HP Stream Notebook PC
(model numbers 11-d000 through 11-d099)

Maintenance and Service Guide
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HP authorized service providers only.

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Product notice

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

Not all features are available in all editions of Windows 8. 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.

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 Stream Notebook PC (model numbers 11-d000 through 11-d099)
Processor	Intel® Celeron™ N2840 2.16-GHz (SC turbo up to 2.58-GHz) dual core processor (1333-MHz FSB, 1.0-MB L2 cache, 4.5 W) integrated system-on-chip (SoC) Intel Celeron N2830 2.16-GHz (SC turbo up to 2.41-GHz) dual core processor (1333-MHz FSB, 1.0-MB L2 cache, 4.5 W) integrated SoC
Chipset	Integrated SoC platform controller hub (OCH)
Graphics	**Internal graphics**: Unified memory architecture Intel HD Graphics Support for HD decode, DX11, and HDMI
Panel	11.6-in, high-definition (HD), white light-emitting diode (WLED), AntiGlare (1366×768), flat (3.6 mm), SVA, low-voltage differential signalling (LVDS), 200 nits typical brightness
Memory	Support for DDR3L 1333-MHz single channel (DDR3L 1600-MHz downgrade to DDR3L 1333-MHz) Supports up to 2048-MB maximum on-board system memory (256-MB × 16 × 4 pieces)
Storage	Support for 32-GB embedded MultiMedia Controller (eMMC) version 5.0
Optical drive	DVD±RW SuperMulti Double-Layer Drive (9.5mm tray load, SATA, external USB optical drive)
Audio and video	HP TrueVision HD slim webcam, 1280×720 by 30 frames per second; fixed (no tilt), with activity LED Dual digital microphone with appropriate echo-cancellation, noise-suppression software Two speakers DTS Studio Sound audio
Wireless	Integrated wireless local area network (WLAN) options by way of wireless module Two built-in WLAN antennas Support for the following WLAN modules: • Intel Dual Band Wireless-AC 3160 802.11 ac 1×1 WiFi + Bluetooth 4.0 Combo Adapter • Realtek RTL8723BE 802.11b/g/n 1×1 Wi-Fi + Bluetooth 4.0 Combo Adapter
	Integrated wireless wide area network (WWAN) options by way of wireless module Two built-in WWAN antennas SIM card slot for security (user-accessible) Support for the HP hs3110 HSPA+ Mobile Broadband Module
External media cards	HP 2-in-1 multiformat Digital Media Reader Slot with push-push technology. Reads data from and writes data to digital memory cards such as Secure Digital (SD™).
Ports	• AC adapter, HP Smart • Audio-in (mono microphone)/audio-out (stereo headphone) combo jack • HDMI v1.4 supporting up to 1920×1080 @ 60Hz

Category	Description
Ports *(continued)*	• RJ-45 (Ethernet) • USB: one USB 3.0 port, 2 USB 2.0 ports
Keyboard/pointing devices	97%-size, textured, island-style, keyboard **Touchpad requirements:** Multitouch gestures enabled Taps enabled as default Support for Microsoft® Windows® 8 Modern trackpad gestures
Power requirements	Support for a 3-cell, 37-WHr, 3.25-AHr battery Support for a 65-W or 45-W AC adapter with a 1.0-M power cord
Security	Trusted platform module (TPM) version 2.0 (Discrete TPM) Security cable lock
Operating system	**Preinstalled:** Windows 8.1
Serviceability	**End user replaceable parts:** AC adapter

2 External component identification

Finding your hardware and software information

Locating hardware

To find out what hardware is installed on your computer:

1. From the Start screen, type `control panel`, and then select **Control Panel**.
2. Select **System and Security**, select **System**, and then click **Device Manager** in the left column.

   A list displays all the devices installed on your computer.

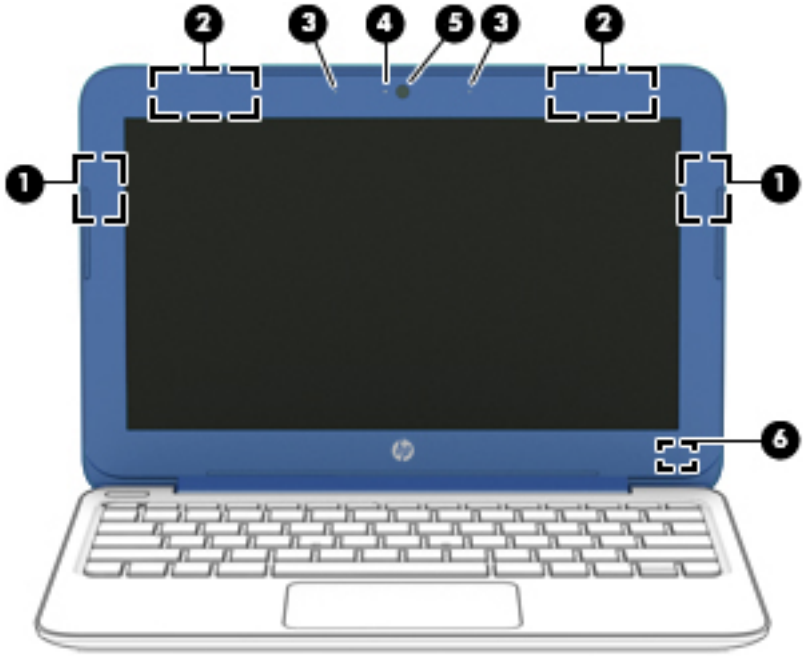
To find out information about system hardware components and the system BIOS version number, press fn +esc

Locating software

To find out what software is installed on your computer:

- From the Start screen, click the down arrow in the lower-left corner of the screen.

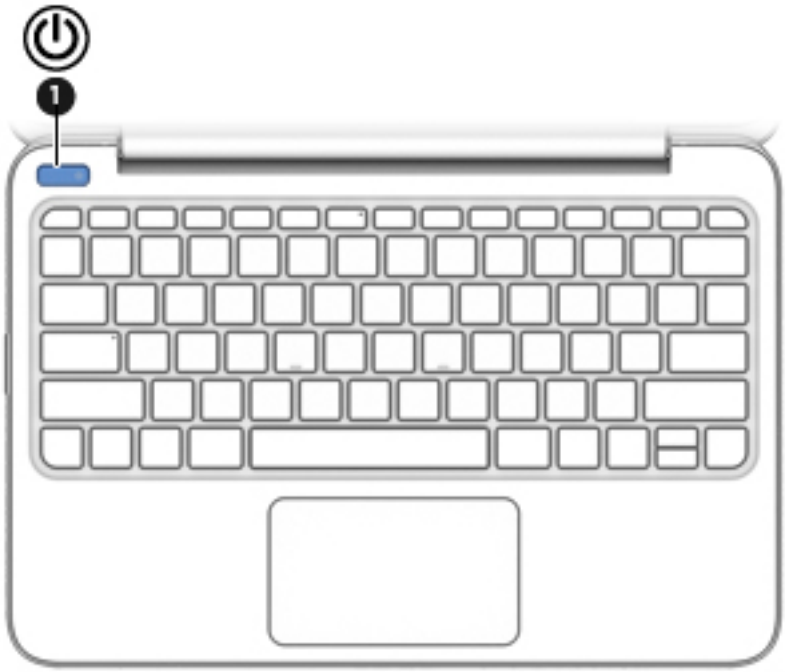
Display



Item	Component	Description
(1)	WLAN antennas (2)*	Send and receive wireless signals.
(2)	WWAN antennas (2)*	Send and receive wireless signals.
(3)	Internal microphones	Record sound.
(4)	Webcam light	On: The webcam is in use.
(5)	Webcam	Records video and captures photographs. Some models allow you to video conference and chat online using streaming video. To use the webcam, from the Start screen, type `camera`, and then select **Camera** from the list of applications.
(6)	Internal display switch	Turns off the display and initiates Sleep if the display is closed while the power is on. **NOTE:** The internal display switch is not visible on the outside of the computer.

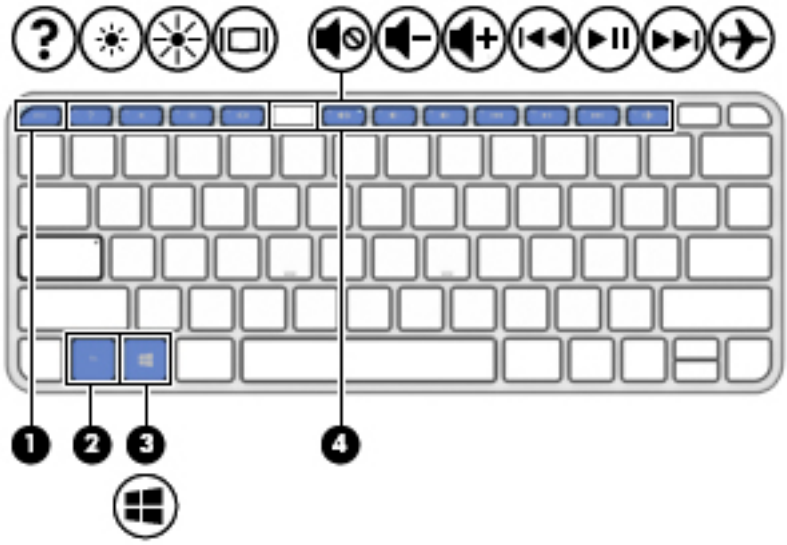
*The antennas are not visible from the outside of the computer. For optimal transmission, keep the areas immediately around the antennas free from obstructions. For wireless regulatory notices, see the section of the *Regulatory, Safety, and Environmental Notices* that apply to your country or region.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

Buttons



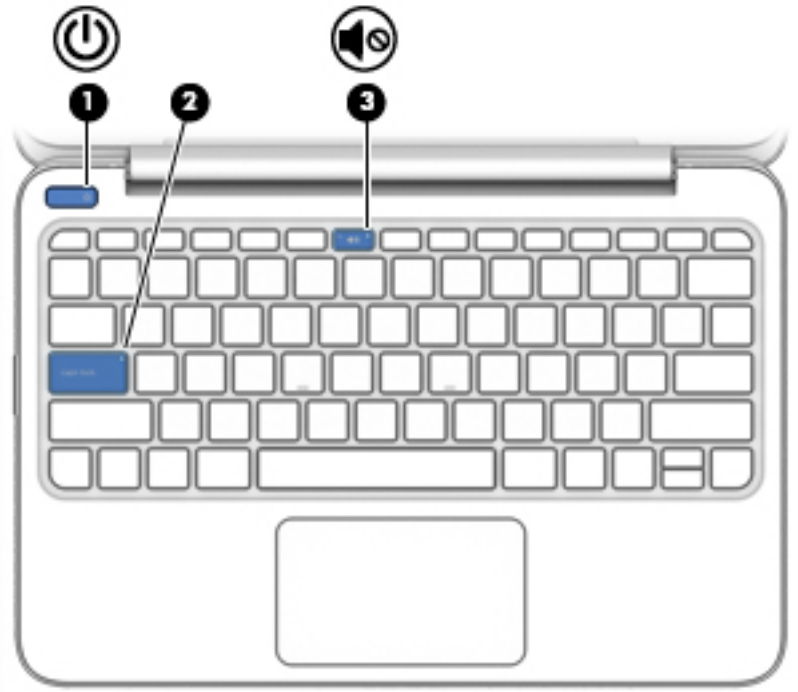
Item	Component	Description
(1)	Power button	• When the computer is off, press the button to turn on the computer. • When the computer is on, press the button briefly to initiate Sleep. • When the computer is in Hibernation, press the button briefly to exit Hibernation. **CAUTION:** Pressing and holding down the power button will result in the loss of unsaved information. If the computer has stopped responding and Windows shutdown procedures are ineffective, press and hold the power button for at least 5 seconds to turn off the computer. 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. -or- From the Windows desktop, right-click the Start button, and then select **Power Options**.

Keys



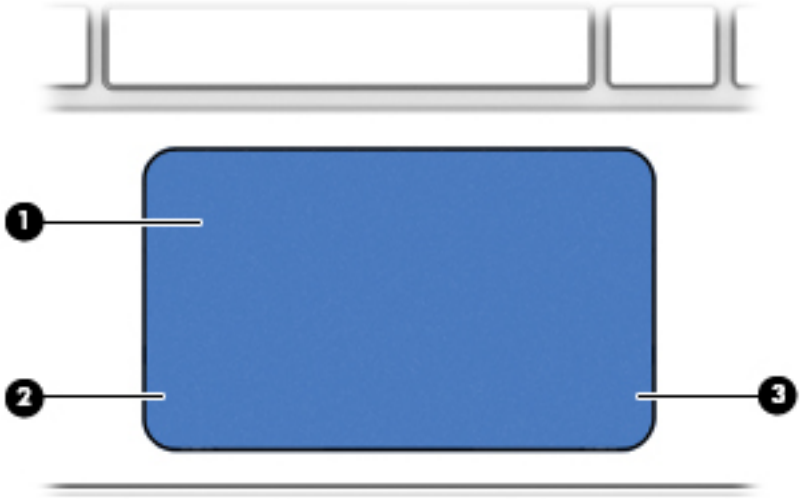
Item	Component	Description
(1)	esc key	Displays system information when pressed in combination with the fn key.
(2)	fn key	Executes frequently used system functions when pressed in combination with the esc key, or on select models, the spacebar.
(3)	Windows key	Returns you to the Start screen from an open app or the Windows desktop. **NOTE:** Pressing the Windows key again will return you to the previous screen.
(4)	Action keys	Execute frequently used system functions. **NOTE:** On select models, the f5 action key turns the radiance backlight keyboard off or on.

Lights



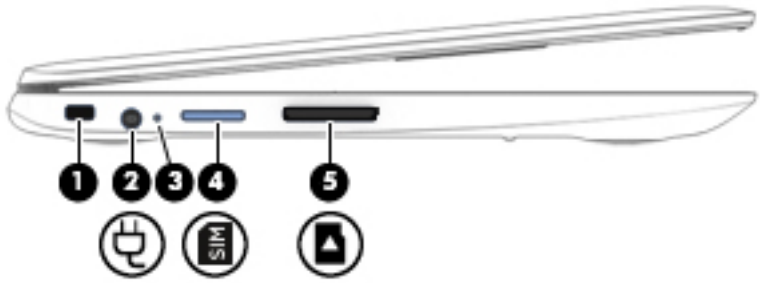
Item	Component	Description
(1)	Power light	• On: The computer is on. • Blinking: The computer is in the Sleep state, a power-saving state. The computer shuts off power to the display and other unneeded components. • Off: The computer is off or in Hibernation. Hibernation is a power-saving state that uses the least amount of power.
(2)	Caps lock light	On: Caps lock is on, which switches the keys to all capital letters.
(3)	Mute light	• Amber: Computer sound is off. • Off: Computer sound is on.

