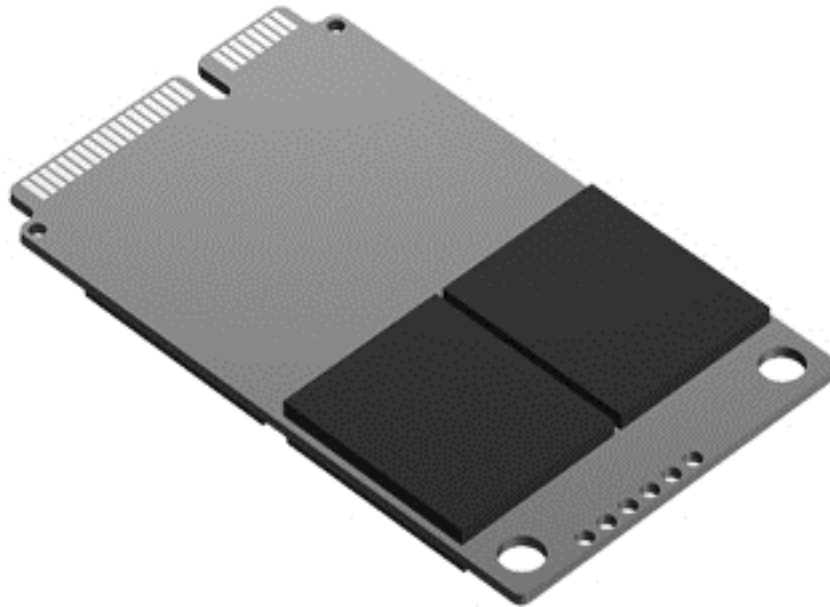
# Display assembly subcomponents



| Item | Component  | Spare part number |
|------|--|-------------------|
| (1)  | <b>Display bezel</b>                                 | 727478-001        |
| (2)  | <b>Webcam/microphone module</b>                      | 725465-001        |
| (3)  | <b>Hinges</b>  |                   |
|      | For use in non-touchscreen models                    | 727483-001        |
|      | For use in touchscreen models                        | 728930-001        |
|      | For use in models with WWAN                          | 735102-001        |
| (4)  | <b>Raw display panel (35.6-mm (14.0-inch), WLED)</b> |                   |
|      | HD, BrightView                                       | 727509-001        |
|      | HD, anti-glare                                       | 727510-001        |
|      | QHD, BrightView                                      | 727511-001        |
| (5)  | <b>WLAN antenna cable</b>                            |                   |
|      | Non-touchscreen models                               | 727470-001        |
|      | Touchscreen models                                   | 727471-001        |
| (6)  | <b>Display cable</b>                                 |                   |
|      | Non-touchscreen                                      | 727479-001        |

| Item       | Component  | Spare part number |
|------------|--|-------------------|
|            | Touchscreen  | 728929-001        |
|            | QHD touchscreen  | 740240-001        |
| <b>(7)</b> | <b>WWAN antenna cable</b>  | 727742-001        |
|            | <b>NOTE:</b> Available in antenna kit that contains both WLAN and WWAN antenna cables. |                   |
| <b>(8)</b> | <b>Display enclosure</b>   |                   |
|            | For use with silver models without a touchscreen and without WWAN                      | 727474-001        |
|            | For use with silver models without a touchscreen with WWAN                             | 727475-001        |
|            | For use with red models without a touchscreen  | 727476-001        |
|            | For use with silver models with a touchscreen  | 728177-001        |
|            | For use with silver models with a touchscreen and WWAN                                 | 728178-001        |
|            | For use with red models with a touchscreen   | 728179-001        |

# Mass storage devices



| Item       | Component   | Spare part number |
|------------|---|-------------------|
| <b>(1)</b> | <b>Solid-state drives</b>   |                   |
|            | 128-GB solid-state (SSD) drive, MLC   | 727514-001        |
|            | 128-GB SSD, TLC   | 747210-001        |
|            | 24-GB solid-state (SSD) drive   | 734247-001        |
|            | <b>Hard drive, SATA</b> (not illustrated)   |                   |
|            | 1-TB, 5400 rpm, 2.5 in  | 676521-001        |
|            | 1-TB, 5400 rpm, 2.5 in, hybrid (8-GB integrated flash memory)                                   | 731999-001        |
|            | 750-GB, 5400 rpm, 2.5 in  | 634250-001        |
|            | 750-GB, 5400 rpm, 2.5 in, hybrid (8-GB integrated flash memory)                                 | 732001-001        |
|            | 500-GB, 5400 rpm, 7 mm  | 683802-001        |
|            | 500-GB, 5400 rpm, 7 mm, hybrid (8-GB integrated flash memory)                                   | 732000-001        |
|            | <b>Hard Drive Hardware Kit</b> (includes left and right brackets, hard drive cable, and screws) | 741683-001        |
|            | <b>External optical drive</b> , DVD+RW and CD-RW Super Multi Double-Layer Combo Drive           | 659940-001        |



## Miscellaneous parts

| Component   | Spare part number |
|---|-------------------|
| <b>AC adapter</b> (65W, nPFC, 4.5mm)                  |                   |
| For use in all countries and regions except for India | 710412-001        |
| For use in India                                      | 714657-001        |
| <b>Power cord</b> (3-pin,black,1.83-m):               |                   |
| For use in Argentina                                  | 490371-DO1        |
| For use in Australia                                  | 490371-011        |
| For use in Europe                                     | 490371-021        |
| For use in India                                      | 490371-D61        |
| For use in Japan                                      | 490371-291        |
| For use in North America                              | 490371-001        |
| For use in the People's Republic of China             | 490371-AA1        |
| For use in South Korea                                | 490371-AD1        |
| For use in Taiwan                                     | 490371-AB1        |
| For use in Thailand                                   | 490371-201        |
| For use in the United Kingdom and Singapore           | 490371-031        |
| <b>Screw Kit</b>                                      | 727512-001        |

## Sequential part number listing

| Spare part number | Description   |
|-------------------|---|
| 490371-001        | Power cord for use in North America (3-pin, black, 1.83-m)                                    |
| 490371-011        | Power cord for use in Australia (3-pin, black, 1.83-m)  |
| 490371-021        | Power cord for use in Europe (3-pin, black, 1.83-m)   |
| 490371-031        | Power cord for use in the United Kingdom and Singapore (3-pin, black, 1.83-m)                 |
| 490371-201        | Power cord for use in Thailand (3-pin, black, 1.83-m)   |
| 490371-291        | Power cord for use in Japan (3-pin, black, 1.83-m)  |
| 490371-AA1        | Power cord for use in the People's Republic of China (3-pin, black, 1.83-m)                   |
| 490371-AB1        | Power cord for use in Taiwan (3-pin, black, 1.83-m)   |
| 490371-AD1        | Power cord for use in South Korea (3-pin, black, 1.83-m)                                      |
| 490371-D01        | Power cord for use in Argentina (3-pin, black, 1.83-m)  |
| 490371-D61        | Power cord for use in India (3-pin, black, 1.83-m)  |
| 634250-001        | 750-GB 5400 rpm, SATA, 2.5 in hard drive  |
| 659940-001        | External optical drive, DVD+RW and CD-RW Super Multi Double-Layer Combo Drive                 |
| 670290-001        | Intel Centrino Wireless-N 2320 + Bluetooth combo w/ *2 antennas (802.11 b/g/n, Bluetooth 3.0) |
| 676521-001        | 1-TB, 5400 rpm, SATA, 2.5 in hard drive   |
| 683802-001        | 500-GB, 5400 rpm, SATA, 7 mm hard drive   |
| 690020-001        | Ralink Wireless + Bluetooth combo w/ *2 antennas (802.11 b/g/n)                               |
| 691739-001        | 2-GB memory module (PC3L, 12800, 1600-MHz)  |
| 691740-001        | 4-GB memory module (PC3L, 12800, 1600-MHz)  |
| 693374-001        | 8-GB memory module (PC3L, 12800, 1600-MHz)  |
| 701943-001        | HDMI to VGA adapter   |
| 710412-001        | AC adapter (smart) 65 W for use in all countries and regions except for India                 |
| 710418-001        | Mediatek 7630E 802.11b/g/n 11 WiFi and Bluetooth 4.0 Combo Adapter                            |
| 710662-001        | Intel Dual Band Wireless-AC 3160 802.11 a/b/g/n/ac (1x1) WiFi with Bluetooth 4.0 combo        |
| 714657-001        | AC adapter (smart) 65 W for use in India  |
| 715050-001        | 3-cell, 50 WHr 4.52AH Li-ion battery  |
| 717384-001        | Intel Dual Band Wireless AC 7260 + Bluetooth combo w/+2 antennas (802.11 ac)                  |
| 723896-001        | HP hs3114 HSPA+ Mobile Broadband Module   |
| 724935-001        | Broadcom BCM 4352 802.11 ac 2x2 WiFi + BT 4.0 Combo Adapter                                   |
| 725445-001        | Fan   |

| <b>Spare part number</b> | <b>Description</b>   |
|--------------------------|--|
| 725458-001               | RTC battery  |
| 725465-001               | Webcam   |
| 727470-001               | WLAN antenna for use in non-touchscreen models   |
| 727471-001               | WLAN antenna for use in touchscreen models   |
| 727472-001               | WWAN and WLAN antennas for use in non-touchscreen models                                       |
| 727474-001               | Display back cover for use with silver models without a touchscreen and without WWAN           |
| 727475-001               | Display back cover for use with silver models without a touchscreen with WWAN                  |
| 727476-001               | Display back cover for use with red models without a touchscreen                               |
| 727478-001               | Display bezel  |
| 727479-001               | Display cable for use with Non-touchscreen displays  |
| 727480-001               | Heat sink for use in discrete models   |
| 727483-001               | Display hinges for use in non-touchscreen models   |
| 727484-001               | Display panel for use on silver models (touch screen, BrightView, HD)                          |
| 727485-001               | Display panel for use on red models (touch screen, BrightView, HD)                             |
| 727486-001               | Display panel for use on silver models (touch screen, anti-glare, HD)                          |
| 727487-001               | Display panel for use on red models (touch screen, anti-glare, HD)                             |
| 727488-001               | Display panel for use on silver models (touch screen, BrightView, QHD)                         |
| 727489-001               | Display panel for use on red models (touch screen, BrightView, QHD)                            |
| 727490-001               | Display panel for use on silver models (touch screen, BrightView, HD) with WWAN                |
| 727491-001               | Display panel for use on silver models (touch screen, anti-glare, HD) with WWAN                |
| 727492-001               | Display panel for use on silver models (touch screen, BrightView, QHD) with WWAN               |
| 727493-001               | Display panel for use on silver models (non-touch screen, BrightView, HD)                      |
| 727494-001               | Display panel for use on red models (non-touch screen, BrightView, HD)                         |
| 727495-001               | Display panel for use on silver models (non-touch screen, anti-glare, HD)                      |
| 727496-001               | Display panel for use on red models (non-touch screen, anti-glare, HD)                         |
| 727497-001               | Display panel for use on silver models (non-touch screen, BrightView, QHD)                     |
| 727498-001               | Display panel for use on red models (non-touch screen, BrightView, QHD)                        |
| 727499-001               | Display panel for use on silver models (non-touch screen, BrightView, HD) with WWAN            |
| 727500-001               | Display panel for use on silver models (non-touch screen, anti-glare, HD) with WWAN            |
| 727501-001               | Display panel for use on silver models (non-touch screen, BrightView, QHD) with WWAN           |
| 727502-001               | Keyboard (no backlight) in black finish for use in the United States (includes keyboard cable) |
| 727503-001               | Backlit keyboard in black finish for use in the United States (includes keyboard cable)        |

| <b>Spare part number</b> | <b>Description</b>   |
|--------------------------|--|
| 727503-161               | Backlit keyboard in black finish for use in Latin America (includes keyboard cable)  |
| 727503-281               | Backlit keyboard in black finish for use in Thailand (includes keyboard cable)   |
| 727503-291               | Backlit keyboard in black finish for use in Japan (includes keyboard cable)  |
| 727503-AB1               | Backlit keyboard in black finish for use in Taiwan (includes keyboard cable)   |
| 727503-AD1               | Backlit keyboard in black finish for use in South Korea (includes keyboard cable)  |
| 727503-DB1               | Backlit keyboard in black finish for use in Canada (includes keyboard cable)   |
| 727504-001               | Power button board   |
| 727507-001               | USB/audio board with cable for use in models with WWAN   |
| 727508-001               | Service cover, black   |
| 727509-001               | Raw display panel, HD, BrightView  |
| 727510-001               | Raw display panel, HD, anti-glare  |
| 727511-001               | Raw display panel, QHD, BrightView   |
| 727512-001               | Screw kit  |
| 727513-001               | Speaker assembly (includes left speaker/subwoofer and right speaker)   |
| 727514-001               | mSATA solid-state drive, 128 GB, MLC   |
| 727518-001               | System board for use only with model numbers 14-k000 - 14-k099 equipped with Intel i5-4200U processor, graphics subsystem with UMA memory, and non-Windows 8 operating systems                 |
| 727518-501               | System board for use only with model numbers 14-k000 - 14-k099 equipped with Intel i5-4200U processor, graphics subsystem with UMA memory, and the Windows 8 Standard operating system         |
| 727518-601               | System board for use only with model numbers 14-k000 - 14-k099 equipped with Intel i5-4200U processor, graphics subsystem with UMA memory, and the Windows 8 Professional operating system     |
| 727521-001               | System board for use only with model numbers 14-k000 - 14-k099 equipped with an Intel Core i3-4010U processor, graphics subsystem with UMA memory, and non-Windows 8 operating systems         |
| 727521-501               | System board for use only with model numbers 14-k000 - 14-k099 equipped with an Intel Core i3-4010U processor, graphics subsystem with UMA memory, and Windows 8 Standard operating system     |
| 727521-601               | System board for use only with model numbers 14-k000 - 14-k099 equipped with an Intel Core i3-4010U processor, graphics subsystem with UMA memory, and Windows 8 Professional operating system |
| 727527-001               | System board for use only with model numbers 14-k000 - 14-k099 equipped with i7-4500U processor and graphics subsystem with discrete memory  |
| 727527-501               | System board for use only with model numbers 14-k000 - 14-k099 equipped with i7-4500U processor, graphics subsystem with discrete memory, and Windows 8 Standard operating system              |
| 727527-601               | System board for use only with model numbers 14-k000 - 14-k099 equipped with i7-4500U processor, graphics subsystem with discrete memory, and Windows 8 Professional operating system          |
| 727530-001               | System board for use only with model numbers 14-k000 - 14-k099 equipped with i5-4200U processor and graphics subsystem with discrete memory  |

| <b>Spare part number</b> | <b>Description</b>  |
|--------------------------|---|
| 727530-501               | System board for use only with model numbers 14-k000 - 14-k099 equipped with i5-4200U processor, graphics subsystem with discrete memory, and Windows 8 Standard operating system         |
| 727530-601               | System board for use only with model numbers 14-k000 - 14-k099 equipped with i5-4200U processor, graphics subsystem with discrete memory, and Windows 8 Professional operating system     |
| 727536-001               | Top cover with TouchPad for use in non-touchscreen models without WWAN  |
| 727537-001               | Top cover with TouchPad for use in non-touchscreen models with WWAN   |
| 727540-001               | TouchPad (with cable)   |
| 728132-001               | Heat sink for use only on computer models equipped with a graphics subsystem with UMA memory  |
| 728133-001               | Card reader board   |
| 728177-001               | Display back cover for use with silver models with a touchscreen  |
| 728178-001               | Display back cover for use with silver models with a touchscreen and WWAN   |
| 728179-001               | Display back cover for use with red models with a touchscreen   |
| 728180-001               | Service cover, red  |
| 728181-001               | Keyboard support bracket  |
| 728929-001               | Display cable for use with touch screen displays  |
| 728930-001               | Display hinges for use in touchscreen models  |
| 729606-001               | RJ-45 cover, black  |
| 729607-001               | USB/audio board with cable for use in models without WWAN   |
| 729732-001               | Top cover with TouchPad for use in touchscreen models without WWAN  |
| 729733-001               | Top cover with TouchPad for use in touchscreen models with WWAN   |
| 731999-001               | Hard drive, 1-TB, 5400 rpm, 2.5 in, hybrid (8-GB integrated flash memory)   |
| 732000-001               | Hard drive, 750-GB, 5400 rpm, 2.5 in, hybrid (8-GB integrated flash memory)   |
| 732001-001               | Hard drive, 500-GB, 5400 rpm, 2.5 in, hybrid (8-GB integrated flash memory)   |
| 733475-001               | RJ-45 cover, red  |
| 733476-001               | Qualcomm Atheros AR9565 802.11b/g/n WiFi Adapter  |
| 734247-001               | mSATA solid-state drive, 24 GB  |
| 735102-001               | Display hinges for use in models with WWAN  |
| 736358-001               | Power connector cable   |
| 737453-001               | System board for use only with model numbers 14-k000 - 14-k099 equipped with i5-4200U processor and graphics subsystem with UMA memory, and WWAN, on non-Windows 8 models                 |
| 737453-501               | System board for use only with model numbers 14-k000 - 14-k099 equipped with i5-4200U processor and graphics subsystem with UMA memory, WWAN, and Windows 8 Standard operating system     |
| 737453-601               | System board for use only with model numbers 14-k000 - 14-k099 equipped with i5-4200U processor and graphics subsystem with UMA memory, WWAN, and Windows 8 Professional operating system |

