HP ElitePad 1000 G2 Healthcare Tablet

Maintenance and Service Guide for Thin Client systems
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First Edition: May 2015

Document Part Number: 818239-001

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.

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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).

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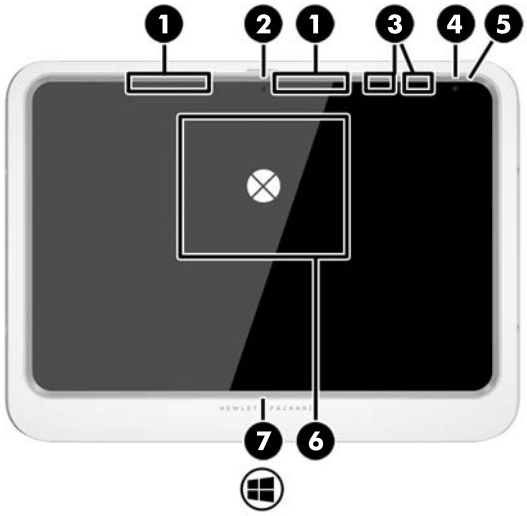
1 Product description

Category	Description
Product Name	HP ElitePad 1000 G2 Healthcare Tablet
Processor	Intel® Atom z3795 1.60-GHz processor (core burst up to 2.39-GHz), 1.60-GHz front-side bus (FSB), 2.0-MB L2 cache, up to 778-MHz graphics burst frequency, soldered to system board
Graphics	Intel HD Graphics
Panel	10.1-in., WUXGA (1900×1200), UWVA, 50% CG, 400-nit, active pen and MultiTouch capacitive digitizer, chemically-strengthened glass with anti-smudge
Memory	On-board 1067-MHz, LPDDR3, 4096-MB memory (soldered to system board); system supports a 4096-MB × 1 (4 pieces, 128 MB × 32 chips) configuration
Primary storage	64-GB embedded MultiMedia Card (eMMC), soldered to the system board
Optical drive	No internal optical drive or USB-powered optical drive is supported
Audio and video	2 integrated stereo speakers, each 1.5 W HD Audio SRS Audio Digital microphone 2 fixed, integrated webcams (1080p, 2.1-MP front-facing webcam; 8.0-MP rear-facing webcam with LED flash)
Ethernet	No direct Ethernet support
Wireless	Integrated wireless local area network (WLAN) options by way of wireless module (select models only) Integrated WLAN antennas Support for the Broadcom BCM43241 802.11abgn 2x2 Wi-Fi + BT 4.0 Combo Adapter
Ports	Audio-in (mono microphone)/audio-out (stereo headphone) combo jack HP ElitePad 900-proprietary docking connector On-board digital dual array microphones HDMI port USB 3.0 port
Sensors	Accelerometer + eCompass Ambient light sensor Gyroscope Haptics
Docking	HP ElitePad-G1 Docking Station with 4 standard 3.0 USB ports, VGA port, HDMI-out port, audio in/out jacks, RJ-45 jack, and HP Smart AC adapter connector
Keyboard/pointing devices	No integrated keyboard or TouchPad Support for USB- or Bluetooth-connected external keyboard and mouse

Category	Description
Power requirements	Support for an HP ElitePad-proprietary 10-W AC adapter (3-wire, wall-mount and 2-wire, wall-mount for use in Japan); connector on AC Adapter connects to the tablet through the docking connector
	Support for 2-cell, 30-Wh, 4.0-Ah, Li-ion battery
Security	Support for trusted platform module (TPM; Infineon TPM is SLB9656VQ1.2FW4.32)
Operating system	**Preinstalled:** Microsoft® Windows® Embedded 8.1 Industry 64 Professional

2 External component identification

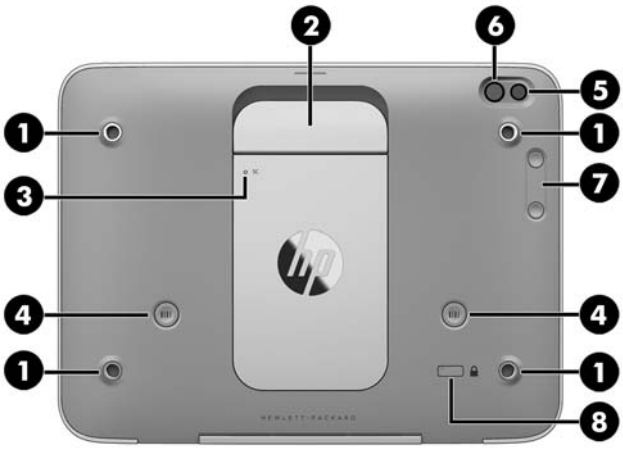
Front



Component		Description
(1)	WWAN antennas (2)* (select models only)	Send and receive wireless signals to communicate with wireless wide area networks (WWAN).
(2)	Front webcam	Records video and captures still photographs. To use the webcam, swipe from the right edge of the touch screen to display the charms, tap the **Search** icon, and then tap the search box. In the search box, type c, and then tap **Camera**.
(3)	WLAN antennas (2)*	Send and receive wireless signals to communicate with wireless local area networks (WLAN).
(4)	Ambient light sensor	The ambient light sensor automatically adjusts the display brightness based on the lighting conditions in your environment.
(5)	Webcam status light (front)	On: The webcam is on.
(6)	Near Field Communications (NFC) tapping area (select models only)	Allows you to touch an NFC-compatible device to this area to wirelessly connect and communicate with the tablet and transfer data back and forth.
(7)	Windows button	Displays the Start screen.

*The antennas are not visible from the outside of the tablet. For optimal transmission, keep the areas immediately around the antennas free from obstructions. For wireless regulatory notices, see the section of the *Regulatory, Safety, and Environmental Notices* that applies to your country or region. To access this guide, from the Start screen, select the **Hewlett-Packard** app, and then select **HP Documentation**.

Back

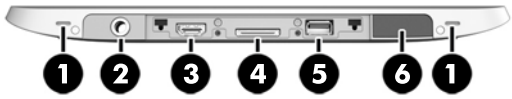


Component		Description
(1)	Hand strap connectors (4)	Attach the hand strap on the right or left side.
(2)	Smart card reader	Supports optional smart cards.
(3)	Smart card reader light	On: A smart card is fully inserted.
(4)	Bar-code scanner buttons (select models only)	Press to use the bar-code scanner.
(5)	Webcam light	On: The webcam is in use.
(6)	Webcam	Records video and captures photographs. You can video conference and chat online using streaming video.
(7)	Volume buttons (2)	Control the volume.
(8)	Security cable slot	Attaches an optional security cable to the tablet. **NOTE:** The security cable is designed to act as a deterrent, but it may not prevent the tablet from being mishandled or stolen.

Top

Component			Description
(1)		Audio-out (headphone)/Audio-in (microphone) combo jack	Connects optional powered stereo speakers, headphones, earbuds, a headset, or a display 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, see the *Regulatory, Safety, and Environmental Notices*. To access this guide, from the Start screen, select the **Hewlett-Packard** app, and then select **HP Documentation**. **NOTE:** When a device is connected to the jack, the tablet 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).
(2)		Stylus connector	Attaches a stylus using a lanyard.
(3)		Internal microphones (2)	Record sound.
(4)		Power button	• When the tablet is off, press the button to turn on the tablet. • When the tablet is on, press the button briefly to initiate Sleep. • When the tablet is in the Sleep state, press the button briefly to exit Sleep. **CAUTION:** Pressing and holding down the power button results in the loss of unsaved information. If the tablet has stopped responding and Windows® shutdown procedures are ineffective, press and hold the power button for at least 5 seconds to turn off the tablet. To learn more about your power settings, see your power options. From the Start screen, type `power`, select **Power and sleep settings**, and then select **Power and sleep** from the list of applications.

Bottom



NOTE: To access the bottom components, lift the I/O door using both thumbs. To close the I/O door, push it in and then press down until it is firmly seated.

Component		Description
(1)	Speakers (2)	Produce sound.
(2)	Shoulder strap connector	Connects an optional shoulder strap.
(3)	HDMI port	Connects an optional video or audio device, such as a high-definition display, any compatible digital or audio component, or a high-speed HDMI device.
(4)	Power connector/Docking connector	Connects an AC adapter or an optional docking device.
(5)	USB 3.0 port	Connects an optional USB device, such as a keyboard, mouse, external drive, printer, scanner or USB hub.
(6)	Bar-code scanner (select models only)	Scans bar codes.

Labels

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

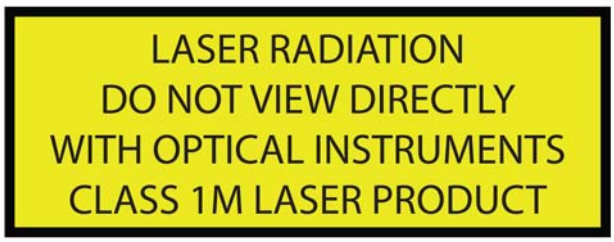
IMPORTANT: Check the following location for the labels described in this section: on the back of the tablet.

- Service label—Provides important information to identify your tablet. When contacting support, you will probably be asked for the serial number, and possibly for the product number or the model number. Locate these numbers before you contact support.
- Microsoft® Certificate of Authenticity label (select models only prior to Windows 8)—Contains the Windows Product Key. You may need the Product Key to update or troubleshoot the operating system. HP platforms with Windows 8 or Windows 8.x preinstalled do not have the physical label. Instead a Digital Product Key is electronically installed.

  NOTE: The Digital Product Key is automatically recognized and activated by Microsoft operating systems when a Windows 8 or Windows 8.x operating system is reinstalled using HP-approved recovery methods.

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

- Laser label(s) (select models only)—Provide information about using the bar-code scanner laser properly.



Changing your tablet's settings

Opening the Control Panel

You can open the Control Panel using any of the following methods:

▲ Right-click the Windows icon on the taskbar and select **Control Panel** from the menu.

TIP: A right-click can also be performed by touching and holding the desired location on the touch screen.

▲ Open the Charms bar and select **Settings** > **Control Panel**.

▲ On the Start screen, type `Control Panel`, and then click **Control Panel** when it appears in the search results.

Changing the Control Panel view

The default Control Panel view is by Large icons. You may prefer to change the view to Category mode.

To change the Control Panel view:

1. Click the **Start** button, and then select **Control Panel**.
2. In the **View by** menu, select **Category**.
3. To return to viewing by large icons, in the **View by** menu, select **Large icons**.

Changing your tablet's view

Your tablet's orientation, or view, changes automatically from landscape to portrait view, or from portrait to landscape view.

1. To change the view of your tablet from landscape view to portrait view:

   Hold the tablet vertically, and then turn it 90 degrees to the right (in a clockwise direction).

2. To change the view of your tablet from portrait view to landscape view:

   Hold the tablet vertically, and then turn it 90 degrees to the left (in a counter-clockwise direction).

Using the tablet's autorotate lock feature

To turn on your tablet's autorotate lock feature:

1. Swipe from the right edge of the touch screen to display the charms, and then tap **Settings**.
2. Tap the screen icon to lock your current tablet screen in place and to prevent rotation. The icon displays a lock symbol when the autorotate lock is active.

To turn off your tablet's autorotate lock feature:

1. Swipe from the right edge of the touch screen to display the charms, and then tap **Settings**.
2. Tap the **Screen** icon at the bottom right, and then tap the autorotate lock icon again.

Adjusting your tablet's screen brightness

To adjust the screen brightness:

1. Swipe from the right edge of the touch screen to display the charms, and then tap **Settings**.
2. Tap the **Screen** icon at the bottom right. A vertical slider displays that controls the screen brightness.

NOTE: On the Windows desktop, you can also tap the **Power Meter** icon in the notification area at the far right of the taskbar, tap **Adjust screen brightness**, and then move the slider next to **Screen brightness** at the bottom of the screen.

Finding your hardware and software information

Locating hardware

You can use Windows Device Manager to find out what hardware is installed on your tablet. To use Device Manager, you must be logged in as an Administrator.

To open Device Manager:

1. Open the Control Panel, and then tap **Device Manager**.
2. To access Device Manager for the first time, select **Update device drivers** to open the **Device Manager** window.

   To access Device Manager in subsequent searches, select **Device Manager**.

   A list displays all the devices installed on your tablet.

Locating software

- To find out what software is installed on your tablet, on the Start screen, swipe up from the center of the touch screen to display the Apps screen.

Updating the software installed on the tablet

Most software, including the operating system, is updated frequently by the manufacturer or provider. Important updates to the software included with the tablet may have been released since the tablet left the factory.

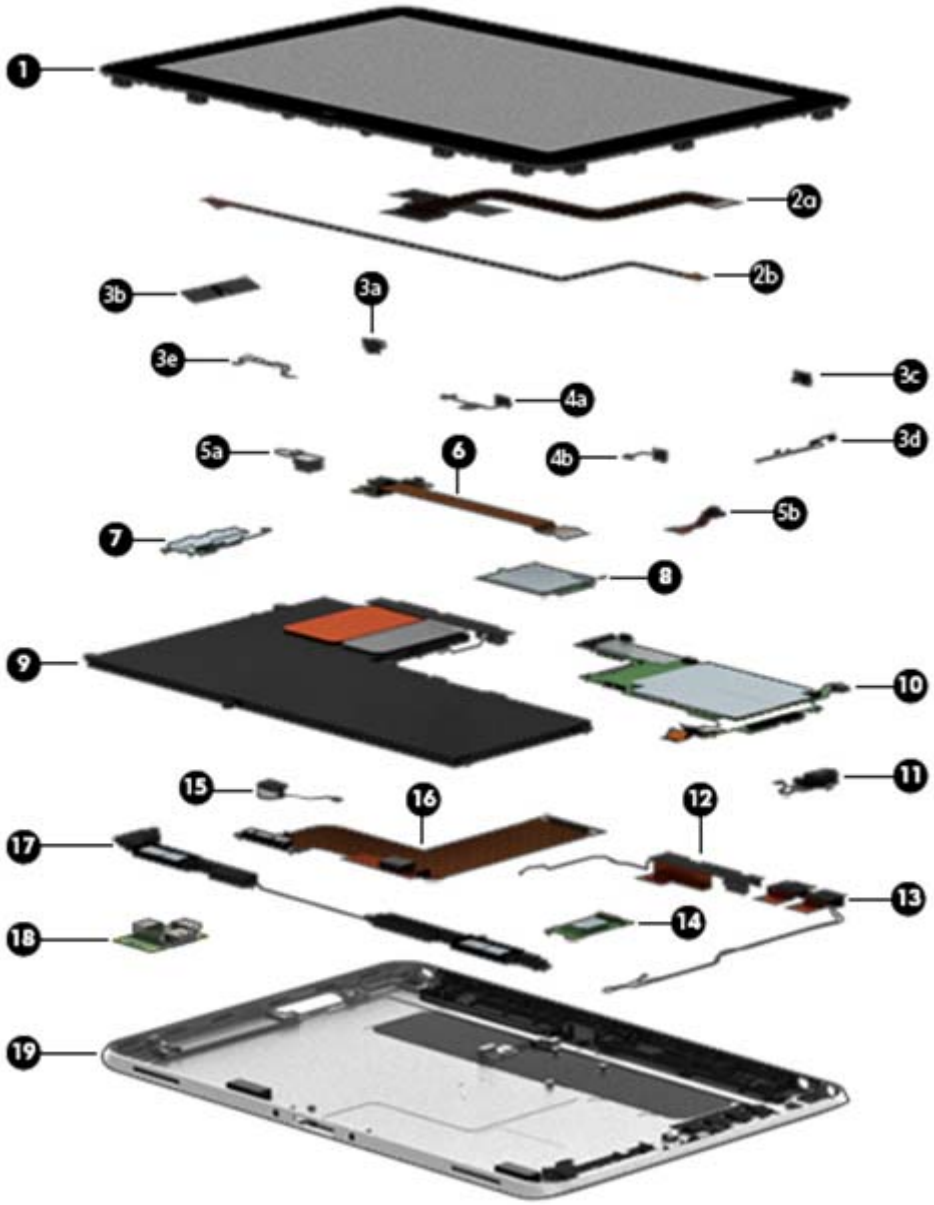
Some updates may affect the way the tablet responds to optional software or external devices. Many updates provide security enhancements.

