



HP Pavilion 11 Notebook PC

HP Pavilion TouchSmart 11 Notebook
PC

HP 215 G1 Notebook PC

Maintenance and Service Guide

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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.

This computer may require upgraded and/or separately purchased hardware and/or a DVD drive to install the Windows 7 software and take full advantage of Windows 7 functionality. See <http://windows.microsoft.com/en-us/windows7/get-know-windows-7> for details.

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Important Notice about Customer Self-Repair Parts

 **CAUTION:** Your computer includes Customer Self-Repair parts and parts that should only be accessed by an authorized service provider. See Chapter 5, "Removal and replacement procedures for Customer Self-Repair parts," for details. Accessing parts described in Chapter 6, "Removal and replacement procedures for Authorized Service Provider only parts," can damage the computer or void your warranty.

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	HP Pavilion TouchSmart 11 Notebook PC/ HP Pavilion 11 Notebook PC	HP 215 G1 Notebook PC
Product Name		HP Pavilion TouchSmart 11 Notebook PC HP Pavilion 11 Notebook PC	HP 215 G1 Notebook PC
Processor	- AMD® A6-1450 1.4 GHz (turbo)/1.0 GHz processor (2.0 MB L2 cache, DDR3L, 1066 MHz, quad core, 8 W, with dynamic configurable TDP 15 W) - AMD A4-1250 1.0 GHz processor (1.0 MB L2 cache, DDR3L, 1333 MHz, dual core, 8 W)	√	√
Chipset	AMD system on chip (SoC) fusion controller hub (FCH) integrated in accelerated processing unit (APU)	√	√
Graphics	Internal graphics: - AMD Radeon™ HD 8250 Graphics on computer models equipped with an AMD A6-1450 processor - AMD Radeon HD 8210 Graphics on computer models equipped with an AMD A4-1250 processor Support for DX11, HD decode, and HDMI	√	√
Panel	11.6 in (29.5 cm) (1366×768), high-definition (HD), white light emitting diode (WLED), AntiGlare, TouchSmart touchscreen with MultiTouch enabled; 16:9 standard viewing angle; typical brightness: 200 cd/m² (nits); flat (3.6 mm), for computer models with Windows 8.1 Supports low-voltage differential signaling (LVDS)	√	√
	11.6 in (29.5 cm) (1366×768), HD, WLED, AntiGlare; 16:9 standard viewing angle; typical brightness: 200 cd/m² (nits), non-touchscreen, flat (3.6 mm), for computer models with Windows 7		√

Category	Description	HP Pavilion TouchSmart 11 Notebook PC/ HP Pavilion 11 Notebook PC	HP 215 G1 Notebook PC
Memory	One customer-accessible/upgradable memory module slot Supports: 1333 MHz at 1.35 V single channel (DDR3L, 1600 MHz downgrade to 1333 MHz) for use with A4-1250 processors 1066 MHz at 1.35 V single channel (DDR3L, 1600 MHz downgrade to 1066 MHz) for use with A6-1450 processors Support for up to 8192 MB of system RAM in the following configurations: 8192 MB × 1 4096 MB × 1	√	√
Hard drive	Support for 6.35 cm (2.5 in) hard drives in 7.0 mm (.28 in) thickness Support for Serial ATA Support for HP 3D hard drive protection Support for the following hard drives: 500 GB, 5400 rpm 320 GB, 5400 rpm	√	√
Optical drive	Support for external DVD±RW Double-Layer with SuperMulti Drive	√	
Audio and video	Integrated HP TrueVision webcam: HD (1280×720 by 30 frames per second), fixed (no tilt), with activity light Single digital microphone with appropriate echo-cancellation and noise-suppression software dts Sound+ (uses Realtek ALC3227-GR audio codec) Two speakers	√	√
Ethernet	Integrated 10/100 network interface card (NIC)	√	√

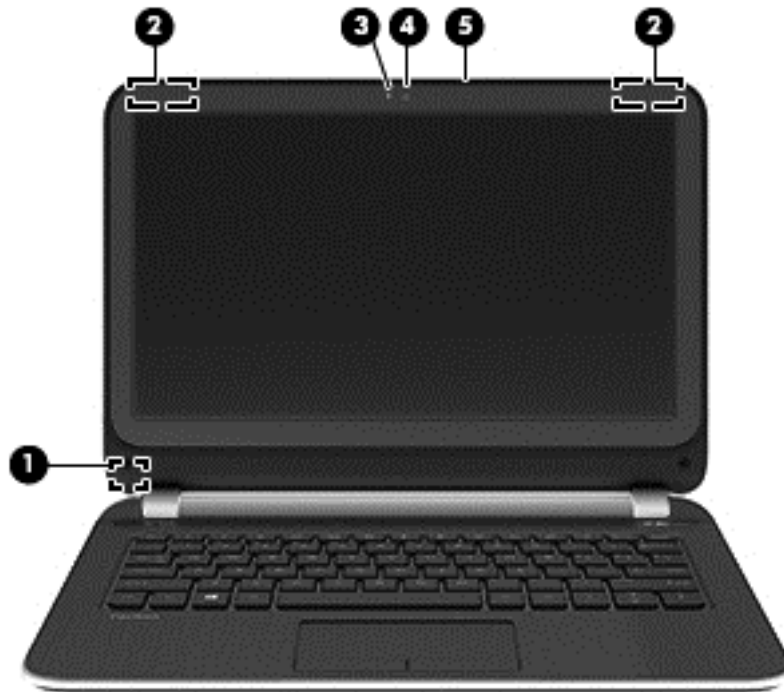
Category	Description	HP Pavilion TouchSmart 11 Notebook PC/ HP Pavilion 11 Notebook PC	HP 215 G1 Notebook PC
Wireless	Integrated wireless local area network (WLAN) options by way of wireless module	√	√
	Two WLAN antennas built into display assembly		
	Support for the following WLAN formats: - Broadcom BCM943228HMB 802.11 a/b/g/n 2x2 WiFi + Bluetooth® 4.0 Combo Adapter - Qualcomm Atheros AR9485 802.11 b/g/n 1x1 WiFi Adapter (select models only) - Ralink RT3290LE 802.11 b/g/n 1x1 WiFi + Bluetooth 4.0 Combo Adapter - Realtek RTL8188EE 802.11 b/g/n 1x1 WiFi Adapter		
	Compatible with Miracast-certified devices (for Windows 8.1)	√	√
External media cards	HP multifunction Micro Digital Media Reader Slot with push-push technology. Reads data from and writes data to digital memory cards. Supports the following: - Secure Digital (SD) - Secure Digital High Capacity (SDHC) Memory Card - Secure Digital eXtended Capacity (SDXC) Memory Card	√	√
Ports	AC adapter: HP Smart pin plug (4.5 mm barrel)	√	√
	Audio: one combo audio-out (headphone)/audio in (microphone) jack, supports jack auto-detection		
	HDMI: version 1.4, supporting up to 1080p, 1920×1080 at 60 Hz		
	RJ45/Ethernet		
	USB: Two USB 3.0 ports, one USB 2.0 port		
	Video: VGA (Dsub 15-pin) supporting 1920×1200 external resolution at 60 Hz, hot plug/unplug and auto-detection for correct output to wide-aspect versus standard aspect video		

Category	Description	HP Pavilion TouchSmart 11 Notebook PC/ HP Pavilion 11 Notebook PC	HP 215 G1 Notebook PC
Keyboard/ pointing devices	91%-size, textured, island-style keyboard (no numerical keypad)	√	√
	Touchpad requirements: • 2013 Touchpad • Taps enabled as default • PS/2 interface support • Multi Gestures, with ability to turn on and off ◦ 2-finger scroll ◦ Pinch/zoom ◦ Edge swipe • Support for Windows 8.1 Modern TouchPad Gestures (not supported on Windows 7)		
Power requirements	Support for a 3 cell, 36 Wh, 3.20 Ah, Li-ion battery	√	√
	Support for the following AC adapters:		
	• 65 W HP Smart AC adapter (non-PFC, 4.5 mm)		
	• 45 W HP Smart AC adapter (non-PFC, 4.5 mm)	√	
	• 65 W HP Smart AC adapter (MSH, non-PFC, 4.5 mm)		
Security	Support for security cable lock	√	√
Operating system	Preinstalled:	√	√
	• Windows 8.1 Small Screen Touch		
	• Windows 8.1 Professional 64 (for TouchSmart models only)		√
	• Windows 7 Professional with Windows 8.1 product activation key (for non-touchscreen models only)		
	• Windows 7 Home Premium (for non-touchscreen models only)		
	• Windows 7 Professional 64 (for non-touchscreen models only)		

Category	Description	HP Pavilion TouchSmart 11 Notebook PC/ HP Pavilion 11 Notebook PC	HP 215 G1 Notebook PC
Operating system	Web-only support: - Windows 8.1 Professional 64 - Windows 8.1 Enterprise 64 - Windows 8.1 Multi-Language 64 - Windows 8.1 Emerging Markets 64 - Windows 8.1 Chinese Markets 64		√
Serviceability	End user replaceable parts: - AC adapter - Battery (system) - Hard drive - Memory - WLAN module	√	√

2 External component identification

Display



Item	Component	Description
(1)	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 from the outside of the computer.
(2)	WLAN antennas (2)*	Send and receive wireless signals to communicate with wireless local area networks (WLANs). NOTE: To set up a WLAN and connect to the Internet, you need a broadband modem (either DSL or cable, purchased separately), high-speed Internet service purchased from an Internet service provider, and a wireless router (purchased separately).
(3)	Webcamera light	On: The webcamera is in use.
(4)	Webcamera	Records video, captures still photographs, and provides access to video conferences and online chat by means of streaming video.
(5)	Internal microphone	Records sound.

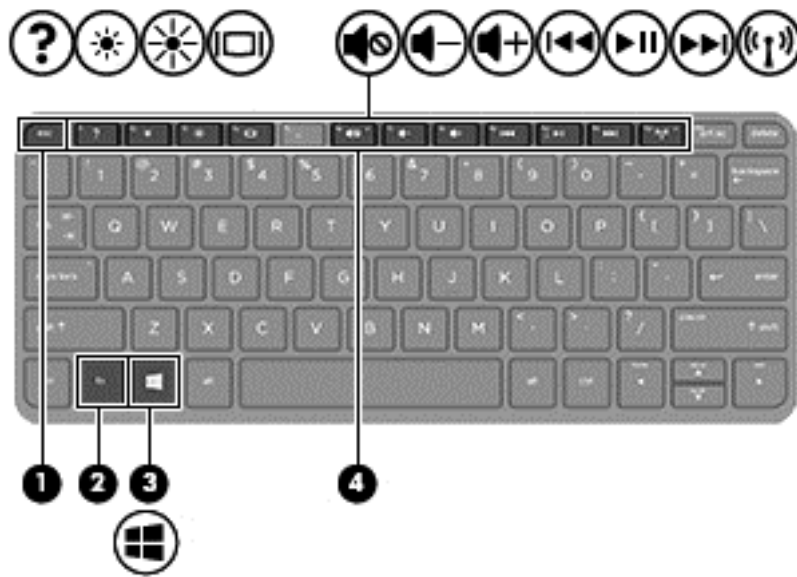
*The antennas are not visible from the outside of the computer. For optimal transmission, keep the areas immediately around the antennas free from obstructions. For wireless regulatory notices, see the section of the *Regulatory, Safety, and Environmental Notices* that applies to your country or region.

Buttons and speakers



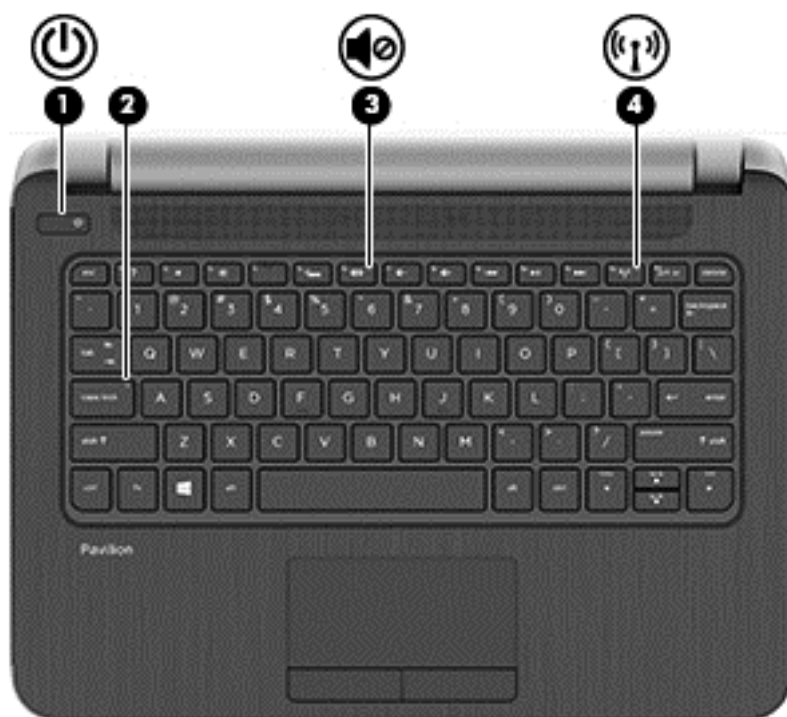
Item	Component	Description
(1)	Power button	• When the computer is off, press the button to turn on the computer. • When the computer is on, press the button briefly to initiate Sleep. • When the computer is in the Sleep state, press the button briefly to exit Sleep. • When the computer is in Hibernation, 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 Microsoft Windows shutdown procedures are ineffective, press and hold the power button down for at least 5 seconds to turn off the computer.
(2)	Speakers (2)	Produce sound.

Keys



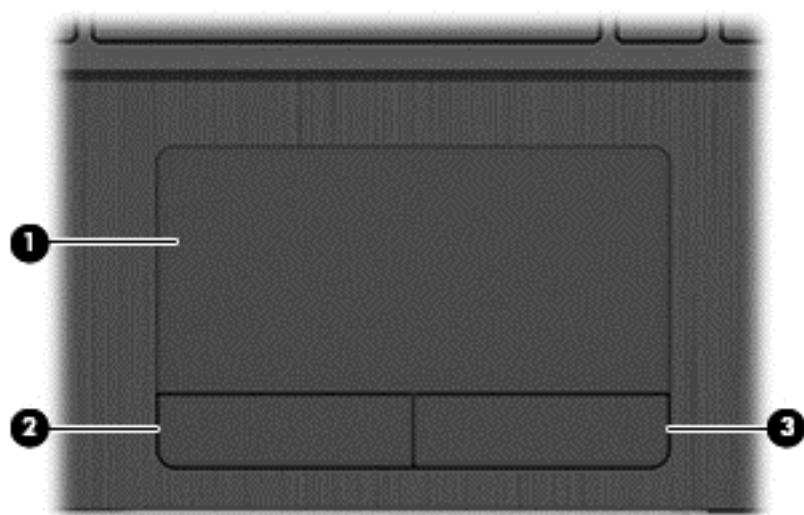
Item	Component	Description
(1)	esc key	Reveals system information when pressed in combination with the fn key.
(2)	fn key	Executes frequently used system functions when pressed in combination with the esc key.
(3)	Windows key	- Windows 8—Returns you to the Start screen from an open app or the Windows desktop. NOTE: Pressing the Windows key again will return you to the previous screen. - Windows 7—Displays the Windows Start menu.
(4)	Action keys	Execute frequently used system functions.

Lights



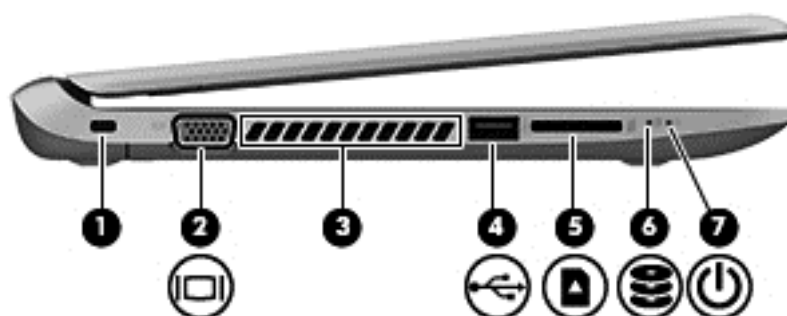
Item	Component	Description
(1)	Power light	- On: The computer is on. - Blinking: The computer is in the Sleep state, a power-saving state. The computer shuts off power to the display and other unneeded components. - Off: The computer is off or in Hibernation. Hibernation is a power-saving state that 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.
(4)	Wireless light	On: An integrated wireless device, such as a WLAN device and/or a Bluetooth device, is on. NOTE: On some models, the wireless light is amber when all wireless devices are off.

TouchPad



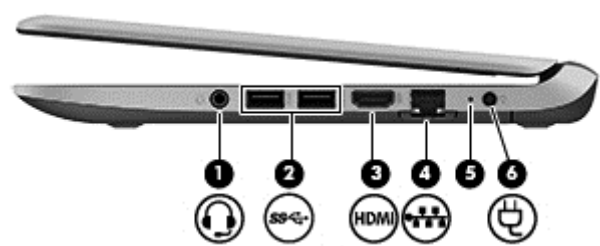
Item	Component	Description
(1)	TouchPad zone	Moves the on-screen pointer and selects or activates items on the screen. NOTE: The TouchPad also supports edge-swipe gestures.
(2)	Left TouchPad button	Functions like the left button on an external mouse.
(3)	Right TouchPad button	Functions like the right button on an external mouse.

