HP Mini 110
Compaq Mini CQ10
HP Mini 1103

Maintenance and Service Guide

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Safety warning notice

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

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1 Product description

Category	Description	HP Mini 110	Compaq Mini CQ10	HP Mini 1103
Product name	HP Mini 110 Netbook PC	√		
	Compaq Mini CQ10 Netbook PC		√	
	HP Mini 1103			√
Processor	Intel® Atom™ N455 single-core, 1.66-GHz processor, 512-KB level 2 cache, 667-MHz front-side bus (FSB) Intel Atom N475 single-core, 1.83-GHz processor, 512-KB level 2 cache, 667-MHz FSB	√	√	√
	Intel Atom N550 dual-core, 1.50-GHz processor, 2x512-KB level 2 cache, 667-MHz FSB	√	√	
Chipset	Intel NM10 Express	√	√	√
Graphics	Intel Graphics Media Accelerator 3150 Unified Memory Architecture (UMA) graphics subsystem	√	√	√
	Broadcom High Definition (HD) Enhanced Video Accelerator hardware decoder (on-board) (select models only) and support for DVD playback from external drive or Flash streaming and playback of locally-stored downloaded media files 128-MB buffer memory (64Mx16 DDR3 x1 piece, 1.5V/800MHz DRAM)	√	√	
Display	The display assembly includes 1 webcam, 1 microphone, and 2 wireless local-area network (WLAN) antenna transceivers/ cables; wireless wide-area network (WWAN) (select models only). Wide-aspect 16:9 ratio panels, typical brightness: 200 nits **25.7-cm** (10.1-in) 1024x600 WSVGA AntiGlare	√	√	√

Category	Description	HP Mini 110	Compaq Mini CQ10	HP Mini 1103
Memory	One customer-accessible/upgradable memory module slot PC3-1333, 667-MHz, DDR3 **NOTE:** Memory always runs at 667 MHz because of chipset limitations. Supports the following configurations: • 1-GB total system memory **NOTE:** Supported on all operating systems. • 2-GB total system memory **NOTE:** Supported only on computers with Windows® 7 Premium, Windows 7 Professional, Windows 7 Starter with Notebook Certificate of Authenticity (COA) for China, and Windows 7 Starter with Notebook COA Emerging Markets.	√	√	√
Hard drives	Supports the following **9.5-mm** (0.37-in) **× 6.35-cm** (2.5-inch), parallel SATA hard drives: • 320-GB, 7200- and 5400-rpm **NOTE:** Supported only on computers with Windows 7 Starter with Notebook COA Emerging Markets, Windows 7 Basic with Notebook COA for China, Windows 7 Premium, and Windows 7 Professional. • 250-GB, 7200-rpm • 160-GB, 7200-rpm **NOTE:** Supported on all operating systems	√	√	√
Optical drive	Supports external USB optical drives only	√	√	√
Audio/Visual	HD audio Integrated 1.5-W speakers (2) Fixed integrated, digital microphone Fixed integrated VGA webcam, 640×480 resolution, F/2.8 lens, up to 30 frames per second	√	√	√
Modem	Supports external USB modems only	√	√	√
Ethernet	Integrated Realtek RTL8105EL 10/100 network interface card (NIC)	√	√	√

Category	Description	HP Mini 110	Compaq Mini CQ10	HP Mini 1103
Wireless	Integrated WLAN by way of: • Broadcom 94313 802.11b/g/n 1x1 WiFi Adapter • Broadcom 4313 802.11b/g/n 1x1 WiFi and 2070 Bluetooth™ 2.1+Enhanced Data Rate (EDR) Combo Adapter (Bluetooth 3.0 and high-speed ready) • Ralink RT3090BC4 802.11b/g/n 1x1 WiFi and Bluetooth 2.1+EDR Combo Adapter (Bluetooth 3.0 and high-speed ready) • Atheros AR9285 802.11.b/g/n 1x1 WiFi Adapter 2 WLAN antennas built into display assembly Subscriber identity module (SIM) security	√	√	√
	WWAN by way of: • Qualcomm Gobi 2000 3G module (select models only)	√	√	√
	• HP lc 2000 Mobile Broadband Module	√	√	√
	• HP lc 2010 Mobile Broadband Module (select models only)	√	√	
	• HP hs2320 HSPA Mobile Broadband Module (HP Mini 1103 models only)			√
	2 WWAN antennas built into display assembly (select models only) GPS by way of Broadcom GPS Mini Card (select models only)	√	√	√
External media cards	Digital Media Slot with push-push technology, supporting: • Memory Stick (MS) • Memory Stick Pro (MSP) • MultiMediaCard (MMC) • Secure Digital (SD) Memory Card • Secure Digital High Capacity (SDHC) Memory Card • Secure Digital Extended Capacity (SDxC) Memory Card **NOTE:** SDxC supported for capacity; not speed	√	√	√
Internal media cards	Two Mini Card slots: • Full-size Mini Card slot with support for WWAN, GPS (select models only) • Half-size Mini Card slot with support for WLAN or WLAN +Bluetooth combo	√	√	√

Category	Description	HP Mini 110	Compaq Mini CQ10	HP Mini 1103
Ports	Audio-in/out combo	√	√	√
	RJ-45 (Ethernet; includes link and activity lights)			
	USB 2.0 (3)			
	VGA, supporting up to 1600x900 external resolution @ 60 Hz, hot plug/unplug, and auto detection for correct output to wide-aspect vs. standard-aspect video			
	3-pin AC power			
Keyboard/ pointing device	93% full size keyboard	√	√	√
	No NUM lock			
	Standard TouchPad with dedicated left and right buttons			
	Vertical and horizontal scroll function support			
Power requirements	40-W UMA AC adapter (non-Smart) with localized cable plug support	√	√	√
	AC adapter connector on cable			
	1.0-m (3.3-ft) power cord			
	3-cell Lithium-ion (Li-ion) battery (2.55-Ahr, 28-Wh)			
	6-cell Li-ion high-capacity battery (2.55-Ahr, 55-Wh)			
Security	Kensington lock slot	√	√	√
Operating system	Windows 7 Starter	√	√	
	Windows 7 Professional (select countries)			
	Support for HP QuickWeb			
	USB Key Recovery support (for Service, refurbish centers, and repair centers)			
	Linux			√
	FreeDOS	√	√	√

Category	Description	HP Mini 110	Compaq Mini CQ10	HP Mini 1103
Serviceability	**End-user replaceable parts:**	√	√	√
	AC adapter			
	Battery (system)			
	Hard drive			
	Memory module			
	WLAN module or WLAN+Bluetooth module			
	WWAN module (select models only)			
	GPS module (select models only)			
	Keyboard			√

2 External component identification

Identifying the hardware

Components included with the computer may vary by country or region and by model. The illustrations in this chapter identify the standard features on most computer models.

To see a list of hardware installed in the computer, follow these steps:

1. Select **Start > My Computer**.
2. In the left pane of the System Tasks window, select **View system information**.
3. Select **Hardware tab > Device Manager**.

You can also add hardware or modify computer configurations using Device Manager.

Top components

TouchPad

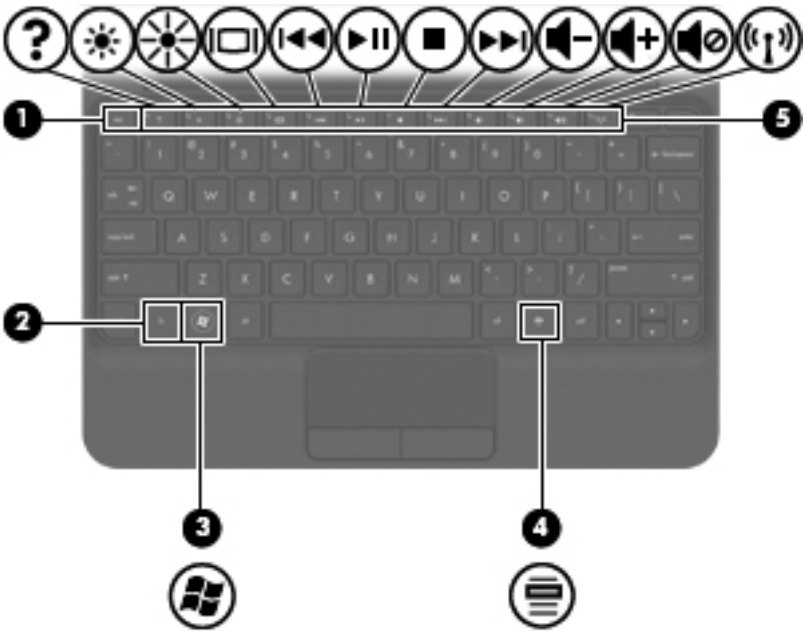
Component		Description
(1)	TouchPad zone	Moves the pointer and selects or activates items on the screen.
(2)	Left TouchPad button*	Functions like the left button on an external mouse.
(3)	Right TouchPad button*	Functions like the right button on an external mouse.

*This table describes factory settings. To view or change pointing device preferences, select **Start > Devices and Printers**. Then, right-click the icon representing your device, and select **Mouse settings**.

Lights

Component			Description
(1)		Caps lock light	• White: Caps lock is on. • Off: Caps lock is off.
(2)		Mute light	• Amber: Computer sound is off. • Off: Computer sound is on.
(3)		Wireless light	• White: An integrated wireless device, such as a wireless local area network (WLAN) device and/or a Bluetooth® device, is on. **NOTE:** Wireless devices are enabled at the factory. • Amber: All wireless devices are off.

Keys

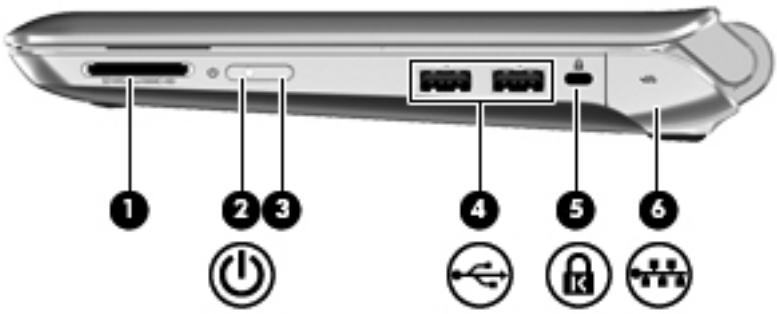


Component			Description
(1)		esc key	Displays system information when pressed in combination with the fn key.
(2)		fn key	Displays information about system hardware components and the system BIOS version number when pressed in combination with the esc key.
(3)		Windows® logo key	Displays the Windows Start menu.
(4)		Windows applications key	Displays a shortcut menu for items beneath the pointer.
(5)		Action keys	Execute frequently used system functions.

Front components

Component	Description
Speakers (2)	Produce sound.

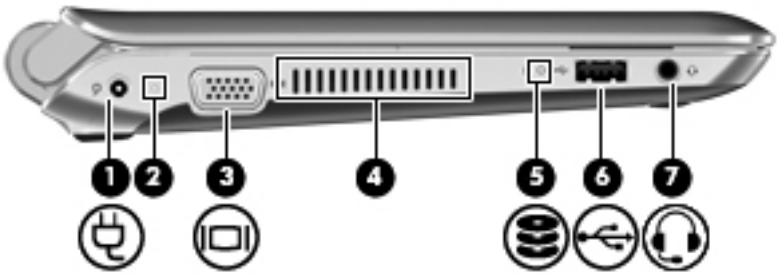
Right-side components



Component		Description
(1)	Digital Media Slot	Supports the following optional digital card formats: • Memory Stick • Memory Stick Pro • MultiMediaCard • Secure Digital (SD) Card • Secure Digital High Capacity (SDHC) Memory Card • Secure Digital Extended Capacity (SDxC) Memory Card
(2)	Power light	• White: The computer is on. • Blinking white: The computer is in the Sleep state. • Off: The computer is off or in Hibernation.
(3)	Power switch	• When the computer is off, slide the switch to turn on the computer. • When the computer is on, briefly slide the switch to initiate Hibernation. • When the computer is in the Sleep state, briefly slide the switch to exit Sleep. • When the computer is in Hibernation, briefly slide the switch to exit Hibernation. If the computer has stopped responding and Windows shutdown procedures are ineffective, slide and hold the power switch for at least 5 seconds to turn off the computer. To learn more about your power settings, select **Start > Control Panel > System and Security > Power Options**.
(4)	USB ports (2)	Connect optional USB devices.

Component		Description
(5)	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.
(6)	RJ-45 (network) jack and cover	Connects a network cable.

