



## HP ENVY x2 Detachable PC

Maintenance and Service Guide

**IMPORTANT!** This document is intended for HP authorized service providers only.

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**Product notice**

This guide describes features that are common to most models. Some features may not be available on your computer.

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

## Important Notice about Customer Self-Repair Parts

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 **CAUTION:** Your computer includes parts that should only be accessed by an authorized service provider. Accessing parts described in the chapter titled, "Removal and replacement procedures for Authorized Service Provider only parts," can damage the computer or void your warranty.

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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. 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

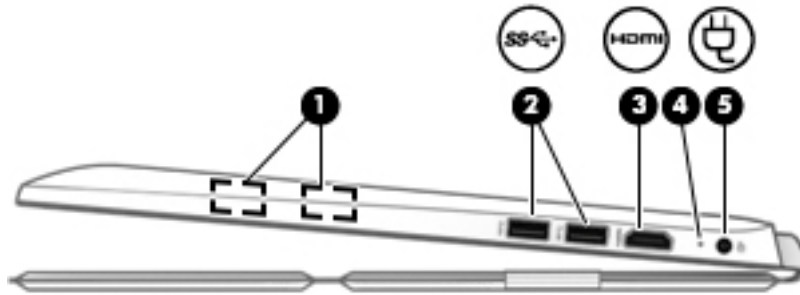
Category	Description
<b>Product Name</b>	HP ENVY x2 Detachable PC
<b>Processors</b>	<b>Intel Broadwell</b> Intel® Core™ M-5Y70 (2.6-GHz, 4-MB L3 cache, 4.5 W) Intel Core M-5Y10 (2.0-GHz, 4-MB L3 cache, 4.5 W) Intel Core M-5Y10a (2.0-GHz, 4-MB L3 cache, 4.5 W)
<b>Chipset</b>	Intel Integrated SoC Wildcat Point LP
<b>Graphics</b>	<b>Internal graphics</b> Intel HD graphics 5300 2D/3D Graphics Supports HD playback, streaming, and recording @ 1080p 30fps processors Supports DirectX11
<b>Panel</b>	<b>39.6-cm</b> (15.6-in), FHD, anti-glare, LED (1920×1080), slim 3.2-mm. UWVA, IPS, 220 nits <b>39.6-cm</b> (15.6-in), FHD, anti-glare, LED (1920×1080), slim 3.2-mm. UWVA, 50% CG, 250 nits Supports 16:9 ultra wide aspect ratio Touch solution with flush glass, multitouch enabled and Active Stylus writing support
<b>Memory</b>	Supports up to 8-GB system memory DDR3L-1600-MHz, single channel support <b>Intel Broadwell Y (LP-DDR3)</b> Supports up to 8 GB: 8192 (8192 × 1) 4096 (4096 × 1)
<b>Storage</b>	Supports 500 GB (5400 rpm) + 16 GB NAND Hybrid + Free Fall Sensor HDD, 5 mm Supports 500 GB (5400 rpm) + 8 GB NAND Hybrid + Free Fall Sensor HDD, 5 mm
<b>Audio</b>	Four integrated speakers Beats Audio (Realtek ALC3227-CG)
<b>Webcam and microphone</b>	Front webcam, 2 MP, fixed (10 degree) + activity LED, 1080p by 30 frames per second Dual array Digital Microphones w/ appropriate software - beam forming, echo cancellation, noise suppression Supports voice recognition
<b>Sensors</b>	Accelerometer Gyroscope eCompass

Category	Description
<b>Wireless</b>	<p>Integrated WLAN options by way of wireless module and dual antennas</p> <p>Supports the following WLAN formats:</p> <p>Intel Dual Band Wireless-AC 3160 802.11 ac 1x1 WiFi + BT 4.0 Combo Adapter_US</p> <p>Intel Dual Band Wireless-AC 7265 802.11 ac 2x2 WiFi + BT 4.0 Combo Adapter (non vPRO)</p> <p>Intel WiDi5.0 support</p> <p>Compatible with Miracast-certified devices</p>
<b>External media card</b>	<p>Micro Secure Digital (SD) Media Reader</p> <p>Push-push insertion/removal</p> <p>Support SD/SDHC/SDXC with UHS</p>
<b>Internal card</b>	<p>One M.2 slot for WLAN</p>
<b>Ports</b>	<p><b>Tablet:</b></p> <p>Headphone/mic-in combo jack</p> <p>DC-in port</p> <p>Pogo-pin (9 PIN) docking connector (to thin keyboard cover or audio dock)</p> <p>HDMI v1.4 supporting: up to 1920x1080 @ 60Hz</p> <p>USB 3.0 (2)</p> <p><b>Thin Keyboard Cover:</b></p> <p>Pogo-pin (9 PIN) docking connector (to tablet)</p> <p><b>Audio Dock:</b></p> <p>Hot Plug / Unplug and auto detect for correct output to wide-aspect vs. standard aspect video</p> <p>(auto adjust panel resolution to fit embedded panel and external monitor connected)</p>
<b>Keyboard/Touchpad</b>	<p><b>Detachable Soft Keyboard Cover (Bluetooth wireless interface):</b></p> <p>Full-sized, island style, thin cover backlit keyboard (1.5 mm travel distance) with image sensor clickpad and 1500 mA polymer battery</p> <p><b>Touchpad requirements:</b></p> <p>Taps enabled as default</p> <p>Clickpad with image sensor</p> <p>Supports Windows 8 modern touchpad gestures</p> <p>Multi-touch gestures enabled (Default on for 2-finger scroll and pinch)</p> <p><b>Active stylus:</b></p> <p>Support active stylus writing</p>
<b>Power requirements</b>	<p><b>AC adapter:</b></p> <p>45-W Smart PFC, non-slim, 26.5 mm, 19.5V</p> <p>1 meter (3.3 ft) length power cord</p> <p><b>Tablet battery:</b></p> <p>3-cell, 50 WHr battery (4.45 Ah)</p>
<b>Operating system</b>	<p><b>Tablet (Preinstalled):</b></p>

<b>Category</b>	<b>Description</b>
	Windows 8.1 Standard, 64 bit
<b>Serviceability</b>	<b>End-user replaceable parts:</b>
	AC adapter

## 2 External component identification

### Right side



Component	Description
(1)	Magnetic pen holder
(2)	USB 3.0 ports (2)
(3)	HDMI port
(4)	AC adapter light
(5)	Power connector

Hold the digitizer pen (select models only) magnetically to the tablet for temporary storage.

**IMPORTANT:** To prevent losing your pen, avoid carrying the tablet around when the pen is attached to the magnetic pen holder.

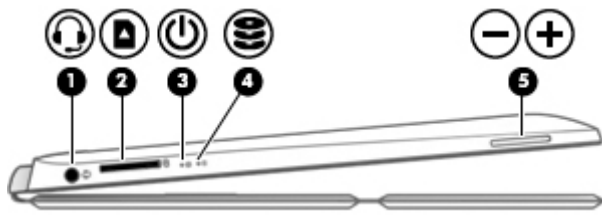
Connect optional USB devices, such as a keyboard, mouse, external drive, printer, scanner or USB hub.




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.

- On: The AC adapter is connected and the battery is charged.
- Off: The tablet is using battery power.

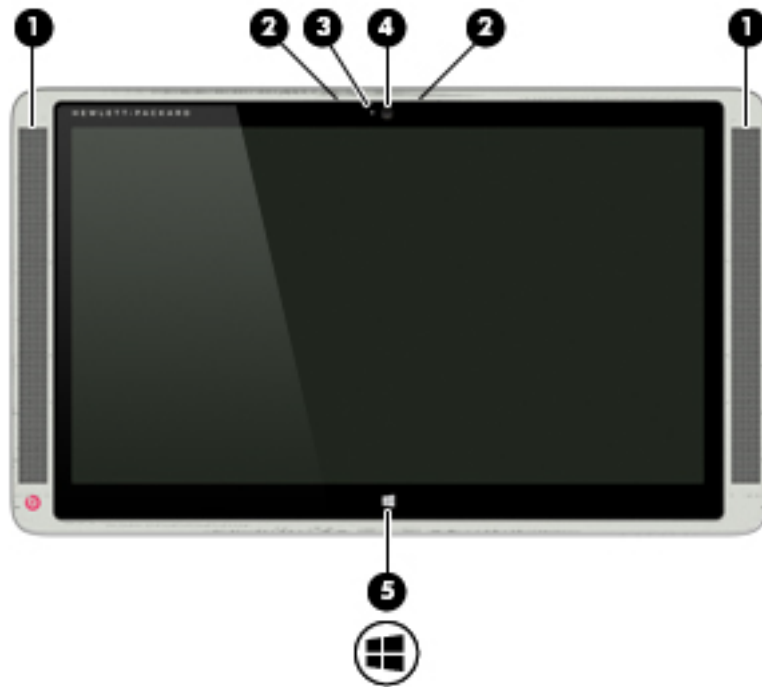
Connects an AC adapter.

## Left side



Component	Description
<b>(1)</b>  Audio-out (headphone)/Audio-in (microphone) jack	<p>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.</p> <p><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, from the Start screen, type <code>support</code>, and then select the <b>HP Support Assistant</b> app.</p> <p><b>NOTE:</b> When a device is connected to the jack, the tablet speakers are disabled.</p> <p><b>NOTE:</b> Be sure that the device cable has a 4-conductor connector that supports both audio-out (headphone) and audio-in (microphone).</p>
<b>(2)</b>  Memory card reader	<p>Reads optional memory cards that store, manage, share, or access information.</p> <p>To insert a card:</p> <p>Hold the card label-side up, with connectors facing the slot, insert the card into the slot, and then push in on the card until it is firmly seated.</p> <p>To remove a card:</p> <p>Press in on the card it until it pops out.</p>
<b>(3)</b>  Hard drive light	<ul style="list-style-type: none"> <li>Blinking white: The hard drive is being accessed.</li> </ul>
<b>(4)</b>  Power light	<ul style="list-style-type: none"> <li>On: The tablet is on.</li> <li>Blinking: The tablet is in the Sleep state, a power-saving state. The tablet shuts off power to the display and other unneeded components.</li> <li>Off: The tablet is off or in Hibernation. Hibernation is a power-saving state that uses the least amount of power.</li> </ul>
<b>(5)</b>  Volume buttons	<p>Controls speaker volume on the tablet.</p> <ul style="list-style-type: none"> <li>To increase speaker volume, press the + edge of the button.</li> <li>To decrease speaker volume, press the – edge of the button.</li> </ul>

## Display




Component	Description
(1) Speakers (2)	Produce sound.
(2) Internal microphones (2)	Record sound.
(3) Webcam light	On: The webcam is in use.
(4) Webcam	Records video and captures photographs. Some models allow you to video conference and chat online using streaming video.  To use the webcam, from the Start screen, type <i>camera</i> , and then select <b>Camera</b> from the list of applications.
(5) Windows button	Returns you to the Start screen from an open app or the Windows desktop.  <b>NOTE:</b> Pressing the Windows button again will return you to the previous screen.

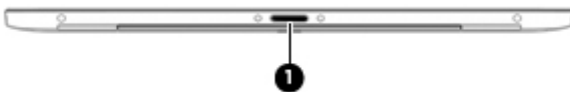


## Front



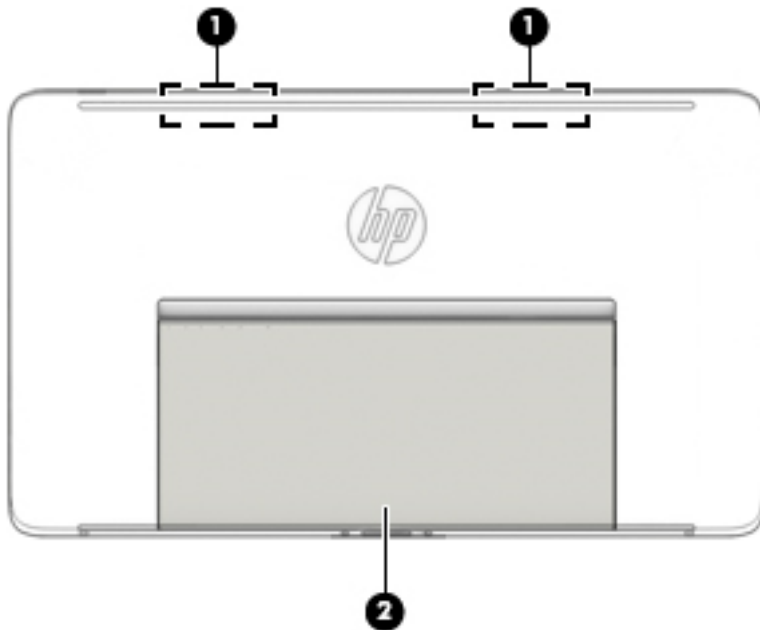
Component	Description
(1)  Power button	<ul style="list-style-type: none"><li>• When the tablet is off, press the button to turn on the tablet.</li><li>• When the tablet is on, press the button briefly to initiate Sleep.</li><li>• When the tablet is in the Sleep state, press the button briefly to exit Sleep.</li><li>• When the tablet 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 tablet has stopped responding and Windows shutdown procedures are ineffective, press and hold the power button down for at least 5 seconds to turn off the tablet.</p> <p>To learn more about your power settings, see your power options. From the Start screen, type <code>power</code>, select <b>Power and sleep settings</b>, and then select <b>Power and sleep</b> from the list of applications.</p>

## Rear



Component	Description
(1) Docking port	Connects the tablet to the keyboard base (for keyboard charging only).

## Bottom



Component	Description
(1) WLAN antennas (2)*	Send and receive wireless signals.
(2) Tablet stand	Positions the tablet at different angles.


\*The antennas are not visible from the outside of the tablet. 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, from the Start screen, type `support`, and then select the **HP Support Assistant** app.

## Adjusting the tablet stand

You can adjust the tablet stand to position the tablet at different angles.

- ▲ To adjust the tablet stand, pull the stand out and move it up or down to position the tablet.

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 **NOTE:** The tablet stand can open at angles from 110° (minimum) to 163° (maximum).

