HP Split 13 x2 PC

Maintenance and Service Guide
IMPORTANT! This document is intended for HP
authorized service providers only.

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. This computer may require
upgraded and/or separately purchased
hardware, drivers, and/or software to take
full advantage of Windows 8 functionality.
See for http://www.microsoft.com details.

Software terms

By installing, copying, downloading, or
otherwise using any software product
preinstalled on this computer, you agree to
be bound by the terms of the HP End User
License Agreement (EULA). If you do not
accept these license terms, your sole remedy
is to return the entire unused product
(hardware and software) within 14 days for
a refund subject to the refund policy of your
place of purchase.

For any further information or to request a
full refund of the computer, please contact
your local point of sale (the seller).

Safety warning notice

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

Table of contents

1 Product description

Category	Description
Product Name	HP Split 13 x2 PC
Processor	Intel® Core® i5-4202Y 1.60-GHz processor (3.00-MB L3 cache, dual core, 4.5 W)
	Intel Core i3-4012Y 1.50-GHz processor (3.00-MB L3 cache, dual core, 4.5 W)
Chipset	Integrated system on chip (SoC) platform controller hub (PCH)
Graphics	**Internal graphics:** Intel high-definition graphics
	Support for HD decode, DX11, HDMI, and PX 5.0
Panel	13.3-in (1920×1080), full high-definition (FHD), light emitting diode (LED), AntiGlare (AG), TouchScreen with MultiTouch enabled; 16:9 wide aspect ratio; typical brightness: 400 nits; slim (3.0-mm), UWVA, support for eDP
	13.3-in (1366×768), HD, LED, AG, TouchScreen with MultiTouch enabled; 16:9 wide aspect ratio; typical brightness: 200 nits; slim (3.0-mm), support for eDP
Memory	Memory is non-accessible/upgradable
	Support for DDR3L-1600MHz dual channel, 4-GB 1600-MHZ 1.35 v DDR3L 256-MB×16×8 pcs memory IC
	Support for maximum 8192-MB of system RAM
Storage	**Tablet:** Support for the following mSATA3 solid-state drives:
	● 128-MB EM (MLC mSATA)
	● 128-MB
	● 64-MB
	Keyboard base: Optional support for a **5.0-mm** (0.2 in), 500-GB, 5400-rpm, SATA hard drive
Optical drive	Not supported

Category	Description
Audio and video	Integrated HP TrueVision webcamera (2.0 megapixels, FHD, 1080p by 30 frames per second), fixed (no tilt), with activity light
	Dual array digital microphones with appropriate echo-cancellation and noise-suppression software
	Two speakers (front-facing)
	Beats audio
	Support for MP3, AAC, AAC+, EAAC+, OGG, and MIDI formats
Ethernet	Not supported
Wireless	Integrated wireless local area network (WLAN) options by way of wireless module
	Two WLAN antennas built into tablet
	Support for the following WLAN formats:
	● Broadcom BCM4352 802.11ac 2×2 Wi-Fi + BT 4.0 Combo Adapter
	● Intel Dual Band Wireless-AC 7260 802.11 ac 2×2 WiFi + BT 4.0 Combo Adapter
	● Intel Wireless-N 7260BN 802.11 b/g/n 2×2 WiFi + BT 4.0 Combo Adapter
	Integrated wireless wide area network (WWAN) options by way of wireless module
	Two WLAN antennas built into tablet
	Support for the following WWAN formats:
	● HP hs3110 HSPA+ Mobile Broadband Module
	● HP lt4112 LTE/HPSA+ Mobile Broadband Module
Sensors	Accelerometer
	Ambient light sensor (ALS)
	Digital compass
	Gyroscope
	Near field communication (NFC)
External media cards	HP multiformat Micro Digital Media Reader Slot with push-push technology. Reads data from and writes data to digital memory cards such as Secure Digital (SD).

Category	Description
Ports	**Tablet:** ● Audio: one combo audio-out (headphone)/audio-in (microphone) jack, supports Beats audio, voice recognition, and jack auto-detection ● Docking connector: supports keyboard base capabilities (charging, audio-out, and video-out) **Keyboard base:** ● Audio: one combo audio-out (headphone)/audio-in (microphone) jack, supports Beats audio and voice recognition yes ● Docking connector: supports keyboard base capabilities (charging, audio-out, and video-out) yes ● HDMI: v. 1.4, supporting up to 1080p at 60 Hz yes ● RJ45/Ethernet ● USB: USB 3.0 (2) yes ● Video: VGA (Dsub 15-pin) supporting 1920×1200 external resolution at 60 Hz, hot plug/unplug and auto-detection for correct output to wide-aspect vs. standard aspect video
Keyboard/pointing devices	Full-size, island-style keyboard (no numerical keypad) Clickpad with image sensor **Clickpad requirements:** ● MultiTouch gestures enabled ● Taps enabled as default
Power requirements	Support for the following AC adapters: ● 65-W HP Smart AC adapter (non-PFC, 4.5-mm) ● 65-W HP Smart AC adapter (non-PFC, EM, 4.5-mm) Support for a 3-cell, 32-Wh, 2.96-Ah, Li-ion battery for use only in the tablet (includes cable) Support for a 3-cell, 33-Wh, 3.05-Ah, Li-ion battery for use only in the keyboard base (includes cable)
Security	Support for Trust Platfom Module (TPM)
Operating system	**Preinstalled:** ● Windows 8 Professional 64-bit ● Windows 8 Standard 64-bit
Serviceability	**End user replaceable part**: AC Adapter

2 External component identification

Finding your hardware and software information

Locating hardware

To find out what hardware is installed on your computer:

1. From the Start screen, type c, and then select **Control Panel**.

2. Select **System and Security**, and then in the System area, click **Device Manager**. A list reveals all the devices installed on your computer.

Locating software

To find out what software is installed on your computer:

Mode	Steps
	1. From the Start screen, right-click using the mouse. – or – Swipe from the top of the TouchPad to reveal all apps. 2. Select the **All apps** icon.
	1. From the Start screen, gently swipe your finger from the top edge or the bottom edge of the display bezel onto the screen. 2. Tap **All apps**.

Tablet

Display components

Item	Component	Description
(1)	WLAN antennas (2)*	Send and receive wireless signals to communicate with WLANs.
(2)	Internal microphones (2)	Record sound.
(3)	Webcamera light	On: The webcamera is in use.
(4)	HP TrueVision HD Webcamera	Records video, captures still photographs, and allows you to video conference and chat online using streaming video. Swipe from the right edge of the TouchPad or TouchScreen to display the charms, tap **Search**, and then tap the search box. type c, and then select **CyberLink YouCam** from the list of applications. – or – From the Start screen, type c, and then select **Camera** from the list of applications.
(5)	Ambient light sensor	The ambient light sensor automatically adjusts the display brightness based on the lighting conditions in your environment.
(6)	Speakers (2)	Produce sound.

Item	Component	Description
(7)	Windows button	Minimizes all open applications and displays the Start screen.

*The antennas are not visible from the outside of the computer. For optimal transmission, keep the areas immediately around the antennas free from obstructions. For wireless regulatory notices, see the section of the *Regulatory, Safety, and Environmental Notices* that applies to your country or region. To access this guide, from the Start screen, type `support`, select the **HP Support Assistant** app, select **My computer**, and then select **User guides**.

Edge components

Item	Component	Description
(1)	Power button	• When the computer is off, press the button to turn on the tablet.
		• When the computer is on, press the button briefly to initiate Sleep.
		CAUTION: Pressing and holding down the power button will result in the loss of unsaved information.
		• If the computer has stopped responding and Microsoft Windows shutdown procedures are ineffective, press and hold the power button down for at least 5 seconds to turn off the tablet.
		Swipe from the right edge of the TouchPad or TouchScreen to display the charms, tap **Search**, and then tap the search box. In the search box, type power, select **Settings**, and then select **Power options**.
		– or –
		To learn more about your power settings, on the Start screen, type p. In the search box, type power, select **Settings**, and then select **Power options**.

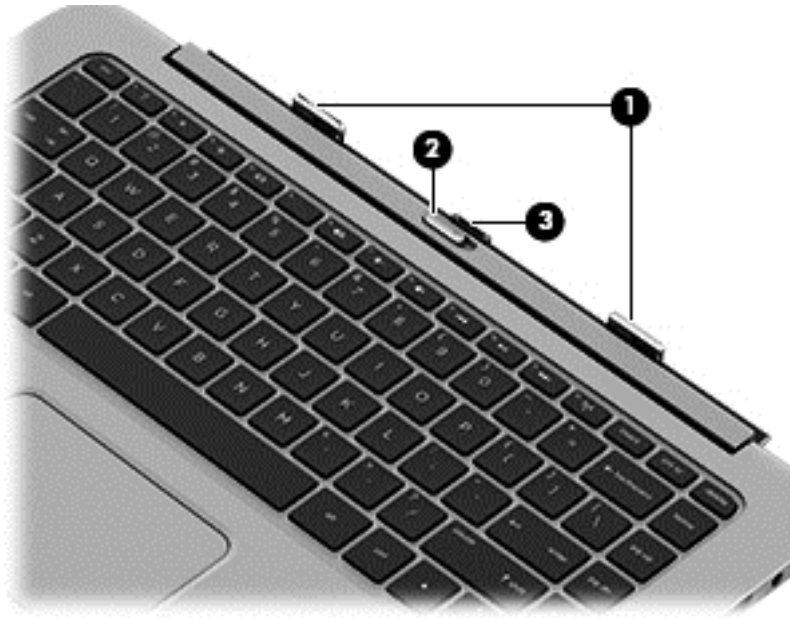| Item	Component	Description
(2)	Audio-out (headphone) jack/Audio-in (microphone) jack	Connects optional powered stereo speakers, headphones, earbuds, a headset, or a television audio cable. Also connects an optional headset microphone. This jack does not support optional microphone-only devices.
		WARNING! 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 *Regulatory, Safety, and Environmental Notices*. To access this guide, from the Start screen, type `support`, select the **HP Support Assistant** app, select **My computer**, and then select **User guides**.
		NOTE: When a device is connected to the jack, the computer speakers are disabled.
		NOTE: Be sure that the device cable has a 4-conductor connector that supports both audio-out (headphone) and audio-in (microphone).
(3)	Power connector	Connects an AC adapter.
(4)	Alignment post connectors (2)	Align and attach the tablet to the keyboard base.
(5)	Docking port/power connector	Connects the tablet to the keyboard base and connects an AC adapter.
(6)	SIM slot (select models only)	Supports a wireless subscriber identity module (SIM).
(7)	Micro SD Card Reader	Supports micro SD cards.
(8)	Volume button	Controls speaker volume on the tablet.
		● To increase speaker volume, press the + edge of the button.
		● To decrease speaker volume, press the – edge of the button.

Keyboard base

Top

Item	Component	Description
(1)	Alignment posts	Align and attach the tablet to the keyboard base.
(2)	Release latch	Releases the tablet. To release the tablet, slide the release latch to the left.
(3)	Docking connector	Connects the tablet to the keyboard base.

Keys
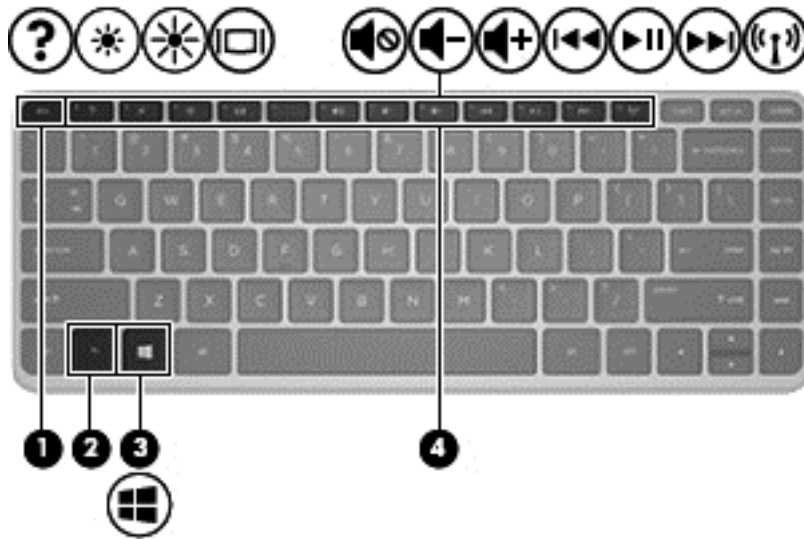
Item	Component	Description
(1)	esc key	Displays system information when pressed in combination with the fn key (select models only).
(2)	fn key	Executes frequently used system functions when pressed in combination with the b key or the esc key (select models only).
(3)	Windows key	Returns you to the Start screen from an open app or the Windows desktop. **NOTE:** Pressing the Windows key again will return you to the previous screen.
(4)	Action keys	Execute frequently used system functions. **NOTE:** Action keys do not display or function on the on-screen keyboard of the tablet.

Lights
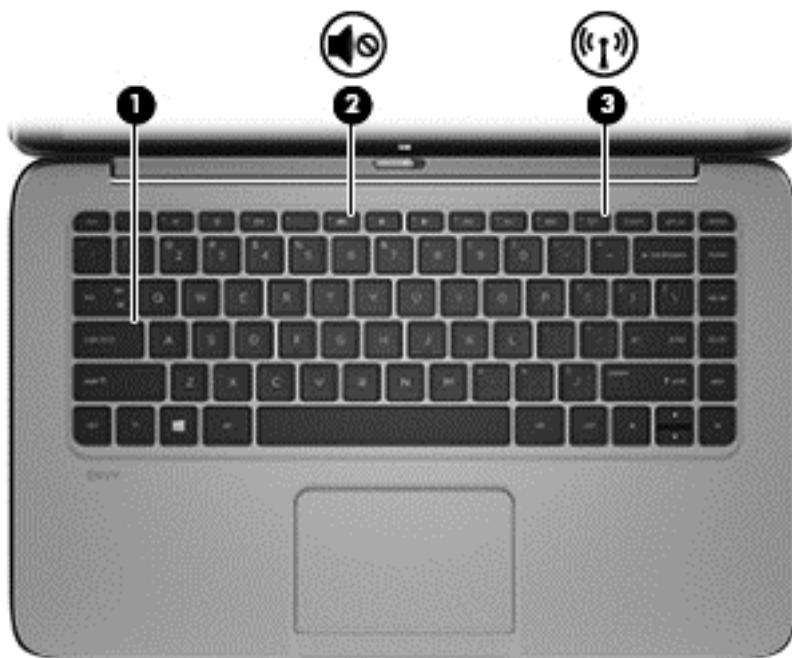
Item	Component	Description
(1)	Caps lock light	● White: Caps lock is on.
		● Off: Caps lock is off.
(2)	Mute light	● Amber: Computer sound is off.
		● Off: Computer sound is on.
(3)	Wireless light	On: An integrated wireless device, such as a WLAN device and/or a Bluetooth device, is on.
		NOTE: On some models, the wireless light is amber when all wireless devices are off.

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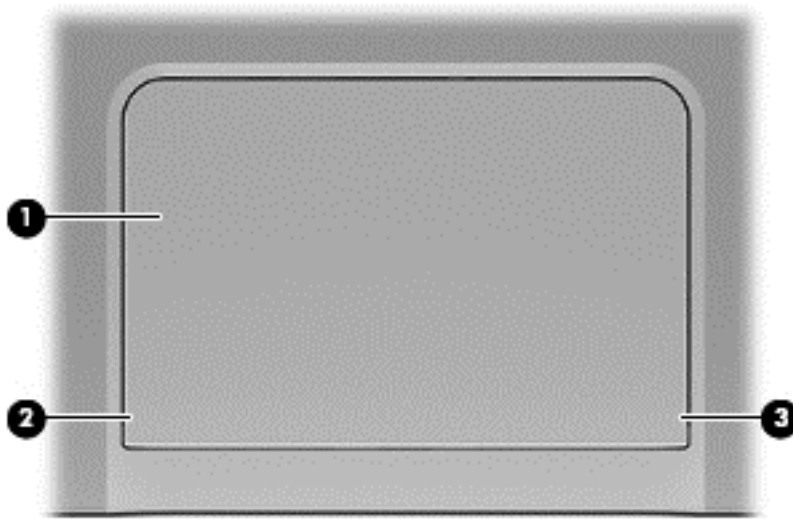
Item	Component	Description
(1)	TouchPad zone	Reads your finger gesture to move the pointer or activate items on the screen.
(2)	Left TouchPad button	Functions like the left button on an external mouse.
(3)	Right TouchPad button	Functions like the right button on an external mouse.

Left side

Item	Component	Description
(1)	USB 3.0 port	Connects optional USB devices, such as a keyboard, mouse, external drive, printer, scanner or USB hub.
(2)	Audio-out (headphone) jack/Audio-in (microphone) jack	Connects optional powered stereo speakers, headphones, earbuds, a headset, or a television audio cable. Also connects an optional headset microphone. This jack does not support optional microphone-only devices. **WARNING!** 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 *Regulatory, Safety, and Environmental Notices*. To access this guide, from the Start screen, type `support`, select the **HP Support Assistant** app, select **My computer**, and then select **User guides**. **NOTE:** When a device is connected to the jack, the computer speakers are disabled. **NOTE:** Be sure that the device cable has a 4-conductor connector that supports both audio-out (headphone) and audio-in (microphone).
(3)	Memory card reader	Connects optional memory cards that store, manage, share, or access information. 1. To insert the memory card, hold the card, label side up with connectors facing the slot, and then push in the card until it is firmly seated. 2. To remove the memory card, press in on the card and quickly release it until it pops out.

Right side

Item	Component	Description
(1)	USB 3.0 port	Connects optional USB devices, such as a keyboard, mouse, external drive, printer, scanner or USB hub.
(2)	HDMI port	Connects an optional video or audio device, such as a high-definition television, any compatible digital or audio component, or a high-speed HDMI device.
(3)	Power connector	Connects an AC adapter.
(4)	AC adapter light	● White: The AC adapter is connected and the battery is charged. ● Amber: The AC adapter is connected and the battery is charging. ● Off: The computer is using battery power.

3 Illustrated parts catalog

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

Service tag

When ordering parts or requesting information, provide the tablet serial number and model number provided on the service tag.
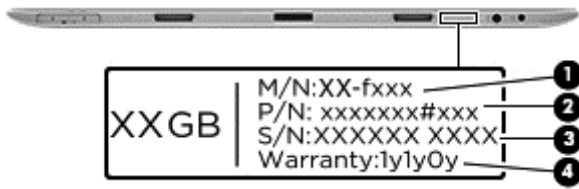
Item	Component	Description
(1)	Model number	This is the alphanumeric identifier used to locate documents, drivers, support, and spare part numbers for the tablet.
(2)	Part number/Product number (p/n)	This number provides specific information about the product's hardware components. The part number helps a service technician to determine what components and parts are needed.
(3)	Serial number (s/n)	This is an alphanumeric identifier that is unique to each product.
(4)	Warranty period	This number describes the duration of the warranty period for the tablet.