| <b>Spare part number</b> | <b>Description</b>   |
|--------------------------|--|
| 737595-001               | System board for use only with model numbers 14-k000 - 14-k099 equipped with Intel Core i5-4200U processors, QHD display, and graphics subsystem with discrete memory, on non-Windows 8 models               |
| 737595-501               | System board for use only with model numbers 14-k000 - 14-k099 equipped with Intel i5-4200U processor, QHD display, and graphics subsystem with discrete memory, and Windows 8 Standard operating system     |
| 737595-601               | System board for use only with model numbers 14-k000 - 14-k099 equipped with Intel i5-4200U processor, QHD display, and graphics subsystem with discrete memory, and Windows 8 Professional operating system |
| 740240-001               | Display cable for use with QHD touchscreen displays  |
| 741683-001               | Hard Drive Hardware Kit (includes left and right brackets, hard drive cable, and screws)   |
| 744758-001               | System board for use only with model numbers 14-k100 - 14-k199 equipped with Intel i5-4200U processor and a non-Windows 8 operating system   |
| 744758-501               | System board for use only with model numbers 14-k100 - 14-k199 equipped with Intel i5-4200U processor and the Windows 8 Standard operating system  |
| 744758-601               | System board for use only with model numbers 14-k100 - 14-k199 equipped with Intel i5-4200U processor and the Windows 8 Professional operating system  |
| 744759-001               | System board for use only with model numbers 14-k100 - 14-k199 equipped with Intel Core i5-4200U processor, WWAN, and a non-Windows 8 operating system   |
| 744759-501               | System board for use only with model numbers 14-k100 - 14-k199 equipped with Intel Core i5-4200U processor, WWAN, and Windows 8 Standard operating system  |
| 744759-601               | System board for use only with model numbers 14-k100 - 14-k199 equipped with Intel Core i5-4200U processor, WWAN, and Windows 8 Professional operating system  |
| 744760-001               | System board for use only with model numbers 14-k100 - 14-k199 equipped with an Intel Core i7-4500U processor and a non-Windows 8 operating system   |
| 744760-501               | System board for use only with model numbers 14-k100 - 14-k199 equipped with an Intel Core i7-4500U processor and Windows 8 Standard operating system  |
| 744760-601               | System board for use only with model numbers 14-k100 - 14-k199 equipped with an Intel Core i7-4500U processor and Windows 8 Professional operating system  |
| 744761-001               | System board for use only with model numbers 14-k100 - 14-k199 equipped with an Intel Core i5-4200U processor and a non-Windows 8 operating system   |
| 744761-501               | System board for use only with model numbers 14-k100 - 14-k199 equipped with an Intel Core i5-4200U processor Windows 8 Standard operating system  |
| 744761-601               | System board for use only with model numbers 14-k100 - 14-k199 equipped with an Intel Core i5-4200U processor and Windows 8 Professional operating system  |
| 744762-001               | System board for use only with model numbers 14-k100 - 14-k199 equipped with an Intel Core i5-4200U processor, QHD display, and a non-Windows 8 operating system   |
| 744762-501               | System board for use only with model numbers 14-k100 - 14-k199 equipped with an Intel Core i5-4200U processor, QHD display, and Windows 8 Standard operating system  |
| 744762-601               | System board for use only with model numbers 14-k100 - 14-k199 with an Intel Core i5-4200U processor, QHD display, and Windows 8 Professional operating system   |

| <b>Spare part number</b> | <b>Description</b>   |
|--------------------------|--|
| 744763-001               | System board for use only with model numbers 14-k100 - 14-k199 equipped with Intel Core i5-4200U processor, WWAN, QHD display, and a non-Windows 8 operating system        |
| 744763-501               | System board for use only with model numbers 14-k100 - 14-k199 equipped with Intel Core i5-4200U processor, WWAN, QHD display, and Windows 8 Standard operating system     |
| 744763-601               | System board for use only with model numbers 14-k100 - 14-k199 equipped with Intel Core i5-4200U processor, WWAN, QHD display, and Windows 8 Professional operating system |
| 747210-001               | 128-GB SSD, TLC  |

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# 4 Removal and replacement procedures

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**⚠ CAUTION:** This computer does not have user-replaceable parts. Only HP authorized service providers should perform the removal and replacement procedures described here. Accessing the internal part could damage the computer or void the warranty.

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## Preliminary replacement requirements

### Tools required

You will need the following tools to complete the removal and replacement procedures:

- Flat-bladed screwdriver
- Magnetic screwdriver
- Phillips P0 and P1 screwdrivers

### Service considerations

The following sections include some of the considerations that you must keep in mind during disassembly and assembly procedures.

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**📝 NOTE:** As you remove each subassembly from the computer, place the subassembly (and all accompanying screws) away from the work area to prevent damage.

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### Plastic parts

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**⚠ CAUTION:** Using excessive force during disassembly and reassembly can damage plastic parts. Use care when handling the plastic parts. Apply pressure only at the points designated in the maintenance instructions.

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### Cables and connectors

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**⚠ CAUTION:** When servicing the computer, be sure that cables are placed in their proper locations during the reassembly process. Improper cable placement can damage the computer.

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Cables must be handled with extreme care to avoid damage. Apply only the tension required to unseat or seat the cables during removal and insertion. Handle cables by the connector whenever possible. In all cases, avoid bending, twisting, or tearing cables. Be sure that cables are routed in such a way that they cannot be caught or snagged by parts being removed or replaced. Handle flex cables with extreme care; these cables tear easily.

## Drive handling

**⚠ CAUTION:** Drives are fragile components that must be handled with care. To prevent damage to the computer, damage to a drive, or loss of information, observe these precautions:

Before removing or inserting a hard drive, shut down the computer. If you are unsure whether the computer is off or in Hibernation, turn the computer on, and then shut it down through the operating system.

Before handling a drive, be sure that you are discharged of static electricity. While handling a drive, avoid touching the connector.

Before removing a diskette drive or optical drive, be sure that a diskette or disc is not in the drive and be sure that the optical drive tray is closed.

Handle drives on surfaces covered with at least one inch of shock-proof foam.

Avoid dropping drives from any height onto any surface.

After removing a hard drive, an optical drive, or a diskette drive, place it in a static-proof bag.

Avoid exposing an internal hard drive to products that have magnetic fields, such as monitors or speakers.

Avoid exposing a drive to temperature extremes or liquids.

If a drive must be mailed, place the drive in a bubble pack mailer or other suitable form of protective packaging and label the package FRAGILE.

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## Grounding guidelines

### Electrostatic discharge damage

Electronic components are sensitive to electrostatic discharge (ESD). Circuitry design and structure determine the degree of sensitivity. Networks built into many integrated circuits provide some protection, but in many cases, ESD contains enough power to alter device parameters or melt silicon junctions.

A discharge of static electricity from a finger or other conductor can destroy static-sensitive devices or microcircuitry. Even if the spark is neither felt nor heard, damage may have occurred.

An electronic device exposed to ESD may not be affected at all and can work perfectly throughout a normal cycle. Or the device may function normally for a while, then degrade in the internal layers, reducing its life expectancy.

**CAUTION:** To prevent damage to the computer when you are removing or installing internal components, observe these precautions:

Keep components in their electrostatic-safe containers until you are ready to install them.

Before touching an electronic component, discharge static electricity by using the guidelines described in this section.

Avoid touching pins, leads, and circuitry. Handle electronic components as little as possible.

If you remove a component, place it in an electrostatic-safe container.

The following table shows how humidity affects the electrostatic voltage levels generated by different activities.

**CAUTION:** A product can be degraded by as little as 700 V.

| Typical electrostatic voltage levels |                   |          |         |
|--------------------------------------|-------------------|----------|---------|
| Event                                | Relative humidity |          |         |
|                                      | 10%               | 40%      | 55%     |
| Walking across carpet                | 35,000 V          | 15,000 V | 7,500 V |
| Walking across vinyl floor           | 12,000 V          | 5,000 V  | 3,000 V |
| Motions of bench worker              | 6,000 V           | 800 V    | 400 V   |
| Removing DIPS from plastic tube      | 2,000 V           | 700 V    | 400 V   |
| Removing DIPS from vinyl tray        | 11,500 V          | 4,000 V  | 2,000 V |
| Removing DIPS from Styrofoam         | 14,500 V          | 5,000 V  | 3,500 V |
| Removing bubble pack from PCB        | 26,500 V          | 20,000 V | 7,000 V |
| Packing PCBs in foam-lined box       | 21,000 V          | 11,000 V | 5,000 V |

## Packaging and transporting guidelines

Follow these grounding guidelines when packaging and transporting equipment:

- To avoid hand contact, transport products in static-safe tubes, bags, or boxes.
- Protect ESD-sensitive parts and assemblies with conductive or approved containers or packaging.
- Keep ESD-sensitive parts in their containers until the parts arrive at static-free workstations.
- Place items on a grounded surface before removing items from their containers.
- Always be properly grounded when touching a component or assembly.
- Store reusable ESD-sensitive parts from assemblies in protective packaging or non-conductive foam.
- Use transporters and conveyors made of antistatic belts and roller bushings. Be sure that mechanized equipment used for moving materials is wired to ground and that proper materials are selected to avoid static charging. When grounding is not possible, use an ionizer to dissipate electric charges.

## Workstation guidelines

Follow these grounding workstation guidelines:

- Cover the workstation with approved static-shielding material.
- Use a wrist strap connected to a properly grounded work surface and use properly grounded tools and equipment.
- Use conductive field service tools, such as cutters, screwdrivers, and vacuums.
- When fixtures must directly contact dissipative surfaces, use fixtures made only of static-safe materials.
- Keep the work area free of non-conductive materials, such as ordinary plastic assembly aids and Styrofoam.
- Handle ESD-sensitive components, parts, and assemblies by the case or PCM laminate. Handle these items only at static-free workstations.
- Avoid contact with pins, leads, or circuitry.
- Turn off power and input signals before inserting or removing connectors or test equipment.

## Equipment guidelines

Grounding equipment must include either a wrist strap or a foot strap at a grounded workstation.

- When seated, wear a wrist strap connected to a grounded system. Wrist straps are flexible straps with a minimum of one megohm 10% resistance in the ground cords. To provide proper ground, wear a strap snugly against the skin at all times. On grounded mats with banana-plug connectors, use alligator clips to connect a wrist strap.
- When standing, use foot straps and a grounded floor mat. Foot straps (heel, toe, or boot straps) can be used at standing workstations and are compatible with most types of shoes or boots. On conductive floors or dissipative floor mats, use foot straps on both feet with a minimum of one megohm resistance between the operator and ground. To be effective, the conductive must be worn in contact with the skin.

The following grounding equipment is recommended to prevent electrostatic damage:

- Antistatic tape
- Antistatic smocks, aprons, and sleeve protectors
- Conductive bins and other assembly or soldering aids
- Non-conductive foam
- Conductive tabletop workstations with ground cords of one megohm resistance
- Static-dissipative tables or floor mats with hard ties to the ground
- Field service kits
- Static awareness labels
- Material-handling packages
- Non-conductive plastic bags, tubes, or boxes
- Metal tote boxes
- Electrostatic voltage levels and protective materials

The following table lists the shielding protection provided by antistatic bags and floor mats.

| <b>Material</b>       | <b>Use</b> | <b>Voltage protection level</b> |
|-----------------------|------------|---------------------------------|
| Antistatic plastics   | Bags       | 1,500 V                         |
| Carbon-loaded plastic | Floor mats | 7,500 V                         |
| Metallized laminate   | Floor mats | 5,000 V                         |

# Component replacement procedures

This chapter provides removal and replacement procedures.

There are as many as 90 screws that must be removed, replaced, or loosened when servicing the computer. Make special note of each screw size and location during removal and replacement.

## Service cover

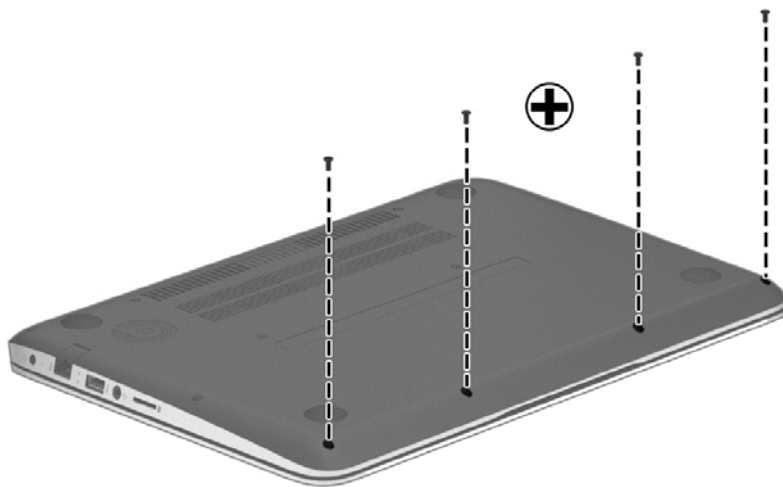
| Description          | Spare part number |
|----------------------|-------------------|
| Service cover, black | 727508-001        |
| Service cover, red   | 728180-001        |

Before disassembling the computer, follow these steps:

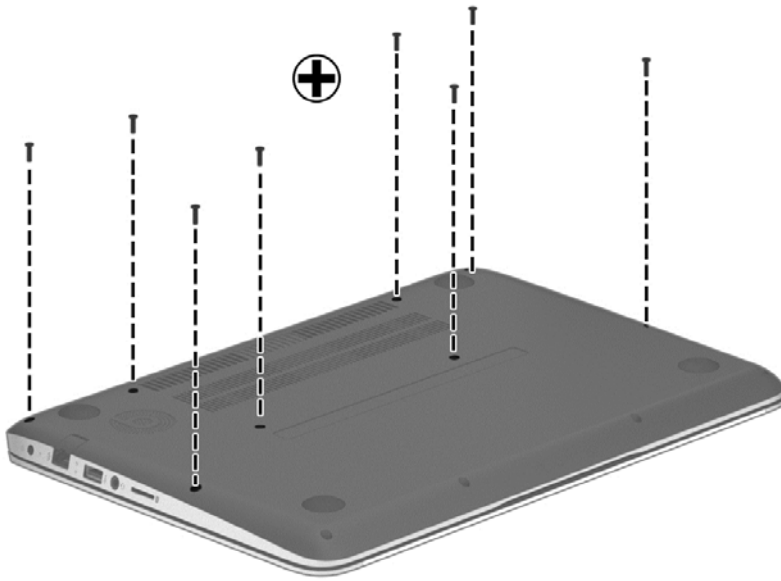
1. Shut down the computer. If you are unsure whether the computer is off or in Hibernation, turn the computer on, and then shut it down through the operating system.
2. Disconnect all external devices connected to the computer.
3. Disconnect the power from the computer by first unplugging the power cord from the AC outlet and then unplugging the AC adapter from the computer.

Remove the service cover:

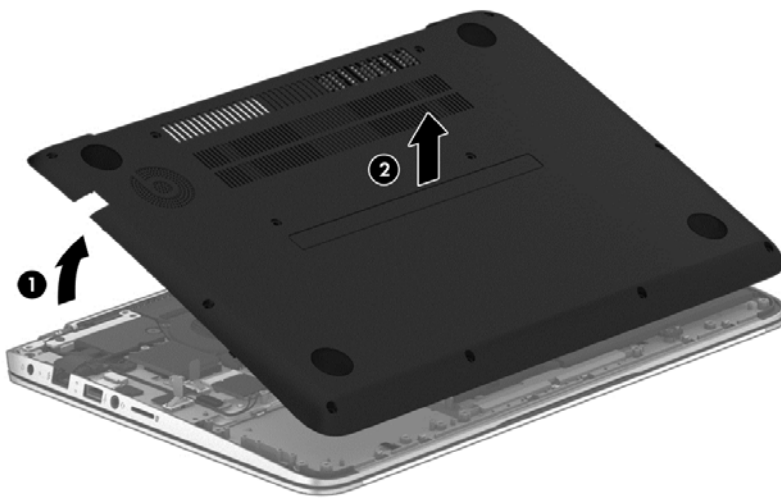
1. Position the computer face down, and then remove the 4 smaller Phillips screws along the front of the computer.



2. Remove the 8 larger Phillips screws nearer the rear of the computer.



3. Lift the front of the service cover upward **(1)**, and then lift the cover off the computer **(2)**.



# Battery

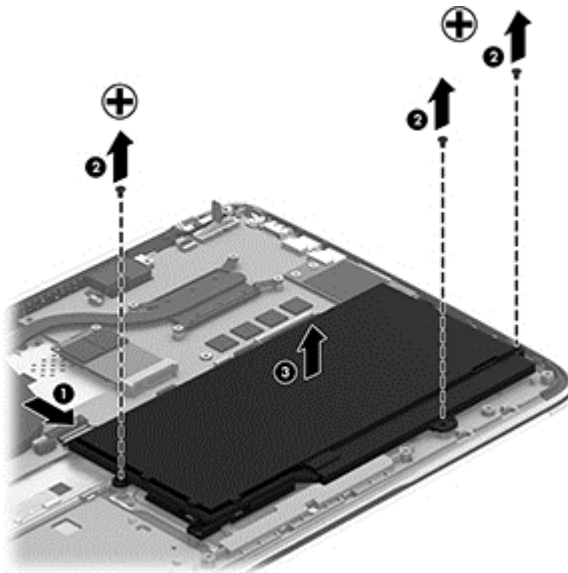
| Description                            | Spare part number |
|--|-------------------|
| 3-cell, 50 WHr, 4.52 AH Li-ion battery | 715050-001        |

Before removing the battery, follow these steps:

1. Shut down the computer. If you are unsure whether the computer is off or in Hibernation, turn the computer on, and then shut it down through the operating system.
2. Disconnect all external devices connected to the computer.
3. Disconnect the power from the computer by first unplugging the power cord from the AC outlet and then unplugging the AC adapter from the computer.
4. Remove the service cover (see [Service cover on page 37](#)).

Remove the battery:

1. Position the computer upright with the front toward you.
2. Disconnect the battery cable from the system board **(1)**.
3. Remove the 3 Phillips PM2.5×3.5 screws **(2)** that secure the battery to the computer.
4. Lift up and remove the battery from the computer **(3)**.



Reverse this procedure to install the battery.