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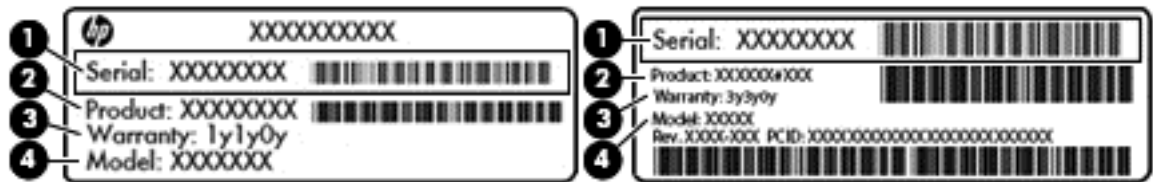
# Labels

The labels affixed to the tablet provide information you may need when you troubleshoot system problems or travel internationally with the tablet.

 **IMPORTANT:** All labels described in this section are located on the bottom of the tablet under the tablet stand.

- Service label—Provides important information to identify your tablet. When contacting support, you will probably be asked for the serial number, and possibly for the product number or the model number. Locate these numbers before you contact support.


Your service label will resemble one of the examples shown below. Refer to the illustration that most closely matches the service label on your tablet.



## Component

(1)	Serial number
(2)	Product number
(3)	Warranty period
(4)	Model number (select models only)

- Microsoft Certificate of Authenticity label (select models only prior to Windows 8)—Contains the Windows Product Key. You may need the Product Key to update or troubleshoot the operating system. HP platforms preinstalled with Windows 8 or Windows 8.1 do not have the physical label, but have a Digital Product Key electronically installed.

 **NOTE:** This Digital Product Key is automatically recognized and activated by Microsoft Operating Systems on a reinstall of the Windows 8 or Windows 8.1 operating system with HP-approved recovery methods.

- Regulatory label(s)—Provide(s) regulatory information about the tablet.
- Wireless certification label(s)—Provide(s) information about optional wireless devices and the approval markings for the countries or regions in which the devices have been approved for use.

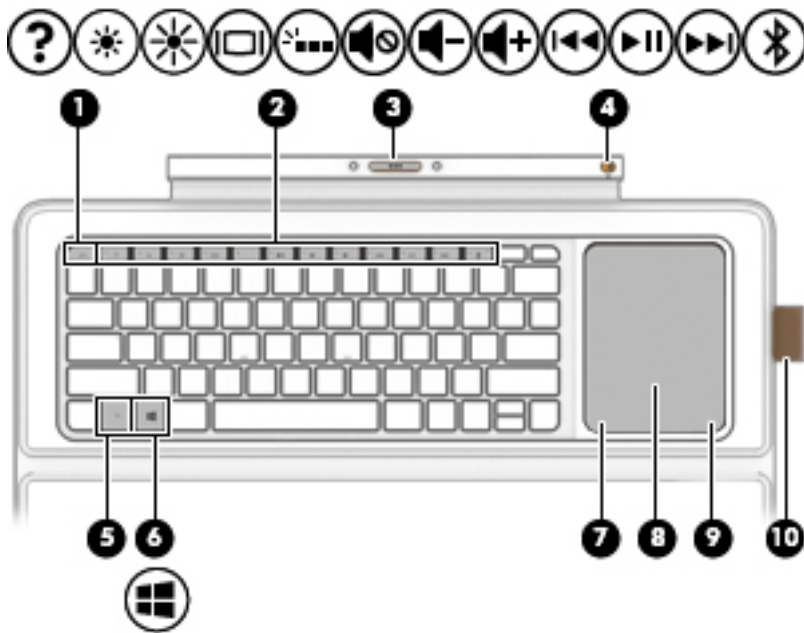
# 3 Using the keyboard base




Your tablet includes a full-size, detachable Bluetooth keyboard base for easy navigation. After the keyboard base is paired, you can use the keyboard base either attached or detached from the tablet.

**IMPORTANT:** Before you can use your keyboard base, you must pair the keyboard base with the tablet to establish a connection. See [Pairing the keyboard base on page 14](#) for more information.

## Keyboard base components

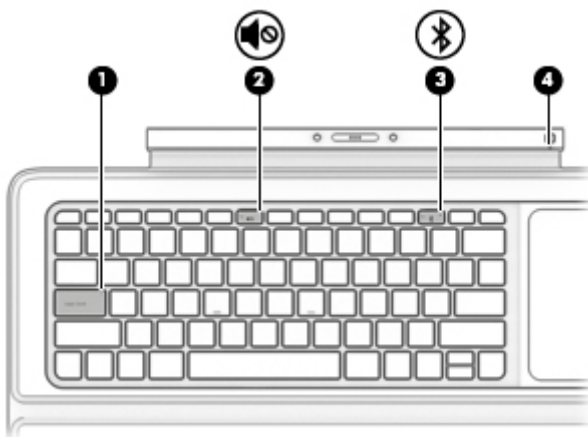
### Top





Component	Description
(1)  <b>esc</b> key	Displays system information when pressed in combination with the <b>fn</b> key.
(2) Action keys	Execute frequently used system functions. <b>NOTE:</b> On select models, the <b>f5</b> action key turns the keyboard base backlight feature off or on.
(3) Docking connector	Connects the tablet to the keyboard base (for keyboard charging only).
(4) Keyboard base on/off switch	Turns the keyboard base on and off.
(5)  <b>fn</b> key	Executes frequently used system functions when pressed in combination with the <b>esc</b> key or the <b>b</b> key.
(6)  Windows key	Returns you to the Start screen from an open app or the Windows desktop.

Component	Description
	<b>NOTE:</b> Pressing the Windows key again returns you to the previous screen.
(7) Left TouchPad button	Functions like the left button on an external mouse.
(8) TouchPad zone	Reads your finger gestures to move the pointer or activate items on the screen. <b>NOTE:</b> The TouchPad also supports edge-swipe gestures.
(9) Right TouchPad button	Functions like the right button on an external mouse.
(10) Pen holder	Holds the digitizer pen (select models only).

## Lights



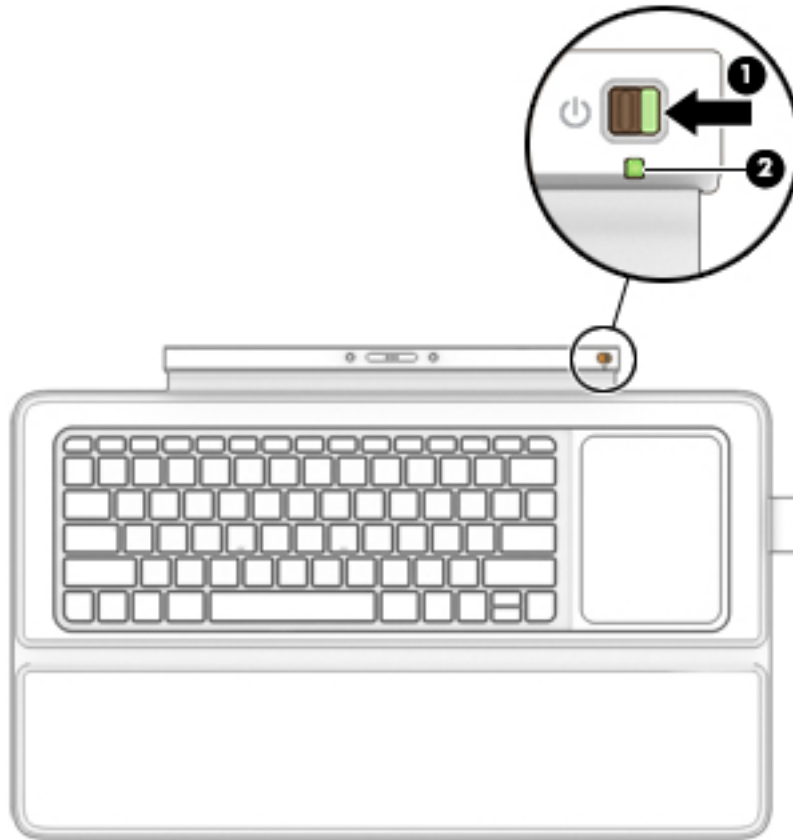
Component	Description
(1) Caps lock light	On: Caps lock is on, which switches the keys to all capital letters.
(2)  Mute light	<ul style="list-style-type: none"> <li>Amber: Tablet sound is off.</li> <li>Off: Tablet sound is on.</li> </ul>
(3)  Pairing light	<ul style="list-style-type: none"> <li>Blinking white: The keyboard base and tablet are pairing.</li> <li>Solid white: The keyboard base and tablet are successfully paired.</li> </ul> <p><b>NOTE:</b> After Bluetooth is successfully paired, the light will turn off.</p>
(4) Keyboard base battery light	<ul style="list-style-type: none"> <li>Blinking amber: The keyboard base has less than 10% battery life.</li> <li>Solid amber: The keyboard base battery is charging.</li> <li>Off: The keyboard base battery is fully charged.</li> </ul>

## Turning on the keyboard base

To turn on the keyboard base:

1. If you have not already removed the keyboard label, remove the keyboard label **(1)** from the keyboard.
2. Slide the power switch **(2)** to the left to turn on the keyboard base.

The battery light **(3)** blinks when the keyboard base needs to be charged.




## Pairing the keyboard base

If you did not pair your keyboard base during the initial tablet setup, you can pair your keyboard base through Bluetooth settings.



**IMPORTANT:** Before you can use your keyboard base, you must pair the keyboard base with the tablet to establish a connection.

1. Turn on the tablet **(1)** and keyboard base **(1)**.
2. Adjust the tablet stand and connect the tablet to the keyboard base **(2)**. See [Adjusting the tablet stand on page 9](#) and [Connecting the tablet to the keyboard base on page 28](#) for more information.
3. Press the **Pairing** key  (F12) **(3)** on the keyboard base for 3 seconds or until the pairing light begins to blink rapidly.
4. From the Start screen, swipe from the right edge of the TouchPad or touch screen to display the charms, and then select **Settings**.
5. Select **Change PC Settings**, select **PC and device**, select **Bluetooth**, and then select **HP Wireless Bluetooth Backlight Keyboard**.
6. Type the PIN code and press **Enter**. The pairing light will be solid white when the pairing is successful and then the light will turn off.



**TIP:** If the pairing is not successful, repeat step 3 through 6.



**NOTE:** After the keyboard base has been paired with the tablet, it must be charged before using it for the first time. The battery light on the keyboard base turns off when the keyboard base is completely charged. See [Charging the keyboard base battery on page 14](#) for more information.

## Charging the keyboard base battery

The keyboard base has an internal, rechargeable battery. When the keyboard base battery light is blinking amber, there is less than 10% battery charge remaining in the keyboard base.

To charge the keyboard base battery:

1. Connect the tablet to AC power.
2. Connect the keyboard base to the tablet. The battery light turns off when the keyboard base is completely charged.



## Folding the keyboard base as a cover


The keyboard base can fold into a cover to protect the entire tablet display.



## Using the keyboard base keys

The keyboard base allows you to type, select items, scroll and to perform the same functions as you do using touch gestures. You can quickly access information or perform functions by using certain keys and key combinations.




**TIP:** The Windows key  on the keyboard base allows you to quickly return to the Start screen from an open app or the Windows desktop. Pressing the Windows key again will return you to the previous screen.



**NOTE:** Depending on the country or region, your keyboard base may have different keys and keyboard functions than those discussed in this section.

## Using Windows shortcut keys

Windows provides shortcuts so that you can perform actions quickly. Press the Windows key  alone or in combination with a specific key to perform a designated action.

## Using the action keys













An action key performs an assigned function. The icon on each of the function keys illustrates the assigned function for that key.

To use an action key function, press and hold the key.

**⚠ CAUTION:** Use extreme care when making changes in Setup Utility (BIOS). Errors can prevent the tablet from operating properly.

The action key feature is enabled at the factory. You can disable this feature in Setup Utility (BIOS). See [Using Setup Utility \(BIOS\) and HP PC Hardware Diagnostics \(UEFI\) on page 57](#) for instructions on opening Setup Utility (BIOS), and then follow the instructions at the bottom of the screen.

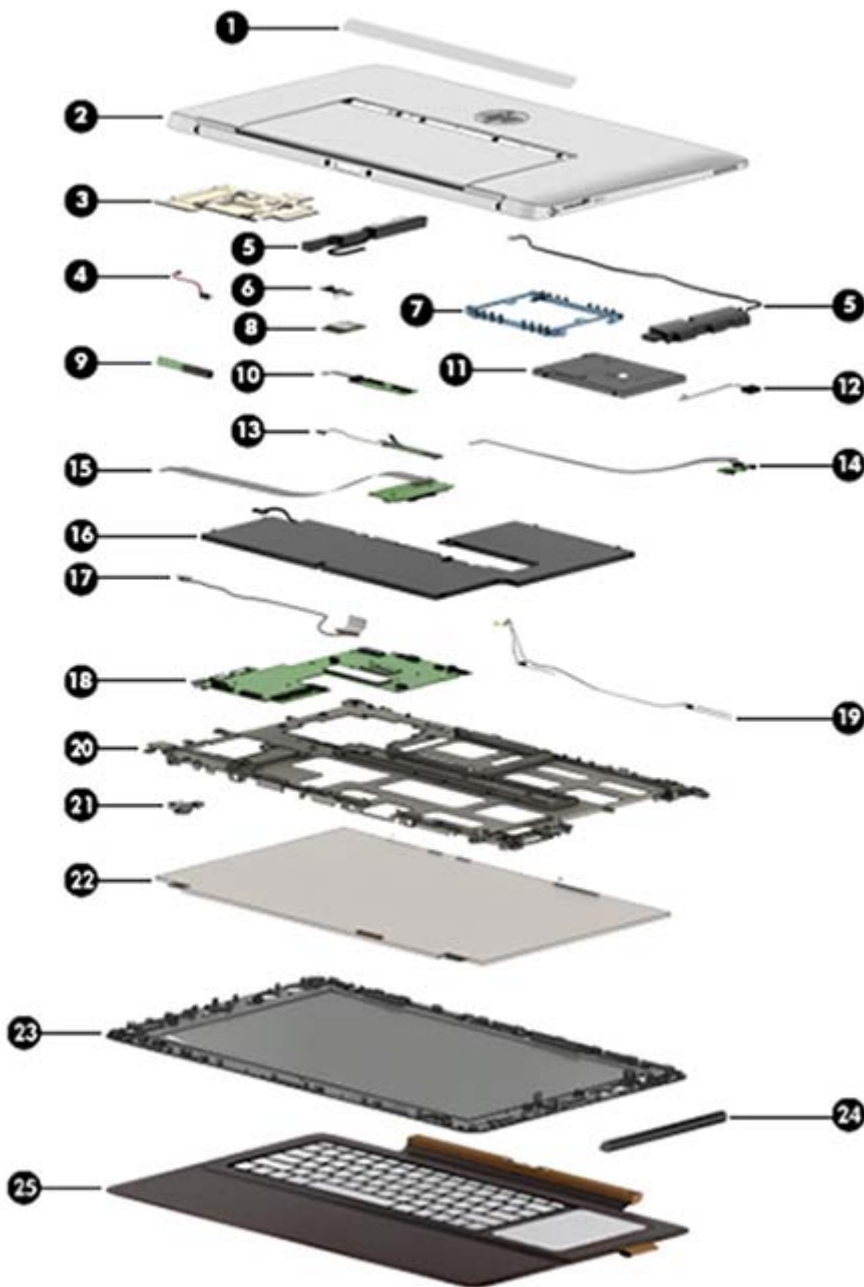
After you have disabled the action key feature, you can still perform each function by pressing the **fn** key in combination with the appropriate action key.