Left-side components



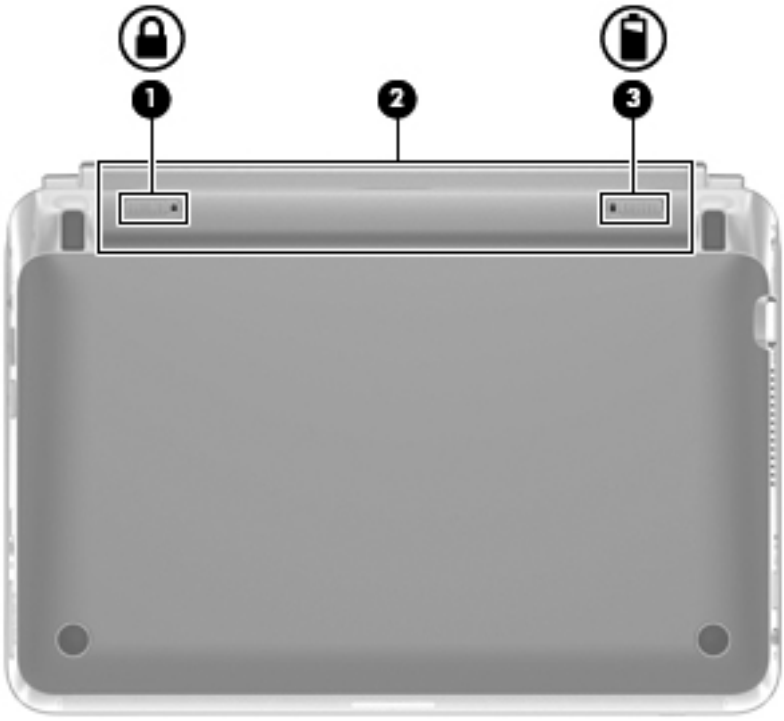
Component		Description
(1)	Power connector	Connects an AC adapter.
(2)	Battery light	• Off: The computer is running on battery power. • Blinking white: The battery has reached a low battery level, a critical battery level, or there is a battery error. When the battery reaches a critical battery level, the battery light begins blinking rapidly. • Amber: A battery is charging. • White: The computer is connected to external power and the battery is fully charged.
(3)	External monitor port	Connects an external VGA monitor or projector.
(4)	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.
(5)	Drive light	• On: The hard drive is being accessed. • Off: The hard drive is idle.

Component		Description
(6)	USB port	Connects an optional USB device.
(7)	Audio-out (headphone) jack/Audio-in (microphone) jack	Produces sound when connected to optional powered stereo speakers, headphones, earbuds, a headset, or television audio. Also connects an optional headset microphone. **WARNING!** To reduce the risk of personal injury, adjust the volume before putting on headphones, earbuds, or a headset. For additional safety information, refer to the *Regulatory, Safety and Environmental Notices*. **NOTE:** When a device is connected to the jack, the computer speakers are disabled. **NOTE:** The audio component must have a 4-conductor connector.

Display components

Component		Description
(1)	Internal display switch	Initiates Sleep if the display is closed while the power is on. **NOTE:** The display switch is not visible from the outside of the computer.
(2)	Internal microphone	Records sound.
(3)	Webcam	Records video and captures still photographs. **NOTE:** To record videos, you need to install additional webcam software.
(4)	Webcam light	On: The webcam is in use.

Bottom components



Component			Description
(1)		Battery locking latch	Locks the battery into the battery bay.
(2)		Battery bay	Holds the battery. **NOTE:** The SIM slot is located under the battery.
(3)		Battery release latch	Releases the battery from the battery bay.

Wireless antennas

Component		Description
(1)	WLAN antennas (2) (select models only)*	Send and receive wireless signals to communicate with wireless local-area networks (WLANs).
(2)	WWAN antennas (2) (select models only)*	Send and receive wireless signals to communicate with wireless wide-area networks (WWANs).

*The antennas are not visible from the outside of the computer. For optimal transmission, keep the areas immediately around the antennas free from obstructions.

To see wireless regulatory notices, refer to the section of the *Regulatory, Safety and Environmental Notices* that applies to your country or region. These notices are located in Help and Support.

Additional hardware components

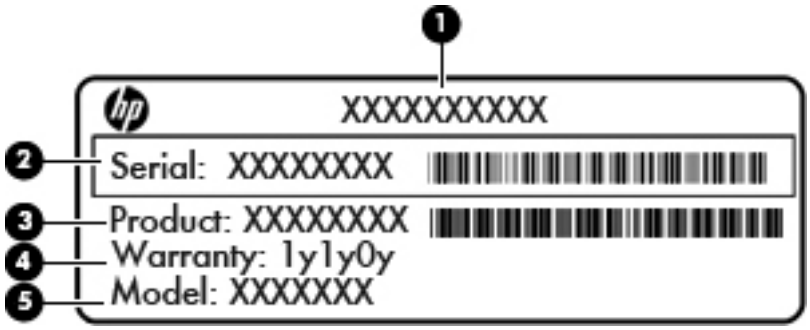
Component		Description
(1)	Power cord*	Connects an AC adapter to an AC outlet.
(2)	AC adapter	Converts AC power to DC power.
(3)	Battery*	Powers the computer when the computer is not plugged into external power.

*Batteries and power cords vary in appearance by region and country.

3 Illustrated parts catalog

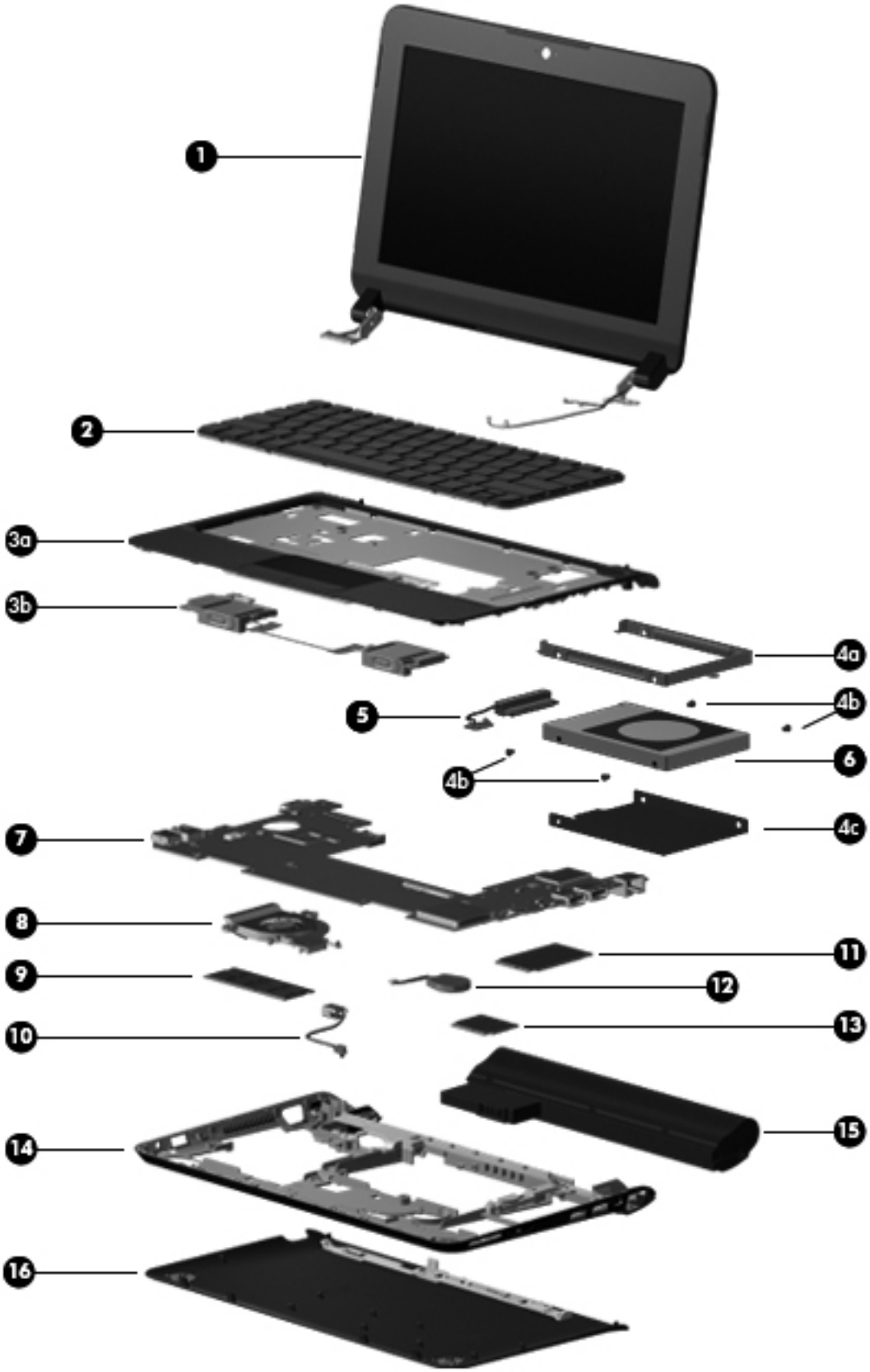
Service tag

When ordering parts or requesting information, provide the computer serial number and model description provided on the service tag.



Component	
(1)	Product name
(2)	Serial number (s/n)
(3)	Part number/Product number (p/n)
(4)	Warranty period
(5)	Model description

Computer major components

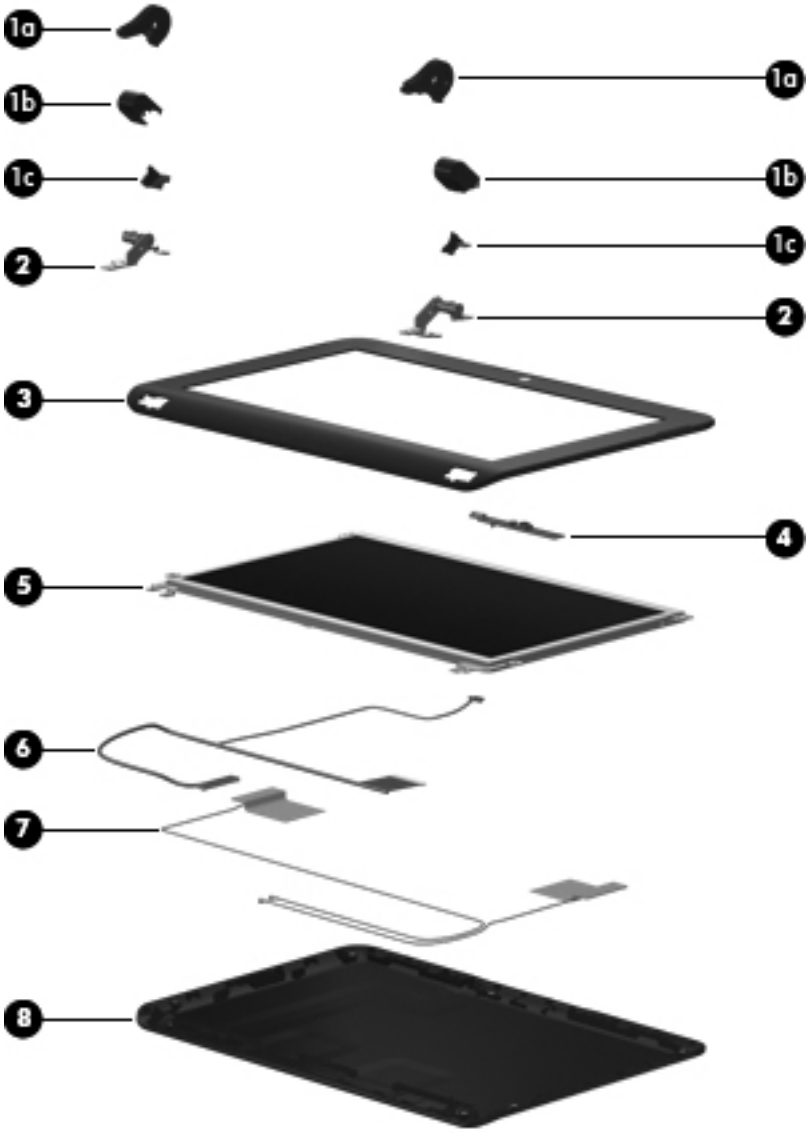


Item	Description	Spare part number
(1)	**Display assembly, 25.7-cm** (10.1-in) (includes display panel cable, 2 WLAN transceivers and cables, 2 WWAN transceivers and cables (select models only), and webcam/microphone module and cable):	
	WSVGA, anti-glare, LED display assembly in black for use only on Compaq models	634493-001
	WSVGA, anti-glare, LED display assembly in black	633496-001
	WSVGA, anti-glare, LED display assembly in red	633498-001
	WSVGA, anti-glare, LED display assembly in blue	633499-001
	WSVGA, anti-glare, LED display assembly in white	633497-001
(2)	**Keyboard** (includes cable)	
	For use in the Asia/Pacific region, Australia, the People's Republic of China, Hong Kong, India, Indonesia, Singapore, and the United States	633476-001
	For use in Belgium	633476-A41
	For use in Brazil	633476-201
	For use in the Czech Republic	633476-221
	For use in Denmark, Finland, and Norway	633476-DH1
	For use in Europe, the Netherlands, Poland, and Saudi Arabia	633476-B31
	For use in France	633476-051
	For use in French Canada	633476-121
	For use in Germany	633476-041
	For use in Greece	633476-DJ1
	For use in Hungary	633476-211
	For use in Israel	633476-BB1
	For use in Italy	633476-061
	For use in Japan	633476-291
	For use in Latin America and Chile	633476-161
	For use in Portugal	633476-131
	For use in Russia	633476-251
	For use in Saudi Arabia	633476-171
	For use in Slovenia	633476-BA1
	For use in South Korea	633476-AD1
	For use in Spain	633476-071
	For use in Switzerland	633476-BG1
	For use in Taiwan	633476-AB1
	For use in Thailand	633476-281