Tablet major components
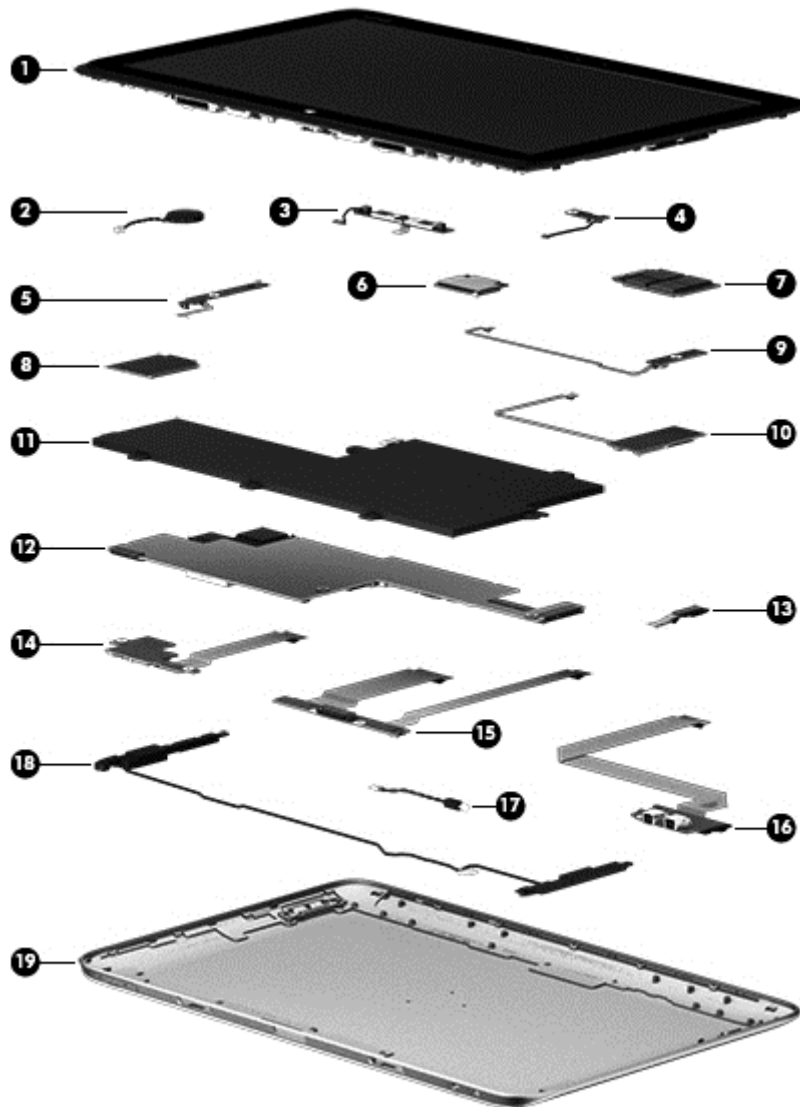
Item	Component	Spare part number
(1)	**Display assembly**:	
	NOTE: The display assembly does not include the display assembly cable. The display assembly cable is included in the Cable Kit, spare part number 736883-001. See <u>Cable Kit on page 23</u> for more Cable Kit spare part information.	
	13.3-inch, AG, FHD, WLED TouchScreen, display assembly for use only on tablet models with model numbers f000 through f099	765844-001
	13.3-inch, AG, FHD, WLED TouchScreen, display assembly for use only on tablet models with model numbers g200 through g299 and g100 through g199	737696-001
	13.3-inch, AG, HD, WLED TouchScreen, display assembly for use only on tablet models with model numbers g200 through g299 and g100 through g199	737697-001
(2)	**RTC battery** (includes cable and double-sided adhesive)	740187-001

Item	Component	Spare part number
(3)	**Webcamera/microphone module** (includes double-sided adhesive and grounding tape) **NOTE:** The webcamera/microphone module does not include the webcamera/ microphone module cable. The webcamera/microphone module cable is included in the Cable Kit, spare part number 736883-001. See Cable Kit on page 23 for more Cable Kit spare part information.	736900-001
(4)	**Proximity sensor module** **NOTE:** The proximity sensor module does not include the proximity sensor module cable. The proximity sensor module cable is included in the Cable Kit, spare part number 736883-001. See Cable Kit on page 23 for more Cable Kit spare part information.	736890-001
(5)	**Volume button board** **NOTE:** The volume button board does not include the volume button board cable. The volume button board cable is included in the Cable Kit, spare part number 736883-001. See Cable Kit on page 23 for more Cable Kit spare part information.	736893-001
(6)	**WLAN module:**	
	For use on all tablet models:	
	Intel Dual Band Wireless-AC 7260 802.11 ac 2×2 WiFi + BT 4.0 Combo Adapter	710661-006
	Intel Wireless-N 7260BN 802.11 b/g/n 2×2 WiFi + BT 4.0 Combo Adapter	717384-006
	Intel Dual Band Wireless-AC 3160 802.11ac 1×1 WiFi + BT 4.0 Combo Adapter for use only on tablet models with model numbers f000 through f099	710662-006
(7)	**Micro-solid-state drive** (mSSD):	
	128-GB mSSD for use on all tablet models	737218-001
	64-GB mSSD for use only on tablet models with model numbers g200 through g299 and g100 through g199	737217-001
(8)	**WWAN module:**	
	HP hs3110 HSPA+ Mobile Broadband Module for use on all tablet models	723895-006
	HP lt4112 LTE/HPSA+ Mobile Broadband Module for use only on tablet models with model numbers g200 through g299 and g100 through g199	740011-006
(9)	**Power button board** **NOTE:** The power button board does not include the power button board cable. The power button board cable is included in the Cable Kit, spare part number 736883-001. See Cable Kit on page 23 for more Cable Kit spare part information.	736889-001
(10)	**TouchScreen board** (includes double-sided adhesive) **NOTE:** The TouchScreen board does not include the TouchScreen board cable. The TouchScreen board cable is included in the Cable Kit, spare part number 736883-001. See Cable Kit on page 23 for more Cable Kit spare part information.	736892-001
(11)	**3-cell, 32-Wh, 2.96-Ah, Li-ion battery** for use only in the tablet (includes cable)	723996-005
(12)	**System board** (includes 4-GB of system memory, a graphics subsystem with UMA memory, and replacement thermal material):	

Item	Component	Spare part number
	For use only on tablet models with model numbers f000 through f099:	
	Equipped with an Intel Core i5-4202Y 1.60-GHz processor (3.00-MB L3 cache, dual core, 4.5 W), the Windows 8.1 Professional operating system, and WWAN capability	746490-601
	Equipped with an Intel Core i5-4202Y 1.60-GHz processor (3.00-MB L3 cache, dual core, 4.5 W), the Windows 8.1 Standard operating system, and WWAN capability	746490-501
	Equipped with an Intel Core i5-4202Y 1.60-GHz processor (3.00-MB L3 cache, dual core, 4.5 W), the Linux operating system, and WWAN capability	746490-001
	Equipped with an Intel Core i5-4202Y 1.60-GHz processor (3.00-MB L3 cache, dual core, 4.5 W) and the Windows 8.1 Professional operating system, but without WWAN capability	768185-601
	Equipped with an Intel Core i5-4202Y 1.60-GHz processor (3.00-MB L3 cache, dual core, 4.5 W) and the Windows 8.1 Standard operating system, but without WWAN capability	768185-501
	Equipped with an Intel Core i5-4202Y 1.60-GHz processor (3.00-MB L3 cache, dual core, 4.5 W) and the Linux operating system, but without WWAN capability	768185-001
	Equipped with an Intel Core i3-4012Y 1.50-GHz processor (3.00-MB L3 cache, dual core, 4.5 W), 4-GB of system memory, a graphics subsystem with UMA memory, and the Windows 8.1 Professional operating system	765845-601
	Equipped with an Intel Core i3-4012Y 1.50-GHz processor (3.00-MB L3 cache, dual core, 4.5 W), 4-GB of system memory, a graphics subsystem with UMA memory, and the Windows 8.1 Standard operating system	765845-501
	Equipped with an Intel Core i3-4012Y 1.50-GHz processor (3.00-MB L3 cache, dual core, 4.5 W), 4-GB of system memory, a graphics subsystem with UMA memory, and the Linux operating system	765845-001
	For use only on tablet models with model numbers g200 through g299 and g100 through g199:	
	Equipped with an Intel Core i5-4202Y 1.60-GHz processor (3.00-MB L3 cache, dual core, 4.5 W) and the Windows 8.1 Professional operating system	738499-601
	Equipped with an Intel Core i5-4202Y 1.60-GHz processor (3.00-MB L3 cache, dual core, 4.5 W) and the Windows 8.1 Standard operating system	738499-501
	Equipped with an Intel Core i5-4202Y 1.60-GHz processor (3.00-MB L3 cache, dual core, 4.5 W) and the Linux operating system	738499-001
	Equipped with an Intel Core i3-4012Y 1.50-GHz processor (3.00-MB L3 cache, dual core, 4.5 W) and the Windows 8.1 Professional operating system	738498-601
	Equipped with an Intel Core i3-4012Y 1.50-GHz processor (3.00-MB L3 cache, dual core, 4.5 W) and the Windows 8.1 Standard operating system	738498-501
	Equipped with an Intel Core i3-4012Y 1.50-GHz processor (3.00-MB L3 cache, dual core, 4.5 W) and the Linux operating system	738498-001
	NFC module antenna (not illustrated)	738259-001

Item	Component	Spare part number
(13)	**NFC module** (includes double-sided adhesive)	736886-001
	NOTE: The NFC module does not include the NFC module cable. The NFC module cable is included in the Cable Kit, spare part number 736883-001. See <u>Cable Kit on page 23</u> for more Cable Kit spare part information.	
(14)	**Card reader board**	
	NOTE: The card reader board does not include the card reader board cable. The card reader board cable is included in the Cable Kit, spare part number 736883-001. See <u>Cable Kit on page 23</u> for more Cable Kit spare part information.	
	For use only on tablet models with WWAN capability	746491-001
	For use only on tablet models without WWAN capability	736891-001
(15)	**Docking connector board**	736888-001
	NOTE: The docking connector board does not include the docking connector board cables. The docking connector board cables are included in the Cable Kit, spare part number 736883-001. See <u>Cable Kit on page 23</u> for more Cable Kit spare part information.	
(16)	**Audio/power connector board**	736887-001
	NOTE: The audio/power connector board does not include the audio/power connector board cable. The audio/power connector board cable is included in the Cable Kit, spare part number 736883-001. See <u>Cable Kit on page 23</u> for more Cable Kit spare part information.	
(17)	**Vibrator module** (includes cable)	736901-001
(18)	**Speaker Kit** (includes left and right speakers and cables)	736899-001
(19)	**Back cover** (includes internal shielding):	
	For use only on tablet models with WWAN capability	746492-001
	For use only on tablet models without WWAN capability	736881-001

Keyboard base major components
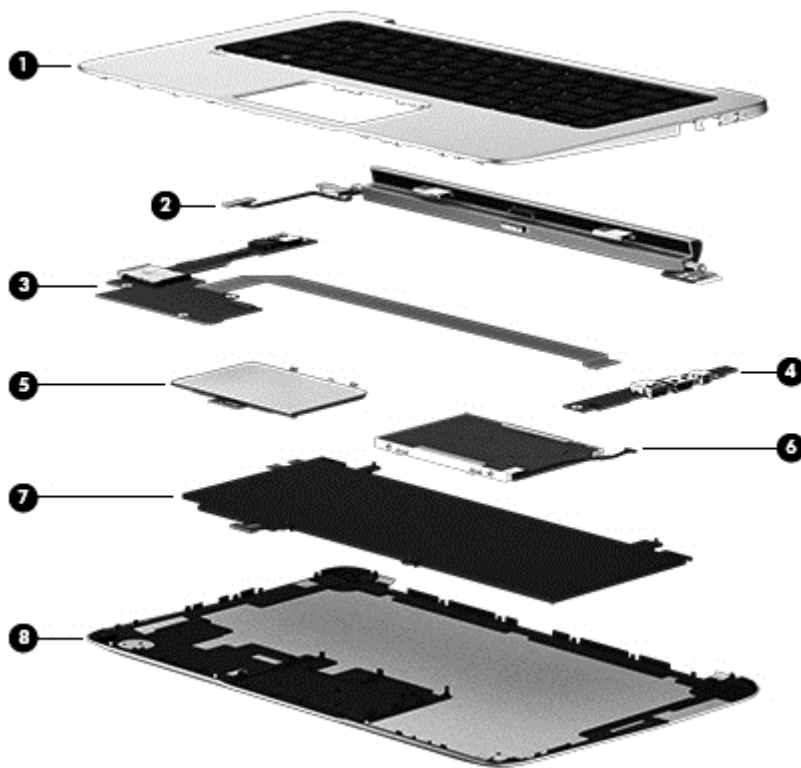
Item	Component	Spare part number
(1)	**Keyboard/top cover** (includes keyboard cable):	
	For use only on tablet models with model numbers f000 through f099:	
	For use in Brazil	765846-201
	For use in Canada	765846-DB1
	For use in Latin America	765846-161
	For use in the United States	765846-001
	For use only on tablet models with model numbers g200 through g299 and g100 through g199:	
	For use in Belgium	737219-A41
	For use in Brazil	737219-201
	For use in Canada	737219-DB1
	For use in Denmark, Finland, and Norway	737219-DH1
	For use in France	737219-051
	For use in Germany	737219-041
	For use in Greece	737219-151
	For use in Italy	737219-061

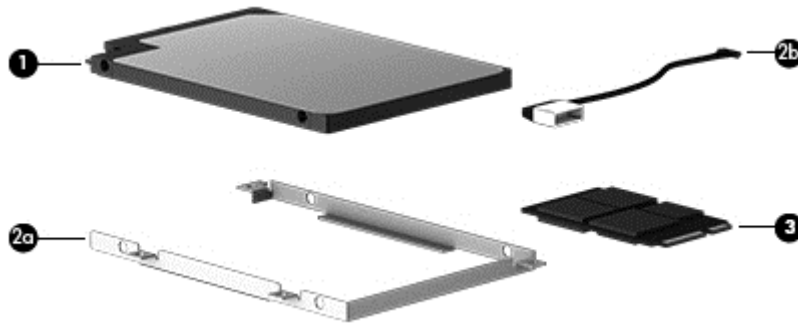| Item	Component	Spare part number
	For use in Japan	737219-291
	For use in Latin America	737219-161
	For use in the Netherlands	737219-B31
	For use in Portugal	737219-131
	For use in Russia	737219-251
	For use in Saudi Arabia	737219-171
	For use in South Korea	737219-AD1
	For use in Spain	737219-071
	For use in Switzerland	737219-BG1
	For use in Taiwan	737219-AB1
	For use in Thailand	737219-281
	For use in Turkey	737219-141
	For use in the United Kingdom and Singapore	737219-031
	For use in the United States	737219-001
(2)	**Hinge assembly** (includes 2 cables and 2 rubber feet):	
	For use only on tablet models with model numbers f000 through f099	765843-001
	For use only on tablet models with model numbers g200 through g299 and g100 through g199	736885-001
(3)	**Audio/USB board** (includes audio jack, memory card reader, and USB port)	736894-001
	NOTE: The audio/USB board does not include the audio/USB board cable. The audio/USB board cable is included in the Cable Kit, spare part number 736883-001. See Cable Kit on page 23 for more Cable Kit spare part information.	
(4)	**Power connector board:**	
	NOTE: The power connector board does not include the power connector board cable. The power connector board cable is included in the Cable Kit, spare part number 736883-001. See Cable Kit on page 23 for more Cable Kit spare part information.	
	For use on keyboard base models equipped with a hard drive (includes hard drive connector, power connector, HDMI port, and USB port)	736895-001
	For use on keyboard base models not equipped with a hard drive (includes power connector, HDMI port, and USB port)	746493-001
(5)	**TouchPad**	736880-001
(6)	**500-GB, 5400-rpm, SATA, 5.0-mm hard drive** (does not include hard drive bracket, hard drive connector cable, or screws)	737957-005
	NOTE: The hard drive bracket, hard drive connector cable, and screws are included in the Hard Drive Hardware Kit, spare part number 736884-001.	

Item	Component	Spare part number
(7)	**3-cell, 33-Wh, 3.05-Ah, Li-ion battery** for use only in the keyboard base (includes cable)	723997-006
(8)	**Bottom cover** (includes rubber feet)	736882-001

Cable Kit
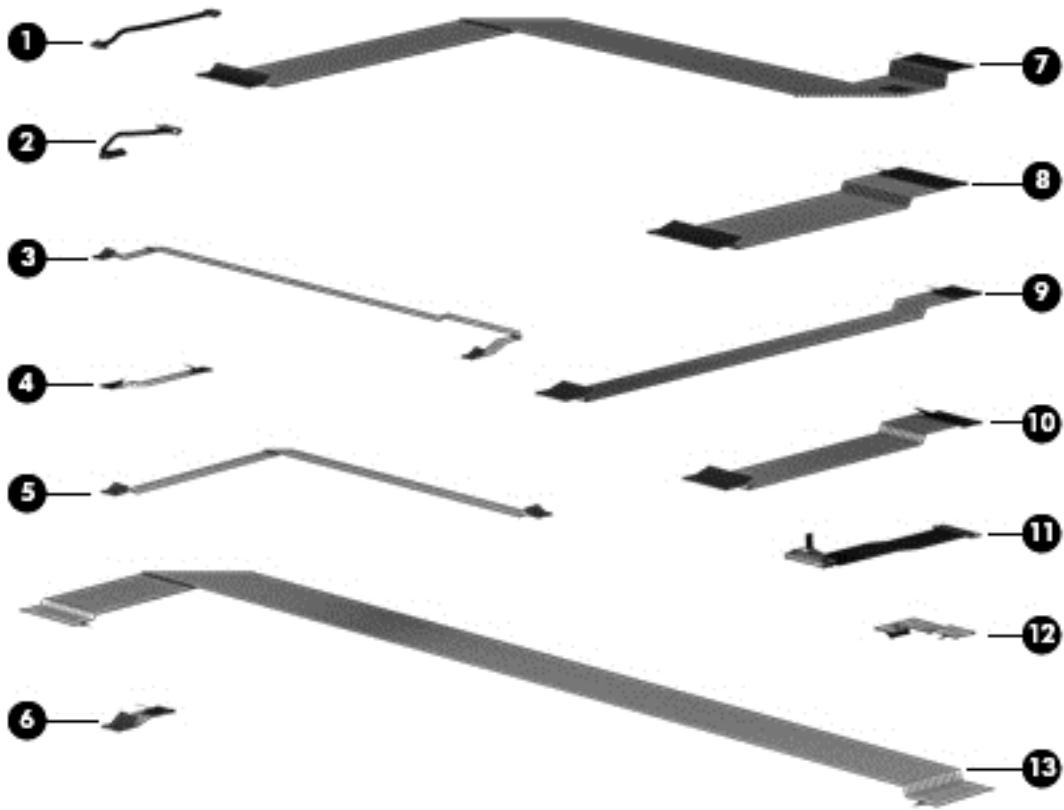
Item	Component	Spare part number
	Cable Kit, includes:	736883-001
(1)	Proximity board cable	
(2)	Webcamera/microphone module cable	
(3)	Power button board cable	
(4)	Volume button board cable	
(5)	TouchScreen board cable	
(6)	NFC module cable	
(7)	Audio/power board cable	
(8)	Docking connector board cable	
(9)	Docking connector board cable	
(10)	Digital card reader board cable	
(11)	Display panel cable	
(12)	TouchPad cable	
(13)	Docking board ribbon cable	