Left side



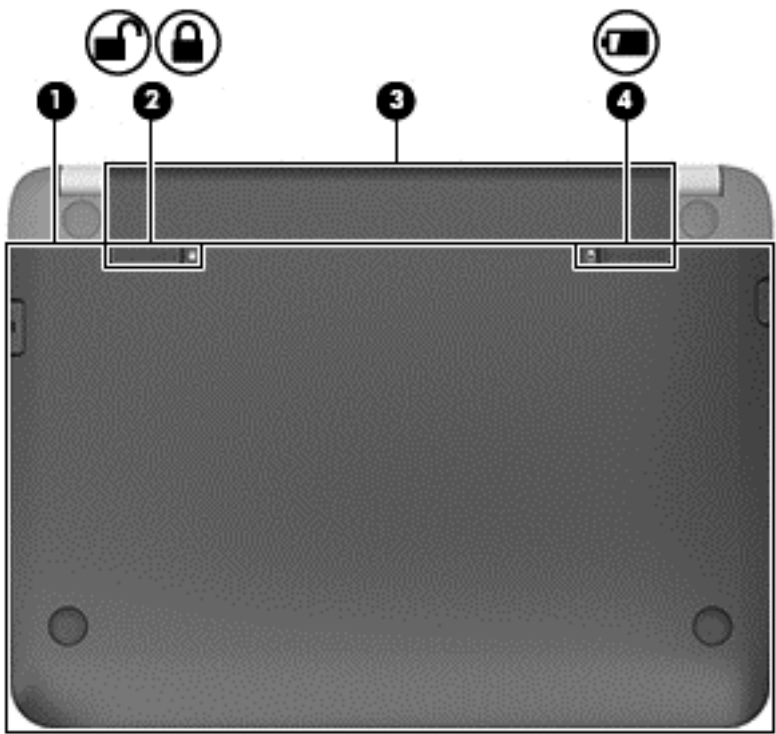
Item	Component	Description
(1)	Security cable slot	Attaches an optional security cable to the computer. NOTE: The security cable is designed to act as a deterrent, but it may not prevent the computer from being mishandled or stolen.
(2)	External monitor port	Connects an external VGA monitor or projector.
(3)	Vent	Enables airflow to cool internal components. NOTE: The computer fan starts up automatically to cool internal components and prevent overheating. It is normal for the internal fan to cycle on and off during routine operation.
(4)	USB 2.0 port	Connects an optional USB device.
(5)	Memory card reader	Reads data from and writes data to memory cards such as Secure Digital (SD) memory cards.
(6)	Hard drive light	- Blinking white: The hard drive is being accessed. - Amber: HP 3D DriveGuard has temporarily parked the hard drive.
(7)	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.

Right side



Item	Component	Description
(1)	Audio-out (headphone) jack/Audio in (microphone) jack	Connects optional powered stereo speakers, headphones, earbuds, a headset, or a television audio cable. Also connects an optional headset microphone. This jack does not support optional microphone-only devices. WARNING! To reduce the risk of personal injury, adjust the volume before putting on headphones, earbuds, or a headset. For additional safety information, refer to the <i>Regulatory, Safety, and Environmental Notices</i>. 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).
(2)	USB 3.0 port	Connect optional USB devices.
(3)	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.
(4)	RJ-45 (network) jack	Connects a network cable.
(5)	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.
(6)	Power connector	Connects an AC adapter.

Bottom



Item	Component	Description
(1)	Service door	Provides access to the hard drive bay, the WLAN module slot, and the memory module slot. 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 computer functionality, and then contact support through Help and Support.
(2)	Battery lock latch	Locks the battery into the battery bay.
(3)	Battery bay	Holds the battery.
(4)	Battery release latch	Releases the battery from the battery bay.

Labels

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



IMPORTANT: All labels described in this section will be located in one of 3 places depending on your computer model: Affixed to the bottom of the computer, located in the battery bay, or under the service door.

For help finding these locations, refer to [Bottom on page 13](#).

- Service label—Provides important information to identify your computer. 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.

 **NOTE:** Your service labels will resemble one of the examples shown below. Refer to the illustration that most closely matches the service label on your computer.



Component

- | | |
|-----|-----------------------------------|
| (1) | Product name |
| (2) | Serial number |
| (3) | Product number |
| (4) | Warranty period |
| (5) | Model number (select models only) |



Component

- | | |
|-----|-----------------------------------|
| (1) | Serial number |
| (2) | Product number |
| (3) | Warranty period |
| (4) | Model number (select models only) |
| (5) | Revision number |

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

3 Illustrated parts catalog

Computer major components



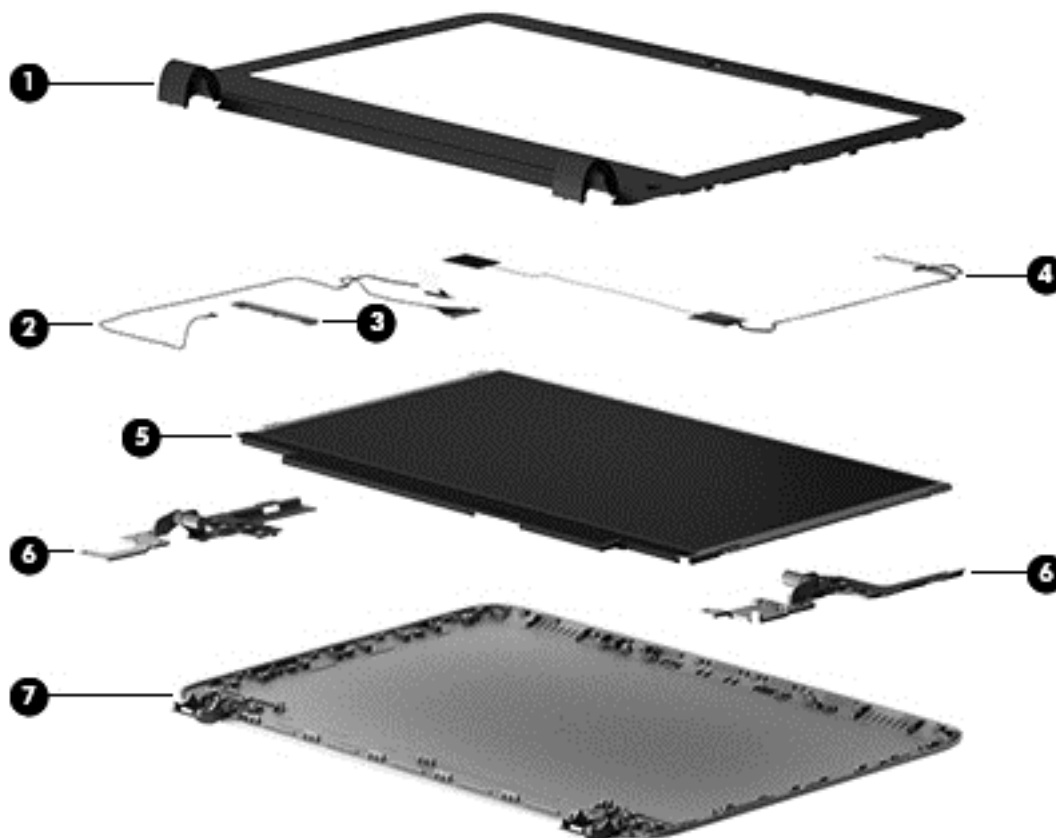
Item	Component	Spare part number	HP Pavilion TouchSmart 11 Notebook PC/ HP Pavilion 11 Notebook PC	HP 215 G1 Notebook PC
(1)	11.6 inch (29.46 cm), AG, SVA, LED TouchSmart display assembly (includes webcam/microphone module and wireless antenna cables)	753948-001	√	√
	11.6 inch (29.46 cm), AG, SVA, LED display assembly, non-touchscreen. The display assembly is spared at the subcomponent level only. For more display assembly spare part information, see Display assembly subcomponents on page 19 .			√
(2)	Keyboard/top cover (includes keyboard cable and TouchPad):			
	For use in Belgium	730895-A41	√	
	For use in Bulgaria	730895-BA1	√	
	For use in Canada	730895-DB1	√	
	For use in the Czech Republic and Slovakia	730895-FL1	√	
	For use in Denmark, Finland, and Norway	730895-DH1	√	
	For use in France	730895-051	√	
	For use in Germany	730895-041	√	
	For use in Israel	730895-BB1	√	
	For use in Japan	730895-291	√	
	For use in Latin America	730895-161	√	
	For use in the Netherlands	730895-B31	√	
	For use in Portugal	730895-131	√	
	For use in Russia	730895-251	√	
	For use in Saudi Arabia	730895-171	√	
	For use in South Korea	730895-AD1	√	
	For use in Spain	730895-071	√	
	For use in Switzerland	730895-BG1	√	
	For use in Taiwan	730895-AB1	√	
	For use in Thailand	730895-281	√	
	For use in Turkey	730895-141	√	
	For use in the United Kingdom and Singapore	730895-031	√	
	For use in the United States	730895-001	√	
	For use in the United States	744192-001		√
	For use in Latin America	744192-161		√

Item	Component	Spare part number	HP Pavilion TouchSmart 11 Notebook PC/ HP Pavilion 11 Notebook PC	HP 215 G1 Notebook PC
	For use in Canada	744192-DB1		√
(3)	Power button board (includes cable)	730899-001	√	√
	TouchPad button board , includes:	730898-001	√	√
(4a)	TouchPad button board (includes TouchPad cable and TouchPad button board cable)			
(4b)	TouchPad button board bracket			
(5)	Monitor connector board (includes cable)	730901-001	√	√
(6)	Media card reader board (includes cable)	730897-001	√	√
(7)	Fan (includes cable and cowling)	730903-001	√	√
(8)	System board (includes replacement thermal material):			
	Equipped with an AMD A4-1250 processor, a graphics subsystem with UMA memory, for use on computers with Windows 8.1 Standard operating system	744789-501	√	
	Equipped with an AMD A4-1250 processor, a graphics subsystem with UMA memory, for use on computers with Windows 7 operating system	744185-001		√
	Equipped with an AMD A4-1250 processor, a graphics subsystem with UMA memory, for use on computers with Windows 8.1 Standard operating system	744185-501		√
	Equipped with an AMD A4-1250 processor, a graphics subsystem with UMA memory, for use on computers with Windows 8.1 Professional operating system	744185-601		√
	Equipped with an AMD A6-1450 processor, a graphics subsystem with UMA memory, for use on computers with Windows 8.1 Standard operating system	744790-501	√	
	Equipped with an AMD A6-1450 processor, a graphics subsystem with UMA memory, for use on computers with Windows 7 operating system	744189-001		√
	Equipped with an AMD A6-1450 processor, a graphics subsystem with UMA memory, for use on computers with Windows 8.1 Standard operating system	744189-501		√
	Equipped with an AMD A6-1450 processor, a graphics subsystem with UMA memory, for use on computers with Windows 8.1 Professional operating system	744189-601		√
(9)	Heat sink (includes 4 captive screws and replacement thermal material)	730902-001	√	√
(10)	Speaker Kit (includes left and right speakers and cables)	730890-001	√	√
(11)	Bottom cover (includes left and right corner covers, items 13)			

Item	Component	Spare part number	HP Pavilion TouchSmart 11 Notebook PC/ HP Pavilion 11 Notebook PC	HP 215 G1 Notebook PC
	TouchSmart models	730887-001	√	√
	HP 215 G1 Notebook PC non-touchscreen models	747750-001		√
(12)	Memory module (PC3L, 12800, 1600 MHz):			
	8 GB	693374-001	√	√
	4 GB	691740-001	√	√
(13)	Rear corner covers (2, included with the bottom cover)		√	√
(14)	WLAN module:			
	Atheros AR9485 802.11 b/g/n 1x1 WiFi Adapter	675794-001	√	√
	Broadcom BCM943228HMB 802.11 a/b/g/n 2x2 WiFi + Bluetooth 4.0 Combo Adapter	730668-001	√	√
	Ralink RT3290LE 802.11 b/g/n 1×1 WiFi + Bluetooth 4.0 Combo Adapter	690020-001	√	√
	Realtek RTL8188EE 802.11 b/g/n 1×1 WiFi Adapter	709848-001	√	√
(15)	Power connector cable (includes bracket)	730900-001	√	√
(16)	RTC battery (includes cable and double-sided adhesive)	738824-001	√	√
(17)	Hard drive (does not include hard drive bracket, hard drive connector cable, or screws):			
	500 GB, 5400 rpm, 7.0 mm	683802-001	√	√
	320 GB, 5400 rpm, 7.0 mm	645193-001	√	√
	Hard Drive Hardware Kit (not illustrated, includes hard drive bracket, hard drive connector cable, and screws)	731424-001	√	√
(18)	3 cell, 36 Wh, 3.20 Ah, Li-ion battery	729892-001	√	√
(19)	Service door	737253-001	√	√

Display assembly subcomponents

 **NOTE:** The display assembly subcomponents are for the HP 215 G1 Notebook PC non-touchscreen models only. HP Pavilion TouchSmart 11 Notebooks, HP Pavilion 11 Notebooks, and HP 215 G1 Notebook PC with TouchSmart models are spared at the display assembly only.



Item	Component	Spare part number
(1)	Display bezel	744179-001
(2)	Display panel cable (includes webcam/microphone module cable)	744180-001
(3)	Webcamera/microphone module	754263-001
(4)	Antenna Kit (includes left and right wireless antenna cables and transceivers)	744177-001
(5)	11.6 inch (29.46 cm) flat display panel, HD WLED AG (1366 x 768) (3.6 mm) standard viewing angle, non-touchscreen	744182-001
(6)	Display Hinge Kit (includes left and right hinges)	744181-001
(7)	Display back cover	744178-001
	Screw pad and display screws (not illustrated)	744184-001

Mass storage devices



Item	Component	Spare part number	HP Pavilion 11 Notebook PC	HP Pavilion TouchSmart 11 Notebook PC	HP 215 G1 Notebook PC
(1)	Hard drive (does not include hard drive bracket, hard drive connector cable, or screws):				
	500 GB, 5400 rpm, 7.0 mm	683802-001	√	√	√
	320 GB, 5400 rpm, 7.0 mm	645193-001	√	√	√
	Hard Drive Hardware Kit , includes:	731424-001	√	√	√
(2a)	Hard drive bracket				
(2b)	Hard drive connector cable				
	Screws (not illustrated)				
(3)	External DVD±RW Double-Layer with SuperMulti Drive	659940-001	√		

Miscellaneous parts

Component	Spare part number	HP Pavilion 11 Notebook PC HP Pavilion TouchSmart 11 Notebook PC	HP 215 G1 Notebook PC
AC adapter			
65 W HP Smart AC adapter (non-PFC, 4.5 mm)	710412-001	√	√
65 W HP Smart AC adapter (non-PFC, select models only, 4.5 mm)	714657-001	√	
45 W HP Smart AC adapter (non-PFC, 4.5 mm)	741727-001	√	√
Power cord (3-pin, black, 1.83 m):			
For use in Argentina	490371-D01	√	√
For use in Denmark	490371-081	√	
For use in Europe	490371-021	√	
For use in Israel	490371-BB1	√	
For use in Italy	490371-061	√	
For use in Japan	490371-291	√	
For use in North America	490371-001	√	√
For use in South Korea	490371-AD1	√	
For use in Switzerland	490371-111	√	
For use in Taiwan	490371-AB1	√	
For use in Thailand	490371-201	√	
For use in the United Kingdom and Singapore	490371-031	√	
Rubber Feet Kit (includes 2 rear rubber feet)	730888-001	√	√
Screw Kit	730889-001	√	√

Sequential part number listing

Spare part number	Description	HP Pavilion 11 Notebook PC HP Pavilion TouchSmart 11 Notebook PC	HP 215 G1 Notebook PC
490371-001	Power cord for use in North America (3-pin, black, 1.83 m)	√	√
490371-021	Power cord for use in Europe (3-pin, black, 1.83 m)	√	
490371-031	Power cord for use in the United Kingdom and Singapore (3-pin, black, 1.83 m)	√	