TouchPad



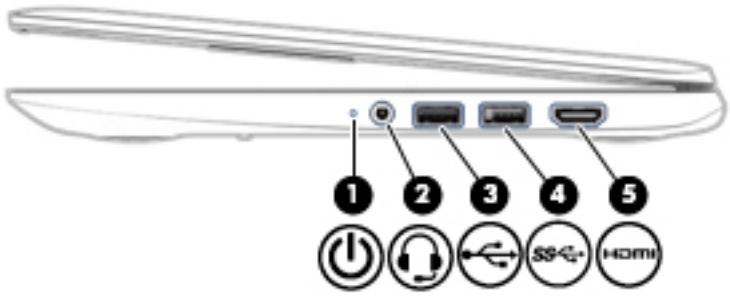
Item	Component	Description
(1)	Touchpad zone	Reads your finger gestures to move the pointer or activate items on the screen. **NOTE:** The TouchPad also supports edge-swipe gestures.
(2)	Left TouchPad button	Functions like the left button on an external mouse.
(3)	Right TouchPad button	Functions like the right button on an external mouse.

Left side



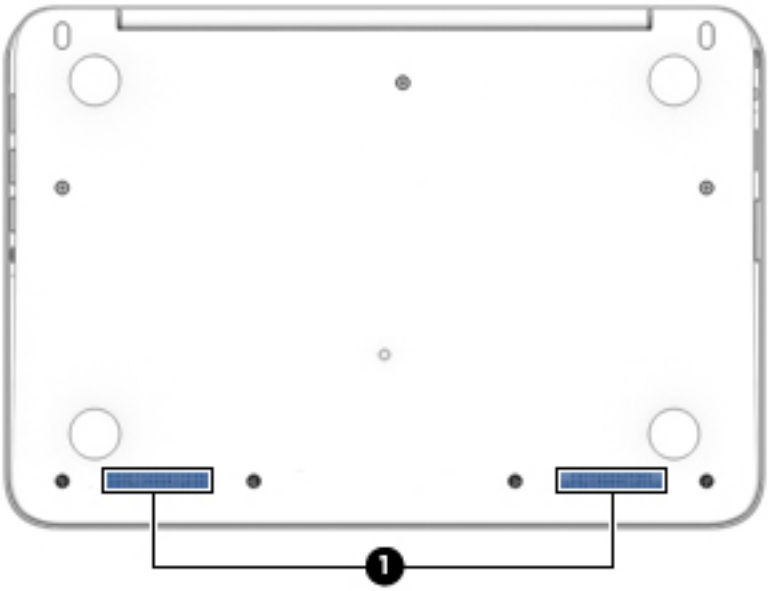
Item	Component	Description
(1)	Security cable slot	Attaches an optional security cable to the computer. **NOTE:** The security cable is designed to act as a deterrent, but it may not prevent the computer from being mishandled or stolen.
(2)	Power connector	Connects an AC adapter.
(3)	AC adapter light	• White: The AC adapter is connected and the battery is charged. • Amber: The AC adapter is connected and the battery is charging. • Off: The computer is using battery power.
(4)	SIM card slot (select models only)	A slot for a SIM card.
(5)	Memory card reader	Reads optional memory cards that store, manage, share and access information. To insert a card: Hold the card label-side up, with the connectors facing the slot, insert the card into the slot, and then push in on the card until it is firmly seated. To remove a card: Press in on the card until it pops out.

Right side



Item	Component	Description
(1)	Power light	• On: The computer is on. • Blinking: The computer is in the Sleep state, a power-saving state. The computer shuts off power to the display and other unneeded components. • Off: The computer is off or in Hibernation. Hibernation is a power-saving state that uses the least amount of power.
(2)	Audio-out (headphone) jack/Audio-in (microphone) jack	Connects optional powered stereo speakers, headphones, earbuds, a headset, or a television audio cable. Also connects an optional headset microphone. This jack does not support optional microphone-only devices. **WARNING!** To reduce the risk of personal injury, adjust the volume before putting on headphones, earbuds, or a headset. For additional safety information, see the *Regulatory, Safety, and Environmental Notices*. To access this guide, from the Start screen, type `support`, and then select the **HP Support Assistant** app. **NOTE:** When a device is connected to the jack, the computer speakers are disabled. **NOTE:** Be sure that the device cable has a 4-conductor connector that supports both audio-out (headphone) and audio-in (microphone).
(3)	USB 2.0 port	Connects an optional USB device, such as a keyboard, mouse, external drive, printer, scanner, or USB hub.
(4)	USB 3.0 port	Connects an optional USB device, such as a keyboard, mouse, external drive, printer, scanner, or USB hub.
(5)	HDMI port	Connects an optional video or audio device, such as a high-definition television, any compatible digital or audio component, or a high-speed HDMI device.

Bottom



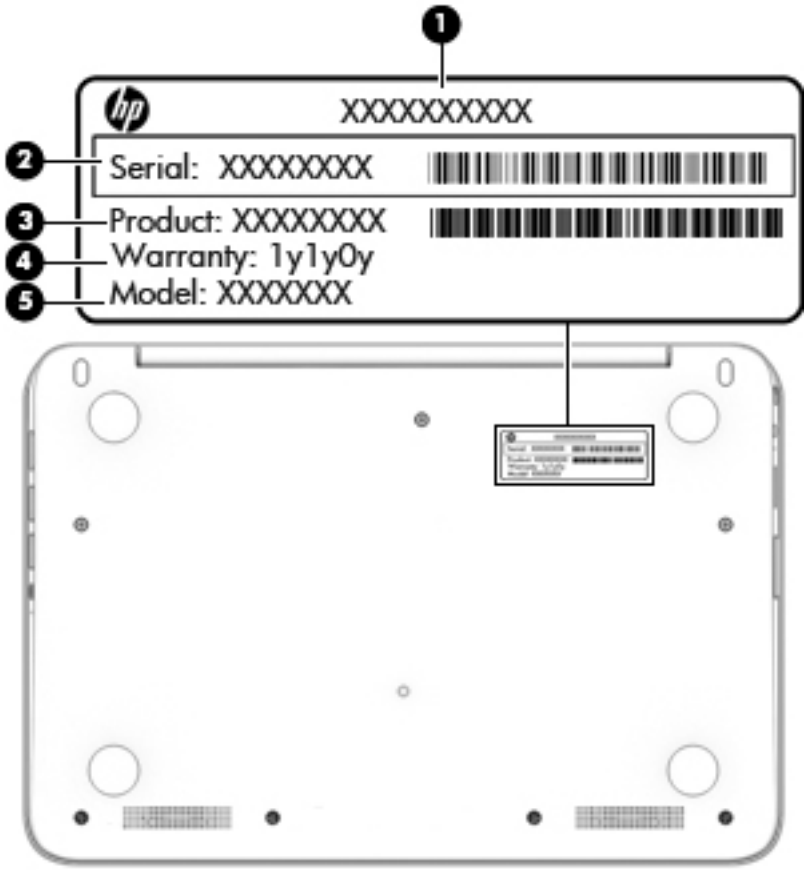
Item	Component	Description
(1)	Speakers (2)	Produce sound.

3 Illustrated parts catalog

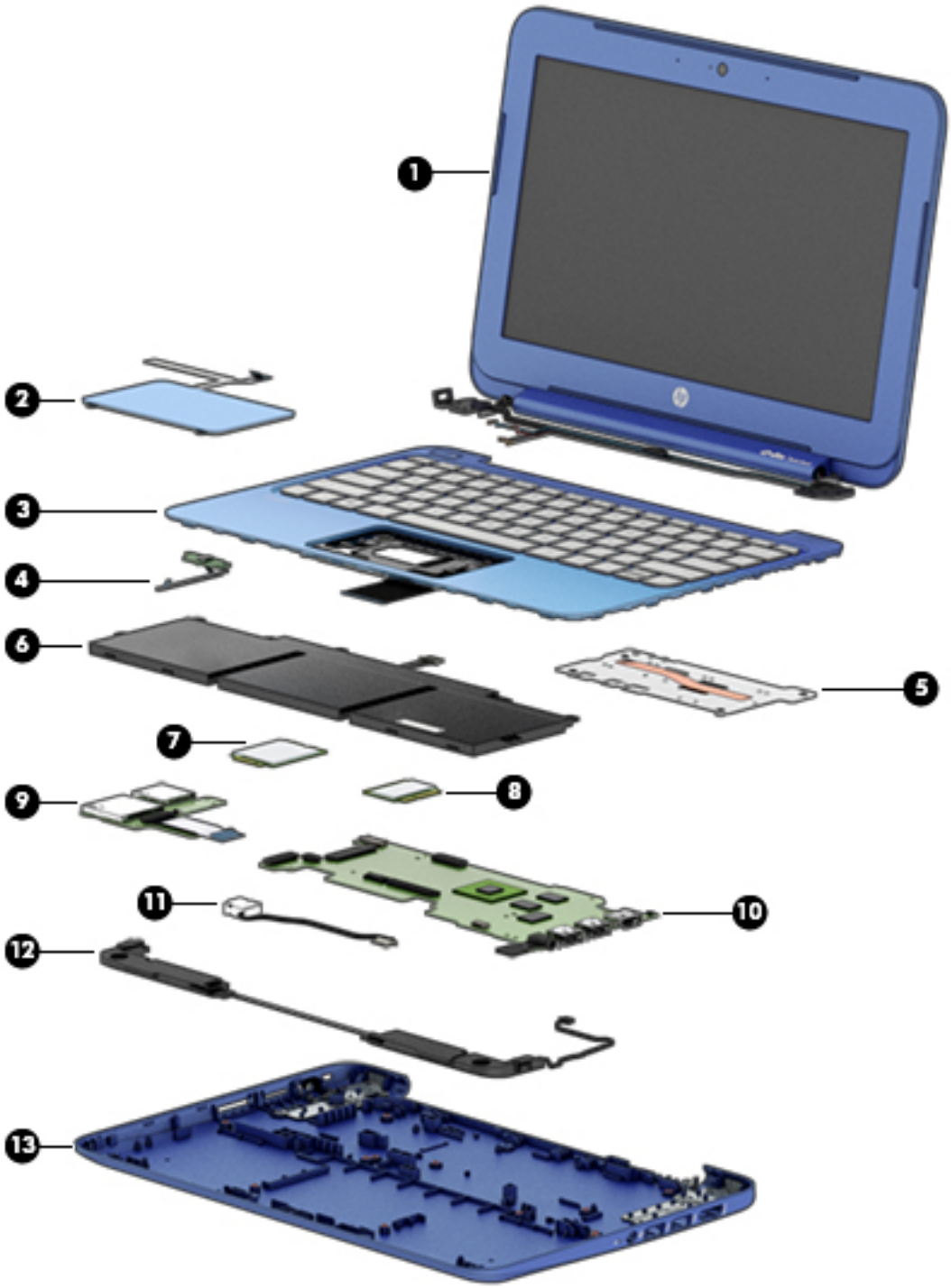
NOTE: HP continually improves and changes product parts. For complete and current information on supported parts for your computer, go to http://partsurfer.hp.com, select your country or region, and then follow the on-screen instructions.

Locating the service tag information

The product name **(1)**, serial number **(2)**, product number **(3)**, warranty information **(4)**, and model number **(5)** are located on the bottom of the computer. This information may be needed when travelling internationally or contacting support.



Computer major components



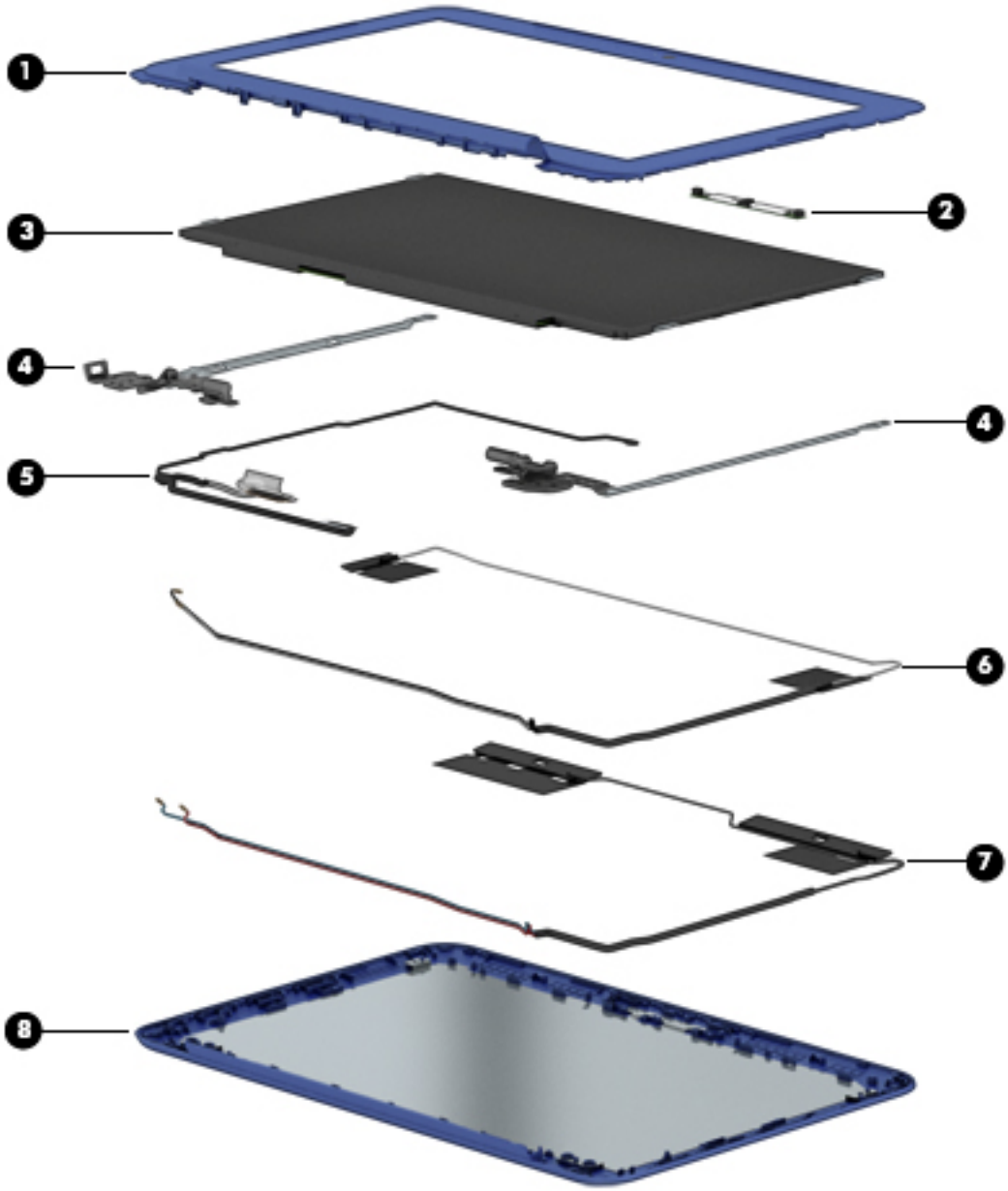
Item	Component	Spare part number
(1)	**Display assembly**: The display assembly is spared at the subcomponent level only. For display assembly spare part information, see Display assembly subcomponents on page 17.	
(2)	**TouchPad** (includes cable and double-sided adhesive):	
	In horizon blue finish	792905-001