Item	Description	Spare part number
	For use in Turkey	633476-141
	For use in the United Kingdom and Singapore	622343-031
	Top cover assembly, includes:	633488-001
(3a)	Top cover (including TouchPad)	
(3b)	Speakers (include cable)	
	Hard Drive Hardware Kit includes:	633491-001
(4a)	Hard drive bracket	
(4b)	Hard drive screws	
(4c)	Hard drive Mylar cover	
(5)	**Hard Drive Cable Kit** (not illustrated; includes hard drive bracket, screws, and Mylar)	628532-001
(6)	**Hard drive** (includes bracket and screws)	
	320-GB, 7200-rpm	627731-001
	250-GB, 7200-rpm	635225-001
	160-GB, 7200-rpm	635760-001
(7)	**System board** (includes processor and replacement thermal material):	
	For use in models without high-definition video:	
	Intel Atom N455 1.66-GHz processor, 512-KB level 2 cache, 667-MHz front-side bus (FSB) for use in models without a WWAN module	633486-001
	Intel Atom N455 1.66-GHz processor, 512-KB level 2 cache, 667-MHz FSB for use in models with a WWAN module	633494-001
	Intel Atom N475 1.83-GHz processor, 512-KB level 2 cache, 667-MHz FSB for use in models without a WWAN module	633487-001
	Intel Atom N475 1.83-GHz processor, 512-KB level 2 cache, 667-MHz FSB for use in models with a WWAN module	633495-001
	For use in models with high-definition video:	
	Intel Atom N455 1.66-GHz processor, 512-KB level 2 cache, 667-MHz FSB for use in models without a WWAN module	636336-001
	Intel Atom N455 1.66-GHz processor, 512-KB level 2 cache, 667-MHz FSB for use in models with a WWAN module	636338-001
	Intel Atom N475 1.83-GHz processor, 512-KB level 2 cache, 667-MHz FSB for use in models without a WWAN module	636337-001
	Intel Atom N475 1.83-GHz processor, 512-KB level 2 cache, 667-MHz FSB for use in models with a WWAN module	636339-001
	System board with Intel Atom N550 1.5-GHz processor, 1-MB level 2 cache, 667-MHz FSB, dual-core	638148-001
(8)	**Fan/heat sink assembly** (includes replacement thermal material)	622330-001

Item	Description	Spare part number
(9)	**Memory module** (667-MHz, DDR3):	
	1-GB	621563-001
	2-GB	621567-001
(10)	**Power connector cable**	622329-001
(11)	**WWAN module** (select models only)	
	HP lc 2010 Mobile Broadband Module (HP Mini 110/Compaq Mini CQ10 models only)	612600-001
	HP lc 2000 Mobile Broadband Module (HP Mini 110/Compaq Mini CQ10 models only)	612599-001
	Qualcomm Gobi 2000 3G module	531993-001
	HP hs2320 HSPA Mobile Broadband Module (HP Mini 1103 models only)	574248-001
(12)	**RTC battery**	622351-001
(13)	**WLAN module**	
	Atheros AR9285G 802.11b/g/n 1x1 WiFi Adapter	605560-005
	Broadcom 4313/2070 802.11b/g/n (1x1) WiFi Mini Card	593836-001
	Broadcom 4313/2070 802.11b/g/n (1x1) and Bluetooth high-speed Half Mini Card	600370-001
	Ralink RT3090BC4 802.11b/g/n 1x1 WiFi and Bluetooth 2.1+EDR Combo Adapter (Bluetooth 3.0+high-speed ready)	602992-001
(14)	**Base enclosure** (includes 4 rubber feet and power connector bracket)	633481-001
(15)	**Battery**	
	6-cell Li-ion high-capacity (55-WH 2.5-Ahr)	630193-001
	3-cell Li-ion (28-WH 2.55-Ahr)	630191-001
(16)	**Service access cover**	
	Black (for use in all countries and regions except Brazil)	633484-001
	Black (for use only in Brazil)	633485-001
	Power connector bracket	634873-001
	Rubber Kit (not illustrated; includes 4 rubber feet and LCD rubber bumpers)	636763-001

Display components



Item	Description	Spare part number
	Display Hinge Cover Kit, includes:	633483-001
(1a)	Left and right hinge covers	
(1b)	Left and right hinge caps	
(1c)	Left and right hinge cap wall	
(2)	**Display Hinge Kit** (includes right and left hinges)	633482-001
(3)	**Display bezel**	
	For use on Compaq-branded models	633489-001
	For use on HP-branded models	633493-001

Item	Description	Spare part number
(4)	**Webcam module**	631703-001
(5)	**Display panel** (for use in HP Mini 110/Compaq Mini CQ10 models)	624218-001
(6)	**Display/webcam cable**	633490-001
(7)	**Antenna Kit (includes WLAN and WWAN antennas)**	631698-001
(8)	**Display enclosure**	
	For use in black Compaq models	633492-001
	For use in black HP-branded models	633477-001
	For use in white HP-branded models	633478-001
	For use in red HP-branded models	633479-001
	For use in blue HP-branded models	633480-001
	Display EMI shield (not illustrated)	636762-001

Mass storage device

Description	Spare part number
Hard drive	
320-GB, 7200-rpm	627731-001
250-GB, 7200-rpm	635225-001
160-GB, 7200-rpm	635760-001
Hard Drive Hardware Kit (not illustrated; includes hard drive bracket, screws, and Mylar)	633491-001

Miscellaneous parts

Description	Spare part number
Power cord:	
For use in Argentina	490371-D01
For use in the Asia/Pacific region, French Canada, Latin America, Saudi Arabia, and the United States	490371-001
For use in the Asia/Pacific region, Hong Kong, Saudi Arabia, Singapore, and the United Kingdom	490371-031
For use in Australia	490371-011
For use in Brazil	490371-202
For use in Denmark	490371-081
For use in the Czech Republic, France, Greece, Hungary, Indonesia, the Netherlands, Poland, Portugal, Spain, Turkey, Russia, and Saudi Arabia	490371-021
For use in India	490371-D61
For use in Israel	490371-BB1
For use in Italy and Chile	490371-061
For use in Japan	490371-291
For use in the People's Republic of China	490371-AA1
For use in South Africa	490371-AR1
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
Screw Kit	633500-001
AC adapter (40-W , non-smart RC/V 2W)	624502-001
HP wireless optical mouse	597588-001

Sequential part number listing

Spare part number	Description
490371-001	Power cord for use in the Asia/Pacific region, French Canada, Latin America, Saudi Arabia, and the United States
490371-011	Power cord for use in Australia
490371-021	Power cord for use in the Czech Republic, France, Greece, Hungary, Indonesia, the Netherlands, Poland, Portugal, Spain, Turkey, Russia, and Saudi Arabia
490371-031	Power cord for use in the Asia/Pacific region, Hong Kong, Saudi Arabia, Singapore, and the United Kingdom
490371-061	Power cord for use in Italy
490371-081	Power cord for use in Denmark
490371-111	Power cord for use in Switzerland
490371-201	Power cord for use in Thailand
490371-202	Power cord for use in Brazil
490371-291	Power cord for use in Japan
490371-AA1	Power cord for use in the People's Republic of China
490371-AB1	Power cord for use in Taiwan
490371-AD1	Power cord for use in South Korea
490371-AR1	Power cord for use in South Africa
490371-BB1	Power cord for use in Israel
490371-D01	Power cord for use in Argentina
490371-D61	Power cord for use in India
531993-001	Qualcomm Gobi 2000 3G WWAN module (select models only)
574248-001	HP hs2320 HSPA Mobile Broadband Module (HP Mini 1103 models only)
593836-001	Broadcom 4313/2070 802.11b/g/n (1x1) WiFi Mini Card
597588-001	HP wireless optical mouse
600370-001	Broadcom 4313/2070 802.11b/g/n (1x1) and Bluetooth high-speed Half Mini Card
602992-001	Ralink RT3090BC4 802.11b/g/n 1x1 WiFi and Bluetooth 2.1+EDR Combo Adapter (Bluetooth 3.0+high-speed ready)
605560-005	Atheros AR9285G 802.11b/g/n 1x1 WiFi Adapter
612599-001	HP lc 2000 Mobile Broadband Module (HP Mini 110/Compaq Mini CQ10 models only)
612600-001	HP lc 2010 Mobile Broadband Module (HP Mini 110/Compaq Mini CQ10 models only)
621563-001	1-GB memory module (667-MHz, DDR3):
621567-001	2-GB memory module (667-MHz, DDR3):

Spare part number	Description
622329-001	Power connector cable
622330-001	Fan/heat sink assembly (includes replacement thermal material)
622351-001	RTC battery
624218-001	Display panel for use in HP Mini 110/Compaq Mini CQ10 models
624502-001	40-W AC adapter, non-Smart RC/V 2W
627731-001	320-GB, 7200-rpm hard drive (includes bracket and screws)
628532-001	Hard Drive Cable Kit
630191-001	3-cell Li-ion battery (28-WH 2.55-Ahr)
630193-001	6-cell Li-ion high-capacity battery (55-WH 2.5-Ahr)
631698-001	Antenna Kit (includes WLAN and WWAN antennas)
631703-001	Webcam module
633476-001	Keyboard for use in the Asia/Pacific region, Australia, the People's Republic of China, Hong Kong, India, Indonesia, Singapore, and the United States (includes cable)
633476-031	Keyboard for use in Singapore and the United Kingdom (includes cable)
633476-041	Keyboard for use in Germany (includes cable)
633476-051	Keyboard for use in France (includes cable)
633476-061	Keyboard for use in Italy (includes cable)
633476-071	Keyboard for use in Spain (includes cable)
633476-121	Keyboard for use in French Canada (includes cable)
633476-131	Keyboard for use in Portugal (includes cable)
633476-141	Keyboard for use in Turkey (includes cable)
633476-161	Keyboard for use in Chile and Latin America (includes cable)
633476-171	Keyboard for use in Saudi Arabia (includes cable)
633476-201	Keyboard for use in Brazil (includes cable)
633476-211	Keyboard for use in Hungary (includes cable)
633476-221	Keyboard for use in the Czech Republic (includes cable)
633476-251	Keyboard for use in Russia (includes cable)
633476-281	Keyboard for use in Thailand (includes cable)
633476-291	Keyboard for use in Japan (includes cable)
633476-A41	Keyboard for use in Belgium (includes cable)
633476-AB1	Keyboard for use in Taiwan (includes cable)
633476-AD1	Keyboard for use in South Korea (includes cable)
633476-B31	Keyboard for use in the Europe, the Netherlands, Poland, and Saudi Arabia (includes cable)