Spare part number	Description	HP Pavilion 11 Notebook PC	HP 215 G1 Notebook PC
		HP Pavilion TouchSmart 11 Notebook PC	
490371-061	Power cord for use in Italy (3-pin, black, 1.83 m)	√	
490371-081	Power cord for use in Denmark (3-pin, black, 1.83 m)	√	
490371-111	Power cord for use in Switzerland (3-pin, black, 1.83 m)	√	
490371-201	Power cord for use in Thailand (3-pin, black, 1.83 m)	√	
490371-291	Power cord for use in Japan (3-pin, black, 1.83 m)	√	
490371-AB1	Power cord for use in Taiwan (3-pin, black, 1.83 m)	√	
490371-AD1	Power cord for use in South Korea (3-pin, black, 1.83 m)	√	
490371-BB1	Power cord for use in Israel (3-pin, black, 1.83 m)	√	
490371-D01	Power cord for use in Argentina (3-pin, black, 1.83 m)	√	√
645193-001	320 GB, 5400 rpm, SATA, 7.0 mm hard drive (does not include hard drive bracket, hard drive connector cable, or screws) NOTE: The hard drive bracket, hard drive connector cable, and screws are included in the Hard Drive Hardware Kit, spare part number 731424-001.	√	√
659940-001	External DVD±RW Double-Layer with SuperMulti Drive	√	
675794-001	Atheros AR9485 802.11 b/g/n 1x1 WiFi Adapter	√	√
683802-001	500 GB, 5400 rpm, SATA, 7.0 mm hard drive (does not include hard drive bracket, hard drive connector cable, or screws) NOTE: The hard drive bracket, hard drive connector cable, and screws are included in the Hard Drive Hardware Kit, spare part number 731424-001.	√	√
690020-001	Ralink RT3290LE 802.11 b/g/n 1x1 WiFi + Bluetooth 4.0 Combo Adapter	√	√
691740-001	4 GB memory module (PC3L, 12800, 1600 MHz)	√	√
693374-001	8 GB memory module (PC3L, 12800, 1600 MHz)	√	√
709848-001	Realtek RTL8188EE 802.11 b/g/n 1x1 WiFi Adapter	√	√

Spare part number	Description	HP Pavilion 11 Notebook PC	HP 215 G1 Notebook PC
		HP Pavilion TouchSmart 11 Notebook PC	
710412-001	65 W HP Smart AC adapter (non-PFC, 4.5 mm)	√	√
714657-001	65 W HP Smart AC adapter (non-PFC, select models only, 4.5 mm)	√	
729892-001	3 cell, 36 Wh, 3.20 Ah, Li-ion battery	√	√
730668-001	Broadcom BCM943228HMB 802.11 a/b/g/n 2x2 WiFi + Bluetooth 4.0 Combo Adapter	√	√
730887-001	Bottom cover for TouchSmart models (includes left and right corner covers)	√	√
730888-001	Rubber Feet Kit (includes 2 rubber feet)	√	√
730889-001	Screw Kit	√	
730890-001	Speaker Kit (includes left and right speakers and cables)	√	√
730895-001	Keyboard/top cover for use in the United States (includes keyboard cable and TouchPad)	√	
730895-031	Keyboard/top cover for use in the United Kingdom and Singapore (includes keyboard cable and TouchPad)	√	
730895-041	Keyboard/top cover for use in Germany (includes keyboard cable and TouchPad)	√	
730895-051	Keyboard/top cover for use in France (includes keyboard cable and TouchPad)	√	
730895-071	Keyboard/top cover for use in Spain (includes keyboard cable and TouchPad)	√	
730895-131	Keyboard/top cover for use in Portugal (includes keyboard cable and TouchPad)	√	
730895-141	Keyboard/top cover for use in Turkey (includes keyboard cable and TouchPad)	√	
730895-161	Keyboard/top cover for use in Latin America (includes keyboard cable and TouchPad)	√	
730895-171	Keyboard/top cover for use in Saudi Arabia (includes keyboard cable and TouchPad)	√	
730895-251	Keyboard/top cover for use in Russia (includes keyboard cable and TouchPad)	√	
730895-281	Keyboard/top cover for use in Thailand (includes keyboard cable and TouchPad)	√	
730895-291	Keyboard/top cover for use in Japan (includes keyboard cable and TouchPad)	√	
730895-A41	Keyboard/top cover for use in Belgium (includes keyboard cable and TouchPad)	√	

Spare part number	Description	HP Pavilion 11 Notebook PC	HP 215 G1 Notebook PC
		HP Pavilion TouchSmart 11 Notebook PC	
730895-AB1	Keyboard/top cover for use in Taiwan (includes keyboard cable and TouchPad)	√	
730895-AD1	Keyboard/top cover for use in South Korea (includes keyboard cable and TouchPad)	√	
730895-B31	Keyboard/top cover for use in the Netherlands (includes keyboard cable and TouchPad)	√	
730895-BA1	Keyboard/top cover for use in Bulgaria (includes keyboard cable and TouchPad)	√	
730895-BB1	Keyboard/top cover for use in Israel (includes keyboard cable and TouchPad)	√	
730895-BG1	Keyboard/top cover for use in Switzerland (includes keyboard cable and TouchPad)	√	
730895-DB1	Keyboard/top cover for use in Canada (includes keyboard cable and TouchPad)	√	
730895-DH1	Keyboard/top cover for use in Denmark, Finland, and Norway (includes keyboard cable and TouchPad)	√	
730895-FL1	Keyboard/top cover for use in the Czech Republic and Slovakia (includes keyboard cable and TouchPad)	√	
730897-001	Media card reader board (includes cable)	√	√
730898-001	TouchPad button board (includes bracket, TouchPad cable, and TouchPad button board cable)	√	√
730899-001	Power button board (includes cable)	√	√
730900-001	Power connector cable (includes bracket)	√	√
730901-001	Monitor connector board (includes cable)	√	√
730902-001	Heat sink (includes 4 captive screws and replacement thermal material)	√	√
730903-001	Fan (includes cable and cowling)	√	√
731424-001	Hard Drive Hardware Kit (includes hard drive bracket, hard drive connector cable, and screws)	√	√
737253-001	Service door (includes 2 rubber feet)	√	√
738824-001	RTC battery (includes cable and double-sided adhesive)	√	√
741727-001	45 W HP Smart AC adapter (non-PFC, 4.5 mm)	√	√
744177-001	Antenna Kit		√
744178-001	Display back cover (includes screws)		√

Spare part number	Description	HP Pavilion 11 Notebook PC	HP 215 G1 Notebook PC
		HP Pavilion TouchSmart 11 Notebook PC	
744179-001	Display bezel		√
744180-001	Display panel cable (includes webcam/microphone module cable)		√
744181-001	Display Hinge Kit (includes left and right hinges and 2 rubber screws)		√
744182-001	11.6 inch (29.46 cm) flat display panel, HD WLED AG (1366 x 768) (3.6 mm) standard viewing angle, non-touchscreen		√
744183-001	Screw kit		√
744184-001	Screw pad and display screws for non-touchscreen models		√
744185-001	System board equipped with an AMD A4-1250 processor, a graphics subsystem with UMA memory, for use on computers with Windows 7 operating system (includes replacement thermal material)		√
744185-501	System board equipped with an AMD A4-1250 processor, a graphics subsystem with UMA memory, for use on computers with Windows 8.1 Standard operating system (includes replacement thermal material)		√
744185-601	System board equipped with an AMD A4-1250 processor, a graphics subsystem with UMA memory, for use on computers with Windows 8.1 Professional operating system (includes replacement thermal material)		√
744189-001	System board equipped with an AMD A6-1450 processor, a graphics subsystem with UMA memory, for use on computers with Windows 7 operating system (includes replacement thermal material)		√
744189-501	System board equipped with an AMD A6-1450 processor, a graphics subsystem with UMA memory, for use on computers with Windows 8.1 Standard operating system (includes replacement thermal material)		√
744189-601	System board equipped with an AMD A6-1450 processor, a graphics subsystem with UMA memory, for use on computers with Windows 8.1 Professional operating system (includes replacement thermal material)		√
744192-001	Keyboard/top cover for use in the United States (includes keyboard cable and TouchPad)		√

Spare part number	Description	HP Pavilion 11 Notebook PC	HP 215 G1 Notebook PC
		HP Pavilion TouchSmart 11 Notebook PC	
744192-161	Keyboard/top cover for use in Latin America (includes keyboard cable and TouchPad)		√
744192-DB1	Keyboard/top cover for use in Canada (includes keyboard cable and TouchPad)		√
744789-501	System board equipped with an AMD A4-1250 processor, a graphics subsystem with UMA memory, for use on computers with Windows 8.1 Standard operating system (includes replacement thermal material)	√	
744790-501	System board equipped with an AMD A6-1450 processor, a graphics subsystem with UMA memory, for use on computers with Windows 8.1 Standard operating system (includes replacement thermal material)	√	
747750-001	Bottom cover for HP 215 G1 Notebook PC non-touchscreen models (includes left and right corner covers)		√
753948-001	11.6 inch (29.46 cm), (AG, SVA, LED TouchSmart touchscreen display assembly	√	√
754263-001	Webcamera/microphone module for HP 215 G1 Notebook PC non-touchscreen models		√

4 Removal and replacement procedures 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 and P1 screw drivers

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

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

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

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

Avoid dropping drives from any height onto any surface.

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

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

Avoid exposing a drive to temperature extremes or liquids.

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

Grounding guidelines

Electrostatic discharge damage

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

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

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

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

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

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

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

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

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

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

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

Packaging and transporting guidelines

Follow these grounding guidelines when packaging and transporting equipment:

- To avoid hand contact, transport products in static-safe tubes, bags, or boxes.
- Protect ESD-sensitive parts and assemblies with conductive or approved containers or packaging.
- Keep ESD-sensitive parts in their containers until the parts arrive at static-free workstations.
- Place items on a grounded surface before removing items from their containers.
- Always be properly grounded when touching a component or assembly.
- Store reusable ESD-sensitive parts from assemblies in protective packaging or 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 $\pm 10\%$ resistance in the ground cords. To provide proper ground, wear a strap snugly against the skin at all times. On grounded mats with banana-plug connectors, use alligator clips to connect a wrist strap.
- When standing, use foot straps and a grounded floor mat. Foot straps (heel, toe, or boot straps) can be used at standing workstations and are compatible with most types of shoes or boots. On conductive floors or dissipative floor mats, use foot straps on both feet with a minimum of one megohm resistance between the operator and ground. To be effective, the conductive 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 Customer Self-Repair parts

 **NOTE:** The Customer Self-Repair program is not available in all locations. Installing a part not supported by the Customer Self-Repair program may void your warranty. Check your warranty to determine if Customer Self-Repair is supported in your location.

Component replacement procedures

 **NOTE:** Please read and follow the procedures described here to access and replace Customer Self-Repair parts successfully.

 **NOTE:** Details about your computer, including model, serial number, product key, and length of warranty, are on the service tag at the bottom of your computer. See [Labels on page 13](#) for details.

This chapter provides removal and replacement procedures for Customer Self-Repair parts.

There are as many as 9 screws that must be removed, replaced, and/or loosened when servicing Customer Self-Repair parts. Make special note of each screw size and location during removal and replacement.

Battery

Description	Spare part number
3 cell, 36 Wh, 3.20 Ah, Li-ion battery	729892-001

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.

Remove the battery:

-  **WARNING!** To reduce potential safety issues, use only the user-replaceable battery provided with the computer, a replacement battery provided by HP, or a compatible battery purchased from HP.
-  **CAUTION:** Removing a user-replaceable battery that is the sole power source for the computer can cause loss of information. To prevent loss of information, save your work or shut down the computer through Windows before removing the battery.

1. Turn the computer upside down on a flat surface.
2. Position the computer with the rear toward you.
3. Slide the battery lock latch **(1)** to the unlocked position.

 **NOTE:** The battery lock latch automatically returns to its original position when the battery is removed.

4. Slide the battery release latch **(2)** to release the battery.
5. Remove the battery **(3)**.



Reverse this procedure to install the battery.

Service door

Description	Spare part number
Service door	737253-001

Before removing the service door, 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 battery (see [Battery on page 33](#)).

Remove the service door:

1. Lift up on the rear edge of the service door (1) until the left and right sides detach from the computer.
2. Remove the service door (2).



Reverse this procedure to install the service door.

Hard drive



NOTE: The hard drive spare part kit does not include the hard drive bracket, hard drive connector cable, and screws. These components are included in the Hard Drive Hardware Kit, spare part number 731424-001.

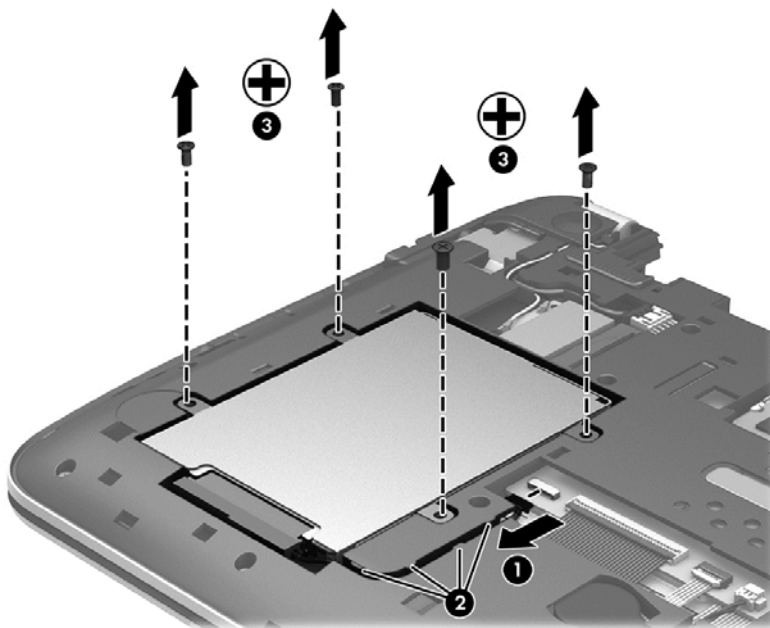
Description	Spare part number
500 GB, 5400 rpm, 7.0 mm	683802-001
320 GB, 5400 rpm, 7.0 mm	645193-001

Before removing the hard drive, follow these steps:

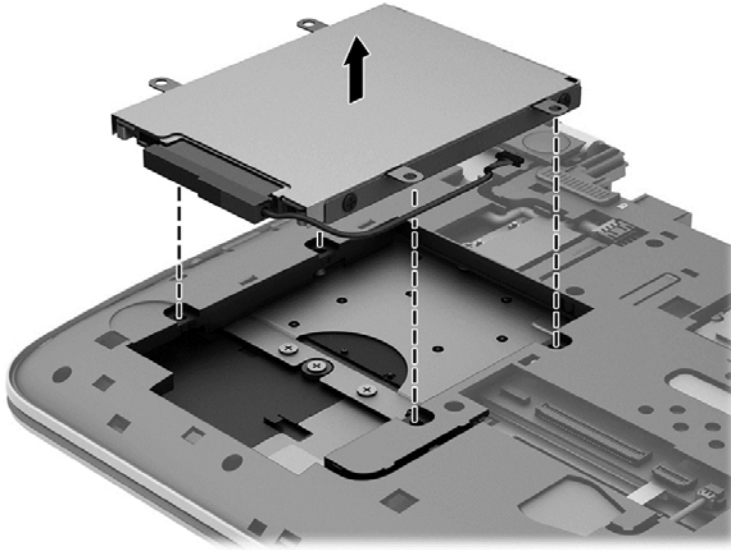
1. Turn off the computer. If you are unsure whether the computer is off or in Hibernation, turn the computer on, and then shut it down through the operating system.
2. Disconnect the power from the computer by unplugging the power cord from the computer.
3. Disconnect all external devices from the computer.
4. Remove the battery (see [Battery on page 33](#)).
5. Remove the service door (see [Service door on page 34](#)).

Remove the hard drive:

1. Disconnect the hard drive connector cable (1) from the system board.
2. Release the hard drive connector cable from the routing channel (2) built into the base enclosure.
3. Remove the four Phillips PM2.0×2.75 screws (3) that secure the hard drive to the computer.

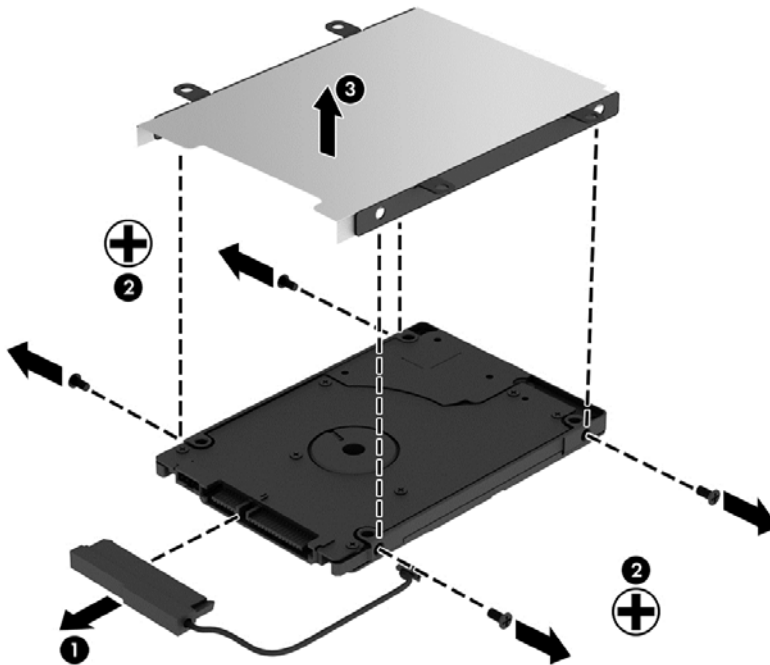


4. Remove the hard drive.



5. If it is necessary to disassemble the hard drive, perform the following steps:
 - a. Position the hard drive with the connector toward you.
 - b. Disconnect the hard drive connector cable (1) from the hard drive.
 - c. Remove the four Phillips PM3.0×3.25 screws (2) that secure the hard drive bracket to the hard drive.
 - d. Remove the hard drive bracket (3) from the hard drive.