## Solid-state drive

| Description                               | Spare part number |
|---|-------------------|
| 128-GB mSATA solid-state drive (SSD), MLC | 727514-001        |
| 128-GB SSD, TLC                           | 747210-001        |
| 24-GB mSATA solid-state drive (SSD)       | 734247-001        |

Before removing the SSD, follow these steps:

1. Shut down the computer. If you are unsure whether the computer is off or in Hibernation, turn the computer on, and then shut it down through the operating system.
2. Disconnect all external devices connected to the computer.
3. Disconnect the power from the computer by first unplugging the power cord from the AC outlet and then unplugging the AC adapter from the computer.
4. Remove the service cover (see [Service cover on page 37](#)).
5. Disconnect the battery cable (see [Battery on page 39](#)).

Remove the solid-state drive:

1. Remove the Phillips PM2.0×2.0 screw **(1)** that secures the solid-state drive to the computer. The drive tilts upwards.



2. Remove the solid-state drive from the connector **(2)**.



Reverse these procedures to reassemble and install the solid-state drive.

## Hard drive

| Description  | Spare part number |
|--|-------------------|
| 1-TB, 5400 rpm, 2.5 in   | 676521-001        |
| 1-TB, 5400 rpm, 2.5 in, hybrid (8-GB integrated flash memory)                            | 731999-001        |
| 750-GB, 5400 rpm, 2.5 in   | 634250-001        |
| 750-GB, 5400 rpm, 2.5 in, hybrid (8-GB integrated flash memory)                          | 732001-001        |
| 500-GB, 5400 rpm, 7 mm   | 683802-001        |
| 500-GB, 5400 rpm, 7 mm, hybrid (8-GB integrated flash memory)                            | 732000-001        |
| Hard Drive Hardware Kit (includes left and right brackets, hard drive cable, and screws) | 741683-001        |

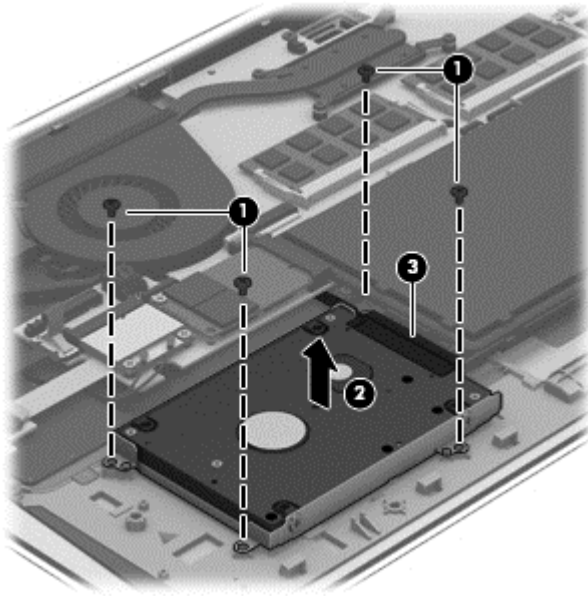
Before removing the hard drive, follow these steps:

1. Shut down the computer. If you are unsure whether the computer is off or in Hibernation, turn the computer on, and then shut it down through the operating system.
2. Disconnect all external devices connected to the computer.
3. Disconnect the power from the computer by first unplugging the power cord from the AC outlet and then unplugging the AC adapter from the computer.
4. Remove the service cover (see [Service cover on page 37](#)).
5. Disconnect the battery cable (see [Battery on page 39](#)).

Remove the hard drive:

1. Remove the 4 Phillips PM2.5×3.5 screws **(1)** that secure the hard drive to the computer.
2. Lift the hard drive enough to gain access to the hard drive connector cable **(2)**

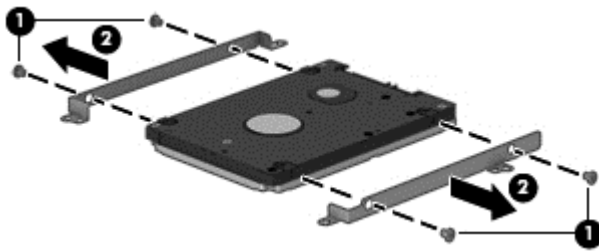
3. Disconnect the hard drive connector **(3)** from the hard drive.



4. Remove the hard drive from the computer.

Remove the hard drive bracket:


1. Remove the 4 Phillips PM 2.0×3.0 screws **(1)** on the hard drive bracket.
2. Remove the hard drive brackets **(2)** from the hard drive.



Reverse these procedures to reassemble and install the hard drive.

## WLAN module

| Description  | Spare part number |
|--|-------------------|
| Intel Centrino Wireless-N 2230+ Bluetooth combo w/ *2 antennas (802.11 b/g/n)          | 670290-001        |
| Ralink Wireless + Bluetooth combo w/ *2 antennas (802.11 b/g/n)                        | 690020-001        |
| Mediatek 7630E 802.11b/g/n 11 WiFi and Bluetooth 4.0 Combo Adapter                     | 710418-001        |
| Intel Dual Band Wireless-AC 3160 802.11 a/b/g/n/ac (1x1) WiFi with Bluetooth 4.0 combo | 710662-001        |
| Intel Dual Band Wireless AC 7260   | 717384-001        |
| Qualcomm Atheros AR9565 802.11b/g/n WiFi Adapter                                       | 733476-001        |
| Broadcom BCM 4352 802.11 ac 2x2 WiFi + BT 4.0 Combo Adapter                            | 724935-001        |


 **CAUTION:** To prevent an unresponsive system, replace the wireless module only with a wireless module authorized for use in the computer by the governmental agency that regulates wireless devices in your country or region. If you replace the module and then receive a warning message, remove the module to restore device functionality, and then contact technical support.

Before removing the WLAN module, follow these steps:

1. Shut down the computer. If you are unsure whether the computer is off or in Hibernation, turn the computer on, and then shut it down through the operating system.
2. Disconnect all external devices connected to the computer.
3. Disconnect the power from the computer by first unplugging the power cord from the AC outlet and then unplugging the AC adapter from the computer.
4. Remove the service cover (see [Service cover on page 37](#)).
5. Disconnect the battery cable (see [Battery on page 39](#)).

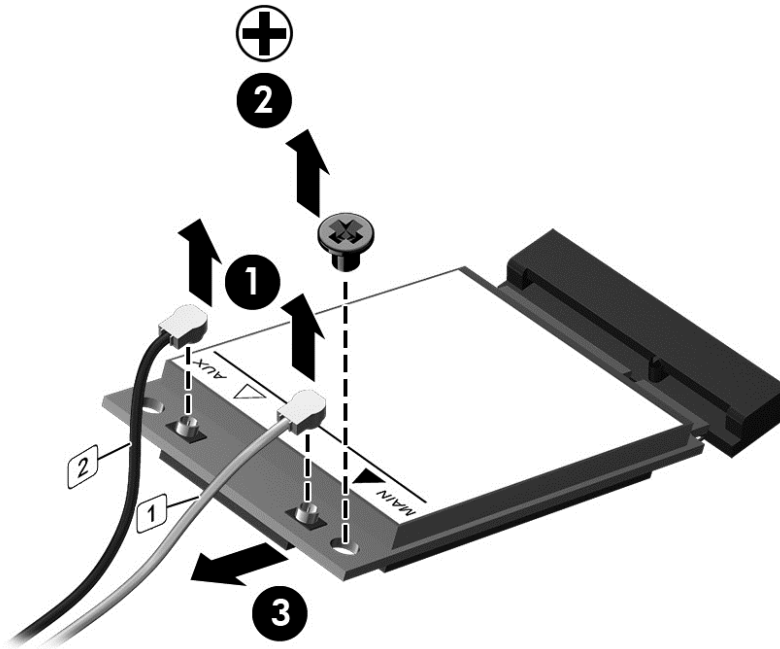
Remove the WLAN module:

1. Disconnect the #1 and #2 WLAN antenna cables from the WLAN module **(1)**.

 **NOTE:** The #1 WLAN antenna white cable is connected to the WLAN module #1 main terminal. The #2 WLAN antenna black cable is connected to the WLAN module #2 auxiliary terminal.

2. Remove the Phillips PM2.0×3.0 screw **(2)** that secures the WLAN module to the keyboard support bracket.

3. Remove the WLAN module by pulling the module away from the slot at an angle **(3)**.



**NOTE:** If the WLAN antennas are not connected to the terminals on the WLAN module, the protective sleeves must be installed on the antenna connectors.

## WWAN module

| Description                             | Spare part number |
|---|-------------------|
| HP hs3114 HSPA+ Mobile Broadband Module | 723896-001        |

**CAUTION:** The WWAN module and the WLAN module are not interchangeable.


To prevent an unresponsive system, replace the wireless module only with a wireless module authorized for use in the computer by the governmental agency that regulates wireless devices in your country or region. If you replace the module and then receive a warning message, remove the module to restore device functionality, and then contact technical support.

Before removing the WWAN module, follow these steps:

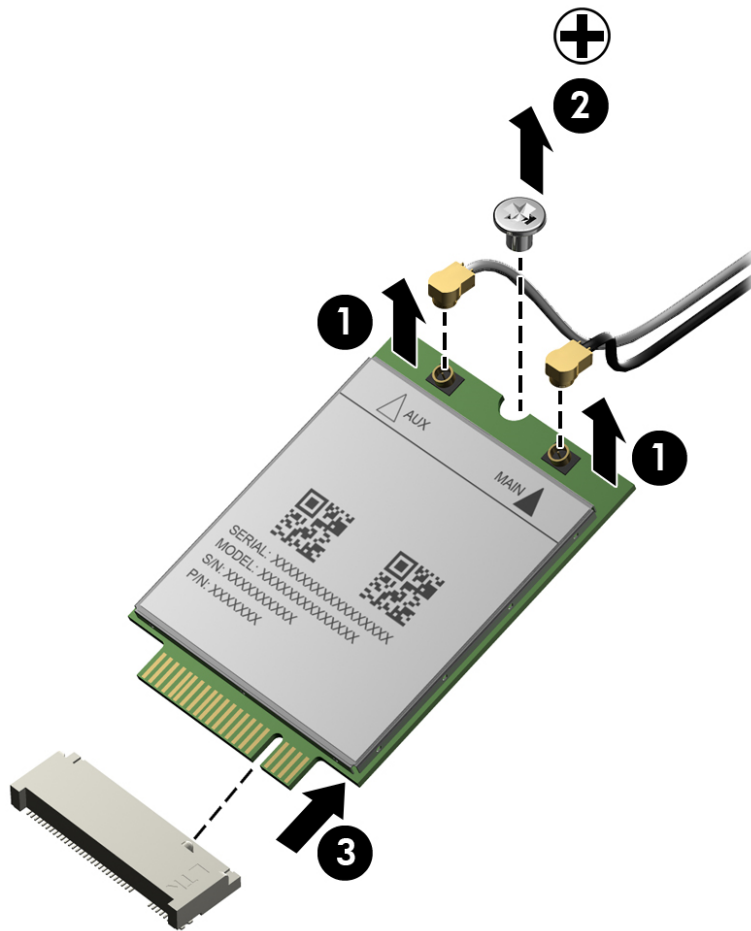
1. Shut down the computer. If you are unsure whether the computer is off or in Hibernation, turn the computer on, and then shut it down through the operating system.
2. Disconnect all external devices connected to the computer.
3. Disconnect the power from the computer by first unplugging the power cord from the AC outlet and then unplugging the AC adapter from the computer.
4. Remove the service cover (see [Service cover on page 37](#)).
5. Disconnect the battery cable (see [Battery on page 39](#)).

Remove the WWAN module:

1. Disconnect the WWAN antenna cables **(1)** from the terminals on the WWAN module.

 **NOTE:** The red WWAN antenna cable is connected to the WWAN module “Main” terminal. The blue WWAN antenna cable is connected to the WWAN module “Aux” terminal.

2. Remove the Phillips PM2.0x3.0 screw **(2)** that secures the WWAN module to the system board.
3. Remove the WWAN module **(2)** by pulling the module away from the slot.



Reverse this procedure to install the WWAN module.

## Memory modules

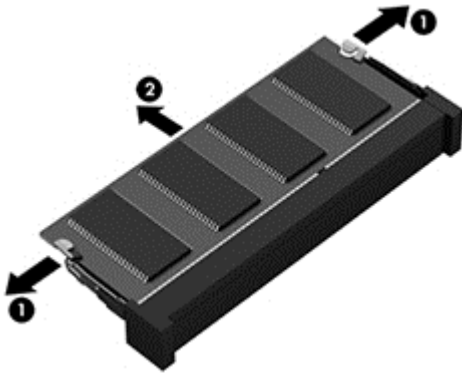
| Description                                | Spare part number |
|--|-------------------|
| 2-GB memory module (PC3L, 12800, 1600-MHz) | 691739-001        |
| 4-GB memory module (PC3L, 12800, 1600-MHz) | 691740-001        |
| 8-GB memory module (PC3L, 12800, 1600-MHz) | 693374-001        |

Before removing a memory module, follow these steps:

1. Turn off the computer. If you are unsure whether the computer is off or in Hibernation, turn the computer on, and then shut it down through the operating system.
2. Disconnect the power from the computer by unplugging the power cord from the computer.
3. Disconnect all external devices from the computer.
4. Remove the service cover (see [Service cover on page 37](#)).
5. Disconnect the battery cable (see [Battery on page 39](#)).

Remove the memory module:

1. Spread the retaining tabs **(1)** on each side of the memory module slot to release the memory module. (The memory module tilts up.)
2. Remove the memory module **(2)** by pulling the module away from the slot at an angle.



Reverse this procedure to install a memory module.

## RTC battery

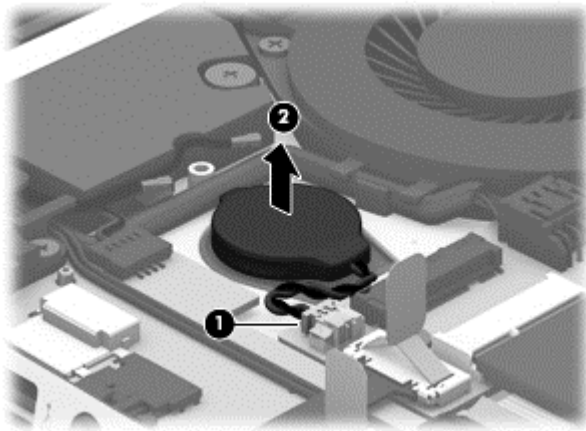
| Description | Spare part number |
|-------------|-------------------|
| RTC battery | 725458-001        |

Before removing the RTC battery, follow these steps:

1. Shut down the computer. If you are unsure whether the computer is off or in Hibernation, turn the computer on, and then shut it down through the operating system.
2. Disconnect all external devices connected to the computer.
3. Disconnect the power from the computer by first unplugging the power cord from the AC outlet and then unplugging the AC adapter from the computer.
4. Remove the service cover (see [Service cover on page 37](#)).
5. Disconnect the battery cable (see [Battery on page 39](#)).
6. Remove the WWAN module (see [WWAN module on page 45](#)).

Remove the RTC battery:

1. Disconnect the RTC battery cable from the system board **(1)**.
2. Lift the battery to disengage the adhesive that secures it to the system board **(2)**.



Reverse this procedure to install the RTC battery on computer models.



## RJ-45 module cover

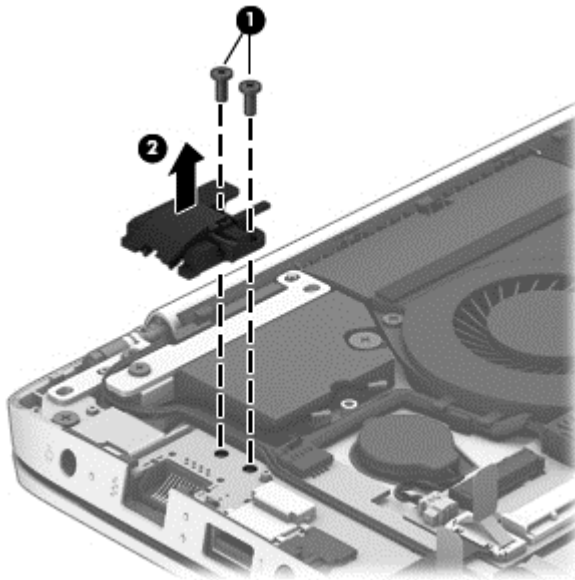
| Description                | Spare part number |
|----------------------------|-------------------|
| RJ-45 module cover (black) | 729606-001        |
| RJ-45 module cover (red)   | 733475-001        |

Before removing the RJ-45 module cover:

1. Shut down the computer. If you are unsure whether the computer is off or in Hibernation, turn the computer on, and then shut it down through the operating system.
2. Disconnect all external devices connected to the computer.
3. Disconnect the power from the computer by first unplugging the power cord from the AC outlet and then unplugging the AC adapter from the computer.
4. Remove the service cover (see [Service cover on page 37](#)).
5. Remove the battery (see [Battery on page 39](#)).

Remove the RJ-45 module cover:

1. Remove the power connector cable and the antenna cables from the clip built into the side of the RJ-45 module cover.
2. Remove the 2 Phillips PM2.5×5.5 screws that secure the RJ-45 module cover **(1)** to the computer.
3. Remove the cover **(2)** from the computer.



Reverse this procedure to install the RJ-45 module cover.

## Left speaker/subwoofer

| Description   | Spare part number |
|---|-------------------|
| Speaker Kit (includes left speaker/subwoofer and right speaker) | 727513-001        |

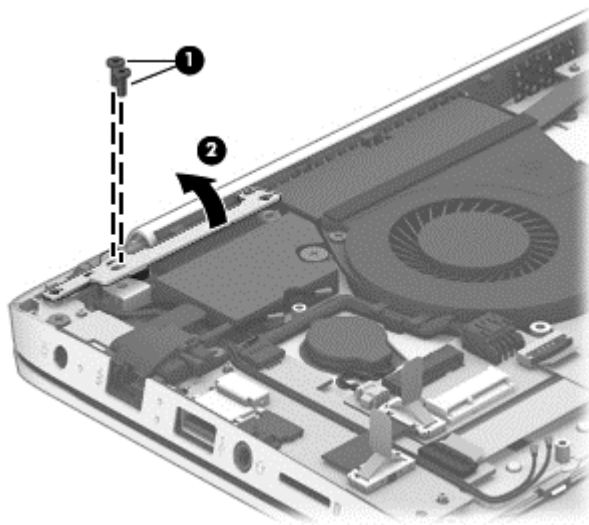
The computer includes two separate speakers — a speaker on the right side, and a speaker/subwoofer on the left side. You must remove the system board to remove the right speaker. You do not have to remove the system board to remove the left speaker/subwoofer. You do have to remove the RJ-45 module cover to remove the left speaker/subwoofer.