Update the operating system and other software installed on the tablet as soon as the tablet is connected to the Internet. Access the updates on the HP website at http://www.hp.com.

3 Illustrated parts catalog

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 major components



Item	Component	Spare part number
(1)	**Display assembly** (10.1-in., WUXGA (1900×1200), UWVA, 50% CG, 400-nit, active pen and MultiTouch capacitive digitizer, chemically-strengthened glass with anti-smudge; includes display panel, display LVDS cable, TouchScreen cable, and display panel support rubber)	747658-001
	Display Cable Kit, includes:	747625-001
(2a)	TouchScreen cable	
(2b)	Display LVDS cable	
	Button Kit, includes:	747634-001
(3a)	Power button actuator	
(3b)	Volume button actuator	
(3c)	Autorotate switch actuator	
(3d)	Slot cover hardware (slot cover, retention bracket, spring bracket)	
(3e)	Docking connector bracket	
	Webcam/Microphone Kit, includes:	762828-001
(4a)	Left microphone	
(4b)	Right microphone	
(5a)	Rear-facing webcam	
(5b)	Front-facing webcam	
(6)	**Power button board** (includes cable)	
	For use only on models equipped with the Windows Embedded 8.1 Industry 64 Professional operating system	809878-901
	For use only on models without an operating system	753976-001
(7)	**Volume button board** (includes bracket and cable)	759031-001
(8)	**WWAN module** (HP lt4226 LTE/HSPA+ Gobi 4G Module)	736675-005
(9)	**2-cell, 30-Wh, 4.0-Ah, Li-ion battery** (includes battery cable)	728558-005
(10)	**System board** equipped with an Intel Atom z3795 quad core 1.60-GHz processor (burst up to 2.39-GHz; 2.0-MB L2 cache), 4096-MB of system memory, and 64-GB of eMMC primary storage (includes processor, memory, and eMMC)	753740-001
(11)	**Audio jack board** (includes audio jack and cable)	747627-001
	Antenna Kit for use in Japan, includes:	767885-001
(12)	WWAN/GPS auxiliary antenna cable and transceiver	
(13)	WLAN main and auxiliary antenna cables and transceivers	
	Antenna Kit for use in European countries and regions, North America, and Latin America	799297-001
(13)	WLAN main and auxiliary antenna cables and transceivers	
(14)	**Broadcom BCM43241 802.11abgn 2x2 Wi-Fi + BT 4.0 Combo Adapter**	723677-005
(15)	**Vibrator module** (includes cable, double-sided adhesive, plastic cover)	747630-001
(16)	**Docking connector cable** (includes cable and double-sided adhesive)	747631-001

Item	Component	Spare part number
(17)	**Speakers** (include left and right speakers and cables)	747629-001
(18)	**TXE board**	753977-001
(19)	**Bottom case** (includes the power button actuator and the slot cover and brackets)	747628-001

Power components

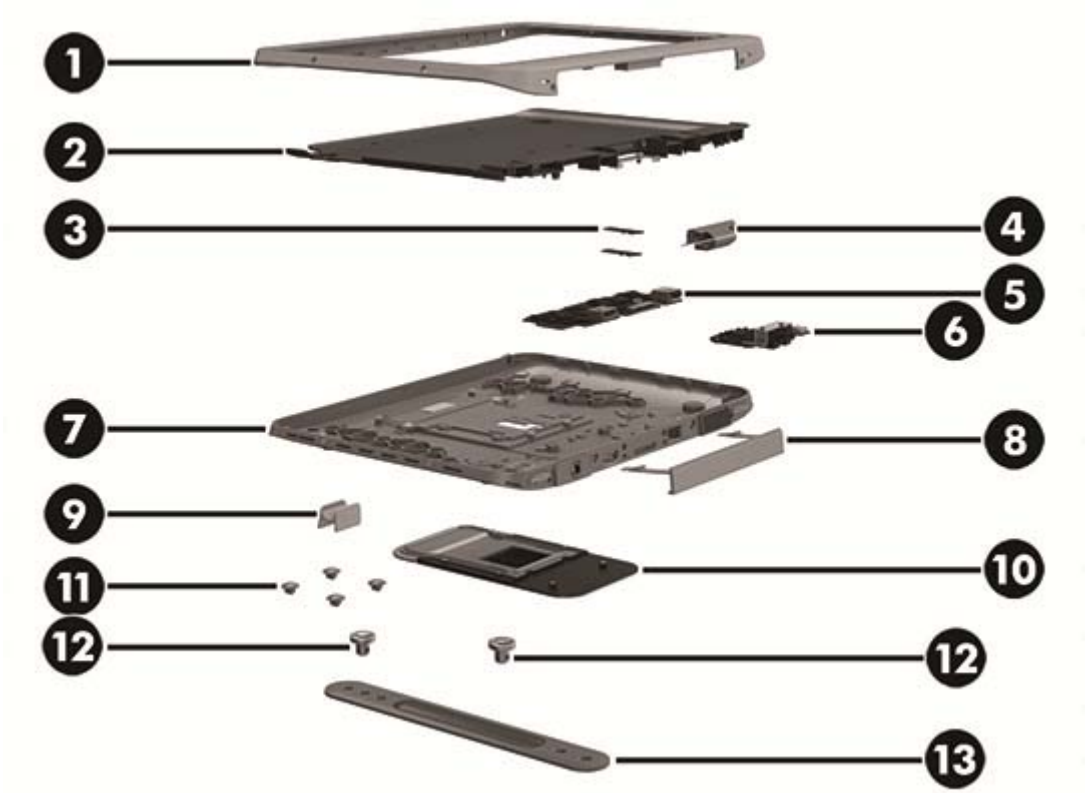
Item	Component	Spare part number
(1)	**AC adapter**	
	10W, RC, V, 3-wire, wall mount	686120-001
	10W, Non-PFC, non-Smart adapter, 2-wire, wall-mount (for use in Japan)	746156-001
	40-W Smart AC adapter (RC, V, 3-wire)	693717-001
(2)	**Duck head power adapter:**	
	For use in Australia	755184-011
	For use in Denmark	755184-081
	For use in Europe	755184-021
	For use in India	755184-D61
	For use in Israel	755184-BB1
	For use in Italy	755184-061
	For use in Japan	720949-291
	For use in the People's Republic of China	755184-371
	For use in South Africa	755184-AR1
	For use in Switzerland	755184-BG1
	For use in the United Kingdom and Singapore	755184-031
	For use in the United States	755184-001
(3)	**Power cord:**	
	For use in Australia	490371-011
	For use in the People’s Republic of China	490371-AA1
	For use in Europe, the Middle East, and Africa	490371-011

Item	Component	Spare part number
	For use in India	490371-D61
	For use in Israel	490371-BB1
	For use in Italy	490371-061
	For use in Japan	490371-291
	For use in South Africa	490371-AR1
	For use in South Korea	490371-AD1
	For use in Taiwan	490371-AB1
	For use in Switzerland	490371-111
	For use in the United Kingdom	490371-031
	For use in the United States	490371-001

Miscellaneous parts

Component	Spare part number
HP ElitePad Service Tool (includes suction cup)	714222-001
HP ElitePad suction cup	714223-001
Screw Kit	753735-001
Card Reader Cover Kit (not illustrated)	747632-001
Docking station	708621-001
Tape Support Kit	762827-001

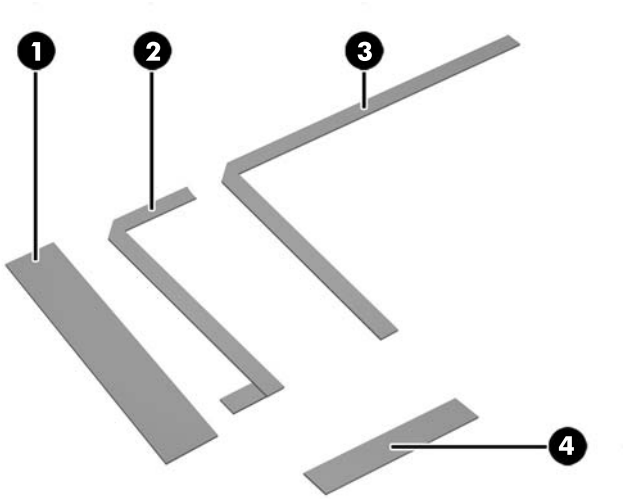
Jacket major components



Item	Component	Spare part number
(1)	**Bezel Kit**	791204-001
(2)	**Back plate** (includes card reader and LED board	791201-001
(3)	**Scanner button board**	791208-001
(4)	**70-pin connector**	791199-001
(5)	**I/O board**	
	Includes 70-pin connector	791209-001
	Does not include 70-pin connector	791210-001
(6)	**Bar code scanner**	791207-001
(7)	**Rear cover**	
	Does not include card reader cover	791205-001
	Includes card reader cover	799306-001
	Does not include bar code reader cover	799307-001
	Includes bar code reader cover	799308-001
(8)	**I/O access cover**	791200-001
(9)	**Pen holder**	791214-001
(10)	**Card reader cover**	791203-001

Item	Component	Spare part number
(11)	**QR plug kit**	791215-001
(12)	**QR pin kit**	791212-001
(13)	**Handle/headphone kit**	791213-001
	Shoulder strap (not illustrated)	809063-001
	Hinge kit (not illustrated)	791206-001
	Screw kit (not illustrated)	791211-001

Jacket cable kit



Item	Component	Spare part number
	Jacket cable kit	791202-001
(1)	LED cable	
(2)	Button board cable (right)	
(3)	Button board cable (left)	
(4)	Scanner cable	

4 Removal and replacement preliminary requirements

Tools required

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

- Magnetic screw driver
- Phillips P0 screw driver
- Plastic case utility tool

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.

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

5 Removal and replacement procedures for Authorized Service Provider parts

CAUTION: Components described in this chapter should only be accessed by an authorized service provider. Accessing these parts can damage the computer or void the warranty.

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.

Jacket component replacement procedures

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 jacket. Make special note of each screw size and location during removal and replacement.

Attaching the hand strap

Attach one of the two provided hand straps to either the left or the right side of the tablet. Retain the second hand strap and use it to replace the first hand strap when it needs to be cleaned.

To attach the hand strap:

1. Position the hand strap over either the right or left hand strap connectors on the back of the tablet.
2. Position the quick-release fasteners over the holes in the hand strap, and then connect the quick-release fasteners to secure the hand strap.

To remove the hand strap:

1. Press the center of the quick-release fastener and then lift it to remove it from the tablet. Repeat for the second quick-release fastener.

2. Remove the hand strap from the tablet.

Bottom I/O door—IP-54 rating

This tablet is rated IP-54, which means that it is protected against dust and splashing water.

To maintain the IP-54 rating, close the audio-in (headphone)/audio-out (microphone) jack and all I/O doors.

To close the bottom I/O door:

1. Insert the bottom edge of the I/O door beneath the front edge of the tablet **(1)**, and then press the door to close it **(2)**.

2. Press the door on each side as well as the middle to ensure that there is a good seal. Visually confirm that it is fully closed.

Smart card

To insert a smart card:

1. Gently lift the I/O door on the back of the tablet to open it.
2. Hold the card label-side up, and gently slide the card into the smart card reader slot until the card is seated.

TIP: When the card is fully seated, the smart card light turns on.

3. Close the I/O door.
4. Follow the on-screen instructions for logging on to the tablet using the smart card PIN.

Connecting a stylus

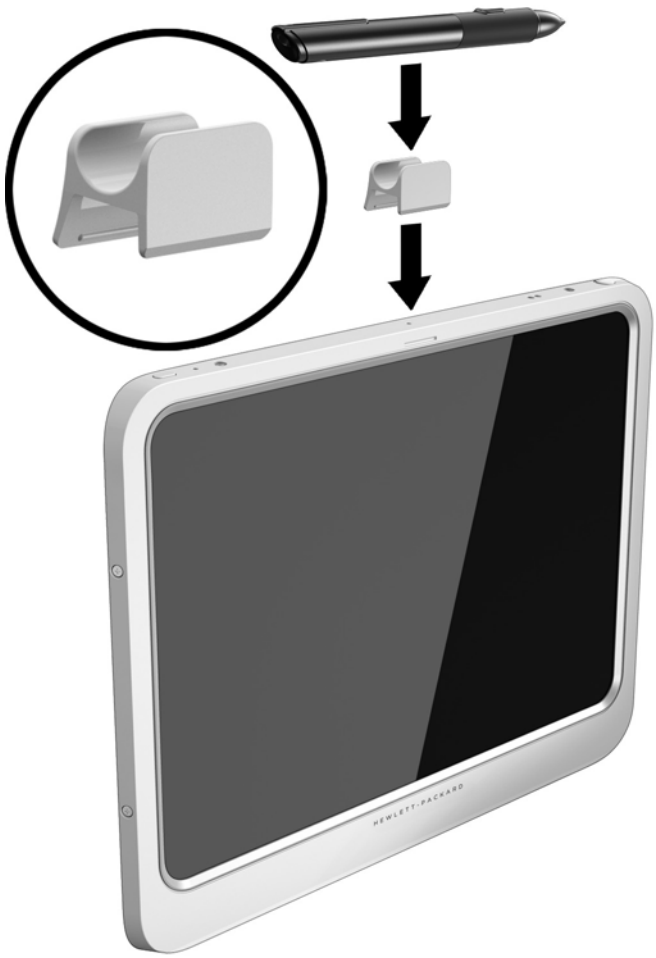
To connect a stylus to the tablet, follow the stylus manufacturer's instructions for downloading software and drivers, if necessary.

To store the stylus:

1. Connect the included stylus holder to the tablet.

NOTE: The stylus holder is not reversible. Verify that you have attached it correctly before continuing.

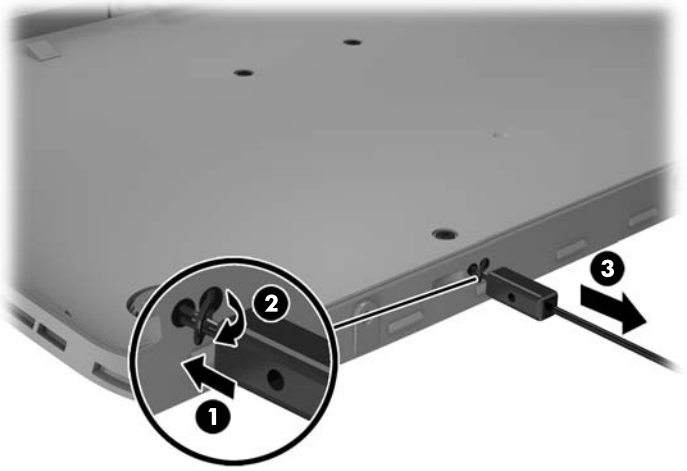
2. Connect the stylus (not included) to the stylus holder.



To store a stylus using a lanyard:

1. Insert the bottom loop of the lanyard through the stylus connector **(1)**.

2. Insert the rest of the lanyard through the bottom loop **(2)**, and then pull the lanyard away from the loop to secure it **(3)**.



Jacket, removing from tablet

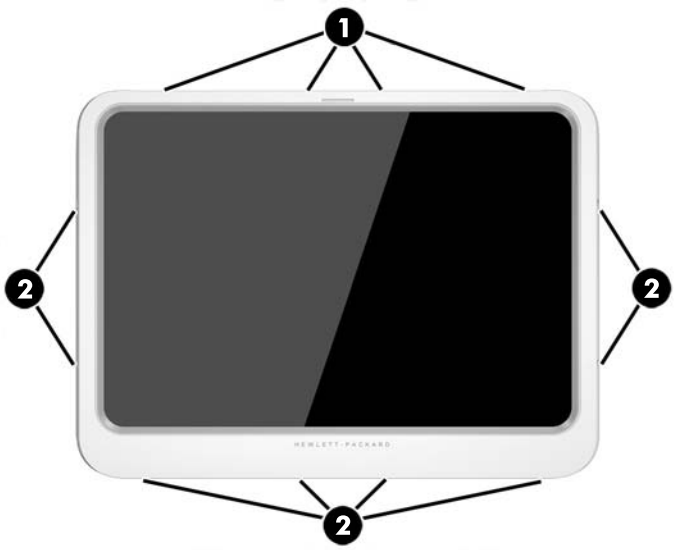
Description	Spare part number
Jacket	xxxxxx-001

Before removing the jacket, 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 jacket:

1. Remove the top four Phillips PM2.0×3.2 screws **(1)**, and then remove the eight Phillips PM2.0×3.2 screws from the bottom and sides of the jacket **(2)**. Two of the bottom screws are inside the bottom I/O door.