Mass storage devices

Item	Component	Spare part number
(1)	**500-GB, 5400-rpm, SATA, 5.0-mm hard drive** (does not include hard drive bracket, hard drive connector cable, or screws)	737957-005
	Hard Drive Hardware Kit, includes:	731424-001
(2a)	Hard drive bracket	
(2b)	Hard drive connector cable	
	Screws (not illustrated)	
(3)	**Micro-solid-state drive** (mSSD):	
	128-GB mSSD for use on all tablet models	737218-001
	64-GB mSSD for use only on tablet models with model numbers g200 through g299 and g100 through g199	737217-001

Miscellaneous parts

Component	Spare part number
AC adapter	
65-W HP Smart AC adapter (non-PFC, 4.5-mm)	710412-001
65-W HP Smart AC adapter (non-PFC, EM, 4.5-mm)	714657-001
USB external DVD±RW Drive	747080-001
HP HDMI-to-VGA adapter	701943-001
HP RJ45-to-USB adapter	539614-001
Power cord (3-pin, black, 1.83-m):	
For use only on tablet models with model numbers g200 through g299 and g100 through g199	
For use in Denmark	490371-081
For use in Europe	490371-021
For use in Israel	490371-BB1
For use in Italy	490371-061
For use in Japan	490371-291
For use in South Korea	490371-AD1
For use in Switzerland	490371-111
For use in Taiwan	490371-AB1
For use in Thailand	490371-201
For use in the United Kingdom and Singapore	490371-031
For use only on tablet models with model numbers f000 through f099:	
For use in Argentina	490371-D01
For use in Brazil	490371-201
For use in Canada	490371-DB1
For use in Latin America	490371-161
For use in North America	490371-001
Plastics Kit	736896-001
Rubber Kit (includes 2 rear rubber feet)	730888-001
Screw Kit	730889-001

Sequential part number listing

Spare part number	Description
490371-001	Power cord for use on all tablet models in North America (3-pin, black, 1.83-m)
490371-011	Power cord for use on all tablet models in Australia (3-pin, black, 1.83-m)
490371-021	Power cord for use only on tablet models with model numbers g200 through g299 and g100 through g199 in Europe (3-pin, black, 1.83-m)
490371-031	Power cord for use on all tablet models in the United Kingdom and Singapore (3-pin, black, 1.83-m)
490371-061	Power cord for use only on tablet models with model numbers g200 through g299 and g100 through g199 in Italy (3-pin, black, 1.83-m)
490371-111	Power cord for use only on tablet models with model numbers g200 through g299 and g100 through g199 in Switzerland (3-pin, black, 1.83-m)
490371-201	Power cord for use only on tablet models with model numbers g200 through g299 and g100 through g199 in Thailand (3-pin, black, 1.83-m)
490371-202	Power cord for use on all tablet models in Brazil (3-pin, black, 1.83-m)
490371-291	Power cord for use only on tablet models with model numbers g200 through g299 and g100 through g199 in Japan (3-pin, black, 1.83-m)
490371-AA1	Power cord for use only on tablet models with model numbers g200 through g299 and g100 through g199 in the People's Republic of China (3-pin, black, 1.83-m)
490371-AB1	Power cord for use only on tablet models with model numbers g200 through g299 and g100 through g199 in Taiwan (3-pin, black, 1.83-m)
490371-AD1	Power cord for use only on tablet models with model numbers g200 through g299 and g100 through g199 in South Korea (3-pin, black, 1.83-m)
490371-D01	Power cord for use on all tablet models in Argentina (3-pin, black, 1.83-m)
490371-D61	Power cord for use only on tablet models with model numbers g200 through g299 and g100 through g199 in India (3-pin, black, 1.83-m)
539614-001	HP RJ45-to-USB adapter
701943-001	HP HDMI-to-VGA adapter
710412-001	65-W HP Smart AC adapter for use on all tablet models (non-PFC, S-3P, 4.5-mm)
710661-006	Intel Dual Band Wireless-AC 7260 802.11 ac 2×2 WiFi + BT 4.0 Combo Adapter for use on all tablet models
710662-006	Intel Dual Band Wireless-AC 3160 802.11ac 1×1 WiFi + BT 4.0 Combo Adapter for use only on tablet models with model numbers f000 through f099
717384-006	Intel Wireless-N 7260BN 802.11 b/g/n 2×2 WiFi + BT 4.0 Combo Adapter for use on all tablet models
721092-001	45-W HP Smart AC adapter for use on all tablet models (non-PFC, RC, 4.5-mm)
723895-006	HP lt4112 LTE/HPSA+ Mobile Broadband Module for use on all tablet models
723996-005	3-cell, 32-Wh, 2.96-Ah, Li-ion battery (for use only in the tablet, includes cable)

Spare part number	Description
723997-006	3-cell, 33-Wh, 3.05-Ah, Li-ion battery (for use only in the keyboard base, includes cable)
736879-001	Wireless Antenna Kit (includes left and right wireless antenna cables and transceivers)
736880-001	TouchPad **NOTE:** The TouchPad does not include the TouchPad cable. The TouchPad cable is included in the Cable Kit, spare part number 736883-001. See Cable Kit on page 23 for more Cable Kit spare part information.
736881-001	Back cover for use only on tablet models without WWAN capability (includes internal shielding)
736882-001	Bottom cover (includes rubber feet)
736883-001	Cable Kit **NOTE:** See Cable Kit on page 23 for more Cable Kit spare part information.
736884-001	Hard Drive Hardware Kit (includes hard drive bracket, hard drive connector cable, and screws)
736885-001	Hinge assembly for use only on tablet models with model numbers g200 through g299 and g100 through g199 (includes 2 cables and 2 rubber feet)
736886-001	NFC module (includes double-sided adhesive) **NOTE:** The NFC module does not include the NFC module cable. The NFC module cable is included in the Cable Kit, spare part number 736883-001. See Cable Kit on page 23 for more Cable Kit spare part information.
736887-001	Audio/power connector board **NOTE:** The audio/power connector board does not include the audio/power connector board cable. The audio/power connector board cable is included in the Cable Kit, spare part number 736883-001. See Cable Kit on page 23 for more Cable Kit spare part information.
736888-001	Docking connector board **NOTE:** The docking connector board does not include the docking connector board cable. The docking connector board cable is included in the Cable Kit, spare part number 736883-001. See Cable Kit on page 23 for more Cable Kit spare part information.
736889-001	Power button board **NOTE:** The power button board does not include the power button board cable. The power button board cable is included in the Cable Kit, spare part number 736883-001. See Cable Kit on page 23 for more Cable Kit spare part information.
736890-001	Proximity sensor module **NOTE:** The proximity sensor module does not include the proximity sensor module cable. The proximity sensor module cable is included in the Cable Kit, spare part number 736883-001. See Cable Kit on page 23 for more Cable Kit spare part information.
736891-001	Card reader board for use only on tablet models without WWAN capability **NOTE:** The card reader board does not include the card reader board cable. The card reader board cable is included in the Cable Kit, spare part number 736883-001. See Cable Kit on page 23 for more Cable Kit spare part information.

Spare part number	Description
736892-001	TouchScreen board (includes double-sided adhesive)
	NOTE: The TouchScreen board does not include the TouchScreen board cable. The TouchScreen board cable is included in the Cable Kit, spare part number 736883-001. See Cable Kit on page 23 for more Cable Kit spare part information.
736893-001	Volume button board
	NOTE: The volume button board does not include the volume button board cable. The volume button board cable is included in the Cable Kit, spare part number 736883-001. See Cable Kit on page 23 for more Cable Kit spare part information.
736894-001	Audio/USB board (includes audio jack, memory card reader, and USB port)
	NOTE: The audio/USB board does not include the audio/USB board cable. The audio/USB board cable is included in the Cable Kit, spare part number 736883-001. See Cable Kit on page 23 for more Cable Kit spare part information.
736895-001	Power connector board for use on tablet models equipped with a hard drive (includes hard drive connector, power connector, HDMI port, and USB port)
	NOTE: The power connector board does not include the power connector board cable. The power connector board cable is included in the Cable Kit, spare part number 736883-001. See Cable Kit on page 23 for more Cable Kit spare part information.
736896-001	Plastics Kit
736897-001	Rubber Kit
736898-001	Screw Kit
736899-001	Speaker Kit (includes left and right speakers and cables)
736900-001	Webcamera/microphone module (includes double-sided adhesive and grounding tape)
	NOTE: The webcamera/microphone module does not include the webcamera/microphone module cable. The webcamera/microphone module cable is included in the Cable Kit, spare part number 736883-001. See Cable Kit on page 23 for more Cable Kit spare part information.
736901-001	Vibrator module (includes cable)
737216-001	Heat sink (includes replacement thermal material)
737217-001	64-GB micro-solid-state drive for use only on tablet models with model numbers g200 through g299 and g100 through g199
737218-001	128-GB micro-solid-state drive for use on all tablet models
737219-001	Keyboard/top cover for use only on tablet models with model numbers g200 through g299 and g100 through g199 in the United States (includes keyboard cable and TouchPad)
737219-031	Keyboard/top cover for use only on tablet models with model numbers g200 through g299 and g100 through g199 in the United Kingdom and Singapore (includes keyboard cable and TouchPad)
737219-041	Keyboard/top cover for use only on tablet models with model numbers g200 through g299 and g100 through g199 in Germany (includes keyboard cable and TouchPad)
737219-051	Keyboard/top cover for use only on tablet models with model numbers g200 through g299 and g100 through g199 in France (includes keyboard cable and TouchPad)

Spare part number	Description
737219-061	Keyboard/top cover for use only on tablet models with model numbers g200 through g299 and g100 through g199 in Italy (includes keyboard cable and TouchPad)
737219-071	Keyboard/top cover for use only on tablet models with model numbers g200 through g299 and g100 through g199 in Spain (includes keyboard cable and TouchPad)
737219-131	Keyboard/top cover for use only on tablet models with model numbers g200 through g299 and g100 through g199 in Portugal (includes keyboard cable and TouchPad)
737219-141	Keyboard/top cover for use only on tablet models with model numbers g200 through g299 and g100 through g199 in Turkey (includes keyboard cable and TouchPad)
737219-151	Keyboard/top cover for use only on tablet models with model numbers g200 through g299 and g100 through g199 in Greece (includes keyboard cable and TouchPad)
737219-161/U	Keyboard/top cover for use only on tablet models with model numbers g200 through g299 and g100 through g199 in Latin America (includes keyboard cable and TouchPad)
737219-171	Keyboard/top cover for use only on tablet models with model numbers g200 through g299 and g100 through g199 in Saudi Arabia (includes keyboard cable and TouchPad)
737219-201/U	Keyboard/top cover for use only on tablet models with model numbers g200 through g299 and g100 through g199 Brazil (includes keyboard cable and TouchPad)
737219-251	Keyboard/top cover for use only on tablet models with model numbers g200 through g299 and g100 through g199 in Russia (includes keyboard cable and TouchPad)
737219-281	Keyboard/top cover for use only on tablet models with model numbers g200 through g299 and g100 through g199 in Thailand (includes keyboard cable and TouchPad)
737219-291	Keyboard/top cover for use only on tablet models with model numbers g200 through g299 and g100 through g199 in Japan (includes keyboard cable and TouchPad)
737219-A41	Keyboard/top cover for use only on tablet models with model numbers g200 through g299 and g100 through g199 in Belgium (includes keyboard cable and TouchPad)
737219-AB1	Keyboard/top cover for use only on tablet models with model numbers g200 through g299 and g100 through g199 in South Korea (includes keyboard cable and TouchPad)
737219-AD1	Keyboard/top cover for use only on tablet models with model numbers g200 through g299 and g100 through g199 in Taiwan (includes keyboard cable and TouchPad)
737219-B31	Keyboard/top cover for use only on tablet models with model numbers g200 through g299 and g100 through g199 in the Netherlands (includes keyboard cable and TouchPad)
737219-BG1	Keyboard/top cover for use only on tablet models with model numbers g200 through g299 and g100 through g199 in Switzerland (includes keyboard cable and TouchPad)
737219-DB1/U	Keyboard/top cover for use only on tablet models with model numbers g200 through g299 and g100 through g199 in Canada (includes keyboard cable and TouchPad)
737219-DH1	Keyboard/top cover for use only on tablet models with model numbers g200 through g299 and g100 through g199 in Denmark, Finland, and Norway (includes keyboard cable and TouchPad)
737696-001	13.3-inch, AG, FHD, WLED TouchScreen, display assembly for use only on tablet models with model numbers g200 through g299 and g100 through g199 **NOTE:** The display assembly does not include the display assembly cable. The display assembly cable is included in the Cable Kit, spare part number 736883-001. See Cable Kit on page 23 for more Cable Kit spare part information.

Spare part number	Description
737697-001	13.3-inch, AG, HD, WLED TouchScreen, display assembly for use only on tablet models with model numbers g200 through g299 and g100 through g199 **NOTE:** The display assembly does not include the display assembly cable. The display assembly cable is included in the Cable Kit, spare part number 736883-001. See Cable Kit on page 23 for more Cable Kit spare part information.
737957-005	500-GB, 5400-rpm, SATA, 5.0-mm hard drive (does not include hard drive bracket, hard drive connector cable, or screws) **NOTE:** The hard drive bracket, hard drive connector cable, and screws are included in the Hard Drive Hardware Kit, spare part number 736884-001.
738259-001	NFC module antenna
738498-001	System board equipped with an Intel Core i3-4012Y 1.50-GHz processor (3.00-MB L3 cache, dual core, 4.5 W), 4-GB of system memory, a graphics subsystem with UMA memory, and the Linux operating system for use only on tablet models with model numbers g200 through g299 and g100 through g199 (includes replacement thermal material)
738498-501	System board equipped with an Intel Core i3-4012Y 1.50-GHz processor (3.00-MB L3 cache, dual core, 4.5 W), 4-GB of system memory, a graphics subsystem with UMA memory, and the Windows 8.1 Standard operating system for use only on tablet models with model numbers g200 through g299 and g100 through g199 (includes replacement thermal material)
738498-601	System board equipped with an Intel Core i3-4012Y 1.50-GHz processor (3.00-MB L3 cache, dual core, 4.5 W), 4-GB of system memory, a graphics subsystem with UMA memory, and the Windows 8.1 Professional operating system for use only on tablet models with model numbers g200 through g299 and g100 through g199 (includes replacement thermal material)
738499-001	System board equipped with an Intel Core i5-4202Y 1.60-GHz processor (3.00-MB L3 cache, dual core, 4.5 W), 4-GB of system memory, a graphics subsystem with UMA memory, and the Linux operating system for use only on tablet models with model numbers g200 through g299 and g100 through g199 (includes replacement thermal material)
738499-501	System board equipped with an Intel Core i5-4202Y 1.60-GHz processor (3.00-MB L3 cache, dual core, 4.5 W), 4-GB of system memory, a graphics subsystem with UMA memory, and the Windows 8.1 Standard operating system for use only on tablet models with model numbers g200 through g299 and g100 through g199 (includes replacement thermal material)
738499-601	System board equipped with an Intel Core i5-4202Y 1.60-GHz processor (3.00-MB L3 cache, dual core, 4.5 W), 4-GB of system memory, a graphics subsystem with UMA memory, and the Windows 8.1 Professional operating system for use only on tablet models with model numbers g200 through g299 and g100 through g199 (includes replacement thermal material)
740011-006	HP lt4112 LTE/HPSA+ Mobile Broadband Module for use only on tablet models with model numbers g200 through g299 and g100 through g199
740187-001	RTC battery (includes cable and double-sided adhesive)
741727-001	45-W HP Smart AC adapter for use only on tablet models with model numbers f000 through f099 (non-PFC, RC, 4.5-mm)
746490-001	System board equipped with an Intel Core i5-4202Y 1.60-GHz processor (3.00-MB L3 cache, dual core, 4.5 W), 4-GB of system memory, a graphics subsystem with UMA memory, the Linux operating system, and with WWAN capability for use only on tablet models with model numbers f000 through f099 (includes replacement thermal material)

Spare part number	Description
746490-501	System board equipped with an Intel Core i5-4202Y 1.60-GHz processor (3.00-MB L3 cache, dual core, 4.5 W), 4-GB of system memory, a graphics subsystem with UMA memory, the Windows 8.1 Standard operating system, and WWAN capability for use only on tablet models with model numbers f000 through f099 (includes replacement thermal material)
746490-601	System board equipped with an Intel Core i5-4202Y 1.60-GHz processor (3.00-MB L3 cache, dual core, 4.5 W), 4-GB of system memory, a graphics subsystem with UMA memory, the Windows 8.1 Professional operating system, and WWAN capability for use only on tablet models with model numbers f000 through f099 (includes replacement thermal material)
746491-001	Card reader board for use only on tablet models with WWAN capability **NOTE:** The card reader board does not include the card reader board cable. The card reader board cable is included in the Cable Kit, spare part number 736883-001. See Cable Kit on page 23 for more Cable Kit spare part information.
746492-001	Back cover for use only on tablet models equipped with WWAN capability (includes internal shielding)
746493-001	Power connector board for use on keyboard base models not equipped with a hard drive (includes power connector, HDMI port, and USB port) **NOTE:** The power connector board does not include the power connector board cable. The power connector board cable is included in the Cable Kit, spare part number 736883-001. See Cable Kit on page 23 for more Cable Kit spare part information.
747080-001	USB external DVD±RW Drive
765843-001	Hinge assembly for use only on tablet models with model numbers f000 through f099 (includes 2 cables and 2 rubber feet)
765844-001	13.3-inch, AG, HD, WLED TouchScreen, display assembly for use only on tablet models with model numbers f000 through f099 (includes 2 cables and 2 rubber feet) **NOTE:** The display assembly does not include the display assembly cable. The display assembly cable is included in the Cable Kit, spare part number 736883-001. See Cable Kit on page 23 for more Cable Kit spare part information.
765845-001	System board equipped with an Intel Core i3-4012Y 1.50-GHz processor (3.00-MB L3 cache, dual core, 4.5 W), 4-GB of system memory, a graphics subsystem with UMA memory, and the Linux operating system for use only on tablet models with model numbers f000 through f099 (includes replacement thermal material)
765845-501	System board equipped with an Intel Core i3-4012Y 1.50-GHz processor (3.00-MB L3 cache, dual core, 4.5 W), 4-GB of system memory, a graphics subsystem with UMA memory, and the Windows 8.1 Standard operating system for use only on tablet models with model numbers f000 through f099 (includes replacement thermal material)
765845-601	System board equipped with an Intel Core i3-4012Y 1.50-GHz processor (3.00-MB L3 cache, dual core, 4.5 W), 4-GB of system memory, a graphics subsystem with UMA memory, and the Windows 8.1 Professional operating system for use only on tablet models with model numbers f000 through f099 (includes replacement thermal material)
765846-001	Keyboard/top cover for use only on tablet models with model numbers f000 through f099 in the United States (includes keyboard cable and TouchPad)
765846-161	Keyboard/top cover for use only on tablet models with model numbers f000 through f099 in Latin America (includes keyboard cable and TouchPad)

Spare part number	Description
765846-201	Keyboard/top cover for use only on tablet models with model numbers f000 through f099 in Brazil (includes keyboard cable and TouchPad)
765846-DB1	Keyboard/top cover for use only on tablet models with model numbers f000 through f099 in Canada (includes keyboard cable and TouchPad)
768185-001	System board equipped with an Intel Core i5-4202Y 1.60-GHz processor (3.00-MB L3 cache, dual core, 4.5 W), 4-GB of system memory, a graphics subsystem with UMA memory, and the Linux operating system for use only on tablet models with model numbers f000 through f099 (includes replacement thermal material)
768185-501	System board equipped with an Intel Core i5-4202Y 1.60-GHz processor (3.00-MB L3 cache, dual core, 4.5 W), 4-GB of system memory, a graphics subsystem with UMA memory, and the Windows 8.1 Standard operating system for use only on tablet models with model numbers f000 through f099 (includes replacement thermal material)
768185-601	System board equipped with an Intel Core i5-4202Y 1.60-GHz processor (3.00-MB L3 cache, dual core, 4.5 W), 4-GB of system memory, a graphics subsystem with UMA memory, and the Windows 8.1 Professional operating system for use only on tablet models with model numbers f000 through f099 (includes replacement thermal material)

4 Removal and replacement preliminary requirements

Tools required

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

- Flat-bladed screw driver
- Magnetic screw driver
- Phillips P0 screw driver

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 tablet, place the subassembly (and all accompanying screws) away from the work area to prevent damage.