Before removing the left speaker, follow these steps:

1. Shut down the computer. If you are unsure whether the computer is off or in Hibernation, turn the computer on, and then shut it down through the operating system.
2. Disconnect all external devices connected to the computer.
3. Disconnect the power from the computer by first unplugging the power cord from the AC outlet and then unplugging the AC adapter from the computer.
4. Remove the service cover (see [Service cover on page 37](#)).
5. Remove the battery (see [Battery on page 39](#)).
6. Remove the RJ-45 module cover (see [RJ-45 module cover on page 49](#)).


Remove the left speaker/subwoofer:

1. Remove the 2 Phillips PM2.5×5.5 screws that secure the left display hinge to the computer, and then rotate the hinge upward **(2)**.



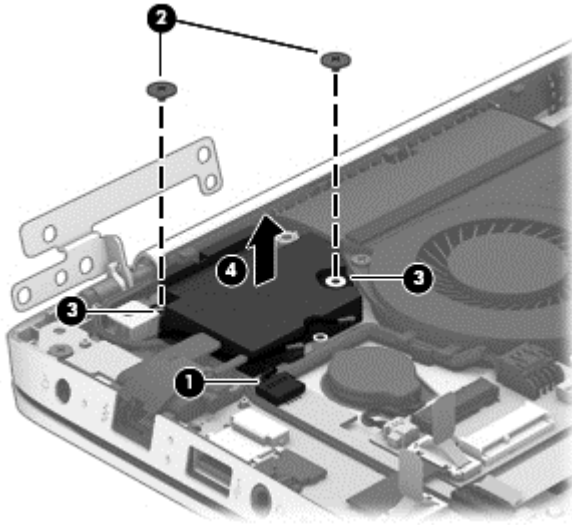
2. Disconnect the speaker cable from the USB/audio board **(1)**.

3. Remove the 2 Phillips PM2.0x2.0 broadhead screws **(2)** that secure the subwoofer to the computer.

 **NOTE:** Make sure the rubber grommets are installed in the screw holes **(3)** when installing the subwoofer.

---

4. Remove the subwoofer **(4)**.



Reverse this procedure to install the left speaker/subwoofer.

## USB/audio board

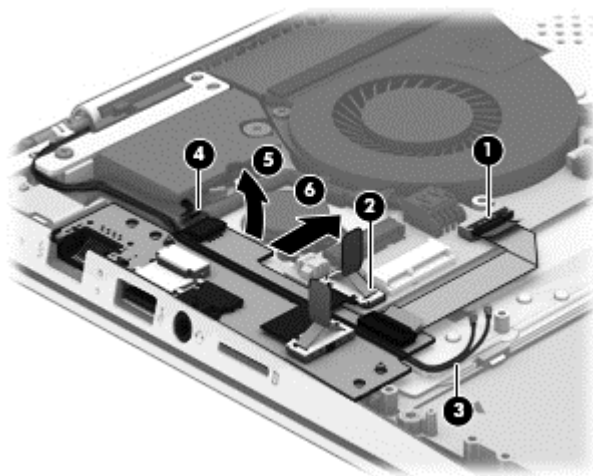
| Description                                    | Spare part number |
|--|-------------------|
| USB/audio board for use in models without WWAN | 729607-001        |
| USB/audio board for use in models with WWAN    | 727507-001        |

Before removing the USB/audio board, follow these steps:

1. Shut down the computer. If you are unsure whether the computer is off or in Hibernation, turn the computer on, and then shut it down through the operating system.
2. Disconnect all external devices connected to the computer.
3. Disconnect the power from the computer by first unplugging the power cord from the AC outlet and then unplugging the AC adapter from the computer.
4. Remove the service cover (see [Service cover on page 37](#)).
5. Disconnect the battery cable (see [Battery on page 39](#)).
6. Remove the RJ-45 module cover (see [RJ-45 module cover on page 49](#)).

Remove the USB/audio board:

1. Disconnect the flat ribbon cable from the system board ZIF connector **(1)**.
2. Disconnect the cable from the USB/audio board **(2)**.
3. Move the antenna cables from atop the board **(3)**.
4. Disconnect the left speaker/subwoofer cable **(4)**.
5. Lift the USB/audio board upward **(5)**.
6. Pull the USB/audio board to the right to remove it **(6)**.



Reverse this procedure to install the USB/audio board.

## Power connector cable

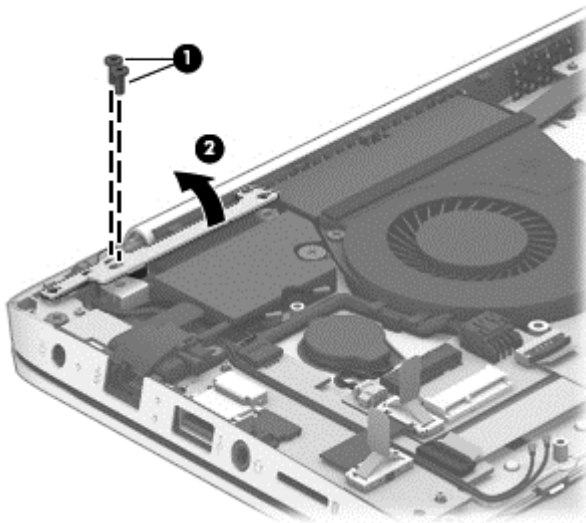
| Description                              | Spare part number |
|--|-------------------|
| Power connector cable (includes bracket) | 736358-001        |

Before removing the power connector cable, follow these steps:

1. Shut down the computer. If you are unsure whether the computer is off or in Hibernation, turn the computer on, and then shut it down through the operating system.
2. Disconnect all external devices connected to the computer.
3. Disconnect the power from the computer by first unplugging the power cord from the AC outlet and then unplugging the AC adapter from the computer.
4. Remove the display panel (see [Display assembly on page 74](#)).
5. Remove the service cover (see [Service cover on page 37](#)).
6. Remove the battery (see [Battery on page 39](#)).
7. Remove the RJ-45 module cover (see [RJ-45 module cover on page 49](#)).
8. Remove the USB/audio board (see [USB/audio board on page 52](#)).

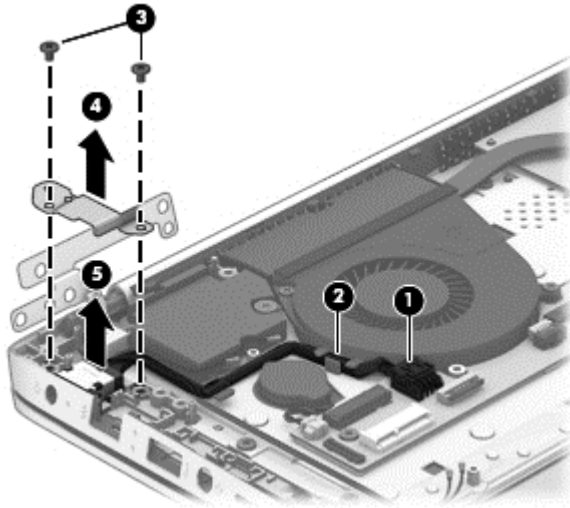
Remove the power connector cable:

1. Remove the 2 Phillips PM2.5×5.5 screws that secure the left display hinge to the computer, and then rotate the hinge upward **(2)**.



2. Disconnect the power connector cable from the system board **(1)**, and then remove the cable from the clip built into the fan **(2)**.
3. Remove the 2 Phillips PM2.5×3.5 broadhead screws that secure the bracket that sits atop the power connector **(3)**.

4. Lift the bracket **(4)** from atop the connector, and then lift the power connector and cable from the computer **(5)**.



Reverse this procedure to install the power connector and cable.

## Card reader board

| Description       | Spare part number |
|-------------------|-------------------|
| Card reader board | 728133-001        |

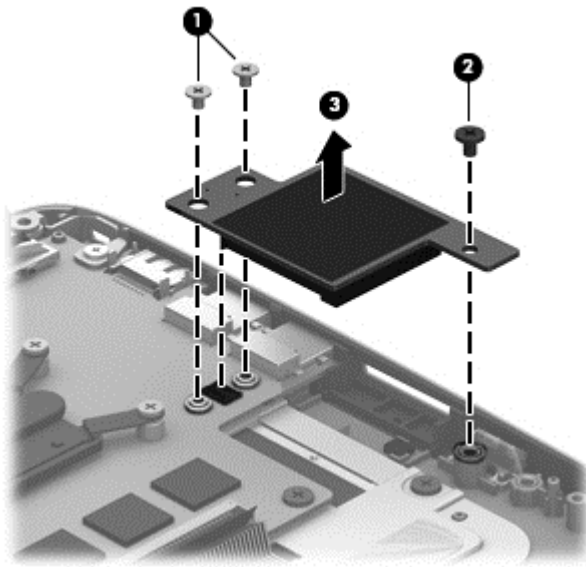
Before removing the card reader board, follow these steps:

1. Shut down the computer. If you are unsure whether the computer is off or in Hibernation, turn the computer on, and then shut it down through the operating system.
2. Disconnect all external devices connected to the computer.
3. Disconnect the power from the computer by first unplugging the power cord from the AC outlet and then unplugging the AC adapter from the computer.
4. Remove the service cover (see [Service cover on page 37](#)).
5. Remove the battery (see [Battery on page 39](#)).

Remove the card reader board:

1. Remove the 2 Phillips PM2.0×2.0 screws that secure the card reader board to the system board **(1)**.
2. Remove the Phillips PM2.5×3.5 screw that secures the card reader board to the computer **(2)**.

3. Lift up on the board to disconnect the connector on the bottom of the board from the system board, and then remove the card reader board from the computer **(3)**.



Reverse this procedure to install the card reader board.

## Fan

| Description | Spare part number |
|-------------|-------------------|
| Fan         | 725445-001        |

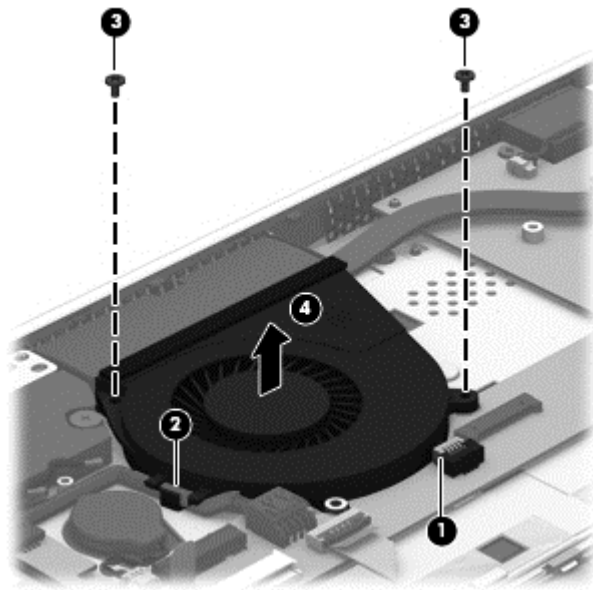
Before removing the fan:

1. Shut down the computer. If you are unsure whether the computer is off or in Hibernation, turn the computer on, and then shut it down through the operating system.
2. Disconnect all external devices connected to the computer.
3. Disconnect the power from the computer by first unplugging the power cord from the AC outlet and then unplugging the AC adapter from the computer.
4. Remove the service cover (see [Service cover on page 37](#)).
5. Remove the battery (see [Battery on page 39](#)).

Remove the fan:

1. Disconnect the fan cable from the system board **(1)**.
2. Remove the power connector cable that routes through the clip on the side of the fan **(2)**.

3. Remove the 2 Phillips PM2.0×3.0 screws securing the fan to the computer **(3)**, and then lift the fan upward to remove it **(4)**.



Reverse this procedure to install the fan.



# System board



**NOTE:** The system board spare part kit includes replacement thermal material.

| Description  | Spare part number |
|--|-------------------|
| System board for use in models with discrete graphics:   |                   |
| <ul style="list-style-type: none"> <li>For use only with model numbers 14-k100 - 14-k199 equipped with an Intel Core i7-4500U processor and a non-Windows 8 operating system</li> </ul>                      | 744760-001        |
| <ul style="list-style-type: none"> <li>For use only with model numbers 14-k100 - 14-k199 equipped with an Intel Core i7-4500U processor and Windows 8 Standard operating system</li> </ul>                   | 744760-501        |
| <ul style="list-style-type: none"> <li>For use only with model numbers 14-k100 - 14-k199 equipped with an Intel Core i7-4500U processor and Windows 8 Professional operating system</li> </ul>               | 744760-601        |
| <ul style="list-style-type: none"> <li>For use only with model numbers 14-k000 - 14-k099 equipped with an Intel Core i7-4500U processor and a non-Windows 8 operating system</li> </ul>                      | 727527-001        |
| <ul style="list-style-type: none"> <li>For use only with model numbers 14-k000 - 14-k099 equipped with an Intel Core i7-4500U processor and Windows 8 Standard operating system</li> </ul>                   | 727527-501        |
| <ul style="list-style-type: none"> <li>For use only with model numbers 14-k000 - 14-k099 equipped with an Intel Core i7-4500U processor and Windows 8 Professional operating system</li> </ul>               | 727527-601        |
| <ul style="list-style-type: none"> <li>For use only with model numbers 14-k000 - 14-k099 equipped with an Intel Core i5-4200U processor and a non-Windows 8 operating system</li> </ul>                      | 727530-001        |
| <ul style="list-style-type: none"> <li>For use only with model numbers 14-k000 - 14-k099 equipped with an Intel Core i5-4200U processor Windows 8 Standard operating system</li> </ul>                       | 727530-501        |
| <ul style="list-style-type: none"> <li>For use only with model numbers 14-k000 - 14-k099 equipped with an Intel Core i5-4200U processor and Windows 8 Professional operating system</li> </ul>               | 727530-601        |
| <ul style="list-style-type: none"> <li>For use only with model numbers 14-k000 - 14-k099 equipped with an Intel Core i5-4200U processor, QHD display, and a non-Windows 8 operating system</li> </ul>        | 737595-001        |
| <ul style="list-style-type: none"> <li>For use only with model numbers 14-k000 - 14-k099 equipped with an Intel Core i5-4200U processor, QHD display, and Windows 8 Standard operating system</li> </ul>     | 737595-501        |
| <ul style="list-style-type: none"> <li>For use only with model numbers 14-k000 - 14-k099 equipped with an Intel Core i5-4200U processor, QHD display, and Windows 8 Professional operating system</li> </ul> | 737595-601        |
| <ul style="list-style-type: none"> <li>For use only with model numbers 14-k100 - 14-k199 equipped with an Intel Core i5-4200U processor and a non-Windows 8 operating system</li> </ul>                      | 744761-001        |
| <ul style="list-style-type: none"> <li>For use only with model numbers 14-k100 - 14-k199 equipped with an Intel Core i5-4200U processor Windows 8 Standard operating system</li> </ul>                       | 744761-501        |
| <ul style="list-style-type: none"> <li>For use only with model numbers 14-k100 - 14-k199 equipped with an Intel Core i5-4200U processor and Windows 8 Professional operating system</li> </ul>               | 744761-601        |
| <ul style="list-style-type: none"> <li>For use only with model numbers 14-k100 - 14-k199 equipped with an Intel Core i5-4200U processor, QHD display, and a non-Windows 8 operating system</li> </ul>        | 744762-001        |
| <ul style="list-style-type: none"> <li>For use only with model numbers 14-k100 - 14-k199 equipped with an Intel Core i5-4200U processor, QHD display, and Windows 8 Standard operating system</li> </ul>     | 744762-501        |
| <ul style="list-style-type: none"> <li>For use only with model numbers 14-k100 - 14-k199 with an Intel Core i5-4200U processor, QHD display, and Windows 8 Professional operating system</li> </ul>          | 744762-601        |

| Description   | Spare part number |
|---|-------------------|
| System board for use in models with UMA graphics:   |                   |
| <ul style="list-style-type: none"> <li>For use only with model numbers 14-k000 - 14-k099 equipped with Intel Core i5-4200U processor, WWAN, and a non-Windows 8 operating system</li> </ul>                     | 737453-001        |
| <ul style="list-style-type: none"> <li>For use only with model numbers 14-k000 - 14-k099 equipped with Intel Core i5-4200U processor, WWAN, and Windows 8 Standard operating system</li> </ul>                  | 737453-501        |
| <ul style="list-style-type: none"> <li>For use only with model numbers 14-k000 - 14-k099 equipped with Intel Core i5-4200U processor, WWAN, and Windows 8 Professional operating system</li> </ul>              | 737453-601        |
| <ul style="list-style-type: none"> <li>For use only with model numbers 14-k000 - 14-k099 equipped with Intel i5-4200U processor and a non-Windows 8 operating system</li> </ul>                                 | 727518-001        |
| <ul style="list-style-type: none"> <li>For use only with model numbers 14-k000 - 14-k099 equipped with Intel i5-4200U processor and the Windows 8 Standard operating system</li> </ul>                          | 727518-501        |
| <ul style="list-style-type: none"> <li>For use only with model numbers 14-k000 - 14-k099 equipped with Intel i5-4200U processor and the Windows 8 Professional operating system</li> </ul>                      | 727518-601        |
| <ul style="list-style-type: none"> <li>For use only with model numbers 14-k100 - 14-k199 equipped with Intel i5-4200U processor and a non-Windows 8 operating system</li> </ul>                                 | 744758-001        |
| <ul style="list-style-type: none"> <li>For use only with model numbers 14-k100 - 14-k199 equipped with Intel i5-4200U processor and the Windows 8 Standard operating system</li> </ul>                          | 744758-501        |
| <ul style="list-style-type: none"> <li>For use only with model numbers 14-k100 - 14-k199 equipped with Intel i5-4200U processor and the Windows 8 Professional operating system</li> </ul>                      | 744758-601        |
| <ul style="list-style-type: none"> <li>For use only with model numbers 14-k100 - 14-k199 equipped with Intel Core i5-4200U processor, WWAN, and a non-Windows 8 operating system</li> </ul>                     | 744759-001        |
| <ul style="list-style-type: none"> <li>For use only with model numbers 14-k100 - 14-k199 equipped with Intel Core i5-4200U processor, WWAN, and Windows 8 Standard operating system</li> </ul>                  | 744759-501        |
| <ul style="list-style-type: none"> <li>For use only with model numbers 14-k100 - 14-k199 equipped with Intel Core i5-4200U processor, WWAN, and Windows 8 Professional operating system</li> </ul>              | 744759-601        |
| <ul style="list-style-type: none"> <li>For use only with model numbers 14-k100 - 14-k199 equipped with Intel Core i5-4200U processor, WWAN, QHD display, and a non-Windows 8 operating system</li> </ul>        | 744763-001        |
| <ul style="list-style-type: none"> <li>For use only with model numbers 14-k100 - 14-k199 equipped with Intel Core i5-4200U processor, WWAN, QHD display, and Windows 8 Standard operating system</li> </ul>     | 744763-501        |
| <ul style="list-style-type: none"> <li>For use only with model numbers 14-k100 - 14-k199 equipped with Intel Core i5-4200U processor, WWAN, QHD display, and Windows 8 Professional operating system</li> </ul> | 744763-601        |
| <ul style="list-style-type: none"> <li>For use only with model numbers 14-k000 - 14-k099 equipped with an Intel Core i3-4010U processor and a non-Windows 8 operating system</li> </ul>                         | 727521-001        |
| <ul style="list-style-type: none"> <li>For use only with model numbers 14-k000 - 14-k099 equipped with an Intel Core i3-4010U processor and Windows 8 Standard operating system</li> </ul>                      | 727521-501        |
| <ul style="list-style-type: none"> <li>For use only with model numbers 14-k000 - 14-k099 equipped with an Intel Core i3-4010U processor and Windows 8 Professional operating system</li> </ul>                  | 727521-601        |