Icon	Key	Description
	f1	Opens Help and Support, which provides tutorials, information about the Windows operating system and your tablet, answers to questions, and updates to your tablet.  Help and Support also provides automated troubleshooting tools and access to support.
	f2	Decreases the screen brightness incrementally as long as you hold down the key.
	f3	Increases the screen brightness incrementally as long as you hold down the key.
	f4	Switches the screen image between display devices connected to the system. For example, if a monitor is connected to the tablet, repeatedly pressing this key alternates the screen image from the tablet display to the monitor display to a simultaneous display on both the tablet and the monitor.
	f5	On select models, turns the keyboard base backlight feature off or on.  <b>NOTE:</b> To conserve battery power, turn off this feature.
	f6	Mutes or restores speaker sound.
	f7	Decreases speaker volume incrementally as long as you hold down the key.
	f8	Increases speaker volume incrementally as long as you hold down the key.
	f9	Plays the previous track of an audio CD or the previous section of a DVD or a BD.
	f10	Begins, pauses, or resumes playback of an audio CD, a DVD, or a BD.
	f11	Plays the next track of an audio CD or the next section of a DVD or a BD.
	f12	Pairs the keyboard base to the tablet.  <b>NOTE:</b> The f12 key is for pairing only and does not establish a wireless connection for the tablet.

# 4 Illustrated parts catalog

## Tablet components

 **NOTE:** HP continually improves and changes product parts. For complete and current information on supported parts for your computer, go to <http://partsurfer.hp.com>, select your country or region, and then follow the on-screen instructions.



<b>Item</b>	<b>Component</b>	<b>Spare part number</b>
<b>(1)</b>	<b>Recess cover</b>	790022-001
<b>(2)</b>	<b>Rear cover</b> (includes hinge, hinge cover, antenna, stand cover, recess cover, and screws)	783092-001
<b>(3)</b>	<b>Heat sink</b>	not spared
<b>(4)</b>	<b>Vibration board</b> (includes cable)	783106-001
<b>(5)</b>	<b>Speaker Kit</b> (includes left and right speakers)	783110-001
<b>(6)</b>	Hard drive connector	
<b>(7)</b>	Hard drive insulator bracket	
<b>(8)</b>	<b>WLAN module</b>	
	Intel Dual Band Wireless-AC 3160 802.11 ac 1x1 WiFi + BT 4.0 Combo Adapter_US	756751-005
	Intel Dual Band Wireless-AC 7265 802.11 ac 2x2 WiFi + BT 4.0 Combo Adapter (non vPRO)	784644-005
	<b>Hard Drive Hardware Kit</b> , includes:	783097-001
<b>(9)</b>	<b>POGO board</b> (includes cable)	783103-001
<b>(10)</b>	<b>Touch screen board</b> (includes cable)	783105-001
<b>(11)</b>	<b>Hard drive</b>	
	500-GB, 5400-rpm, hybrid with 16 GB SSD	762179-005
	500-GB, 5400-rpm, hybrid with 8 GB SSD	775520-005
<b>(12)</b>	<b>Power button board</b> (includes cable)	783101-001
<b>(13)</b>	<b>Webcam</b> (includes cable)	783117-001
<b>(14)</b>	<b>Volume control board</b> (includes cable)	783104-001
<b>(15)</b>	<b>Audio/SD board</b> (includes cable)	783102-001
<b>(16)</b>	<b>Battery</b> (3-cell, 50-WHr, 4.45-AH)	767069-006
<b>(17)</b>	<b>Display cable</b>	783094-001
<b>(18)</b>	<b>System board</b> (includes processor and thermal grease)	
	Non-Windows 8 models with an Intel Core M-5Y70 processor and 8 GB of system memory	783115-001
	Windows 8 Standard models with an Intel Core M-5Y70 processor and 8 GB of system memory	783115-501
	Non-Windows 8 models with an Intel Core M-5Y70 processor and 4 GB of system memory	783112-001
	Windows 8 Standard models with an Intel Core M-5Y70 processor and 4 GB of system memory	783112-501
	Non-Windows 8 models with an Intel Core M-5Y10 processor and 8 GB of system memory	783116-001
	Windows 8 Standard models with an Intel Core M-5Y10 processor and 8 GB of system memory	783116-501
	Non-Windows 8 models with an Intel Core M-5Y10 processor and 4 GB of system memory	783113-001
	Windows 8 Standard models with an Intel Core M-5Y10 processor and 4 GB of system memory	783113-501
<b>(19)</b>	<b>WLAN antenna</b>	783091-001
<b>(20)</b>	<b>Display frame</b>	not spared
<b>(21)</b>	<b>Power connector</b>	783095-001

Item	Component	Spare part number
	<b>NOTE:</b> Clean bench required to assemble with display.	
(22)	<b>Display panel</b> (raw)	783108-001
	<b>NOTE:</b> Clean bench required to assemble with display.	
(23)	<b>Display bezel</b> (includes bezel and touchscreen glass)	783093-001
	<b>NOTE:</b> Clean bench required to assemble with display.	
(24)	<b>Synaptics Active Pen</b>	773175-001
(25)	<b>Keyboard base, detachable, Bluetooth</b> (includes battery)	
	For use in Canada (English/French)	783099-DB1
	For use in Denmark, Finland, and Norway	783099-DH1
	For use in France	783099-051
	For use in Germany	783099-041
	For use in internationally	783099-B31
	For use in Latin America	783099-161
	For use in Spain	783099-071
	For use in Switzerland	783099-BG1
	For use in the United Kingdom	783099-031
	For use in the United States	783099-001
	<b>Display assembly</b> (not illustrated; includes display panel, bezel, touchscreen glass, touchscreen control board with cable, middle frame, power connector, screws, foam, and tape)	783107-001

## Miscellaneous parts

Description	Spare part number
<b>Screw Kit</b>	783109-001
<b>Hard Drive Hardware Kit</b> (includes insulator bracket and cable)	783097-001
<b>Adapters</b>	
HDMI to VGA adapter	701943-001
RJ-45 to USB adapter	539614-001
<b>AC adapter</b> , 45-W AC adapter, non-slim, nPFC	741727-001
<b>Power cords</b> (1.0 m)	
For use in Australia	755530-011
For use in Denmark	755530-081
For use in Europe, the Middle East, and Africa	755530-021
For use in Switzerland	755530-111
For use in the United Kingdom	755530-031
For use in the United States	755530-001

## Sequential part number listing

Spare part number	Description
539614-001	RJ-45 to USB adapter
701943-001	HDMI to VGA adapter
741727-001	45-W AC adapter, non-slim, nPFC
755530-001	Power cord for use in North America
755530-011	Power cord for use in Australia
755530-021	Power cord for use in Europe, the Middle East, and Africa
755530-031	Power cord for use in the United Kingdom
755530-081	Power cord for use in Denmark
755530-111	Power cord for use in Switzerland
756751-005	Intel Dual Band Wireless-AC 3160 802.11 ac 1x1 WiFi + BT 4.0 Combo Adapter_US
762179-005	500-GB, 5400-rpm, hybrid hard drive with 16 GB SSD
767069-006	3-cell, 50-WHr, 4.45-AH battery
773175-001	Synaptics Active Pen
775520-005	500-GB, 5400-rpm, hybrid hard drive with 8 GB SSD
783091-001	Antennas
783092-001	Rear cover (includes hinge, hinge cover, antenna, stand cover, recess cover, and screws)

Spare part number	Description
783093-001	Display bezel (includes bezel and touchscreen glass) <b>NOTE:</b> Clean bench required to assemble with display.
783094-001	Display cable
783095-001	Power connector <b>NOTE:</b> Clean bench required to assemble with display.
783097-001	Hard Drive Hardware Kit (includes insulator bracket and cable)
783099-001	Keyboard base, detachable, Bluetooth (includes battery) for use in the United States
783099-031	Keyboard base, detachable, Bluetooth (includes battery) for use in the United Kingdom
783099-041	Keyboard base, detachable, Bluetooth (includes battery) for use in Germany
783099-051	Keyboard base, detachable, Bluetooth (includes battery) for use in France
783099-071	Keyboard base, detachable, Bluetooth (includes battery) for use in Spain
783099-161	Keyboard base, detachable, Bluetooth (includes battery) for use in Latin America
783099-B31	Keyboard base, detachable, Bluetooth (includes battery) for use internationally
783099-BG1	Keyboard base, detachable, Bluetooth (includes battery) for use in Switzerland
783099-DB1	Keyboard base, detachable, Bluetooth (includes battery) for use in Canada (English/French)
783099-DH1	Keyboard base, detachable, Bluetooth (includes battery) for use in Denmark, Finland, and Norway
783101-001	Power button board (includes cable)
783102-001	Audio/SD board (includes cable)
783103-001	POGO board (includes cable)
783104-001	Volume control board (includes cable)
783105-001	Touch screen board (includes cable)
783106-001	Vibration board (includes cable)
783107-001	Display assembly (includes display panel, bezel, touchscreen glass, touchscreen control board with cable, middle frame, power connector, screws, foam, and tape)
783108-001	Display panel (raw) <b>NOTE:</b> Clean bench required to assemble with display.
783109-001	Screw Kit
783110-001	Speaker Kit (includes left and right speakers)
783112-001	System board for use with non-Windows 8 models with an Intel Core M-5Y70 processor and 4 GB of system memory (includes processor and replacement thermal material)
783112-501	System board for use with Windows 8 Standard models with an Intel Core M-5Y70 processor and 4 GB of system memory (includes processor and replacement thermal material)
783113-001	System board for use with non-Windows 8 models with an Intel Core M-5Y10 processor and 4 GB of system memory (includes replacement thermal material)
783113-501	System board for use with Windows 8 Standard models with an Intel Core M-5Y10 processor and 4 GB of system memory (includes replacement thermal material)

<b>Spare part number</b>	<b>Description</b>
783115-001	System board for use with non-Windows 8 models with an Intel Core M-5Y70 processor and 8 GB of system memory (includes processor and replacement thermal material)
783115-501	System board for use with Windows 8 Standard models with an Intel Core M-5Y70 processor and 8 GB of system memory (includes processor and replacement thermal material)
783116-001	System board for use with non-Windows 8 models with an Intel Core M-5Y10 processor and 8 GB of system memory (includes processor and replacement thermal material)
783116-501	System board for use with Windows 8 Standard models with an Intel Core M-5Y10 processor and 8 GB of system memory (includes processor and replacement thermal material)
783117-001	Webcam (includes cable)
784644-005	Intel Dual Band Wireless-AC 7265 802.11 ac 2x2 WiFi + BT 4.0 Combo Adapter (non vPRO)
790022-001	Recess cover



---

# 5 Removal and replacement procedures preliminary requirements

## Tools required


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

- Flat-bladed screwdriver
- Phillips P0 and P1 screwdrivers
- Torx T8 screwdriver

## Service considerations

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


---

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

---

## 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.

---

## Cables and connectors

---

 **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.

---

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 a 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.”

---

## 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, and 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.

Use nonmagnetic tools.

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.

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

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

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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 nonconductive 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 nonconductive 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  $\pm 10\%$  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 strips must be worn in contact with the skin.

The following grounding equipment is recommended to prevent electrostatic damage:

- Antistatic tapes
- Antistatic smocks, aprons, and sleeve protectors
- Conductive bins and other assembly or soldering aids
- Nonconductive 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
- Nonconductive 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.


Material	Use	Voltage protection level
Antistatic plastic	Bags	1,500 V
Carbon-loaded plastic	Floor mats	7,500 V
Metallized laminate	Floor mats	5,000 V

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## 6 Removal and replacement procedures for Authorized Service Provider parts

This chapter provides removal and replacement procedures for Authorized Service Provider only parts.


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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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There are as many as 50 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.

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 **NOTE:** Details about your computer, including model, serial number, product key, and length of warranty, are on the service tag at the bottom of your computer. See [Labels on page 10](#) for details.

 **NOTE:** HP continually improves and changes product parts. For complete and current information on supported parts for your computer, go to <http://partsurfer.hp.com>, select your country or region, and then follow the on-screen instructions.


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# Component replacement procedures


The following sections describe the removal and replacement procedure of the tablet components

## Connecting the tablet to the keyboard base

Description	Spare part number
Keyboard base, detachable, Bluetooth (includes battery) for use in Canada (English/French)	783099-DB1
Keyboard base, detachable, Bluetooth (includes battery) for use in France	783099-051
Keyboard base, detachable, Bluetooth (includes battery) for use in Germany	783099-041
Keyboard base, detachable, Bluetooth (includes battery) for use internationally	783099-B31
Keyboard base, detachable, Bluetooth (includes battery) for use in Latin America	783099-161
Keyboard base, detachable, Bluetooth (includes battery) for use in Denmark, Finland, and Norway	783099-DH1
Keyboard base, detachable, Bluetooth (includes battery) for use in Spain	783099-071
Keyboard base, detachable, Bluetooth (includes battery) for use in Switzerland	783099-BG1
Keyboard base, detachable, Bluetooth (includes battery) for use in the United Kingdom	783099-031
Keyboard base, detachable, Bluetooth (includes battery) for use in the United States	783099-001

 **IMPORTANT:** Before you can use your keyboard base, you must pair the keyboard base with the tablet to establish a connection. See [Pairing the keyboard base on page 14](#) for more information.