2. Carefully lift the edges of the front cover off the jacket, and then remove the cover.

3. Lift the tablet from the jacket at an angle, and then pull the tablet away from the bottom of the jacket to disconnect the tablet from the connector in the jacket.

Reverse this procedure to install the jacket.

I/O access cover

Description	Spare part number
I/O access cover	791200-001

Before removing the I/O access cover, 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 I/O access cover:

1. Open the access cover.
2. While grasping the strap near where it enters the tablet, pull on the rubber strap to remove it from tablet. Getting the strap to release may require moving the strap back and forth while pulling it.

Reverse this procedure to install the I/O access cover.

Back plate

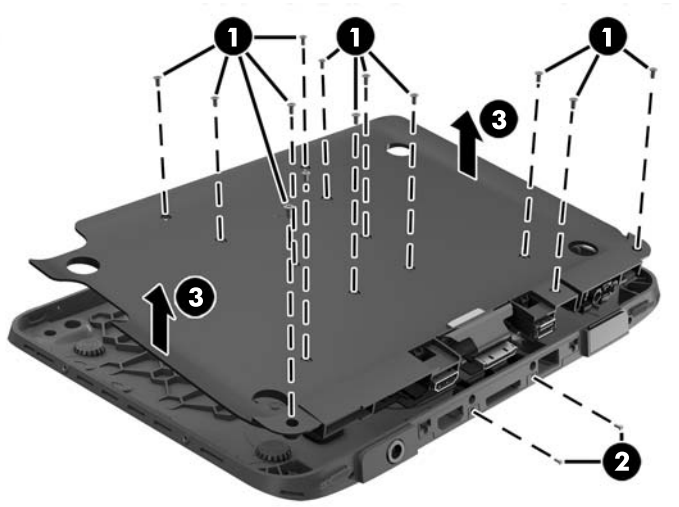
Description	Spare part number
Back plate	791201-001

Before removing the back plate, 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 plate:

1. Remove the 13 silver Phillips PM2.0×4.5 screws **(1)** that secure the back plate to the rear cover.
2. Remove 2 small black PM1.0×3.2 screws **(2)** from holes on both sides of the 70-pin connector.
3. Lift the back plate off the rear cover **(3)**.



Reverse this procedure to install the back plate.

Back plate components

Use the following image to identify the components spared on the back plate.

(1): Button board

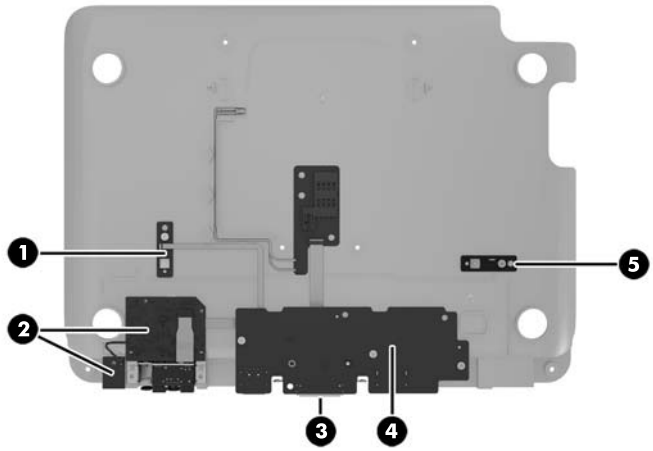
(2): Bar code reader

(3): 70-pin connector

(4): I/O board

(5): Button board

NOTE: The smart card scanner board, located in the middle of the back plate and not called out in the following image, is spared with the back plate. This board is not spared separately.



Card reader cover

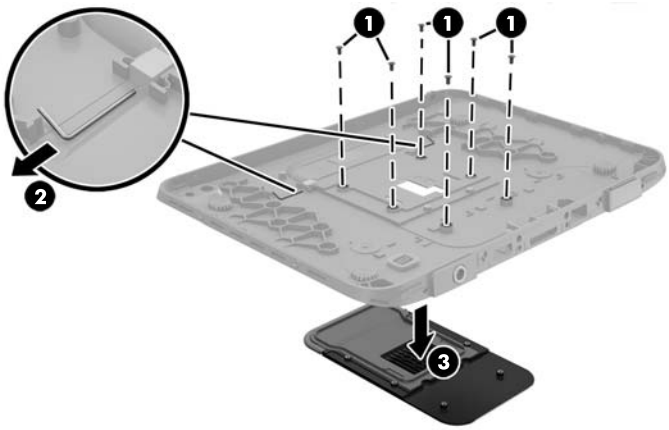
Description	Spare part number
Card reader cover	791203-001

Before removing the card reader cover, 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 plate (see Back plate on page 29).

Remove the card reader cover:

1. From the inside of the rear cover, remove the six Phillips PM2.0×4.5 screws **(1)** that secure the card reader cover.
2. Pull the two 'L' shaped metal pins away from the cover **(2)**.
3. Remove the card reader cover from the rear cover **(3)**.



Reverse this procedure to install the card reader cover.

Bar code scanner

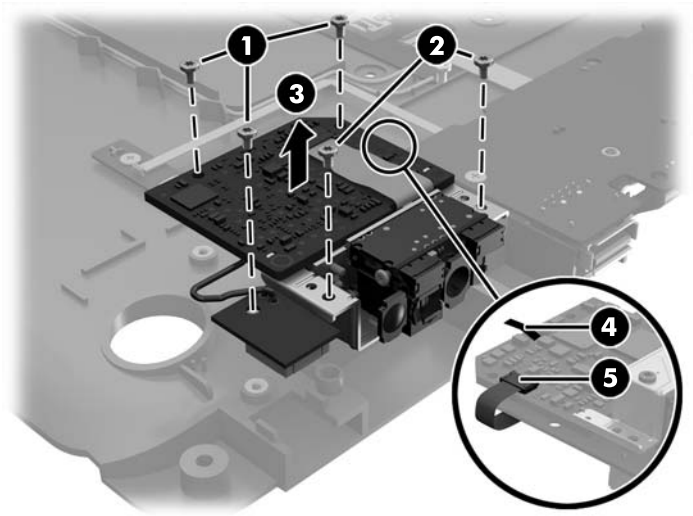
Description	Spare part number
Bar code scanner	791207-001

Before removing the bar code scanner, 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 plate (see Back plate on page 29).

Remove the bar code scanner:

1. Remove the three Phillips PM2.0×3.2 screws **(1)** and the two Phillips PM1.0×3.2 screws that secure the bar code scanner to the back plate **(2)**. Note that a cable connects to the bottom of the board.
2. Turn over the board to access the connector underneath **(3)**.
3. Lift the tape from atop the connector **(4)**, and then disconnect the cable from the board **(5)**.

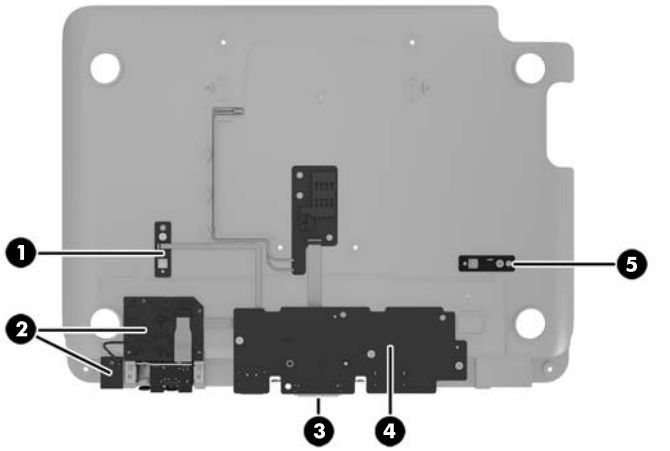


Reverse this procedure to install the bar code scanner.

Scanner button boards (2)

Description	Spare part number
Scanner button boards	791208-001

Use the same procedures to remove either of the two scanner button boards shown by callouts **(1)** and **(5)** in the following image.



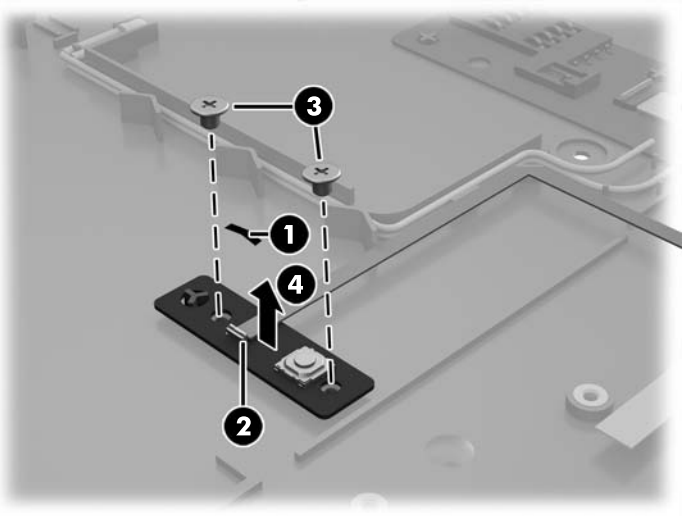
Before removing the scanner button boards, follow these steps:

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 plate (see Back plate on page 29).

Remove the scanner button boards:

1. Lift the tape from atop the connector on the board **(1)**, and then disconnect the cable **(2)**.
2. Remove the two Phillips PM2.0×2.4 screws **(3)** that secure the board to the back plate..

3. Lift the scanner button board from the back plate **(4)**.



Reverse this procedure to install the scanner button boards.

70-pin connector

Description	Spare part number
70-pin connector	791199-001

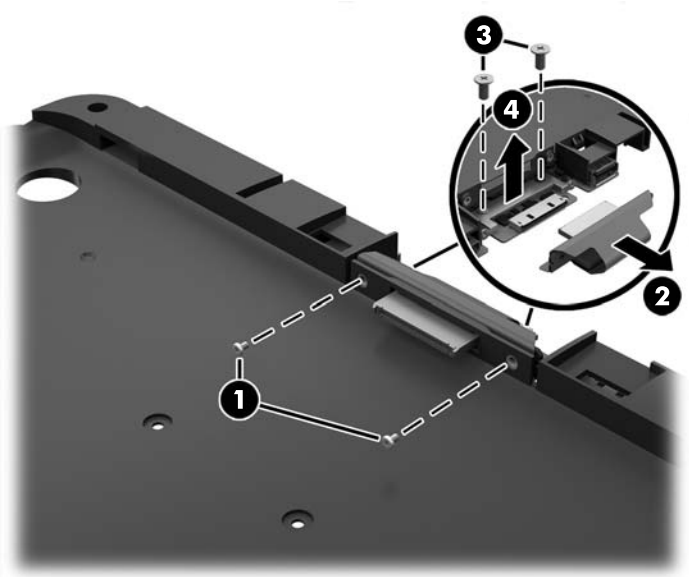
The 70-pin connector connects to the I/O board.

Before removing the 70-pin connector, 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 plate (see Back plate on page 29).

Remove the 70-pin connector:

1. From the inside of the back plate, remove the two Phillips PM2.0×4.5 screws **(1)** that secure the connector to the back plate.
2. Pull the connector out through the slot in the back plate, and then pull it back to gain access to the two screws underneath **(2)**.
3. Remove the two Phillips PM2.0×4.5 screws **(3)**.
4. Pull the connector out from the back plate to disconnect the connector from I/O board **(4)**.



Reverse this procedure to install the 70-pin connector.

I/O board

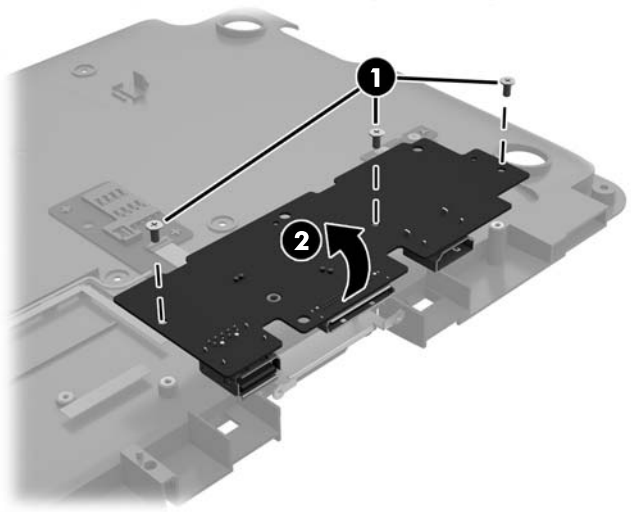
Description	Spare part number
I/O board without 70-pin connector	791210-001
I/O board with 70-pin connector	791209-001

Before removing the I/O 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 plate (see Back plate on page 29).
5. If installed, remove the 70-pin connector (see 70-pin connector on page 35).

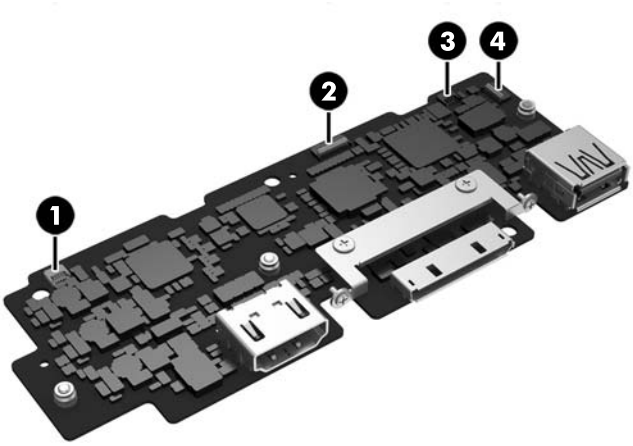
Remove the I/O board:

1. Remove the three Phillips PM2.0×4.5 screws **(1)** that secure the I/O board to the back plate.
2. Rotate the board upward to gain access to connectors underneath **(2)**.



3. Disconnect the scanner button board cable (right) **(1)**.
4. Disconnect the LED board cable **(2)**.
5. Disconnect the scanner button board cable (left) **(3)**.

6. Disconnect the bar code scanner cable **(4)**.



Reverse this procedure to install the I/O board.

Tablet component replacement procedures

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

There are as many as 34 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.

Micro SIM or microSD card

CAUTION: To prevent damage to the connectors, use minimal force when inserting a micro SIM or microSD card.

WARNING! HP recommends that an authorized, qualified HP service provider, or participants in the HP Self-Maintainer program perform insertion or removal of a micro SIM or microSD card. Any damage caused by the customer removing the tablet from the jacket is not covered under the limited warranty of the product. HP requires that an authorized, qualified HP service provider, or participants in the HP Self-Maintainer program perform future maintenance operations.

Before removing the micro SIM or microSD card, 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 jacket (see Jacket, removing from tablet on page 26).

To insert or remove a micro SIM or microSD card, follow these steps:

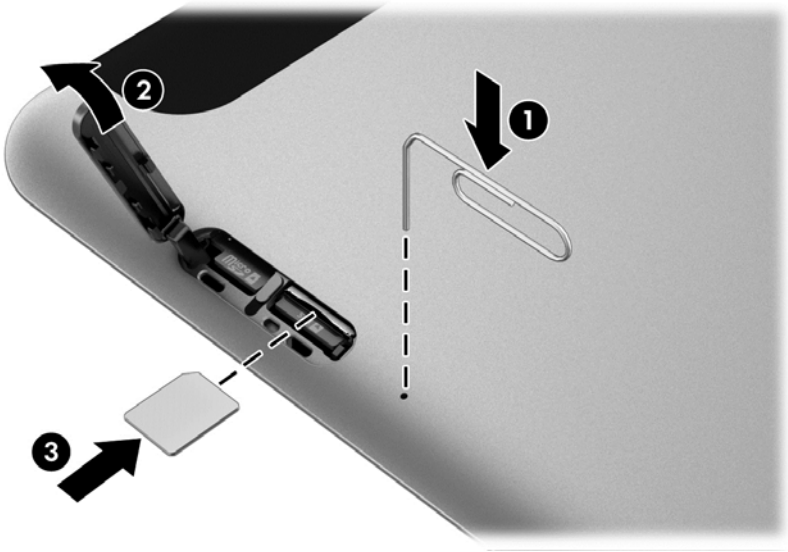
NOTE: The access door is located on the tablet.