Before removing the system board, follow these steps:

1. Shut down the computer. If you are unsure whether the computer is off or in Hibernation, turn the computer on, and then shut it down through the operating system.
2. Disconnect all external devices connected to the computer.
3. Disconnect the power from the computer by first unplugging the power cord from the AC outlet and then unplugging the AC adapter from the computer.
4. Remove the service cover (see [Service cover on page 37](#)).
5. Remove the battery (see [Battery on page 39](#)).
6. Remove the hard drive (see [Hard drive on page 42](#)).
7. Remove the card reader board (see [Card reader board on page 54](#)).
8. Remove the fan (see [Fan on page 55](#)).

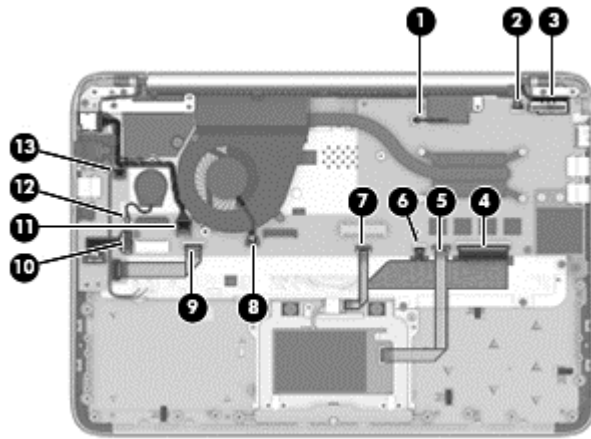
When replacing the system board, be sure that the following components are removed from the defective system board and installed on the replacement system board:

- RTC battery (see [RTC battery on page 48](#))
- Solid-state drive (see [Solid-state drive on page 40](#))
- Heat sink (see [Heat sink on page 62](#))
- Memory module see ([Memory modules on page 47](#)).
- WLAN module see ([WLAN module on page 44](#)).
- WWAN module see ([WWAN module on page 45](#)).

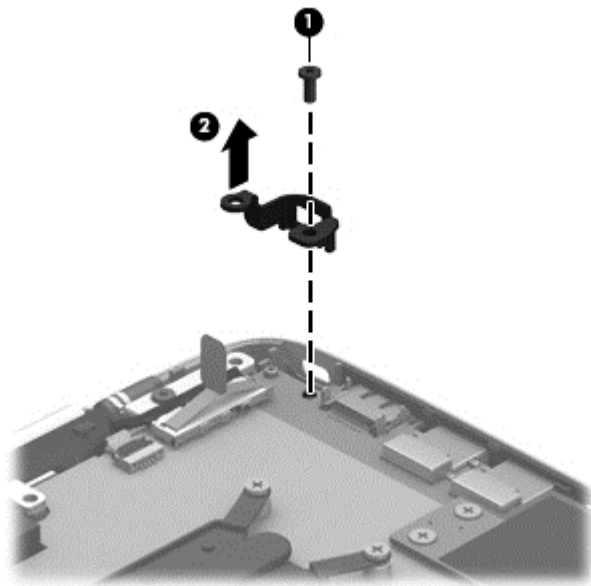
Remove the system board:

1. Remove the following cables:
  - Right speaker cable **(1)**
  - Power button board cable **(2)**
  - Display panel cable **(3)**
  - Keyboard cable **(4)**
  - TouchPad cable **(5)**
  - Keyboard backlight cable **(6)**
  - NFC cable **(7)**
  - Fan cable **(8)**
  - USB/audio board cable **(9)**
  - USB/audio board cable **(10)**

- Power connector cable **(11)**
- RTC battery cable **(12)**
- Left speaker and subwoofer cable **(13)**

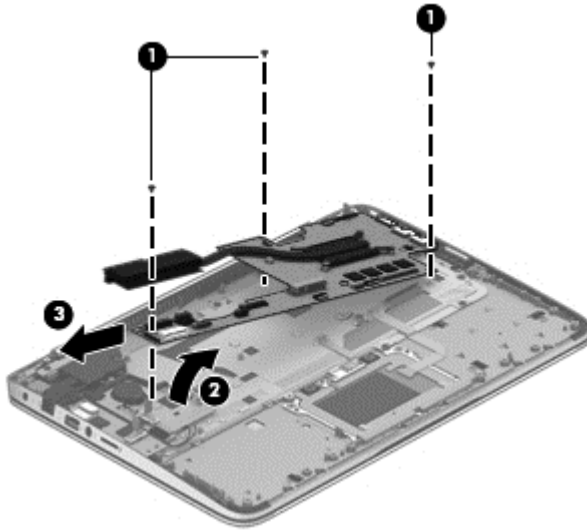


2. Remove the Phillips PM 2.5x5.5 screw that secures the security bracket to the computer **(1)**, and then remove the bracket from the computer **(2)**.



3. Remove the 3 Phillips PM2.0x3.5 screws **(1)** that secure the system board to the computer.


4. Lift the left side of the system board upward **(2)**, and then lift the system board toward the left and out of the computer **(3)**.



Reverse this procedure to install the system board.

## Heat sink

| Description   | Spare part number |
|---|-------------------|
| Heat sink for use with computer models with a graphics subsystem with discrete graphics | 727480-001        |
| Heat sink for use with computer models with a graphics subsystem with UMA graphics      | 728132-001        |


 **NOTE:** To properly ventilate the computer, allow at least 7.6 cm (3 in) of clearance on the left side of the computer. The computer uses an electric fan for ventilation. The fan is controlled by a temperature sensor and is designed to turn on automatically when high temperature conditions exist. These conditions are affected by high external temperatures, system power consumption, power management/battery conservation configurations, battery fast charging, and software requirements. Exhaust air is displaced through the ventilation grill located on the left side of the computer.

Before removing the fan, follow these steps:

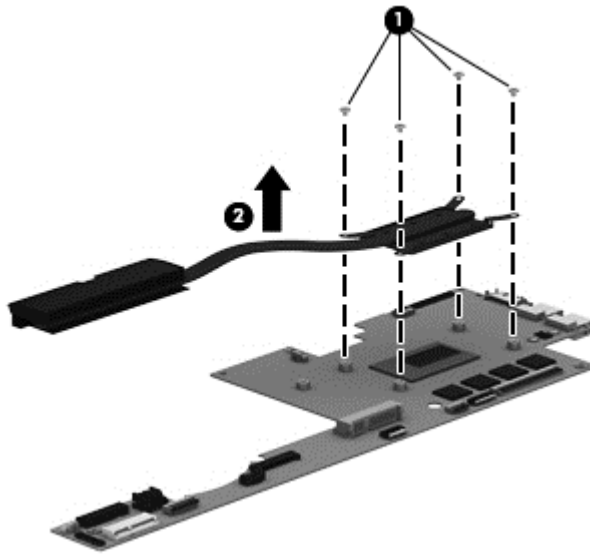
1. Shut down the computer. If you are unsure whether the computer is off or in Hibernation, turn the computer on, and then shut it down through the operating system.
2. Disconnect all external devices connected to the computer.
3. Disconnect the power from the computer by first unplugging the power cord from the AC outlet and then unplugging the AC adapter from the computer.
4. Remove the service cover (see [Service cover on page 37](#)).
5. Remove the battery (see [Battery on page 39](#)),
6. Remove the fan (see [Fan on page 55](#)).
7. Remove the card reader board (see [Card reader board on page 54](#)).
8. Remove the system board (see [System board on page 57](#)).

Remove the heat sink:

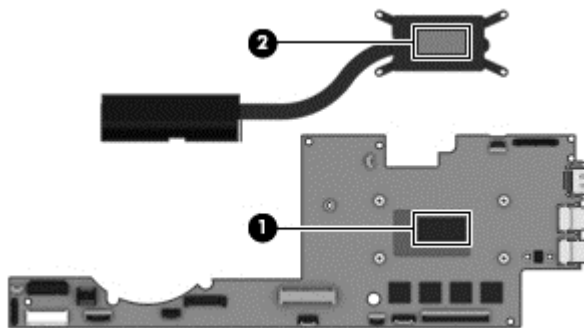
1. Remove the 4 broadhead Phillips PM2.5×2.5 screws securing the heat sink **(1)** to the system board.

 **CAUTION:** These screws must be removed in the sequence that is marked on the heat sink so that the correct pressure is applied to the processor and other components.

2. Remove the heat sink from the system board (2).



3. Note the locations of thermal material over the soldered on processor on the system board (1) and the bottom of the heat sink that services it (2).



Reverse this procedure to install the heat sink.

**CAUTION:** These screws must be installed in the sequence that is marked on the heat sink so that the correct pressure is applied to the processor and other components.

## Power button board

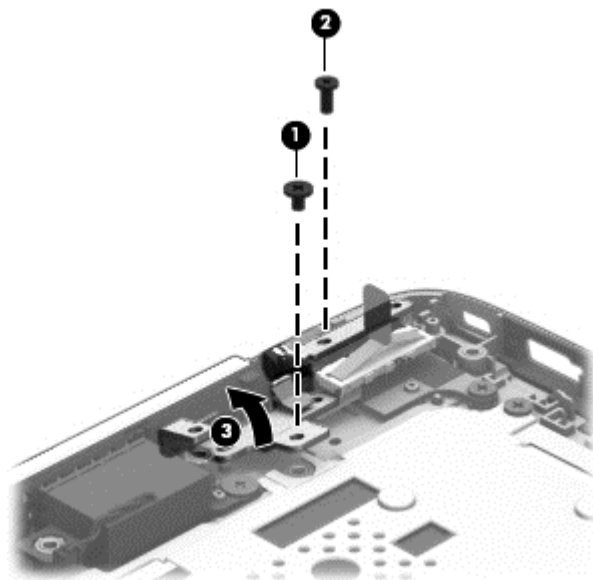
| Description                         | Spare part number |
|-------------------------------------|-------------------|
| Power button board (includes cable) | 727504-001        |

Before removing the Power button board, follow these steps:

1. Shut down the computer. If you are unsure whether the computer is off or in Hibernation, turn the computer on, and then shut it down through the operating system.
2. Disconnect all external devices connected to the computer.
3. Disconnect the power from the computer by first unplugging the power cord from the AC outlet and then unplugging the AC adapter from the computer.
4. Remove the service cover (see [Service cover on page 37](#)).
5. Remove the battery (see [Battery on page 39](#)).
6. Remove the fan (see [Fan on page 55](#)).
7. Remove the card reader board (see [Card reader board on page 54](#)).
8. Remove the system board (see [System board on page 57](#)).

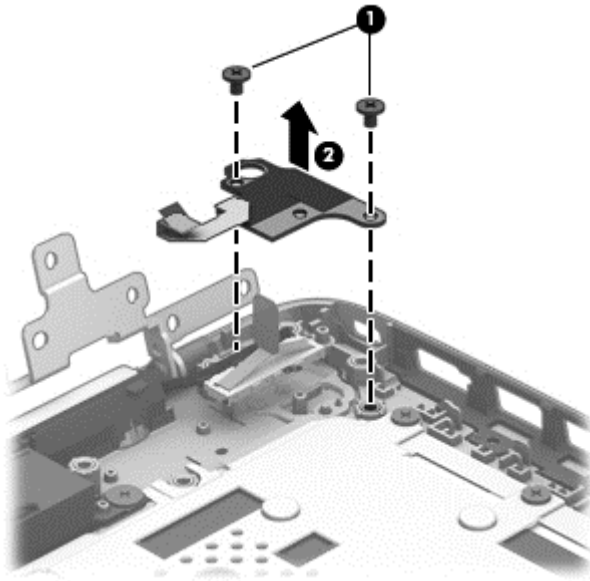
Remove the power button board and cable:

1. Remove the Phillips PM2.5×3.5 screw **(1)** and the Phillips PM2.5×5.5 screw **(2)** that secures the right hinge to the computer.
2. Rotate the hinge upward to gain access to the power button board **(3)**.





3. Remove the two Phillips PM2.5×3.5 screws **(1)** that secure the power button board to the computer.
4. Remove the power button board **(2)**.



Reverse this procedure to install the power button board.

## Right speaker

| Description   | Spare part number |
|---|-------------------|
| Speaker Kit (includes left speaker/subwoofer and right speaker) | 727513-001        |

The computer includes two separate speakers — a speaker on the right side, and a speaker/subwoofer on the left side. You must remove the system board to remove the right speaker. You do not have to remove the system board to remove the left speaker/subwoofer. You do have to remove the RJ-45 module cover to remove the left speaker/subwoofer.

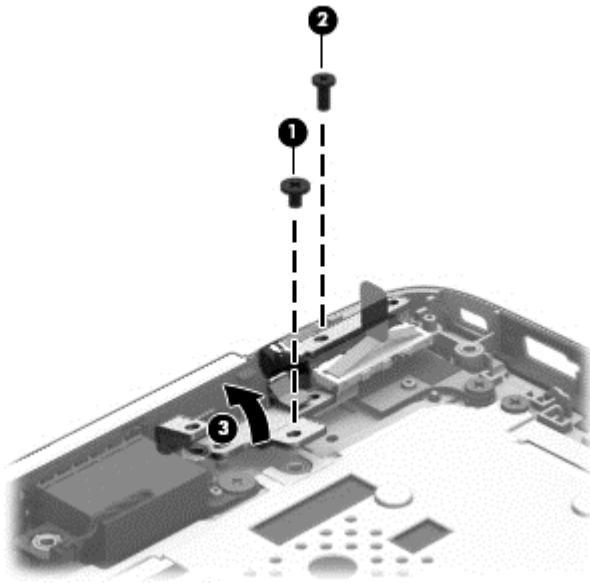
Before removing the front speakers, follow these steps:

1. Shut down the computer. If you are unsure whether the computer is off or in Hibernation, turn the computer on, and then shut it down through the operating system.
2. Disconnect all external devices connected to the computer.
3. Disconnect the power from the computer by first unplugging the power cord from the AC outlet and then unplugging the AC adapter from the computer.
4. Remove the service cover (see [Service cover on page 37](#)).
5. Remove the battery (see [Battery on page 39](#)),
6. Remove the fan (see [Fan on page 55](#)).
7. Remove the card reader board (see [Card reader board on page 54](#)).
8. Remove the system board (see [System board on page 57](#)).

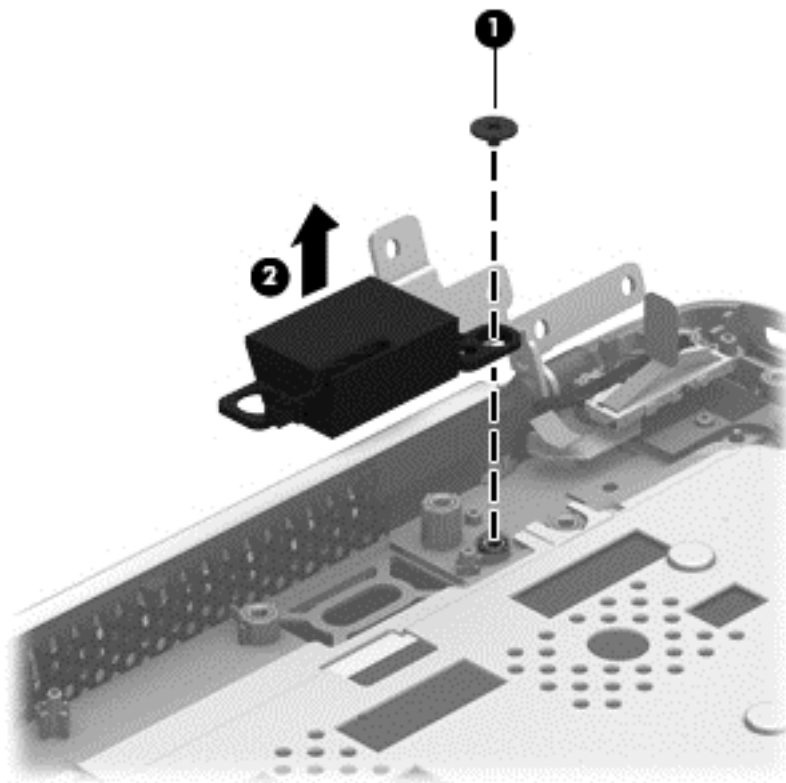
Remove the speakers:

1. Remove the Phillips PM2.5×3.5 screw **(1)** and the Phillips PM2.5×5.5 screw **(2)** that secures the right hinge to the computer.