- ▲ To connect the tablet to the keyboard base, insert the tablet docking port into the keyboard base docking connector.

 **NOTE:** To remove the tablet from the keyboard base, pull the tablet away from the keyboard base.



## Rear cover


Description	Spare part number
Rear cover (includes hinge, hinge cover, antenna, stand cover, recess cover, and screws)	783092-001
Recess cover (plastic strip above stand)	790022-001

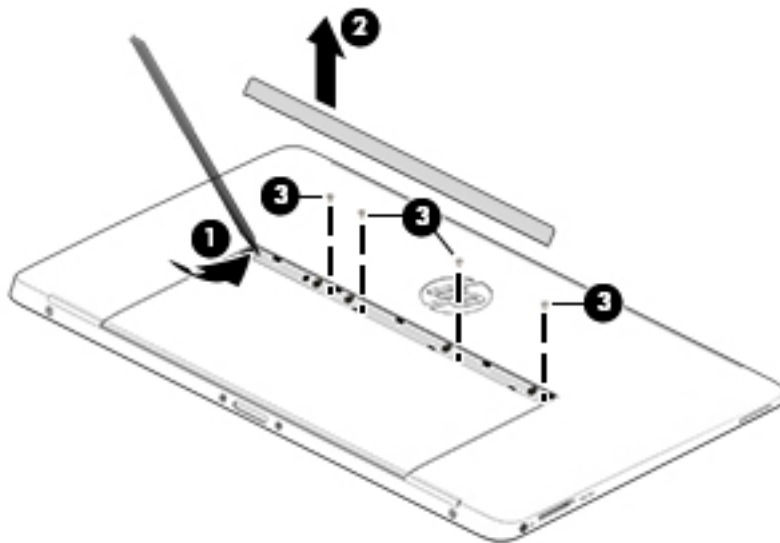
Before disassembling the tablet, follow these steps:

1. Shut down the keyboard dock. 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. Disconnect the tablet from the keyboard base (see [Connecting the tablet to the keyboard base on page 28](#)).

Remove the rear cover:

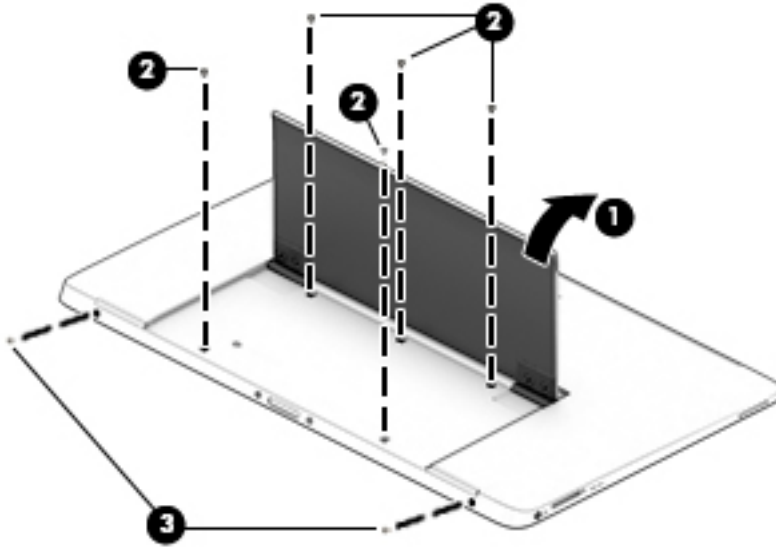
1. Position the tablet upside-down on a flat, protected surface.
2. Using a flat tool **(1)**, pry the recess cover off the tablet **(2)**, and then remove the four Phillips PM2.0×3.0 screws **(3)** under the recess cover.

 **NOTE:** The recess cover is spared both with the rear cover assembly (783092-001) and separately (790022-001).



3. Lift the stand to the upright position **(1)**.

4. Remove the five Phillips PM2.0×3.0 screws **(2)** from under the stand, and remove the two Phillips PM2.0×3.0 screws **(3)** from the bottom of the tablet.





5. To avoid damaging the rear cover, HP recommends using suction cups to grip and remove the cover.


If available, place the computer into a jig to hold it in place, and then use a suction cup on only the rear cover to remove it.

If a tool is not available to hold the computer in place, use suction cups on both sides of the computer.

Place the suction cup in the bottom, left side of the rear cover **(1)**, raise the suction cup handle to engage the suction cup **(2)**, and then lock the two suction cup handles together **(3)**.

If using two suction cups, place the bottom suction cup directly under the top suction cup **(4)**, rotate the suction cup handle to engage the suction cup **(5)**, and then lock the two suction cup handles together **(6)**.

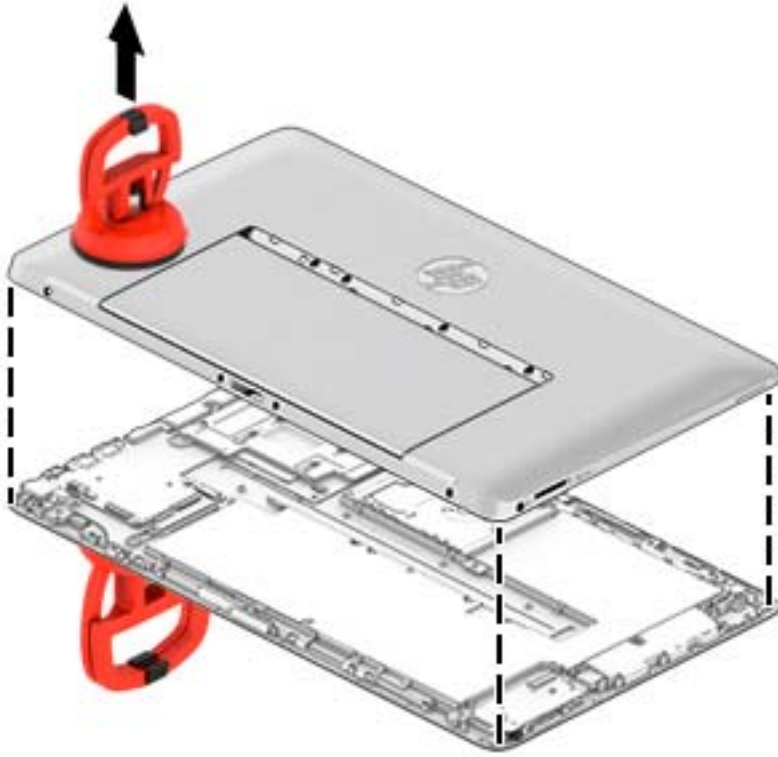
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 **NOTE:** You can also position the suction cup on the bottom right side of the rear cover.

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6. Firmly lift up on the suction to remove the rear cover from the tablet. The following image shows using two suction cups.



Reverse this procedure to install the rear cover.

To remove the top suction cup, release the clip that secure the handles **(1)**, rotate the handle downward **(2)**, and then slide the suction cup to remove it **(3)**.

If necessary, use the same procedure to remove the bottom suction cup.



## Vibration board

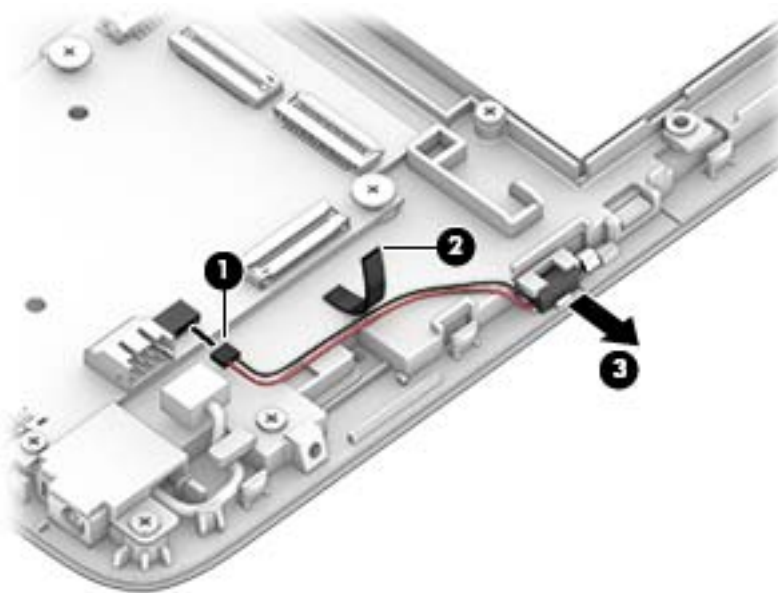
Description	Spare part number
Vibration board (includes cable)	783106-001

Before removing the vibration 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. Disconnect the tablet from the keyboard base (see [Connecting the tablet to the keyboard base on page 28](#)).
5. Remove the rear cover (see [Rear cover on page 29](#)).
6. Disconnect the battery cable from the system board.

To remove the vibration board:

1. Disconnect the vibration board cable from the system board **(1)**.
2. Remove the tape that secure the cable to the tablet **(2)** that secures the board to the tablet.
3. Lift the vibration board from the tablet **(3)**.



Reverse this procedure to install the vibration board.

## Audio/SD board

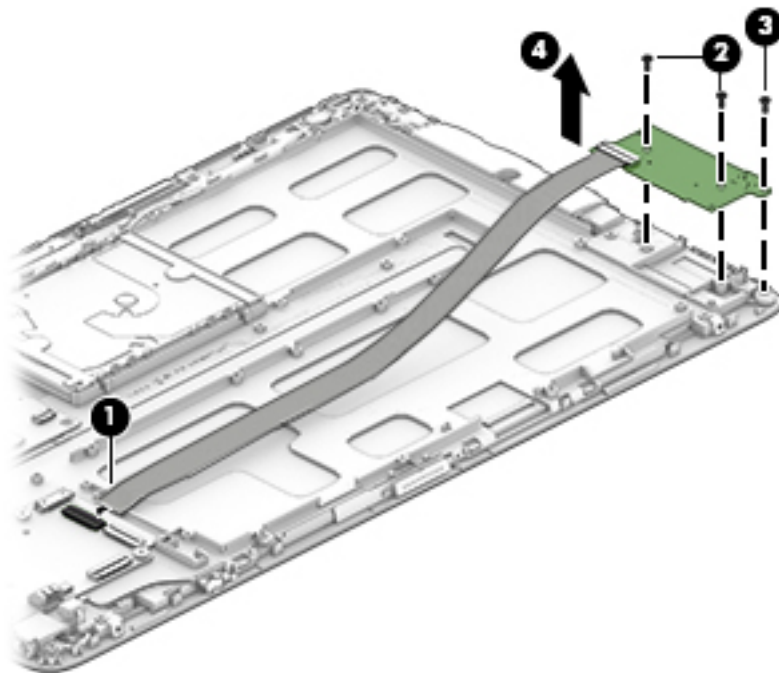
Description	Spare part number
Audio/SD board (includes cable)	783102-001

Before removing the audio/SD 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. Disconnect the tablet from the keyboard base (see [Connecting the tablet to the keyboard base on page 28](#)).
5. Remove the rear cover (see [Rear cover on page 29](#)).
6. Disconnect the battery cable from the system board.

To remove the audio/SD board:

1. Disconnect the cable from the system board **(1)**.
2. Remove the three Phillips PM2.5×5.0 screws **(2)** that secure the board to the tablet.
3. Lift the audio/SD board and cable from the tablet **(3)**.



Reverse this procedure to install the audio/SD board.

## Battery

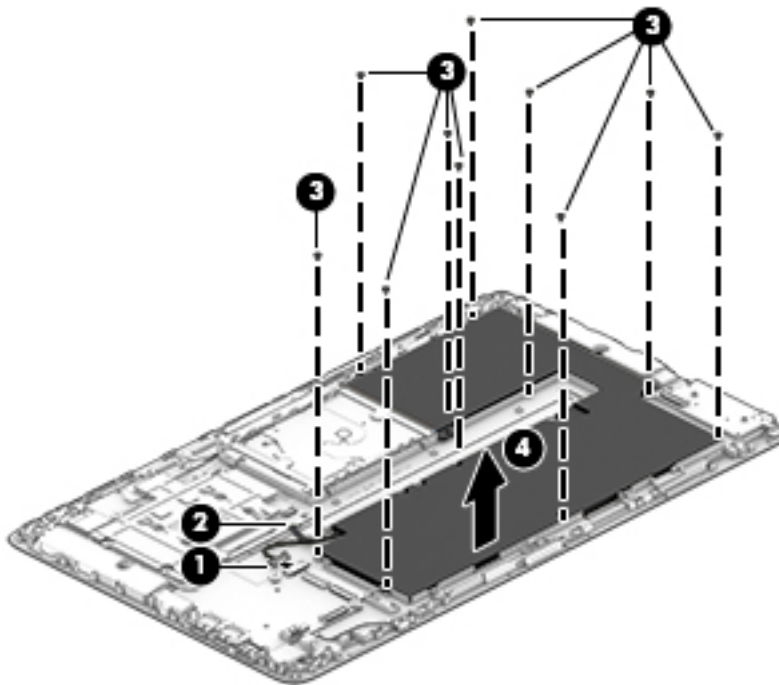
Description	Spare part number
3-cell, 50-WHr, 4.45-AH battery	767069-006

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. Disconnect the tablet from the keyboard base (see [Connecting the tablet to the keyboard base on page 28](#)).
5. Remove the rear cover (see [Rear cover on page 29](#)).

Remove the battery:

1. Disconnect the battery cable from the system board **(1)**, and remove the tape **(2)** that secures the cable.
2. Remove the 10 Phillips PM2.0×3.0 screws **(3)** that secure the battery to the tablet.
3. Lift the battery **(4)** from the tablet.



Reverse this procedure to install the battery.