1. Insert the end of a paper clip into the access door release hole **(1)**.
2. Press in gently until the access door is released, and then open the access door **(2)**.

3. Insert the micro SIM into the micro SIM slot **(3)** or the microSD card into the microSD card reader. Then, press in to lock it into place.

   – or –

   Release the micro SIM or microSD card by pressing on it. Then, remove it.



4. Reseat the access door hinge **(1)**, and then close the access door **(2)**.

Reverse this procedure to install the micro SIM or microSD card.

Display assembly

Description	Spare part number
10.1-in., WUXGA (1900×1200), UWVA, 50% CG, 400-nit, active pen and MultiTouch capacitive digitizer, chemically-strengthened glass with anti-smudge; includes display panel, display LVDS cable, TouchScreen cable, and display panel support rubber	747658-001

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 display assembly:

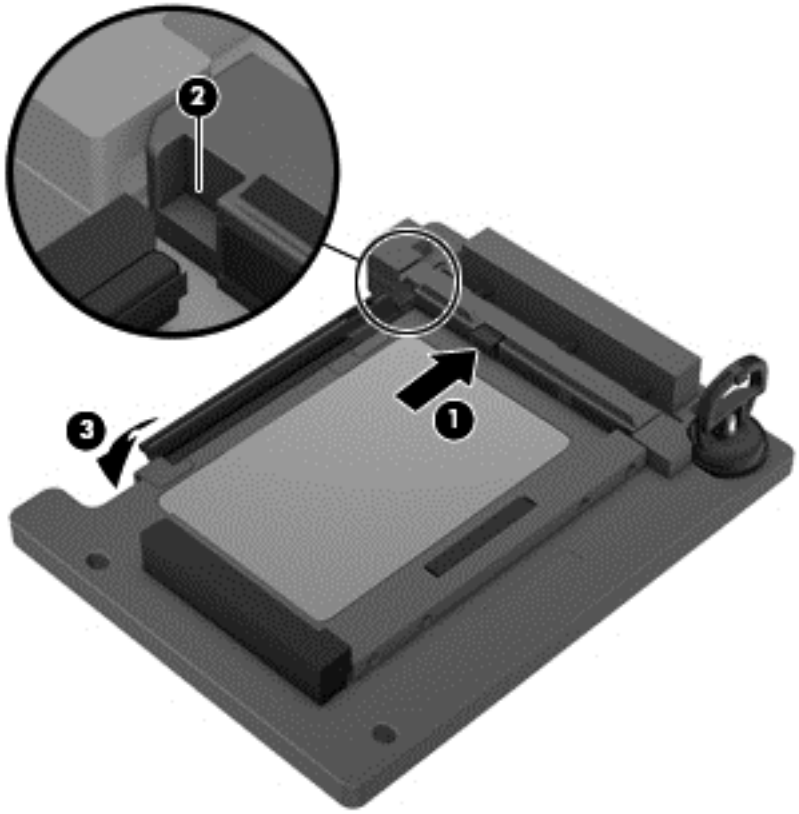
1. Remove the two Phillips PM1.4×3.2 screws that secure the display assembly to the tablet.

2. Place the HP ElitePad Service Tool on a flat, sturdy surface.

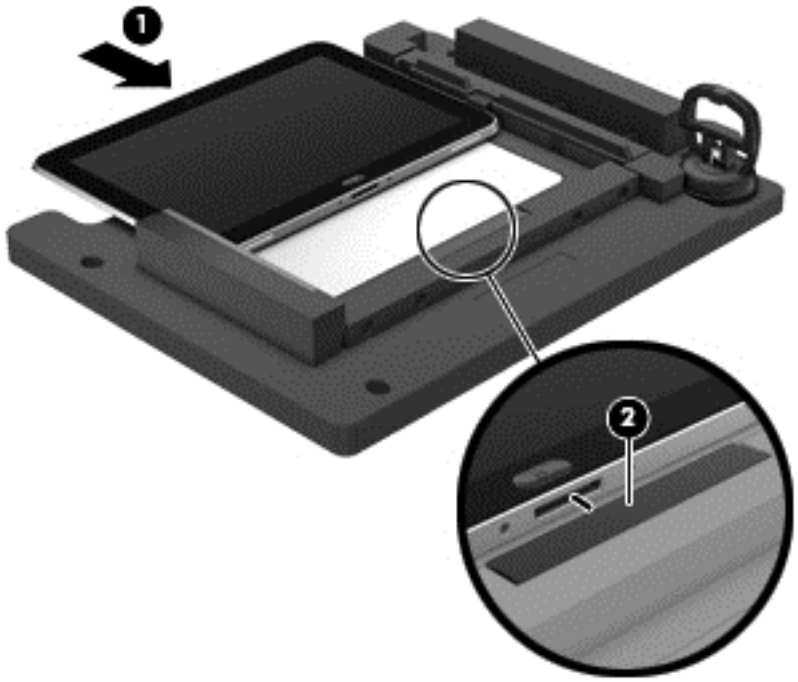
   The HP ElitePad Service Tool is available using spare part number 714222-001.

3. Move the HP ElitePad Service Tool retention bar **(1)** to the left until the notch **(2)** in the retention bar allows the retention gate to open.

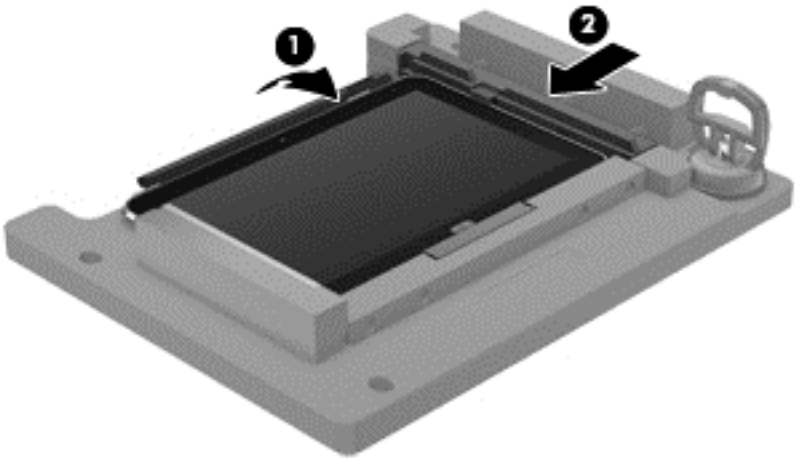
4. Open the retention gate **(3)**.



5. Place the tablet on the service tool and slide it **(1)** forward until the tablet docking connector engages with the service tool docking connector **(2)**.



6. Close the retention gate **(1)** and release the retention bar **(2)** to secure the tablet in the service tool.



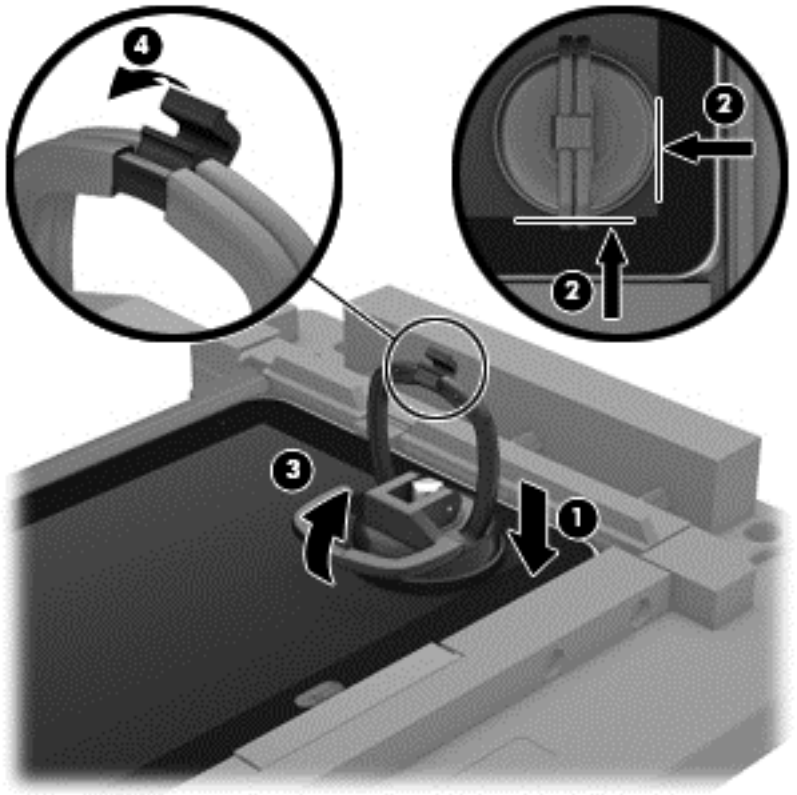
7. Place the suction cup **(1)** on the lower right corner of the tablet display glass, making sure to place the suction cup inside the edges of the border **(2)** of the display glass.

   The suction cup is available using spare part number 714223-001.

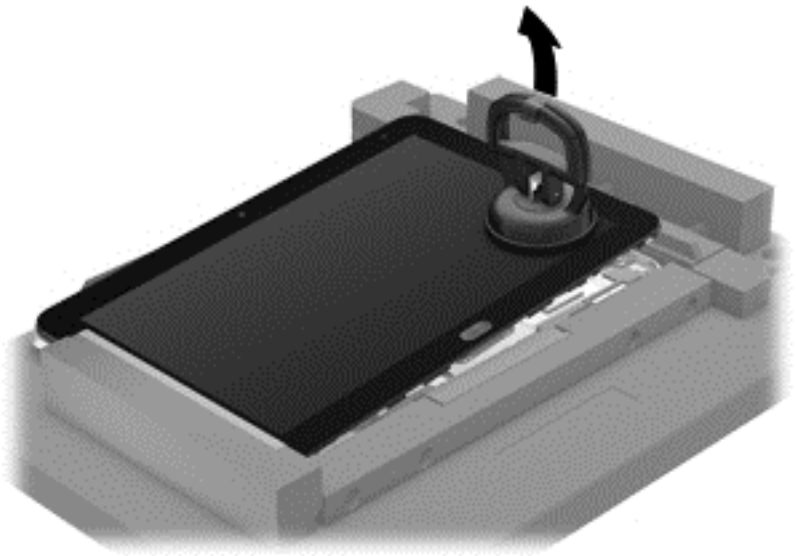
8. Raise the suction cup handle **(3)**.

9. Lock the two suction cup handles together **(4)**.

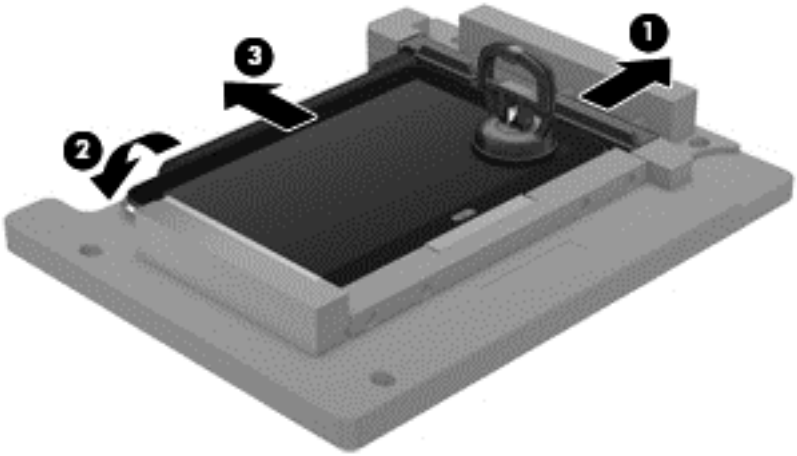
⚠ **CAUTION:** Do not lift the right edge of the display assembly more than ¼-inch from the tablet when releasing the display assembly. Failure to follow this caution can result in damage to the tablet components.



10. Firmly lift up on the suction cup to release the right side of the display assembly approximately ¼-inch from the tablet.

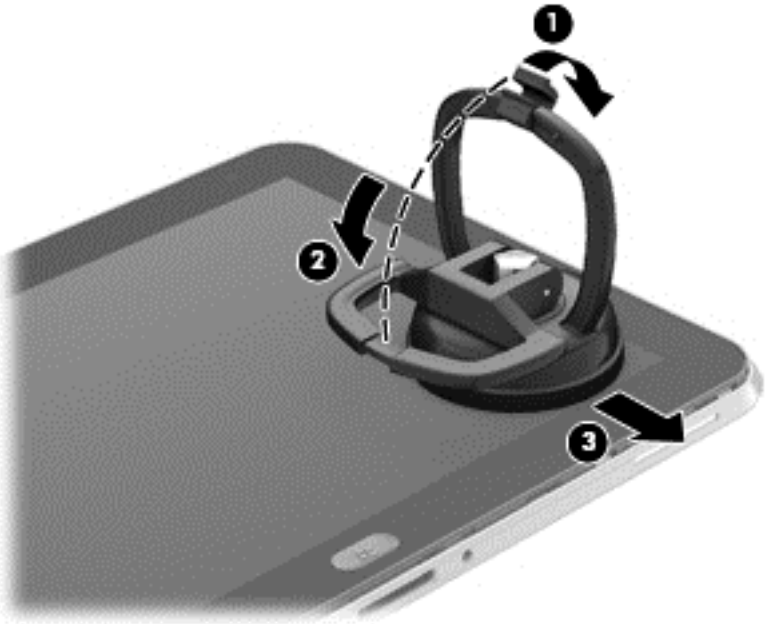


11. Move the retention bar **(1)** until the notch in the retention bar allows the retention gate to open.
12. Open the retention gate **(2)**.
13. Slide the tablet out of the service tool **(3)**.

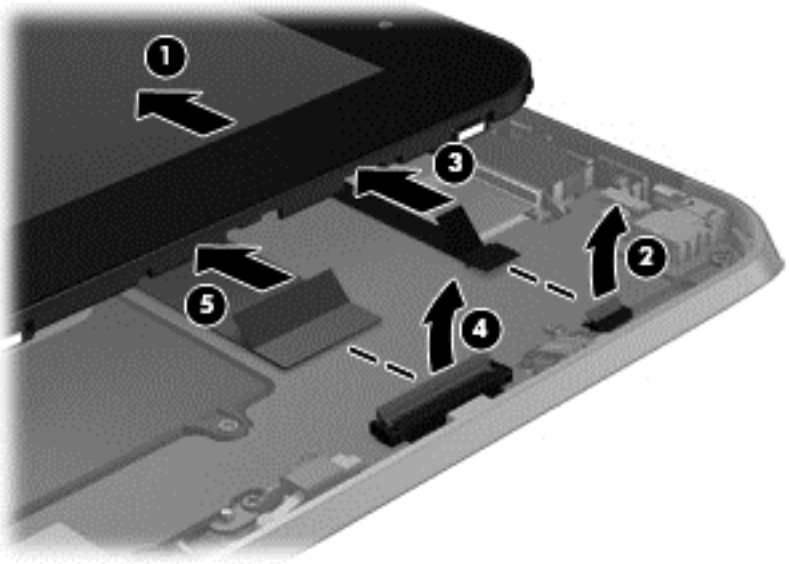


14. Disconnect the suction cup handles **(1)**.
15. Lower the suction cup handle **(2)**.

16. Remove the suction cup **(3)**.



17. Slide the display assembly **(1)** to the left until the display assembly cables and connectors are accessible.
18. Release the zero insertion force (ZIF) connector **(2)** to which the TouchScreen cable is attached, and then disconnect the TouchScreen cable **(3)** from the system board.
19. Release the ZIF connector **(4)** to which the LVDS cable is attached, and then disconnect the LVDS cable **(5)** from the system board.



20. Remove the display assembly and cables.
21. If it is necessary to replace the display assembly cables:

a. Turn the display assembly upside down, with the bottom toward you.

b. Detach the TouchScreen cable **(1)** from the surface of the display assembly. (The TouchScreen cable is attached to the display assembly with double-sided adhesive.)