2. Rotate the hinge upward to gain access to the speaker **(3)**.



3. Remove the Phillips PM2.0×3.5 broadhead screw that secures the right speaker **(1)**.
4. Remove the right speaker from the computer **(2)**.



Reverse this procedure to install the right speaker.


## Keyboard

| <b>For use in country or region:</b>                                | <b>Spare part number:</b> | <b>For use in country or region:</b> | <b>Spare part number:</b> |
|---|---------------------------|--------------------------------------|---------------------------|
| Keyboard support bracket  |                           |                                      | 728181-001                |
| Keyboard in black finish (not backlit) for use in the United States |                           |                                      | 727502-001                |
| Backlit keyboard in black finish:                                   |                           |                                      |                           |
| For use in the United States  | 727503-001                | For use in Japan                     | 727503-291                |
| For use in Latin America  | 727503-161                | For use in Taiwan                    | 727503-AB1                |
| For use in South Korea  | 727503-AD1                | For use in Thailand                  | 727503-281                |
| For use in Canada   | 727503-DB1                |                                      |                           |

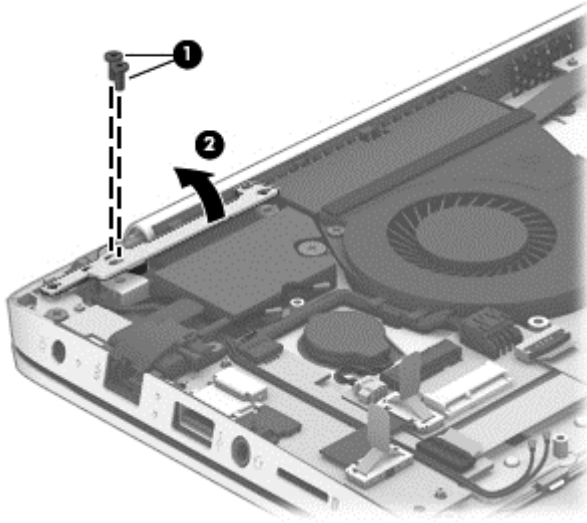
Before removing the keyboard, follow these steps:

1. Shut down the computer. If you are unsure whether the computer is off or in Hibernation, turn the computer on, and then shut it down through the operating system.
2. Disconnect all external devices connected to the computer.
3. Disconnect the power from the computer by first unplugging the power cord from the AC outlet and then unplugging the AC adapter from the computer.
4. Remove the service cover (see [Service cover on page 37](#)).
5. Remove the battery (see [Battery on page 39](#)),
6. Remove the fan (see [Fan on page 55](#)).
7. Remove the card reader board (see [Card reader board on page 54](#)).
8. Remove the system board (see [System board on page 57](#)).

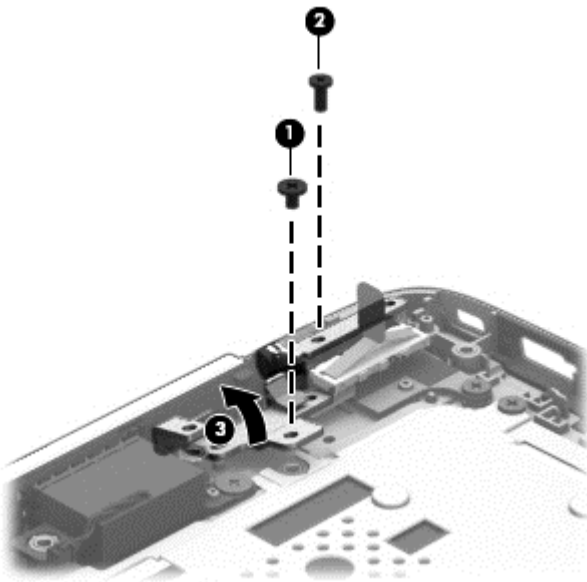
Remove the keyboard:

 **NOTE:** You do not have to remove the display panel to remove the keyboard, but you do have to rotate the display hinges upward.

1. Remove the 2 Phillips PM2.5×5.5 screws that secure the left display hinge to the computer, and then rotate the hinge upward **(2)**.

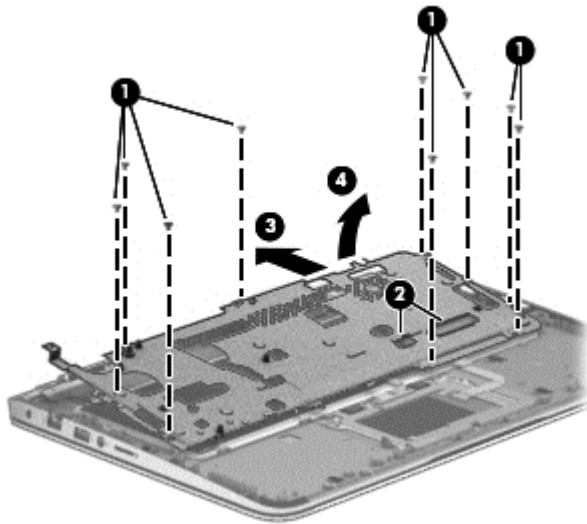


2. Remove the Phillips PM2.5×3.5 screw **(1)** and the Phillips PM2.5×5.5 screw **(2)** that secures the right hinge to the computer.
3. Rotate the hinge upward.

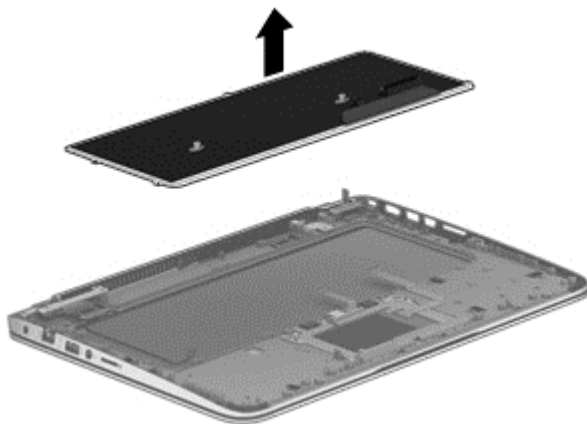


4. Remove the 9 Phillips PM 2.5×3.5 screws **(1)** that secure the keyboard shield to the computer.
5. Make sure the keyboard cable and keyboard backlight cable fit through the openings in the keyboard shield **(2)**. Also note their locations when installing the shield.

- Slide the keyboard shield back slightly **(3)**, and then lift it off the computer **(4)**.



- Lift the keyboard straight up and off the computer.



Reverse this procedure to install the keyboard.

## NFC board

Before removing the NFC board, follow these steps:


- Shut down the computer. If you are unsure whether the computer is off or in Hibernation, turn the computer on, and then shut it down through the operating system.
- Disconnect all external devices connected to the computer.
- Disconnect the power from the computer by first unplugging the power cord from the AC outlet and then unplugging the AC adapter from the computer.
- Remove the service cover (see [Service cover on page 37](#)).
- Remove the battery (see [Battery on page 39](#)),

6. Remove the fan (see [Fan on page 55](#)).
7. Remove the card reader board (see [Card reader board on page 54](#)).
8. Remove the system board (see [System board on page 57](#)).
9. Remove the keyboard (see [Keyboard on page 68](#)).

Remove the NFC board:

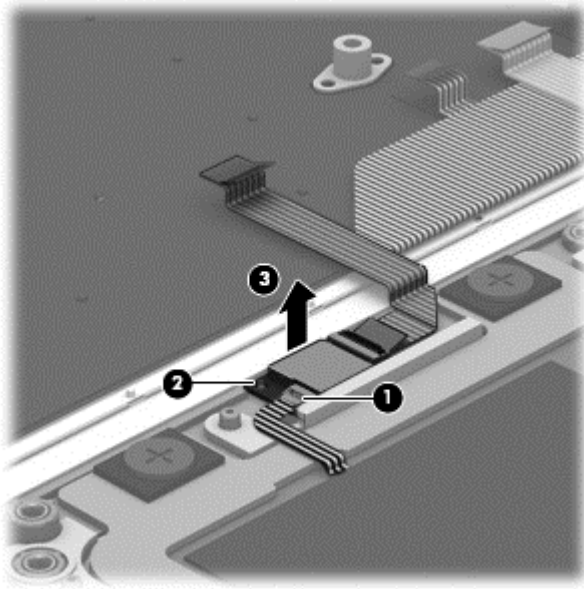
1. Disconnect the cable **(1)** from the NFC board.

---

 **NOTE:** Note the post **(2)** built into the computer that the NFC board fits onto.

---

2. Remove the NFC board **(3)** from the computer.



Reverse this procedure to install the NFC board.

## TouchPad module

| Description               | Spare part number |
|---------------------------|-------------------|
| TouchPad (includes cable) | 727540-001        |

Before removing the TouchPad, follow these steps:

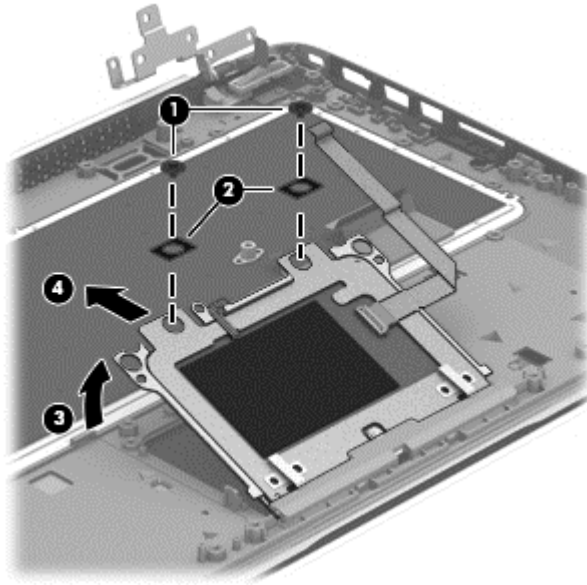
1. Shut down the computer. If you are unsure whether the computer is off or in Hibernation, turn the computer on, and then shut it down through the operating system.
2. Disconnect all external devices connected to the computer.
3. Disconnect the power from the computer by first unplugging the power cord from the AC outlet and then unplugging the AC adapter from the computer.
4. Remove the service cover (see [Service cover on page 37](#)).
5. Remove the battery (see [Battery on page 39](#)),
6. Remove the fan (see [Fan on page 55](#)).
7. Remove the card reader board (see [Card reader board on page 54](#)).
8. Remove the system board (see [System board on page 57](#)).
9. Remove the keyboard (see [Keyboard on page 68](#)).

Remove the TouchPad:

1. Remove the 2 Phillips PM20×30 screws **(1)** that secure the TouchPad to the computer .
2. Remove the 2 Mylar screw insulators **(2)**.
3. Lift the TouchPad up at an angle **(3)**.



4. Remove the TouchPad and cable (4).



Reverse this procedure to install the TouchPad assembly.

## Display assembly

| Description   | Spare part number |
|---|-------------------|
| <b>Touchscreen models (35.6-mm (14.0-inch) WLED):</b>   |                   |
| HD BrightView display assembly for use in silver models   | 727484-001        |
| HD BrightView display assembly for use in red models  | 727485-001        |
| HD AntiGlare display assembly for use in silver models  | 727486-001        |
| HD AntiGlare display assembly for use in red models   | 727487-001        |
| QHD BrightView display assembly for use in silver models  | 727488-001        |
| QHD BrightView display assembly for use in red models   | 727489-001        |
| HD BrightView display assembly for Touchscreen computers equipped with WWAN for use in silver models  | 727490-001        |
| HD AntiGlare display assembly for Touchscreen computers equipped with WWAN for use in silver models   | 727491-001        |
| QHD BrightView display assembly for Touchscreen computers equipped with WWAN for use in silver models | 727492-001        |
| <b>Non-touchscreen models (35.6-mm (14.0-inch)):</b>  |                   |
| HD BrightView display assembly for use in silver models   | 727493-001        |
| HD BrightView display assembly for use in red models  | 727494-001        |
| HD AntiGlare display assembly for use in silver models  | 727495-001        |
| HD AntiGlare display assembly for use in red models   | 727496-001        |
| QHD BrightView display assembly for use in silver models  | 727497-001        |
| QHD BrightView display assembly for use in red models   | 727498-001        |
| HD BrightView display assembly for use in silver models equipped with WWAN models                     | 727499-001        |
| HD AntiGlare display assembly for use in silver models equipped with WWAN models                      | 727500-001        |
| QHD BrightView display assembly for use in silver models equipped with WWAN models                    | 727501-001        |

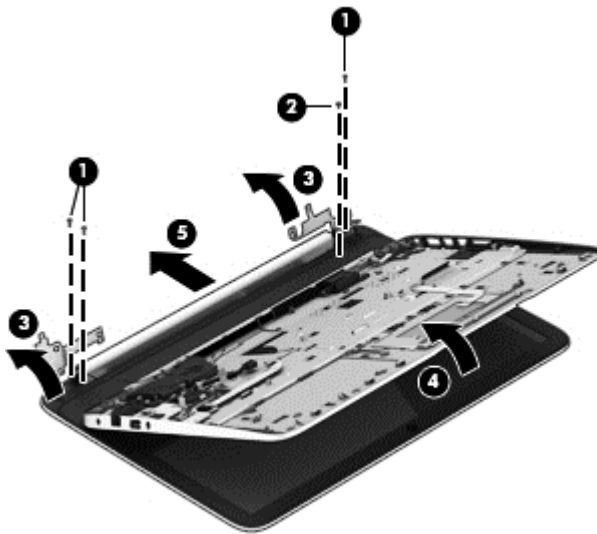
Before removing the display panel, follow these steps:

1. Shut down the computer. If you are unsure whether the computer is off or in Hibernation, turn the computer on, and then shut it down through the operating system.
2. Disconnect all external devices connected to the computer.
3. Disconnect the power from the computer by first unplugging the power cord from the AC outlet and then unplugging the AC adapter from the computer.
4. Remove the service cover (see [Service cover on page 37](#)).
5. Remove the battery (see [Battery on page 39](#)),

6. Remove the fan (see [Fan on page 55](#)).
7. Remove the card reader board (see [Card reader board on page 54](#)).
8. Remove the system board (see [System board on page 57](#)).


Remove the display panel:

1. Remove the 3 Phillips PM2.5×5.5 screws from the hinges (2 from the left, 1 from the right hinge) **(1)**.
2. Remove the Phillips PM2.5×3.5 screw from right hinge **(2)**.
3. Rotate both hinges to the open position **(3)**.
4. Lift the computer up to an angle **(4)**, and then pull the display assembly away from the computer **(5)**.

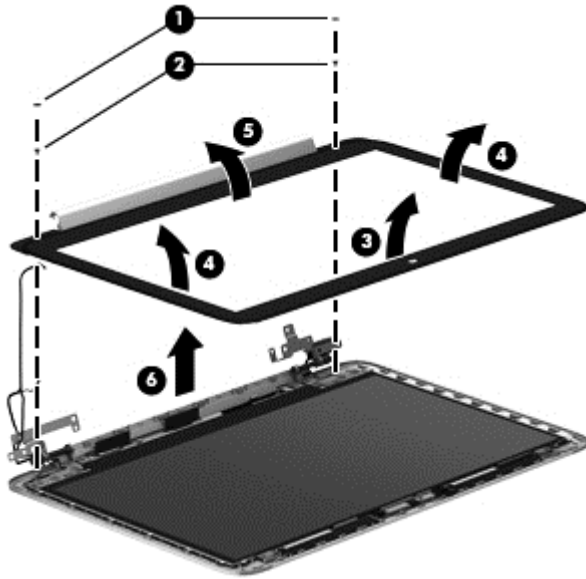


5. Remove the 2 screw covers **(1)** and the 2 Phillips PM2.0×2.5 screws **(2)** from the bottom corners of the bezel.
6. Loosen the top edge of the plastic bezel cover **(3)** from all four sides of the display panel.

7. Loosen the left and right side edges of the plastic bezel cover **(4)**, and then loosen the bottom edge of the plastic bezel cover **(5)**. Remove the plastic bezel cover **(6)**.

 **NOTE:** There is also adhesive that secures the bottom of the bezel to the display.

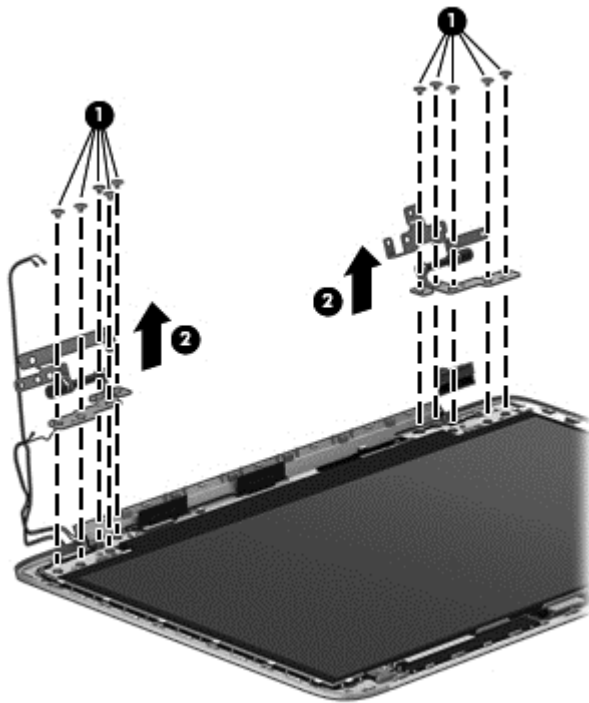
The display bezel is available using spare part number 727478-001.