Item	Component	Spare part number
	In orchid magenta finish	797210-001
(3)	**Keyboard/top cover** (includes cable):	
	In horizon blue finish:	
	For use in Belgium	792906-A41
	For use in Bulgaria	792906-261
	For use in Canada	792906-DB1
	For use in the Czech Republic and Slovakia	792906-FL1
	For use in Denmark, Finland, and Norway	792906-DH1
	For use in France	792906-051
	For use in Germany	792906-041
	For use in Greece	792906-151
	For use in Hungary	792906-211
	For use in Israel	792906-BB1
	For use in Italy	792906-061
	For use in Japan	792906-291
	For use in the Netherlands	792906-B31
	For use in Portugal	792906-131
	For use in Romania	792906-271
	For use in Russia	792906-251
	For use in Saudi Arabia	792906-171
	For use in Slovenia	792906-BA1
	For use in South Korea	792906-AD1
	For use in Spain	792906-071
	For use in Switzerland	792906-BG1
	For use in Taiwan	792906-AB1
	For use in Thailand	792906-281
	For use in Turkey	792906-141
	For use in the United Kingdom and Singapore	792906-031
	For use in the United States	792906-001
	In orchid magenta finish:	
	For use in Belgium	793836-A41
	For use in Bulgaria	793836-261
	For use in Canada	793836-DB1
	For use in the Czech Republic and Slovakia	793836-FL1

Item	Component	Spare part number
	For use in Denmark, Finland, and Norway	793836-DH1
	For use in France	793836-051
	For use in Germany	793836-041
	For use in Greece	793836-151
	For use in Hungary	793836-211
	For use in Israel	793836-BB1
	For use in Italy	793836-061
	For use in Japan	793836-291
	For use in the Netherlands	793836-B31
	For use in Portugal	793836-131
	For use in Romania	793836-271
	For use in Russia	793836-251
	For use in Saudi Arabia	793836-171
	For use in Slovenia	793836-BA1
	For use in South Korea	793836-AD1
	For use in Spain	793836-071
	For use in Switzerland	793836-BG1
	For use in Taiwan	793836-AB1
	For use in Thailand	793836-281
	For use in Turkey	793836-141
	For use in the United Kingdom and Singapore	793836-031
	For use in the United States	793836-001
(4)	**Power button board** (includes cable and double-sided adhesive)	792895-001
(5)	**Heat sink** (includes replacement thermal material)	792910-001
(6)	**Battery** (3-cell, 37-WHr, 3.25-AHr, Li-ion; includes cable)	787521-005
(7)	**HP hs3110 HSPA+ Mobile Broadband Module**	748599-005
(8)	**WLAN module:**	
	Intel Dual Band Wireless-AC 3160 802.11 ac 1×1 WiFi + Bluetooth 4.0 Combo Adapter	784638-005
	Realtek RTL8723BE 802.11b/g/n 1×1 Wi-Fi + Bluetooth 4.0 Combo Adapter	753077-005
(9)	**Connector board** (includes cable and double-sided adhesive):	
	For use only on computer models equipped with WWAN capability (includes cable, SD Card Reader slot, SIM card slot, WWAN slot, and double-sided adhesive)	792894-001
	For use only on computer models not equipped with WWAN capability (includes cable, SD Card Reader slot, and double-sided adhesive)	795899-001

Item	Component	Spare part number
(10)	**System board** equipped with a graphics subsystem with UMA memory, 2.0-GB of system memory, and 32-GB of eMMC primary storage (includes replacement thermal material):	
	Equipped with an Intel Celeron N2840 2.16-GHz (SC turbo up to 2.58-GHz) dual core processor (1333-MHz FSB, 1.0-MB L2 cache, 4.5 W) and the Windows 8 operating system	792897-501
	Equipped with an Intel Celeron N2840 2.16-GHz (SC turbo up to 2.58-GHz) dual core processor (1333-MHz FSB, 1.0-MB L2 cache, 4.5 W), and a non-Windows 8 operating system	792897-001
	Equipped with an Intel Celeron N2830 2.16-GHz (SC turbo up to 2.41-GHz) dual core processor (1333-MHz FSB, 1.0-MB L2 cache, 4.5 W) and the Windows 8 operating system	792898-501
	Equipped with an Intel Celeron N2830 2.16-GHz (SC turbo up to 2.41-GHz) dual core processor (1333-MHz FSB, 1.0-MB L2 cache, 4.5 W), and a non-Windows 8 operating system	792898-001
(11)	**Power connector cable**	787922-001
(12)	**Speakers** (includes left and right speakers and cables)	792913-001
(13)	**Base enclosure:**	
	In horizon blue finish for use only on computer models equipped with WWAN capability	792888-001
	In horizon blue finish for use only on computer models not equipped with WWAN capability	792886-001
	In orchid magenta for use only on computer models equipped with WWAN capability	792889-001
	In orchid magenta finish for use only on computer models not equipped with WWAN capability	792887-001
	Rubber Kit (not illustrated, includes 2 display bezel screw covers, 4 rubber feet, and 2 rubber screw covers)	792911-001

Display assembly subcomponents



Item	Description	Spare part number
(1)	**Display bezel:**	
	In horizon blue finish	792890-001
	In orchid magenta finish	792981-001
(2)	**Webcam/microphone module** (includes double-sided adhesive)	795114-001
(3)	**Display panel (11.6-in, AG [1366×768], HD, SVA, WLED)**	792896-001
(4)	**Display Hinge Kit**	792893-001
(5)	**Display panel cable** (includes webcamera/microphone module cable)	792892-001

Item	Description	Spare part number
(6)	**WLAN antenna** (includes antenna cables, transceivers, and double-sided adhesive)	792882-001
(7)	**WWAN antenna** (includes antenna cables, transceivers, and double-sided adhesive)	792883-001
(8)	**Display enclosure**:	
	In horizon blue finish	792884-001
	In orchid magenta finish	792885-001

Miscellaneous parts

Component	Spare part number
AC adapter:	
65-W HP Smart AC adapter (non-PFC, EM, 4.5-mm)	714657-001
45-W HP Smart AC adapter (non-PFC, RC, 4.5-mm)	741727-001
HP HDMI-to-VGA adapter	701943-001
HP USB external DVD-RW Drive	747080-001
Power cord (3-pin, 1.0-meter, black):	
For use in Australia	755530-011
For use in Denmark	755530-081
For use in Europe	755530-021
For use in India	755530-D61
For use in Israel	755530-BB1
For use in Japan	755530-291
For use in North America	755530-001
For use in the People's Republic of China	755530-AA1
For use in South Korea	755530-AD1
For use in Switzerland	755530-111
For use in Taiwan	755530-AB1
For use in Thailand	755530-201
For use in the United Kingdom and Singapore	755530-031
Rubber Kit (includes 2 display bezel screw covers, 4 rubber feet, and 2 rubber screw covers)	792911-001
Screw Kit	792912-001

Sequential part number listing

Spare part number	Description
539614-001	RJ45-to-USB adapter
701943-001	HDMI-to-VGA adapter
714657-001	65-W HP Smart AC adapter (non-PFC, EM, 4.5-mm)
741727-001	45-W HP Smart AC adapter (non-PFC, RC, 4.5-mm)
747080-001	HP USB external DVD-RW Drive
748599-005	HP hs3110 HSPA+ Mobile Broadband Module
753077-005	Realtek RTL8723BE 802.11b/g/n 1×1 Wi-Fi + Bluetooth 4.0 Combo Adapter
755530-001	Power cord for use in North America (3-pin, 1.0-meter, black)
755530-011	Power cord for use in Australia (3-pin, 1.0-meter, black)
755530-021	Power cord for use in Europe (3-pin, 1.0-meter, black)
755530-031	Power cord for use in the United Kingdom and Singapore (3-pin, 1.0-meter, black)
755530-081	Power cord for use in Denmark (3-pin, 1.0-meter, black)
755530-111	Power cord for use in Switzerland (3-pin, 1.0-meter, black)
755530-201	Power cord for use in Thailand (3-pin, 1.0-meter, black)
755530-291	Power cord for use in Japan (3-pin, 1.0-meter, black)
755530-AA1	Power cord for use in the People's Republic of China (3-pin, 1.0-meter, black)
755530-AB1	Power cord for use in Taiwan (3-pin, 1.0-meter, black)
755530-AD1	Power cord for use in South Korea (3-pin, 1.0-meter, black)
755530-BB1	Power cord for use in Israel (3-pin, 1.0-meter, black)
755530-D61	Power cord for use in India (3-pin, 1.0-meter, black)
784638-005	Intel Dual Band Wireless-AC 3160 802.11 ac 1×1 WiFi + Bluetooth 4.0 Combo Adapter
787521-005	Battery (3-cell, 37-WHr, 3.25-AHr, Li-ion; includes cable)
787922-001	Power connector cable
792822-001	WLAN antenna (includes left and right WLAN antenna cables, transceivers, and double-sided adhesive)
792883-001	WWAN antenna (includes left and right WWAN antenna cables, transceivers, and double-sided adhesive)
792884-001	Display enclosure in horizon blue finish
792885-001	Display enclosure in orchid magenta finish
792886-001	Base enclosure in horizon blue finish for use only on computer models not equipped with WWAN capability
792887-001	Base enclosure in orchid magenta finish for use only on computer models not equipped with WWAN capability
792888-001	Base enclosure in horizon blue finish for use only on computer models equipped with WWAN capability
792889-001	Base enclosure in orchid magenta for use only on computer models equipped with WWAN capability
792890-001	Display bezel in horizon blue finish

Spare part number	Description
792891-001	Display bezel in orchid magenta finish
792892-001	Display panel cable
792893-001	Display Hinge Kit (includes left and right display hinges)
792894-001	Connector board for use only on computer models equipped with WWAN capability (includes cable, SD Card Reader slot, SIM card slot, WWAN slot, and double-sided adhesive)
792895-001	Power button board (includes cable and double-sided adhesive)
792896-001	Display panel (11.6-in, AG [1366×768], HD, SVA, WLED)
792897-001	System board equipped with an Intel Celeron N2840 2.16-GHz (SC turbo up to 2.58-GHz) dual core processor (1333-MHz FSB, 1.0-MB L2 cache, 4.5 W), a graphics subsystem with UMA memory, 2.0-GB of system memory, 32-GB of eMMC primary storage, and a non-Windows 8 operating system (includes replacement thermal material)
792897-501	System board equipped with an Intel Celeron N2840 2.16-GHz (SC turbo up to 2.58-GHz) dual core processor (1333-MHz FSB, 1.0-MB L2 cache, 4.5 W), a graphics subsystem with UMA memory, 2.0-GB of system memory, 32-GB of eMMC primary storage, and the Windows 8 Standard operating system (includes replacement thermal material)
792898-001	System board equipped with an Intel Celeron N2830 2.16-GHz (SC turbo up to 2.41-GHz) dual core processor (1333-MHz FSB, 1.0-MB L2 cache, 4.5 W), a graphics subsystem with UMA memory, 2.0-GB of system memory, 32-GB of eMMC primary storage, and a non-Windows 8 operating system (includes replacement thermal material)
792898-501	System board equipped with an Intel Celeron N2830 2.16-GHz (SC turbo up to 2.41-GHz) dual core processor (1333-MHz FSB, 1.0-MB L2 cache, 4.5 W), a graphics subsystem with UMA memory, 2.0-GB of system memory, 32-GB of eMMC primary storage, and the Windows 8 Standard operating system (includes replacement thermal material)
792905-001	TouchPad in horizon blue finish (includes cable and double-sided adhesive)
792906-001	Keyboard/top cover in horizon blue finish for use in the United States (includes keyboard cable)
792906-031	Keyboard/top cover in horizon blue finish for use in the United Kingdom and Singapore (includes keyboard cable)
792906-041	Keyboard/top cover in horizon blue finish for use in Germany (includes keyboard cable)
792906-051	Keyboard/top cover in horizon blue finish for use in France (includes keyboard cable)
792906-061	Keyboard/top cover in horizon blue finish for use in Italy (includes keyboard cable)
792906-071	Keyboard/top cover in horizon blue finish for use in Spain (includes keyboard cable)
792906-131	Keyboard/top cover in horizon blue finish for use in Portugal (includes keyboard cable)
792906-141	Keyboard/top cover in horizon blue finish for use in Turkey (includes keyboard cable)
792906-151	Keyboard/top cover in horizon blue finish for use in Greece (includes keyboard cable)
792906-171	Keyboard/top cover in horizon blue finish for use in Saudi Arabia (includes keyboard cable)
792906-211	Keyboard/top cover in horizon blue finish for use in Hungary (includes keyboard cable)
792906-251	Keyboard/top cover in ocean turquoise finish for use in Russia (includes keyboard cable)
792906-261	Keyboard/top cover in horizon blue finish for use in Bulgaria (includes keyboard cable)
792906-271	Keyboard/top cover in horizon blue finish for use in Romania (includes keyboard cable)
792906-281	Keyboard/top cover in horizon blue finish for use in Thailand (includes keyboard cable)
792906-291	Keyboard/top cover in horizon blue finish for use in Japan (includes keyboard cable)