Plastic parts

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 tablet, be sure that cables are placed in their proper locations during the reassembly process. Improper cable placement can damage the tablet.

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 tablet, damage to a drive, or loss of information, observe these precautions:

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

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

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

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

Avoid dropping drives from any height onto any surface.

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

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

Avoid exposing a drive to temperature extremes or liquids.

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

Grounding guidelines

Electrostatic discharge damage

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

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

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

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

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

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

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

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

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

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

Typical electrostatic voltage levels			
	Relative humidity		
Event	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, screw drivers, 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 ±10% resistance in the ground cords. To provide proper ground, wear a strap snugly against the skin at all times. On grounded mats with banana-plug connectors, use alligator clips to connect a wrist strap.

●   When standing, use foot straps and a grounded floor mat. Foot straps (heel, toe, or boot straps) can be used at standing workstations and are compatible with most types of shoes or boots. On conductive floors or dissipative floor mats, use foot straps on both feet with a minimum of one megohm resistance between the operator and ground. To be effective, the conductive must be worn in contact with the skin.

The following grounding equipment is recommended to prevent electrostatic damage:

●   Antistatic tape

●   Antistatic smocks, aprons, and sleeve protectors

●   Conductive bins and other assembly or soldering aids

●   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 plastics	Bags	1,500 V
Carbon-loaded plastic	Floor mats	7,500 V
Metallized laminate	Floor mats	5,000 V

Removal and replacement procedures

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.

Tablet component replacement procedures

CAUTION: Tablet components described in this chapter should only be accessed by an authorized service provider. Accessing these parts can damage the tablet and void the warranty.

This chapter provides removal and replacement procedures for authorized service provider only parts.

There are as many as 29 screws that must be removed, replaced, and/or loosened when servicing the tablet. Make special note of each screw size and location during removal and replacement.

Back cover

NOTE: The back cover spare part kit includes internal shielding.

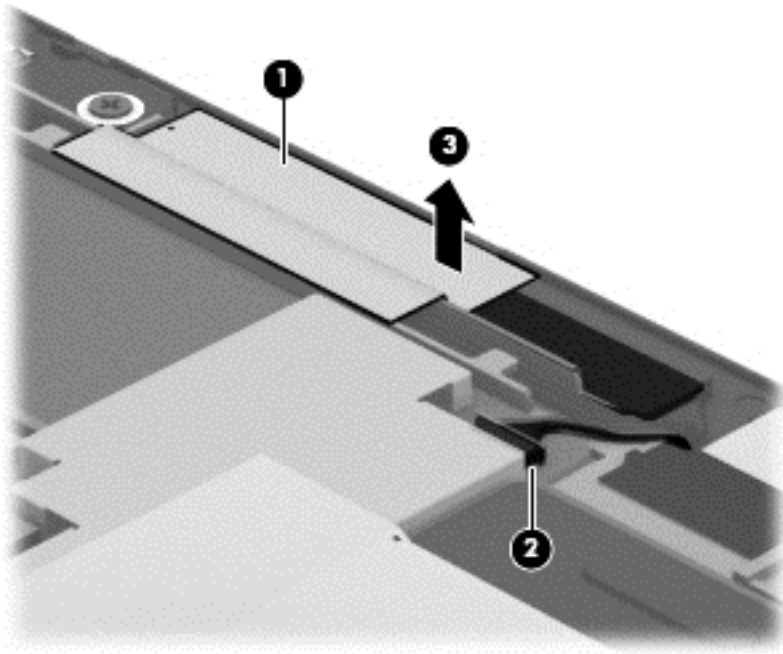| Description	Spare part number
For use only on tablet models with WWAN capability	746492-001
For use only on tablet models without WWAN capability	736881-001
Display assembly:	
NOTE: The display assembly does not include the display assembly cable. The display assembly cable is included in the Cable Kit, spare part number 736883-001. See Cable Kit on page 23 for more Cable Kit spare part information.	
13.3-inch, AG, FHD, WLED TouchScreen, display assembly for use only on tablet models with model numbers f000 through f099	765844-001
13.3-inch, AG, FHD, WLED TouchScreen, display assembly for use only on tablet models with model numbers g200 through g299 and g100 through g199	737696-001
13.3-inch, AG, HD, WLED TouchScreen, display assembly for use only on tablet models with model numbers g200 through g299 and g100 through g199	737697-001

Before disassembling the tablet, follow these steps:

1. Turn off the tablet. If you are unsure whether the tablet is off or in Hibernation, turn the tablet on, and then shut it down through the operating system.

2. Disconnect the power from the tablet by unplugging the power cord from the tablet.

3. Disconnect all external devices from the tablet.

Remove the back cover:

1. Place the tablet on a flat surface, display screen side up, with the docking connector, power connector, and audio connector toward you.

2. Remove the display assembly screw cover trim piece.

The display assembly screw cover trim piece is included with all tablet spare part components.

3. Remove the four Phillips PM2.0×4.0 screws that secure the back cover to the display assembly.
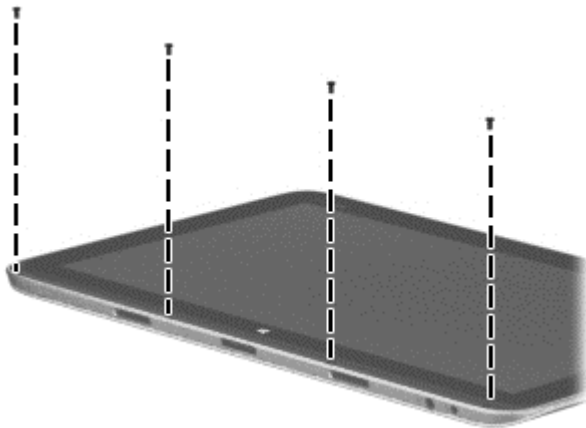
⚠ **CAUTION:** Before positioning the tablet with the display screen facing down, make sure the work surface is clear of tools, screws, and any other foreign objects. Failure to follow this caution can result in damage to the display screen.

4. Turn the tablet upside down, with the docking connector, power connector, and audio connector toward you.

5. Lift the bottom edge of the back cover **(1)**, and then swing it up and back **(2)** until the left and right edges detach from the display assembly.

6. Remove the back cover **(3)**.
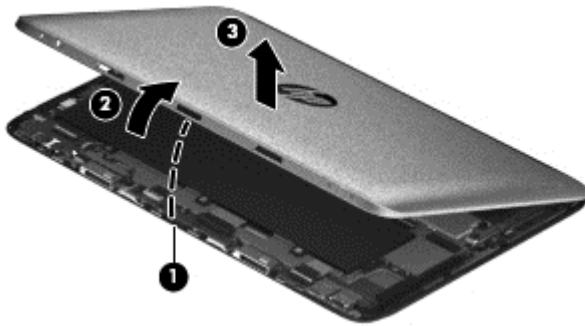
7. Remove the back cover.

Reverse this procedure to install the back cover.

Tablet battery

Description	Spare part number
3-cell, 32-Wh, 2.96-Ah, Li-ion battery for use only in the tablet (includes cable)	723996-005

Before removing the tablet battery, follow these steps:

1. Turn off the tablet. If you are unsure whether the tablet is off or in Hibernation, turn the tablet on, and then shut it down through the operating system.

2. Disconnect the power from the tablet by unplugging the power cord from the tablet.

3. Disconnect all external devices from the tablet.

4. Remove the back cover (see Back cover on page 38).

⚠ **WARNING!** To reduce potential safety issues, use only the battery provided with the tablet, a replacement battery provided by HP, or a compatible battery purchased from HP.

⚠ **CAUTION:** Removing a battery that is the sole power source for the tablet can cause loss of information. To prevent loss of information, save your work or shut down the tablet through Windows before removing the battery.

Remove the tablet battery:

1. Remove the four Phillips PM2.0×3.0 screws **(1)** and the three Phillips PM2.0×2.5 broad head screws **(2)** that secure the battery to the display assembly.

2. Release the battery **(3)** by lifting it and sliding it slightly to the left.

3. Disconnect the battery cable **(4)** from the system board.

4. Remove the tablet battery **(5)**.
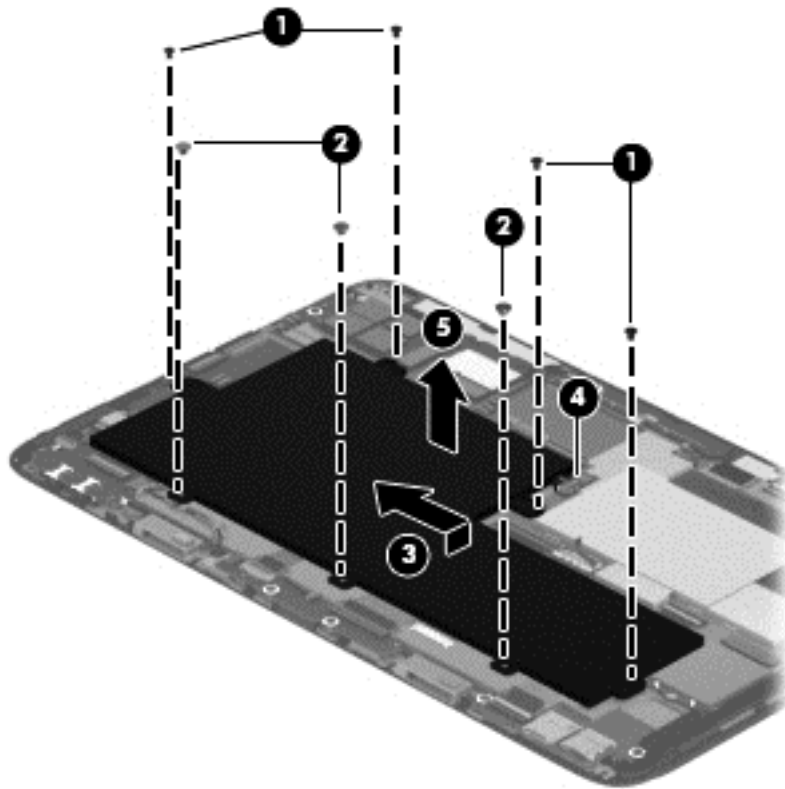
Reverse this procedure to install the tablet battery.

Proximity sensor module

Description	Spare part number
Proximity sensor module	736890-001

NOTE: The proximity sensor module does not include the proximity sensor module cable. The proximity sensor module cable is included in the Cable Kit, spare part number 736883-001. See <u>Cable Kit on page 23</u> for more Cable Kit spare part information.

Before removing the proximity sensor module, follow these steps:

1. Turn off the tablet. If you are unsure whether the tablet is off or in Hibernation, turn the tablet on, and then shut it down through the operating system.

2. Disconnect the power from the tablet by unplugging the power cord from the tablet.

3. Disconnect all external devices from the tablet.

4. Remove the back cover (see <u>Back cover on page 38</u>).

**5.** Remove the tablet battery (see <u>Tablet battery on page 40</u>).

Remove the proximity sensor module:

1. Disconnect the proximity sensor module cable **(1)** from the system board.

2. Remove the Phillips PM2.0×3.0 screw **(2)** that secures the proximity sensor module to the display assembly.

3. Remove the proximity sensor module **(3)** and cable.
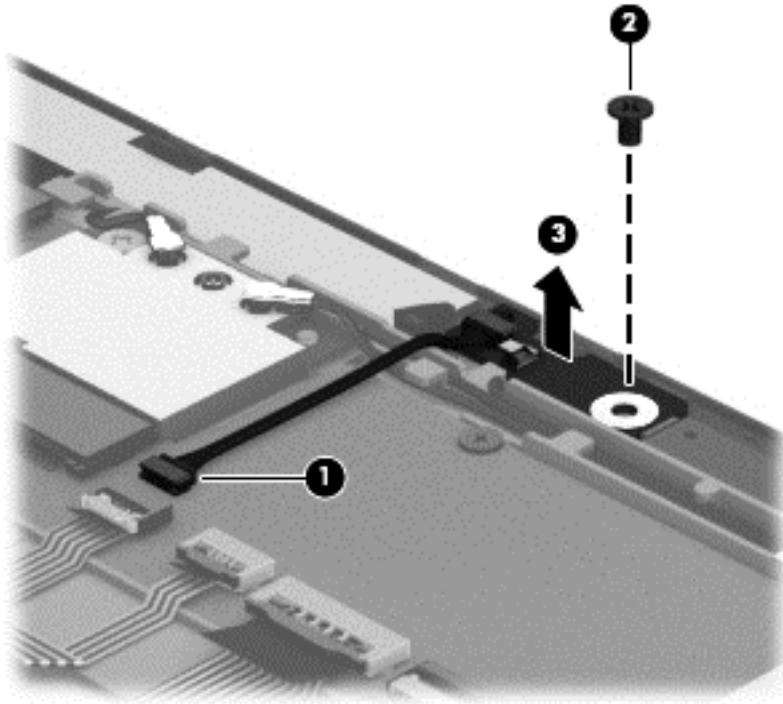
Reverse this procedure to install the proximity sensor module.

Webcamera/microphone module

Description	Spare part number
Webcamera/microphone module (includes double-sided adhesive and grounding tape)	736900-001

NOTE: The webcamera/microphone module does not include the webcamera/microphone module cable. The webcamera/microphone module cable is included in the Cable Kit, spare part number 736883-001. See Cable Kit on page 23 for more Cable Kit spare part information.

Before removing the webcamera/microphone module, follow these steps:

1. Turn off the tablet. If you are unsure whether the tablet is off or in Hibernation, turn the tablet on, and then shut it down through the operating system.

2. Disconnect the power from the tablet by unplugging the power cord from the tablet.

3. Disconnect all external devices from the tablet.

4. Remove the back cover (see Back cover on page 38).

**5.** Remove the tablet battery (see Tablet battery on page 40).

Remove the webcamera/microphone module:

1. Detach the grounding tape **(1)** that secures the webcamera/microphone module to the display assembly.

2. Disconnect the webcamera/microphone module cable **(2)** from the system board.

3. Detach the webcamera/microphone module **(3)** from the display assembly. (The webcamera/microphone module is attached to the display assembly with double-sided adhesive.)

4. Remove the webcamera/microphone module and cable.

Reverse this procedure to install the webcamera/microphone module.

micro Solid-state drive (mSSD)

Description	Spare part number
128-GB mSSD for use on all tablet models	737218-001
64-GB mSSD for use only on tablet models with model numbers g200 through g299 and g100 through g199	737217-001

Before removing the solid-state drive, follow these steps:

1. Turn off the tablet. If you are unsure whether the tablet is off or in Hibernation, turn the tablet on, and then shut it down through the operating system.

2. Disconnect the power from the tablet by unplugging the power cord from the tablet.

3. Disconnect all external devices from the tablet.

4. Remove the back cover (see Back cover on page 38).

5. Remove the tablet battery (see Tablet battery on page 40).

Remove the solid-state drive:

1. Remove the Phillips PM2.0×3.0 screw **(1)** that secures the solid-state drive to the system board. (The solid-state drive tilts up.)

2. Remove the solid-state drive **(2)** by pulling the drive away from the slot at an angle.
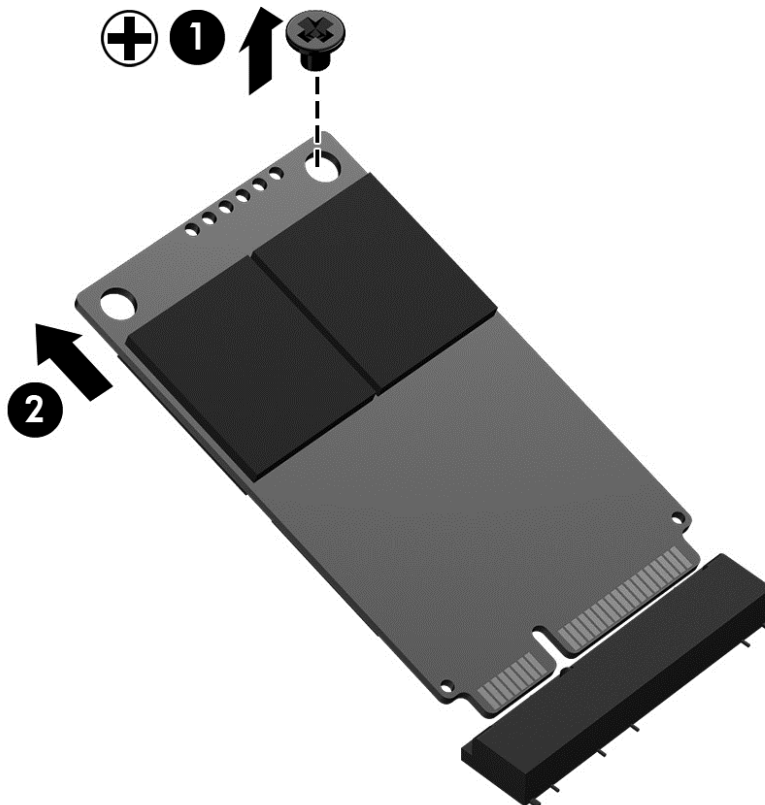
Reverse this procedure to install the solid-state drive.

WLAN module

Description	Spare part number
For use on all tablet models:	
Intel Dual Band Wireless-AC 7260 802.11 ac 2×2 WiFi + BT 4.0 Combo Adapter	710661-006
Intel Wireless-N 7260BN 802.11 b/g/n 2×2 WiFi + BT 4.0 Combo Adapter	717384-006
Intel Dual Band Wireless-AC 3160 802.11ac 1×1 WiFi + BT 4.0 Combo Adapter for use only on tablet models with model numbers f000 through f099	710662-006

Before removing the WLAN module, follow these steps:

1. Turn off the tablet. If you are unsure whether the tablet is off or in Hibernation, turn the tablet on, and then shut it down through the operating system.

2. Disconnect the power from the tablet by unplugging the power cord from the tablet.

3. Disconnect all external devices from the tablet.

4. Remove the back cover (see Back cover on page 38).

5. Remove the tablet battery (see Tablet battery on page 40).

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".

2. Remove the Phillips PM2.0×3.0 screw **(2)** that secures the WLAN module to the system board. (The WLAN module tilts up.)