## POGO board

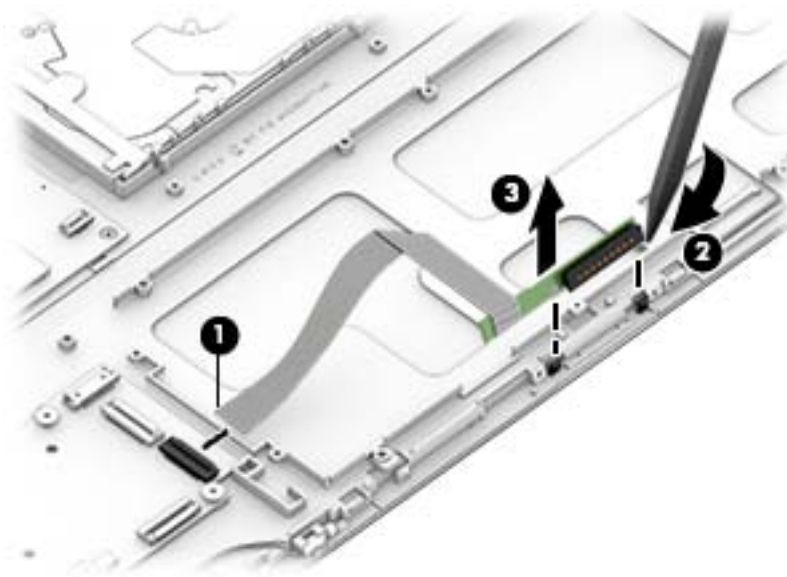
Description	Spare part number
POGO board (includes cable)	783103-001

Before removing the POGO 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. Disconnect the tablet from the keyboard base (see [Connecting the tablet to the keyboard base on page 28](#)).
5. Remove the rear cover (see [Rear cover on page 29](#)).
6. Remove the battery (see [Battery on page 35](#)).

To remove the POGO board:

1. Disconnect the cable **(1)** from the board.
2. Use small tool to pry the board **(2)** and rotate it up to disengage from adhesive, and then remove the board and cable from tablet **(3)**.



Reverse this procedure to install the POGO board.

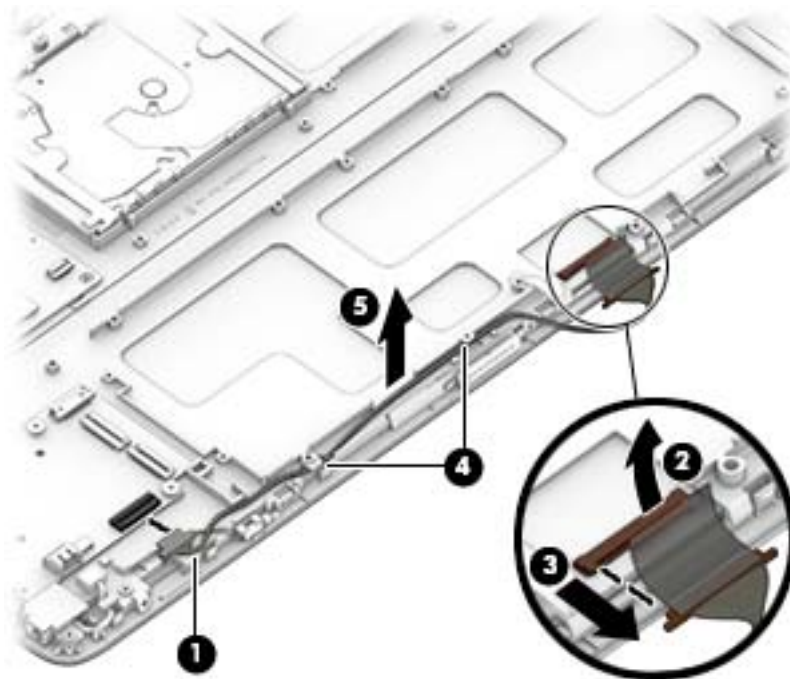
## Display cable

Description	Spare part number
Display cable	783094-001

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. Disconnect the tablet from the keyboard base (see [Connecting the tablet to the keyboard base on page 28](#)).
5. Remove the rear cover (see [Rear cover on page 29](#)).
6. Remove the battery (see [Battery on page 35](#)).
7. Remove the POGO board (see [POGO board on page 36](#)).

Remove the display cable:

1. Disconnect the smaller end of the cable from the system board **(1)**.
2. Disconnect the larger end of the cable from the display panel by lifting the ZIF connector **(2)**, and then disconnecting the cable **(3)**.
3. Remove the cable from the clips built into the tablet **(4)**.
4. Remove the display cable from the tablet **(5)**.



Reverse this procedure to install the display cable.

## Heat sink

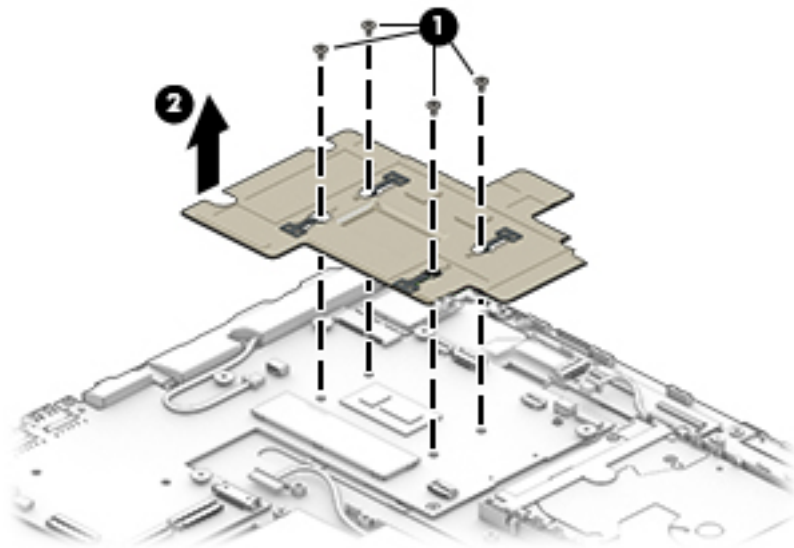
Description	Spare part number
Heat sink	not spared

Before removing the heat sink, 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. Disconnect the tablet from the keyboard base (see [Connecting the tablet to the keyboard base on page 28](#)).
5. Remove the rear cover (see [Rear cover on page 29](#)).
6. Remove the battery (see [Battery on page 35](#)).

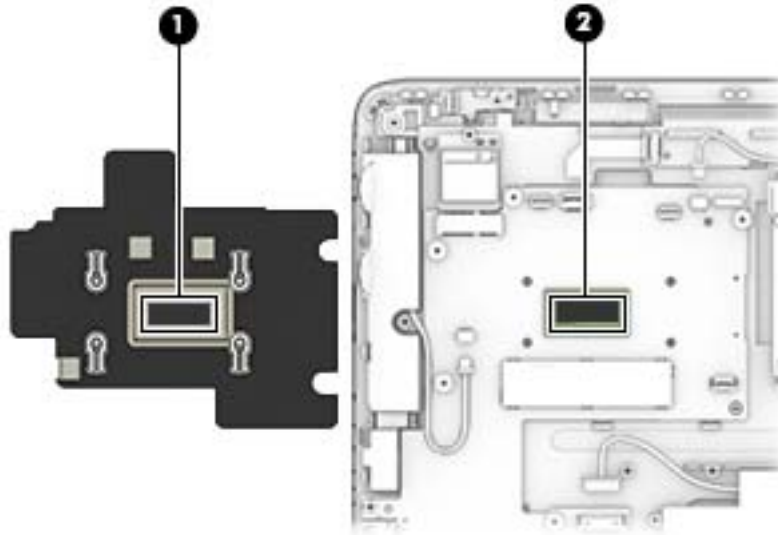
Remove the heat sink:

1. Remove the four Phillips PM2.0×3.0 screws (1) that secure the heat sink to the system board, and then lift the heat sink off the system board (2).





2. Thermal paste is used on the heat sink **(1)** and on the processor on the system board **(2)**.



Reverse this procedure to install the heat sink.

## Hard drive

Component	Spare part number
500-GB, 5400-rpm, hybrid hard drive with 16 GB SSD	762179-005
500-GB, 5400-rpm, hybrid hard drive with 8 GB SSD	775520-005
Hard Drive Hardware Kit (includes insulator bracket and cable)	783097-001

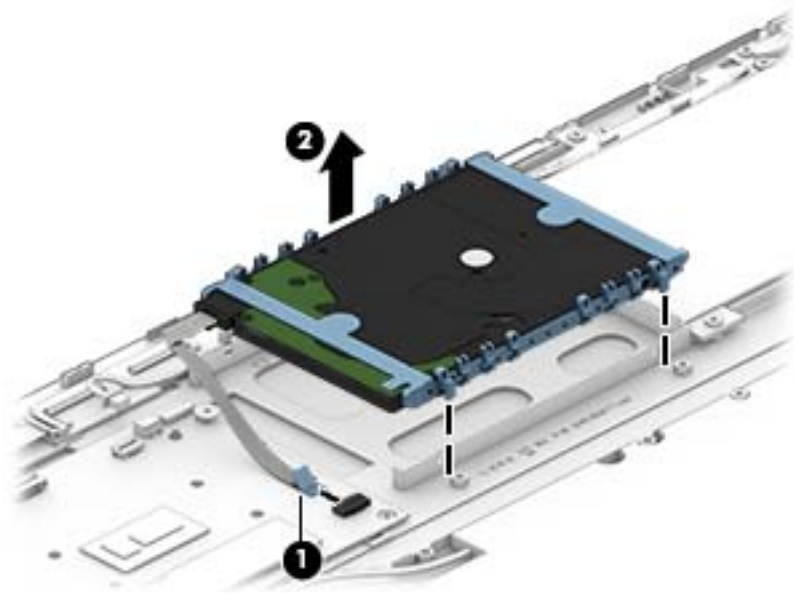
Before removing the hard drive, follow these steps:

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. Disconnect the tablet from the keyboard base (see [Connecting the tablet to the keyboard base on page 28](#)).
5. Remove the rear cover (see [Rear cover on page 29](#)).
6. Remove the battery (see [Battery on page 35](#)).
7. Remove the heat sink (see [Heat sink on page 38](#)).

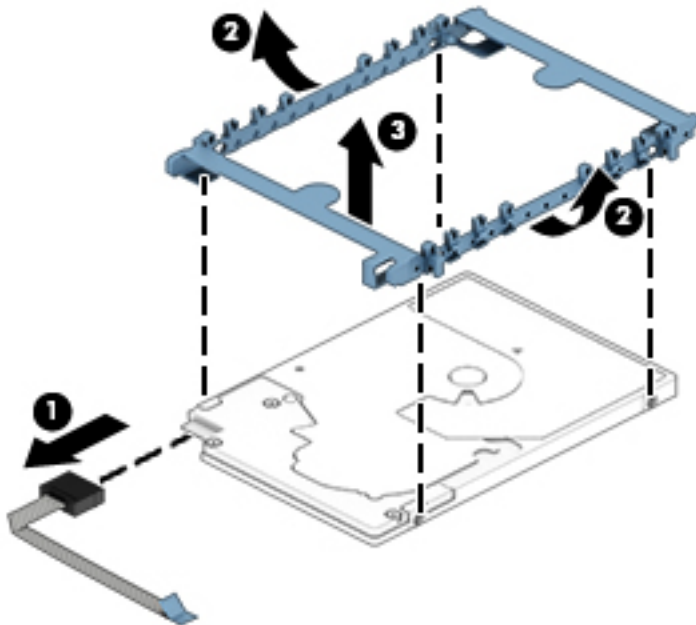
Remove the hard drive:

1. Disconnect the hard drive cable from the system board **(1)**.

2. Lift the hard drive from the tablet (2).



3. If you need to remove the hard drive from the hard drive bracket, disconnect the cable from the hard drive (1), flex and lift the sides of the bracket (2), and then remove the bracket from the hard drive (3).



Reverse this procedure to install the hard drive.

## WLAN/Bluetooth combo card

The computer uses a card that provides both WLAN and Bluetooth functionality.

Description	Spare part number
Intel Dual Band Wireless-AC 3160 802.11 ac 1x1 WiFi + BT 4.0 Combo Adapter_US	756751-005
Intel Dual Band Wireless-AC 7265 802.11 ac 2x2 WiFi + BT 4.0 Combo Adapter (non vPRO)	784644-005

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. Disconnect the tablet from the keyboard base (see [Connecting the tablet to the keyboard base on page 28](#)).
5. Remove the rear cover (see [Rear cover on page 29](#)).
6. Remove the battery (see [Battery on page 35](#)).
7. Remove the heat sink (see [Heat sink on page 38](#)).

Remove the WLAN module:


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

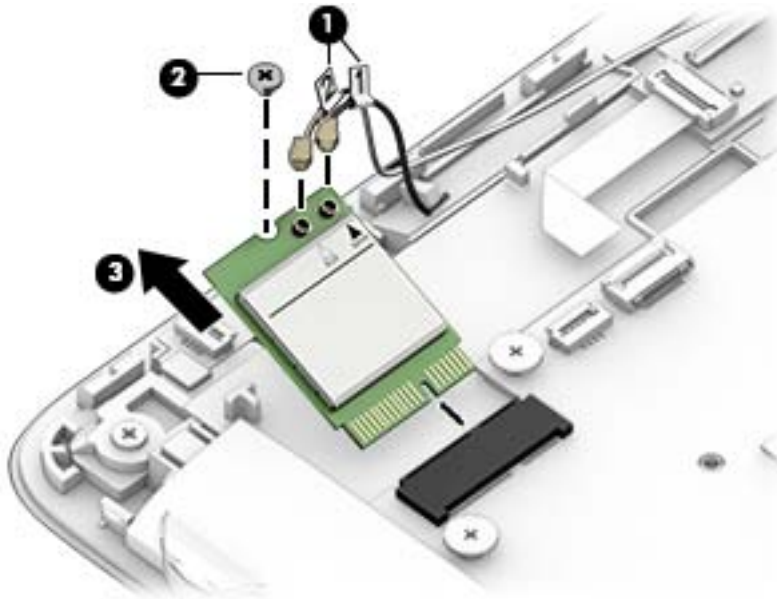



**NOTE:** The WLAN antenna cable labeled “1” connects to the WLAN module “Main” terminal labeled “1”. The WLAN antenna cable labeled “2” connects to the WLAN module “Aux” terminal labeled “2”. If the computer is equipped with an 802.11a/b/g/n WLAN module, the yellow WLAN antenna cable connects to the middle terminal on the WLAN module.