Spare part number	Description
633476-BA1	Keyboard for use in Slovenia (includes cable)
633476-BB1	Keyboard for use in Israel (includes cable)
633476-BG1	Keyboard for use in Switzerland (includes cable)
633476-DH1	Keyboard for use in Denmark, Finland, and Norway (includes cable)
633476-DJ1	Keyboard for use in Greece (includes cable)
633477-001	Display enclosure for use in black HP-branded models
633478-001	Display enclosure for use in white HP-branded models
633479-001	Display enclosure for use in red HP-branded models
633480-001	Display enclosure for use in blue HP-branded models
633481-001	Base enclosure (includes 4 rubber feet and power connector bracket)
633482-001	Display Hinge Kit (includes right and left hinges)
633483-001	Display hinge covers (includes left and right hinge covers, caps, and walls)
633484-001	Service access cover, black (for use in all countries and regions except Brazil)
633485-001	Service access cover, black (for use only in Brazil)
633486-001	System board with Intel Atom N455 1.66-GHz processor, 512-KB level 2 cache, 667-MHz FSB, 6.5 W, single-core for use in models without high-definition video and without a WWAN module
633487-001	System board with Intel Atom N475 1.83-GHz processor, 512-KB level 2 cache, 667-MHz FSB, 6.5W for use in models without high-definition video and without a WWAN module
633488-001	Top cover (includes TouchPad and speaker)
633489-001	Display bezel for use in Compaq-branded models
633490-001	Display/webcam cable
633491-001	Hard Drive Hardware Kit (includes hard drive bracket, screws, and Mylar)
633492-001	Display enclosure for use in black Compaq-branded models
633493-001	Display bezel for use in HP-branded models
633494-001	System board with Intel Atom N455 1.66-GHz processor, 512-KB level 2 cache, 667-MHz FSB, 6.5 W, single-core for use in models without high-definition video and with a WWAN module
633495-001	Intel Atom N475 1.83-GHz processor, 512-KB level 2 cache, 667-MHz FSB, 6.5W for use in models without high-definition video and with WWAN
633496-001	**25.7-cm** (10.1-in) WSVGA, anti-glare, LED display assembly in black (includes display panel cable, 2 WLAN transceivers and cables, 2 WWAN transceivers and cables (select models only), and webcam/microphone module and cable)
633497-001	**25.7-cm** (10.1-in) WSVGA, anti-glare, LED display assembly in white (includes display panel cable, 2 WLAN transceivers and cables, 2 WWAN transceivers and cables (select models only), and webcam/microphone module and cable)
633498-001	**25.7-cm** (10.1-in) WSVGA, anti-glare, LED display assembly in red (includes display panel cable, 2 WLAN transceivers and cables, 2 WWAN transceivers and cables (select models only), and webcam/microphone module and cable)

Spare part number	Description
633499-001	**25.7-cm** (10.1-in) WSVGA, anti-glare, LED display assembly in blue (includes display panel cable, 2 WLAN transceivers and cables, 2 WWAN transceivers and cables (select models only), and webcam/microphone module and cable)
633500-001	Screw Kit
634493-001	**25.7-cm** (10.1-in) WSVGA, anti-glare, LED display assembly in black for use only on Compaq models (includes display panel cable, 2 WLAN transceivers and cables, 2 WWAN transceivers and cables (select models only), and webcam/microphone module and cable)
634873-001	Power connector bracket
635225-001	250-GB, 7200-rpm hard drive (includes bracket and screws)
635760-001	160-GB, 7200-rpm hard drive (includes bracket and screws)
636336-001	System board with Intel Atom N455 1.66-GHz processor, 512-KB level 2 cache, 667-MHz FSB, 6.5 W, single-core, for use in models without high-definition video and without a WWAN module
636337-001	System board with Intel Atom N475 1.83-GHz processor, 512-KB level 2 cache, 667-MHz FSB, 6.5W, single-core for use in models with high-definition video and without and WLAN module
636338-001	System board with Intel Atom N455 1.66-GHz processor, 512-KB level 2 cache, 667-MHz FSB, 6.5 W, single-core for use in models with high-definition video and with a WWAN module
636339-001	System board with Intel Atom N475 1.83-GHz processor, 512-KB level 2 cache, 667-MHz FSB, 6.5 W with WLAN
636762-001	Display EMI shield (not illustrated)
636763-001	Rubber Kit (includes 4 rubber feet and LCD rubber bumpers)
638148-001	System board with Intel Atom N550 1.5-GHz processor, 1-MB level 2 cache, 667-MHz FSB, 8.5 W, dual-core

4 Removal and replacement procedures

Preliminary replacement requirements

Tools required

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

- Flat-bladed screwdriver
- Magnetic screwdriver
- Phillips P0 and P1 screwdrivers

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

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

Before removing or inserting a hard drive, shut down the device. If you are unsure whether the device is off or in Hibernation, turn the device 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.

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

Avoid dropping drives from any height onto any surface.

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

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

Avoid exposing a drive to temperature extremes or liquids.

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

Grounding guidelines

Electrostatic discharge damage

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

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

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

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

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

Use nonmagnetic tools.

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

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

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

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

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

Typical electrostatic voltage levels

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

Packaging and transporting guidelines

Follow these grounding guidelines when packaging and transporting equipment:

- To avoid hand contact, transport products in static-safe tubes, bags, or boxes.
- Protect ESD-sensitive parts and assemblies with conductive or approved containers or packaging.
- Keep ESD-sensitive parts in their containers until the parts arrive at static-free workstations.
- Place items on a grounded surface before removing items from their containers.
- Always be properly grounded when touching a component or assembly.
- Store reusable ESD-sensitive parts from assemblies in protective packaging or nonconductive foam.
- Use transporters and conveyors made of antistatic belts and roller bushings. Be sure that mechanized equipment used for moving materials is wired to ground and that proper materials are selected to avoid static charging. When grounding is not possible, use an ionizer to dissipate electric charges.

Workstation guidelines

Follow these grounding workstation guidelines:

- Cover the workstation with approved static-shielding material.
- Use a wrist strap connected to a properly grounded work surface and use properly grounded tools and equipment.
- Use conductive field service tools, such as cutters, screwdrivers, and vacuums.
- When fixtures must directly contact dissipative surfaces, use fixtures made only of static-safe materials.
- Keep the work area free of nonconductive materials, such as ordinary plastic assembly aids and Styrofoam.
- Handle ESD-sensitive components, parts, and assemblies by the case or PCM laminate. Handle these items only at static-free workstations.
- Avoid contact with pins, leads, or circuitry.
- Turn off power and input signals before inserting or removing connectors or test equipment.

Equipment guidelines

Grounding equipment must include either a wrist strap or a foot strap at a grounded workstation.

- When seated, wear a wrist strap connected to a grounded system. Wrist straps are flexible straps with a minimum of one megohm ±10% resistance in the ground cords. To provide proper ground, wear a strap snugly against the skin at all times. On grounded mats with banana-plug connectors, use alligator clips to connect a wrist strap.
- When standing, use foot straps and a grounded floor mat. Foot straps (heel, toe, or boot straps) can be used at standing workstations and are compatible with most types of shoes or boots. On conductive floors or dissipative floor mats, use foot straps on both feet with a minimum of one megohm resistance between the operator and ground. To be effective, the conductive strips must be worn in contact with the skin.

The following grounding equipment is recommended to prevent electrostatic damage:

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

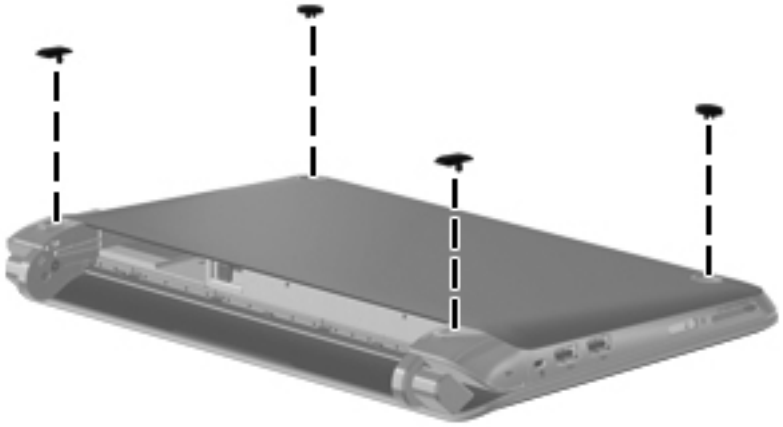
Component replacement procedures

This chapter provides removal and replacement procedures.

There are as many as 33 screws, in 5 different sizes, that must be removed, replaced, or loosened when servicing the computer. Make special note of each screw size and location during removal and replacement.

Computer feet

The computer feet are adhesive-backed rubber pads. The feet are included in the Rubber Feet Kit, spare part number 636763-001. There are 4 rubber feet that attach to the base enclosure in the locations shown in the following illustration.



Battery

Description	Spare part number
6-cell Li-ion high-capacity (55-WH 2.55-Ahr)	630193-001
3-cell Li-ion (28-WH 2.55-Ahr)	630191-001

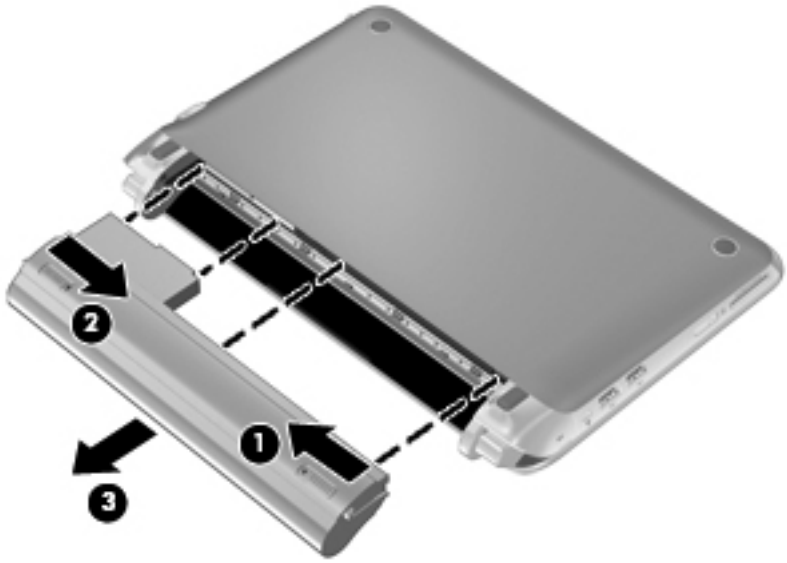
Remove the battery:

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

1. Save your work and shut down the computer.
2. Disconnect all external devices connected to the computer.
3. Unplug the power cord from the AC outlet.
4. With the display closed, position the computer upside down on a flat surface with the battery bay toward you.
5. Slide the battery locking latch **(1)** inward to unlock the battery.

NOTE: You can identify when the battery locking latch is unlocked by the red icon that appears inside the latch.

6. Slide and hold the battery release latch **(2)** while removing the battery **(3)** from the battery bay.



To insert the battery:

1. Insert the battery **(1)** into the battery bay until the battery release latch **(2)** clicks.

2. Slide the battery locking latch **(3)** to the right to lock the battery into the battery bay.

SIM

NOTE: This section applies only to models with WWAN capability.

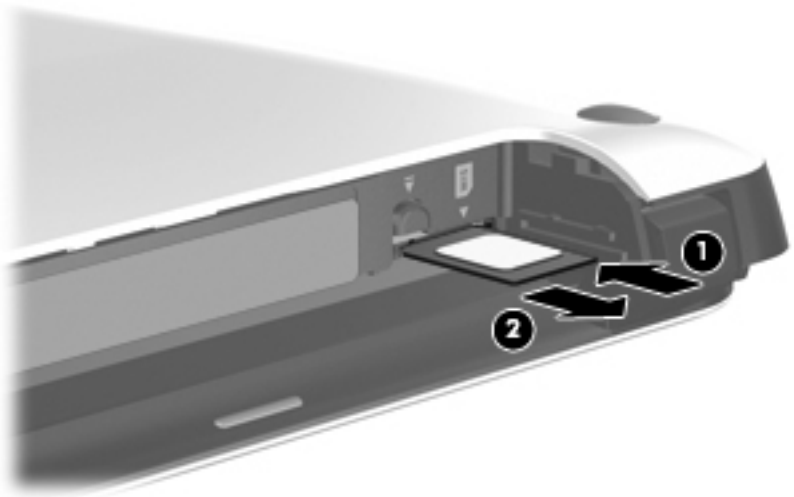
NOTE: If there is a SIM inserted in the SIM slot, it must be removed before disassembling the computer. Be sure that the SIM is reinserted in the SIM slot after reassembling the computer.

Before removing the SIM, follow these steps:

1. Shut down the computer. If you are unsure whether the computer is off or in Hibernation, turn the computer on, and then shut it down through the operating system.
2. Disconnect all external devices connected to the computer.
3. Disconnect the power from the computer by first unplugging the power cord from the AC outlet and then unplugging the AC adapter from the computer.
4. Remove the battery (see Battery on page 35).

Remove the SIM:

1. Press in on the SIM **(1)** to release it from the SIM slot.
2. Remove the SIM **(2)** from the SIM slot.



Install the SIM by inserting it into the SIM slot until you hear a click.