3. Remove the WLAN module **(3)** by pulling the drive away from the slot at an angle.
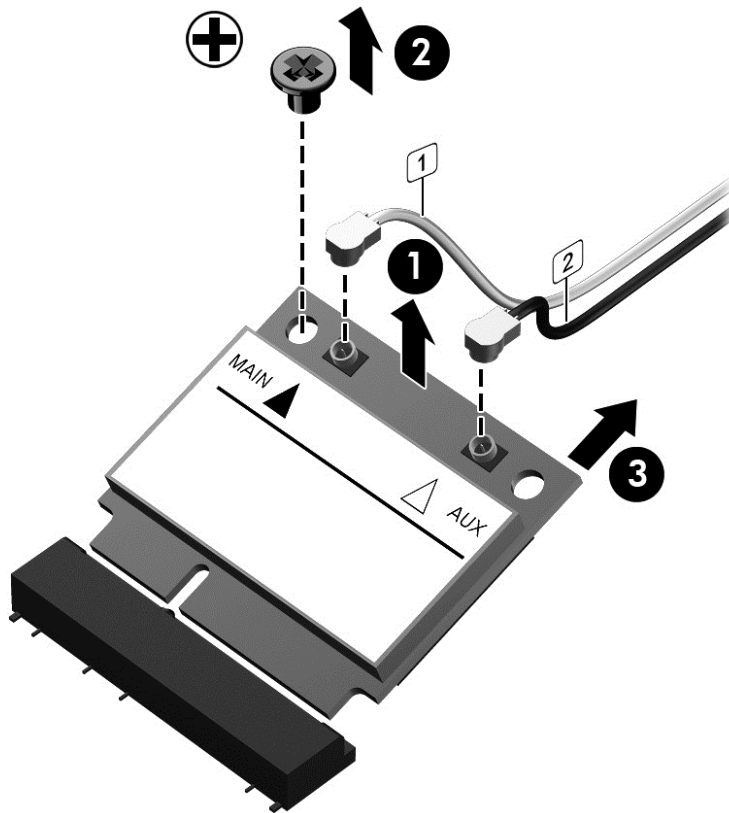
NOTE: If the WLAN antenna cables are not connected to the terminals on the WLAN module, protective sleeves should be installed on the antenna connectors, as shown in the following illustration.

Reverse this procedure to install the WLAN module.

WWAN module

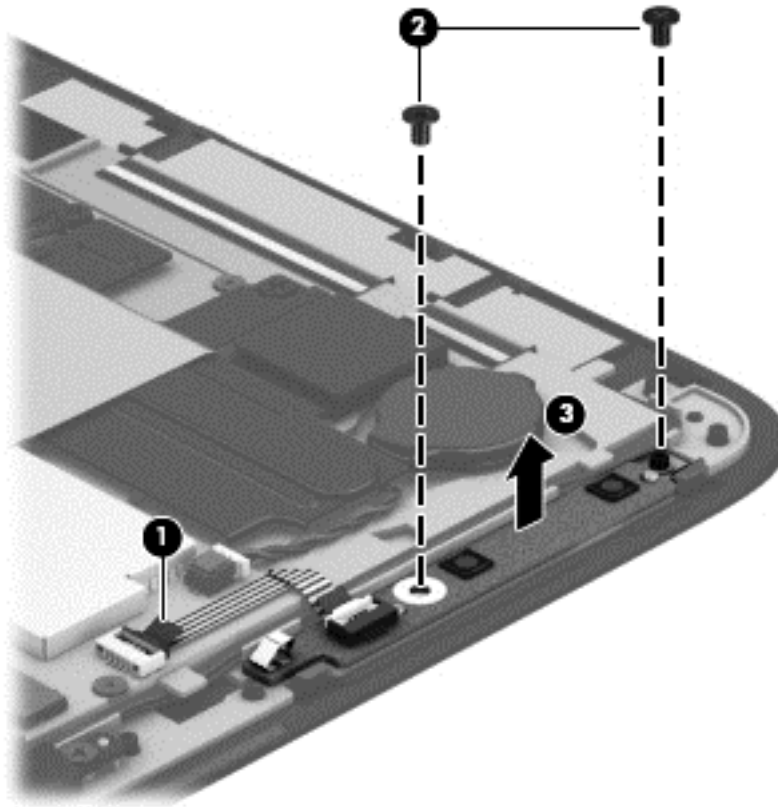| Description	Spare part number
HP hs3110 HSPA+ Mobile Broadband Module for use on all tablet models	723895-006
HP lt4112 LTE/HPSA+ Mobile Broadband Module for use only on tablet models with model numbers g200 through g299 and g100 through g199	740011-006

Before removing the WWAN module, follow these steps:

1. Turn off the tablet. If you are unsure whether the tablet is off or in Hibernation, turn the tablet on, and then shut it down through the operating system.

2. Disconnect the power from the tablet by unplugging the power cord from the tablet.

3. Disconnect all external devices from the tablet.

4. Remove the back cover (see <u>Back cover on page 38</u>).

5. Remove the tablet battery (see <u>Tablet battery on page 40</u>).

Remove the WWAN module:

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

    NOTE: The WWAN antenna cable labeled "5" connects to the WWAN module "Main" terminal labeled "5". The WWAN antenna cable labeled "6" connects to the WWAN module "Aux/GPS" terminal labeled "6".

2. Remove the Phillips PM2.0×2.5 broad head screw **(2)** that secures the WWAN module to the system board. (The WWAN module tilts up.)

3. Remove the WWAN module **(3)** by pulling the drive away from the slot at an angle.
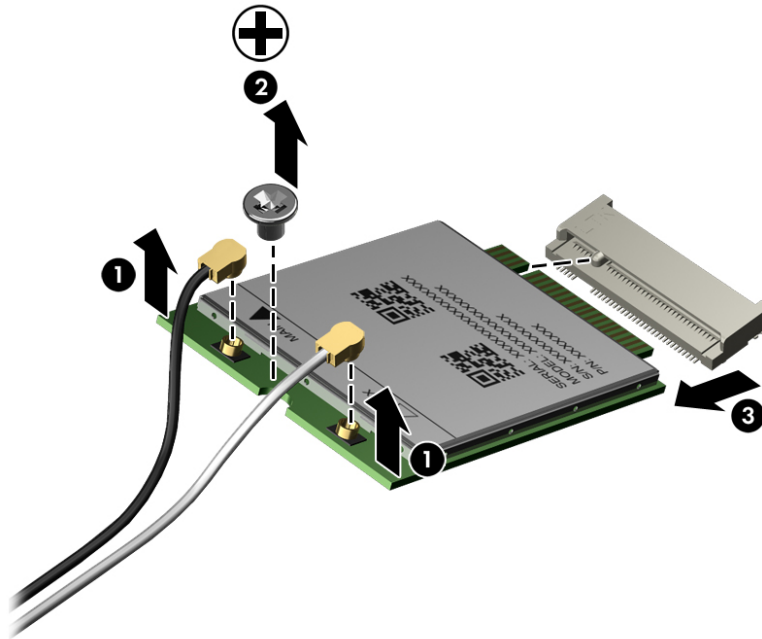
📝 **NOTE:** If the WWAN antenna cables are not connected to the terminals on the WWAN module, protective sleeves should be installed on the antenna connectors, as shown in the following illustration.
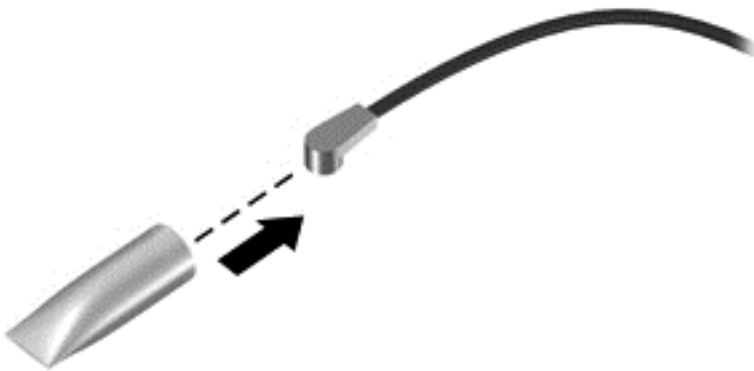
Reverse this procedure to install the WWAN module.

Power button board

Description	Spare part number
Power button board	736889-001

NOTE: The power button board does not include the power button board cable. The power button board cable is included in the Cable Kit, spare part number 736883-001. See Cable Kit on page 23 for more Cable Kit spare part information.

Before removing the power button board, follow these steps:

1. Turn off the tablet. If you are unsure whether the tablet is off or in Hibernation, turn the tablet on, and then shut it down through the operating system.

2. Disconnect the power from the tablet by unplugging the power cord from the tablet.

3. Disconnect all external devices from the tablet.

4. Remove the back cover (see Back cover on page 38).

5. Remove the tablet battery (see Tablet battery on page 40).

Remove the power button board:

1. Release the zero insertion force (ZIF) connector **(1)** to which the power button board cable is attached, and then disconnect the power button board cable from the system board.

2. Remove the Phillips PM2.0×3.0 screw **(2)** that secures the power button board to the display assembly.

3. Remove the power button board **(3)** and cable.
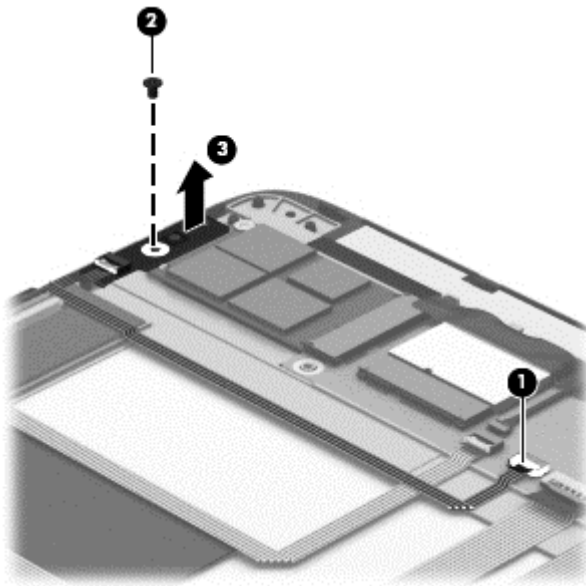
Reverse this procedure to install the power button board.

RTC battery

Description	Spare part number
RTC battery (includes cable and double-sided adhesive)	740187-601

Before removing the system board, follow these steps:

1. Turn off the tablet. If you are unsure whether the tablet is off or in Hibernation, turn the tablet on, and then shut it down through the operating system.

2. Disconnect the power from the tablet by unplugging the power cord from the tablet.

3. Disconnect all external devices from the tablet.

4. Remove the back cover (see Back cover on page 38).

5. Remove the tablet battery (see Tablet battery on page 40).

Remove the RTC battery:

1. Disconnect the RTC battery cable **(1)** from the system board.

2. Detach the RTC battery **(2)** from the display assembly. (The RTC battery is attached to the display assembly with double-sided adhesive.)
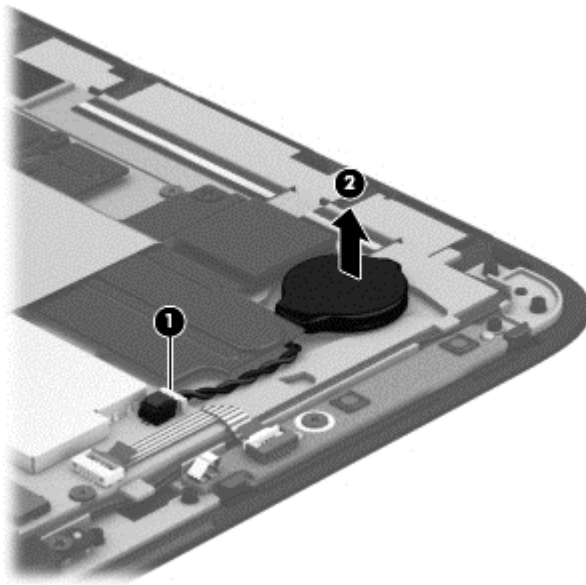
3. Remove the system board.

Reverse this procedure to install the system board.

Volume button board

Description	Spare part number
Volume button board (includes cable)	736893-001

NOTE: The volume button board does not include the volume button board cable. The volume button board cable is included in the Cable Kit, spare part number 736883-001. See Cable Kit on page 23 for more Cable Kit spare part information.
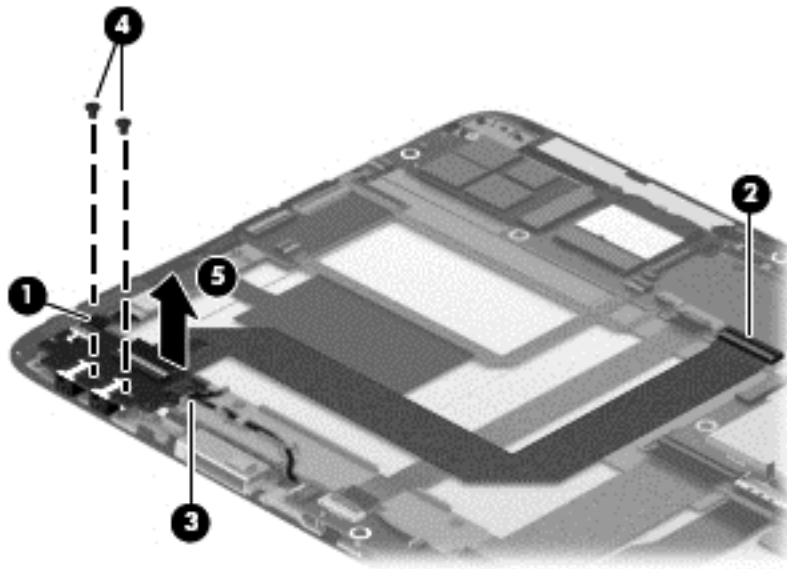
Before removing the volume button board, follow these steps:

1. Turn off the tablet. If you are unsure whether the tablet is off or in Hibernation, turn the tablet on, and then shut it down through the operating system.

2. Disconnect the power from the tablet by unplugging the power cord from the tablet.

3. Disconnect all external devices from the tablet.

4. Remove the back cover (see Back cover on page 38).

5. Remove the tablet battery (see Tablet battery on page 40).

Remove the volume button board:

1. Release the ZIF connector **(1)** to which the volume button board cable is attached, and then disconnect the volume button board cable from the system board.

2. Remove the two Phillips PM2.0×3.0 screws **(2)** that secure the volume button board to the display assembly.

3. Remove the volume button board **(3)**.

Reverse this procedure to install the volume button board.

TouchScreen board

Description	Spare part number
TouchScreen board (includes double-sided adhesive)	736892-001

NOTE: The TouchScreen board does not include the TouchScreen board cable. The TouchScreen board cable is included in the Cable Kit, spare part number 736883-001. See Cable Kit on page 23 for more Cable Kit spare part information.
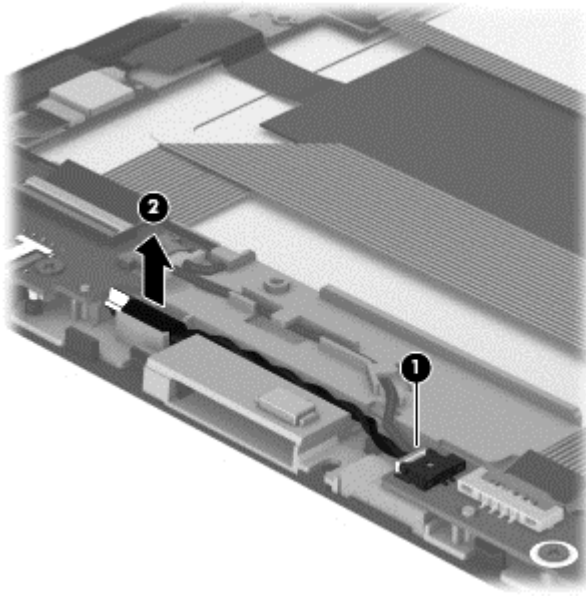
Before removing the TouchScreen board, follow these steps:

1. Turn off the tablet. If you are unsure whether the tablet is off or in Hibernation, turn the tablet on, and then shut it down through the operating system.

2. Disconnect the power from the tablet by unplugging the power cord from the tablet.

3. Disconnect all external devices from the tablet.

4. Remove the back cover (see Back cover on page 38).

5. Remove the tablet battery (see Tablet battery on page 40).

Remove the TouchScreen board:

1. Release the two TouchScreen board ZIF connectors **(1)** and **(2)** to which the display panel TouchScreen cables are attached, and then disconnect the display panel TouchScreen cables from the TouchScreen board.

2. Release the system board ZIF connector **(3)** to which the TouchScreen board cable is attached, and then disconnect the TouchScreen board cable from the system board.

3. Detach the TouchScreen board **(4)** from the display assembly. (The TouchScreen board is attached to the display assembly with double-sided adhesive.)
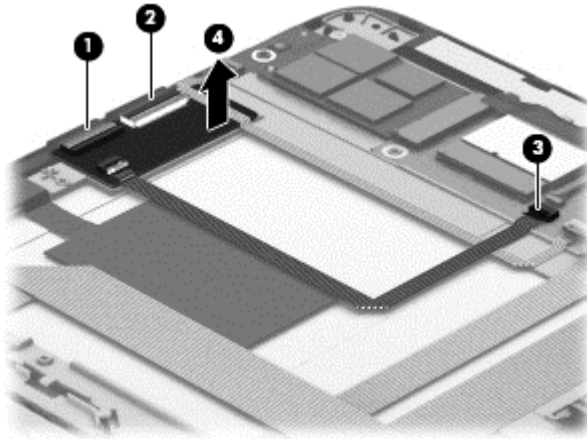
4. Remove the TouchScreen board and cable.

Reverse this procedure to install the TouchScreen board.

NFC module

Description	Spare part number
NFC module (includes double-sided adhesive)	736886-001

NOTE: The NFC module does not include the NFC module cable. The NFC module cable is included in the Cable Kit, spare part number 736883-001. See Cable Kit on page 23 for more Cable Kit spare part information.

Before removing the NFC module, follow these steps:

1. Turn off the tablet. If you are unsure whether the tablet is off or in Hibernation, turn the tablet on, and then shut it down through the operating system.

2. Disconnect the power from the tablet by unplugging the power cord from the tablet.

3. Disconnect all external devices from the tablet.

4. Remove the back cover (see Back cover on page 38).

5. Remove the tablet battery (see Tablet battery on page 40).

Remove the NFC module:

1. Release the audio/power connector board ZIF connector **(1)** to which the NFC module cable is attached, and then disconnect the NFC module cable from the audio/power connector board.

2. Release the NFC module ZIF connector **(2)** to which the NFC antenna cable is attached, and then disconnect the NFC antenna cable from the NFC module.