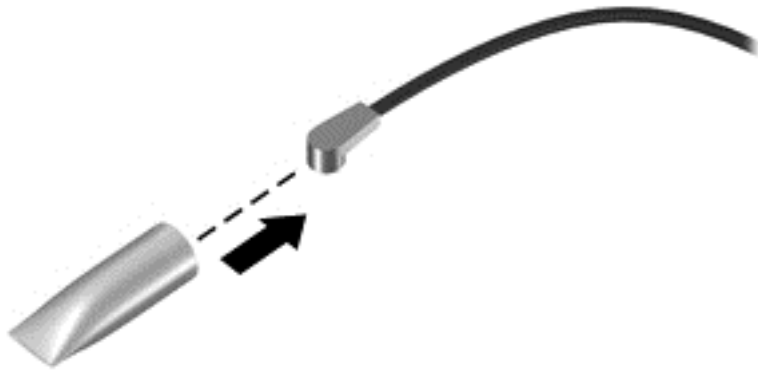
2. Remove the Phillips PM2.0×3.0 screw **(2)** that secures the WLAN module to the tablet. (The edge of the module opposite the slot rises away from the tablet.)

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

 **NOTE:** WLAN modules are designed with a notch to prevent incorrect insertion.



 **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, as shown in the following illustration.



Reverse this procedure to install the WLAN module.

## Webcam

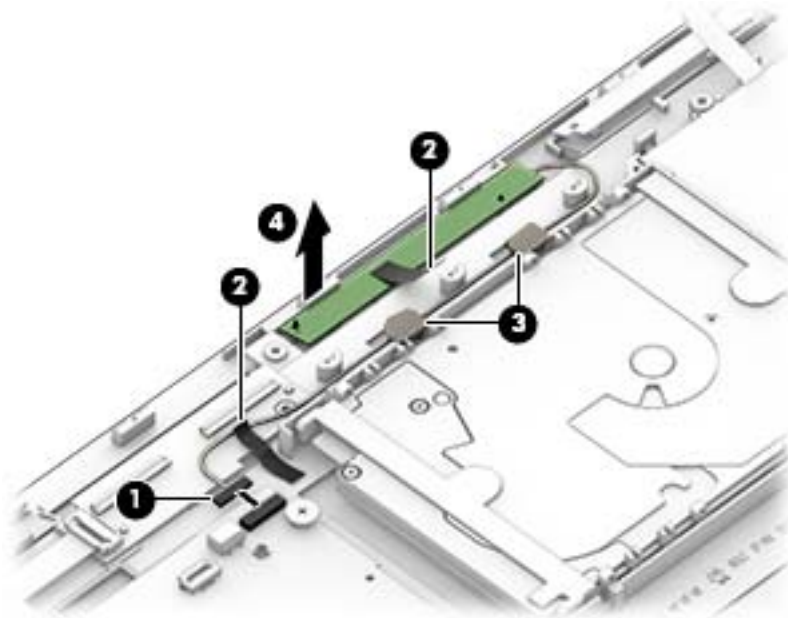
Description	Spare part numbers
Webcam (includes cable)	783117-001

Before removing the webcam:

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. Disconnect the tablet from the keyboard base (see [Connecting the tablet to the keyboard base on page 28](#)).
5. Remove the rear cover (see [Rear cover on page 29](#)).
6. Remove the battery (see [Battery on page 35](#)).
7. Remove the heat sink (see [Heat sink on page 38](#)).

Remove the webcam:

1. Disconnect the webcam cable from the system board **(1)**.
2. Lift the tape from atop the webcam **(2)**.
3. Remove the webcam cable from its routing path in the tablet **(3)**.
4. Remove the webcam and cable from the tablet **(4)**.



Reverse this procedure to install the webcam.

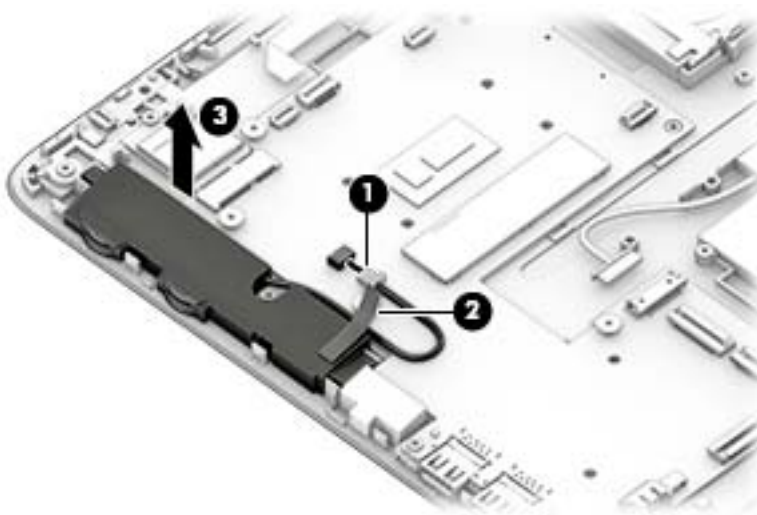
## Speakers

Description	Spare part number
Speaker Kit (includes left and right speakers)	783110-001

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. Disconnect the tablet from the keyboard base (see [Connecting the tablet to the keyboard base on page 28](#)).
5. Remove the rear cover (see [Rear cover on page 29](#)).
6. Remove the battery (see [Battery on page 35](#)).
7. Remove the heat sink (see [Heat sink on page 38](#)).

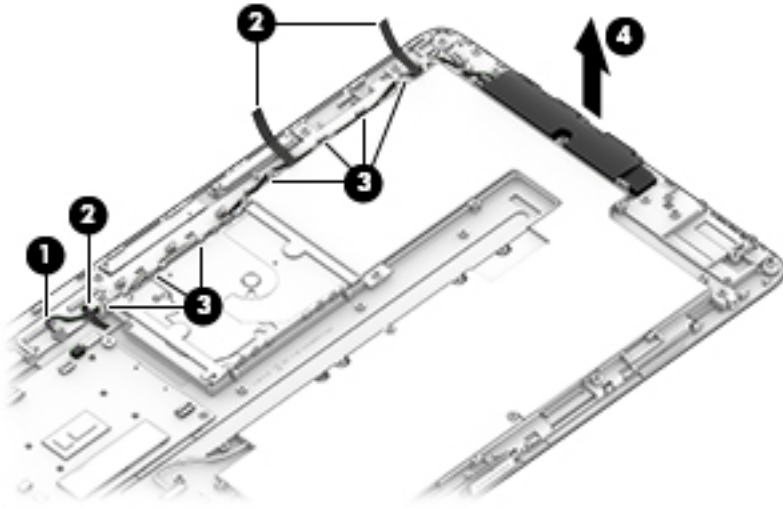
Remove the speakers:

1. Disconnect the left speaker cable from the system board **(1)**.
2. Release the tape from atop the left speaker **(2)**.
3. Remove the left speaker from the tablet **(3)**.



4. Disconnect the right speaker cable from the system board **(1)**.
5. Release the tape that secures the speaker cable to the tablet **(2)**.
6. Remove the speaker cable from its routing path in the tablet **(3)**.

7. Remove the right speaker from the tablet (4).



Reverse these procedures to install the speakers.

## Power button board

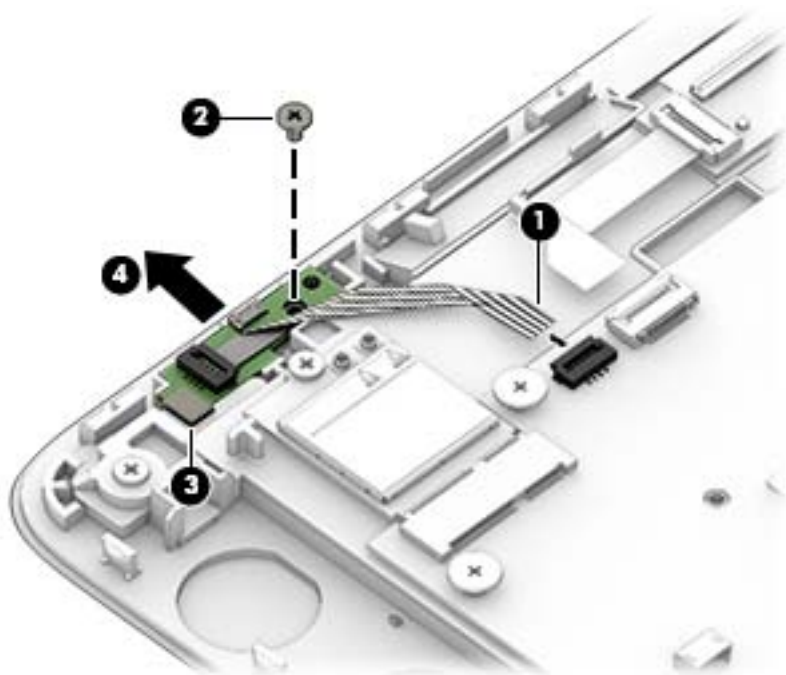
Description	Spare part number
Power button board (includes cable)	783101-001

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. Disconnect the tablet from the keyboard base (see [Connecting the tablet to the keyboard base on page 28](#)).
5. Remove the rear cover (see [Rear cover on page 29](#)).
6. Remove the battery (see [Battery on page 35](#)).
7. Remove the heat sink (see [Heat sink on page 38](#)).

Remove the power button board:

1. Disconnect the power button board cable from the reverse ZIF connector on the system board **(1)**.
2. Remove the Phillips PM2.0×3.0 screw **(2)** that secures the board to the tablet.
3. Slide the board to the right to remove it from under the tab **(3)**, and then remove the board and cable from the tablet **(4)**.



Reverse this procedure to install the power button board.



## Volume board

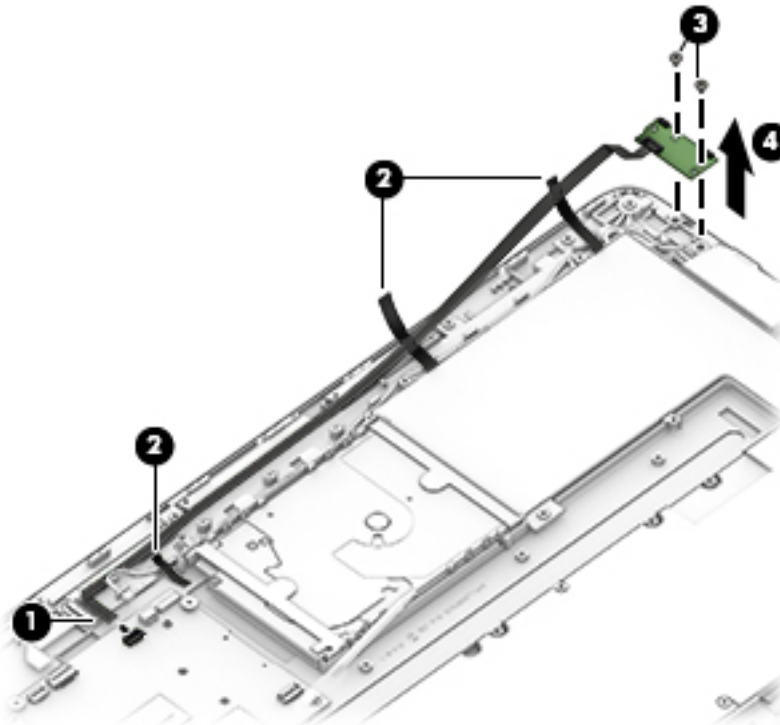
Description	Spare part number
Volume board (includes cable)	783104-001

Before removing the volume 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. Disconnect the tablet from the keyboard base (see [Connecting the tablet to the keyboard base on page 28](#)).
5. Remove the rear cover (see [Rear cover on page 29](#)).
6. Remove the battery (see [Battery on page 35](#)).
7. Remove the heat sink (see [Heat sink on page 38](#)).

To remove the volume board:

1. Disconnect the volume board cable from the system board **(1)**.
2. Lift the tape that secures the cable to the tablet **(2)**.
3. Remove the two Phillips PM2.0×3.0 screws **(3)** that secure the board to the tablet.
4. Lift the volume board and cable from the tablet **(4)**.



Reverse this procedure to install the volume board.

## Touch screen board

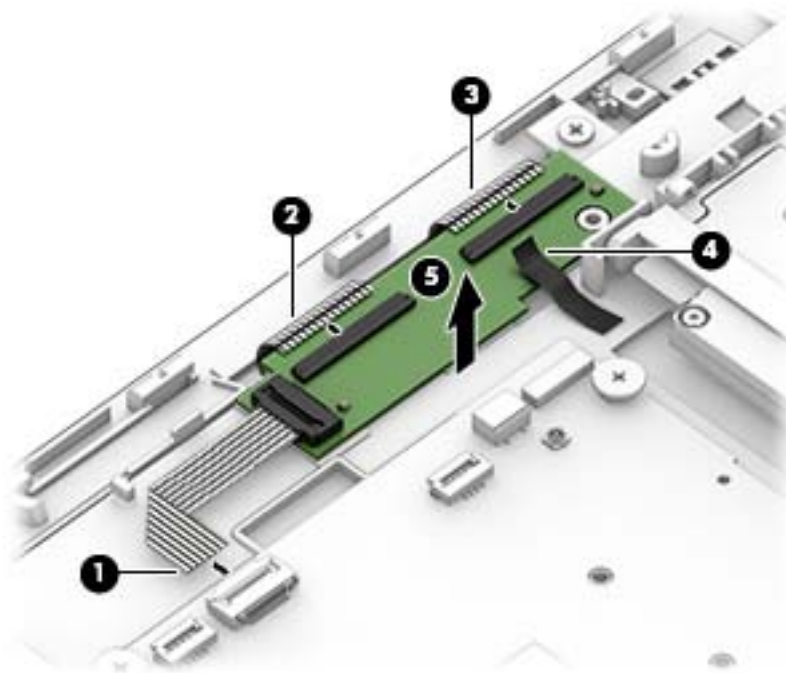
Description	Spare part number
Touch screen board (includes cable)	783105-001

Before removing the touch screen 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. Disconnect the tablet from the keyboard base (see [Connecting the tablet to the keyboard base on page 28](#)).
5. Remove the rear cover (see [Rear cover on page 29](#)).
6. Remove the battery (see [Battery on page 35](#)).
7. Remove the heat sink (see [Heat sink on page 38](#)).