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

d. Detach the display LVDS cable **(4)** from the surface of the display assembly. (The display LVDS cable is attached to the display assembly with double-sided adhesive.)

e. Release the ZIF connector **(5)** to which the display LVDS cable is attached, and then disconnect the display LVDS cable **(6)** from the display assembly.

The TouchScreen and display LVDS cables are included in the Display Cable Kit, spare part number 718758-001.

To install the display assembly:

1. Reconnect the display LVDS and TouchScreen cables to the respective ZIF connectors on the display assembly.
2. Toe the left side of the display assembly into the left side of the bottom case.
3. Swing the right side of the display assembly down into the right side of the bottom case.
4. Firmly press all edges of the display assembly surface to ensure it is fully engaged with the bottom case.

WWAN module

Description	Spare part number
HP lt4226 LTE/HSPA+ Gobi 4G Module	736675-005

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 display assembly (see Display assembly on page 40).

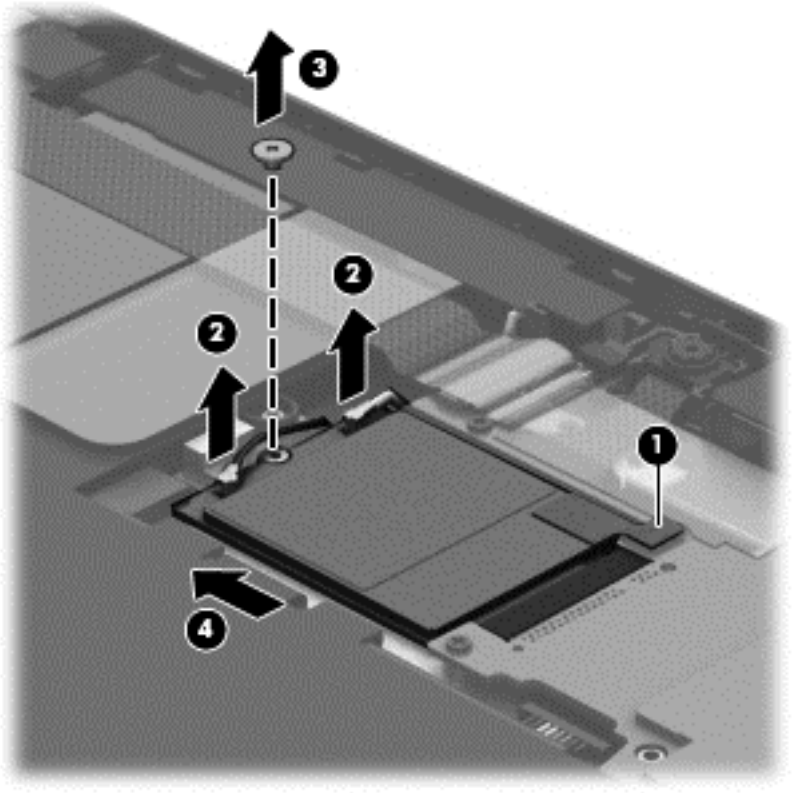
Remove the WWAN module:

1. Release the grounding tape **(1)** that secures the WWAN module to the system board.
2. Disconnect the WWAN antenna cables **(2)** 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”.

3. Remove the Phillips PM1.3×1.5 broad head screw **(3)** that secures the WWAN module to the bottom cover.

4. Remove the WWAN module **(4)** by sliding it away from the socket on the system board.



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.

WLAN module

Description	Spare part number
Broadcom BCM43241 802.11abgn 2x2 Wi-Fi + BT 4.0 Combo Adapter	723677-005

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 display assembly (see Display assembly on page 40).

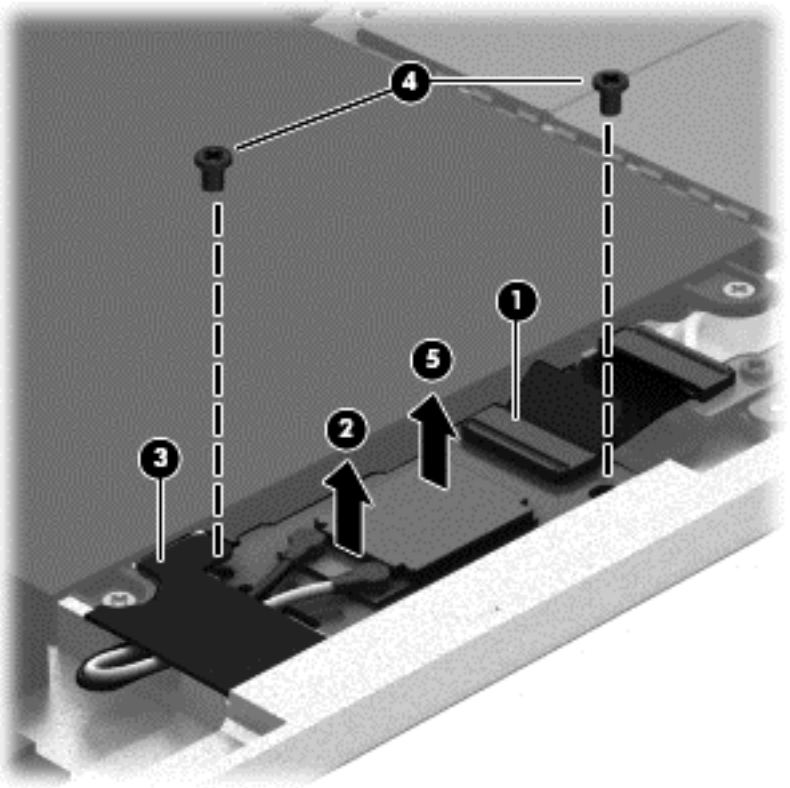
Remove the WLAN module:

1. Release the ZIF connector **(1)** to which the WLAN ribbon cable is attached, and then disconnect the WLAN ribbon cable from the system board.
2. Disconnect the WLAN antenna cables **(2)** 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”.

3. Release the shielding **(3)** to gain access to the bottom screw that secures the WLAN module to the bottom cover.
4. Remove the two Phillips PM1.3×2.0 screws **(4)** that secure the WLAN module to the bottom cover.

5. Remove the WLAN module **(5)**.



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.

Microphones

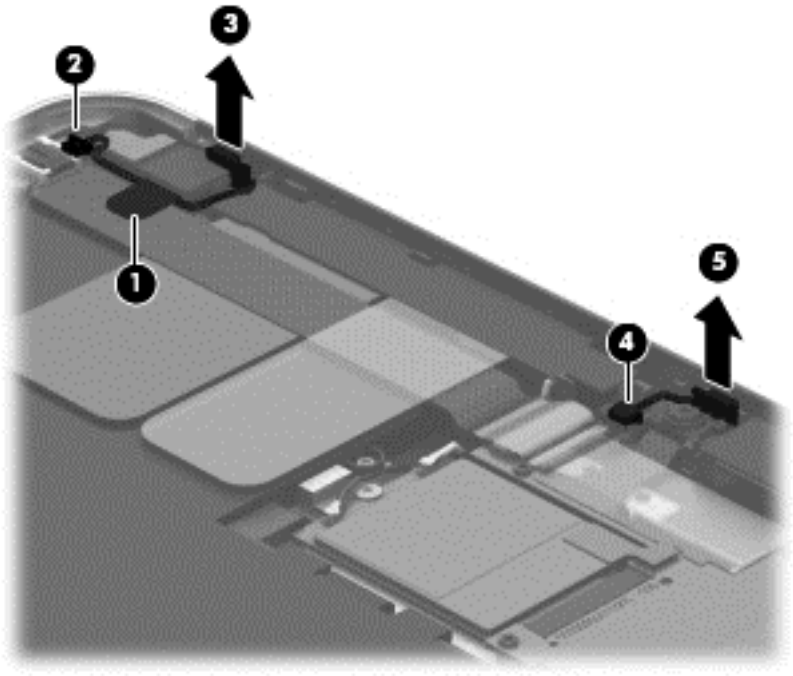
NOTE: The microphones are included in the Webcam/Microphone Kit, spare part number 762828-001.

Before removing the microphones, 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 display assembly (see Display assembly on page 40).

Remove the microphones:

1. Detach the tape **(1)** that secures the left microphone cable to the battery.
2. Disconnect the left microphone cable **(2)** from the power button board.
3. Release the left microphone **(3)** from the molding built into the bottom cover.
4. Disconnect the right microphone cable **(4)** from the system board.
5. Release the right microphone **(5)** from the molding built into the bottom cover.



6. Remove the microphones and cables.

Reverse this procedure to install the microphones.

Rear-facing webcam

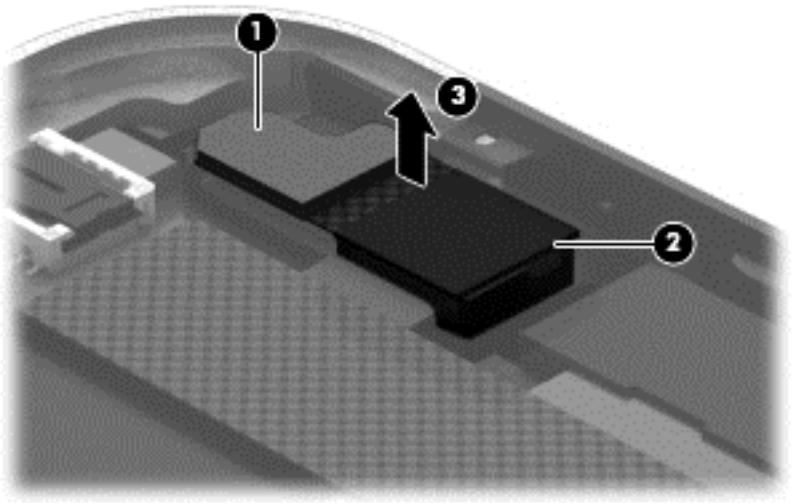
NOTE: The rear-facing webcam is included in the Webcam/Microphone Kit, spare part number 762828-001.

Before removing the rear-facing webcam, 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 display assembly (see Display assembly on page 40).

Remove the rear-facing webcam:

1. Disconnect the rear-facing webcam cable **(1)** from the power button board.
2. Release the rear-facing webcam **(2)** from the molding built into the bottom cover.
3. Remove the rear-facing webcam **(3)** and cable.



Reverse this procedure to install the rear-facing webcam.

Power button board

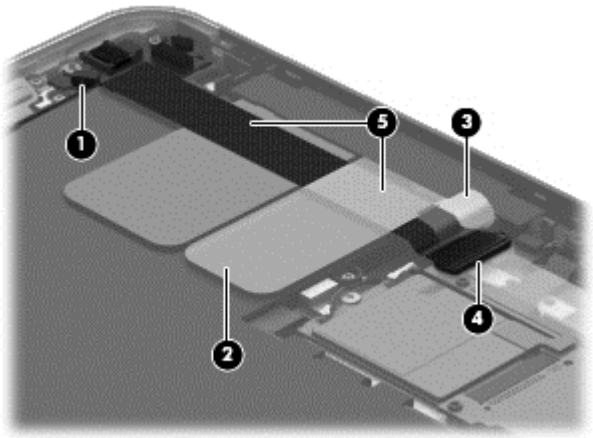
Description	Spare part number
Power button board for use only on computer models equipped with the Windows Embedded 8.1 Industry 64 Professional operating system	809878-901
Power button board for use only on models without an operating system	753976-001

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 display assembly (see Display assembly on page 40).
5. Disconnect the left microphone cable from the power button board (see Microphones on page 50).
6. Disconnect the rear-facing webcam cable from the power button board (see Rear-facing webcam on page 51).

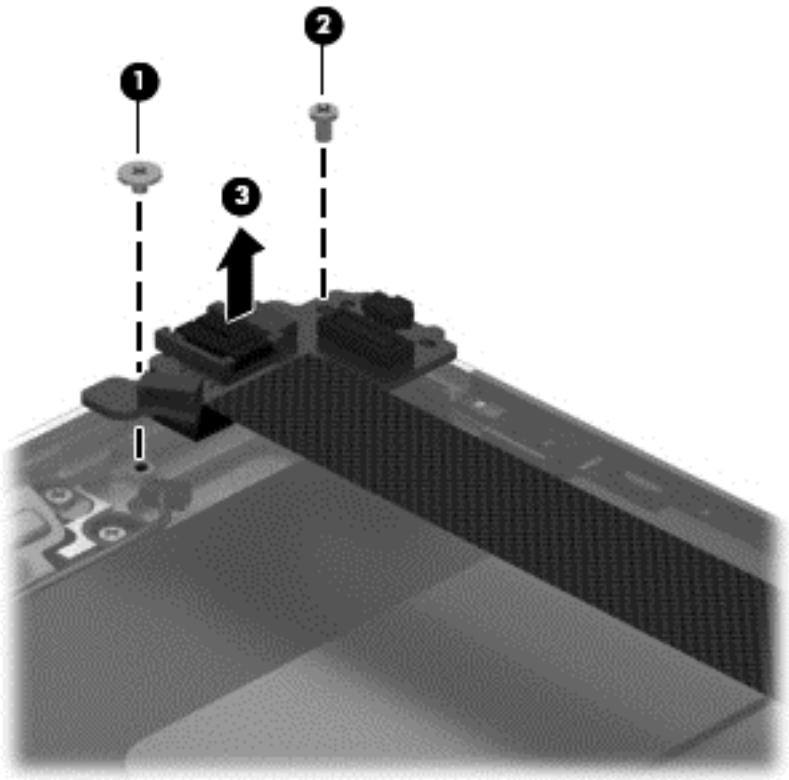
Remove the power button board:

1. Disconnect the volume button board cable **(1)** from the power button board.
2. Release the support strip **(2)** that secures the WWAN antenna transceiver to the battery.
3. Release the support strip **(3)** that secures the power button board cable to the system board.
4. Release the ZIF connector **(4)** to which the power button board cable is attached, and then disconnect the power button board cable from the system board.
5. Detach the power button board cable **(5)** from the surface of the battery. (The power button board cable is attached to the battery with double-sided adhesive.)



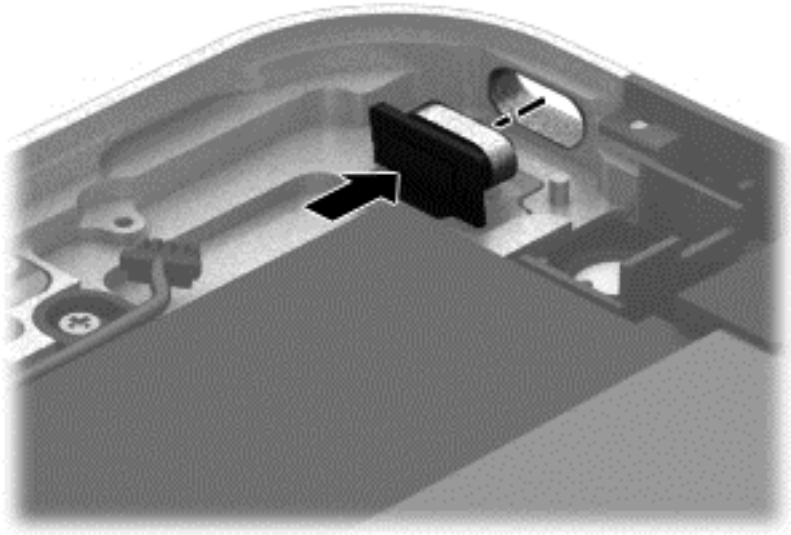
6. Remove the Phillips PM1.3×2.0 broad head screw **(1)** and the Phillips PM1.3×2.0 screw **(2)** that secure the power button board to the bottom cover.

7. Remove the power button board **(3)** and cable.



NOTE: In the process of removing the power button board, the power button actuator may be accidentally dislodged from the bottom cover. To replace the power button actuator, refer to the following illustration.

The power button actuator is included in the Button Kit, spare part number 747634-001.



Reverse this procedure to install the power button board.