The hard drive bracket, hard drive connector cable, and screws are available in the Hard Drive Hardware Kit, spare part number 731424-001.



Reverse this procedure to install the hard drive.

WLAN module

Description	Spare part number
Atheros AR9485 802.11 b/g/n 1x1 WiFi Adapter	675794-001
Broadcom BCM943228HMB 802.11 a/b/g/n 2x2 WiFi + Bluetooth 4.0 Combo Adapter	730668-001
Ralink RT3290LE 802.11 b/g/n 1x1 WiFi + Bluetooth 4.0 Combo Adapter	690020-001
Realtek RTL8188EE 802.11 b/g/n 1x1 WiFi Adapter	709848-001

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

Before removing the WLAN module, follow these steps:

1. 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 battery (see [Battery on page 33](#)).
5. Remove the service door (see [Service door on page 34](#)).

Remove the WLAN module:

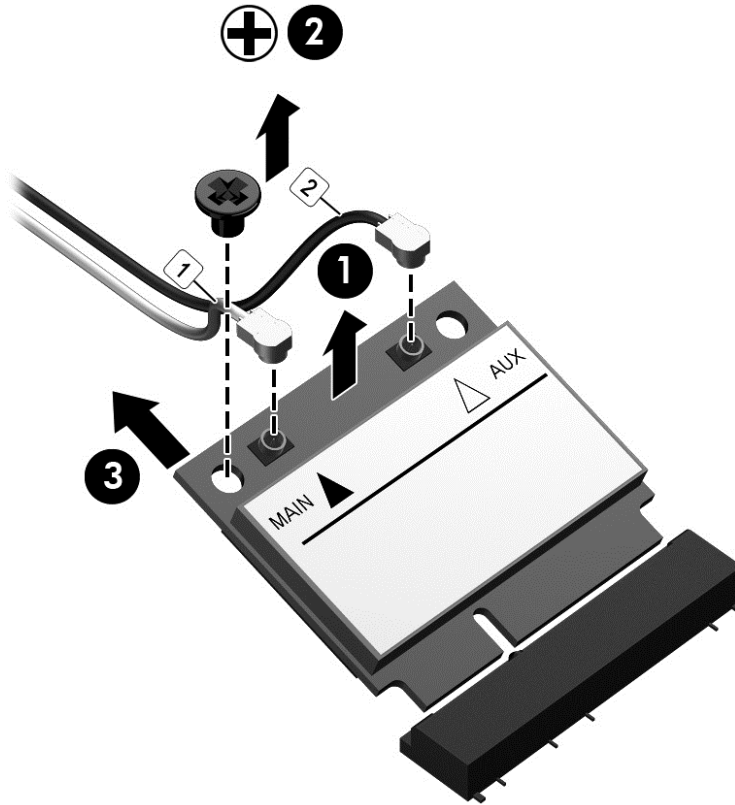
1. Disconnect the WLAN antenna cables **(1)** from the terminals on the WLAN module.



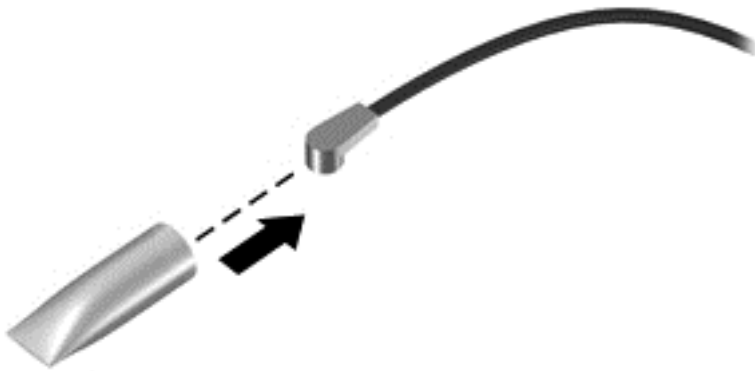
NOTE: The WLAN antenna cable labeled “1” connects to the WLAN module “Main” terminal labeled “1”. The WLAN antenna cable labeled “2” connects to the WLAN module “Aux” terminal labeled “2”.

2. Remove the Phillips PM2.0×3.5 screw **(2)** that secures the WLAN module to the system board. (The WLAN module tilts up.)

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



 **NOTE:** If the WLAN antenna cables are not connected to the terminals on the WLAN module, the protective sleeves must be installed on the antenna connectors, as shown in the following illustration.



Reverse this procedure to install the WLAN module.

Memory module

Description	Spare part number
8 GB (PC3L, 12800, 1600 MHz)	693374-001
4 GB (PC3L, 12800, 1600 MHz)	691740-001

Update BIOS before adding memory modules

Before adding new memory, make sure you update the computer to the latest BIOS.

CAUTION: Failure to update the computer to the latest BIOS prior to installing new memory may result in various system problems.

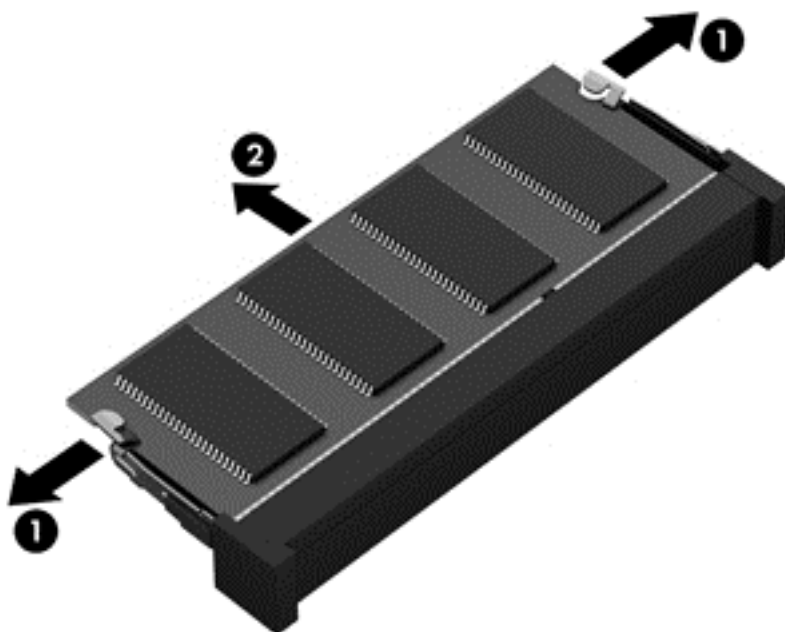
To update BIOS, refer to [Updating the BIOS on page 69](#).

Before removing a memory module, follow these steps:

1. Turn off the computer. If you are unsure whether the computer is off or in Hibernation, turn the computer on, and then shut it down through the operating system.
2. Disconnect the power from the computer by unplugging the power cord from the computer.
3. Disconnect all external devices from the computer.
4. Remove the battery (see [Battery on page 33](#)).
5. Remove the service door (see [Service door on page 34](#)).

Remove the memory module:

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



Reverse this procedure to install a memory module.

6 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.

Component replacement procedures

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

There are as many as 44 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.

RTC battery

Description	Spare part number
RTC battery (includes double-sided tape)	738824-001

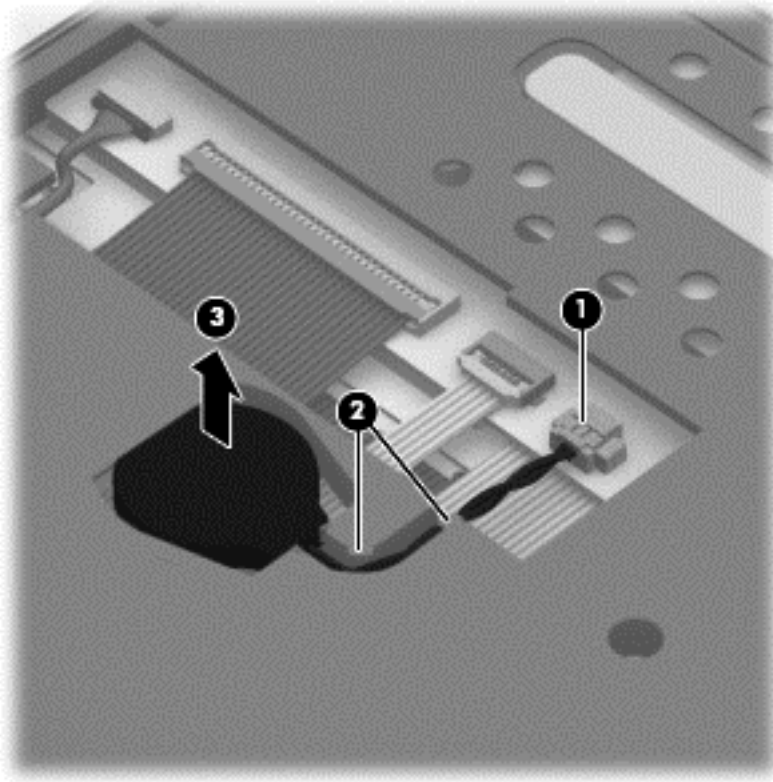
Before removing the RTC battery, follow these steps:

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 battery (see [Battery on page 33](#)).
5. Remove the service door (see [Service door on page 34](#)).

Remove the RTC battery:

1. Disconnect the RTC battery cable **(1)** from the system board.
2. Release the RTC battery cable **(2)** from the routing channel built into the bottom cover.

3. Detach the RTC battery (3) from the bottom cover. (The RTC battery is attached to the bottom cover by double-sided tape.)



4. Remove the RTC battery.
Reverse this procedure to install the RTC battery.

Display panel

 **NOTE:** These procedures are for replacing the display panel for HP 215 G1 PC non-touchscreen models only. For procedures to replace the display assembly for the HP Pavilion TouchSmart 11 Notebook PC, HP Pavilion 11 Notebook PC, or the HP 215 G1 PC TouchSmart models, see [Display assembly on page 46](#). For procedures to replace the display assembly subcomponents for the HP 215 G1 PC non-touchscreen models, see [Display assembly on page 46](#) and then [Display assembly subcomponents on page 49](#).

Description	Spare part number
Display bezel	744179-001
Display panel, 11.6 inch (29.46 cm) flat display panel, HD WLED AG (1366 x 768) (3.6 mm) Standard Viewing Angle, non-touchscreen	744182-001

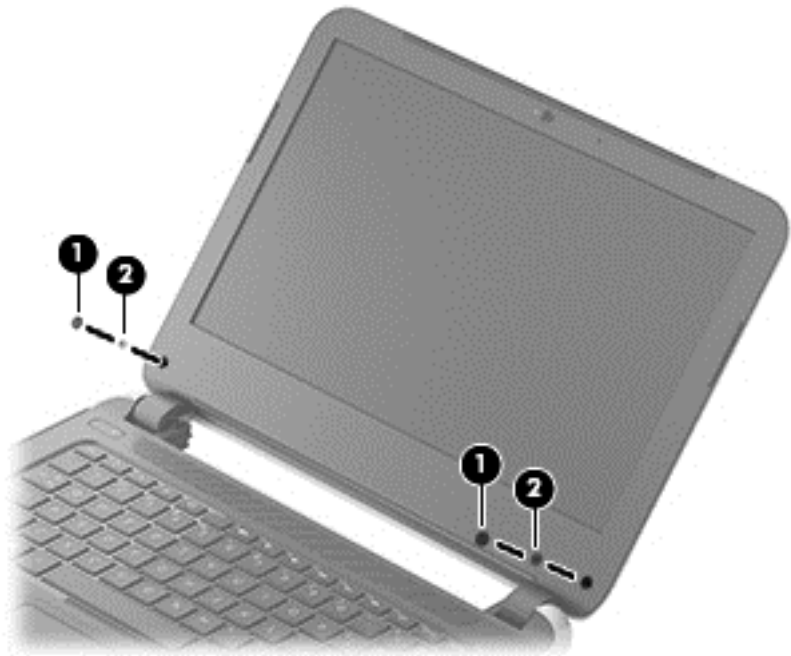
 **IMPORTANT:** Make special note of each screw and screw lock size and location during removal and replacement

Before removing the display panel, 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 battery (see [Battery on page 33](#)).

Remove the display panel:

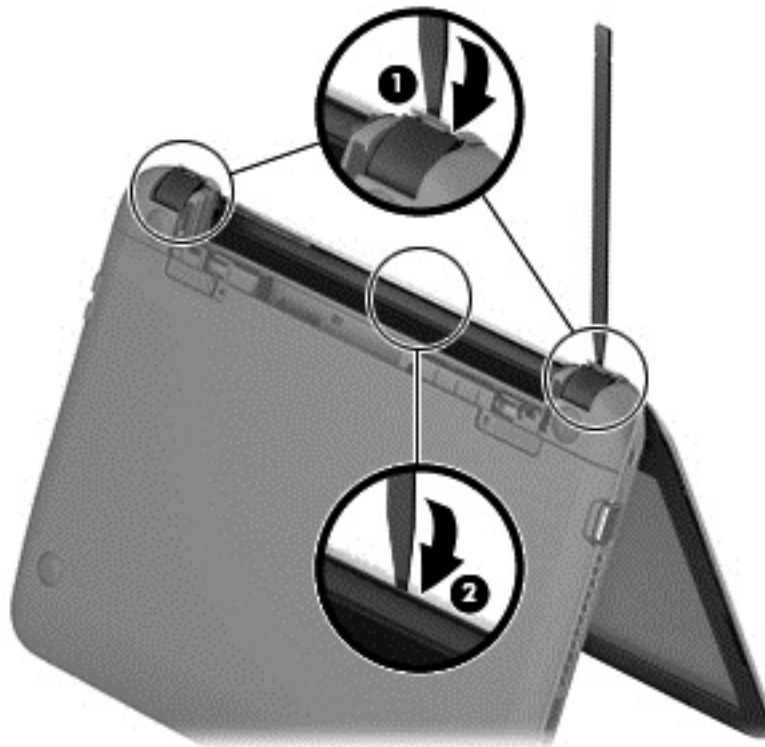
1. Remove the plastic screw covers **(1)** and the two Phillips screws **(2)** that secure the display bezel to the display assembly.



2. Flex the inside edges of the left and right sides (1), and the top edge (2) of the display bezel until the top and sides of the bezel disengage from the display enclosure.



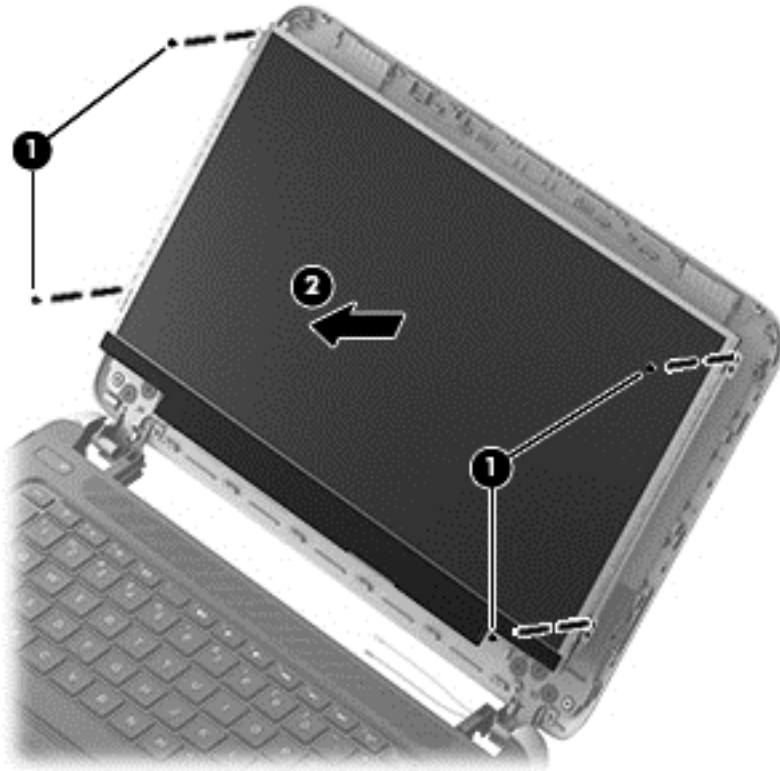
3. Partially close the display cover, and position the computer with the hinges up.
4. Using a thin, flat tool, disengage the hinge caps (1), and then use the tool to release the tabs (2) at the bottom of the display bezel.