3. Detach the NFC module **(3)** from the display assembly. (The NFC module is attached to the display assembly with double-sided adhesive.)
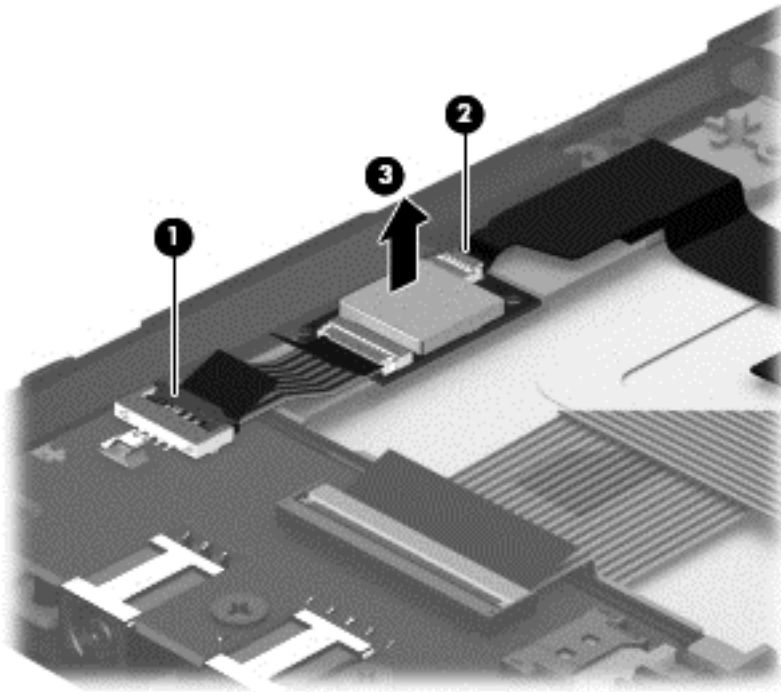
4. Remove the NFC module and cable.

Reverse this procedure to install the NFC module.

Audio/power connector board

Description	Spare part number
Audio/power connector board	736887-001

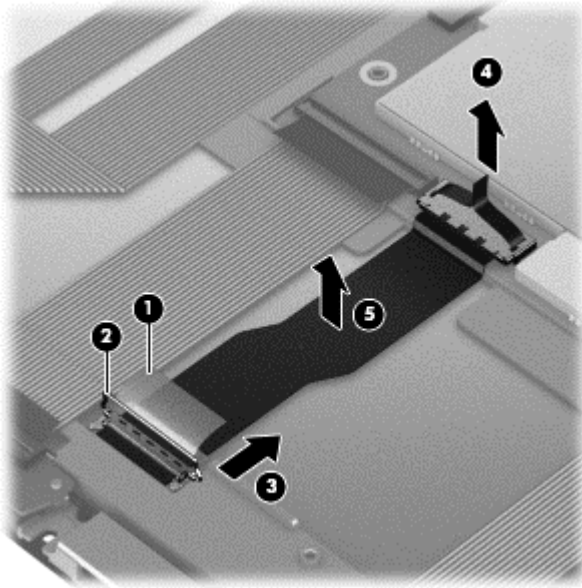**NOTE:** The audio/power connector board does not include the audio/power connector board cable. The audio/power connector board cable is included in the Cable Kit, spare part number 736883-001. See Cable Kit on page 23 for more Cable Kit spare part information.

Before removing the audio/power connector board, follow these steps:

1. Turn off the tablet. If you are unsure whether the tablet is off or in Hibernation, turn the tablet on, and then shut it down through the operating system.

2. Disconnect the power from the tablet by unplugging the power cord from the tablet.

3. Disconnect all external devices from the tablet.

4. Remove the back cover (see Back cover on page 38).

5. Remove the tablet battery (see Tablet battery on page 40).

Remove the audio/power connector board:

1. Release the audio/power connector board ZIF connector **(1)** to which the NFC module cable is attached, and then disconnect the NFC module cable from the audio/power connector board.

2. Release the system board ZIF connector **(2)** to which the audio/power connector board cable is attached, and then disconnect the audio/power connector board cable from the system board.

3. Disconnect the speaker cable **(3)** from the audio/power connector board.

4. Remove the two Phillips PM2.0×3.0 screws **(4)** that secure the audio/power connector board to the display assembly.

5. Remove the audio/power connector board **(5)**.

6. Remove the audio/power connector board and cable.

Reverse this procedure to install the audio/power connector board.

Vibrator module

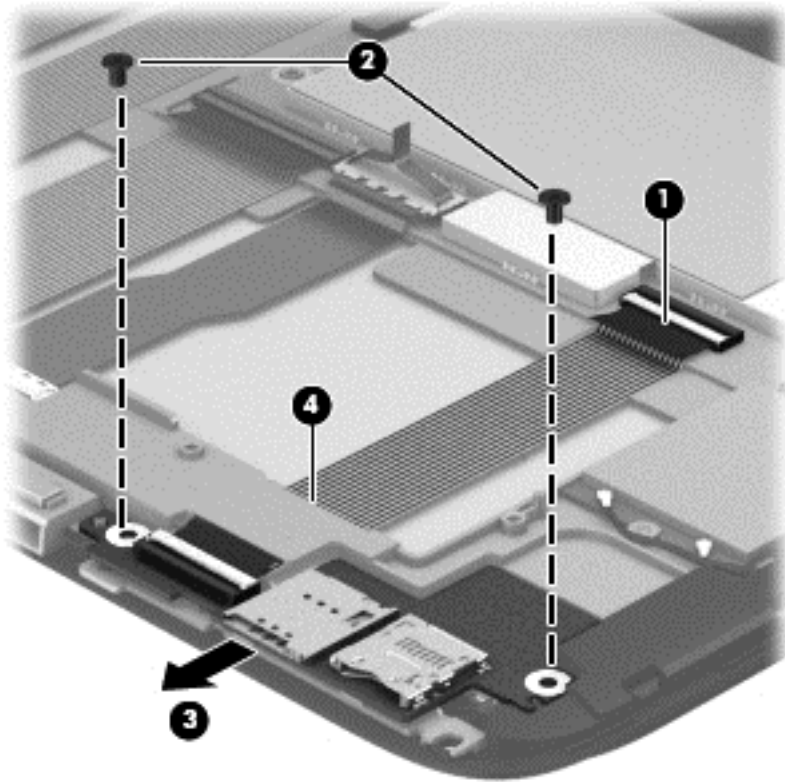| Description	Spare part number
Vibrator module (includes cable)	736901-001

Before removing the vibrator module, follow these steps:

1. Turn off the tablet. If you are unsure whether the tablet is off or in Hibernation, turn the tablet on, and then shut it down through the operating system.

2. Disconnect the power from the tablet by unplugging the power cord from the tablet.

3. Disconnect all external devices from the tablet.

4. Remove the back cover (see).

5. Remove the tablet battery (see).

Remove the vibrator module:

1. Disconnect the vibrator module cable **(1)** from the system board.

2. Release the vibrator module **(2)** from the clip molded into the display assembly.

3. Remove the vibrator module and cable.

Reverse this procedure to install the vibrator module.

Docking connecter board

Description	Spare part number
Docking connecting board	736888-001

NOTE: The docking connector board does not include the docking connector board cables. The docking connector board cables are included in the Cable Kit, spare part number 736883-001. See Cable Kit on page 23 for more Cable Kit spare part information.
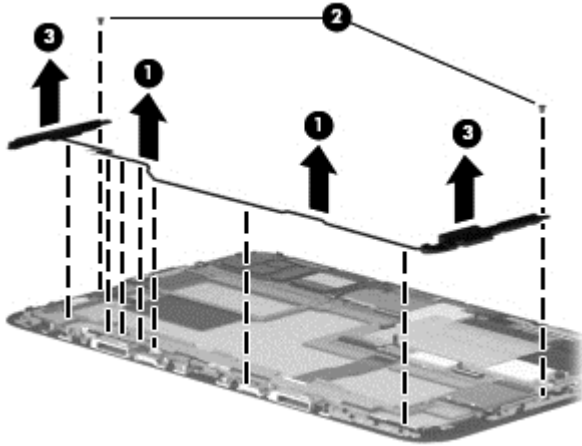
Before removing the docking connector board, follow these steps:

1. Turn off the tablet. If you are unsure whether the tablet is off or in Hibernation, turn the tablet on, and then shut it down through the operating system.

2. Disconnect the power from the tablet by unplugging the power cord from the tablet.

3. Disconnect all external devices from the tablet.

4. Remove the back cover (see Back cover on page 38).

5. Remove the tablet battery (see Tablet battery on page 40).

Remove the docking connector board:

1. Disconnect the vibrator module cable **(1)** from the docking connector board.

2. Release the system board ZIF connector **(2)** to which the longer docking connector board cable is attached, and then disconnect the longer docking connector board cable from the system board.

3. Detach the two pieces of grounding tape **(3)** that secure the shorter docking connector board cable to the display assembly.

4. Release the system board ZIF connector **(4)** to which the shorter docking connector board cable is attached, and then disconnect the shorter docking connector board cable from the system board.

5. Disconnect the Windows button board cable **(5)** from the docking connector board.

6. Remove the two Phillips PM2.0×3.0 screws **(6)** that secure the docking connector board to the display assembly.

7. Remove the docking connector board **(7)** and cables.
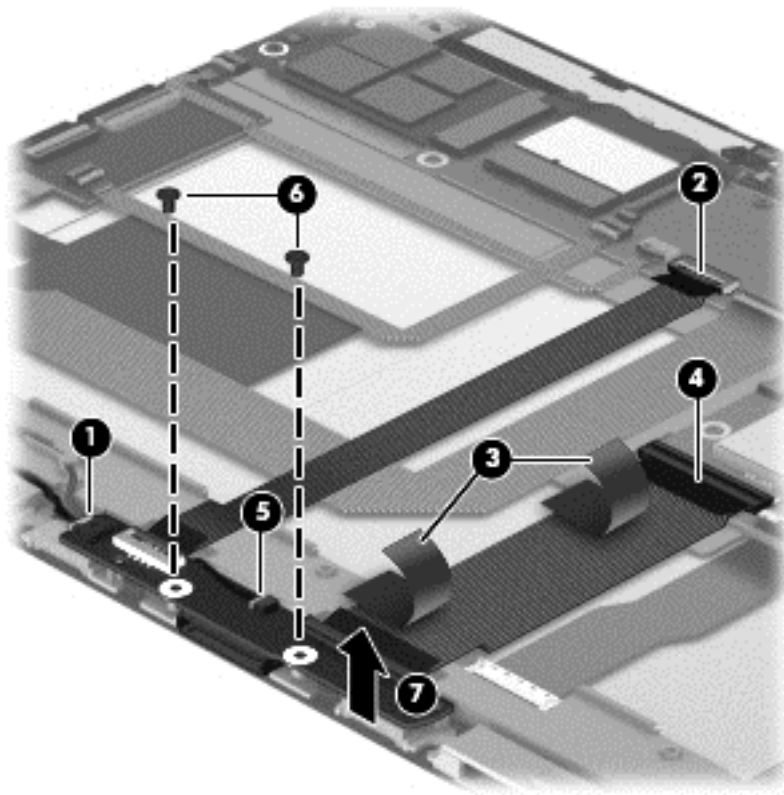
Reverse this procedure to install the docking connector board.

Display panel cable

NOTE: The display panel cable is included in the Cable Kit, spare part number 736883-001. See Cable Kit on page 23 for more Cable Kit spare part information.

Before removing the display panel cable, follow these steps:

1. Turn off the tablet. If you are unsure whether the tablet is off or in Hibernation, turn the tablet on, and then shut it down through the operating system.

2. Disconnect the power from the tablet by unplugging the power cord from the tablet.

3. Disconnect all external devices from the tablet.

4. Remove the back cover (see Back cover on page 38).

5. Remove the tablet battery (see Tablet battery on page 40).

Remove the display panel cable:

1. Release the adhesive strip **(1)** that secures the display panel cable connector to the display assembly.

2. Use the display panel cable connector bar **(2)** to disconnect the display panel cable **(3)** from the display panel.

3. Disconnect the display panel cable **(4)** from the system board.

4. Remove the docking panel cable board **(5)**.

Reverse this procedure to install the display panel cable.

Card reader board

NOTE: The card reader board does not include the card reader board cable. The card reader board cable is included in the Cable Kit, spare part number 736883-001. See Cable Kit on page 23 for more Cable Kit spare part information.

Description	Spare part number
For use only on tablet models with WWAN capability	746491-001
For use only on tablet models without WWAN capability	736891-001

Before removing the card reader board, follow these steps:

1. Turn off the tablet. If you are unsure whether the tablet is off or in Hibernation, turn the tablet on, and then shut it down through the operating system.

2. Disconnect the power from the tablet by unplugging the power cord from the tablet.

3. Disconnect all external devices from the tablet.

4. Remove the back cover (see Back cover on page 38).

5. Remove the tablet battery (see Tablet battery on page 40).

Remove the card reader board:

1. Release the system board ZIF connector **(1)** to which the card reader board cable is attached, and then disconnect the card reader board cable from the system board.

2. Remove the two Phillips PM2.0×3.0 screws **(2)** that secure the card reader board to the display assembly.

3. Remove the card reader board **(3)** by sliding it forward, making sure to carefully route the card reader board cable through the opening **(4)** in the display assembly.

Reverse this procedure to install the card reader board.

Speakers

Description	Spare part number
Speaker Kit (includes left and right speakers and cables)	736899-001

Before removing the speakers, follow these steps:

1. Turn off the tablet. If you are unsure whether the tablet is off or in Hibernation, turn the tablet on, and then shut it down through the operating system.

2. Disconnect the power from the tablet by unplugging the power cord from the tablet.

3. Disconnect all external devices from the tablet.

4. Remove the back cover (see), and then remove the following components:

   a. Tablet battery (see)

   b. Audio/power connector board (see)

c. Docking connector board (see Docking connecter board on page 57)

   d. Card reader board (see Card reader board on page 60)

Remove the speakers:

1. Release the speaker cables **(1)** from the retention clips and routing channels built into the display assembly.

2. Remove the two Phillips PM2.0×3.0 screws **(2)** that secure the speakers to the display assembly.

3. Remove the speakers **(3)**.

Reverse this procedure to install the speakers.

Wireless antennas

Description	Spare part number
Antenna Kit (includes WLAN antenna cables and transceivers and WLAN antenna cables and transceivers)	736879-001

Before removing the wireless antenna cables and transceivers, follow these steps:

1. Turn off the tablet. If you are unsure whether the tablet is off or in Hibernation, turn the tablet on, and then shut it down through the operating system.

2. Disconnect the power from the tablet by unplugging the power cord from the tablet.

3. Disconnect all external devices from the tablet.

4. Remove the back cover (see Back cover on page 38), and then remove the following components:

   a. Tablet battery (see Tablet battery on page 40)

   b. Proximity sensor module (see Proximity sensor module on page 41)

   c. Webcamera/microphone module (see Webcamera/microphone module on page 42)

d. WWAN module (see WWAN module on page 47)

e. Volume button board (see Volume button board on page 51)

Remove the wireless antenna cables and transceivers:

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

2. Release the wireless antenna cables from the retention clips **(2)** and routing channel built into the display assembly.

3. Detach the wireless antenna transceivers **(3)** from the display assembly. (The wireless antenna transceivers are attached to the display assembly with double-sided adhesive.)
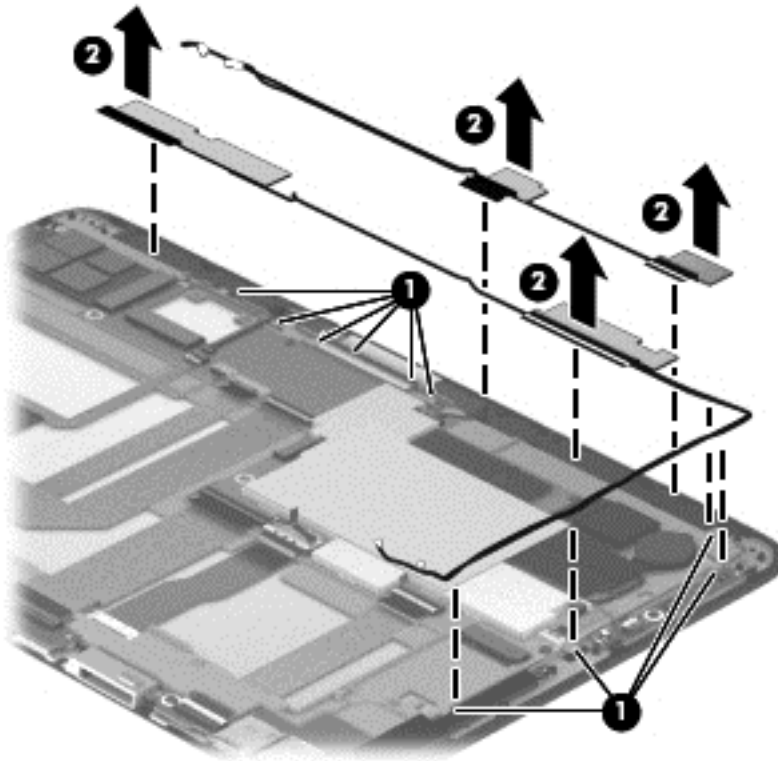
Reverse this procedure to install the wireless antenna cables and transceivers.

System board

NOTE: The system board spare part kit includes 4-GB of system memory, a graphics subsystem with UMA memory, and replacement thermal material.

Description	Spare part number
For use only on tablet models with model numbers f000 through f099:	
Equipped with an Intel Core i5-4202Y 1.60-GHz processor (3.00-MB L3 cache, dual core, 4.5 W), the Windows 8.1 Professional operating system, and WWAN capability	746490-601
Equipped with an Intel Core i5-4202Y 1.60-GHz processor (3.00-MB L3 cache, dual core, 4.5 W), the Windows 8.1 Standard operating system, and WWAN capability	746490-501
Equipped with an Intel Core i5-4202Y 1.60-GHz processor (3.00-MB L3 cache, dual core, 4.5 W), the Linux operating system, and WWAN capability	746490-001
Equipped with an Intel Core i5-4202Y 1.60-GHz processor (3.00-MB L3 cache, dual core, 4.5 W) and the Windows 8.1 Professional operating system, but without WWAN capability	768185-601
Equipped with an Intel Core i5-4202Y 1.60-GHz processor (3.00-MB L3 cache, dual core, 4.5 W) and the Windows 8.1 Standard operating system, but without WWAN capability	768185-501
Equipped with an Intel Core i5-4202Y 1.60-GHz processor (3.00-MB L3 cache, dual core, 4.5 W) and the Linux operating system, but without WWAN capability	768185-001
Equipped with an Intel Core i3-4012Y 1.50-GHz processor (3.00-MB L3 cache, dual core, 4.5 W), 4-GB of system memory, a graphics subsystem with UMA memory, and the Windows 8.1 Professional operating system	765845-601
Equipped with an Intel Core i3-4012Y 1.50-GHz processor (3.00-MB L3 cache, dual core, 4.5 W), 4-GB of system memory, a graphics subsystem with UMA memory, and the Windows 8.1 Standard operating system	765845-501
Equipped with an Intel Core i3-4012Y 1.50-GHz processor (3.00-MB L3 cache, dual core, 4.5 W), 4-GB of system memory, a graphics subsystem with UMA memory, and the Linux operating system	765845-001
For use only on tablet models with model numbers g200 through g299 and g100 through g199:	
Equipped with an Intel Core i5-4202Y 1.60-GHz processor (3.00-MB L3 cache, dual core, 4.5 W) and the Windows 8.1 Professional operating system	738499-601
Equipped with an Intel Core i5-4202Y 1.60-GHz processor (3.00-MB L3 cache, dual core, 4.5 W) and the Windows 8.1 Standard operating system	738499-501
Equipped with an Intel Core i5-4202Y 1.60-GHz processor (3.00-MB L3 cache, dual core, 4.5 W) and the Linux operating system	738499-001
Equipped with an Intel Core i3-4012Y 1.50-GHz processor (3.00-MB L3 cache, dual core, 4.5 W) and the Windows 8.1 Professional operating system	738498-601
Equipped with an Intel Core i3-4012Y 1.50-GHz processor (3.00-MB L3 cache, dual core, 4.5 W) and the Windows 8.1 Standard operating system	738498-501
Equipped with an Intel Core i3-4012Y 1.50-GHz processor (3.00-MB L3 cache, dual core, 4.5 W) and the Linux operating system	738498-001

Before removing the system board, follow these steps:

1. Turn off the tablet. If you are unsure whether the tablet is off or in Hibernation, turn the tablet on, and then shut it down through the operating system.