Service access cover

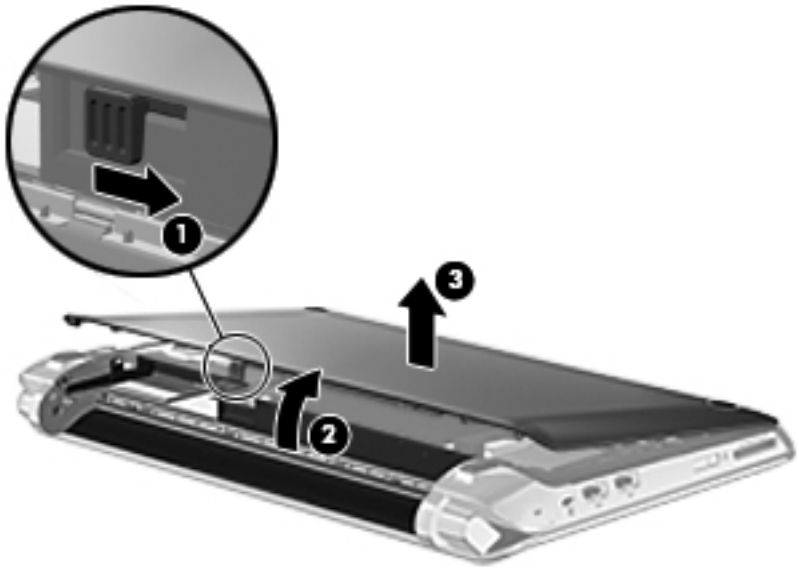
Description	Spare part number
Service access cover, black (for use in all countries and regions except Brazil)	633484-001
Service access cover, black (for use only in Brazil)	633485-001

Before removing the service access cover, follow these steps:

1. Shut down the computer. If you are unsure whether the computer is off or in Hibernation, turn the computer on, and then shut it down through the operating system.
2. Disconnect all external devices connected to the computer.
3. Disconnect the power from the computer by first unplugging the power cord from the AC outlet and then unplugging the AC adapter from the computer.
4. Remove the battery (see Battery on page 35).

Remove the service access cover:

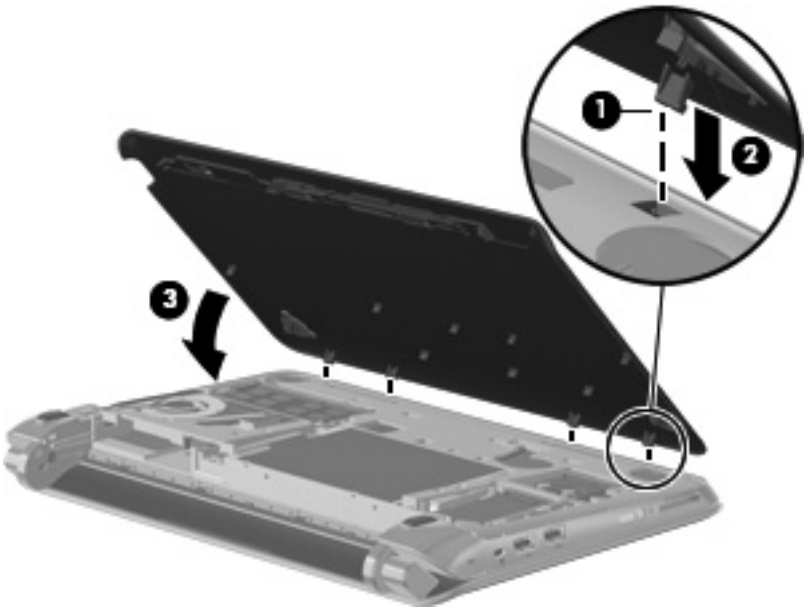
1. Slide the service access cover release lever **(1)** to the right.
2. Lift up the edge **(2)** of the service access cover until the tabs on the opposite side of the cover are clear of the slots in the base enclosure.
3. Remove the cover **(3)**.



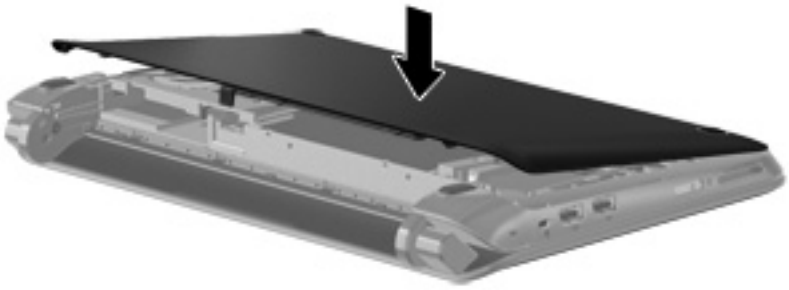
Install the service access cover:

1. Align the tabs **(1)** on the service access cover with the slots in the base enclosure.

2. Insert the tabs into the slots **(2)**, and swing the cover **(3)** down.



3. Press down firmly on the cover until it clicks into place.



Hard drive

Description	Spare part number
Hard drive:	
320-GB, 7200-rpm	627731-001
250-GB, 7200-rpm	635225-001
160-GB, 7200-rpm	635760-001
Hard Drive Hardware Kit (includes hard drive bracket, screws, and Mylar cover)	633491-001
Hard Drive Cable Kit	628532-001

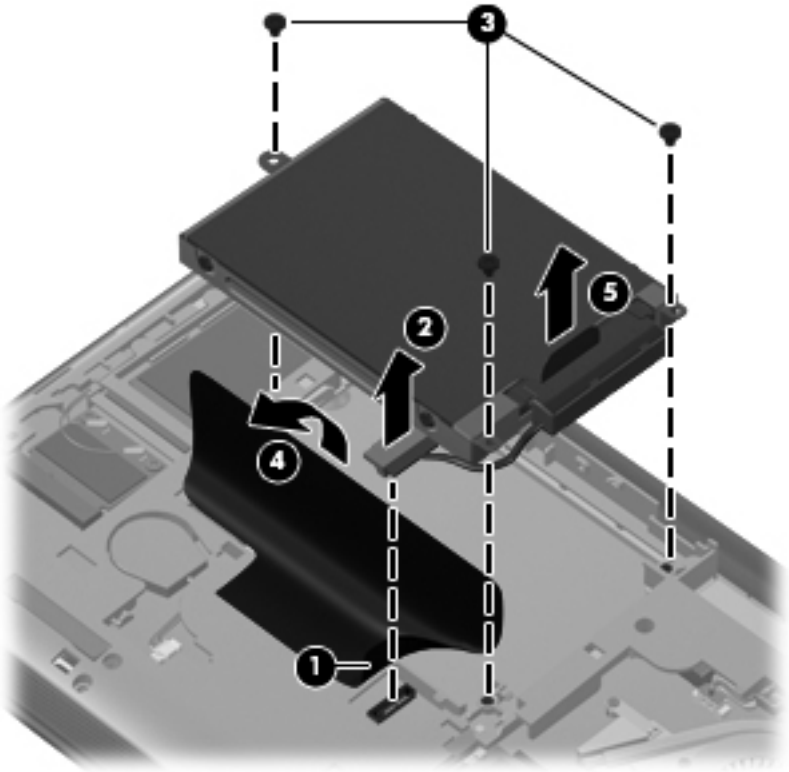
Before removing the hard drive, follow these steps:

1. Shut down the computer. If you are unsure whether the computer is off or in Hibernation, turn the computer on, and then shut it down through the operating system.
2. Disconnect all external devices connected to the computer.
3. Disconnect the power from the computer by first unplugging the power cord from the AC outlet and then unplugging the AC adapter from the computer.
4. Remove the following components:
   a. Battery (see Battery on page 35).
   b. Service access cover (see Service access cover on page 38).

Remove the hard drive:

1. Lift the Mylar **(1)** that covers the hard drive connector on the system board.
2. Disconnect the hard drive cable **(2)** from the system board.
3.
4. Remove the 3 Phillips 2.0×4.0 screws **(3)** that secure the hard drive to the computer.
5. Lift the Mylar **(4)** that covers the hard drive to allow removal of the drive.

6. Use the Mylar tab **(5)** to remove the hard drive from the computer.

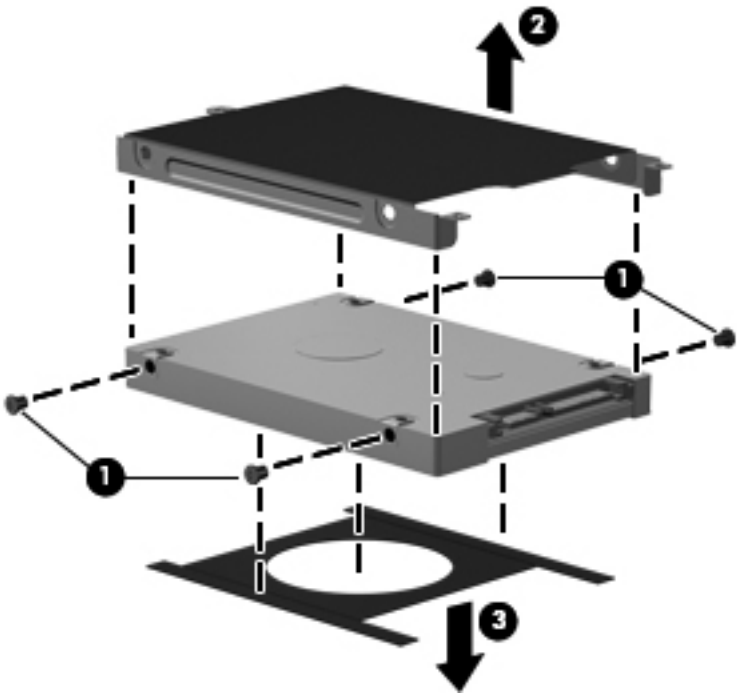


7. If it is necessary to replace the hard drive bracket, follow these steps:

   a. Disconnect the cable adapter from the hard drive.

   b. Remove the 4 Phillips 3.0×3.0 screws **(1)** that secure the hard drive bracket to the drive.

c. Remove the hard drive bracket **(2)**.



d. Remove the Mylar from the drive **(3)**.

Reverse this procedure to reassemble and install the hard drive.

WWAN and GPS modules (select models only)

NOTE: The WWAN module and the GPS module are very similar. Either can populate the WWAN slot.

Description	Spare part number
HP lc 2010 Mobile Broadband Module (HP Mini 110/Compaq Mini CQ10 models only)	612600-001
HP lc 2000 Mobile Broadband Module (HP Mini 110/Compaq Mini CQ10 models only)	612599-001
Qualcomm Gobi 2000 3G WWAN module (select models only)	531993-001
HP hs2320 HSPA Mobile Broadband Module (HP Mini 1103 models only)	574248-001

CAUTION: The WWAN module and the WLAN module are not interchangeable.

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

Before removing the WWAN or GPS module, follow these steps:

1. Shut down the computer. If you are unsure whether the computer is off or in Hibernation, turn the computer on, and then shut it down through the operating system.
2. Disconnect all external devices connected to the computer.
3. Disconnect the power from the computer by first unplugging the power cord from the AC outlet and then unplugging the AC adapter from the computer.
4. Remove the following components:
   a. Battery (see Battery on page 35).
   b. Service access cover (see Service access cover on page 38).

Remove the WWAN or GPS module:

1. Disconnect the antenna cable or cables **(1)** from the WWAN or GPS module.

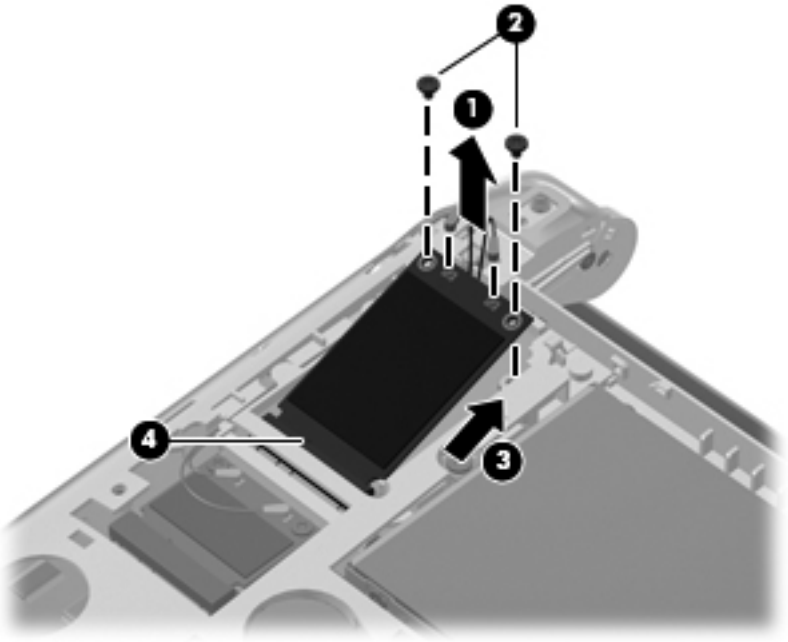
NOTE: The antenna cable with the red label is connected to the WWAN module “Main” terminal. The antenna cable with the blue label is connected to the WWAN or GPS module “Aux” terminal.