8. If you need to remove the display hinges, remove the 5 Phillips PM2.5×3.0 screws **(1)** that secure each hinge to the display , and then lift the hinge off the display **(2)**.

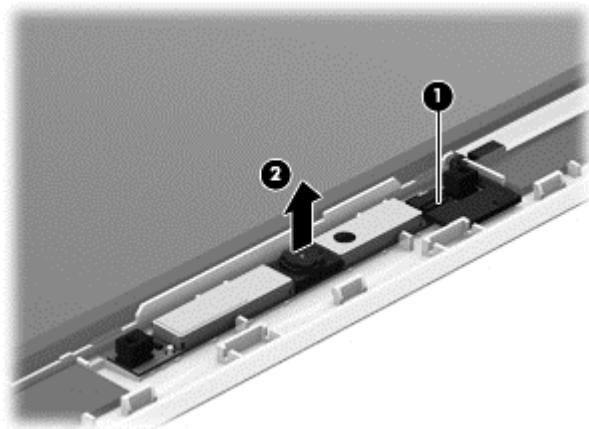
The display hinges are available using the following spare part numbers:

- 727483-001: Non-touchscreen
- 728930-001: Touchscreen
- 735102-001: Non-touchscreen with WWAN



9. If you need to replace the webcam module, disconnect the webcam cable **(1)**, and then lift to disengage the adhesive that secures the webcam **(2)** to the display enclosure.

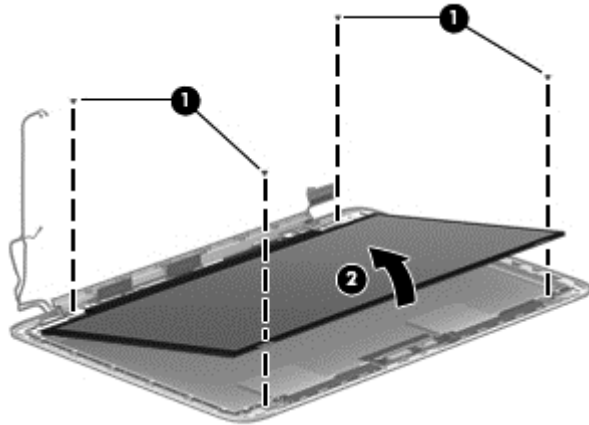
The webcam module is available using spare part number 725465-001.



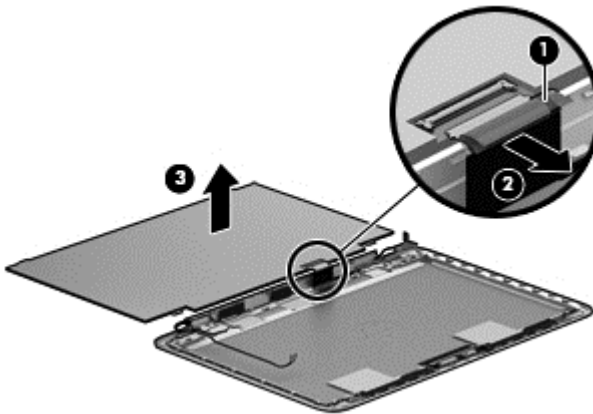
10. If you need to remove the raw display panel, remove the 4 Phillips PM2.0×3.0 screws **(1)** that secure the panel to the display enclosure, and then rotate the panel upward **(2)** to gain access to the display cable connection on the back .

Raw display panels are available using the following spare part numbers:

- 727509-001: HD BrightView
- 727510-001: HD AntiGlare
- 727511-001: QHD BrightView



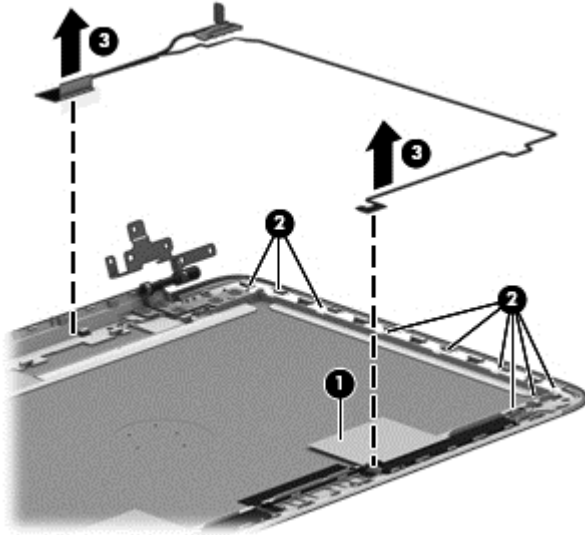
- 11.** Lift the adhesive strip atop the display panel connector on the back of the raw display panel **(1)**, and then disconnect the display cable. **(2)**. Remove the display panel from the display enclosure **(3)**.



- 12.** If you need to replace the display/webcam cable, lift the WWAN transceiver **(1)**.
- 13.** Remove the cable from routing clips on the side of the display enclosure **(2)**, and then lift the cable out of the display enclosure **(3)**.

Display panel cables are available using the following spare part numbers:

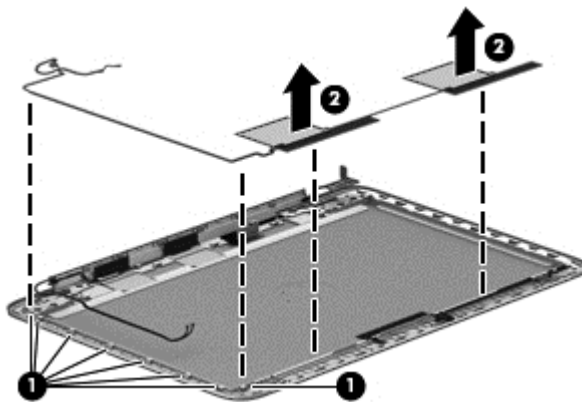
- 728929-001: Touchscreen displays
- 740240-001: QHD touchscreen displays
- 727479-001: Non-touchscreen displays



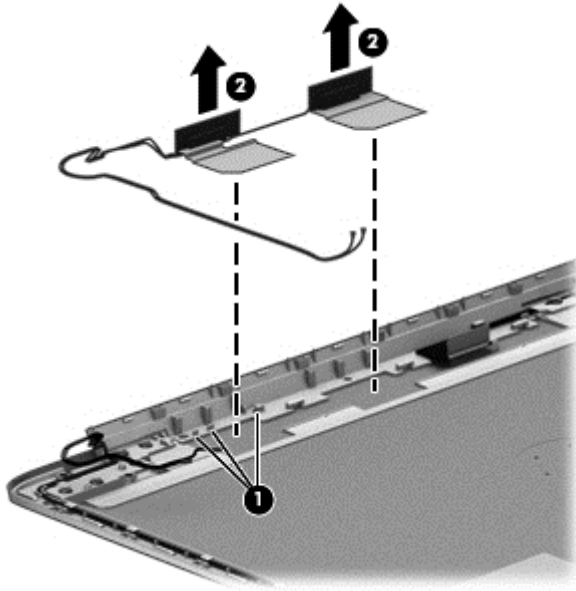
- 14.** If you need to replace the WWAN antennas and transceivers, remove the antennas from routing clips on the side of the display enclosure **(1)**, and then lift the antennas out of the display enclosure **(2)**. The WWAN antennas and transceivers route to the top of the display enclosure.

Antenna cables are available using the following spare part numbers:

- 727470-001: WLAN only, non-touchscreen displays
- 727471-001: WLAN only, touchscreen displays (models without WWAN)
- 727472-001: WWAN and WLAN, non-touchscreen displays



- 15.** If you need to replace the WLAN antennas and transceivers, remove the antennas from routing clips on the side of the display enclosure **(1)**, and then lift the antennas out of the display enclosure **(2)**. The WLAN antennas and transceivers route to the bottom of the display enclosure.



Reverse this procedure to install the display panel.




---

# 5 Setup Utility (BIOS) and System Diagnostics


## Using Setup Utility

Setup Utility, or Basic Input/Output System (BIOS), controls communication between all the input and output devices on the system (such as disk drives, display, keyboard, mouse, and printer). Setup Utility includes settings for the types of peripherals installed, the startup sequence of the computer, and the amount of system and extended memory.

 **NOTE:** Use extreme care when making changes in Setup Utility. Errors can prevent the computer from operating properly.

---

## Starting Setup Utility

 **NOTE:** An external keyboard or mouse connected to a USB port can be used with Setup Utility only if USB legacy support is enabled.

---

To start Setup Utility, follow these steps:

1. Turn on or restart the computer, and then press **esc** while the Press the ESC key for Startup Menu message is displayed at the bottom of the screen.
2. Press **f10** to enter Setup Utility.

## Changing the language of Setup Utility

1. Start Setup Utility.
2. Use the arrow keys to select **System Configuration > Language**, and then press **enter**.
3. Use the arrow keys to select a language, and then press **enter**.
4. When a confirmation prompt with your language selected is displayed, press **enter**.
5. To save your change and exit Setup Utility, use the arrow keys to select **Exit > Exit Saving Changes**, and then press **enter**.

Your change takes effect immediately.

## Navigating and selecting in Setup Utility

To navigate and select in Setup Utility, follow these steps:

1. Turn on or restart the computer, and then press **esc** while the Press the ESC key for Startup Menu message is displayed at the bottom of the screen.
  - To select a menu or a menu item, use the tab key and the keyboard arrow keys and then press **enter**, or use a pointing device to click the item.
  - To scroll up and down, click the up arrow or the down arrow in the upper-right corner of the screen, or use the up arrow key or the down arrow key.
  - To close open dialog boxes and return to the main Setup Utility screen, press **esc**, and then follow the on-screen instructions.
2. Press **f10** to enter Setup Utility.

To exit Setup Utility menus, choose one of the following methods:

- To exit Setup Utility menus without saving your changes, press the **esc** key, and then follow the on-screen instructions.

or

Use the arrow keys to select **Exit > Exit Discarding Changes**, and then press **enter**.

- To save your changes and exit Setup Utility menus, press **f10**, and then follow the on-screen instructions.

or

Use the tab key and the arrow keys to select **Exit > Exit Saving Changes**, and then press **enter**.


Your changes go into effect when the computer restarts.

## Displaying system information

1. Start Setup Utility.
2. Select the **Main menu**. System information such as the system time and date, and identification information about the computer is displayed.
3. To exit Setup Utility without changing any settings, use the arrow keys to select **Exit > Exit Discarding Changes**, and then press **enter**.

## Restoring factory settings in Setup Utility

---

 **NOTE:** Restoring defaults will not change the hard drive mode.

---

To return all settings in Setup Utility to the values that were set at the factory, follow these steps:


1. Turn on or restart the computer, and then press **esc** while the Press the ESC key for Startup Menu message is displayed at the bottom of the screen.
2. Press **f10** to enter Setup Utility.
3. Use the arrow keys to select **Exit > Load Setup Defaults**.
4. Follow the on-screen instructions.
5. To save your changes and exit, press **f10**, and then follow the on-screen instructions.

or

Use the arrow keys to select **Exit > Exit Saving Changes**, and then press **enter**.

Your changes go into effect when the computer restarts.

---

 **NOTE:** Your password settings and security settings are not changed when you restore the factory settings.

---

## Exiting Setup Utility

- To exit Setup Utility and save your changes from the current session:

If the Setup Utility menus are not visible, press **esc** to return to the menu display. Then use the arrow keys to select **Exit > Exit Saving Changes**, and then press **enter**.

- To exit Setup Utility without saving your changes from the current session:

If the Setup Utility menus are not visible, press **esc** to return to the menu display. Then use the arrow keys to select **Exit > Exit Discarding Changes**, and then press **enter**.

## Updating the BIOS

Updated versions of the BIOS may be available on the HP website.

Most BIOS updates on the HP website are packaged in compressed files called *SoftPaqs*.

Some download packages contain a file named *Readme.txt*, which contains information regarding installing and troubleshooting the file.

## Determining the BIOS version


To determine whether available BIOS updates contain later BIOS versions than those currently installed on the computer, you need to know the version of the system BIOS currently installed.

BIOS version information (also known as *ROM date* and *System BIOS*) can be displayed by pressing **fn** + **esc** (if you are already in Windows) or by using Setup Utility (BIOS).

1. Start Setup Utility (BIOS).
2. Use the arrow keys to select **Main**.
3. To exit Setup Utility (BIOS) without saving your changes, use the arrow keys to select **Exit**, select **Exit Discarding Changes**, and then press **enter**.

## Downloading a BIOS update

---

 **CAUTION:** To reduce the risk of damage to the computer or an unsuccessful installation, download and install a BIOS update only when the computer is connected to reliable external power using the AC adapter. Do not download or install a BIOS update while the computer is running on battery power, docked in an optional docking device, or connected to an optional power source. During the download and installation, follow these instructions:

Do not disconnect power from the computer by unplugging the power cord from the AC outlet.

Do not shut down the computer or initiate Sleep.


Do not insert, remove, connect, or disconnect any device, cable, or cord.

---

1. From the Start screen, select the **HP Support Assistant** app.
2. Click **Updates and tune-ups**, and then click **Check for HP updates now**.
3. Follow the on-screen instructions.
4. At the download area, follow these steps:
  - a. Identify the most recent BIOS update and compare it to the BIOS version currently installed on your computer. If the update is more recent than your BIOS, make a note of the date, name, or other identifier. You may need this information to locate the update later, after it has been downloaded to your hard drive.
  - b. Follow the on-screen instructions to download your selection to the hard drive.

Make a note of the path to the location on your hard drive where the BIOS update is downloaded. You will need to access this path when you are ready to install the update.

---

 **NOTE:** If you connect your computer to a network, consult the network administrator before installing any software updates, especially system BIOS updates.

---

BIOS installation procedures vary. Follow any instructions that are displayed on the screen after the download is complete. If no instructions are displayed, follow these steps:

1. From the Start screen, type **e**, and then select **File Explorer**.
2. Click your hard drive designation. The hard drive designation is typically Local Disk (C:).
3. Using the hard drive path you recorded earlier, open the folder on your hard drive that contains the update.

4. Double-click the file that has an .exe extension (for example, *filename.exe*).

The BIOS installation begins.

5. Complete the installation by following the on-screen instructions.

---

 **NOTE:** After a message on the screen reports a successful installation, you can delete the downloaded file from your hard drive.

---

## Using System Diagnostics

System Diagnostics allows you to run diagnostic tests to determine if the computer hardware is functioning properly. The following diagnostic tests are available in System Diagnostics:


- Start-up test — This test analyzes the main computer components that are required to start the computer.
- Run-in test — This test repeats the start-up test and checks for intermittent problems that the start-up test does not detect.
- Hard disk test — This test analyzes the physical condition of the hard drive, and then checks all data in every sector of the hard drive. If the test detects a damaged sector, it attempts to move the data to a good sector.
- Memory test — This test analyzes the physical condition of the memory modules. If it reports an error, replace the memory modules immediately.
- Battery test — This test analyzes the condition of the battery. If the battery fails the test, contact HP support to report the issue and purchase a replacement battery.

You can also view system information and error logs in the System Diagnostics window.

To start System Diagnostics:

1. Turn on or restart the computer. While the Press the ESC key for Startup Menu message is displayed in the lower-left corner of the screen, press **esc**. When the Startup Menu is displayed, press **f2**.
2. Click the diagnostic test you want to run, and then follow the on-screen instructions.

---

 **NOTE:** If you need to stop a diagnostics test while it is running, press **esc**.

---

# 6 Specifications

## Computer specifications

|   | Metric                    | U.S.                |
|---|---------------------------|---------------------|
| <b>Dimensions</b>   |                           |                     |
| Width   | <b>29.16 cm</b>           | 11.48 in            |
| Depth   | <b>2.15 cm</b>            | 8.46 in             |
| Height (front to back)  | <b>2.11 to 3.19 cm</b>    | 0.83 to 1.26 in     |
| <b>Weight</b>   |                           |                     |
| With 6-cell battery   | <b>1.60 kg</b>            | 3.53 lb             |
| With 3-cell battery   | <b>1.46 kg</b>            | 3.22 lb             |
| <b>Input power</b>  |                           |                     |
| Operating voltage and current   | 19.5 V dc @ 3.33 A - 65 W |                     |
| <b>Temperature</b>  |                           |                     |
| Operating   | <b>5C to 35C</b>          | 41F to 95F          |
| Nonoperating  | <b>20C to 60C</b>         | 4F to 140F          |
| <b>Relative humidity</b> (noncondensing)  |                           |                     |
| Operating   | 10% to 90%                |                     |
| Nonoperating  | 5% to 95%                 |                     |
| <b>Maximum altitude</b> (unpressurized)   |                           |                     |
| Operating   | <b>?15 m to 3,048 m</b>   | ?50 ft to 10,000 ft |
| Nonoperating  | <b>?15 m to 12,192 m</b>  | ?50 ft to 40,000 ft |
| <b>NOTE:</b> Applicable product safety standards specify thermal limits for plastic surfaces. The device operates well within this range of temperatures. |                           |                     |

## 35.6-mm (14.0-inch) display specifications

|                                | <b>Metric</b>                        | <b>U.S.</b> |
|--------------------------------|--------------------------------------|-------------|
| <b>Dimensions</b>              |                                      |             |
| Height                         | <b>16.50 cm</b>                      | 6.50 in     |
| Width                          | <b>25.34 cm</b>                      | 11.60 in    |
| Diagonal                       | <b>33.66 cm</b>                      | 14.0 in     |
| <b>Number of colors</b>        | 262,144                              |             |
| <b>Contrast ratio</b>          | 200:1 (typical)                      |             |
| <b>Brightness</b>              | 200 nits (typical)                   |             |
| <b>Pixel resolution</b>        |                                      |             |
| Pitch                          | <b>0.197 mm 0.197 mm</b>             |             |
| Format                         | 1366 768                             |             |
| Configuration                  | RGB vertical stripe                  |             |
| <b>Backlight</b>               | LED                                  |             |
| <b>Character display</b>       | 80 25                                |             |
| <b>Total power consumption</b> | 2.0 W                                |             |
| <b>Viewing angle</b>           | 65 horizontal, 50 vertical (typical) |             |

---

# 7 Backing up, restoring, and recovering

Your computer includes tools provided by HP and Windows to help you safeguard your information and retrieve it if you ever need to. These tools will help you return your computer to a proper working state or even back to the original factory state, all with simple steps.