2. Disconnect the power from the tablet by unplugging the power cord from the tablet.

3. Disconnect all external devices from the tablet.

4. Remove the back cover (see), and then remove the following components:

   a. Tablet battery (see)

   b. Solid-state module (see)

   c. WLAN module (see)

   d. WWAN module (see)

Remove the system board:

1. Disconnect the following cables from the system board:

   (1) TouchScreen board cable

   (2) Proximity sensor module cable

   (3) Power button board cable

   (4) Docking connector board cable

   (5) Audio/power connector board cable

   (6) Webcamera/microphone module cable

   (7) Docking connector board cable

   (8) Display panel cable

   (9) Card reader board cable

   (10) Volume button board cable

   (11) RTC battery cable
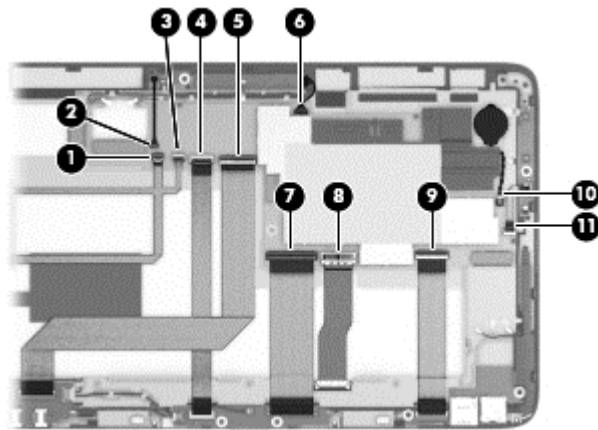
2. Remove the three Phillips PM2.0×2.3 screws **(1)** that secure the system board to the display assembly.

3. Remove the system board **(2)**.
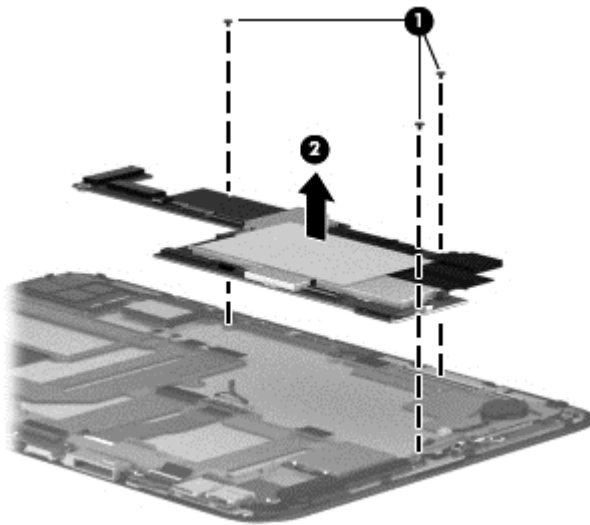
Reverse this procedure to install the system board.

Keyboard base component replacement procedures

⚠ **CAUTION:** Keyboard base components described in this chapter should only be accessed by an authorized service provider. Accessing these parts can damage the keyboard base and void the warranty.

This chapter provides removal and replacement procedures for authorized service provider only parts.

There are as many as 35 screws that must be removed, replaced, and/or loosened when servicing the keyboard base. Make special note of each screw size and location during removal and replacement.

Bottom cover

Description	Spare part number
Bottom cover (includes rubber feet)	736882-001

Before disassembling the keyboard base, follow these steps:

1. Turn off the tablet and keyboard base. If you are unsure whether the tablet and keyboard base are off or in Hibernation, turn the tablet on, and then shut it down through the operating system.

2. Disconnect the power from the tablet and keyboard base by unplugging the power cord from the tablet and keyboard base.

3. Disconnect the tablet from the keyboard base.

Remove the bottom cover:

1. Remove the four Phillips PM2.0×4.25 screws **(1)** that secure the bottom cover to the keyboard/top cover.

2. Remove the rubber feet **(2)**.

📝 **NOTE:** The rubber feet are available in the Rubber Kit, spare part number 736897-001.

3. Remove the two Phillips PM2.0×4.0 screws **(3)** that secure the bottom cover to the keyboard/top cover.
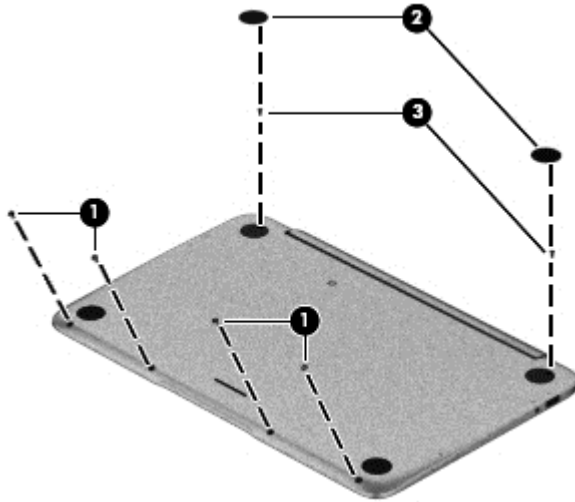
4. Lift the rear edge of the bottom cover until the left and right sides detach from the keyboard/top cover.

5. Remove the bottom cover.

Reverse this procedure to install the bottom cover.

Keyboard base battery

Description	Spare part number
3-cell, 33-Wh, 3.05-Ah, Li-ion battery for use only in the keyboard base (includes cable)	723997-006

Before removing the keyboard base battery, follow these steps:

1. Turn off the tablet and keyboard base. If you are unsure whether the tablet and keyboard base are off or in Hibernation, turn the tablet on, and then shut it down through the operating system.

2. Disconnect the power from the tablet and keyboard base by unplugging the power cord from the tablet and keyboard base.

3. Disconnect the tablet from the keyboard base.

4. Remove the bottom cover (see).

⚠ **WARNING!**   To reduce potential safety issues, use only the battery provided with the keyboard base, a replacement battery provided by HP, or a compatible battery purchased from HP.

⚠ **CAUTION:**   Removing a battery that is the sole power source for the tablet can cause loss of information. To prevent loss of information, save your work or shut down the tablet through Windows before removing the battery.

Remove the keyboard base battery:

1. Disconnect the keyboard base battery cable **(1)** from the power connector board.

2. Release the hinge assembly cables from the clips **(2)** built into the keyboard base battery.

3. Remove the four Phillips PM2.0×3.0 screws **(3)** that secure the keyboard base battery to the keyboard/top cover.

4. Remove the keyboard base battery **(4)**.
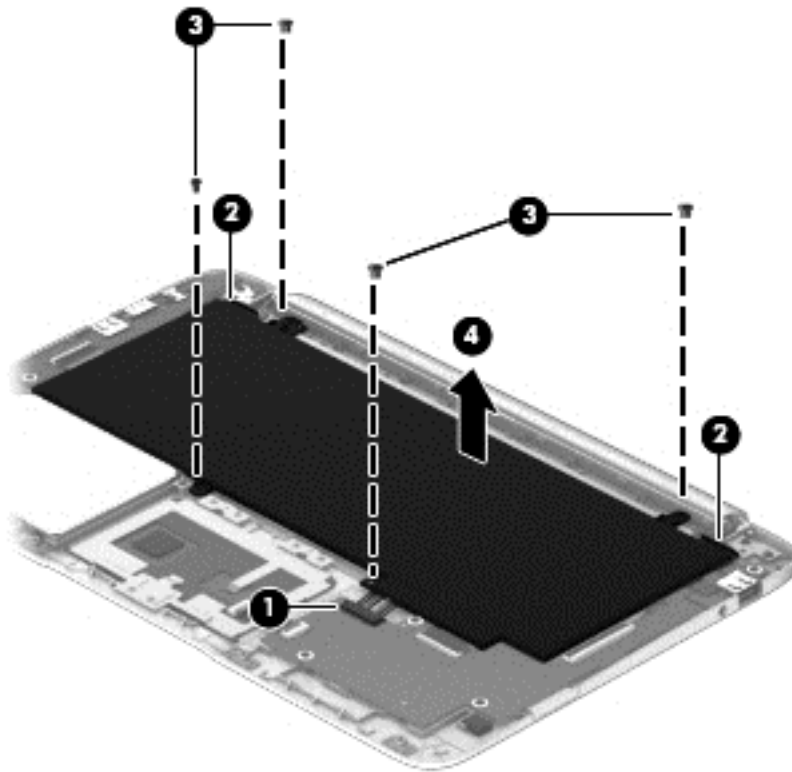
Reverse this procedure to install the keyboard base battery.

TouchPad

Description	Spare part number
TouchPad (includes cable)	736880-001

Before removing the TouchPad, follow these steps:

1. Turn off the tablet and keyboard base. If you are unsure whether the tablet and keyboard base are off or in Hibernation, turn the tablet on, and then shut it down through the operating system.

2. Disconnect the power from the tablet and keyboard base by unplugging the power cord from the tablet and keyboard base.

3. Disconnect the tablet from the keyboard base.

4. Remove the bottom cover (see Bottom cover on page 68).

5. Disconnect the keyboard base battery cable from the audio/USB board (see Keyboard base battery on page 70).

Remove the TouchPad:

1. Release the audio/USB board ZIF connector **(1)** to which the TouchPad cable is attached, and then disconnect the TouchPad cable from the audio/USB board.

2. Remove the six Phillips PM2.0×2.5 screws **(2)** that secure the TouchPad to the keyboard/top cover.

3. Remove the TouchPad **(3)**.
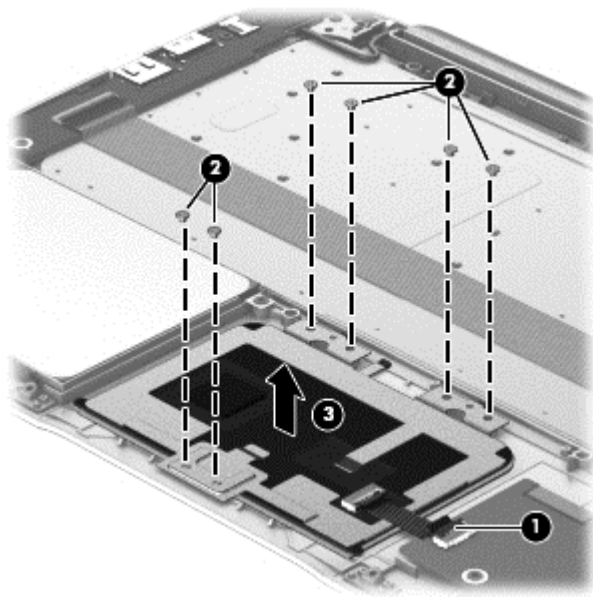
Reverse this procedure to install the TouchPad.

Audio/USB board

Description	Spare part number
Audio/USB board (includes audio jack, memory card reader, and USB port)	736894-001

NOTE: The audio/USB board does not include the audio/USB board cable. The audio/USB board cable is included in the Cable Kit, spare part number 736883-001. See Cable Kit on page 23 for more Cable Kit spare part information.

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

1. Turn off the tablet and keyboard base. If you are unsure whether the tablet and keyboard base are off or in Hibernation, turn the tablet on, and then shut it down through the operating system.

2. Disconnect the power from the tablet and keyboard base by unplugging the power cord from the tablet and keyboard base.

3. Disconnect the tablet from the keyboard base.

4. Remove the bottom cover (see Bottom cover on page 68).

5. Remove the keyboard base battery (see Keyboard base battery on page 70).

Remove the audio/USB board:

1. Release the power connector board ZIF connector **(1)** to which the audio/USB board cable is attached, and then disconnect the audio/USB board cable from the power connector board.

2. Release the audio/USB board ZIF connector **(2)** to which the TouchPad cable is attached, and then disconnect the TouchPad cable from the audio/USB board.

3. Release the audio/USB board ZIF connector **(3)** to which the keyboard cable is attached, and then disconnect the keyboard cable from the audio/USB board.

4. Remove the four Phillips PM2.0×3.0 screws **(4)** that secure the audio/USB board to the keyboard/top cover.

5. Lift the left side of the audio/USB board, and then swing it up **(5)** and to the right until it rests upside down on the right side of the keyboard/top cover.
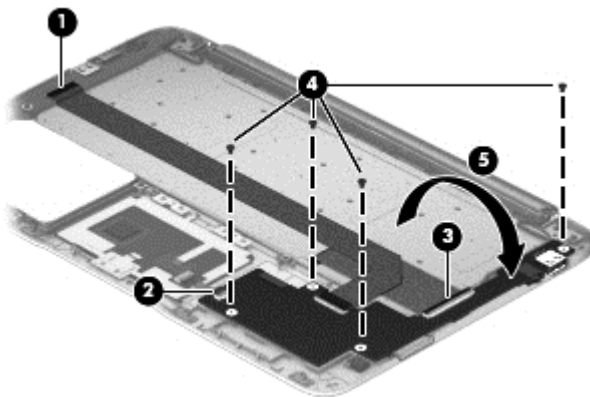
6. Disconnect the hinge assembly cable **(1)** from the audio/USB board.

7. Remove the audio/USB board **(2)** and cable.
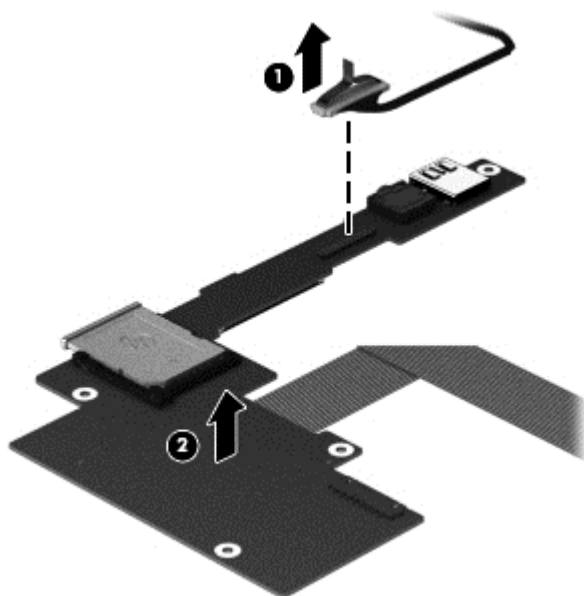
Reverse this procedure to install the audio/USB board.

Power connector board

> **NOTE:** The power connector board does not include the power connector board cable. The power connector board cable is included in the Cable Kit, spare part number 736883-001. See Cable Kit on page 23 for more Cable Kit spare part information.

Description	Spare part number
For use on keyboard base models equipped with a hard drive (includes hard drive connector, power connector, HDMI port, and USB port)	736895-001
For use on keyboard base models not equipped with a hard drive (includes power connector, HDMI port, and USB port)	746493-001

Before removing the power connector board, follow these steps:

1. Turn off the tablet and keyboard base. If you are unsure whether the tablet and keyboard base are off or in Hibernation, turn the tablet on, and then shut it down through the operating system.

2. Disconnect the power from the tablet and keyboard base by unplugging the power cord from the tablet and keyboard base.

3. Disconnect the tablet from the keyboard base.

4. Remove the bottom cover (see Bottom cover on page 68).

5. Remove the keyboard base battery (see Keyboard base battery on page 70).

Remove the power connector board:

1. Release the power connector board ZIF connector **(1)** to which the audio/USB board cable is attached, and then disconnect the audio/USB board cable from the power connector board.

2. Remove the three Phillips PM2.0×3.0 screws **(2)** that secure the power connector board to the keyboard/top cover.

3. Lift the right side of the power connector board, and then swing it up **(3)** and to the left until it rests upside down on the right side of the keyboard/top cover.
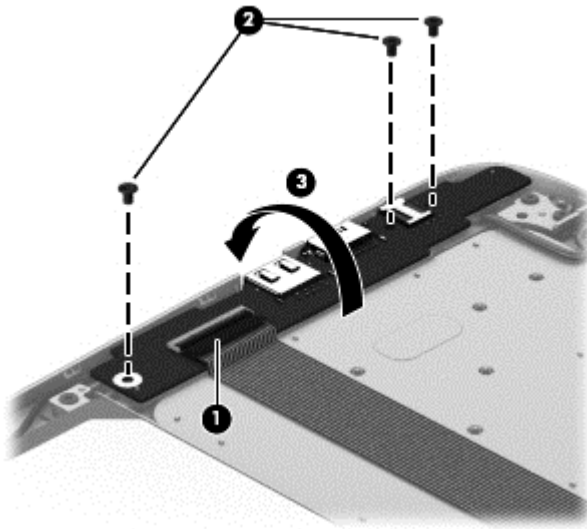
4. Disconnect the hinge assembly cable **(1)** from the power connector board.

5. Disconnect the hard drive cable **(2)** from the power connector board.

6. Remove the power connector board **(3)**.
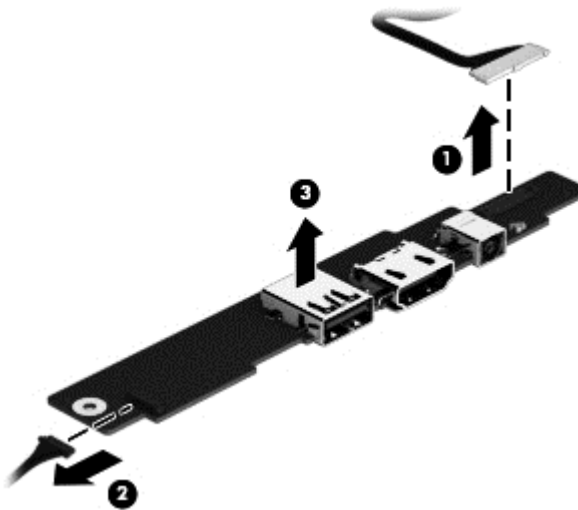
Reverse this procedure to install the power connector board.

Hard drive

Description	Spare part number
500-GB, 5400-rpm, SATA, 5.0-mm hard drive (does not include hard drive bracket, hard drive connector cable, or screws)	737957-005

NOTE: The hard drive bracket, hard drive connector cable, and screws are included in the Hard Drive Hardware Kit, spare part number 736884-001.

Before removing the hard drive, follow these steps:

1. Turn off the tablet and keyboard base. If you are unsure whether the tablet and keyboard base are off or in Hibernation, turn the tablet on, and then shut it down through the operating system.

2. Disconnect the power from the tablet and keyboard base by unplugging the power cord from the tablet and keyboard base.