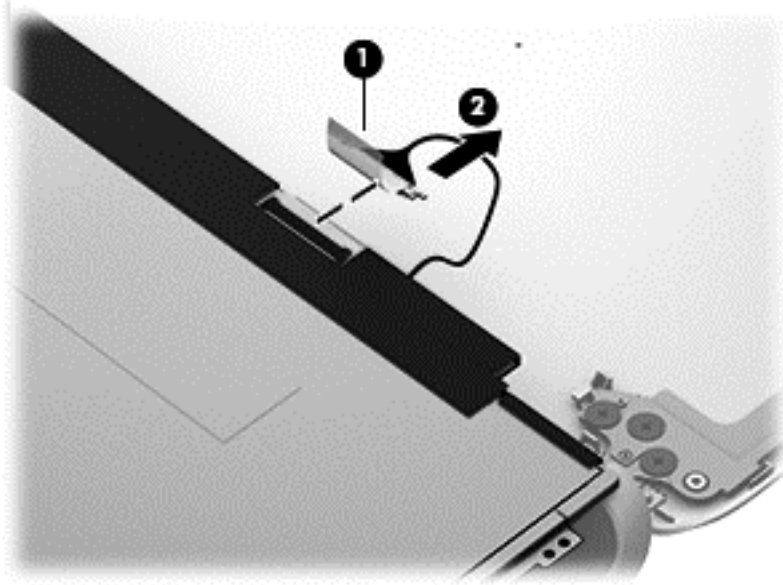
5. Open the display cover, and position the computer facing you.
6. Remove the display bezel.



7. Remove the four Phillips screws (1) and carefully move the display panel (2) to the keyboard.



8. Release the adhesive tape (1) and disconnect the display panel cable connector (2).



9. Remove the display panel.
Reverse this procedure to replace the display panel.

Display assembly



NOTE: HP Pavilion TouchSmart 11 Notebooks, HP Pavilion 11 Notebooks, and HP 215 G1 Notebook PC TouchSmart models are spared at the display assembly only. The display assembly for the HP 215 G1 Notebook PC non-touchscreen models is spared at the subcomponent-level only. For procedures to replace the display assembly subcomponents for the HP 215 G1 Notebook PC non-touchscreen models, see [Display assembly subcomponents on page 49](#).

Description	Spare part number
11.6 inch (29.46 cm), AG, SVA, LED TouchSmart display assembly (includes webcam/microphone module and wireless antenna cables)	753948-001

Before removing the display assembly, follow these steps:

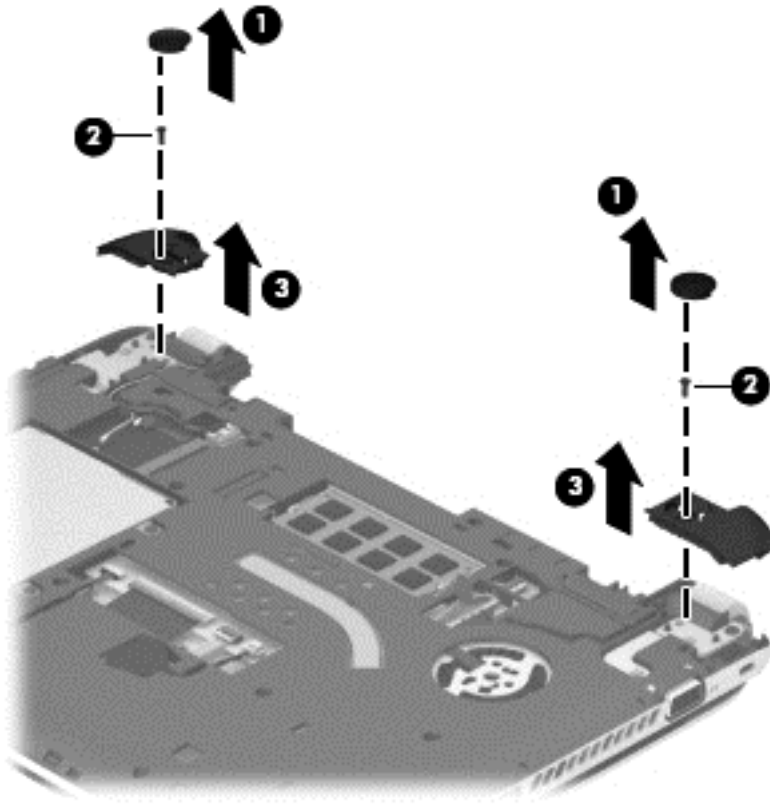
1. Turn off the computer. If you are unsure whether the computer is off or in Hibernation, turn the computer on, and then shut it down through the operating system.
2. Disconnect the power from the computer by unplugging the power cord from the computer.
3. Disconnect all external devices from the computer.
4. Remove the battery (see [Battery on page 33](#)).
5. Remove the service door (see [Service door on page 34](#)).

Remove the display assembly:

1. Remove the rear rubber feet **(1)**.
The rear rubber feet are included in the Rubber Feet Kit, spare part number 730888-001.
2. Remove the two Phillips PM2.2×5.5 screws **(2)** that secure the rear corner covers to the computer.

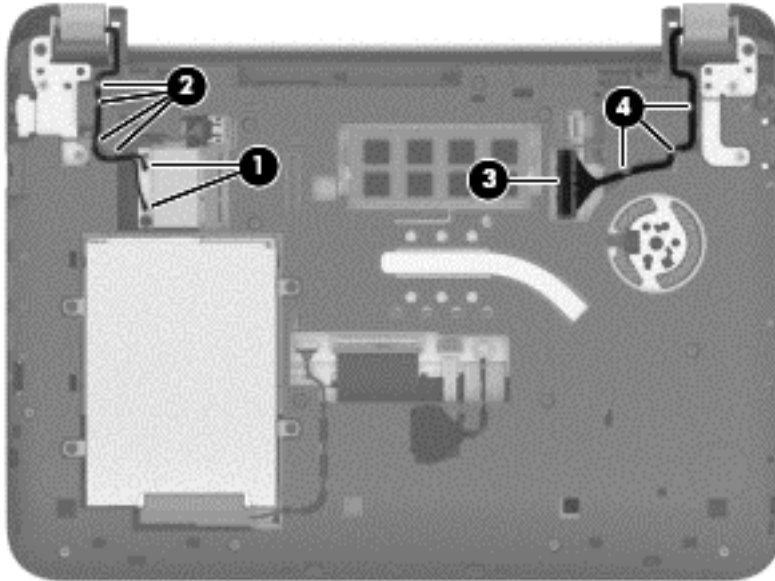
3. Remove the left and right rear corner covers (3).

The rear corner covers are included in the bottom cover spare part kit, spare part number 730887-001 for TouchSmart models, and spare part number 747750-001 for HP 215 G1 Notebook PC non-touchscreen models.

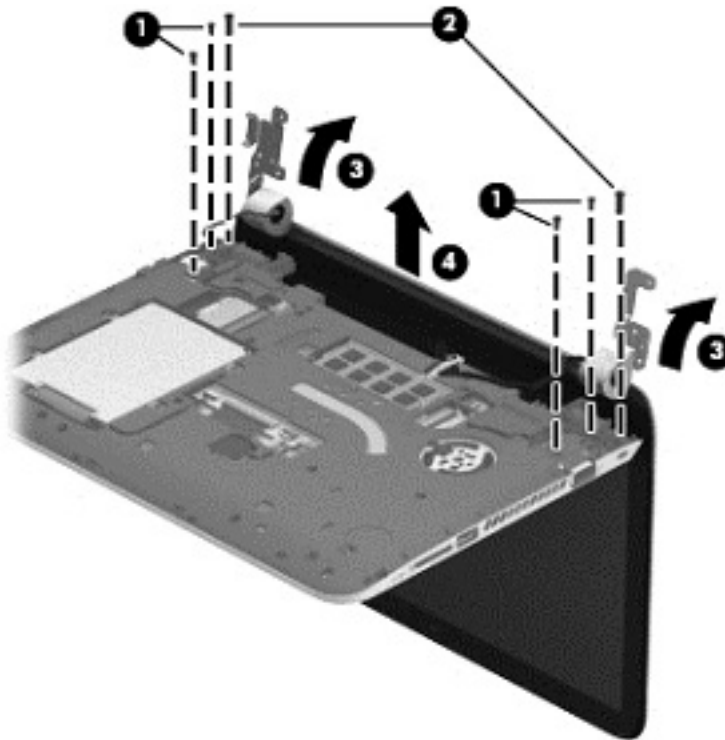


4. Disconnect the wireless antenna cables (1) from the WLAN module.
5. Release the wireless antenna cables from the retention clips (2) and routing channel built into the bottom cover.
6. Disconnect the display panel cable (3) from the system board.

7. Release the display panel cable from the retention clips **(4)** and routing channel built into the bottom cover.



8. Remove the four Phillips PM2.0×5.5 screws **(1)** and the two Phillips PM2.5×10.5 screws **(2)** that secure the display assembly to the computer.
9. Open the display hinges **(3)** as far as they will open.
10. Separate the display assembly **(4)** from the computer.



Reverse this procedure to install the display assembly.

Display assembly subcomponents



NOTE: These procedures are for replacing the display assembly internal components for the HP 215 G1 Notebook PC non-touchscreen models only.

Component	Spare part number
Antenna Kit (includes left and right wireless antenna cables and transceivers)	744177-001
Display back cover	744178-001
Display Hinge Kit (includes left and right hinges)	744181-001
Display panel cable (includes webcam/microphone module cable)	744180-001
Screw pad (includes display screws)	744184-001
Webcam/microphone module	754263-001

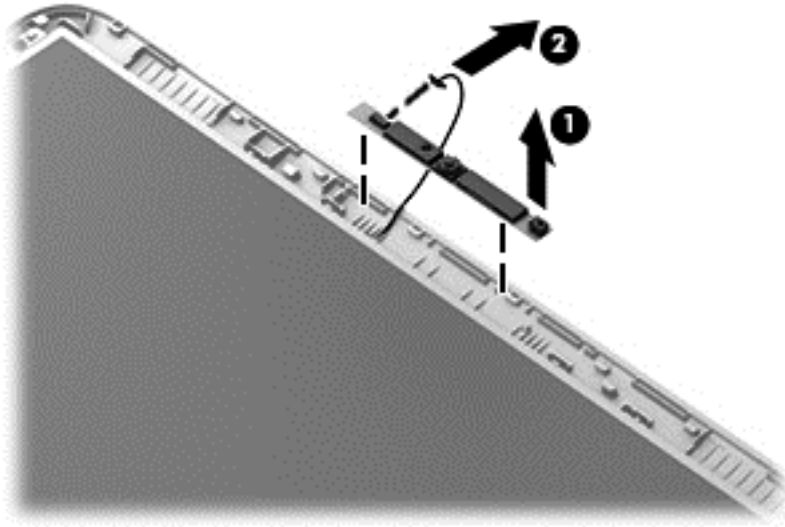
Before removing the display assembly subcomponents, follow these steps:

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 battery (see [Battery on page 33](#)).
5. Remove the service door (see [Service door on page 34](#)).
6. Remove the display panel (see [Display panel on page 42](#)).
7. Remove the display assembly (see [Display assembly on page 46](#)).

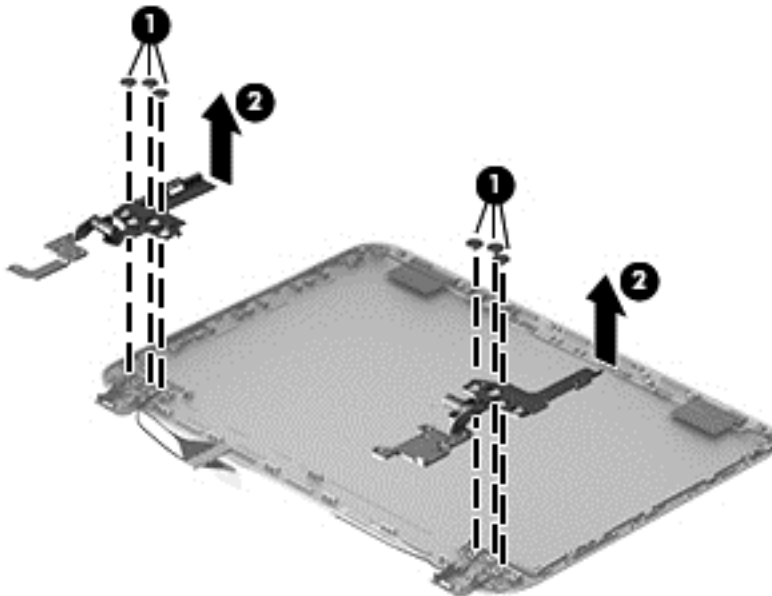
Remove the display assembly subcomponents:

1. If it is necessary to replace the webcam/microphone module:
 - a. Detach the webcam/microphone module **(1)** from the display back cover.

- b. Disconnect the webcam/microphone module cable (2) from the webcam/microphone module. (The webcam/microphone module cable is part of the display panel cable.)

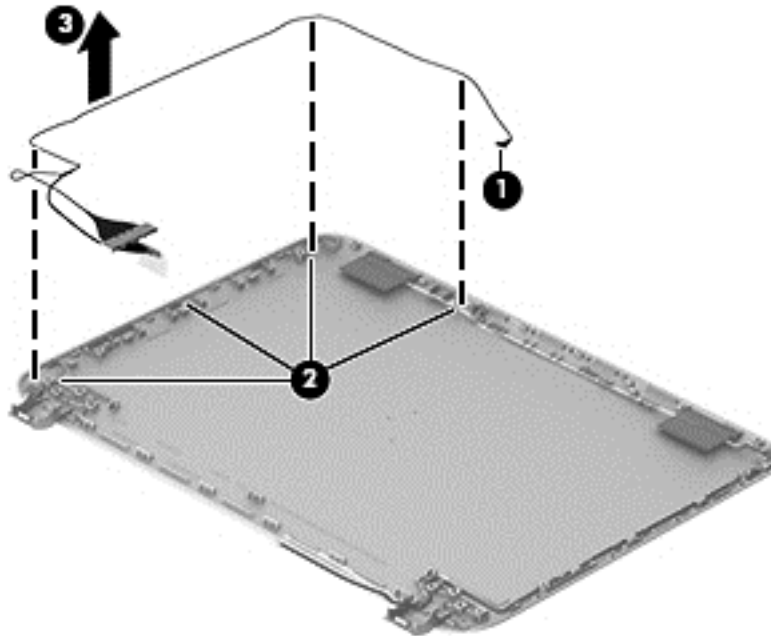


- 2. If it is necessary to replace the hinges:
 - a. Remove the six bottom screws (1) from the display hinges.
 - b. Remove the hinges (2) from the display enclosure.

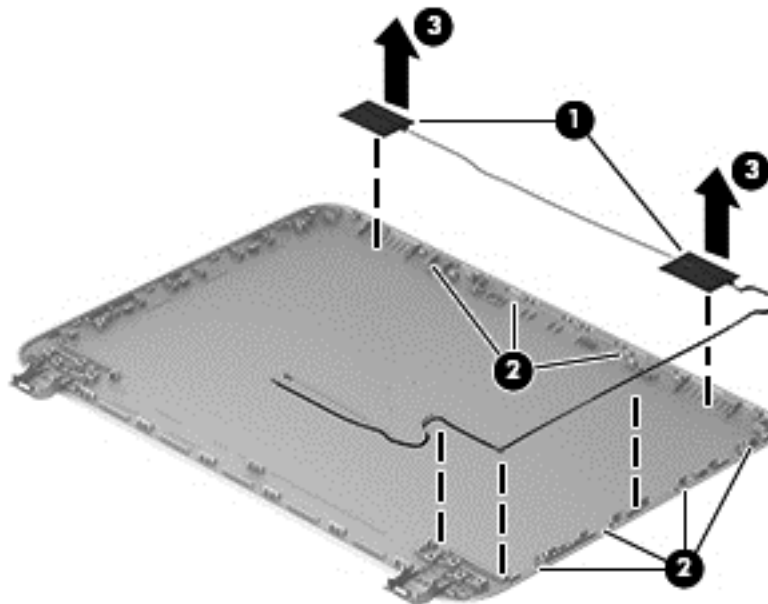


- 3. If it is necessary to replace the display panel cable:
 - a. Release the microphone (1).

- b. Carefully release the cable from the channel guides (2), and remove the display panel cable (3).



- 4. If it is necessary to replace the wireless antenna cables and transceivers:
 - a. Release the wireless antenna transceivers (1) from the display back cover. (The wireless antenna transceivers are attached to the display back cover with double-sided tape.)
 - b. Release the wireless antenna cables from the clips (2) built into the display back cover.
 - c. Remove the wireless antenna cables and transceivers (3).



Reverse this procedure to install the display assembly subcomponents.