NOTE: The GPS module does not use the Main cable, therefore the Main cable is not connected. When you work with the GPS module, it is important to keep the plastic tubing that covers the Main cable in place.

2. Remove the 2 Phillips 2.0×3.0 screws **(2)** that secure the WWAN or GPS module to the system board. (The module tilts up.)

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

NOTE: WWAN and GPS modules are designed with a notch **(4)** to prevent incorrect insertion of the module into the slot.



Reverse this procedure to install the WWAN or GPS module.

WLAN module

Description	Spare part number
Atheros AR9285G 802.11b/g/n 1x1 WiFi Adapter	605560-005
Broadcom 4313/2070 802.11b/g/n (1x1) and Bluetooth high-speed Half Mini Card	600370-001
Broadcom 4313/2070 802.11b/g/n (1x1) WiFi Mini Card	593836-001
Ralink RT3090BC4 802.11b/g/n 1x1 WiFi and Bluetooth 2.1+EDR Combo Adapter (Bluetooth 3.0+high-speed ready)	602992-001

△ **CAUTION:** The WLAN module and the WWAN module are not interchangeable.

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 technical support through Help and Support.

Before removing the WLAN module, follow these steps:

1. Shut down the computer. If you are unsure whether the computer is off or in Hibernation, turn the computer on, and then shut it down through the operating system.
2. Disconnect all external devices connected to the computer.
3. Disconnect the power from the device by first unplugging the power cord from the AC outlet and then unplugging the AC adapter from the computer.
4. Remove the following components:
   a. Battery (see Battery on page 35).
   b. Service access cover (see Service access cover on page 38).

Remove the WLAN module:

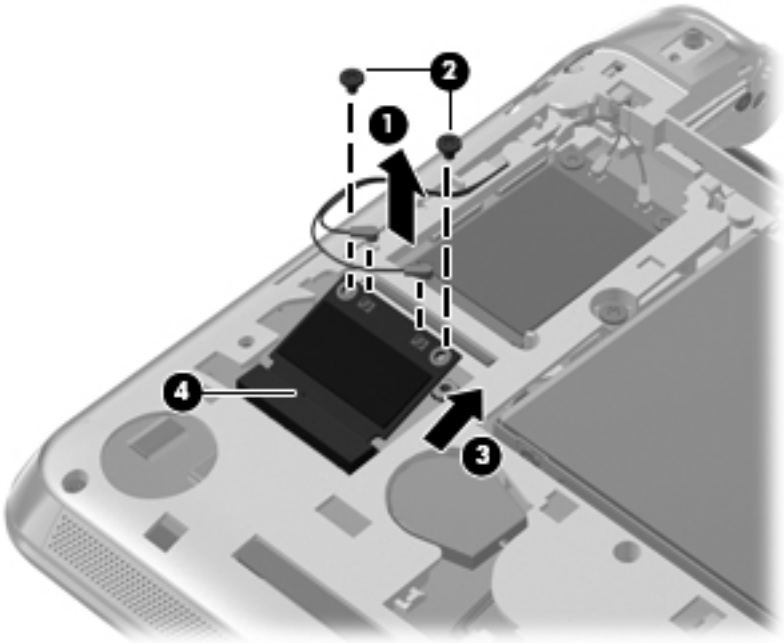
1. Disconnect the WLAN antenna cables **(1)** from the terminals on the WLAN module.

NOTE: The WLAN antenna cable with the black label is connected to the WLAN module “Main” terminal. The WLAN antenna cable with the white label is connected to the WLAN module “Aux” terminal.

2. Remove the 2 Phillips 2.0×3.0 screws **(2)** that secure 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: WLAN modules are designed with a notch **(4)** to prevent incorrect insertion of the WLAN module into the WLAN module slot.



Reverse this procedure to install the WLAN module.

Memory module

Description	Spare part number
1-GB memory module (667-MHz, DDR3)	621563-001
2-GB memory module (667-MHz, DDR3)	621567-001

Before removing the memory module, follow these steps:

1. Shut down the computer. If you are unsure whether the computer is off or in Hibernation, turn the computer on, and then shut it down through the operating system.
2. Disconnect all external devices connected to the computer.
3. Disconnect the power from the computer by first unplugging the power cord from the AC outlet and then unplugging the AC adapter from the computer.
4. Remove the following components:
   a. Battery (see Battery on page 35).
   b. Service access cover (see Service access cover on page 38).

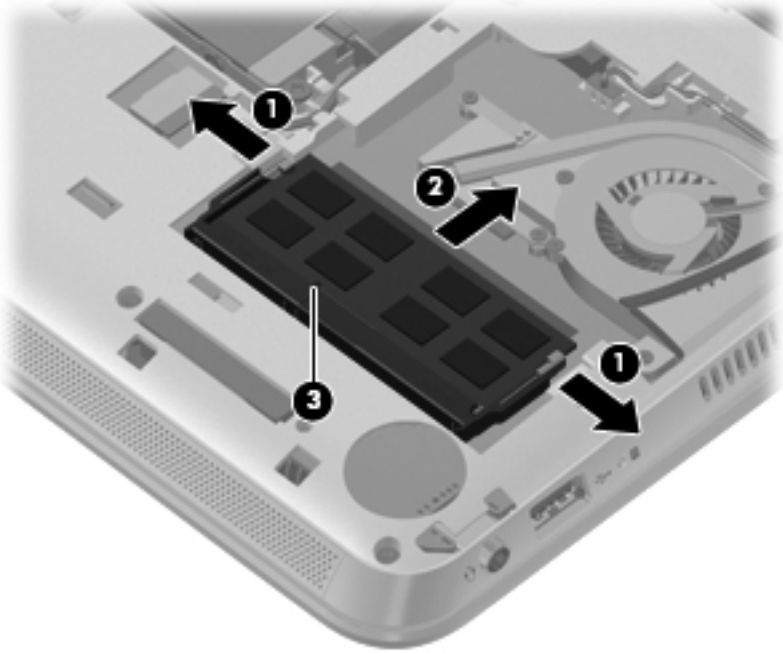
Remove the memory module:

1. Pull away the retention clips **(1)** on each side of the memory module to release the memory module. (The memory module tilts up.)

△ **CAUTION:** To prevent damage to the memory module, hold it by the edges only. Do not touch the components on the memory module.

2. Grasp the edge of the memory module **(2)**, and then pull it out of the memory module slot.

NOTE: Memory modules are designed with a notch **(3)** to prevent incorrect insertion into the memory module slot.



Reverse this procedure to install the memory module.

RTC battery

Description	Spare part number
RTC battery	622351-001

Before removing the real-time clock (RTC) battery, follow these steps:

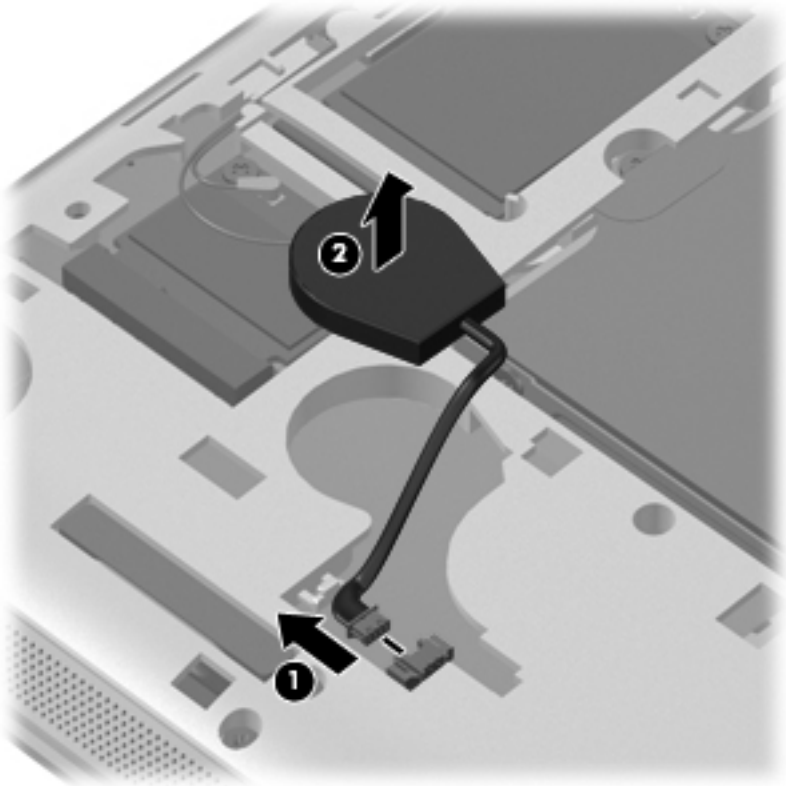
1. Shut down the computer. If you are unsure whether the computer is off or in Hibernation, turn the computer on, and then shut it down through the operating system.
2. Disconnect all external devices connected to the computer.
3. Disconnect the power from the computer by first unplugging the power cord from the AC outlet and then unplugging the AC adapter from the computer.
4. Remove the following components:
   a. Battery (see Battery on page 35).
   b. Service access cover (see Service access cover on page 38).

Remove the RTC battery:

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

2. Remove the RTC battery **(2)** from the computer.

NOTE: The RTC battery is attached with double-sided tape.



Reverse this procedure to install the RTC battery. When installing the RTC battery, be sure the plus sign (+) faces up.

Keyboard

NOTE: The keyboard spare part kit includes a keyboard cable.

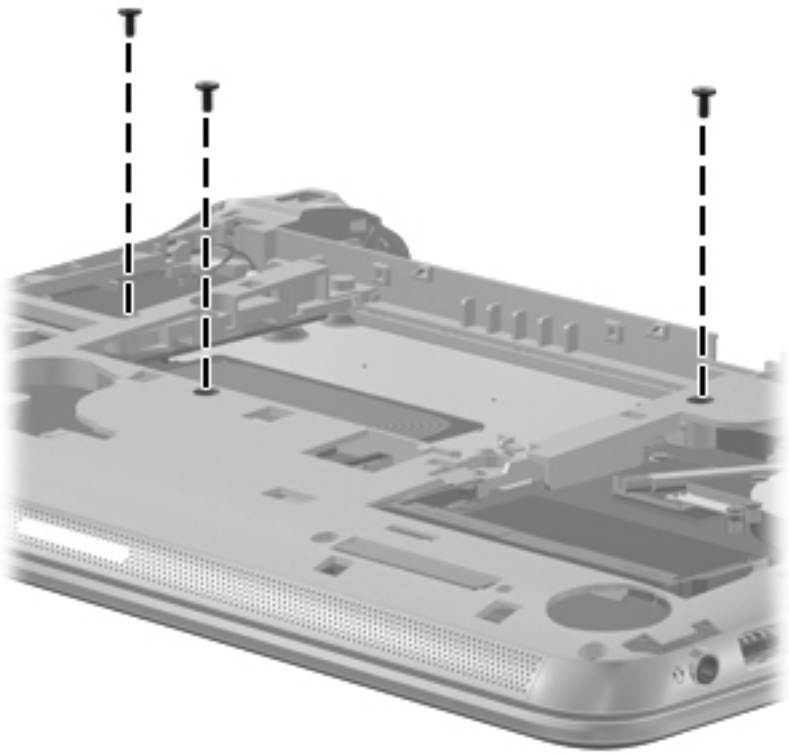
For use in:	Spare part number	For use in:	Spare part number
Asia/Pacific region, Australia, the People's Republic of China, Hong Kong, India, Indonesia, Singapore, and the United States	633476-001	Japan	633476-291
Belgium	633476-A41	Latin America and Chile	633476-161
Brazil	633476-201	Portugal	633476-131
The Czech Republic	633476-221	Russia	633476-251
Denmark, Finland, and Norway	633476-DH1	Saudi Arabia	633476-171
Europe, the Netherlands, Poland, and Saudi Arabia	633476-B31	Slovenia	633476-BA1
France	633476-051	South Korea	633476-AD1
French Canada	633476-121	Spain	633476-071
Germany	633476-041	Switzerland	633476-BG1
Greece	633476-DJ1	Taiwan	633476-AB1
Hungary	633476-211	Thailand	633476-281
Israel	633476-BB1	Turkey	633476-141
Italy	633476-061	The United Kingdom and Singapore	633476-031

Before removing the keyboard, follow these steps:

1. Shut down the computer. If you are unsure whether the computer is off or in Hibernation, turn the computer on, and then shut it down through the operating system.
2. Disconnect all external devices connected to the computer.
3. Disconnect the power from the computer by first unplugging the power cord from the AC outlet and then unplugging the AC adapter from the computer.
4. Remove the following components:
   a. Battery (see Battery on page 35).
   b. Service access cover (see Service access cover on page 38).