Remove the touch screen board:

1. Disconnect the touch screen board cable **(1)** from the system board .
2. Disconnect the two cable from the top of the touch screen board **(2)(3)**.
3. Remove the tape that secures the board to the tablet **(4)**, and then remove the board **(5)** from the tablet.



Reverse this procedure to install the touch screen board.

## Antennas

Description	Spare part number
Antennas	783091-001

Before removing the antennas, follow these steps:

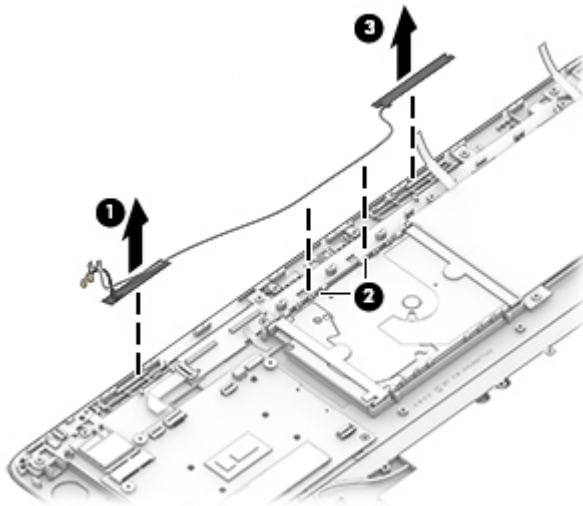
1. Shut down the computer. If you are unsure whether the computer is off or in Hibernation, turn the computer on, and then shut it down through the operating system.
2. Disconnect all external devices connected to the computer.
3. Disconnect the power from the computer by first unplugging the power cord from the AC outlet and then unplugging the AC adapter from the computer.
4. Disconnect the tablet from the keyboard base (see [Connecting the tablet to the keyboard base on page 28](#)).
5. Remove the rear cover (see [Rear cover on page 29](#)).
6. Remove the battery (see [Battery on page 35](#)).
7. Remove the heat sink (see [Heat sink on page 38](#)).

Remove the antennas:

1. Lift the left transceiver from the tablet **(1)**.

**CAUTION:** To avoid damaging the antenna cables, do not pull on the cables to loosen them from the tablet.

2. Remove the antenna cable from its routing path on the tablet **(2)**.
3. Lift the right transceiver from the tablet **(3)**.



Reverse this procedure to install the antennas.

## System board



**NOTE:** The system board spare part kits include processor and replacement thermal material.

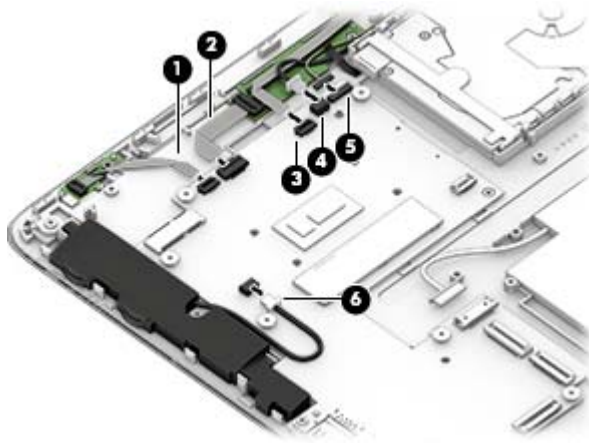
Description	Spare part number
System board for use with non-Windows 8 models; Intel Core M-5Y70 processor; 8 GB of system memory	783115-001
System board for use with Windows 8 Standard models; Intel Core M-5Y70 processor; 8 GB of system memory	783115-501
System board for use with non-Windows 8 models; Intel Core M-5Y70 processor; 4 GB of system memory	783112-001
System board for use with Windows 8 Standard models; Intel Core M-5Y70 processor; 4 GB of system memory	783112-501
System board for use with non-Windows 8 models; Intel Core M-5Y10 processor; 8 GB of system memory	783116-001
System board for use with Windows 8 Standard models; Intel Core M-5Y10 processor; 8 GB of system memory	783116-501
System board for use with non-Windows 8 models; Intel Core M-5Y10 processor; 4 GB of system memory	783113-001
System board for use with Windows 8 Standard models; Intel Core M-5Y10 processor; 4 GB of system memory	783113-501

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. Disconnect the tablet from the keyboard base (see [Connecting the tablet to the keyboard base on page 28](#)).
5. Remove the rear cover (see [Rear cover on page 29](#)).
6. Remove the battery (see [Battery on page 35](#)).
7. Remove the heat sink (see [Heat sink on page 38](#)).
8. Remove the WLAN module (see [WLAN/Bluetooth combo card on page 41](#)).

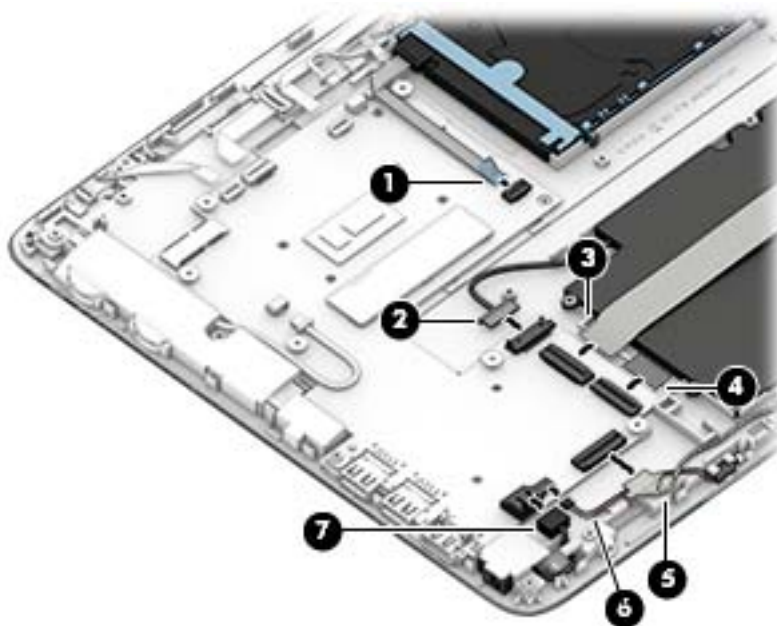
Remove the system board:

1. Disconnect the following cables from the system board:
  - (1): Power button board cable
  - (2): Touch board cable
  - (3): Volume board cable
  - (4): Card reader/audio board cable
  - (5): Webcam cable
  - (6): Left speaker cable



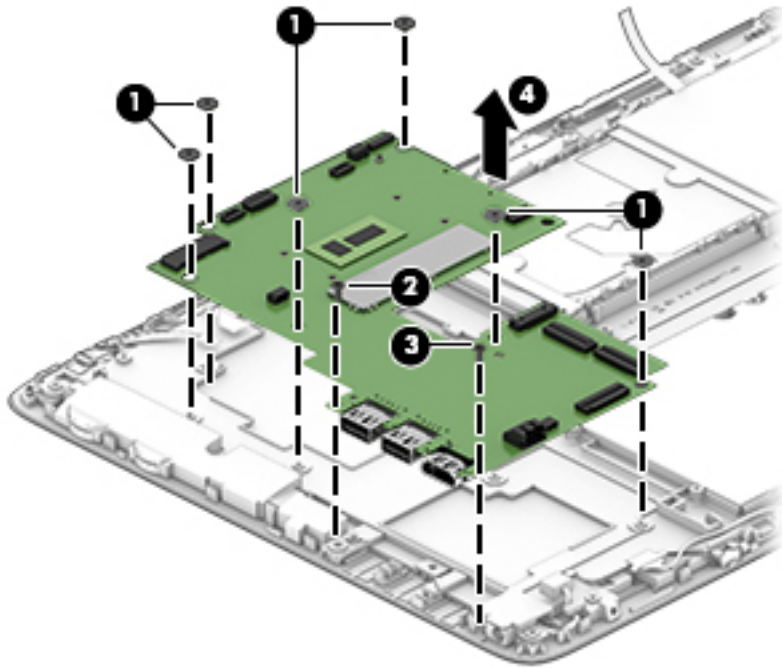
2. Disconnect the following cables from the system board:

- (1): Hard drive cable
- (2): Battery cable
- (3): Card reader/audio board cable
- (4): POGO board cable
- (5): Display cable
- (6): Vibration board cable
- (7): Power connector cable



- 3. Remove the six broadhead Phillips PM 2.0x2.0 screws (1) that secure the system board to the tablet.
- 4. Remove the Phillips PM 2.0x5.0 screw (2) and the Phillips PM 2.0x3.0 screw (2) that secures the system board to the tablet.

5. Lift the system board **(4)** out of the tablet.



Reverse this procedure to install the system board.

## Power connector



**NOTE:** Clean bench required to assemble with display.

Description	Spare part number
Power connector	783095-001

**NOTE:** Clean bench required to assemble with display.

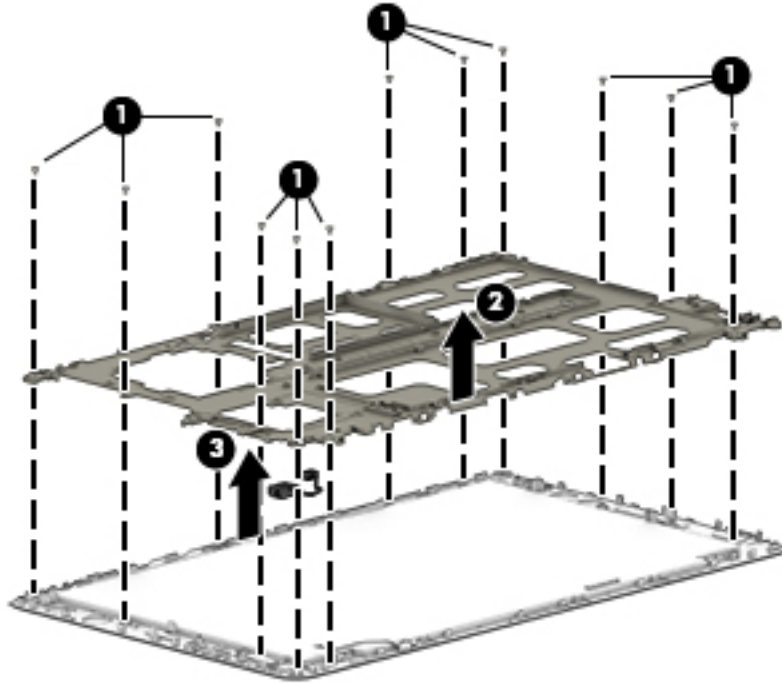
Before removing the power connector, follow these steps:

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 following components from the tablet:
  - Rear cover (see [Rear cover on page 29](#)).
  - Vibration board (see [Vibration board on page 33](#)).
  - Audio/SD board (see [Audio/SD board on page 34](#)).
  - Battery (see [Battery on page 35](#)).
  - POGO board (see [POGO board on page 36](#)).
  - Display cable (see [Display cable on page 37](#)).
  - Heat sink (see [Heat sink on page 38](#)).
  - Hard drive (see [Hard drive on page 39](#)).
  - WLAN module (see [WLAN/Bluetooth combo card on page 41](#)).
  - Webcam (see [Webcam on page 43](#)).
  - Speakers (see [Speakers on page 44](#)).
  - Power button board (see [Power button board on page 46](#)).
  - Volume board (see [Volume board on page 47](#)).
  - Touch screen board (see [Touch screen board on page 48](#)).
  - Antennas (see [Antennas on page 49](#)).
  - System board (see [System board on page 50](#)).

Remove the power connector:

1. Remove the 12 Phillips PM2.0×3.0 screws **(1)** that secure the large bracket to the display.
2. Lift the large bracket from atop the display **(2)**.

3. Remove the power connector cable (3).



Reverse this procedure to install the power connector.



## Display panel



**NOTE:** Clean bench required to assemble display components.

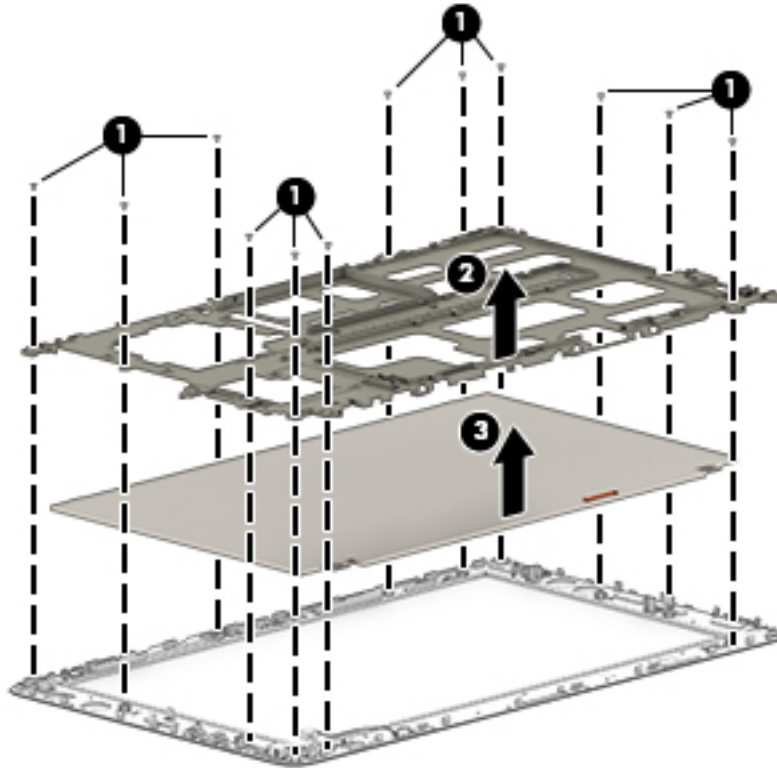
Description	Spare part number
Display assembly (includes display panel, bezel, touchscreen glass, touchscreen control board with cable, middle frame, power connector, screws, foam, and tape)	783107-001
Display panel (raw)	783108-001
<b>NOTE:</b> Clean bench required to assemble with display.	
Display bezel (includes bezel and touchscreen glass)	783093-001
<b>NOTE:</b> Clean bench required to assemble with display.	