Power connector cable

Description	Spare part number
Power connector cable (includes bracket)	730900-001

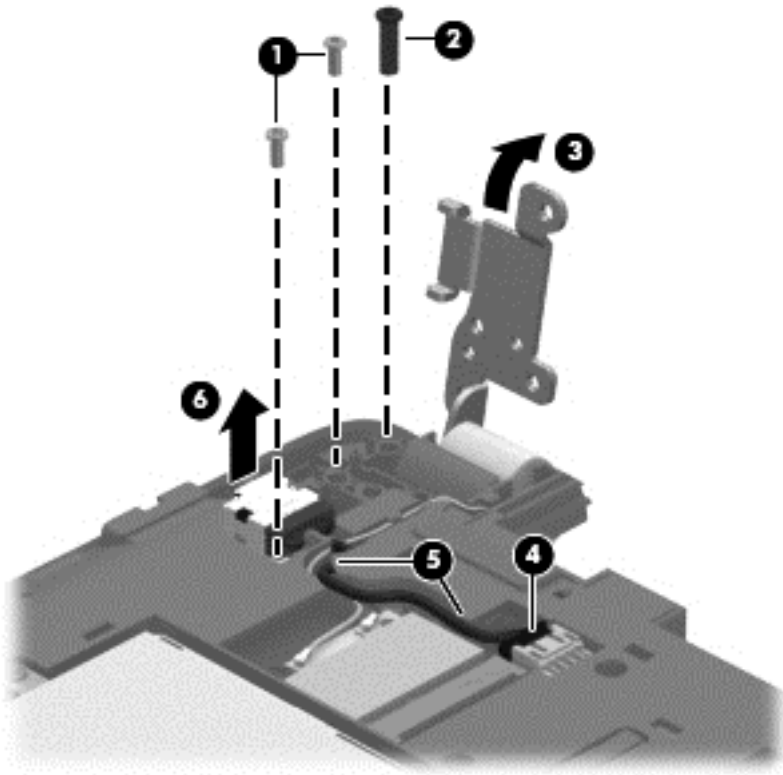
Before removing the power connector cable, follow these steps:

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 battery (see [Battery on page 33](#)).
5. Remove the service door (see [Service door on page 34](#)).

Remove the power connector cable:

1. Remove the two Phillips PM2.0×5.5 screws **(1)** and the Phillips PM2.5×10.5 screw **(2)** that secure the display assembly right hinge to the computer.
2. Open the display assembly right hinge **(3)** as far as it will open.
3. Disconnect the power connector cable **(4)** from the system board.
4. Release the power connector cable from the retention clips **(5)** and routing channel built into the bottom cover.

5. Release the power connector (6) from the clips and mold built into the bottom cover.



6. Remove the power connector cable.

Reverse this procedure to install the power connector cable.

Bottom cover

Description	Spare part number
TouchSmart models (includes left and right corner covers)	730887-001
HP 215 G1 Notebook PC non-touchscreen models (includes left and right corner covers)	747750-001

Before removing the bottom cover, 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 battery (see [Battery on page 33](#)).
5. Remove the service door (see [Service door on page 34](#)).
6. Disconnect the RTC battery cable from the system board (see [RTC battery on page 40](#)).
7. Remove the display assembly (see [Display assembly on page 46](#)).

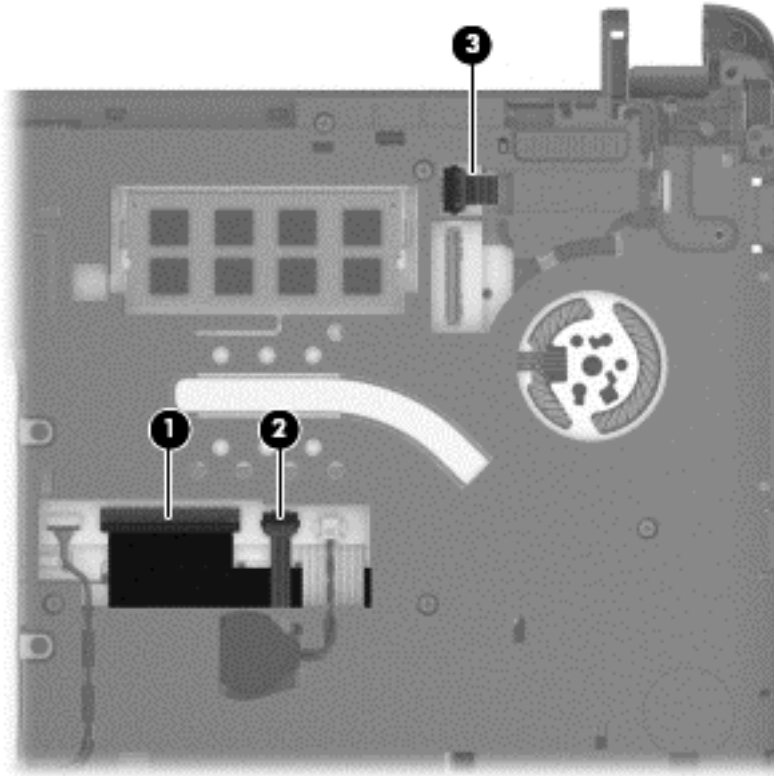


NOTE: When replacing the bottom cover, be sure that the RTC battery is removed from the defective bottom cover and installed in the replacement bottomcover.

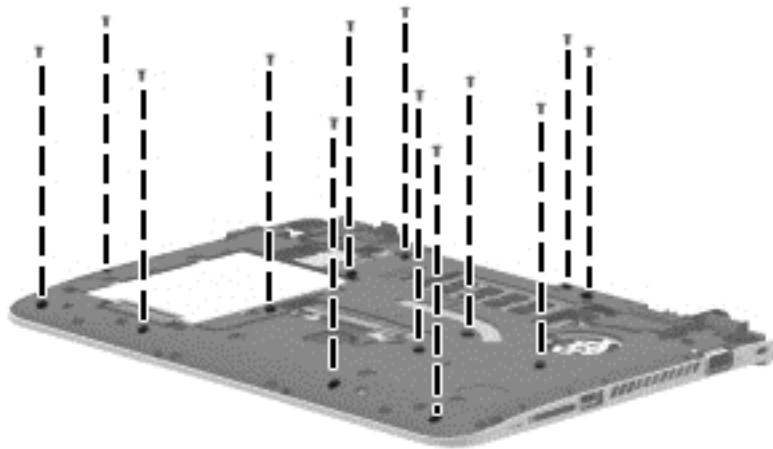
Remove the bottom cover:

1. Release the zero insertion force (ZIF) connector **(1)** to which the keyboard cable is attached, and then disconnect the keyboard cable from the system board.
2. Release the ZIF connector **(2)** to which the TouchPad button board cable is attached, and then disconnect the TouchPad button board cable from the system board.

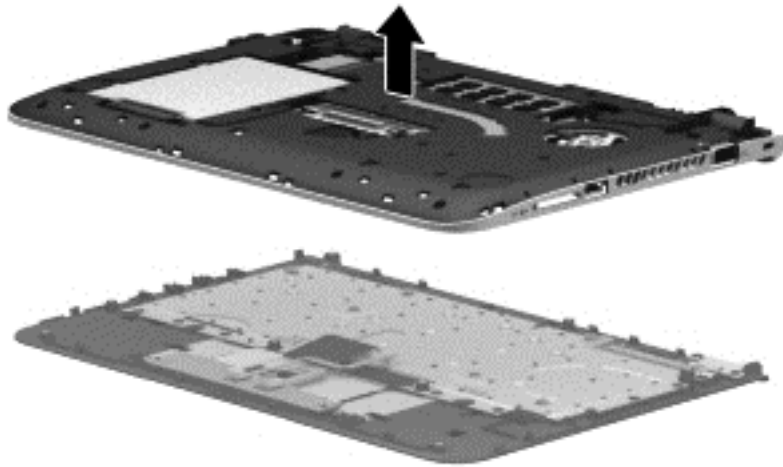
3. Release the ZIF connector (3) to which the power button board ribbon cable is attached, and then disconnect the power button board ribbon cable from the system board.



4. Remove the thirteen Phillips PM2.0×4.5 screws that secure the bottom cover to the top cover.



5. Remove the bottom cover from the top cover.



Reverse this procedure to install the bottom cover.

Power button board

Description	Spare part number
Power button board (includes cable)	730899-001

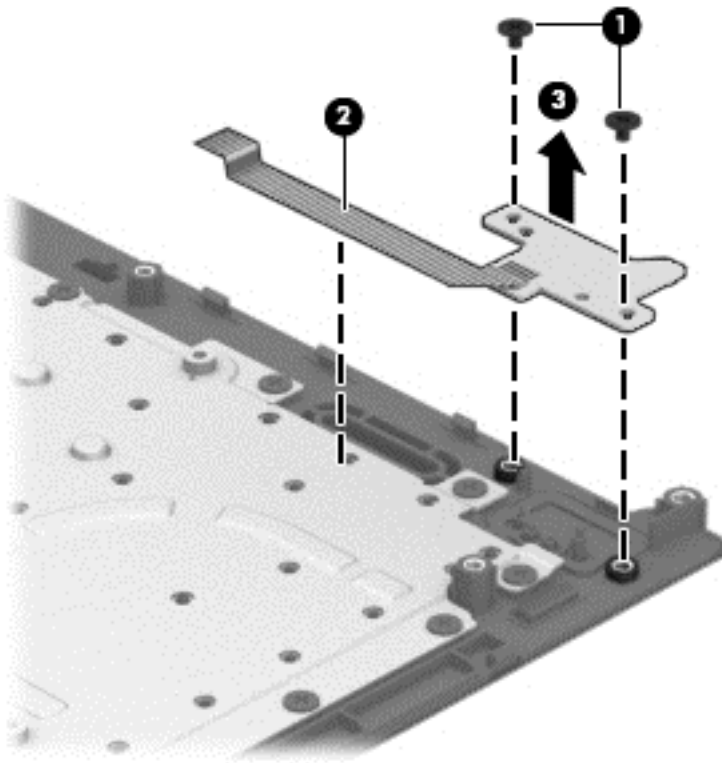
Before removing the power button board, follow these steps:

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 battery (see [Battery on page 33](#)), and then remove the following components:
 - a. Service door (see [Service door on page 34](#))
 - b. Display assembly (see [Display assembly on page 46](#))
 - c. Bottom cover (see [Bottom cover on page 54](#))

Remove the power button board:

1. Remove the two Phillips PM2.0×2.75 screws **(1)** that secure the power button board to the top cover.
2. Detach the power button board cable **(2)** from the top cover. (The power button board cable is attached to the top cover with double-sided tape.)

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



Reverse this procedure to install the power button board.

TouchPad button board

Description	Spare part number
TouchPad button board (includes TouchPad cable, TouchPad button board cable, and TouchPad button board bracket)	730898-001

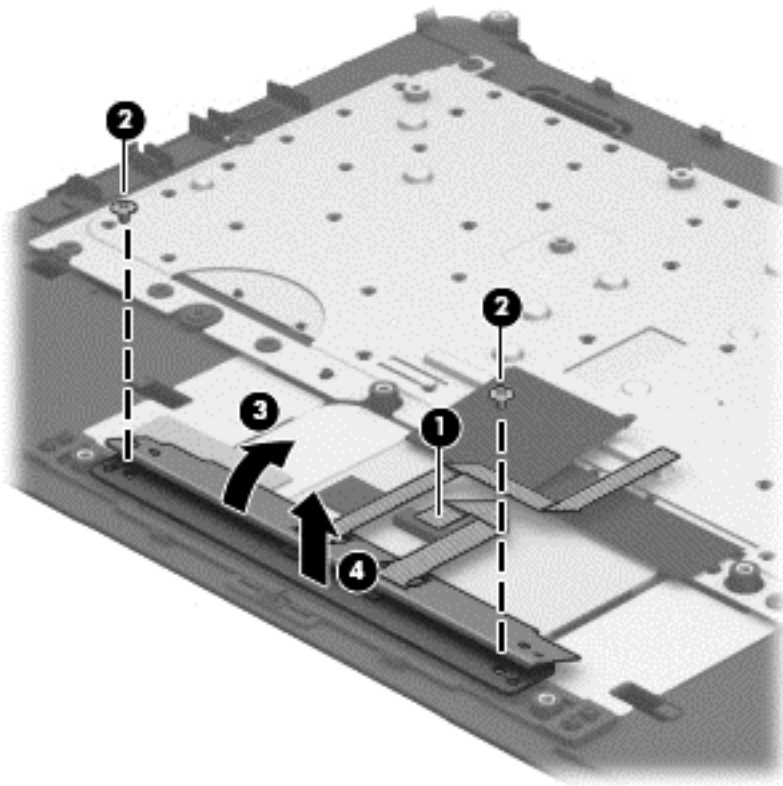
Before removing the TouchPad button board, follow these steps:

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 battery (see [Battery on page 33](#)), and then remove the following components:
 - a. Service door (see [Service door on page 34](#))
 - b. Display assembly (see [Display assembly on page 46](#))
 - c. Bottom cover (see [Bottom cover on page 54](#))

Remove the TouchPad button board:

1. Release the ZIF connector **(1)** to which the TouchPad board cable is attached, and then disconnect the TouchPad board cable from the TouchPad board.
2. Remove the two Phillips PM2.0×4.5 screws **(2)** that secure the TouchPad button board to the top cover.
3. Remove the TouchPad button board bracket **(3)**.

4. Remove the TouchPad button board (4) and cables.



Reverse this procedure to install the TouchPad button board.

Media card reader board

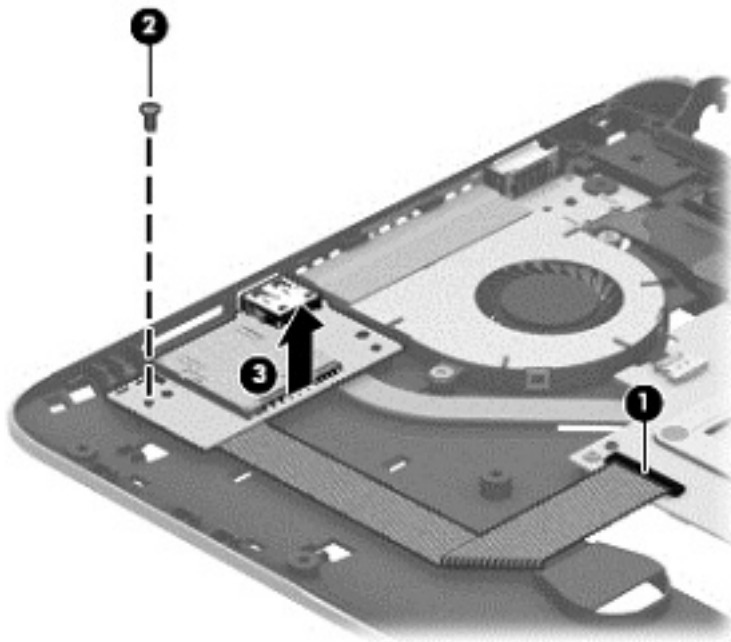
Description	Spare part number
Media card reader board (includes cable)	730897-001

Before removing the media card reader 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 battery (see [Battery on page 33](#)), and then remove the following components:
 - a. Service door (see [Service door on page 34](#))
 - b. Display assembly (see [Display assembly on page 46](#))
 - c. Bottom cover (see [Bottom cover on page 54](#))

Remove the media card reader board:

1. Release the ZIF connector (1) to which the media card reader board cable is attached, and then disconnect the media card reader board cable from the system board.
2. Remove the Phillips PM2.0×4.5 screw (2) that secures the media card reader board to the top cover.
3. Remove the media card reader board (3) and cable.



Reverse this procedure to install the media card reader board.

Fan

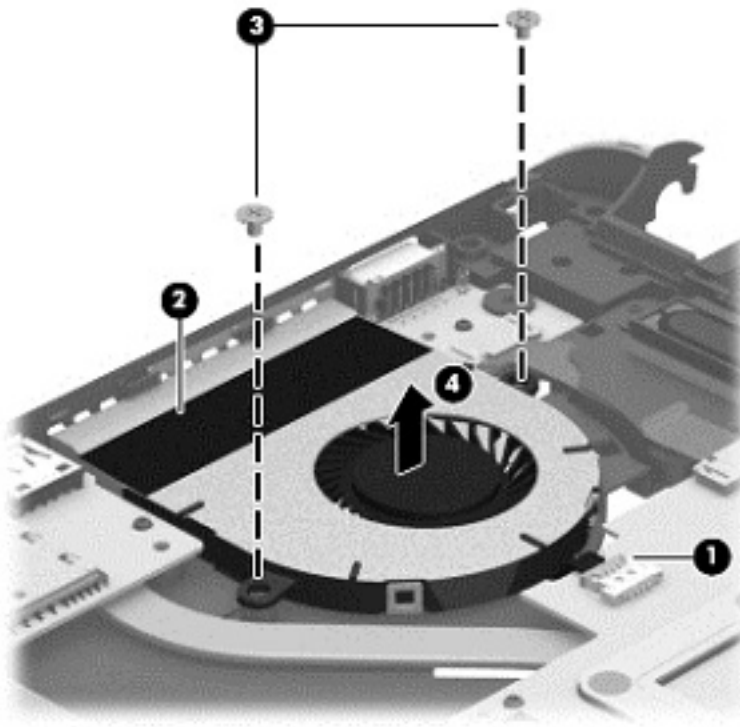
Description	Spare part number
Fan (includes cable and cowling)	730903-001

Before removing the fan, 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 battery (see [Battery on page 33](#)), and then remove the following components:
 - a. Service door (see [Service door on page 34](#))
 - b. Display assembly (see [Display assembly on page 46](#))
 - c. Bottom cover (see [Bottom cover on page 54](#))

Remove the fan:

1. Disconnect the fan cable (1) from the system board.
2. Detach the cowling tape (2) that secures the fan to the heat sink.
3. Remove the two Phillips PM2.0×4.5 screws (3) that secure the fan to the system board.
4. Remove the fan (4).