Spare part number	Description
792906-A41	Keyboard/top cover in horizon blue finish for use in Belgium (includes keyboard cable)
792906-AB1	Keyboard/top cover in horizon blue finish for use in Taiwan (includes keyboard cable)
792906-AD1	Keyboard/top cover in horizon blue finish for use in South Korea (includes keyboard cable)
792906-B31	Keyboard/top cover in horizon blue finish for use in the Netherlands (includes keyboard cable)
792906-BA1	Keyboard/top cover in horizon blue finish for use in the Slovenia (includes keyboard cable)
792906-BB1	Keyboard/top cover in horizon blue finish for use in Israel (includes keyboard cable)
792906-BG1	Keyboard/top cover in horizon blue finish for use in Switzerland (includes keyboard cable)
792906-DB1	Keyboard/top cover in horizon blue finish for use in Canada (includes keyboard cable)
792906-DH1	Keyboard/top cover in horizon blue finish for use in Denmark, Finland, and Norway (includes keyboard cable)
792906-FL1	Keyboard/top cover in horizon blue finish for use in the Czech Republic and Slovakia (includes keyboard cable)
792910-001	Heat sink (includes replacement thermal material)
792911-001	Rubber Kit (includes 2 display bezel screw covers, 4 rubber feet, and 2 rubber screw covers)
792912-001	Screw Kit
792913-001	Speakers (includes left and right speakers and cables)
793836-001	Keyboard/top cover in horizon blue finish for use in the United States (includes keyboard cable)
793836-031	Keyboard/top cover in horizon blue finish for use in the United Kingdom and Singapore (includes keyboard cable)
793836-041	Keyboard/top cover in horizon blue finish for use in Germany (includes keyboard cable)
793836-051	Keyboard/top cover in horizon blue finish for use in France (includes keyboard cable)
793836-061	Keyboard/top cover in horizon blue finish for use in Italy (includes keyboard cable)
793836-071	Keyboard/top cover in horizon blue finish for use in Spain (includes keyboard cable)
793836-131	Keyboard/top cover in horizon blue finish for use in Portugal (includes keyboard cable)
793836-141	Keyboard/top cover in horizon blue finish for use in Turkey (includes keyboard cable)
793836-151	Keyboard/top cover in horizon blue finish for use in Greece (includes keyboard cable)
793836-171	Keyboard/top cover in horizon blue finish for use in Saudi Arabia (includes keyboard cable)
793836-211	Keyboard/top cover in horizon blue finish for use in Hungary (includes keyboard cable)
793836-251	Keyboard/top cover in ocean turquoise finish for use in Russia (includes keyboard cable)
793836-261	Keyboard/top cover in horizon blue finish for use in Bulgaria (includes keyboard cable)
793836-271	Keyboard/top cover in horizon blue finish for use in Romania (includes keyboard cable)
793836-281	Keyboard/top cover in horizon blue finish for use in Thailand (includes keyboard cable)
792906-291	Keyboard/top cover in horizon blue finish for use in Japan (includes keyboard cable)
792906-A41	Keyboard/top cover in horizon blue finish for use in Belgium (includes keyboard cable)
792906-AB1	Keyboard/top cover in horizon blue finish for use in Taiwan (includes keyboard cable)
793836-AD1	Keyboard/top cover in horizon blue finish for use in South Korea (includes keyboard cable)

Spare part number	Description
793836-B31	Keyboard/top cover in horizon blue finish for use in the Netherlands (includes keyboard cable)
793836-BA1	Keyboard/top cover in horizon blue finish for use in the Slovenia (includes keyboard cable)
793836-BB1	Keyboard/top cover in horizon blue finish for use in Israel (includes keyboard cable)
793836-BG1	Keyboard/top cover in horizon blue finish for use in Switzerland (includes keyboard cable)
793836-DB1	Keyboard/top cover in horizon blue finish for use in Canada (includes keyboard cable)
793836-DH1	Keyboard/top cover in horizon blue finish for use in Denmark, Finland, and Norway (includes keyboard cable)
793836-FL1	Keyboard/top cover in horizon blue finish for use in the Czech Republic and Slovakia (includes keyboard cable)
795114-001	Webcam/microphone module
795899-001	Connector board for use only on computer models not equipped with WWAN capability (includes cable, SD Card Reader slot, and double-sided adhesive)
797210-001	TouchPad in orchid magenta finish (includes cable and double-sided adhesive)

4 Removal and replacement preliminary requirements

Tools required

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

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

Service considerations

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

NOTE: As you remove each subassembly from the computer, 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 computer, be sure that cables are placed in their proper locations during the reassembly process. Improper cable placement can damage the computer.

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

Drive handling

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

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

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

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

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

Avoid dropping drives from any height onto any surface.

After removing drive, place it in a static-proof bag.

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

Avoid exposing a drive to temperature extremes or liquids.

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

Grounding guidelines

Electrostatic discharge damage

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

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

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

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

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

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

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

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

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

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

Typical electrostatic voltage levels			
	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 computerop 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

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.

Component replacement procedures

There are as many as 49 screws that must be removed, replaced, and/or loosened when servicing the computer. Make special note of each screw size and location during removal and replacement.

Keyboard/top cover

NOTE: The keyboard/top cover spare part kit includes the keyboard cable.

Description	Spare part number	Description	Spare part number
Keyboard/top cover in horizon blue finish:			
For use in Belgium	792906-A41	For use in Portugal	792906-131
For use in Bulgaria	792906-261	For use in Romania	792906-271
For use in Canada	792906-DB1	For use in Russia	792906-251
For use in the Czech Republic and Slovakia	792906-FL1	For use in Saudi Arabia	792906-171
For use in Denmark, Finland, and Norway	792906-DH1	For use in Slovenia	792906-BA1
For use in France	792906-051	For use in South Korea	792906-AD1
For use in Germany	792906-041	For use in Spain	792906-071
For use in Greece	792906-151	For use in Switzerland	792906-BG1
For use in Hungary	792906-211	For use in Taiwan	792906-AB1
For use in Israel	792906-BB1	For use in Thailand	792906-281
For use in Italy	792906-061	For use in Turkey	792906-141
For use in Japan	792906-291	For use in the United Kingdom and Singapore	792906-031
For use in the Netherlands	792906-B31	For use in the United States	792906-001
Keyboard/top cover in orchid magenta finish:			
For use in Belgium	793836-A41	For use in Portugal	793836-131
For use in Bulgaria	793836-261	For use in Romania	793836-271
For use in Canada	793836-DB1	For use in Russia	793836-251

Description	Spare part number	Description	Spare part number
For use in the Czech Republic and Slovakia	793836-FL1	For use in Saudi Arabia	793836-171
For use in Denmark, Finland, and Norway	793836-DH1	For use in Slovenia	793836-BA1
For use in France	793836-051	For use in South Korea	793836-AD1
For use in Germany	793836-041	For use in Spain	793836-071
For use in Greece	793836-151	For use in Switzerland	793836-BG1
For use in Hungary	793836-211	For use in Taiwan	793836-AB1
For use in Israel	793836-BB1	For use in Thailand	793836-281
For use in Italy	793836-061	For use in Turkey	793836-141
For use in Japan	793836-291	For use in the United Kingdom and Singapore	793836-031
For use in the Netherlands	793836-B31	For use in the United States	793836-001

Before removing the disassembling the computer, follow these steps:

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

NOTE: When replacing the keyboard/top cover, be sure that the following components are removed from the defective keyboard/top cover and installed on the replacement keyboard/top cover:

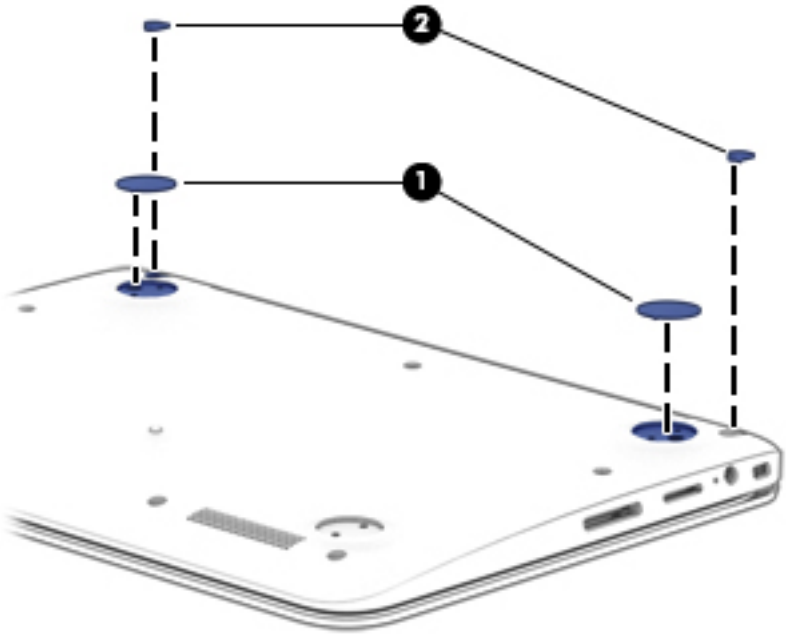
- Heat sink (see Heat sink on page 34)
- TouchPad (see TouchPad on page 33)
- Power button board (see Power button board on page 35)

Remove the keyboard/top cover:

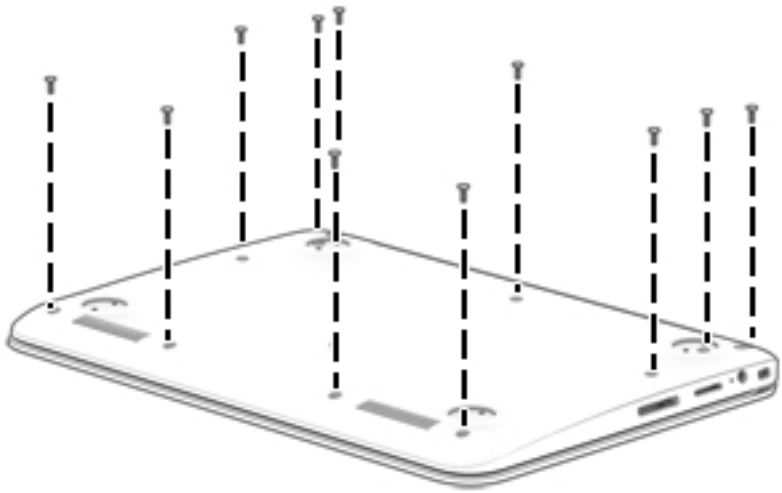
1. Close the computer.
2. Turn the computer upside down with the front toward you.
3. Remove the two rear rubber feet **(1).**

4. Remove the two rubber screw covers **(2).**

NOTE: The rubber feet and screw covers are included in the Rubber Kit, spare part number 792911-001.

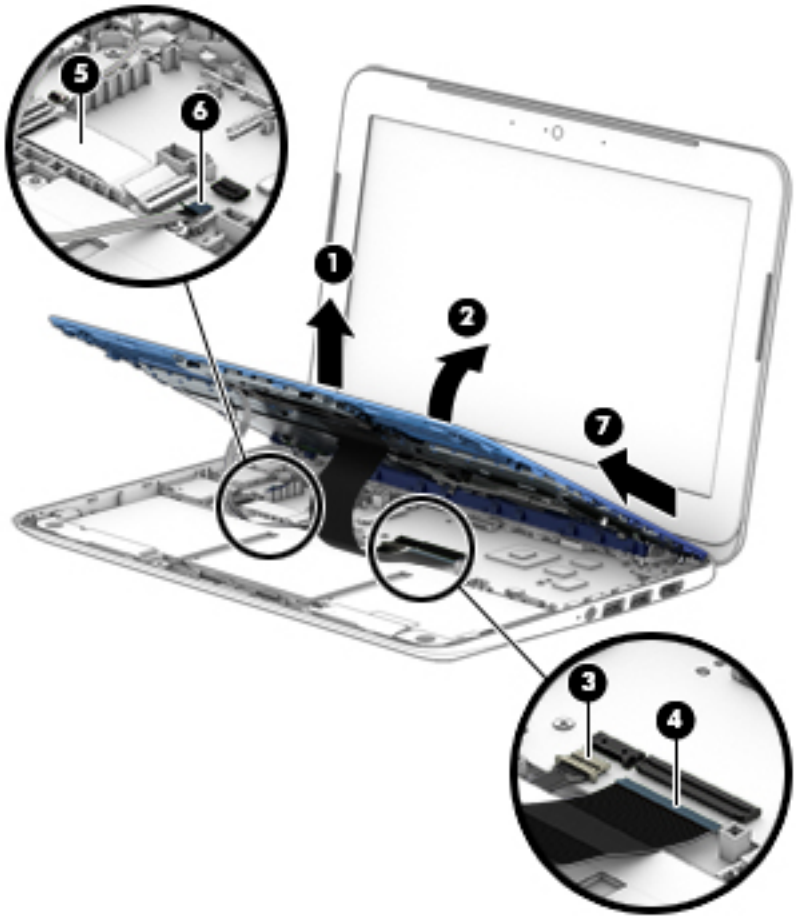


5. Remove the eleven Phillips PM1.9×5.6 screws that secure the keyboard/top cover to the base enclosure.



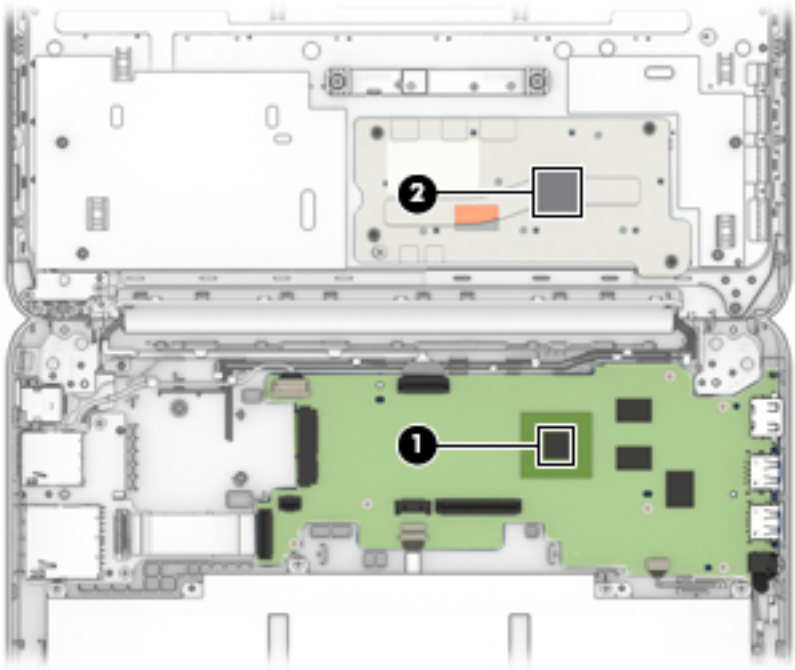
6. Turn the computer right side up with the front toward you.
7. Open the computer as far as it will open.
8. Lift the front edge **(1)** of the keyboard/top cover until it separates from the front edge of the base enclosure.
9. Swing the keyboard/top cover **(2)** up and back until the power button board cable, TouchPad cable, battery cable, and keyboard cable are accessible.
10. Disconnect the battery cable **(3)** from the system board.

11. Release the zero insertion force (ZIF) connector **(4)** to which the keyboard cable is attached, and then disconnect the keyboard cable from the system board.
12. Release the ZIF connector **(5)** to which the power button board cable is attached, and then disconnect the power button board cable from the system board.
13. Release the ZIF connector **(6)** to which the TouchPad cable is attached, and then disconnect the TouchPad cable from the system board.
14. Remove the keyboard/top cover **(7)** by sliding it up and forward at an angle.