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 following components from the tablet:
  - Rear cover (see [Rear cover on page 29](#)).
  - Vibration board (see [Vibration board on page 33](#)).
  - Audio/SD board (see [Audio/SD board on page 34](#)).
  - Battery (see [Battery on page 35](#)).
  - POGO board (see [POGO board on page 36](#)).
  - Display cable (see [Display cable on page 37](#)).
  - Heat sink (see [Heat sink on page 38](#)).
  - Hard drive (see [Hard drive on page 39](#)).
  - WLAN module (see [WLAN/Bluetooth combo card on page 41](#)).
  - Webcam (see [Webcam on page 43](#)).
  - Speakers (see [Speakers on page 44](#)).
  - Power button board (see [Power button board on page 46](#)).
  - Volume board (see [Volume board on page 47](#)).
  - Touch screen board (see [Touch screen board on page 48](#)).
  - Antennas (see [Antennas on page 49](#)).
  - System board (see [System board on page 50](#)).

Remove the display panel:

1. Remove the 12 Phillips PM2.0×3.0 screws (1) that secure the large bracket to the display.
2. Lift the large bracket from atop the display (2).
3. Separate the raw panel from the bezel (3).



Reverse this procedure to install the display panel.

**For service engineers or field service engineers only:**

Depending on regional repair strategies, the repair of the touch panel for some platforms may require a piece-part service event rather than a whole hinge up replacement. When either the glass or the control board of the touch display panel is replaced during a service event for these platforms, an additional service procedure is required. This procedure comprises updating the computer's firmware to enable it to recognize the new panel as well as testing the new panel to ensure that it is functioning correctly after the firmware update has been completed.

Please see the WBT and the SML content (FRU videos) for detailed information about the tools required to complete these procedures.

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# 7 Using Setup Utility (BIOS) and HP PC Hardware Diagnostics (UEFI)

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 (BIOS) includes settings for the types of devices installed, the startup sequence of the tablet, and the amount of system and extended memory.

## Starting Setup Utility (BIOS)

You can open Setup Utility using the tablet only or an optional USB keyboard (purchased separately). The keyboard base that came with your tablet cannot be used to open Setup Utility.


- ▲ To start Setup Utility (BIOS) using the tablet only, turn on or restart the tablet, quickly press the Windows button on the tablet, and then tap **f10**.

–or–

To start Setup Utility (BIOS) using an optional USB keyboard (purchased separately):

1. Connect an optional USB keyboard (purchased separately) to the tablet.
2. Turn on or restart the tablet, quickly press **esc**, and then press **f10**.

---

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

---

## 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 tablet, 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 revealed by pressing **fn+esc** (if you are already in Windows) or by using Setup Utility (BIOS).

1. Start Setup Utility (BIOS) (see [Starting Setup Utility \(BIOS\) on page 57](#)).
2. Tap **Main**, and then make note of your current BIOS version.
3. To exit Setup Utility (BIOS) without saving your changes, tap **Exit**, tap **Exit Discarding Changes**, and then follow the on-screen instructions.

## Downloading a BIOS update


 **CAUTION:** To reduce the risk of damage to the tablet or an unsuccessful installation, download and install a BIOS update only when the tablet is connected to reliable external power using the AC adapter. Do not download or install a BIOS update while the tablet 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 tablet by unplugging the power cord from the AC outlet.

Do not shut down the tablet or initiate Sleep.


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

1. From the Start screen, type `support`, and then 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 tablet. 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.  
  
If the update is more recent than your BIOS, 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 tablet 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 revealed on the screen after the download is complete. If no instructions are revealed, follow these steps:

1. From the Start screen, type `file`, 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 HP PC Hardware Diagnostics (UEFI)

HP PC Hardware Diagnostics is a Unified Extensible Firmware Interface (UEFI) that allows you to run diagnostic tests to determine whether the tablet hardware is functioning properly. The tool runs outside the operating system so that it can isolate hardware failures from issues that are caused by the operating system or other software components.

To start HP PC Hardware Diagnostics UEFI:

1. Turn on or restart the tablet, quickly press the Windows button on the tablet, and then tap **f2**.

The BIOS searches three places for the diagnostic tools, in the following order:

- a. Connected USB drive



**NOTE:** To download the HP PC Hardware Diagnostics (UEFI) tool to a USB drive, see [Downloading HP PC Hardware Diagnostics \(UEFI\) to a USB device on page 59](#).

- b. Hard drive
- c. BIOS

2. When the diagnostic tool opens, select the type of diagnostic test you want to run, and then follow the on-screen instructions.



**NOTE:** If you need to stop a diagnostic test, press anywhere on the screen.

## Downloading HP PC Hardware Diagnostics (UEFI) to a USB device



**NOTE:** Instructions for downloading HP PC Hardware Diagnostics (UEFI) are provided in English only.

There are two options to download HP PC Hardware Diagnostics to a USB device:

**Option 1: HP PC Diagnostics homepage**— Provides access to the latest UEFI version

1. Go to <http://hp.com/go/techcenter/pcdiags>.
2. Click the **UEFI Download** link, and then select **Run**.

**Option 2: Support and Drivers page**—Provides downloads for a specific product for earlier and later versions

1. Go to <http://www.hp.com>.
2. Point to **Support**, located at the top of the page, and then click **Download Drivers**.
3. In the text box, enter the product name, and then click **Go**.

– or –

Click **Find Now** to let HP automatically detect your product.

4. Select your tablet model, and then select your operating system.
5. In the **Diagnostic** section, click **HP UEFI Support Environment**.

– or –

Click **Download**, and then select **Run**.

# 8 Specifications

## Computer specifications

	Metric	U.S.
<b>Dimensions: tablet</b>		
Width	<b>412.56 mm</b>	16.24 in
Depth	<b>243.35 mm</b>	9.58 in
Height	<b>14.9 mm</b>	0.59 in
Weight	<b>1830 g</b>	4.04 lb
<b>Dimensions: keyboard</b>		
Width	<b>414.56 mm</b>	16.32 in
Depth	<b>245.35 mm</b>	9.66 in
Height	<b>5.6 mm</b>	0.22 in
Weight	<b>625 g</b>	1.38 lb
<b>Input power</b>		
Operating voltage and current	19.5 V dc @ 2.31 A - 45 W 19.5 V dc @ 3.33 A - 65 W	
<b>Temperature</b>		
Operating	<b>5°C to 35°C</b>	41°F to 95°F
Nonoperating	<b>-20°C to 60°C</b>	-4°F to 140°F
<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.		

## 39.6-cm (15.6-in) display specifications

	Metric	U.S.
<b>Dimensions</b>		
Height	359.5 mm	14.15 in
Vertical	207.7 mm	8.18 in
Depth	3.2 mm	0.13 in
Diagonal	39.6-cm	15.6-in
Weight	320 g	0.71 lbs
<b>Color depth</b>	6 bit, 262,144 colors	
<b>Luminance, white</b>	250 cd/m	
<b>Brightness</b>	220 nits (typical)	
<b>Pixel resolution</b>		
Pitch	0.17925 mm × 0.17925 mm	
Format	1920 × 1080	
Configuration	RGB strip	
<b>Backlight</b>	LED	
<b>Surface treatment</b>	Anti glare	
<b>Total power consumption</b>	6.0 W (Typ); Logic 1.5 W, B/L 4.5 W	
<b>Viewing angle</b>	80°	

## Hard drive specifications

	500-GB*, 16 GB NAND hybrid SSD	500-GB*, 8 GB NAND hybrid SSD
<b>Dimensions</b>		
Height	5 mm	5 mm
Length	100.2 mm	100.2 mm
Width	69.9 mm	69.9 mm
Weight	70.0 g	70.0 g
<b>Form Factor</b>	2.5 inch	2.5 inch
<b>NAND flash memory</b>	16 GB	8 GB
<b>Average seek time</b>	12 ms	12 ms
<b>Formatted capacity</b>	500,107 MB	500,107 MB
<b>User sectors per drive</b>	976,773,168	976,773,168
<b>Disk rotational speed</b>	5400 rpm	5400 rpm
<b>Operating temperature</b>	0°C to 60°C (32°F to 140°F)	0°C to 60°C (32°F to 140°F)
*1 GB = 1 billion bytes when referring to hard drive storage capacity. Actual accessible capacity is less.		
<b>NOTE:</b> Certain restrictions and exclusions apply. Contact technical support for details.		



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## 9 Backing up, restoring, and recovering

This chapter provides information about the following processes. The information in the chapter is standard procedure for most models.

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

For additional information, refer to the HP Support Assistant.

- ▲ From the Start screen, type `support`, and then select the **HP Support Assistant** app.

- or -

From the Windows desktop, click the question mark icon in the notification area, at the far right of the taskbar.

### Creating recovery media and backups (select models only)

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

For information on creating recovery media, see [Creating HP Recovery media \(select models only\) on page 63](#). For information on the recovery options that are available using the recovery media, see [Recovering using HP Recovery Manager \(select models only\) on page 65](#)

- Use Windows tools to create system restore points and create backups of personal information.

### Creating HP Recovery media (select models only)

HP Recovery Manager is a software program that allows you to create recovery media after you successfully set up the tablet. 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 tablet 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 tablet 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 CD±RW, DVD±RW, double-layer DVD±RW, 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 tablet 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 tablet from support. See the *Worldwide Telephone Numbers* booklet included with the tablet. You can also find contact information from the HP website. Go to <http://www.hp.com/support>, select your country or region, and follow the on-screen

instructions. If you use an external optical drive, it must be connected directly to a USB port on the tablet; the drive cannot be connected to a USB port on an external device, such as a USB hub.

- Be sure that the tablet is connected to AC power before you begin creating the recovery media.
- The creation process can take 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:



---

**NOTE:** For tablets, connect to the keyboard base before beginning these steps.

---

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 \(select models only\) on page 65](#).

## Using Windows tools

You can create system restore points and create backups of personal information using Windows tools.

- ▲ From the Start screen, type `help`, and then select **Help and Support**.

– or –

From the Windows desktop, click the question mark icon in the notification area, at the far right of the taskbar.

For more information and steps, see Help and Support.

## Restore and recover (select models only)

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

- Windows offers several options for restoring from backup, refreshing the tablet, and resetting the tablet to its original state. For more information and steps, see Help and Support.

- ▲ From the Start screen, type `help`, and then select **Help and Support**.

– or –

From the Windows desktop, click the question mark icon in the notification area, at the far right of the taskbar.

- On select models, 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.
- On select models, if you want to reset your tablet using a minimized image, you can choose the HP Minimized Image Recovery option from the HP Recovery partition 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 \(select models only\) on page 65](#).

- On select models, if you want to recover the tablet's original factory partitioning and content, you can choose the System Recovery option from the HP Recovery partition or use the HP Recovery media that you have created. For more information, see [Recovering using HP Recovery Manager \(select models only\) on page 65](#). If you have not already created recovery media, see [Creating HP Recovery media \(select models only\) on page 63](#).
- On select models, 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 \(select models only\) on page 65](#).

## Recovering using HP Recovery Manager (select models only)

HP Recovery Manager software allows you to recover the tablet to its original factory state by using the HP Recovery media that you created or by using the HP Recovery partition (select models only). If you have not already created recovery media, see [Creating HP Recovery media \(select models only\) on page 63](#).

Using HP Recovery media, 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 (select models only)—Reinstalls the operating system and all hardware-related drivers and software, but not other software applications.
- Factory Reset (select models only)—Restores the tablet 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 the tablet, you must either download the software from the manufacturer's website or reinstall the software from the media provided by the manufacturer.



---

**IMPORTANT:** Recovery through HP Recovery Manager should be used as a final attempt to correct tablet issues.

---

- HP Recovery media (select models only) must be used if the tablet hard drive fails. If you have not already created recovery media, see [Creating HP Recovery media \(select models only\) on page 63](#).
- To use the Factory Reset option, you must use HP Recovery media (select models only). If you have not already created recovery media, see [Creating HP Recovery media \(select models only\) on page 63](#).
- If the HP Recovery media (select models only) does not work, you can obtain recovery media for your system from support. See the *Worldwide Telephone Numbers* booklet included with the tablet. You can also find contact information from the HP website. Go to <http://www.hp.com/support>, select your country or region, and follow the on-screen instructions.



---

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

---

## Using the HP Recovery partition (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 be used only if the hard drive is still working.

To start HP Recovery Manager from the HP Recovery partition:



---

**NOTE:** For tablets, connect to the keyboard base before beginning these steps.

---

1. From the Start screen, type `recovery`, select **Recovery Manager**, and then select **HP Recovery Environment**.
2. Select **Troubleshoot** from the boot options menu.
3. Select **Recovery Manager**, and then 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 HP Recovery media that you created, and then restart the tablet.



---

**NOTE:** If the tablet does not automatically restart in HP Recovery Manager, change the tablet boot order. See [Changing the tablet boot order on page 66](#).

---

3. Follow the on-screen instructions.

## Changing the tablet boot order

If the tablet does not restart in HP Recovery Manager, you can change the tablet boot order, which is the order of devices where the tablet searches for startup information. You can specify that an optical drive or a USB flash drive should be checked first.

To change the boot order:

1. Insert the HP Recovery media you created.
2. Restart the tablet, quickly press the Windows button on the tablet, and then tap **f9** for boot options.
3. Select the optical drive or USB flash drive you want to boot from.
4. Follow the on-screen instructions.

# 10 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

Country/region	Accredited agency	Applicable note number
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
The United States	UL	2

1. The flexible cord must be Type H05VV-F, 3-conductor, 0.75-mm<sup>2</sup> 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<sup>2</sup> or 1.25-mm<sup>2</sup> 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<sup>2</sup> 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<sup>2</sup> 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 3×1.25-mm<sup>2</sup> 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 3×0.75-/1.00-mm<sup>2</sup> conductor size, with plug BS 1363/A with BSI or ASTA marks.

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# 11 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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