Reverse this procedure to install the fan.

Monitor connector board

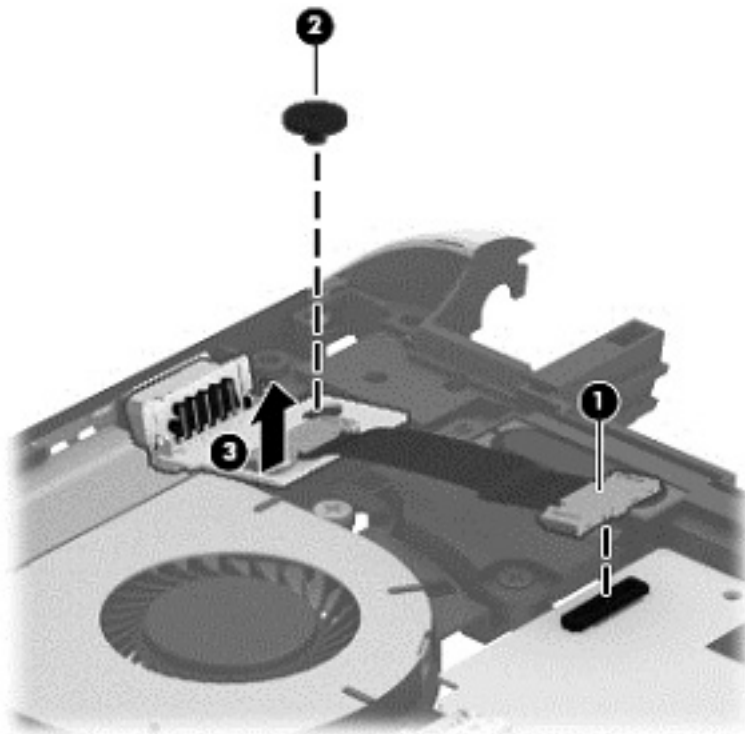
Description	Spare part number
Monitor connector board (includes cable)	730901-001

Before removing the monitor 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 battery (see [Battery on page 33](#)), and then remove the following components:
 - a. Service door (see [Service door on page 34](#))
 - b. Display assembly (see [Display assembly on page 46](#))
 - c. Bottom cover (see [Bottom cover on page 54](#))

Remove the monitor connector board:

1. Disconnect the monitor connector board cable (1) from the system board.
2. Remove the Phillips PM2.0×2.25 broad head screw (2) that secures the monitor connector board to the top cover.
3. Remove the monitor connector board (3) and cable.



Reverse this procedure to install the monitor connector board.

System board



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

Description	Spare part number
HP Pavilion TouchSmart 11 Notebook PC/ HP Pavilion 11 Notebook PC	
Equipped with an AMD A4-1250 processor, a graphics subsystem with UMA memory, for use on computers with Windows 8.1 Standard operating system	744789-501
Equipped with an AMD A6-1450 processor, a graphics subsystem with UMA memory, for use on computers with the Windows 8.1 Standard operating system	744790-501
HP 215 G1 Notebook PC	
Equipped with an AMD A4-1250 processor, a graphics subsystem with UMA memory, for use on computers with Windows 7 operating system	744185-001
Equipped with an AMD A4-1250 processor, a graphics subsystem with UMA memory, for use on computers with Windows 8.1 Standard operating system	744185-501
Equipped with an AMD A4-1250 processor, a graphics subsystem with UMA memory, for use on computers with Windows 8.1 Professional operating system	744185-601
Equipped with an AMD A6-1450 processor, a graphics subsystem with UMA memory, for use on computers with Windows 7 operating system	744189-001
Equipped with an AMD A6-1450 processor, a graphics subsystem with UMA memory, for use on computers with Windows 8.1 Standard operating system	744189-501
Equipped with an AMD A6-1450 processor, a graphics subsystem with UMA memory, for use on computers with Windows 8.1 Professional operating system	744189-601

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 battery (see [Battery on page 33](#)), and then remove the following components:
 - a. Service door (see [Service door on page 34](#))
 - b. Hard drive (see [Hard drive on page 35](#))
 - c. Display assembly (see [Display assembly on page 46](#))
 - d. Bottom cover (see [Bottom cover on page 54](#))
 - e. Media card reader board (see [Media card reader board on page 60](#))
 - f. Fan (see [Fan on page 61](#))

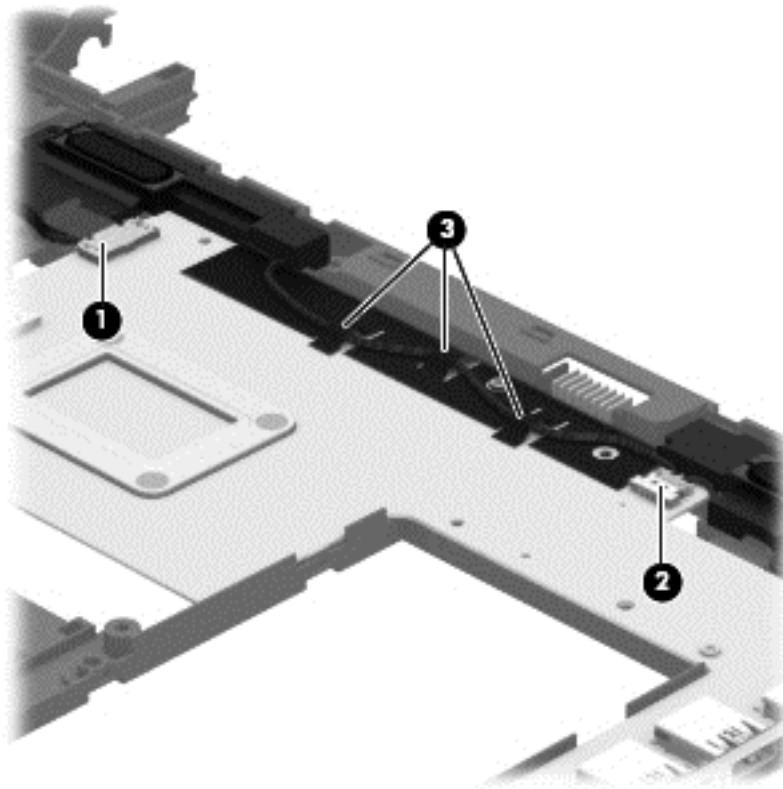


NOTE: When replacing the system board, be sure that the following components are removed from the defective system board and installed on the replacement system board:

- WLAN module (see [WLAN module on page 37](#))
- Memory module (see [Memory module on page 39](#))
- Heat sink (see [Heat sink on page 65](#))

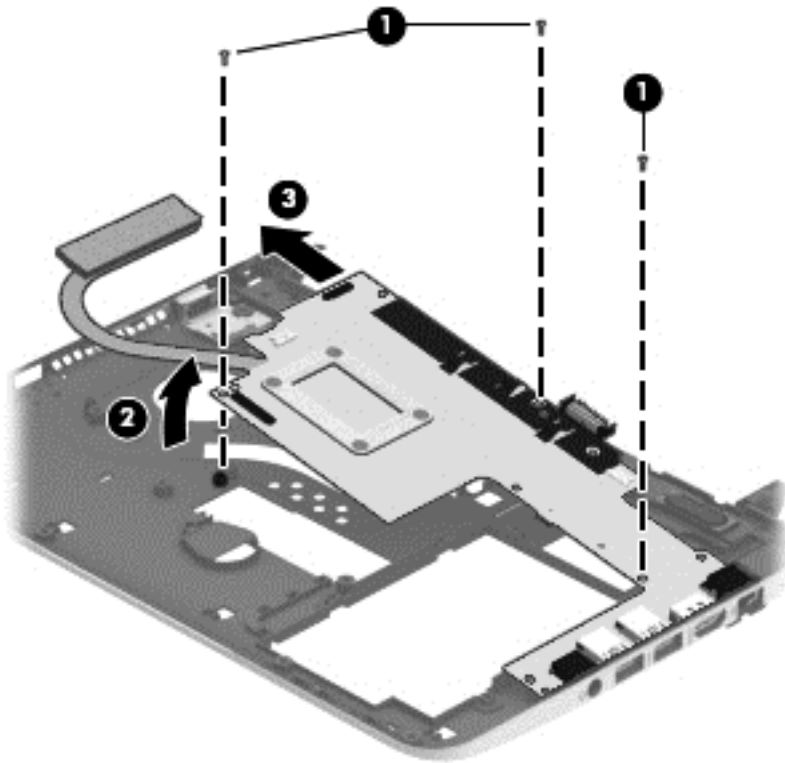
Remove the system board:

1. Disconnect the monitor connector board cable **(1)** from the system board.
2. Disconnect the speaker cable **(2)** from the system board.
3. Release the speaker cable from the tabs **(3)** built into the system board.



4. Remove the three Phillips PM2.0×4.5 screws **(1)** that secure the system board to the top cover.
5. Lift the left side of the system board **(2)** until it rests at an angle.

6. Remove the system board (3) by sliding it up and to the left an angle.



Reverse this procedure to install the system board.

Heat sink

Description	Spare part number
Heat sink (includes 4 captive screws and replacement thermal material)	730902-001

Before removing the heat sink, follow these steps:

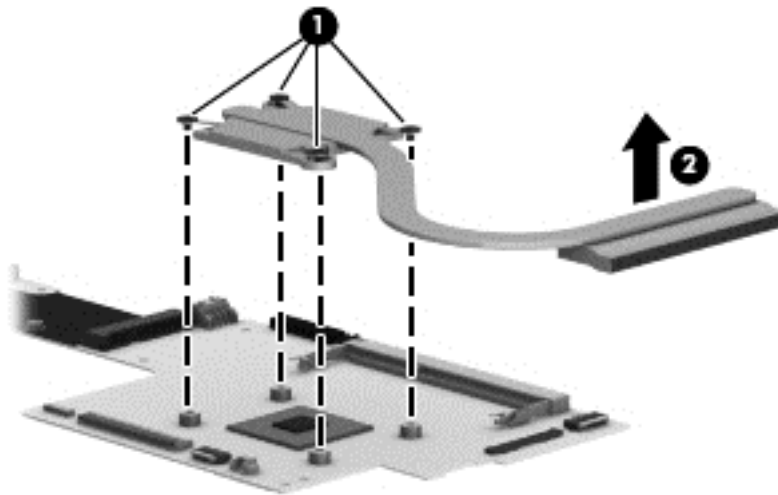
1. Turn off the computer. If you are unsure whether the computer is off or in Hibernation, turn the computer on, and then shut it down through the operating system.
2. Disconnect the power from the computer by unplugging the power cord from the computer.
3. Disconnect all external devices from the computer.
4. Remove the battery (see [Battery on page 33](#)), and then remove the following components:
 - a. Service door (see [Service door on page 34](#))
 - b. Hard drive (see [Hard drive on page 35](#))
 - c. Display assembly (see [Display assembly on page 46](#))
 - d. Bottom cover (see [Bottom cover on page 54](#))
 - e. Media card reader board (see [Media card reader board on page 60](#))

- f. Fan (see [Fan on page 61](#))
- g. System board (see [System board on page 63](#))

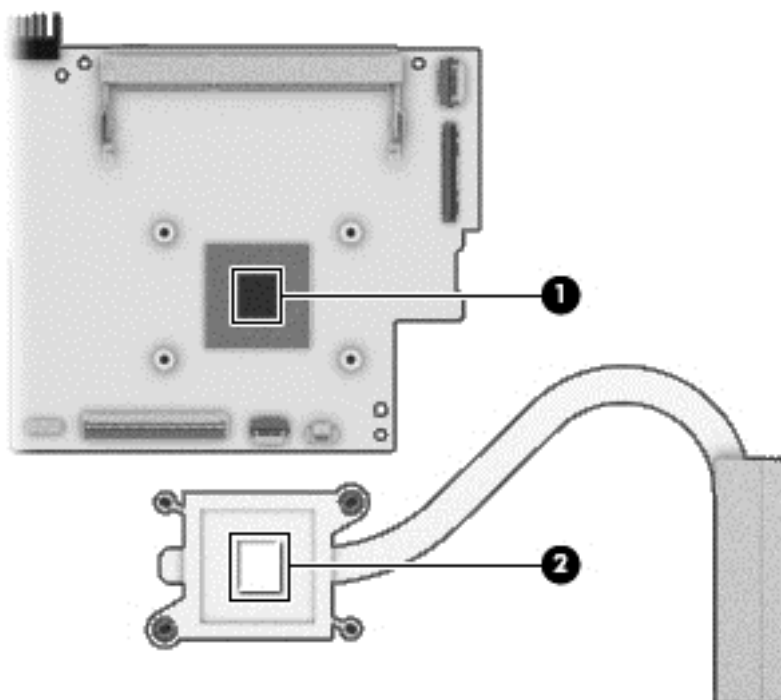
Remove the heat sink:

1. Turn the system board upside down, with the front toward you.
2. Following the 1 through 4 sequence stamped into the heat sink, loosen the four captive Phillips PM2.0×2.5 screws (1) that secure the heat sink to the system board.
3. Remove the heat sink (2).

 **NOTE:** Due to the adhesive quality of the thermal material located between the heat sink and the system board components, it may be necessary to move the heat sink from side to side to detach it.



 **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. Thermal paste is used on the processor (1) and the heat sink section (2) that services it



Reverse this procedure to install the heat sink.

Speakers

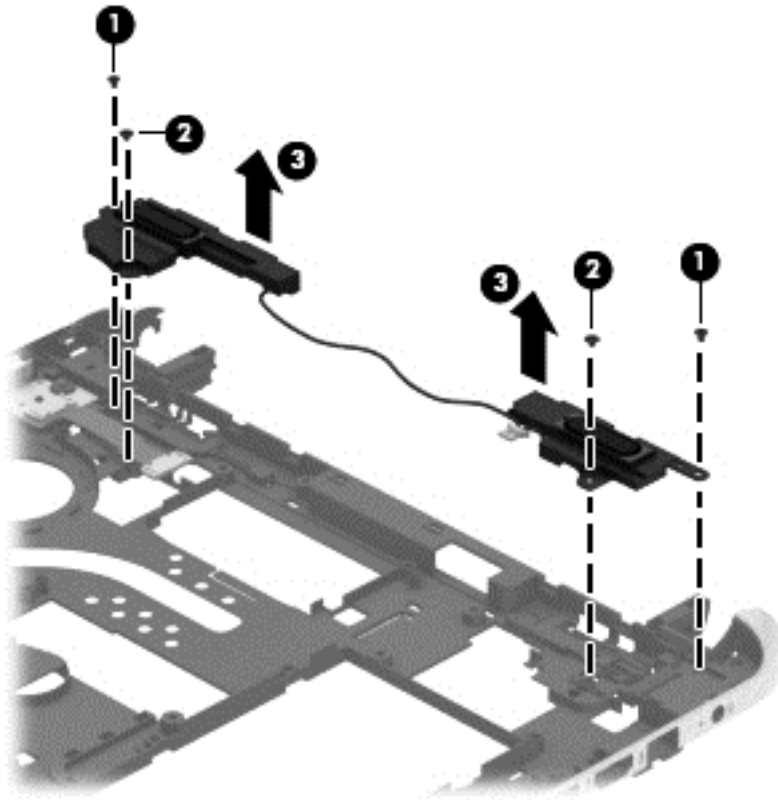
Description	Spare part number
Speaker Kit (includes left and right speakers and cables)	730890-001

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 battery (see [Battery on page 33](#)), and then remove the following components:
 - a. Service door (see [Service door on page 34](#))
 - b. Hard drive (see [Hard drive on page 35](#))
 - c. Display assembly (see [Display assembly on page 46](#))
 - d. Bottom cover (see [Bottom cover on page 54](#))
 - e. Media card reader board (see [Media card reader board on page 60](#))
 - f. Fan (see [Fan on page 61](#))
 - g. System board (see [System board on page 63](#))

Remove the speakers:

1. Remove the two Phillips PM2.0×3.75 screws **(1)** and the two Phillips PM2.0×2.75 screws **(2)** that secure the speakers to the bottom cover.
2. Remove the speakers **(3)**.



Reverse this procedure to install the speakers.

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

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

Starting Setup Utility (BIOS)

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

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



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

Updating the BIOS

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

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

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

Determining the BIOS version

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

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

1. Start Setup Utility (BIOS) (see [Starting Setup Utility \(BIOS\) on page 69](#)).
2. Use the arrow keys to select **Main**.
3. To exit Setup Utility (BIOS) without saving your changes, use the arrow keys to select **Exit**, select **Exit Discarding Changes**, and then press **enter**.
4. Select **Yes**.

Downloading a BIOS update

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

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

Do not shut down the computer or initiate Sleep.

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

Downloading a Windows 8.1 BIOS update

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.

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

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

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

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

Downloading a Windows 7 BIOS update

1. Select **Start > Help and Support > Maintain**.
2. Follow the on-screen instructions to identify your computer and access the BIOS update you want to download.
3. 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 displayed on the screen after the download is complete. If no instructions are displayed, follow these steps:

1. Open Windows Explorer by selecting **Start > Computer**.
2. Double-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) (select models only)

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

To start HP PC Hardware Diagnostics UEFI:

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

The BIOS searches three places for the HP PC Hardware Diagnostics (UEFI) tools in the following order:

- a. Connected USB drive



NOTE: To download the HP PC Hardware Diagnostics (UEFI) tool to a USB drive, see [Downloading HP PC Hardware Diagnostics \(UEFI\) to a USB device on page 72](#).