Volume button board

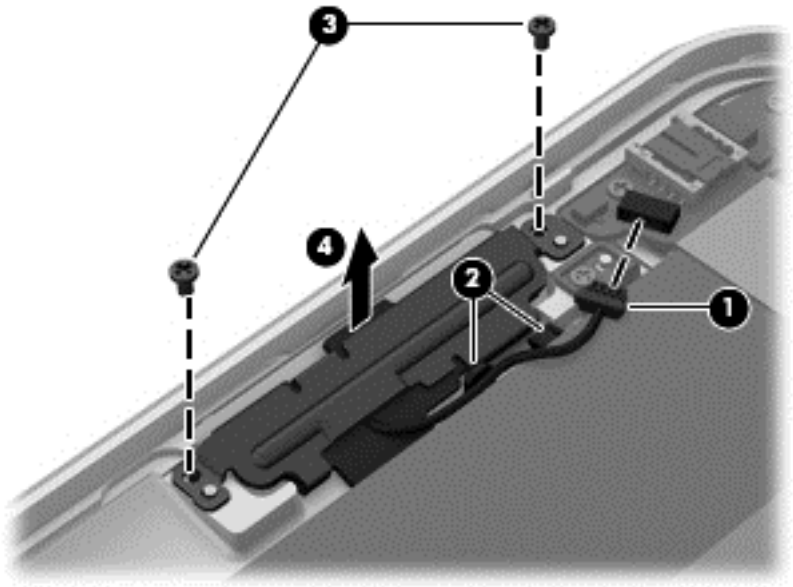
Description	Spare part number
Volume button board (includes bracket and cable)	759031-001

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 display assembly (see Display assembly on page 40).

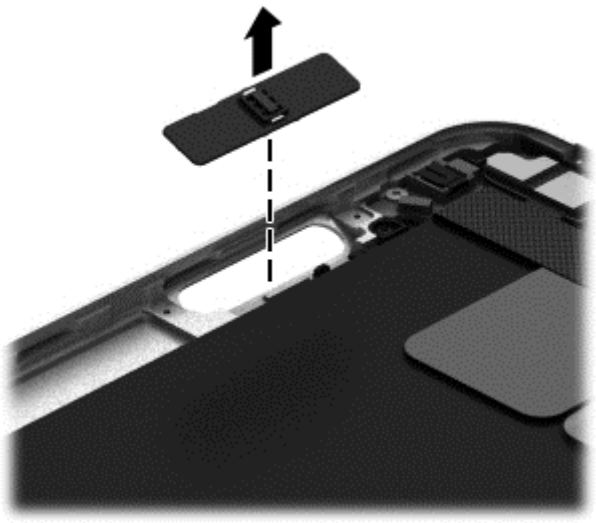
Remove the volume button board:

1. Disconnect the volume button board cable **(1)** from the power button board.
2. Release the volume button board cable from the retention clips **(2)** built into the battery.
3. Remove the two Phillips PM1.5×2.0 screws **(3)** that secure the volume button board to the bottom cover.
4. Remove the volume button board **(4)** and cable.



NOTE: In the process of removing the volume button board, the volume button actuator may be accidentally dislodged from the bottom cover. To replace the volume button actuator, refer to the following illustration.

The volume button actuator is included in the Button Kit, spare part number 747634-001.



Reverse this procedure to install the volume button board.

Audio jack board

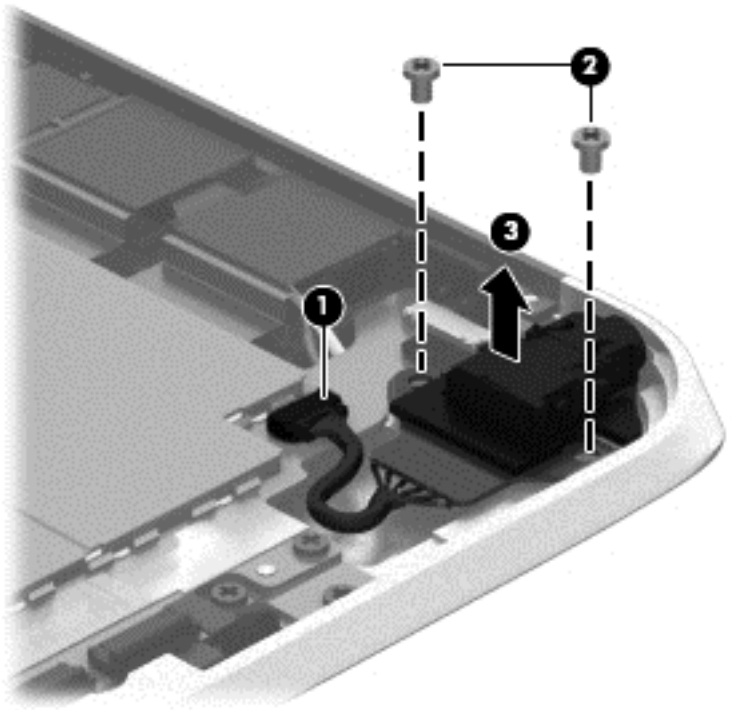
Description	Spare part number
Audio jack board (includes audio jack and cable)	747627-001

Before removing the audio jack 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 display assembly (see Display assembly on page 40).

Remove the audio jack board:

1. Disconnect the audio jack board cable **(1)** from the system board.
2. Remove the two Phillips PM1.3×2.0 screws **(2)** that secure the audio jack board to the bottom cover.
3. Remove the audio jack board **(3)** and cable.



Reverse this procedure to install the audio jack board.

TXE board

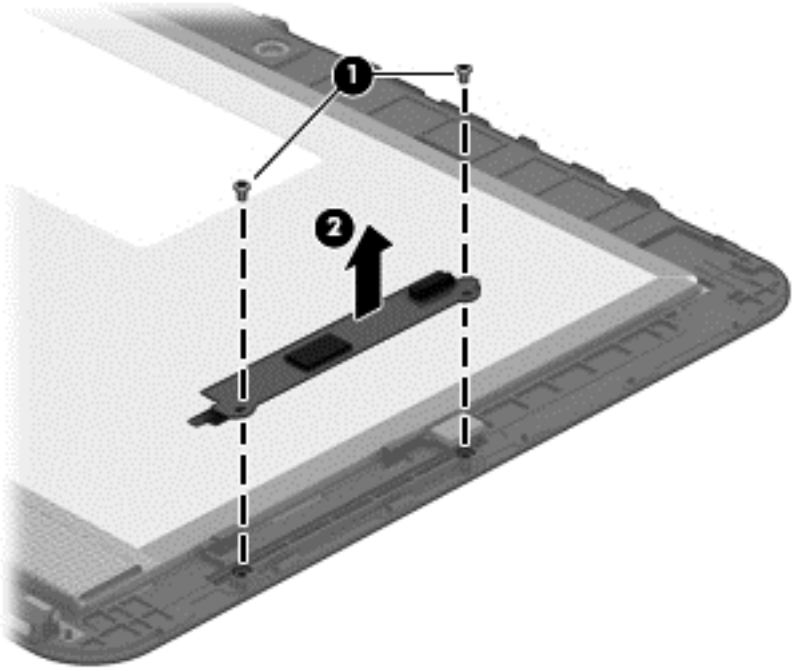
Description	Spare part number
TXE board	753977-001

Before removing the TXE 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 display assembly (see Display assembly on page 40).

Remove the TXE board:

1. Remove the two Phillips PM1.3×2.0 screws **(1)** that secure the board to the bottom cover.
2. Remove the TXE board **(2)**.



Reverse this procedure to install the TXE board.

Vibrator module

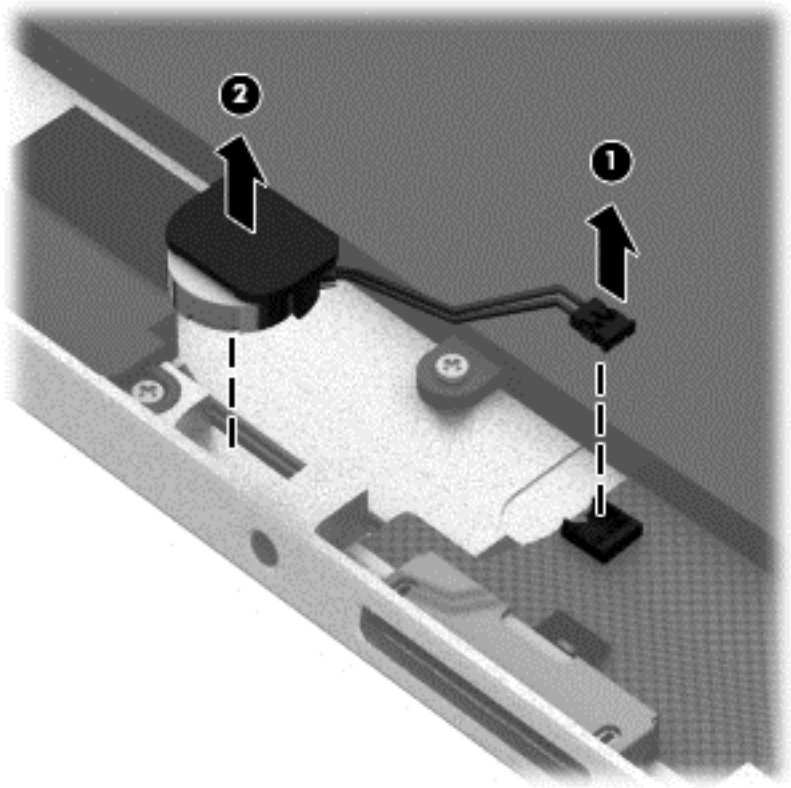
Description	Spare part number
Vibrator module (includes cable, double-sided adhesive, plastic cover)	747630-001

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 display assembly (see Display assembly on page 40).

Remove the vibrator module:

1. Disconnect the vibrator module cable **(1)** from the system board.
2. Detach the vibrator module **(2)** from the bottom cover. (The vibrator module is attached to the bottom cover with double-sided adhesive.)



3. Remove the vibrator module and cable.

NOTE: The vibrator module cover is attached to the vibrator module with double-sided adhesive.

Reverse this procedure to install the vibrator module.

Battery

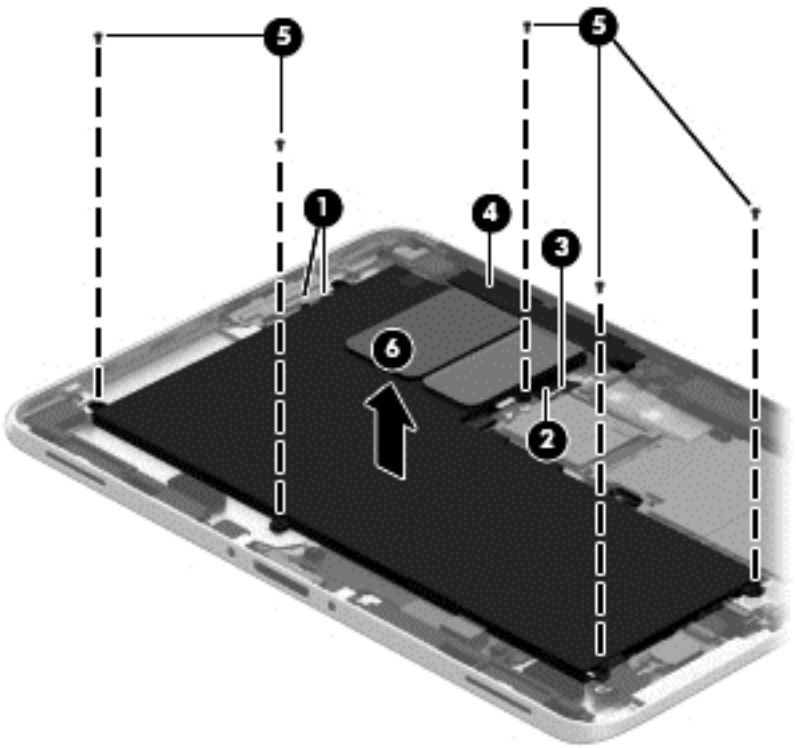
Description	Spare part number
2-cell, 30-Wh, 4.0-Ah, Li-ion battery (includes battery cable)	728558-005

Before removing the 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 display assembly (see Display assembly on page 40).
5. Remove the power button board (see Power button board on page 52).

Remove the battery:

1. Release the volume button board cable from the retention clips **(1)** built into the battery.
2. Release the tab **(2)** built into the bottom cover that secures the WWAN/GPS antenna cables, and then release the antenna cables **(3)**.
3. Detach the WWAN/GPS main transceiver **(4)** from the bottom cover. (The WWAN/GPS main transceiver is attached to the bottom cover with double-sided adhesive.)
4. Remove the six Phillips PM1.3×2.0 screws **(5)** that secure the battery to the bottom cover.
5. Remove the battery **(6)**.



Reverse this procedure to install the battery.

System board

NOTE: The system board spare part kit is equipped with an Intel Atom z3795 quad core 1.60-GHz processor (burst up to 2.39-GHz; 2.0-MB L2 cache), and 4096-MB of system memory and includes the processor, memory, and eMMC.

Description	Spare part number
Equipped with 64-GB of eMMC primary storage	753740-001

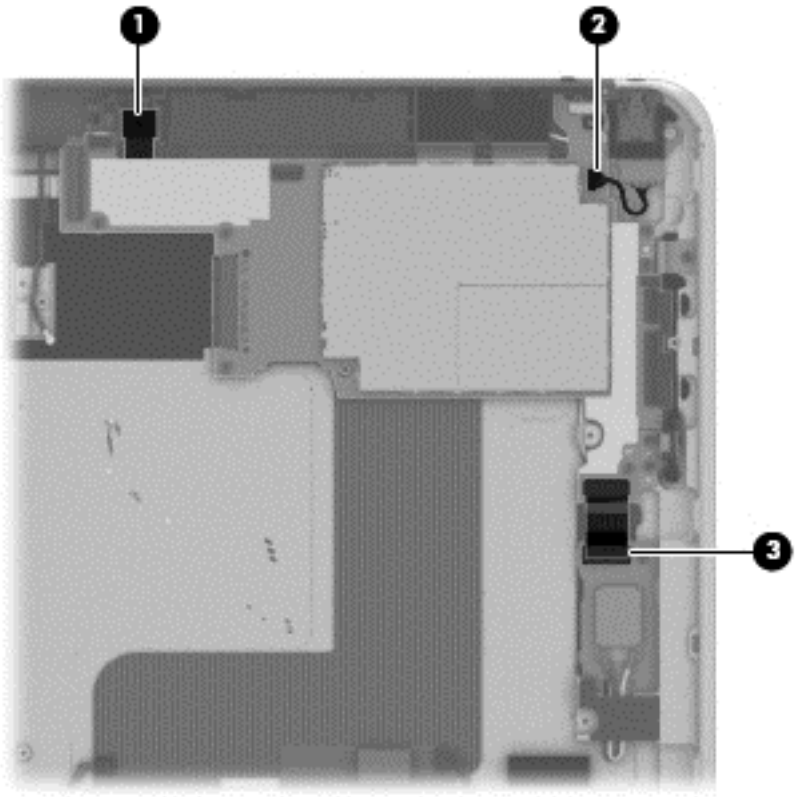
Before removing the system board, follow these steps:

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 display assembly (see Display assembly on page 40), and then remove the following components:
   a. WWAN module (see WWAN module on page 46)
   b. Power button board (see Power button board on page 52)
   c. Battery (see Battery on page 59)

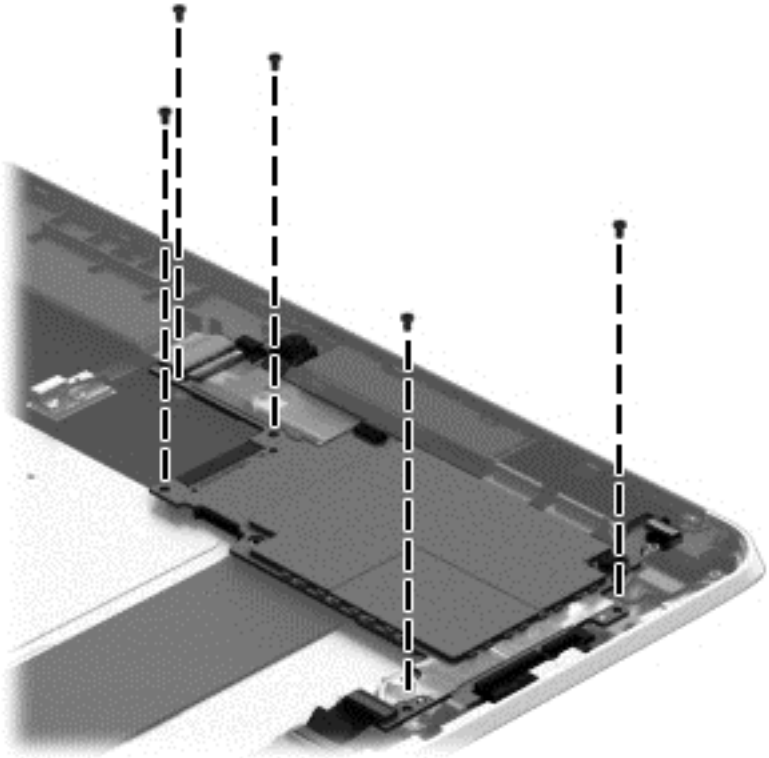
Remove the system board:

1. Release the forward-facing webcam **(1)** from the molding built into the bottom cover.
2. Disconnect the audio jack board cable **(2)** from the system board.