NOTE: The thermal material must be thoroughly cleaned from the surfaces of the heat sink and the system board components each time the heat sink is removed. Replacement thermal material is included with the heat sink and system board spare part kits.

The following illustration shows the replacement thermal material locations on the system board **(1)** and the heat sink **(2)**.



Reverse this procedure to install the keyboard/top cover.

TouchPad

NOTE: The TouchPad spare part kit includes the cable and double-sided adhesive.

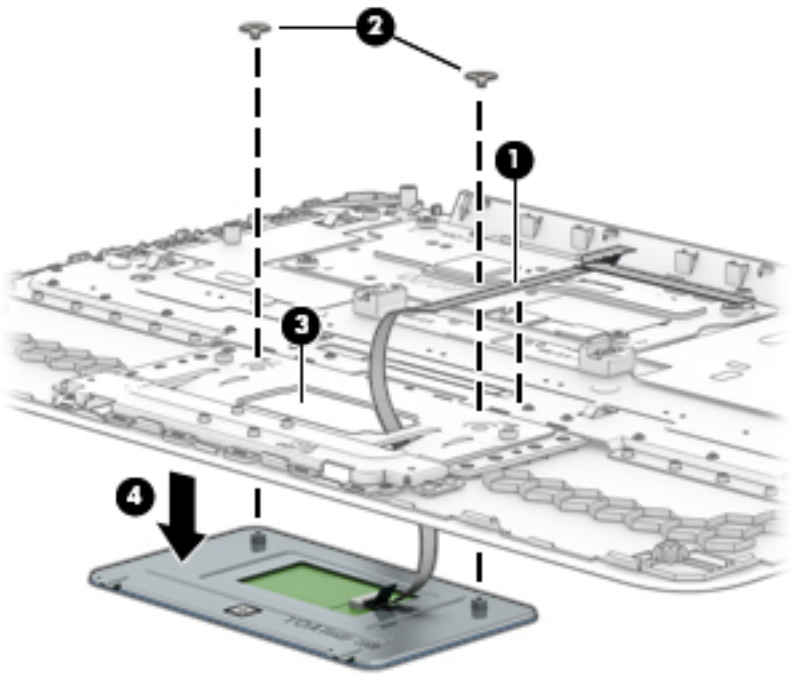
Description	Spare part number
In horizon blue finish	792905-001
In orchid magenta finish	797210-001

Before removing the TouchPad, follow these steps:

1. Turn off the computer. If you are unsure whether the computer is off or in Hibernation, turn the computer on, and then shut it down through the operating system.
2. Disconnect the power from the computer by unplugging the power cord from the computer.
3. Disconnect all external devices from the computer.
4. Remove the keyboard/top cover (see Keyboard/top cover on page 28).

Remove the TouchPad:

1. Turn the keyboard/top cover upside down with the front toward you.
2. Detach the TouchPad cable **(1)** from the keyboard/top cover. (The TouchPad cable is attached to the keyboard/top cover with double-sided adhesive.)
3. Remove the two Phillips PM1.9×2.0 broad head screws **(2)** that secure the TouchPad to the keyboard/top cover.
4. Release the TouchPad **(3)** by pressing it through the opening in the keyboard/top cover.
5. Remove the TouchPad **(4)** and cable.



Reverse this procedure to install the TouchPad.

Heat sink

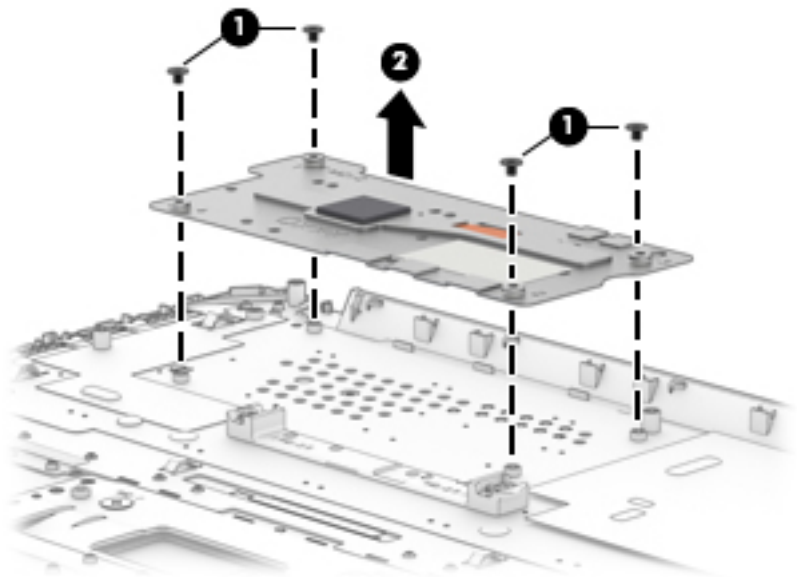
Description	Spare part number
Heat sink (includes replacement thermal material)	792910-001

Before removing the heat sink, follow these steps:

1. Turn off the computer. If you are unsure whether the computer is off or in Hibernation, turn the computer on, and then shut it down through the operating system.
2. Disconnect the power from the computer by unplugging the power cord from the computer.
3. Disconnect all external devices from the computer.
4. Remove the keyboard/top cover (see Keyboard/top cover on page 28).

Remove the heat sink:

1. Turn the keyboard/top cover upside down with the front toward you.
2. Following the 1, 2, 3, 4 sequence etched into the heat sink, remove the four Phillips PM1.9×2.4 screws **(1)** that secure the heat sink to the system board.
3. Remove the heat sink **(2)**.



Reverse this procedure to install the heat sink.

Power button board

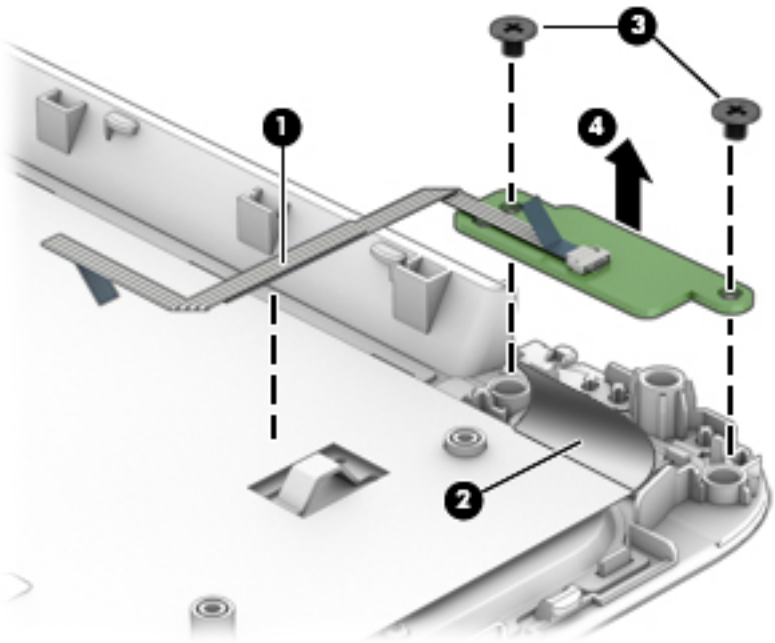
Description	Spare part number
Power button board (includes cable and double-sided adhesive)	792895-001

Before removing the power button board, follow these steps:

1. Turn off the computer. If you are unsure whether the computer is off or in Hibernation, turn the computer on, and then shut it down through the operating system.
2. Disconnect the power from the computer by unplugging the power cord from the computer.
3. Disconnect all external devices from the computer.
4. Remove the keyboard/top cover (see Keyboard/top cover on page 28).

Remove the power button board:

1. Turn the keyboard/top cover upside down with the front toward you.
2. Detach the power button board cable **(1)** from the keyboard/top cover. (The power button board cable is attached to the keyboard/top cover with double-sided adhesive.)
3. Release the shielding **(2)** that covers the power button board.
4. Remove the two Phillips PM1.9×2.9 screws **(3)** that secure the power button board to the keyboard/top cover.
5. Remove the power button board **(4)**.



Reverse this procedure to install the power button board.

Battery

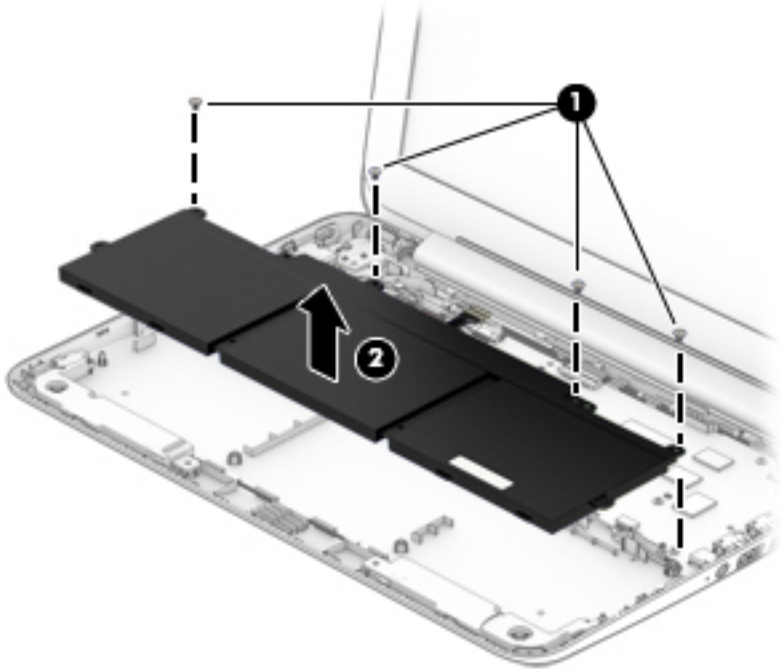
Description	Spare part number
Battery, 3-cell, 37-WHr, 3.25-AHr, Li-ion (includes cable)	787521-005

Before removing the battery, follow these steps:

1. Turn off the computer. If you are unsure whether the computer is off or in Hibernation, turn the computer on, and then shut it down through the operating system.
2. Disconnect the power from the computer by unplugging the power cord from the computer.
3. Disconnect all external devices from the computer.
4. Remove the keyboard/top cover (see Keyboard/top cover on page 28).

Remove the battery:

1. Remove the four Phillips PM1.9×3.3 screws **(1)** that secure the battery to the base enclosure.
2. Remove the battery **(2)**.



Reverse this procedure to install the battery.

WWAN module

Description	Spare part number
HP hs3110 HSPA+ Mobile Broadband Module	748599-005

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

Before removing the WWAN module, follow these steps:

1. Shut down the computer. If you are unsure whether the computer is off or in Hibernation, turn the computer on, and then shut it down through the operating system.
2. Disconnect all external devices connected to the computer.
3. Disconnect the power from the computer by first unplugging the power cord from the AC outlet and then unplugging the AC adapter from the computer.
4. Remove the keyboard/top cover (see Keyboard/top cover on page 28).

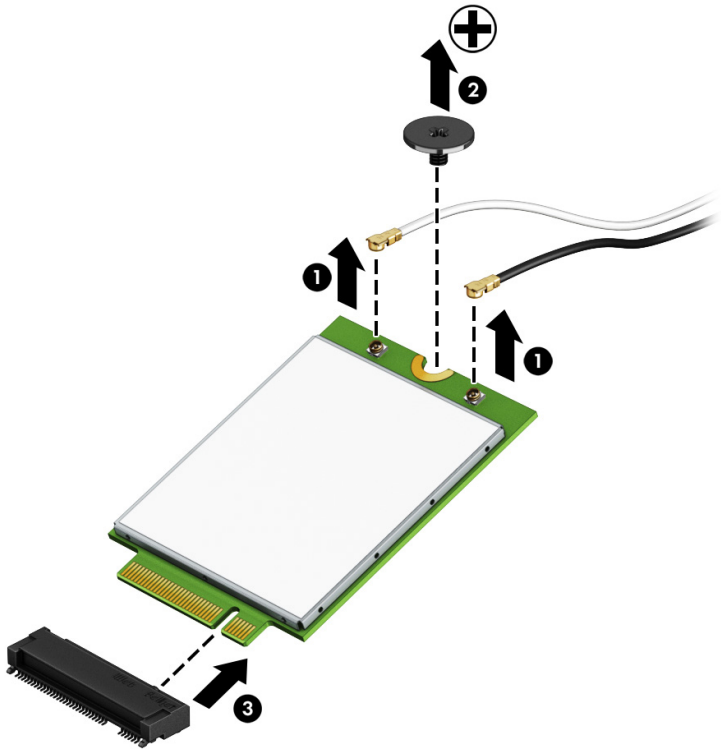
Remove the WWAN module:

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

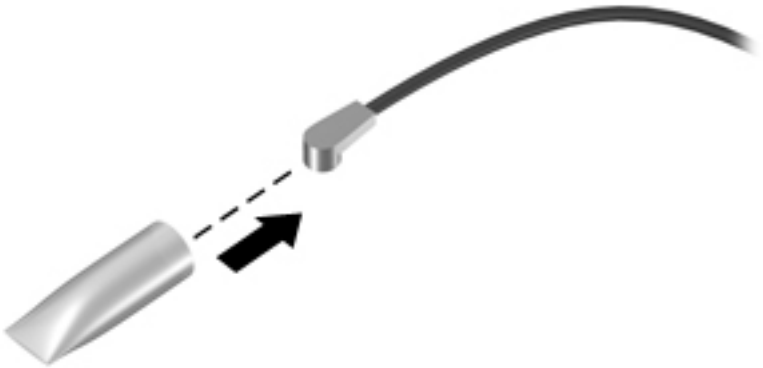
NOTE: The #5/red WWAN antenna cable connects to the WWAN module Main terminal. The #6/blue WWAN antenna cable connects to the WWAN module Aux terminal.

2. Remove the Phillips PM1.9×3.3 screw **(2)** that secures the WWAN module to the base enclosure. (The WWAN module tilts up.)

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



NOTE: If the WWAN antenna is not connected to the terminal on the WWAN module, a protective sleeve should be installed on the antenna connector, as shown in the following illustration.



Reverse this procedure to install the WWAN module.

WLAN module

Description	Spare part number
Intel Dual Band Wireless-AC 3160 802.11 ac 1×1 WiFi + Bluetooth 4.0 Combo Adapter	784638-005
Realtek RTL8723BE 802.11b/g/n 1×1 Wi-Fi + Bluetooth 4.0 Combo Adapter	753077-005

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

Before removing the WLAN module, follow these steps:

1. Shut down the computer. If you are unsure whether the computer is off or in Hibernation, turn the computer on, and then shut it down through the operating system.
2. Disconnect all external devices connected to the computer.
3. Disconnect the power from the computer by first unplugging the power cord from the AC outlet and then unplugging the AC adapter from the computer.
4. Remove the keyboard/top cover (see Keyboard/top cover on page 28).