3. Disconnect the tablet from the keyboard base.

4. Remove the bottom cover (see).

5. Remove the keyboard base battery (see).

6. Remove the power connector board (see).

Remove the hard drive:

1. Release the grounding tape **(1)** that secures the hard drive to the keyboard/top cover.

2. Remove the four Phillips PM2.0×3.0 screws **(2)** that secure the hard drive to the keyboard/ top cover.

3. Remove the hard drive **(3)**.
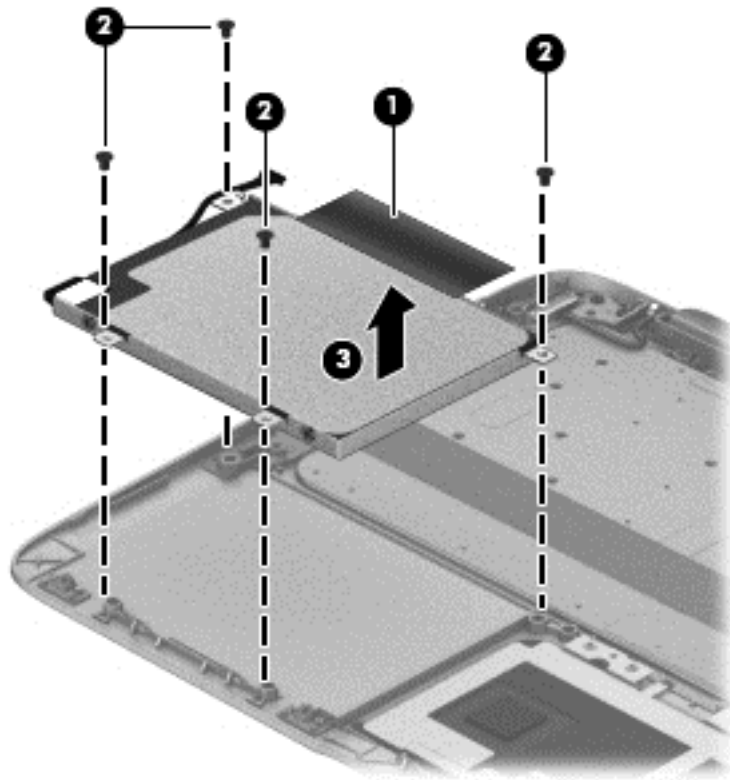
4. If it is necessary to disassemble the hard drive, perform the following steps:

    a. Disconnect the hard drive connector cable **(1)** from the hard drive.

    b. Remove the four Phillips PM2.75×4.0 screws **(2)** that secure the hard drive bracket to the hard drive.

c. Remove the hard drive bracket **(3)** from the hard drive.

The hard drive bracket, hard drive connector cable, and screws are available in the Hard Drive Hardware Kit, spare part number 736884-001.
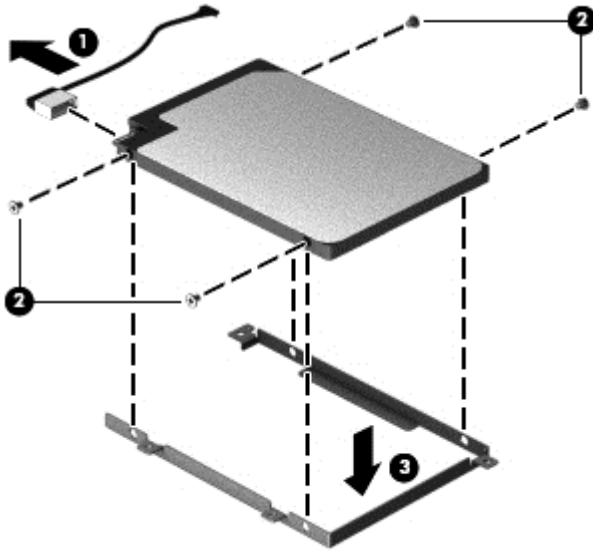
Reverse this procedure to install the hard drive.

Hinge assembly

NOTE: The hinge assembly spare part kit includes two cables and two rubber feet.

Description	Spare part number
For use only on tablet models with model numbers f000 through f099	765843-001
For use only on tablet models with model numbers g200 through g299 and g100 through g199	736885-001

Before removing the hinge assembly, follow these steps:

1. Turn off the tablet and keyboard base. If you are unsure whether the tablet and keyboard base are off or in Hibernation, turn the tablet on, and then shut it down through the operating system.

2. Disconnect the power from the tablet and keyboard base by unplugging the power cord from the tablet and keyboard base.

3. Disconnect the tablet from the keyboard base.

4. Remove the bottom cover (see).

5. Remove the keyboard base battery (see).

6. Remove the audio /USB board (see).

7. Remove the power connector board (see).

Remove the hinge assembly:

1. Remove the four Phillips PM2.0×3.0 screws **(1)** that secure the hinge assembly to the keyboard/top cover.

2. Remove the hinge assembly **(2)** and cables.
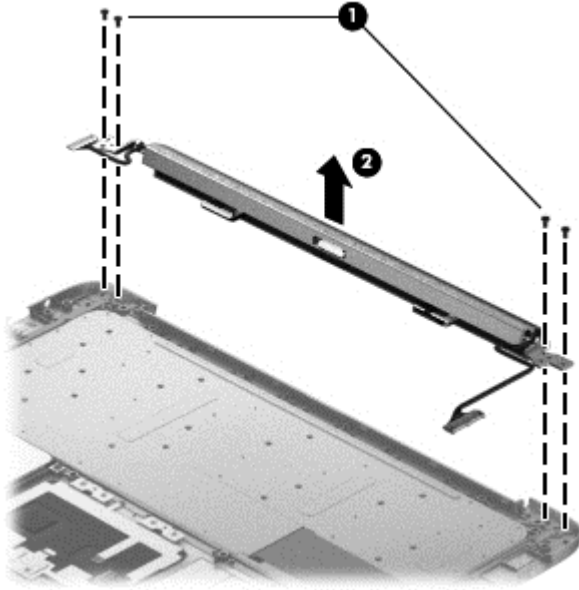
Reverse this procedure to install the hinge assembly.

5 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 computer, and the amount of system and extended memory.

Starting Setup Utility (BIOS)

To start Setup Utility (BIOS), turn on or restart the computer, quickly press esc, and then press f10.

Information about how to navigate in Setup Utility (BIOS) is located at the bottom of the screen.

NOTE: Use extreme care when making changes in Setup Utility (BIOS). Errors can prevent the computer 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 computer, you need to know the version of the system BIOS currently installed.

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

1. Start Setup Utility (BIOS) (see).

2. Use the arrow keys to select **Main**.

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

4. Select **Yes**.

Downloading a BIOS update

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

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

Do not shut down the computer or initiate Sleep.

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

1. From the Start screen, 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 computer. If the update is more recent than your BIOS, make a note of the date, name, or other identifier. You may need this information to locate the update later, after it has been downloaded to your hard drive.

   b. Follow the on-screen instructions to download your selection to the hard drive.

   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 computer to a network, consult the network administrator before installing any software updates, especially system BIOS updates.

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

1. From the Start screen, type `e`, and then select **File Explorer**.

2. Click your hard drive designation. The hard drive designation is typically Local Disk (C:).

3. Using the hard drive path you recorded earlier, open the folder on your hard drive that contains the update.

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

   The BIOS installation begins.

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

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

Using 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 computer 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 computer, quickly press esc, and then press f2.

    The BIOS searches three places for the HP PC Hardware Diagnostics (UEFI) 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 82.

    b. Hard drive

    c. BIOS

2. Click 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 esc.

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

NOTE: The HP PC Hardware Diagnostics (UEFI) download instructions are provided in English only.

1. Go to http://www.hp.com.

2. Click **Support & Drivers**, and then click the **Drivers & Software** tab.

3. Enter the product name in the text box, and then click **Search**.

4. Select your computer model, and then select your operating system.

5. In the **Diagnostic** section, click **HP UEFI Support Environment**.

    – or –

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

6 Specifications

	Metric	U.S.
Dimensions – Tablet		
Width	**34.00 cm**	13.39 in
Depth	**21.60 cm**	8.50 in
Height	**1.11 cm**	0.44 in
Weight (lowest weight configuration)	**1.07 kg**	2.36 lb
Dimensions – Keyboard base		
Width	**34.00 cm**	13.39 in
Depth	**21.70 cm**	8.54 in
Height	**0.88 cm**	0.35 in
Weight (lowest weight configuration)	**1.00 kg**	2.21 lb
Dimensions – System (tablet and keyboard base)		
Width	**34.00 cm**	13.39 in
Depth	**23.00 cm**	9.06 in
Height	**19.90 cm**	0.78 in
Weight (lowest weight configuration)	**2.07 kg**	4.56 lb
Input power		
Operating voltage and current	19.5 V dc @ 2.31 A – 45 W	
	19.5 V dc @ 3.33 A – 65 W	
Temperature		
Operating	**5°C to 35°C**	41°F to 95°F
Nonoperating	**-20°C to 60°C**	-4°F to 140°F
Relative humidity (non-condensing)		
Operating	10% to 90%	
Nonoperating	5% to 95%	
Maximum altitude (unpressurized)		

	Metric	**U.S.**
Operating	**-15 m to 3,048 m**	-50 ft to 10,000 ft
Nonoperating	**-15 m to 12,192 m**	-50 ft to 40,000 ft

NOTE: Applicable product safety standards specify thermal limits for plastic surfaces. The device operates well within this range of temperatures.

7 Backing up, restoring, and recovering

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

This chapter provides information about the following processes:

- Creating recovery media and backups

- Restoring and recovering your system

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

Creating recovery media and backups

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

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

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

   ● System Recovery—Reinstalls the original operating system and the programs that were installed at the factory.

   ● Minimized Image Recovery—Reinstalls the operating system and all hardware-related drivers and software, but not other software applications.

   ● Factory Reset—Restores the computer to its original factory state by deleting all information from the hard drive and re-creating the partitions. Then it reinstalls the operating system and the software that was installed at the factory.

2. As you add hardware and software programs, create system restore points. A system restore point is a snapshot of certain hard drive contents saved by Windows System Restore at a specific time. A system restore point contains information that Windows uses, such as registry settings. Windows creates a system restore point for you automatically during a Windows update and during other system maintenance (such as a software update, security scanning, or system diagnostics). You can also manually create a system restore point at any time. For more information and steps for creating specific system restore points, see Help and Support. From the Start screen, type h, and then select **Help and Support**.

3. As you add photos, video, music, and other personal files, create a backup of your personal information. Windows File History can be set to regularly and automatically back up files from libraries, desktop, contacts, and favorites. If files are accidentally deleted from the hard drive and they can no longer be restored from the Recycle Bin, or if files become corrupted, you can restore the files that you backed up using File History. Restoring files is also useful if you ever choose to reset the computer by reinstalling Windows or choose to recover using HP Recovery Manager.

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

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

Creating HP Recovery media

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

- Only one set of HP Recovery media can be created. Handle these recovery tools carefully, and keep them in a safe place.

- HP Recovery Manager examines the computer and determines the required storage capacity for the blank USB flash drive or the number of blank DVD discs that will be required.

- To create recovery discs, your computer must have an optical drive with DVD writer capability, and you must use only high-quality blank DVD-R, DVD+R, DVD-R DL, or DVD+R DL discs. Do not use rewritable discs such as 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 computer does not include an integrated optical drive with DVD writer capability, but you would like to create DVD recovery media, you can use an external optical drive (purchased separately) to create recovery discs, or you can obtain recovery discs for your computer from the HP website. For U.S. support, go to http://www.hp.com/go/contactHP. For worldwide support, go to http://welcome.hp.com/country/us/en/wwcontact_us.html. If you use an external optical drive, it must be connected directly to a USB port on the computer; the drive cannot be connected to a USB port on an external device, such as a USB hub.

- Be sure that the computer is connected to AC power before you begin creating the recovery media.

- The creation process can take up to an hour or more. Do not interrupt the creation process.

- If necessary, you can exit the program before you have finished creating all of the recovery DVDs. HP Recovery Manager will finish burning the current DVD. The next time you start HP Recovery Manager, you will be prompted to continue, and the remaining discs will be burned.

IMPORTANT: For tablets, connect to the keyboard base before beginning these steps (select models only).

To create HP Recovery media:

1. From the Start screen, type `recovery`, and then select **HP Recovery Manager**.

2. Select **Recovery Media Creation**, and then follow the on-screen instructions.

If you ever need to recover the system, see Recovering using HP Recovery Manager on page 90.

Restore and recovery

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

- If you need to restore your personal files and data, you can use Windows File History to restore your information from the backups you created. For more information and steps for using File History, see Help and Support. From the Start screen, type h, and then select **Help and Support**.

- If you need to correct a problem with a preinstalled application or driver, use the Drivers and Applications Reinstall option of HP Recovery Manager to reinstall the individual application or driver.

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

- If you want to restore the system to a previous state without losing any personal information, Windows System Restore is an option. System Restore allows you to restore without the requirements of Windows Refresh or a reinstallation. Windows creates system restore points automatically during a Windows update and other system maintenance events. Even if you did not manually create a restore point, you can choose to restore to a previous point, automatically created. For more information and steps for using Windows System Restore, see Help and Support. From the Start screen, type h, and then select **Help and Support**.

- If you want a quick and easy way to recover the system without losing your personal information, settings, or apps that came preinstalled on your computer or were purchased from the Windows Store, consider using Windows Refresh. This option does not require backing up data to another drive. See Using Windows Refresh for quick and easy recovery on page 89.

- If you want to reset your computer to its original state, Windows provides an easy way to remove all personal data, apps, and settings, and reinstall Windows.

  For more information, see Remove everything and reinstall Windows on page 89.

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

  For more information, see Recovering using HP Recovery Manager on page 90.

- If you want to recover the computer's original factory partitioning and content, you can choose the System Recovery option from the HP Recovery media. For more information, see Recovering using HP Recovery Manager on page 90.

- If you have replaced the hard drive, you can use the Factory Reset option of HP Recovery media to restore the factory image to the replacement drive. For more information, see Recovering using HP Recovery Manager on page 90.

- If you wish to remove the recovery partition to reclaim hard drive space, HP Recovery Manager offers the Remove Recovery Partition option.

For more information, see .

Using Windows Refresh for quick and easy recovery

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

IMPORTANT: Refresh removes any traditional applications that were not originally installed on the system at the factory.

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

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

To start Refresh:

1. From the Start screen, point to the upper-right or lower-right corner of the screen to reveal the charms.

2. Click **Settings**.

3. Click **Change PC settings** in the bottom-right corner of the screen, and then select **General** from the PC settings screen.

4. Scroll the right-side choices down to display **Refresh your PC without affecting your files**.

5. Under **Refresh your PC without affecting your files**, select **Get started**, and then follow the on-screen instructions.

Remove everything and reinstall Windows

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

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

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

To use the f11 key:

1. Press f11 while the computer boots.

    – or –

    Press and hold f11 as you press the power button.

2. Choose your keyboard layout.

3.   Select **Troubleshoot** from the boot options menu.

4.   Select **Reset your PC**, and then follow the on-screen instructions.

To use the Start screen:

1.   From the Start screen, point to the upper-right or lower-right corner of the screen to reveal the charms.

2.   Click **Settings**.

3.   Click **Change PC settings** in the bottom-right corner of the screen, and then select **General** from the PC settings screen.

4.   Scroll the right-side choices down to display **Remove everything and reinstall Windows**.

5.   Under **Remove everything and reinstall Windows**, select **Get started**, and follow the on-screen instructions.

Recovering using HP Recovery Manager

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

●   System Recovery—Reinstalls the original operating system, and then configures the settings for the programs that were installed at the factory.

●   Minimized Image Recovery—Reinstalls the operating system and all hardware-related drivers and software, but not other software applications.

●   Factory Reset—Restores the computer to its original factory state by deleting all information from the hard drive and re-creating the partitions. Then it reinstalls the operating system and the software that was installed at the factory.

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

What you need to know

●   HP Recovery Manager recovers only software that was installed at the factory. For software not provided with this computer, you must either download the software from the manufacturer's website or reinstall the software from the media provided by the manufacturer.

●   Recovery through HP Recovery Manager should be used as a final attempt to correct computer issues.

●   HP Recovery media must be used if the computer hard drive fails.

●   To use the Factory Reset or System Recovery options, you must use HP Recovery media.

●   If the HP Recovery media do not work, you can obtain recovery media for your system from the HP website. For U.S. support, go to http://www.hp.com/go/contactHP. For worldwide support, go to http://welcome.hp.com/country/us/en/wwcontact_us.html.

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

Using the HP Recovery partition to recover a minimized image (select models only)

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

To start HP Recovery Manager from the HP Recovery partition:

1. Press f11 while the computer boots.

   – or –

   Press and hold f11 as you press the power button.

2. Choose your keyboard layout.

3. Select **Troubleshoot** from the boot options menu.

4. Select **HP Recovery Manager**, and follow the on-screen instructions.

Using HP Recovery media to recover

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

1. If possible, back up all personal files.

2. Insert the first HP Recovery disc you created into the optical drive on your computer or into an optional external optical drive, and then restart the computer.

   – or –

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

   NOTE: If the computer does not automatically restart in HP Recovery Manager, change the computer boot order. See .

3. Follow the on-screen instructions.

Changing the computer boot order

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

To change the boot order:

1. Insert the HP Recovery media you created.

2. Restart the computer, quickly press esc, and then press f9 for boot options.

3. Select the optical drive or USB flash drive you want to boot from.

4. Follow the on-screen instructions.

Removing the HP Recovery partition

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

IMPORTANT: Removing the HP Recovery partition means you can no longer use Windows Refresh, the Windows Remove everything and reinstall Windows option, or the HP Recovery Manager option for minimized image recovery. Create HP Recovery media before removing the Recovery partition to ensure you have recovery options; see Creating HP Recovery media on page 87.

Follow these steps to remove the HP Recovery partition:

1. From the Start screen, type recovery, and then select **HP Recovery Manager**.

2. Select **Remove Recovery Partition**, and then follow the on-screen instructions.

8 Power cord set requirements

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

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

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

Requirements for all countries

The following requirements are applicable to all countries and regions:

- The length of the power cord set must be at least 1.0 m (3.3 ft) and no more than 2.0 m (6.5 ft).

- All power cord sets must be approved by an acceptable accredited agency responsible for evaluation in the country or region where the power cord set will be used.

- The power cord sets must have a minimum current capacity of 10 amps 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 all countries 113

Requirements for specific countries and regions

Country/region	Accredited agency	Applicable note number
Australia	EANSW	1
Austria	OVE	1
Belgium	CEBC	1
Canada	CSA	2
Denmark	DEMKO	1
Finland	FIMKO	1

Country/region	Accredited agency	Applicable note number
France	UTE	1
Germany	VDE	1
Italy	IMQ	1
Japan	METI	3
The Netherlands	KEMA	1
Norway	NEMKO	1
The People's Republic of China	COC	5
South Korea	EK	4
Sweden	CEMKO	1
Switzerland	SEV	1
Taiwan	BSMI	4
The United Kingdom	BSI	1
The United States	UL	2

1. The flexible cord must be Type HO5VV-F, 3-conductor, 1.0-mm² 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 SPT-3 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) configuration.

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 VCT or VCTF, 3-conductor, 1.00-mm² conductor size. The wall plug must be a two-pole grounding type with a Japanese Industrial Standard C8303 (7 A, 125 V) configuration.

4. The flexible cord must be Type RVV, 3-conductor, 0.75-mm² 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.

5. The flexible cord must be Type VCTF, 3-conductor, 0.75-mm² 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.

9 Recycling

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

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

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