3. Release the ZIF connector **(3)** to which the WLAN ribbon cable is attached, and then disconnect the WLAN ribbon cable from the WLAN module.

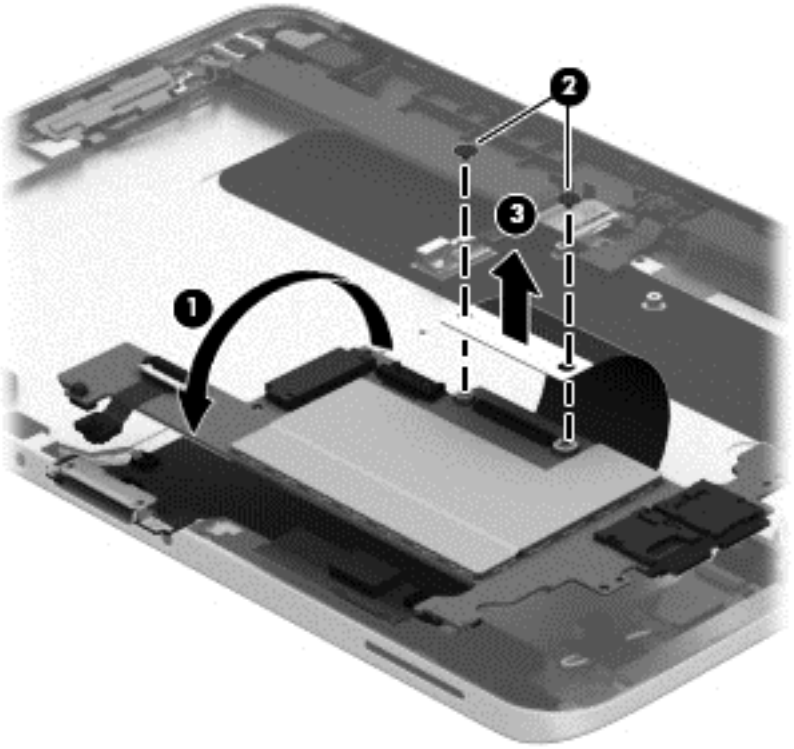


4. Remove the five Phillips PM1.3×2.0 screws that secure the battery to the bottom cover.



5. Lift the top edge of the system board **(1)** and swing it up and forward until it rests upside down above the tablet.
6. Remove the two Phillips PM1.3×1.5 broad head screws **(2)** that secure the docking connector cable to the system board.

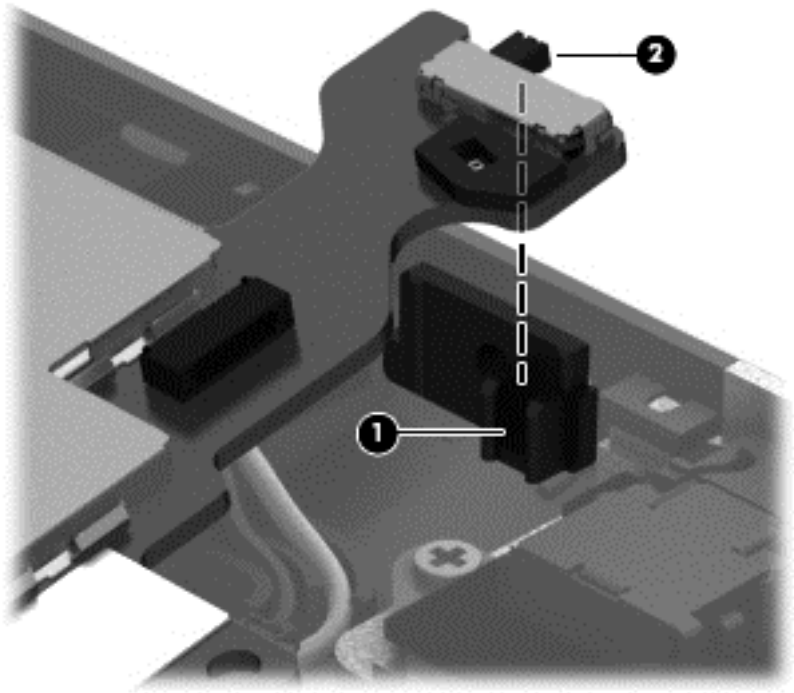
7. Disconnect the docking connector cable **(3)** from the system board.



8. Remove the system board.

NOTE: In the process of removing the system board, the autorotate switch actuator may be accidentally dislodged from the bottom cover. To replace the autorotate switch actuator, refer to the following illustration. When installing the autorotate switch actuator, make sure the two tabs **(1)** on the autorotate switch actuator engage the autorotate switch **(2)** on the system board.

The autorotate switch actuator is included in the Button Kit, spare part number 747634-001.



Reverse this procedure to install the system board.

Forward-facing webcam

NOTE: The forward-facing webcam is included in the Webcam/Microphone Kit, spare part number 762828-001.

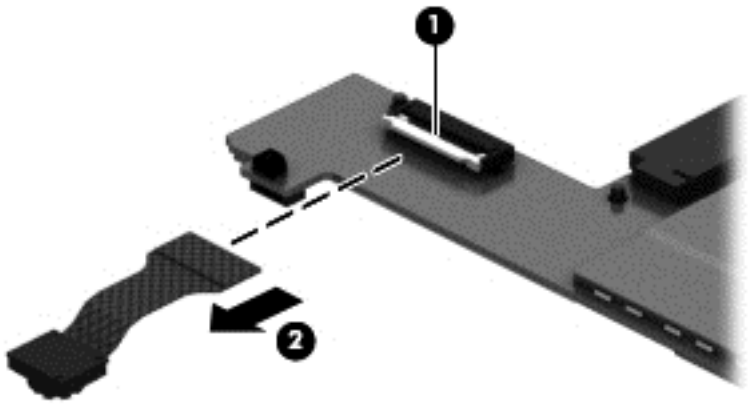
Before removing the forward-facing webcam, follow these steps:

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 display assembly (see Display assembly on page 40), and then remove the following components:
   a. WWAN module (see WWAN module on page 46)
   b. Power button board (see Power button board on page 52)
   c. Battery (see Battery on page 59)
   d. System board (see System board on page 60)

Remove the forward-facing webcam:

1. Turn the system board upside down, with the top toward you.

2. Release the ZIF connector **(1)** to which the forward-facing webcam cable is attached, and then disconnect the forward-facing webcam cable **(2)** from the system board.



3. Remove the forward-facing webcam and cable.

Reverse this procedure to install the forward-facing webcam.

Slot cover

NOTE: The slot cover is included in the Button Kit, spare part number 747634-001.

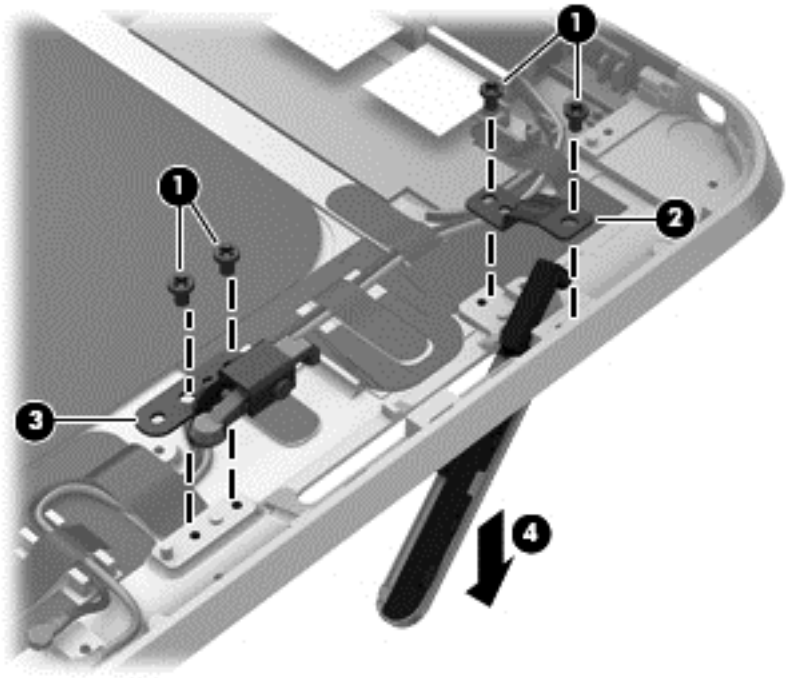
Before removing the slot cover, follow these steps:

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 display assembly (see Display assembly on page 40), and then remove the following components:
   a. WWAN module (see WWAN module on page 46)
   b. Power button board (see Power button board on page 52)
   c. Battery (see Battery on page 59)
   d. System board (see System board on page 60)

Remove the slot cover:

1. Remove the four Phillips PM1.3×2.0 screws **(1)** that secure the slot cover retention bracket and spring bracket to the bottom cover.
2. Remove the slot cover retention bracket **(2)** and the slot cover spring bracket **(3)**.

3. Remove the slot cover **(4)** by pressing it through the bottom cover.



4. Remove the slot cover.

Reverse this procedure to install the slot cover.

Docking connector cable

Description	Spare part number
Docking connector cable (includes double-sided adhesive)	747631-001

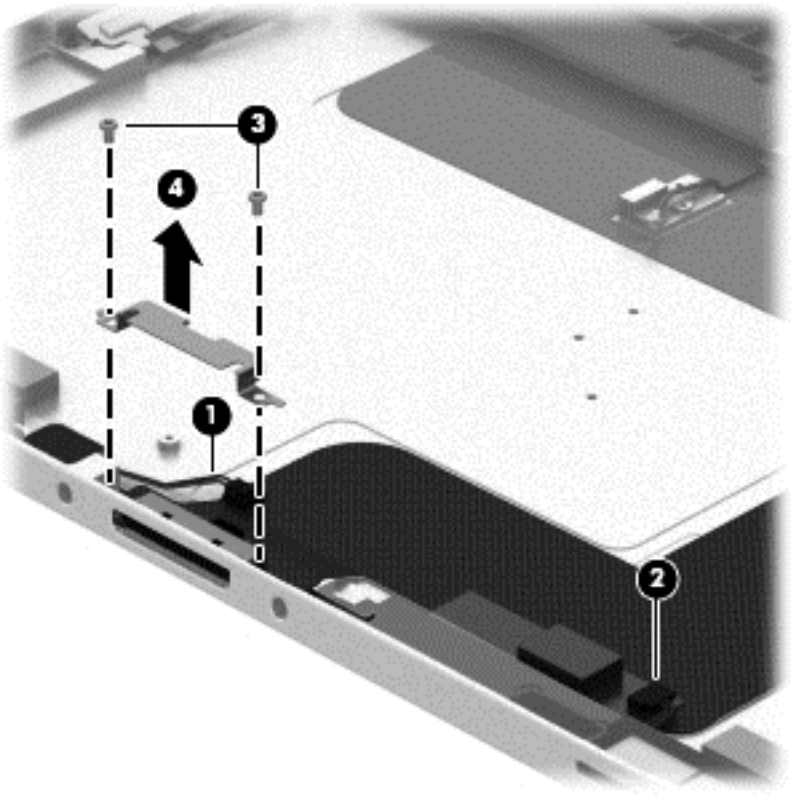
Before removing the docking connector cable, follow these steps:

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 display assembly (see Display assembly on page 40), and then remove the following components:
   a. WWAN module (see WWAN module on page 46)
   b. Power button board (see Power button board on page 52)
   c. Battery (see Battery on page 59)
   d. System board (see System board on page 60)

Remove the docking connector cable:

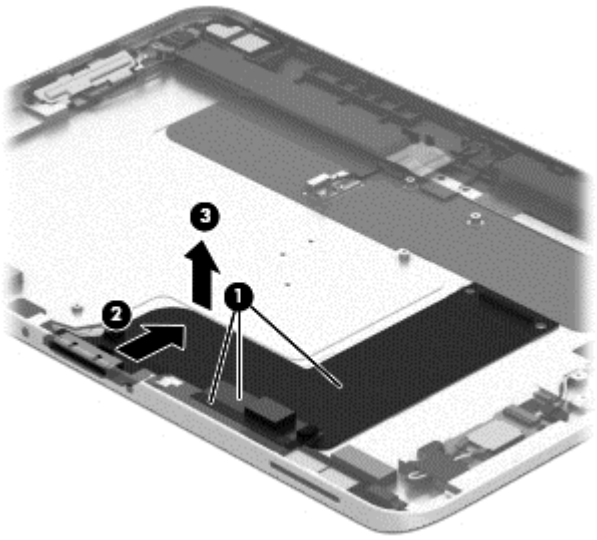
1. Disconnect the vibrator module cable **(1)** from the docking connector cable.
2. Disconnect the speaker cable **(2)** from the docking connector cable.
3. Remove the two Phillips PM1.3×2.0 screws **(3)** that secure the docking connector cable bracket to the bottom cover.
4. Remove the docking connector bracket **(4)**.

   The docking connector bracket is included in the Button Kit, spare part number 747634-001.



5. Detach the docking connector cable **(1)** from the surface of the bottom cover. (The docking connector cable is attached to the bottom cover with double-sided adhesive.)
6. Release the docking connector **(2)** from the bottom cover by sliding it away from the opening in the bottom edge.

7. Remove the docking connector cable **(3)**.



Reverse this procedure to install the docking connector cable.

WLAN antenna

NOTE: The WLAN antenna are included in the Antenna Kit and include the WLAN antenna main and auxiliary cables and transceivers.

Description	Spare part number
Antenna Kit for use in European countries and regions, North America, and Latin America	799297-001

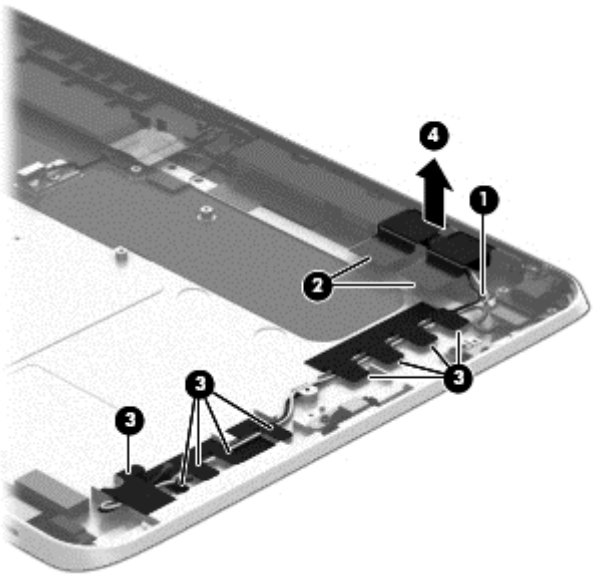
Before removing the WLAN antenna, follow these steps:

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 display assembly (see Display assembly on page 40), and then remove the following components:
   a. WWAN module (see WWAN module on page 46)
   b. Power button board (see Power button board on page 52)
   c. Battery (see Battery on page 59)
   d. System board (see System board on page 60)

Remove the WLAN antenna:

1. Release the WLAN antenna cables from the routing channel **(1)** built into the bottom cover.
2. Detach the WLAN antenna transceivers **(2)** from the bottom cover.

3. Release the tabs **(3)** built into the bottom cover that secure the speaker cable, and then release the WLAN antenna cables.
4. Remove the WLAN antenna cables and transceivers **(4)**.



Reverse this procedure to install the WLAN antenna.

WWAN/GPS auxiliary antenna

NOTE: The WWAN/GPS auxiliary antenna are included in the Antenna Kits and include the WWAN/GPS auxiliary antenna cable and transceiver.