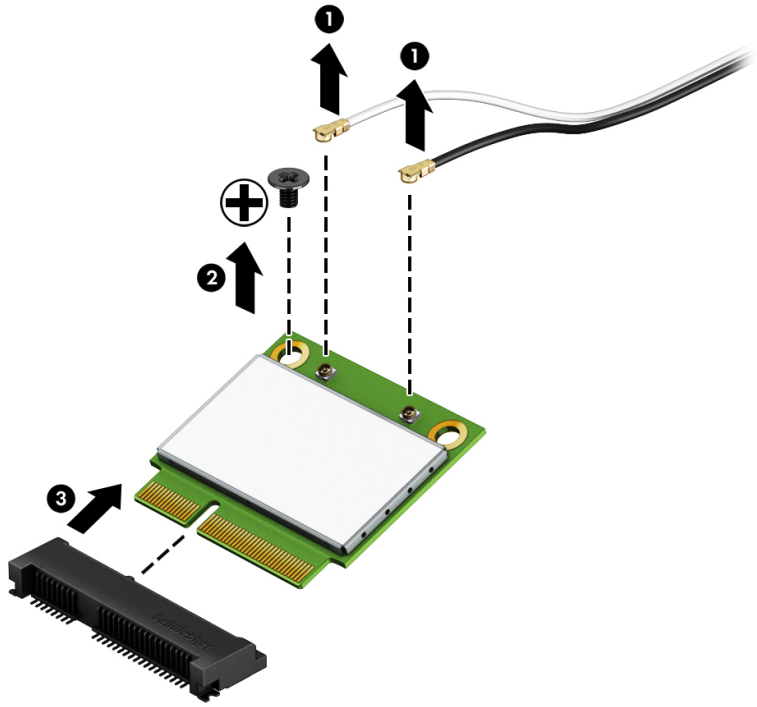
Remove the WLAN module:

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

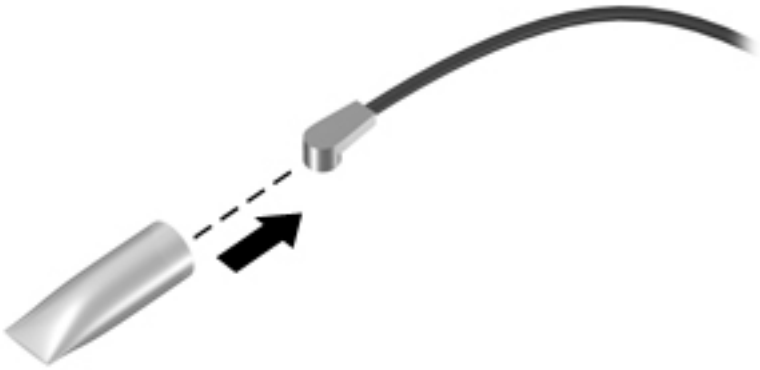
NOTE: The #1/white WLAN antenna cable connects to the WLAN module Main terminal. The #2/black WLAN antenna cable connects to the WLAN module Aux terminal.

2. Remove the Phillips PM1.9×3.3 screw **(2)** that secures the WLAN module to the base enclosure. (The WLAN module tilts up.)

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



NOTE: If the WLAN antenna is not connected to the terminal on the WLAN module, a protective sleeve should be installed on the antenna connector, as shown in the following illustration.



Reverse this procedure to install the WLAN module.

Connector board

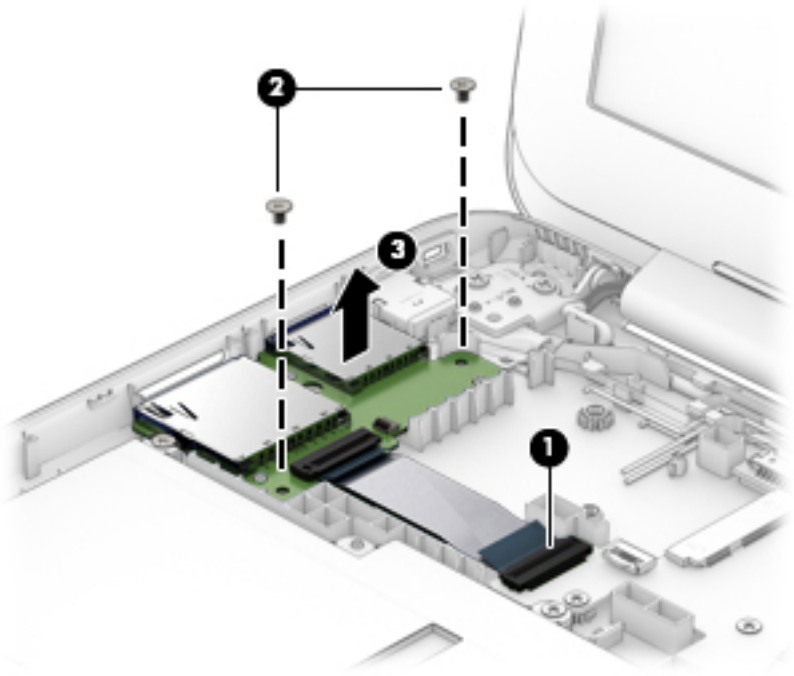
Description	Spare part number
For use only on computer models equipped with WWAN capability (includes cable, SD Card Reader slot, SIM card slot, WWAN slot, and double-sided adhesive)	792894-001
For use only on computer models not equipped with WWAN capability (includes cable, SD Card Reader slot, and double-sided adhesive)	795899-001

Before removing the connector board, follow these steps:

1. Turn off the computer. If you are unsure whether the computer is off or in Hibernation, turn the computer on, and then shut it down through the operating system.
2. Disconnect the power from the computer by unplugging the power cord from the computer.
3. Disconnect all external devices from the computer.
4. Remove the keyboard/top cover (see Keyboard/top cover on page 28).
5. Remove the WWAN module (see WWAN module on page 37).

Remove the connector board:

1. Release the ZIF connector **(1)** to which the connector board cable is attached, and then disconnect the connector board cable from the system board.
2. Remove the two Phillips PM1.9×3.3 screws **(2)** that secure the connector board to the base enclosure.
3. Remove the connector board **(3)** and cable.



Reverse this procedure to install the connector board.

Power connector cable

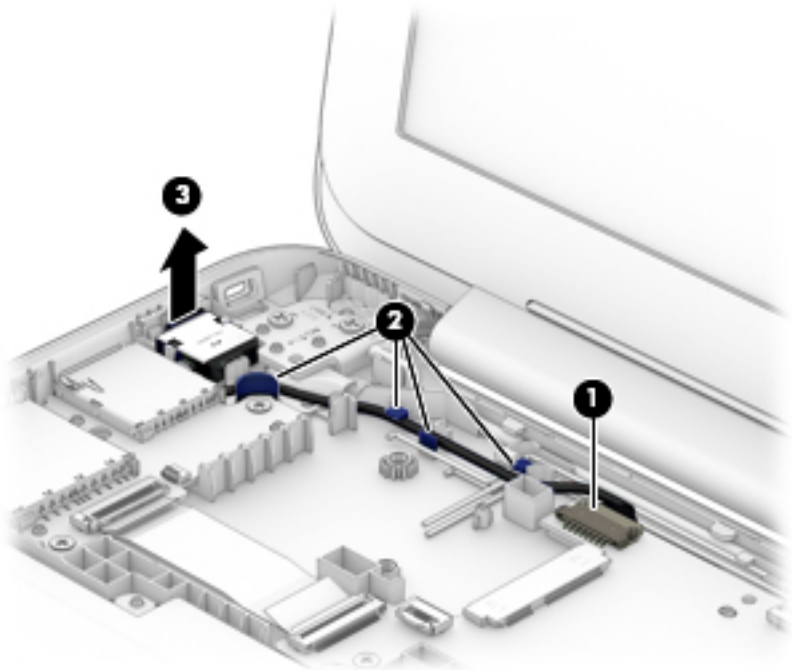
Description	Spare part number
Power connector cable	787922-001

Before removing the power connector cable, follow these steps:

1. Turn off the computer. If you are unsure whether the computer is off or in Hibernation, turn the computer on, and then shut it down through the operating system.
2. Disconnect the power from the computer by unplugging the power cord from the computer.
3. Disconnect all external devices from the computer.
4. Remove the keyboard/top cover (see Keyboard/top cover on page 28).

Remove the power connector cable:

1. Disconnect the power connector cable **(1)** from the system board.
2. Release the power connector cable from the retention clips **(2)** and routing channel built into the base enclosure.
3. Release the power connector from the retention molding **(3)** built into the base enclosure.



4. Remove the power connector cable.

Reverse this procedure to install the power connector cable.

System board

NOTE: The system board is equipped with a graphics subsystem with UMA memory, 2.0-GB of system memory, and 32-GB of eMMC primary storage and includes replacement thermal material.

Description	Spare part number
Equipped with an Intel Celeron N2840 2.16-GHz (SC turbo up to 2.58-GHz) dual core processor (1333-MHz FSB, 1.0-MB L2 cache, 4.5 W) and the Windows 8 operating system	792897-501
Equipped with an Intel Celeron N2840 2.16-GHz (SC turbo up to 2.58-GHz) dual core processor (1333-MHz FSB, 1.0-MB L2 cache, 4.5 W), and a non-Windows 8 operating system	792897-001
Equipped with an Intel Celeron N2830 2.16-GHz (SC turbo up to 2.41-GHz) dual core processor (1333-MHz FSB, 1.0-MB L2 cache, 4.5 W) and the Windows 8 operating system	792898-501
Equipped with an Intel Celeron N2830 2.16-GHz (SC turbo up to 2.41-GHz) dual core processor (1333-MHz FSB, 1.0-MB L2 cache, 4.5 W), and a non-Windows 8 operating system	792898-001

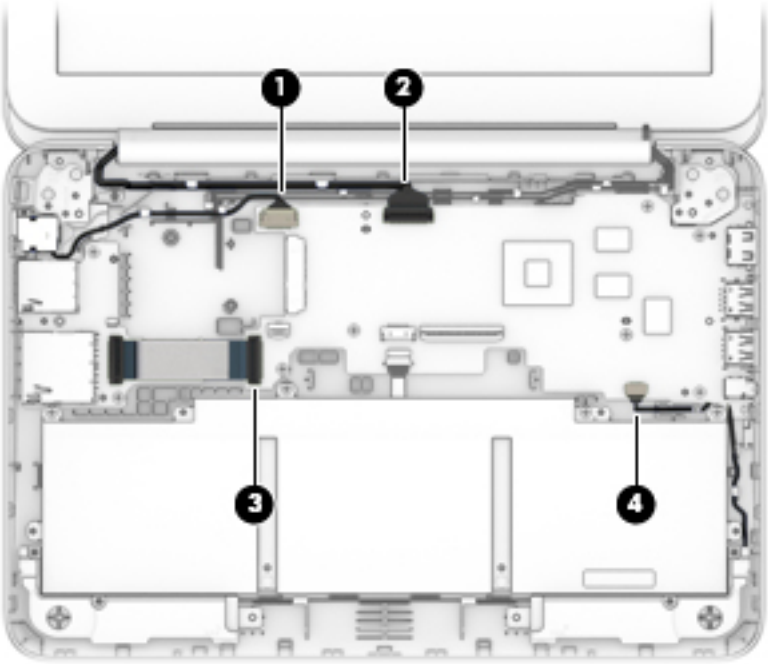
Before removing the system board, follow these steps:

1. Turn off the computer. If you are unsure whether the computer is off or in Hibernation, turn the computer on, and then shut it down through the operating system.
2. Disconnect the power from the computer by unplugging the power cord from the computer.
3. Disconnect all external devices from the computer.
4. Remove the keyboard/top cover (see Keyboard/top cover on page 28).
5. Remove the WLAN module (see WLAN module on page 39).

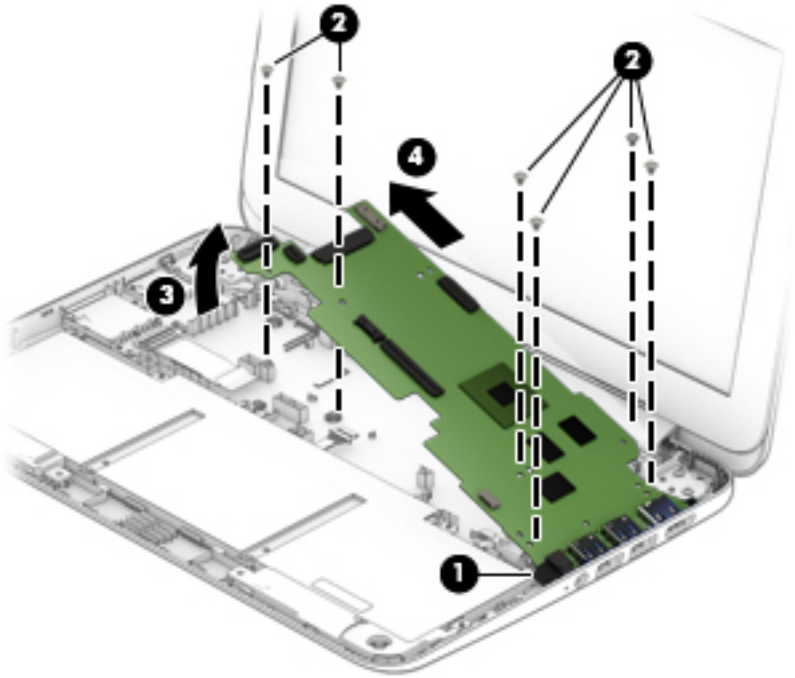
Remove the system board:

1. Disconnect the power connector cable **(1)** from the system board.
2. Release the ZIF connector **(2)** to which the display panel cable is attached, and then disconnect the display panel cable from the system board.
3. Release the ZIF connector **(3)** to which the connector board cable is attached, and then disconnect the connector board cable from the system board.

4. Disconnect the speaker cable **(4)** from the system board.



5. Remove the power light diffuser **(1)**.
6. Remove the six Phillips PM1.9×3.3 screws **(2)** that secure the system board to the base enclosure.
7. Lift the left side of the system board **(3)** until it rests at an angle.
8. Remove the system board **(4)** by sliding it up and to the left at an angle.



Reverse this procedure to install the system board.