- b. Hard drive
- c. BIOS

2. Click the type of diagnostic test you want to run, and then follow the on-screen instructions.



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

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



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

1. Go to <http://www.hp.com>.
2. Click **Support & Drivers**, and then click the **Drivers & Software** tab.
3. Enter the product name in the text box, and then click **Search**.
4. Select your computer model, and then select your operating system.
5. In the **Diagnostic** section, click **HP UEFI Support Environment**.

– or –

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

8 Specifications

Computer specifications

	Metric	U.S.
Dimensions		
Width	29.0 cm	11.4 in
Depth	21.7 cm	8.5 in
Height	2.2 cm	0.9 in
Weight	1.5 kg	3.7 lbs
Input power		
Operating voltage and current	19.5 V dc @ 2.31 A – 45 W 19.5 V dc @ 3.33 A – 65 W	
Temperature		
Operating	5°C to 35°C	41°F to 95°F
Nonoperating	-20°C to 60°C	-4°F to 140°F
Relative humidity (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.		

Hard drive specifications

	500 GB, 5400 rpm*	320 GB, 5400 rpm*
Dimensions		
Height	7.0 mm	7.0 mm
Length	100.4 mm	100.4 mm
Width	69.9 mm	69.9 mm
Weight	110 g	110 g
Interface type	SATA	SATA

	500 GB, 5400 rpm*	320 GB, 5400 rpm*
Transfer rate (synchronous, maximum)	1.1 GB/sec	1.1 GB/sec
Security	ATA security	ATA security
Seek times (typical read, including setting)		
Single track	1.5 ms	1.5 ms
Average (read/write)	11/13 ms	11/13 ms
Maximum	22 ms	22 ms
Logical blocks	976,773,168	628,142,448
Disk rotational speed	5400 rpm	5400 rpm
Operating temperature	0°C to 60°C (32°F to 140°F)	0°C to 60°C (32°F to 140°F)
*1 GB = 1 billion bytes when referring to hard drive storage capacity. Actual accessible capacity is less.		
NOTE: Certain restrictions and exclusions apply. Contact technical support for details.		

9 Windows 7 – Backing up, restoring, and recovering

Your computer includes tools provided by the operating system and HP to help you safeguard your information and retrieve it if ever needed.

Creating backups

1. Use HP Recovery Manager to create recovery media immediately after you set up the working computer.
2. As you add hardware and software programs, create system restore points.
3. As you add photos, video, music, and other personal files, create a backup of your system and personal information.

Creating recovery media to recover the original system

After you successfully set up the computer, you should create recovery discs or a recovery flash drive using HP Recovery Manager. You will need these recovery discs or recovery flash drive to perform a system recovery should the hard drive become corrupted. A system recovery reinstalls the original operating system, and then configures the settings for the default programs.

What you need to know

- Only one set of 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 flash drive or the number of blank DVD discs that will be required.

Use DVD-R, DVD+R, DVD-R DL, DVD+R DL discs or a flash drive. Do not use rewriteable discs such as CD±RW, DVD±RW, double-layer DVD±RW, and BD-RE (rewritable Blu-ray) discs; they are not compatible with HP Recovery Manager software.
- You can use an optional external optical drive (purchased separately) to create recovery discs, or you can obtain recovery discs for your computer from support through the HP website. Go to <http://www.hp.com/support>, select your country or region, and follow the on-screen instructions. If you use an external optical drive, it must be connected directly to a USB port on the computer, not to a USB port on an external device, such as a USB hub.
- Be sure that the computer is connected to AC power before you begin creating the recovery media.
- The creation process can take up to an hour or more. Do not interrupt the creation process.
- Store the recovery media in a safe location, separate from the computer.
- If necessary, you can exit the program before you have finished creating the recovery media. The next time you open HP Recovery Manager, you will be prompted to continue the process.

Creating the recovery media

1. Select **Start** and type `recovery` in the search field. Select **Recovery Manager** from the list. Allow the action to continue, if prompted.
2. Click **Recovery Media Creation**.
3. Follow the on-screen instructions to continue.

To recover, see [Recovering the original system using HP Recovery Manager on page 78](#).

Creating system restore points

A system restore point is a snapshot of certain hard drive contents saved by Windows System Restore at a specific time. A restore point contains information such as registry settings that Windows uses. Restoring to a previous restore point allows you to reverse changes that have been made to the system since the restore point was created.

Restoring to an earlier system restore point does not affect data files saved or emails created since the last restore point, but it does affect software you may have installed.

For example, if you download a photo from a digital camera and then restore the computer to the state it was on the previous day, the photo remains on the computer.

However, if you install photo viewing software and then restore your computer to the state it was on the previous day, the software will be uninstalled, and you won't be able to use it.

What you need to know

- If you restore to a restore point and then change your mind, you can undo the restoration.
- You should create system restore points:
 - Before you add or change software or hardware
 - Periodically, whenever the computer is running normally
- System Restore also saves shadow copies of files that have been changed since the last restore point was created. For more information about using shadow copies to restore, see Help and Support.

Creating a system restore point

1. Select **Start > Control Panel > System and Security > System**.
2. In the left pane, click **System Protection**.
3. Click the **System Protection** tab.
4. Click **Create**, and follow the on-screen instructions.

To restore, see [Restoring to a previous system restore point on page 78](#).

Backing up system and personal information

Your computer stores information that is important to you, such as files, emails, and photos, and you will want to keep that information even if you download a virus or the system stops working properly. How completely you are able to recover your files depends on how recent your backup is. As you add new software and data files, you should create backups on a regular basis.

Tips for a successful backup

- Number backup discs before inserting them into the optical drive.
- Store personal files in the Documents, Music, Pictures, and Videos libraries, and back up these folders periodically.
- Save customized settings in a window, toolbar, or menu bar by taking a screen shot of your settings. The screen shot can be a time-saver if you have to re-enter your preferences.

To create a screen shot:

1. Display the screen you want to save.
2. Copy the screen image:
To copy only the active window, press **alt+prt sc**.
To copy the entire screen, press **prt sc**.
3. Open a word-processing document or graphics editing program, and then select **Edit > Paste**. The screen image is added to the document.
4. Save and print the document.

What you need to know

- You can back up your information to an optional external hard drive, a flash drive, a network drive, or discs.
- Connect the computer to AC power during backups.
- Allow enough time for the backup. Depending on files sizes, it may take more than an hour.
- Verify the amount of free space on your backup storage device before you back up.
- You should back up:
 - Before adding or changing software or hardware.
 - Before the computer is repaired or restored.
 - On a regular schedule to be sure you have recent copies of personal information.
 - After you add many files—for example, if you saved videos from a birthday party.
 - Before using antivirus software to remove a malicious program.
 - After adding information that is hard to replace, such as pictures, videos, music, project files, or data records.

Creating a backup using Windows Backup and Restore

Windows allows you to back up files using Windows Backup and Restore. You can select the level you want to back up, from individual folders to drives. The backups are compressed to save space. To back up:

1. Select **Start > Control Panel > System and Security > Backup and Restore**.
2. Follow the on-screen instructions to schedule and create a backup.



NOTE: Windows includes the User Account Control feature to improve the security of the computer. You may be prompted for your permission or password for tasks such as installing software, running utilities, or changing Windows settings. See Help and Support for more information.

To restore, see [Restoring specific files using Windows Backup and Restore on page 78](#).

Restore and recovery

Restoring to a previous system restore point

Sometimes installing a software program causes your computer or Windows to behave unpredictably. Usually uninstalling the software fixes the problems. If uninstalling does not fix the problems, you can restore the computer to a previous system restore point (created at an earlier date and time).

To restore to a previous system restore point, when the computer was running correctly:

1. Select **Start > Control Panel > System and Security > System**.
2. In the left pane, click **System Protection**.
3. Click the **System Protection** tab.
4. Click **System Restore**, and follow the on-screen instructions.

Restoring specific files

If files are accidentally deleted from the hard disk and they can no longer be restored from the Recycle Bin, or if files become corrupt, restoring specific files is useful. Restoring specific files is also useful if you ever choose to recover the original system using HP Recovery Manager. You can only restore specific files that you have backed up before.

Restoring specific files using Windows Backup and Restore

Windows allows you to restore files that were backed up using Windows Backup and Restore:

1. Select **Start > Control Panel > System and Security > Backup and Restore**.
2. Follow the on-screen instructions to restore your backup.



NOTE: Windows includes the User Account Control feature to improve the security of the computer. You may be prompted for your permission or password for tasks such as installing software, running utilities, or changing Windows settings. See Help and Support for more information.

Recovering the original system using HP Recovery Manager

HP Recovery Manager software allows you to repair or recover the computer to its original factory state.

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 disc provided by the manufacturer.
- A system recovery should be used as a final attempt to correct computer issues. If you have not already tried restore points (see [Restoring to a previous system restore point on page 78](#)) and partial restores (see [Restoring specific files on page 78](#)), try them before using HP Recovery Manager to recover your system.
- A system recovery must be performed if the computer hard drive fails or if all attempts to correct any functional computer issues fail.

- If the recovery media do not work, you can obtain recovery discs for your system from support through the HP website. Go to <http://www.hp.com/support>, select your country or region, and follow the on-screen instructions.
- The Minimized Image Recovery option is recommended for advanced users only. All hardware-related drivers and software are re-installed, but other software applications are not. Do not interrupt the process until it is complete, otherwise the recovery will fail.

Recovering using HP Recovery partition (select models only)

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

To check for the presence of a recovery partition, select **Start**, right-click **Computer** then select **Manage > Disk Management**. If the recovery partition is present, a Recovery drive is listed in the window.



NOTE: Recovery discs have been included if your computer did not ship with a recovery partition.

1. Access HP Recovery Manager in either of the following ways:
 - Select **Start** and type `recovery` in the search field. Select **Recovery Manager** from the list.
 - or –
 - Turn on or restart the computer, and then press `esc` while the “Press the ESC key for Startup Menu” message is displayed at the bottom of the screen. Then press `f11` while the “F11 (System Recovery)” message is displayed on the screen.
2. Click **System Recovery** in the **HP Recovery Manager** window.
3. Follow the on-screen instructions.

Recovering using the recovery media

1. If possible, back up all personal files.
2. Insert the first recovery disc into the optical drive on your computer or an optional external optical drive, and then restart the computer.
- or –
- Insert the recovery flash drive into a USB port on your computer, and then restart the computer.



NOTE: If the computer does not automatically restart in HP Recovery Manager, change the computer boot order. See [Changing the computer boot order on page 80](#).

3. Press `f9` at system bootup.
4. Select the optical drive or the flash drive.
5. Follow the on-screen instructions.

Changing the computer boot order

To change the boot order for recovery discs:

1. Restart the computer.
2. Press **esc** while the computer is restarting, and then press **f9** for boot options.
3. Select **Internal CD/DVD ROM Drive** from the boot options window.

To change the boot order for a recovery flash drive:

1. Insert the flash drive into a USB port.
2. Restart the computer.
3. Press **esc** while the computer is restarting, and then press **f9** for boot options.
4. Select the flash drive from the boot options window.

10 Windows 8.1 – Backing up, restoring, and recovering

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

This chapter provides information about the following processes:

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



NOTE: This chapter describes an overview of backing up, restoring and recovering options. For more details about the tools provided, see Help and Support. From the Start screen, type [help](#), and then select **Help and Support**.

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.

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

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

See [Creating recovery media and backups on page 81](#).

2. Use the Windows tools to create system restore points and create backups of personal information. For more information and steps, see Windows 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 or the number of blank DVD discs that will be required.
- To create recovery discs, your computer must have an optical drive with DVD writer capability, and you must use only high-quality blank DVD-R, DVD+R, DVD-R DL, DVD+R DL discs. Do not use rewritable discs such as CD±RW, DVD±RW, double-layer DVD±RW, or BD-RE (rewritable Blu-ray) discs; they are not compatible with HP Recovery Manager software. Or instead you can use a high-quality blank USB flash drive.
- If your computer does not include an integrated optical drive with DVD writer capability, but you would like to create DVD recovery media, you can use an external optical drive (purchased separately) to create recovery discs, or you can obtain recovery discs for your computer from support. See the *Worldwide Telephone Numbers* booklet included with the computer. You can also find contact information for the HP website. For U.S. support, go to <http://www.hp.com/go/contactHP>. For worldwide support, go to http://welcome.hp.com/country/us/en/wwcontact_us.html. If you use an external optical drive, it must be connected directly to a USB port on the computer; the drive cannot be connected to a USB port on an external device, such as a USB hub.
- Be sure that the computer is connected to AC power before you begin creating the recovery media.
- The creation process can take up to an hour or more. Do not interrupt the creation process.
- If necessary, you can exit the program before you have finished creating all of the recovery DVDs. HP Recovery Manager will finish burning the current DVD. The next time you start HP Recovery Manager, you will be prompted to continue, and the remaining discs will be burned.

To create HP Recovery media:

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

If you ever need to recover the system, see [Recovering using HP Recovery Manager on page 83](#).

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

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

- If you want to reset your computer using a minimized image, you can choose the HP Minimized Image Recovery option from the HP Recovery partition or HP Recovery media. Minimized Image

Recovery installs only drivers and hardware-enabling applications. Other applications included in the image continue to be available for installation through the Drivers and Applications Reinstall option in HP Recovery Manager.

For more information, see [Recovering using HP Recovery Manager on page 83](#).

- If you want to recover the computer's original factory partitioning and content, you can choose the System Recovery option from the HP Recovery media. For more information, see [Recovering using HP Recovery Manager on page 83](#).
- If you have replaced the hard drive, you can use the Factory Reset option of HP Recovery media to restore the factory image to the replacement drive. For more information, see [Recovering using HP Recovery Manager on page 83](#).
- If you wish to remove the recovery partition to reclaim hard drive space, HP Recovery Manager offers the Remove Recovery Partition option.

For more information, see [Using the HP Recovery partition on page 83](#).

Recovering using HP Recovery Manager

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

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

The HP Recovery partition allows System Recovery and Minimized Image Recovery.

What you need to know

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



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

Using the HP Recovery partition

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

To start HP Recovery Manager from the HP Recovery partition:

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

Using HP Recovery media to recover

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

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

 **NOTE:** If the computer does not automatically restart in HP Recovery Manager, change the computer boot order. See [Changing the computer boot order on page 84](#).

3. Follow the on-screen instructions.

Changing the computer boot order

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

To change the boot order:

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

Removing the HP Recovery partition

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

 **IMPORTANT:** Removing the HP Recovery partition means you can no longer use Windows Refresh or the Windows option to remove everything and reinstall Windows. In addition, you will not be able to perform System Recovery or Minimized Image Recovery from the HP Recovery partition. Create HP Recovery media before removing the Recovery partition to ensure you have recovery options; see [Creating HP Recovery media on page 81](#).

Follow these steps to remove the HP Recovery partition:

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

11 Power cord set requirements

The wide-range input feature of the computer permits it to operate from any line voltage from 100 to 120 V ac, or from 220 to 240 V 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 or regions must meet the requirements of the country and region where the computer is used.

Requirements for all countries

The following requirements are applicable to all countries and regions:

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

Requirements for specific countries and regions

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

Country/region	Accredited agency	Applicable note number
The United States	UL	2
1. The flexible cord must be Type HO5VV-F, 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. 2. The flexible cord must be Type SVT/SJT or equivalent, No. 18 AWG, 3-conductor. The wall plug must be a two-pole grounding type with a NEMA 5-15P (15 A, 125 V ac) or NEMA 6-15P (15 A, 250 V ac) configuration. CSA or C-UL mark. UL file number must be on each element. 3. The appliance coupler, flexible cord, and wall plug must bear a "T" mark and registration number in accordance with the Japanese Dentori Law. The flexible cord must be Type VCTF, 3-conductor, 0.75 mm² or 1.25 mm² conductor size. The wall plug must be a two-pole grounding type with a Japanese Industrial Standard C8303 (7 A, 125 V ac) configuration. 4. The flexible cord must be Type RVV, 3-conductor, 0.75 mm² conductor size. Power cord set fittings (appliance coupler and wall plug) must bear the CCC certification mark. 5. The flexible cord must be Type H05VV-F 3-conductor, 0.75 mm² conductor size. KTL logo and individual approval number must be on each element. Corset approval number and logo must be printed on a flag label. 6. The flexible cord must be Type HVCTF 3-conductor, 1.25 mm² conductor size. Power cord set fittings (appliance coupler, cable, and wall plug) must bear the BSMI certification mark. 7. For 127 V ac, the flexible cord must be Type SVT or SJT 3-conductor, 18 AWG, with plug NEMA 5-15P (15 A, 125 V ac), with UL and CSA or C-UL marks. For 240 V ac, the flexible cord must be Type H05VV-F 3-conductor, 0.75 mm² or 1.00 mm² conductor size, with plug BS 1363/A with BSI or ASTA marks.		

12 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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