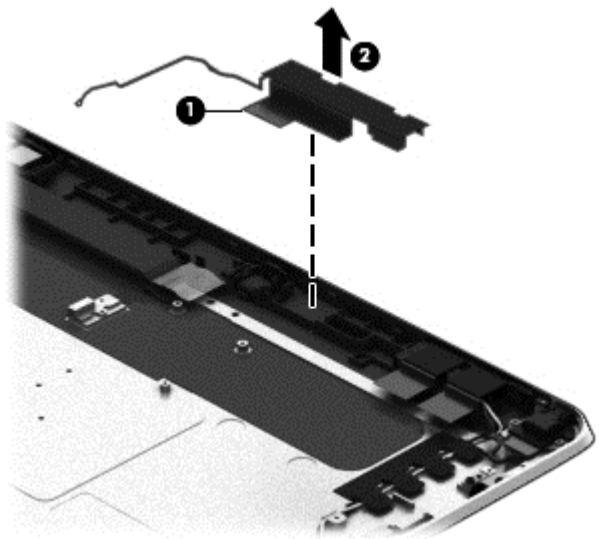
Description	Spare part number
Antenna Kit for use only in Japan	767885-001

Before removing the WWAN/GPS auxiliary antenna, 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 display assembly (see Display assembly on page 40), and then remove the following components:
   a. WWAN module (see WWAN module on page 46)
   b. Power button board (see Power button board on page 52)
   c. Battery (see Battery on page 59)
   d. System board (see System board on page 60)

Remove the WWAN/GPS auxiliary antenna:

1. Detach the WWAN/GPS auxiliary antenna transceiver **(1)** from the bottom cover.
2. Remove the WWAN/GPS auxiliary antenna cable and transceiver **(2)**.



Reverse this procedure to install the WWAN/GPS auxiliary antenna.

Speakers

Description	Spare part number
Speakers (include left and right speakers and cables)	747629-001

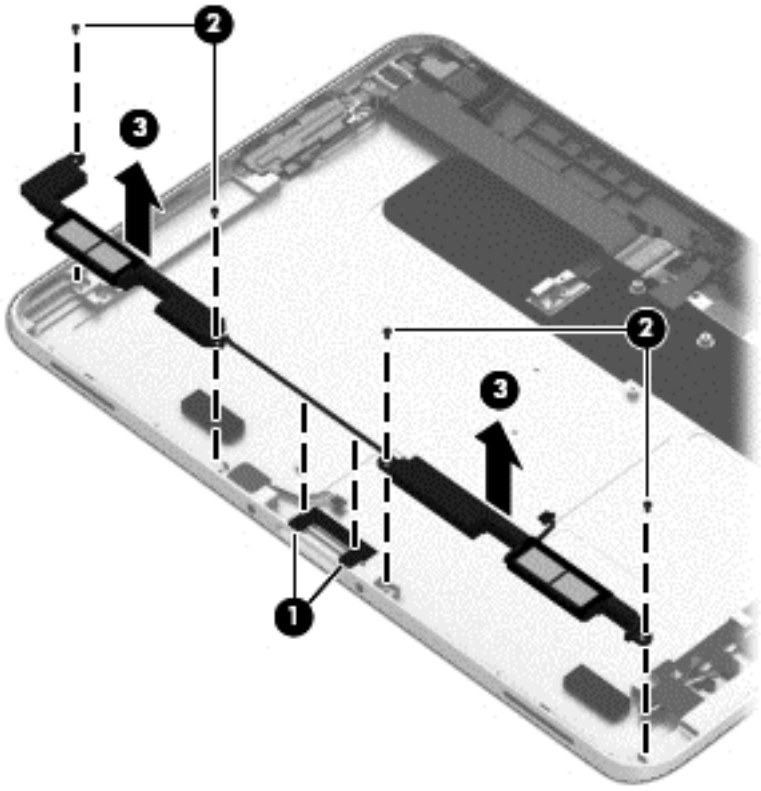
Before removing the speakers, follow these steps:

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 display assembly (see Display assembly on page 40), and then remove the following components:
   a. WWAN module (see WWAN module on page 46)
   b. Power button board (see Power button board on page 52)
   c. Battery (see Battery on page 59)
   d. System board (see System board on page 60)
   e. Docking connector cable (see Docking connector cable on page 66)

Remove the speakers:

1. Release the tabs **(1)** built into the bottom cover that secure the speaker cable, and then release the speaker cable.
2. Remove the four Phillips PM1.3×2.0 screws **(2)** that secure the speakers to the bottom cover.

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



Reverse this procedure to install the speakers.

6 HP PC Hardware Diagnostics (UEFI)

Using HP PC Hardware Diagnostics (UEFI)

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

To start HP PC Hardware Diagnostics UEFI using the touchscreen:

1. Shut down the tablet if it is not already powered off
2. To power on the tablet, press the **Power** button, and then press the **Volume down** button.
3. Select **System Diagnostics**.
4. Select the type of diagnostic test that you want to run, and then follow the on-screen instructions.

NOTE: If you need to stop a diagnostic test while it is running, press anywhere on the screen.

To start HP PC Hardware Diagnostics UEFI using a keyboard:

1. Turn on or restart the tablet, quickly press the ESC button on the tablet, and then press f2.

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

   a. Connected USB drive

   NOTE: To download the HP PC Hardware Diagnostics (UEFI) tool to a USB drive, see Downloading HP PC Hardware Diagnostics (UEFI) to a USB device on page 73.

   b. Hard drive

   c. BIOS

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

NOTE: If you need to stop a diagnostic test, press esc.

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

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

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

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

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

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

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

   – or –

   Click **Find Now** to let HP automatically detect your product.
4. Select your tablet model, and then select your operating system.
5. In the **Diagnostic** section, click **HP UEFI Support Environment**.

   – or –

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

7 Specifications

Tablet specifications

	Metric	U.S.
Dimensions		
Width	**17.80 cm**	7.0 in
Depth	**26.10 cm**	10.28 in
Height	**0.92 cm**	0.36 in
Weight	**0.68 kg**	1.50 lbs
Input power		
Operating voltage and current	9 V DC @ 1.1A – 10W	
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 (noncondensing)		
Operating	10% to 90%	
Nonoperating	5% to 95%	
Maximum altitude (unpressurized)		
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
IP (Ingress Protection) Rating	54	

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

8 Statement of Volatility

The purpose of this document is to provide general information regarding non-volatile memory in industry-standards based HP Business Notebook PC systems and provide general instructions for restoring nonvolatile memory that can contain personal data after the system has been powered off and the hard drive has been removed.

HP Business Notebook PC products that use Intel-based or AMD®-based system boards contain volatile DDR memory. The amount of nonvolatile memory present in the system depends upon the system configuration. Intel-based and AMD-based system boards contain nonvolatile memory subcomponents as originally shipped from HP assuming that no subsequent modifications have been made to the system and assuming that no applications, features, or functionality have been added to or installed on the system.

Following system shutdown and removal of all power sources from an HP Business Notebook PC system, personal data can remain on volatile system memory (DIMMs) for a finite period of time and will also remain in nonvolatile memory. The steps below will remove personal data from the notebook PC, including the nonvolatile memory found in Intel-based and AMD-based system boards. Some of these steps are disclosed in the Maintenance and Service Guides available for HP PC products available on the product support pages at www.hp.com.

1. Follow steps (a) through (I) below to restore the nonvolatile memory that can contain personal data. Restoring or re-programming nonvolatile memory that does not store personal data is neither necessary nor recommended.

   a. Enter BIOS (F10) Setup by powering on the system and pressing F10 when prompted near the bottom of the display, or press the ESC key to display the start up menu, then press F10 . If the system has a BIOS administrator password, enter the password at the prompt.

   b. Select the **File** menu, then **Restore Defaults**.

   c. Select the **System Configuration** menu, then **Restore Security Defaults**.

   d. If an asset or ownership tag is set, select the **Security** menu and scroll down to the **Utilities** menu. Select **System IDs**, and then select the tag that has been set. Press the spacebar once to clear the tag, then press Enter to return to the prior menu.

   e. If a DriveLock password is set, select the **Security** menu, scroll down to **DriveLock**, then select **DriveLock password**. Select the desired hard drive. Click **Disable protection**, enter the existing master DriveLock password, then press Enter to confirm and return to the prior menu. Repeat this procedure if more than one hard drive has a DriveLock password.

   f. If an Automatic DriveLock password is set, select the **Security menu**, scroll down to **Automatic DriveLock**, then select the desired hard drive and disable protection. Repeat this procedure if more than one hard drive has an Automatic DriveLock password.

   g. Select the **File** menu, then **Reset BIOS Security** to factory default. Click **yes** at the warning message.

   h. Select the **File** menu, then **Save Changes and Exit**.

   i. Reboot the system. If the system has a Trusted Platform Module and/or fingerprint sensor, one or two prompts will appear: one to clear the TPM and the other to reset fingerprint sensor. Press F1 to accept or F2 to reject.

   If the HP notebook model number ends in a ‘p’ or ‘w’ and includes Intel Centrino with VProTM, reboot the PC and enter BIOS Setup by pressing F10 when prompted. Select **System**

Configuration, then **AMT Options**. Then select **Un-configure AMT on next boot**. Select **Save**, then **Yes**. Select the **File** menu, and then select **Save Changes and Exit**. Reboot the system and confirm that you want to un-configure AMT.

j. If the optional Intel Anti-Theft Technology (AT) was activated, contact the provider to deactivate it.

k. If the optional Absolute® Software Computrace® management and tracking service was activated on the notebook PC, contact the provider to deactivate it.

l. Remove all power and system batteries for at least 24 hours.

2. Remove and retain the storage drive or clear the contents of the drive.

a. Hard Disk Drive (HDD)

Clear the HDD contents by using the HP Disk Sanitizer® utility or a third party application that, ideally, is U.S. Department of Defense (DOD) 5220.22-M approved.

To run HP Disk Sanitizer, enter BIOS Setup by powering on the system and pressing F10 when prompted near the bottom of the display, or press ESC to display the start up menu, then press F10. Select the **Security** menu and scroll down to the **Utilities** menu. Select **Disk Sanitizer** and select the desired drive. For a higher level of protection, select **Optimum**.

NOTE: This process will take a long time, and the amount of time varies based on the hard drive capacity.

b. Solid State Drive (SSD)

Clear the SSD contents by using the BIOS Setup Secure Erase command option, or by using a third party utility designed to erase data from an SSD. To run Secure Erase, enter BIOS Setup by powering on the system and pressing F10 when prompted near the bottom of the display. Select the **Security** menu and scroll down to the **Utilities** menu. Select **Secure Erase** and select the desired hard drive.

Non-volatile memory usage

Non Volatile Memory Type	Amount (Size)	Does this memory store customer data?	Does this memory retain data when power is removed?	What is the purpose of this memory?	How is data input into this memory?	How is this memory write protected?
Real Time Clock (RTC) battery backed-up CMOS configuration memory (CMOS)	256 Bytes	No	Yes	Stores system date and time and limited keyboard controller data.	Using the F10 Setup utility or changing the Microsoft Windows date and time.	This memory is not write-protected. HP recommends password protecting the F10 Setup utility.
Controller (NIC) EEPROM	64 KBytes (not customer accessible)	No	Yes	Store NIC configuration and NIC firmware.	Using a utility from the NIC vendor that can be run from DOS.	A utility is required to write data to this memory and is available from NIC vendor. Writing data to this ROM in an inappropriate manner will

Non Volatile Memory Type	Amount (Size)	Does this memory store customer data?	Does this memory retain data when power is removed?	What is the purpose of this memory?	How is data input into this memory?	How is this memory write protected?
						render the NIC nonfunctional.
Keyboard ROM	64 KBytes (not customer accessible)	No	Yes	Stores firmware code (keyboard, mouse, & battery management).	Programmed at the factory. Code is updated when the system BIOS is updated.	A utility is required for writing data to this memory and is available on the HP website. Writing data to this ROM in an inappropriate manner can render the PC nonfunctional.
DIMM Serial Presence Detect (SPD) configuration data	256 Bytes per memory module, 128 Bytes programmable (not customer accessible)	No	Yes	Stores memory module information.	Programmed by the memory vendor.	Data cannot be written to this memory when the module is installed in a PC. The specific write protection method varies by memory vendor.
System BIOS	4 to 5 MBytes	Yes	Yes	Store system BIOS code and PC configuration data.	System BIOS code is programmed at the factory. Code is updated when the system BIOS is updated. Configuration data and settings are input using the F10 setup utility or a custom utility.	A utility is required for writing data to this memory and is available on the HP website. Writing data to this ROM in an inappropriate manner can render the PC nonfunctional.
Intel Management Engine Firmware (present only in models ending in a 'p' or 'w' or with Intel Centrino Pro technology)	1.5 or 5 MBytes	Yes	Yes	Stores Management Engine Code, Settings, Provisioning Data and iAMT third party data store.	Management Engine Code is programmed at the factory. Code is updated via Intel secure firmware update utility. Unique Provisioning Data can be entered at the factory or by an administrator using the Management Engine (MEBx) setup utility. The	The Intel chipset is configured to enforce hardware protection to block all direct read/write access to this area. An Intel utility is required for updating the firmware. Only firmware updates digitally signed by Intel can be applied using this utility.

Non Volatile Memory Type	Amount (Size)	Does this memory store customer data?	Does this memory retain data when power is removed?	What is the purpose of this memory?	How is data input into this memory?	How is this memory write protected?
					third party data store contents can populated by a remote management console or local applications registered by an administrator to have access to the space.	
Bluetooth flash	2 MBits	No	Yes	Stores Bluetooth configuration and firmware.	Programmed at the factory. Tools for writing data to this memory are not publicly available but can be obtained from the silicon vendor.	A utility is required for writing data to this memory and is made available through newer versions of the driver if the flash requires an upgrade.
802.11 WLAN EEPROM	4 KBytes to 8 KBytes	No	Yes	Stores configuration and calibration data.	Programmed at the factory. Tools for writing data to this memory are not made public.	A utility is required for writing data to this memory and is typically not made available to the public unless a firmware upgrade is necessary to address a unique issue.
Webcam	64 KBits	No	Yes	Store webcam configuration and firmware.	Using a utility from the device manufacturer that can be run from Windows.	A utility is required for writing data to this memory and is typically not made available to the public unless a firmware upgrade is necessary to address a unique issue.
Fingerprint reader	512 KBytes flash	Yes	Yes	Stores fingerprint templates.	By enrolling in HP ProtectTools Security Manager.	Only a digitally signed application can make the call to write to the flash.

Questions and answers

1. **How can the BIOS settings be restored (returned to default settings)?**

   a. Turn on or restart the computer and press F10 when prompted near the bottom of the display.

   b. Select **File**, then select **Restore defaults**.

   c. Follow the on-screen instructions.

   d. Select **File**, save changes and exit, then press Enter.

2. **What kind of configuration data is stored on the DIMM Serial Presence Detect (SPD) memory module? How would this data be written?**

   The DIMM SPD memory contains information about the memory module such as size, serial number, data width, speed/timing, voltage and thermal information. This information is written by the module manufacturer and stored on an EEPROM. This EEPROM cannot be written to when the memory module is installed in a PC. Third party tools do exist that can write to the EEPROM when the memory module is not installed in a PC. There are various third party tools available to read SPD memory.

3. **Does the "Firmware Hub for System BIOS" contain the BIOS program? Is this chip writable, and if so how?**

   The Firmware Hub does contain the BIOS program and is writable. A utility is required to perform the write function.

4. **In some PC systems, the Firmware Hub for System BIOS is a flash memory chip so that updates can be written by the customer. Is this true for these BIOS chips?**

   Yes, they are flash memory chips.

5. **What is meant by "Restore the nonvolatile memory found in Intel-based system boards?"**

   This relates to clearing the Real Time Clock (RTC) CMOS memory that contains PC configuration data.

6. **Does resetting the CMOS configuration memory return the PC back to factory defaults?**

   The process of resetting the CMOS will return certain system settings to factory default but will not reset many of the system data and configuration defaults to their default settings. To return these system data and configuration defaults to default settings, refer to question and answer 1 and follow the instructions for returning the BIOS settings to factory defaults.

9 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 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
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

Country/region	Accredited agency	Applicable note number
Sweden	SEMKO	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.

10 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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