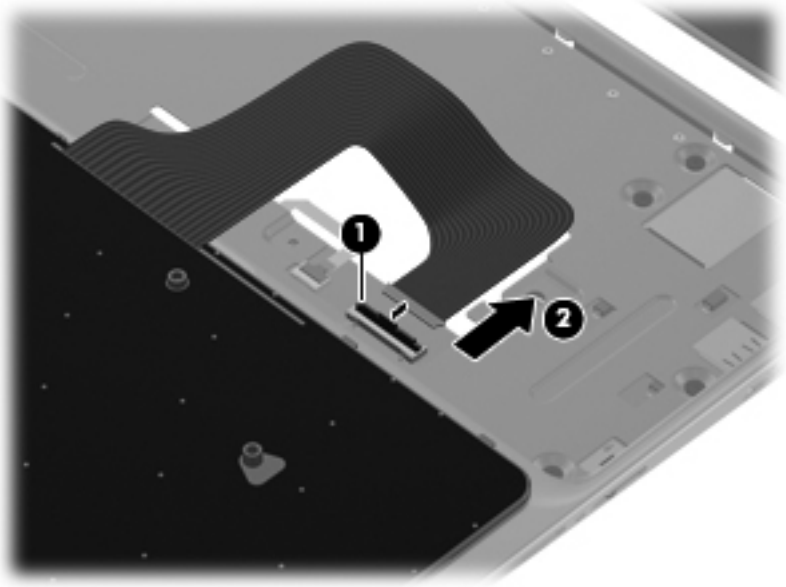
Remove the keyboard:

1. Remove the 3 Phillips 2.0×5.0 screws that secure the keyboard to the computer.



2. Turn the computer right-side up, with the front toward you.
3. Open the computer as far as possible.
4. Lift the rear edge of the keyboard until it rests at an angle.

5. Release the zero insertion force (ZIF) connector **(1)** to which the keyboard cable is attached, and then disconnect the keyboard cable **(2)**



6. Remove the keyboard.

Reverse this procedure to install the keyboard.

Top cover

NOTE: The top cover includes the speakers, TouchPad and TouchPad cable.

Description	Spare part number
Top cover (includes TouchPad, TouchPad cable, and speaker)	633488-001

Before removing the top cover, follow these steps:

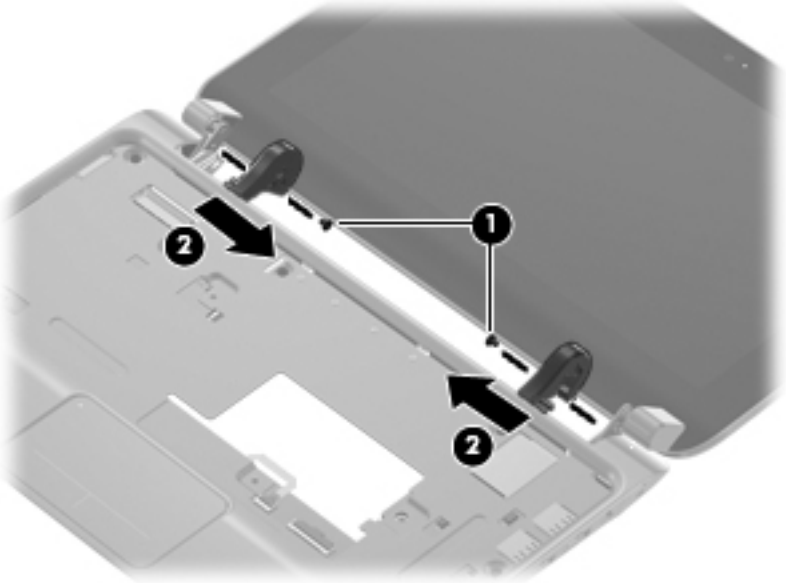
1. Shut down the computer. If you are unsure whether the computer is off or in Hibernation, turn the computer on, and then shut it down through the operating system.
2. Disconnect all external devices connected to the computer.
3. Disconnect the power from the computer by first unplugging the power cord from the AC outlet and then unplugging the AC adapter from the computer.
4. Remove the following components:
   a. Battery (see Battery on page 35).
   b. Service access cover (see Service access cover on page 38).
   c. Keyboard (see Keyboard on page 50).

Remove the top cover.

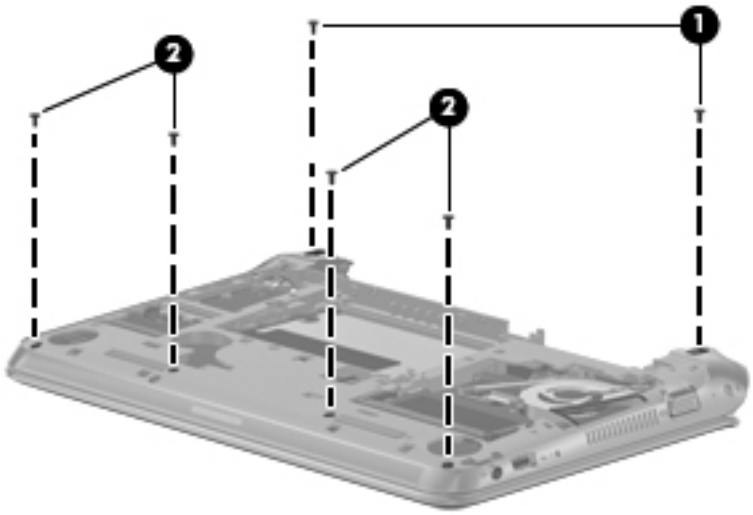
1. Open the computer as far as possible.
2. Remove the 2 Phillips 2.0×2.5 screws **(1)** that secure the interior hinge covers to the display hinges.

NOTE: The screws used for these hinge covers require a Phillips 00 screwdriver.

3. Remove the interior hinge covers **(2)**.



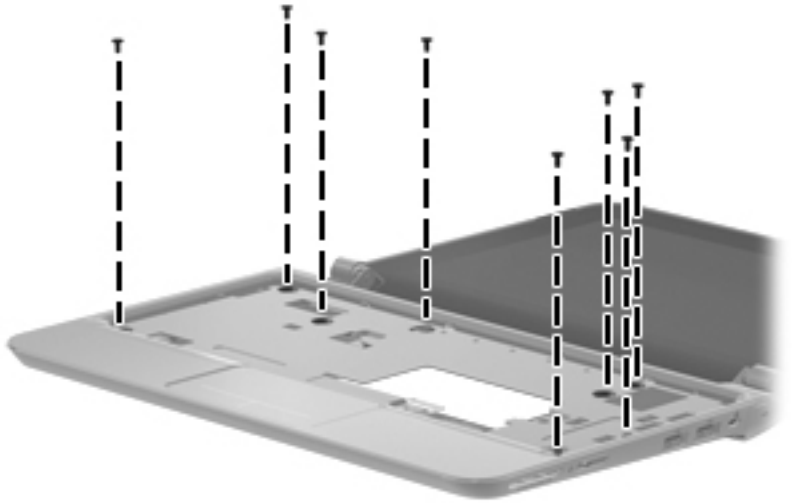
4. Turn the computer upside down, with the front toward you.
5. Remove the rear rubber feet, and then remove the 2 Phillips 2.5×5.0 screws **(1)** under the feet.
6. Remove the 4 Phillips 2.0×5.0 screws **(2)** that secure the top cover to the base enclosure.



7. Turn the computer right-side up, with the front toward you.
8. Open the computer as far as possible.
9. Disconnect the speaker cable **(1)** from the system board.
10. Release the ZIF connector **(2)** to which the TouchPad cable is connected, and then disconnect the TouchPad cable **(3)** from the system board.

11. Release the ZIF connector **(4)** to which the TouchPad button cable is connected, and then disconnect the TouchPad button cable **(5)** from the system board.

12. Remove the 8 Phillips 2.0×4.0 screws that secure the top cover to the base enclosure.



13. Release the top cover by lifting the front edge until it disengages from the base enclosure.

Reverse this procedure to install the top cover.

Display assembly

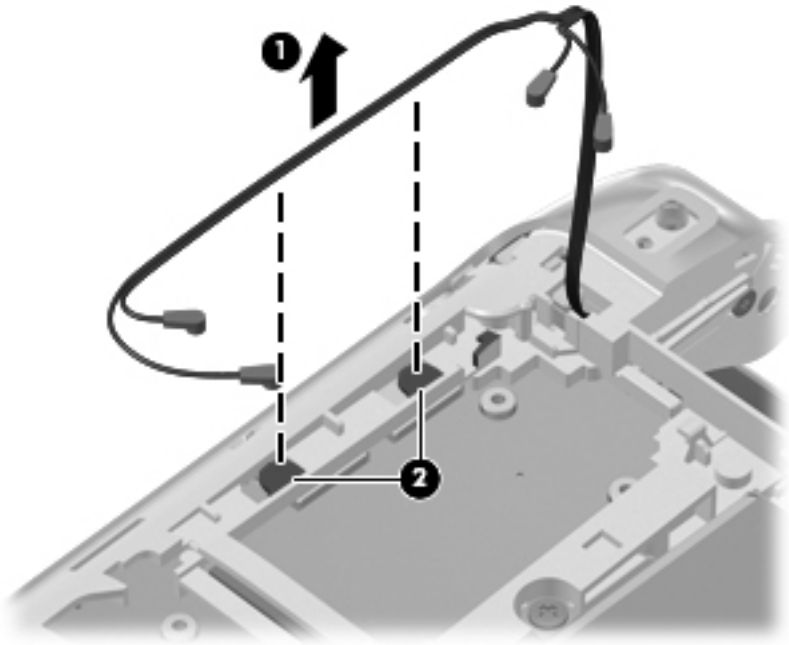
Description	Spare part number
25.7-cm (10.1-in) display assembly (includes display panel cable, 2 WLAN transceivers and cables, 2 WWAN transceivers and cables (select models only), and webcam/microphone module and cable):	
• WSVGA, anti-glare, LED display assembly in black for use only on Compaq-branded models	634493-001
• WSVGA, anti-glare, LED display assembly in black for use only on HP-branded models	633496-001
• WSVGA, anti-glare, LED display assembly in red	633498-001
• WSVGA, anti-glare, LED display assembly in blue	633499-001
• WSVGA, anti-glare, LED display assembly in white	633497-001

Before removing the display assembly, follow these steps:

1. Shut down the computer. If you are unsure whether the computer is off or in Hibernation, turn the computer on, and then shut it down through the operating system.
2. Disconnect all external devices connected to the computer.
3. Disconnect the power from the computer by first unplugging the power cord from the AC outlet and then unplugging the AC adapter from the computer.
4. Remove the following components:
   a. Battery (see Battery on page 35).
   b. Service access cover (see Service access cover on page 38).
   c. Keyboard (see Keyboard on page 50).
   d. Top cover (see Top cover on page 53).
5. Disconnect the WWAN antenna cables from the WWAN module (see WWAN and GPS modules (select models only) on page 43).
6. Disconnect the WLAN antenna cables from the WLAN module (see WLAN module on page 45).