Speakers

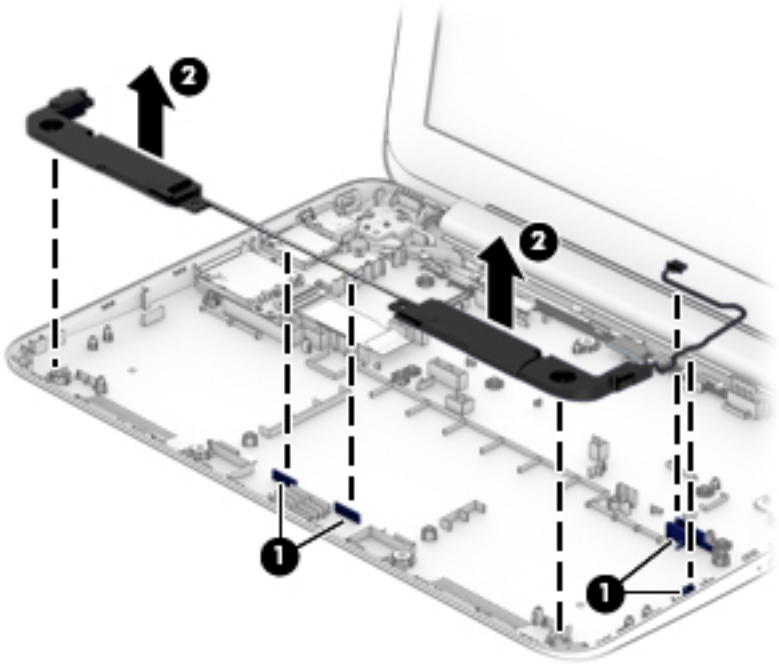
Description	Spare part number
Speakers (include left and right speakers and cables)	792913-001

Before removing the speakers, follow these steps:

1. Turn off the computer. If you are unsure whether the computer is off or in Hibernation, turn the computer on, and then shut it down through the operating system.
2. Disconnect the power from the computer by unplugging the power cord from the computer.
3. Disconnect all external devices from the computer.
4. Remove the keyboard/top cover (see Keyboard/top cover on page 28), and then remove the following components:
   a. Battery (see Battery on page 36).
   b. WLAN (see WLAN module on page 39).
   c. System board (see System board on page 43).

Remove the speakers:

1. Release the speaker cables from the retention clips **(1)** and routing channels built into the base enclosure.
2. Remove the speakers **(2)**.



Reverse this procedure to install the speakers.

Display assembly

Before removing the display assembly, follow these steps:

1. Turn off the computer. If you are unsure whether the computer is off or in Hibernation, turn the computer on, and then shut it down through the operating system.
2. Disconnect the power from the computer by unplugging the power cord from the computer.
3. Disconnect all external devices from the computer.
4. Remove the keyboard/top cover (see Keyboard/top cover on page 28).

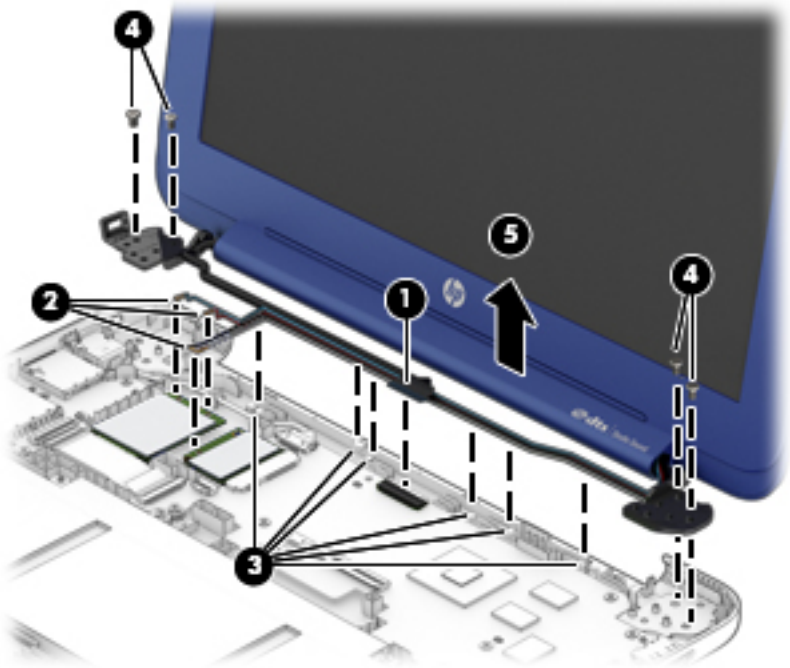
Remove the display assembly:

1. Release the ZIF connector **(1)** to which the display panel cable is attached, and then disconnect the display panel cable from the system board.
2. Disconnect the wireless antenna cables **(2)** from the WLAN module terminals and WWAN module terminals.

NOTE: The #1/white WLAN antenna cable connects to the WLAN module Main terminal. The #2/black WLAN antenna cable connects to the WLAN module Aux terminal.

The #5/red WWAN antenna cable connects to the WWAN module Main terminal. The #6/blue WWAN antenna cable connects to the WWAN module Aux terminal.

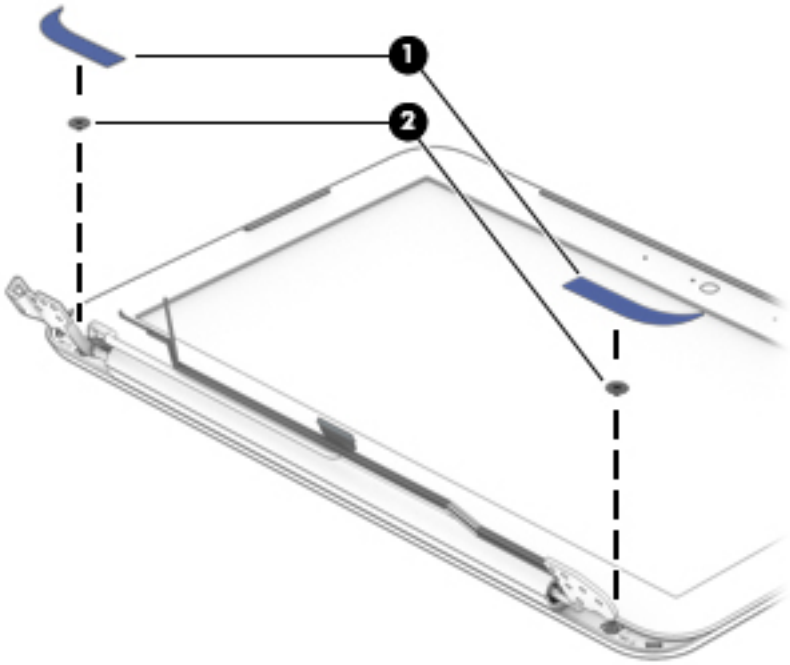
3. Release the wireless antenna cables from the retention clips **(3)** built into the base enclosure.
4. Remove the four Phillips PM2.4×4.7 screws **(4)** that secure the display assembly to the base enclosure.
5. Remove the display assembly **(5)**.



6. If it is necessary to replace the display bezel or any of the display assembly subcomponents:
   a. Remove the two display bezel screw covers **(1)**.

NOTE: The display bezel screw covers are included in the Rubber Kit, spare part number 792911-001.

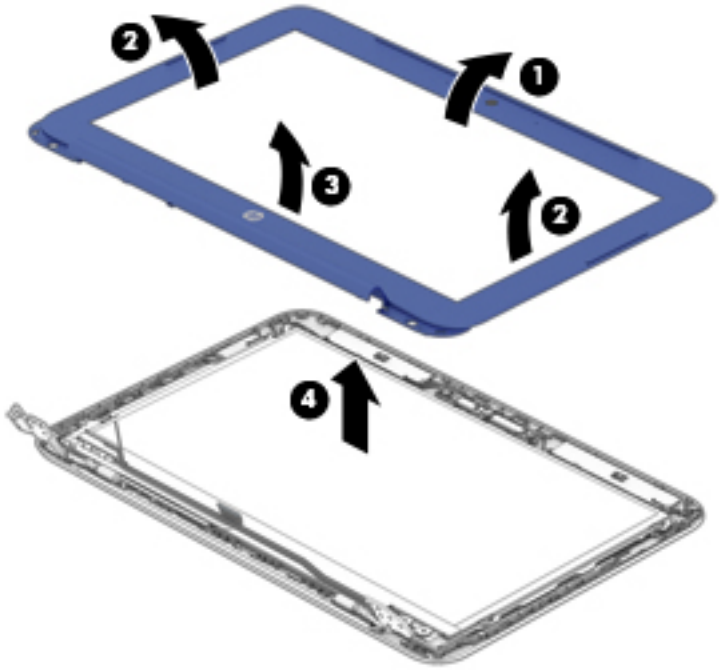
b. Remove the two Phillips PM2.0×2.2 broad head screws **(2)** that secure the display panel to the display enclosure.



c. Flex the inside edges of the top edge **(1)**, the left and right sides **(2)**, and the bottom edge **(3)** of the display bezel until the bezel disengages from the display enclosure.

d. Remove the display bezel **(4)**.

The display bezel is available using spare part numbers 792890-001 (in horizon blue finish) and 792981-001 (in orchid magenta finish).

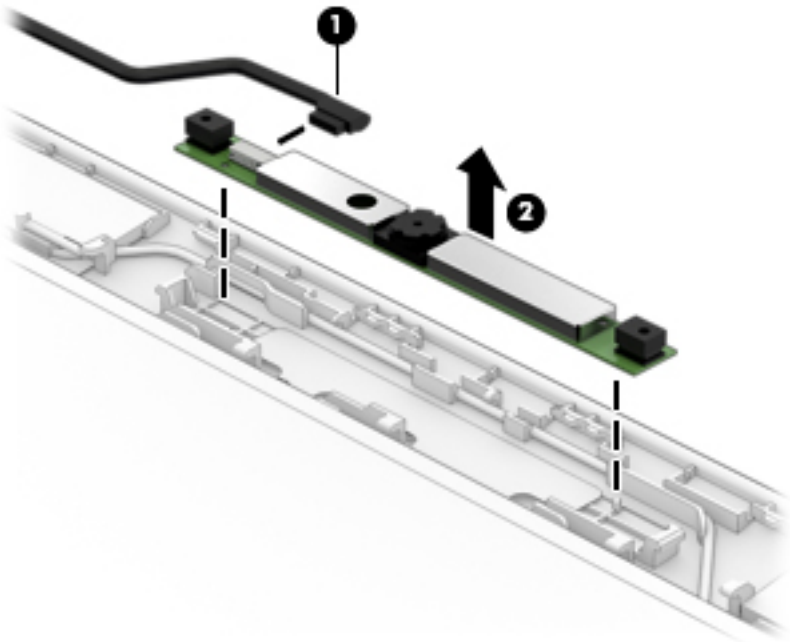


7. If it is necessary to replace the webcam/microphone module:

   a. Remove the display bezel.

   b. Disconnect the webcam/microphone module cable **(1)** from the webcam/microphone module.

   c. Detach the webcam/microphone module **(2)** from the display enclosure. (The webcam/microphone module is attached to the display enclosure with double-sided adhesive.)



   d. Remove the webcam/microphone module.

      The webcam/microphone module is available using spare part number 795114-001.

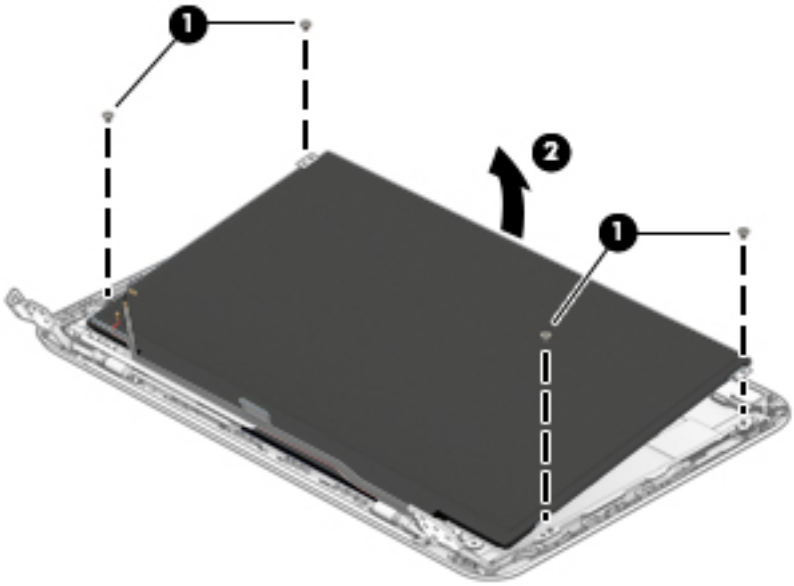
8. If it is necessary to replace the display panel:

   a. Remove the display bezel.

   b. Remove the four Phillips PM1.9×3.3 screws **(1)** that secure the display panel to the display enclosure.

   CAUTION: Before turning the display panel upside down, make sure the work surface is clear of tools, screws, and any other foreign objects. Failure to follow this caution can result in damage to the display panel.

   c. Lift the top edge of the display panel **(2)**, and then swing the panel up and forward until the panel rests upside down in front of the display enclosure.

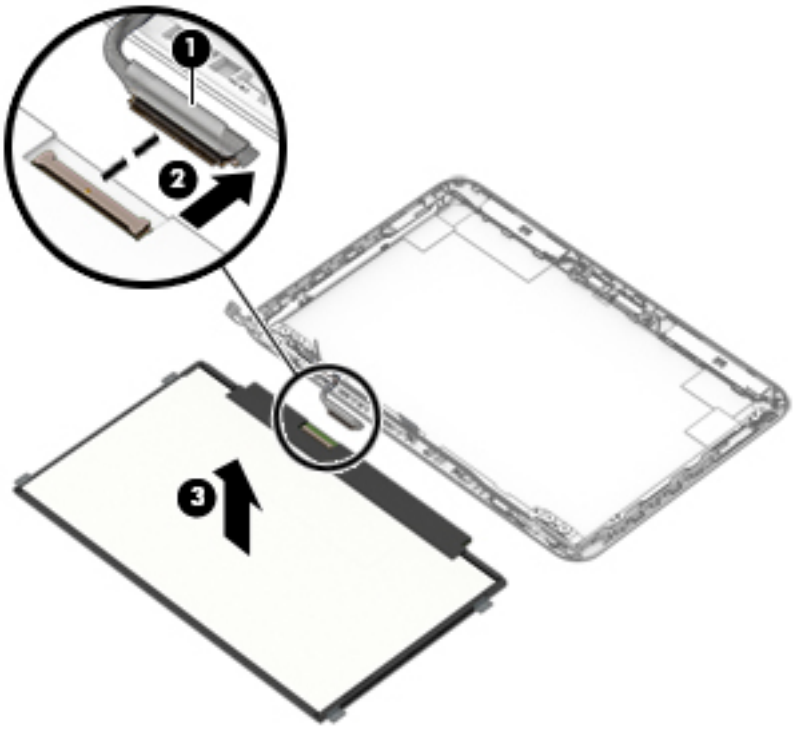


   d. Release the adhesive strip **(1)** that secures the display panel cable connector to the display panel.

   e. Disconnect the display panel cable **(2)** from the display panel.

f. Remove the display panel **(3)**.