This chapter provides information about the following processes:

- Creating recovery media and backups
- Restoring and recovering your system



**NOTE:** This guide describes an overview of backing up, restoring and recovering options. For more details about the tools provided, see Help and Support. From the Start screen, type **h**, and then select **Help and Support**.

---



# Creating recovery media and backups

Recovery after a system failure is only as good as your most recent backup.

1. After you successfully set up the computer, create HP Recovery media. This step creates a backup of the HP Recovery partition on the computer. The backup can be used to reinstall the original operating system in cases where the hard drive is corrupted or has been replaced.

HP Recovery media you create will provide the following recovery options:

- System Recovery — Reinstalls the original operating system and the programs that were installed at the factory.
- Minimized Image Recovery — Reinstalls the operating system and all hardware-related drivers and software, but not other software applications.
- Factory Reset — Restores the computer to its original factory state by deleting all information from the hard drive and re-creating the partitions. Then it reinstalls the operating system and the software that was installed at the factory.

See [Creating HP Recovery media on page 89](#).

2. As you add hardware and software programs, create system restore points. A system restore point is a snapshot of certain hard drive contents saved by Windows System Restore at a specific time. A system restore point contains information that Windows uses, such as registry settings. Windows creates a system restore point for you automatically during a Windows update and during other system maintenance (such as a software update, security scanning, or system diagnostics). You can also manually create a system restore point at any time. For more information and steps for creating specific system restore points, see Help and Support. From the Start screen, type **h**, and then select **Help and Support**.
3. As you add photos, video, music, and other personal files, create a backup of your personal information. Windows File History can be set to regularly and automatically back up files from libraries, desktop, contacts, and favorites. If files are accidentally deleted from the hard drive and they can no longer be restored from the Recycle Bin, or if files become corrupted, you can restore the files that you backed up using File History. Restoring files is also useful if you ever choose to reset the computer by reinstalling Windows or choose to recover using HP Recovery Manager.



---

**NOTE:** File History is not enabled by default, so you must turn it on.

---

For more information and steps for enabling Windows File History, see Help and Support. From the Start screen, type **h**, and then select **Help and Support**.

## Creating HP Recovery media

HP Recovery Manager is a software program that offers a way to create recovery media after you successfully set up the computer. HP Recovery media can be used to perform system recovery if the hard drive becomes corrupted. System recovery reinstalls the original operating system and the software programs installed at the factory, and then configures the settings for the programs. HP

Recovery media can also be used to customize the system or restore the factory image if you replace the hard drive.

- Only one set of HP Recovery media can be created. Handle these recovery tools carefully, and keep them in a safe place.
- HP Recovery Manager examines the computer and determines the required storage capacity for the blank USB flash drive or the number of blank DVD discs that will be required.
- To create recovery discs, your computer must have an optical drive with DVD writer capability, and you must use only high-quality blank DVD-R, DVD+R, DVD-R DL, or DVD+R DL discs. Do not use rewritable discs such as CDRW, DVDRW, double-layer DVDRW, or BD-RE (rewritable Blu-ray) discs; they are not compatible with HP Recovery Manager software. Or instead you can use a high-quality blank USB flash drive.
- If your computer does not include an integrated optical drive with DVD writer capability, but you would like to create DVD recovery media, you can use an external optical drive (purchased separately) to create recovery discs, or you can obtain recovery discs for your computer from the HP website. For U.S. support, go to <http://www.hp.com/go/contactHP>. For worldwide support, go to [http://welcome.hp.com/country/us/en/wwcontact\\_us.html](http://welcome.hp.com/country/us/en/wwcontact_us.html). If you use an external optical drive, it must be connected directly to a USB port on the computer; the drive cannot be connected to a USB port on an external device, such as a USB hub.
- Be sure that the computer is connected to AC power before you begin creating the recovery media.
- The creation process can take up to an hour or more. Do not interrupt the creation process.
- If necessary, you can exit the program before you have finished creating all of the recovery DVDs. HP Recovery Manager will finish burning the current DVD. The next time you start HP Recovery Manager, you will be prompted to continue, and the remaining discs will be burned.

To create HP Recovery media:

1. From the Start screen, type *recovery*, and then select **HP Recovery Manager**.
2. Select **Recovery Media Creation**, and then follow the on-screen instructions.

If you ever need to recover the system, see [Recovering using HP Recovery Manager on page 93](#).

# Restore and recovery

There are several options for recovering your system. Choose the method that best matches your situation and level of expertise:

- If you need to restore your personal files and data, you can use Windows File History to restore your information from the backups you created. For more information and steps for using File History, see Help and Support. From the Start screen, type `h`, and then select **Help and Support**.
- If you need to correct a problem with a preinstalled application or driver, use the Drivers and Applications Reinstall option of HP Recovery Manager to reinstall the individual application or driver.

From the Start screen, type `recovery`, select **HP Recovery Manager**, select **Drivers and Applications Reinstall**, and then follow the on-screen instructions.

- If you want to restore the system to a previous state without losing any personal information, Windows System Restore is an option. System Restore allows you to restore without the requirements of Windows Refresh or a reinstallation. Windows creates system restore points automatically during a Windows update and other system maintenance events. Even if you did not manually create a restore point, you can choose to restore to an automatically created restore point. For more information and steps for using Windows System Restore, see Help and Support. From the Start screen, type `h`, and then select **Help and Support**.
- If you want a quick and easy way to recover the system without losing your personal information, settings, or apps that came preinstalled on your computer or were purchased from the Windows Store, consider using Windows Refresh. This option does not require backing up data to another drive. See [Using Windows Refresh for quick and easy recovery on page 92](#).
- If you want to reset your computer to its original state, Windows provides an easy way to remove all personal data, apps, and settings, and reinstall Windows.

For more information, see [Remove everything and reinstall Windows on page 92](#).

- If you want to reset your computer using a minimized image, you can choose the HP Minimized Image Recovery option from the HP Recovery partition (select models only) or HP Recovery media. Minimized Image Recovery installs only drivers and hardware-enabling applications. Other applications included in the image continue to be available for installation through the Drivers and Applications Reinstall option in HP Recovery Manager.

For more information, see [Recovering using HP Recovery Manager on page 93](#).


- If you want to recover the computer's original factory partitioning and content, you can choose the System Recovery option from the HP Recovery partition (select models only) or the HP Recovery media. For more information, see [Recovering using HP Recovery Manager on page 93](#).
- If you have replaced the hard drive, you can use the Factory Reset option of HP Recovery media to restore the factory image to the replacement drive. For more information, see [Recovering using HP Recovery Manager on page 93](#).
- If you wish to remove the recovery partition to reclaim hard drive space, HP Recovery Manager offers the Remove Recovery Partition option.


For more information, see [Removing the HP Recovery partition on page 95](#).


## Using Windows Refresh for quick and easy recovery

When your computer is not working properly and you need to regain system stability, the Windows Refresh option allows you to start fresh and keep what is important to you.

---

 **IMPORTANT:** Refresh removes any traditional applications that were not originally installed on the system at the factory. Any Windows 8 apps that came preinstalled on your computer or were purchased from the Windows Store will be saved.

 **NOTE:** During Refresh, a list of removed traditional applications will be saved so that you have a quick way to see what you might need to reinstall. See Help and Support for instructions on reinstalling traditional applications. From the Start screen, type **h**, and then select **Help and Support**.

 **NOTE:** You may be prompted for your permission or password when using Refresh. See Help and Support for more information. From the Start screen, type **h**, and then select **Help and Support**.

---


To start Refresh:

1. From the Start screen, point to the upper-right or lower-right corner of the screen to reveal the charms.
2. Click **Settings**.
3. Click **Change PC settings** in the bottom-right corner of the screen, and then select **General** from the PC settings screen.
4. Under **Refresh your PC without affecting your files**, select **Get started**, and then follow the on-screen instructions.

## Remove everything and reinstall Windows

Sometimes you want to perform detailed reformatting of your computer, or you want to remove personal information before you give away or recycle your computer. The process described in this section provides a speedy, simple way to return the computer to its original state. This option removes all personal data, apps, and settings from your computer, and reinstalls Windows.

---

 **IMPORTANT:** This option does not provide backups of your information. Before using this option, back up any personal information you wish to retain.

---

You can initiate this option by using the **f11** key or from the Start screen.

To use the **f11** key:

1. Press **f11** while the computer boots.  
or  
Press and hold **f11** as you press the power button.
2. Select **Troubleshoot** from the boot options menu.
3. Select **Reset your PC**, and then follow the on-screen instructions.

To use the Start screen:

1. From the Start screen, point to the upper-right or lower-right corner of the screen to reveal the charms.
2. Click **Settings**.
3. Click **Change PC settings** in the bottom-right corner of the screen, and then select **General** from the PC settings screen.
4. Under **Remove everything and reinstall Windows**, select **Get started**, and follow the on-screen instructions.

## Recovering using HP Recovery Manager

HP Recovery Manager software allows you to recover the computer to its original factory state. Using the HP Recovery media you created, you can choose from one of the following recovery options:

- System Recovery — Reinstalls the original operating system, and then configures the settings for the programs that were installed at the factory.
- Minimized Image Recovery — Reinstalls the operating system and all hardware-related drivers and software, but not other software applications.
- Factory Reset — Restores the computer to its original factory state by deleting all information from the hard drive and re-creating the partitions. Then it reinstalls the operating system and the software that was installed at the factory.

The HP Recovery partition (select models only) allows System Recovery and Minimized Image Recovery.

## What you need to know

- HP Recovery Manager recovers only software that was installed at the factory. For software not provided with this computer, you must either download the software from the manufacturer's website or reinstall the software from the media provided by the manufacturer.
- Recovery through HP Recovery Manager should be used as a final attempt to correct computer issues.
- HP Recovery media must be used if the computer hard drive fails.
- To use the Factory Reset option, you must use HP Recovery media.
- If the HP Recovery media do not work, you can obtain recovery media for your system from the HP website. For U.S. support, go to <http://www.hp.com/go/contactHP>. For worldwide support, go to [http://welcome.hp.com/country/us/en/wwcontact\\_us.html](http://welcome.hp.com/country/us/en/wwcontact_us.html).



**IMPORTANT:** HP Recovery Manager does not automatically provide backups of your personal data. Before beginning recovery, back up any personal data you wish to retain.

## Using the HP Recovery partition to recover (select models only)

The HP Recovery partition (select models only) allows you to perform a system recovery or minimized image recovery without the need for recovery discs or a recovery USB flash drive. This type of recovery can only be used if the hard drive is still working.

To start HP Recovery Manager from the HP Recovery partition:

1. Press **f11** while the computer boots.  
or  
Press and hold **f11** as you press the power button.
2. Select **Troubleshoot** from the boot options menu.
3. Select **HP Recovery Manager**, and follow the on-screen instructions.

## Using HP Recovery media to recover

You can use HP Recovery media to recover the original system. This method can be used if your system does not have an HP Recovery partition or if the hard drive is not working properly.

1. If possible, back up all personal files.
2. Insert the first HP Recovery disc you created into the optical drive on your computer or into an optional external optical drive, and then restart the computer.

or

Insert the HP Recovery USB flash drive you created into a USB port on your computer, and then restart the computer.

---

 **NOTE:** If the computer does not automatically restart in HP Recovery Manager, change the computer boot order. See [Changing the computer boot order on page 94](#).

---

3. Follow the on-screen instructions.

## Changing the computer boot order

If computer does not restart in HP Recovery Manager, you can change the computer boot order, which is the order of devices listed in BIOS where the computer looks for startup information. You can change the selection for an optical drive or a USB flash drive.

To change the boot order:

1. Insert the HP Recovery media you created.
2. Restart the computer.
3. Press and hold **esc** while the computer is restarting, and then press **f9** for boot options.
4. Select the optical drive or USB flash drive you want to boot from.
5. Follow the on-screen instructions.

## Removing the HP Recovery partition

HP Recovery Manager software allows you to remove the HP Recovery partition to free up hard drive space.

---

 **IMPORTANT:** Removing the HP Recovery partition means you can no longer use Windows Refresh, the Windows Remove everything and reinstall Windows option, or the HP Recovery Manager option for recovery. Create HP Recovery media before removing the Recovery partition to ensure you have recovery options; see [Creating HP Recovery media on page 89](#).

---

Follow these steps to remove the HP Recovery partition:

1. From the Start screen, type `recovery`, and then select **HP Recovery Manager**.
2. Select **Remove Recovery Partition**, and then follow the on-screen instructions.

---

## 8 Power cord set requirements

The wide-range input feature of the computer permits it to operate from any line voltage from 100 to 120 volts AC, or from 220 to 240 volts AC.

The 3-conductor power cord set included with the computer meets the requirements for use in the country or region where the equipment is purchased.

Power cord sets for use in other countries and regions must meet the requirements of the country or region where the computer is used.

### Requirements for all countries

The following requirements are applicable to all countries and regions:

- The length of the power cord set must be at least **1.0 m** (3.3 ft) and no more than **2.0 m** (6.5 ft).
- All power cord sets must be approved by an acceptable accredited agency responsible for evaluation in the country or region where the power cord set will be used.
- The power cord sets must have a minimum current capacity of 10 A and a nominal voltage rating of 125 or 250 V ac, as required by the power system of each country or region.
- The appliance coupler must meet the mechanical configuration of an EN 60 320/IEC 320 Standard Sheet C13 connector for mating with the appliance inlet on the back of the computer.



## Requirements for specific countries and regions

| Country/region                 | Accredited agency | Applicable note number |
|--------------------------------|-------------------|------------------------|
| Argentina                      | IRAM              | 1                      |
| Australia                      | SAA               | 1                      |
| Austria                        | OVE               | 1                      |
| Belgium                        | CEBEC             | 1                      |
| Brazil                         | ABNT              | 1                      |
| Canada                         | CSA               | 2                      |
| Chile                          | IMQ               | 1                      |
| Denmark                        | DEMKO             | 1                      |
| Finland                        | FIMKO             | 1                      |
| France                         | UTE               | 1                      |
| Germany                        | VDE               | 1                      |
| India                          | ISI               | 1                      |
| Israel                         | SII               | 1                      |
| Italy                          | IMQ               | 1                      |
| Japan                          | JIS               | 3                      |
| The Netherlands                | KEMA              | 1                      |
| New Zealand                    | SANZ              | 1                      |
| Norway                         | NEMKO             | 1                      |
| The People's Republic of China | CCC               | 4                      |
| Saudi Arabia                   | SASO              | 7                      |
| Singapore                      | PSB               | 1                      |
| South Africa                   | SABS              | 1                      |
| South Korea                    | KTL               | 5                      |
| Sweden                         | SEMKO             | 1                      |
| Switzerland                    | SEV               | 1                      |
| Taiwan                         | BSMI              | 6                      |
| Thailand                       | TISI              | 1                      |
| The United Kingdom             | ASTA              | 1                      |

| <b>Country/region</b> | <b>Accredited agency</b> | <b>Applicable note number</b> |
|-----------------------|--------------------------|-------------------------------|
| The United States     | UL                       | 2                             |

- 1.** The flexible cord must be Type HO5VV-F, 3-conductor, 0.75-mm conductor size. Power cord set fittings (appliance coupler and wall plug) must bear the certification mark of the agency responsible for evaluation in the country or region where it will be used.
- 2.** The flexible cord must be Type SVT/SJT or equivalent, No. 18 AWG, 3-conductor. The wall plug must be a two-pole grounding type with a NEMA 5-15P (15 A, 125 V) or NEMA 6-15P (15 A, 250 V ac) configuration. CSA or C-UL mark. UL file number must be on each element.
- 3.** The appliance coupler, flexible cord, and wall plug must bear a T mark and registration number in accordance with the Japanese Dentori Law. The flexible cord must be Type VCTF, 3-conductor, 0.75-mm or 1.25-mm conductor size. The wall plug must be a two-pole grounding type with a Japanese Industrial Standard C8303 (7 A, 125 V ac) configuration.
- 4.** The flexible cord must be Type RVV, 3-conductor, 0.75-mm conductor size. Power cord set fittings (appliance coupler and wall plug) must bear the CCC certification mark.
- 5.** The flexible cord must be Type H05VV-F 3X0.75-mm conductor size. KTL logo and individual approval number must be on each element. Corset approval number and logo must be printed on a flag label.
- 6.** The flexible cord must be Type HVCTF 31.25-mm conductor size. Power cord set fittings (appliance coupler, cable, and wall plug) must bear the BSMI certification mark.
- 7.** For 127 V ac, the flexible cord must be Type SVT or SJT 3 x 18 AWG, with plug NEMA 5-15P (15 A, 125 V ac), with UL and CSA or C-UL marks. For 240 V ac, the flexible cord must be Type H05VV-F 30.75-/1.00-mm conductor size, with plug BS 1363/A with BSI or ASTA marks.

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## 9 Recycling

When a non-rechargeable or rechargeable battery has reached the end of its useful life, do not dispose of the battery in general household waste. Follow the local laws and regulations in your area for battery disposal.

HP encourages customers to recycle used electronic hardware, HP original print cartridges, and rechargeable batteries. For more information about recycling programs, see the HP Web site at <http://www.hp.com/recycle>.

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