The display panel is available using spare part number 792896-001.



9. If it is necessary to replace the display panel cable:

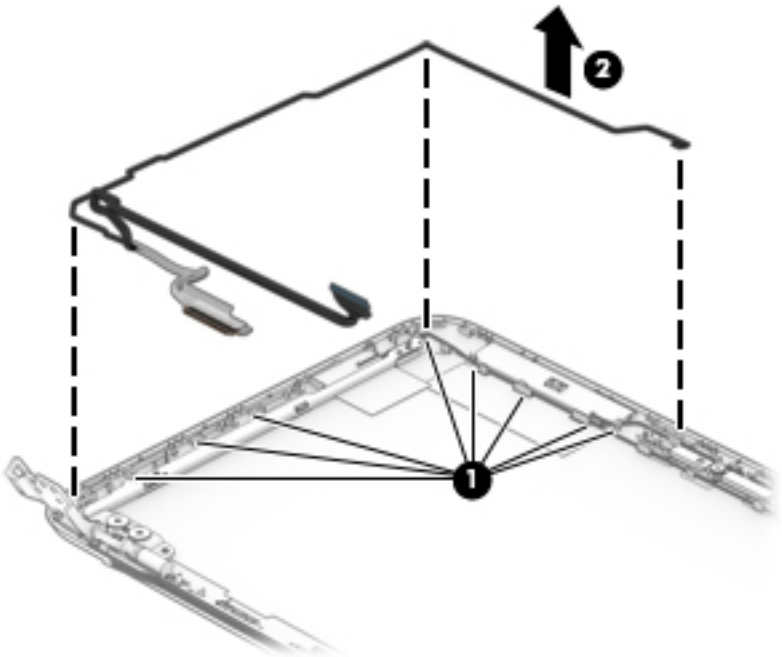
   a. Remove the display panel.

   b. Disconnect the display panel cable from the webcam/microphone module.

   c. Release the display panel cable from the retention clips **(1)** and routing channel built into the top edge and left side of the display enclosure.

d. Remove the display panel cable **(2)**.

The display panel cable is available using spare part number 792892-001 and includes the webcam/microphone module cable.



10. If it is necessary to replace the display hinges:

a. Remove the display bezel.

b. Remove the display panel.

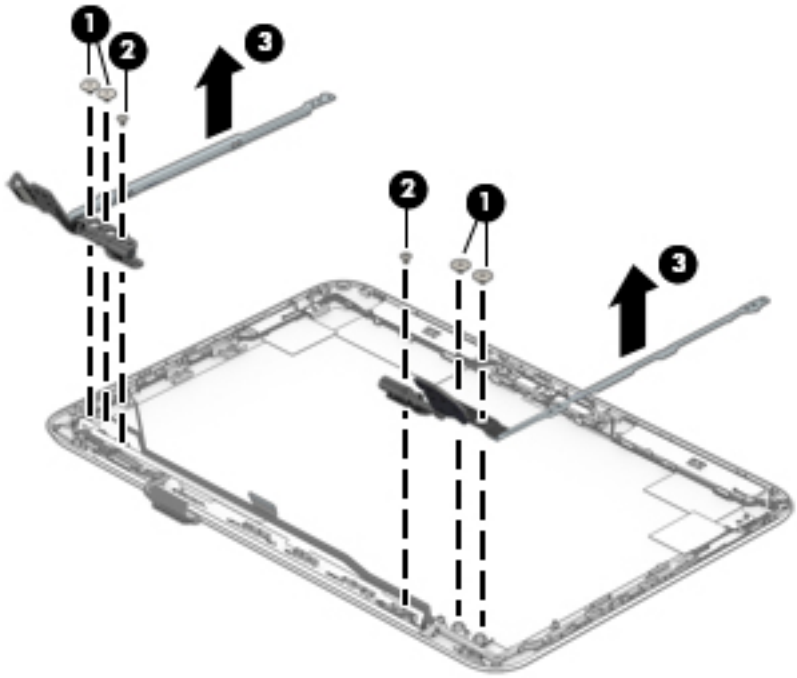
c. Remove the following screws that secure the display hinges to the display enclosure:

(1) Four Phillips PM2.4×3.6 broad head screws

(2) Two Phillips PM1.9×3.3 screws

d. Remove the display hinges **(3)**.

The display hinges are included in the Display Hinge Kit, spare part number 792893-001.



11. If it is necessary to replace the WWAN antenna:

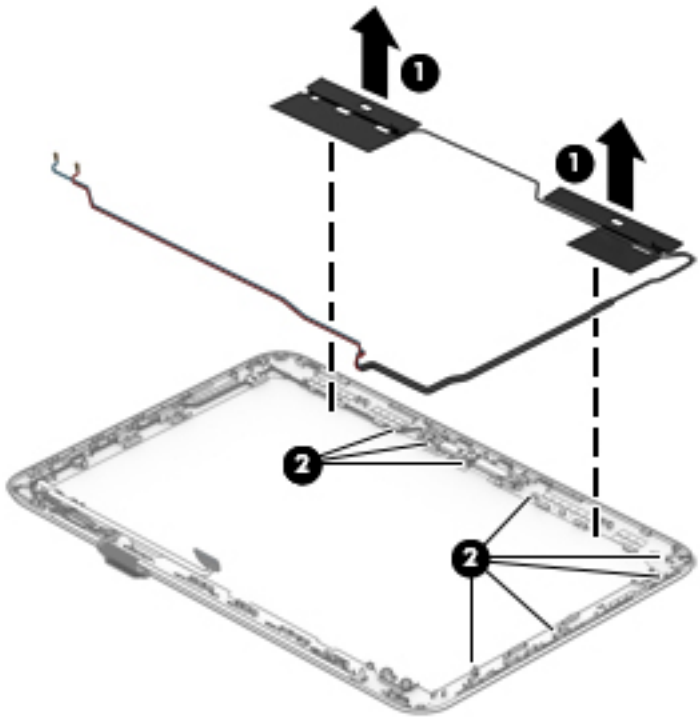
a. Remove the display bezel.

b. Remove the display panel.

c. Remove the display hinges.

d. Detach the WWAN antenna transceivers **(1)** from the display enclosure. (The WWAN antenna transceivers are attached to the display enclosure with double-sided adhesive.)

e. Release the WWAN antenna cables **(2)** from the retention clips built into the top edge and right side of the display enclosure.



f. Remove the WWAN antenna.

The WWAN antenna is available using spare part number 792883-001.

12. If it is necessary to replace the WLAN antenna:

a. Remove the display bezel.

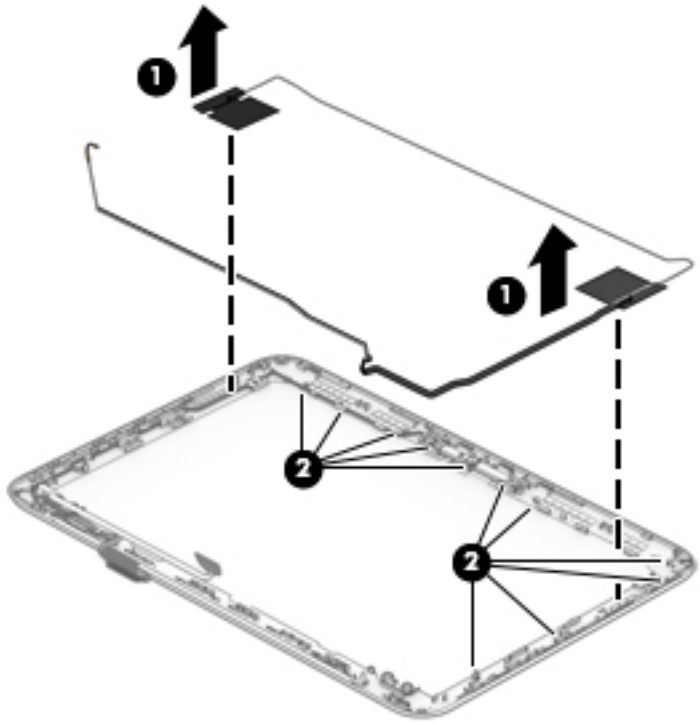
b. Remove the display panel.

c. Remove the display hinges.

d. Remove the WWAN antenna.

e. Detach the WLAN antenna transceivers **(1)** from the display enclosure. (The WLAN antenna transceivers are attached to the display enclosure with double-sided adhesive.)

f. Release the WLAN antenna cables **(2)** from the retention clips built into the top edge and right side of the display enclosure.



g. Remove the WLAN antenna.

The WLAN antenna is available using spare part number 792882-001.

Reverse this procedure to reassemble and install the display assembly.

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

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

Starting Setup Utility (BIOS)

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

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

Updating the BIOS

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

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

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

Determining the BIOS version

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

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

1. Start Setup Utility (BIOS) (see Starting Setup Utility (BIOS) on page 55).
2. Use the arrow keys to select **Main**, and then make note of your current BIOS version.
3. To exit Setup Utility (BIOS) without saving your changes, use the arrow keys to select **Exit**, select **Exit Discarding Changes**, and then press **enter**.
4. Select **Yes**.

Downloading a BIOS update

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

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

Do not shut down the computer or initiate Sleep.

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

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

      If the update is more recent than your BIOS, make a note of the path to the location on your hard drive where the BIOS update is downloaded. You will need to access this path when you are ready to install the update.

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

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

1. From the Start screen, type `file`, and then select **File Explorer**.
2. Click your hard drive designation. The hard drive designation is typically Local Disk (C:).
3. Using the hard drive path you recorded earlier, open the folder on your hard drive that contains the update.
4. Double-click the file that has an .exe extension (for example, *filename*.exe).

   The BIOS installation begins.
5. Complete the installation by following the on-screen instructions.

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

Using HP PC Hardware Diagnostics (UEFI)

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

To start HP PC Hardware Diagnostics UEFI:

1. Turn on or restart the computer, quickly press esc, and then press f2.

   The BIOS searches three places for the 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 57.

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

   – or –

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

7 Specifications

	Metric	U.S.
Computer dimensions		
Width	**30. cm**	11.8 in
Depth	**20.6 cm**	8.1 in
Height	**2.0 cm**	0.8 in
Weight	**1.3 kg**	2.8 lbs
Operating voltage and current:	19.5 V dc@ 2.31 A – 45 W 19.5 V dc@ 3.33 A – 65 W	
NOTE: This product is designed for IT power systems in Norway with phase-to-phase voltage not exceeding 240 V rms. **NOTE:** The computer operating voltage and current can be found on the system regulatory label.		
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
NOTE: Applicable product safety standards specify thermal limits for plastic surfaces. The device operates well within this range of temperatures.		

8 Backing up, restoring, and recovering

This chapter provides information about the following processes:

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

Creating recovery media and backups

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

   See Creating HP Recovery media on page 59.

2. Use the Windows tools to create system restore points and create backups of personal information. For more information and steps, see Help and Support. From the Start screen, type `help`, and then select **Help and Support**.

Creating HP Recovery media

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

- Only one set of HP Recovery media can be created. Handle these recovery tools carefully, and keep them in a safe place.
- HP Recovery Manager examines the computer and determines the required storage capacity for the blank USB flash drive.
- Be sure that the computer is connected to AC power before you begin creating the recovery media.
- The creation process can take up to an hour or more. Do not interrupt the creation process.

To create HP Recovery media:

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

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

If you ever need to recover the system, see Recovering using HP Recovery Manager on page 60.

Restore and recovery

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

- Windows offers several options for restoring from backup, refreshing the computer, and resetting the computer to its original state. For more information and steps, see Help and Support. From the Start screen, type `help`, and then select **Help and Support**.
- If you want to recover the computer's original factory partitioning and content, you can choose the System Recovery option from the HP Recovery partition (select models only) or use the HP Recovery media that you have created. For more information, see Recovering using HP Recovery Manager on page 60. If you have not already created recovery media, see Creating HP Recovery media on page 59.

Recovering using HP Recovery Manager

HP Recovery Manager software allows you to recover the computer to its original factory state by using the HP Recovery media that you created or by using the HP Recovery partition (select models only). If you have not already created recovery media, see Creating HP Recovery media on page 59.

Using HP Recovery media, you can choose from one of the following recovery options:

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

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

What you need to know

- HP Recovery Manager recovers only software that was installed at the factory. For software not provided with this computer, you must either download the software from the manufacturer's website or reinstall the software from the media provided by the manufacturer.
- Recovery through HP Recovery Manager should be used as a final attempt to correct computer issues.
- HP Recovery media must be used if the computer hard drive fails. If you have not already created recovery media, see Creating HP Recovery media on page 59.
- If the HP Recovery media does not work, you can obtain recovery media for your system from support. See the *Worldwide Telephone Numbers* booklet included with the computer. You can also find contact information from the HP website. Go to http://www.hp.com/support, select your country or region, and follow the on-screen instructions.

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

Using the HP Recovery partition (select models only)

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

To start HP Recovery Manager from the HP Recovery partition:

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

1. Press f11 while the computer boots.

   – or –

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

Using HP Recovery media to recover

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

1. If possible, back up all personal files.
2. Insert the HP Recovery media that you created, and then restart the computer.

   NOTE: If the computer does not automatically restart in HP Recovery Manager, change the computer boot order. See Changing the computer boot order on page 61.
3. Follow the on-screen instructions.

Changing the computer boot order

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

To change the boot order:

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

9 Power cord set requirements

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

The 2-conductor power cord set included with the tablet 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 tablet 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.

Requirements for specific countries and regions

Country/region	Accredited agency
Argentina	IRAM
Australia	SAA
Austria	OVE
Belgium	CEBEC
Brazil	ABNT
Canada	CSA
Chile	IMQ
Denmark	DEMKO
Finland	FIMKO
France	UTE
Germany	VDE
India	ISI
Israel	SII
Italy	IMQ
Japan	JIS
The Netherlands	KEMA
New Zealand	SANZ

Country/region	Accredited agency
Norway	NEMKO
The People's Republic of China	CCC
Saudi Arabia	SASO
Singapore	PSB
South Africa	SABS
South Korea	KTL
Sweden	SEMKO
Switzerland	SEV
Taiwan	BSMI
Thailand	TISI
The United Kingdom	ASTA
The United States	UL

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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