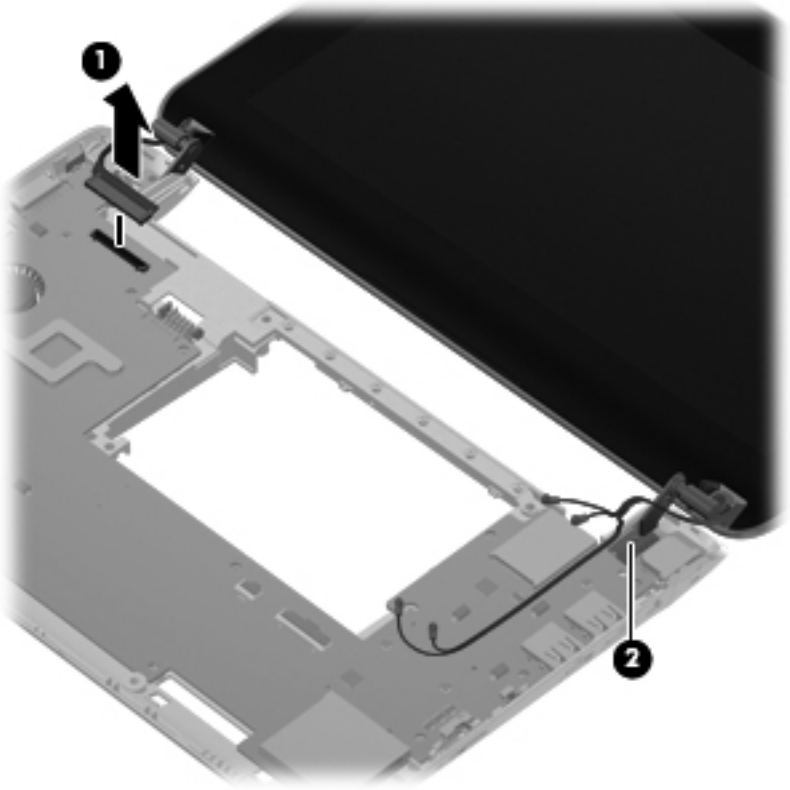
Remove the display assembly:

1. Close the computer.
2. Turn the computer upside down, with the front toward you.
3. Release the WLAN antenna cables **(1)** from the clips **(2)** built into the base enclosure.



4. Turn the computer right-side up, with the front toward you.
5. Open the computer as far as possible.
6. Disconnect the display panel cable **(1)** from the system board.

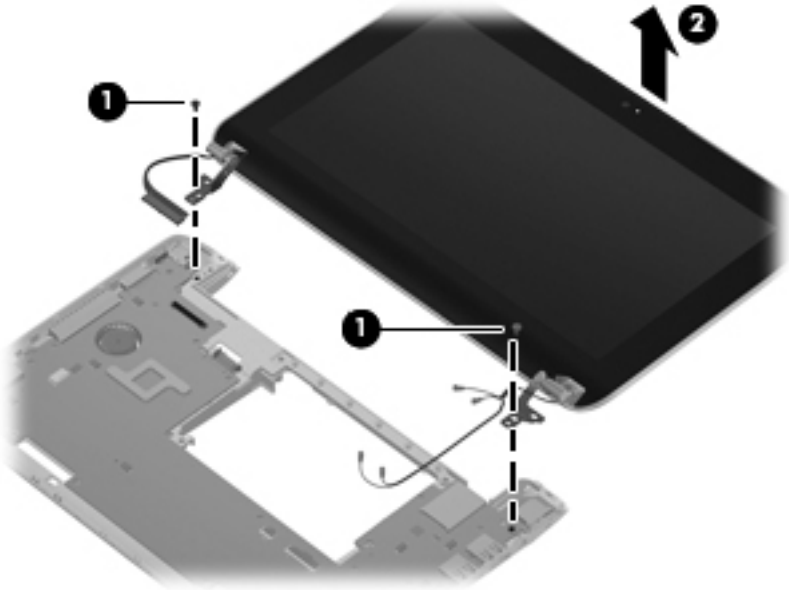
7. Release the wireless antenna cables **(2)** from the clip built into the base enclosure.



△ **CAUTION:** Support the display assembly when removing the following screws. Failure to support the display assembly can result in damage to the display assembly and other device components.

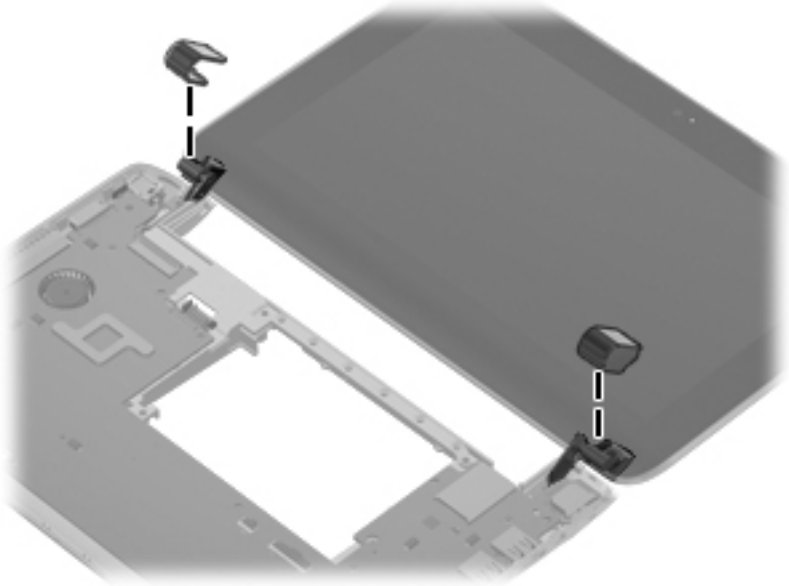
8. Remove the 2 Phillips 2.5×5.0 screws **(1)** that secure the display assembly to the base enclosure.

9. Remove the display assembly **(2)**.



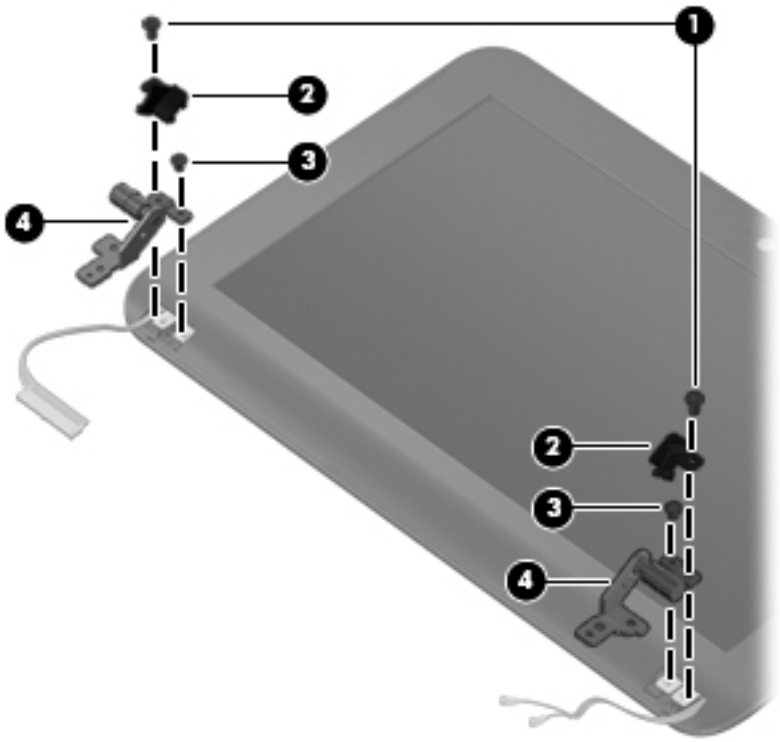
Remove the display assembly hinges:

1. Remove the hinge covers from the hinges. The display hinge covers are available using spare part number 633483-001.

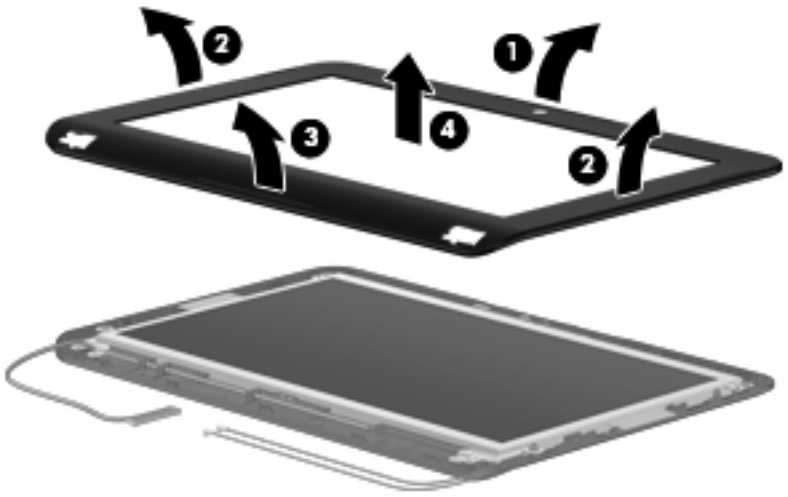


2. Remove the 2 Phillips 2.0×5.0 screws **(1)** that secure the black plastic covers to the display assembly, and then lift the covers from the display **(2)**.
3. Remove the 2 Phillips 2.0×4.0 screws **(3)** that secure the hinges to the display assembly.

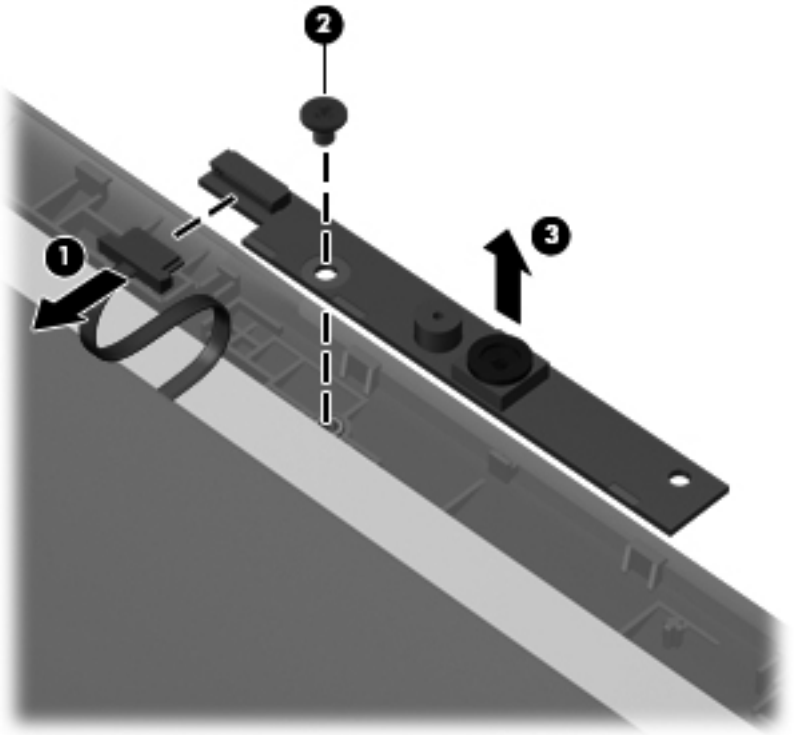
4. Remove the display hinges **(4)**. The display hinges are available using spare part number 633482-001



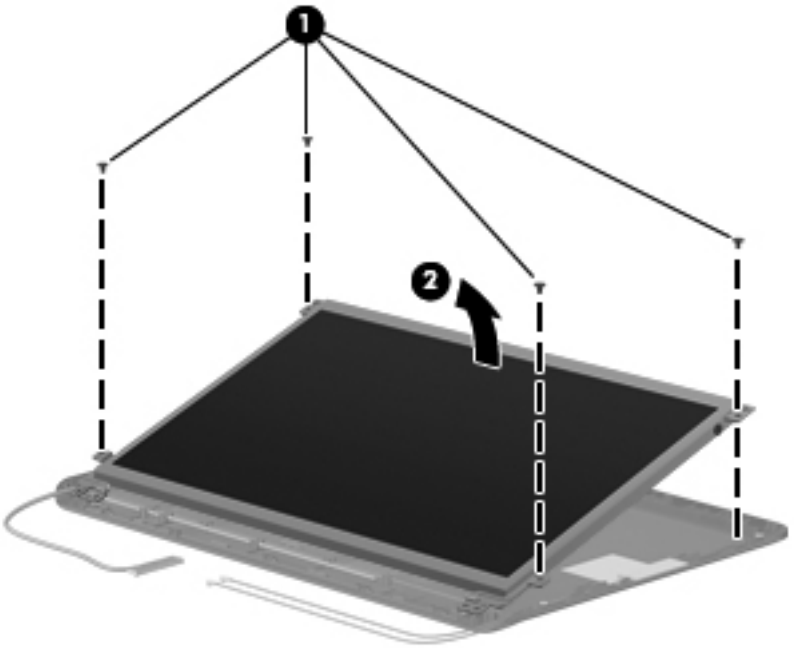
5. If you need to remove the display bezel, loosen the top of the bezel **(1)**, loosen the left and right sides of the bezel **(2)**, loosen the bottom of the bezel **(3)**, and then lift the bezel from the display **(4)**. The display bezel is available using spare part number 633489-001 for Compaq-branded models and 633493-001 for HP-branded models.



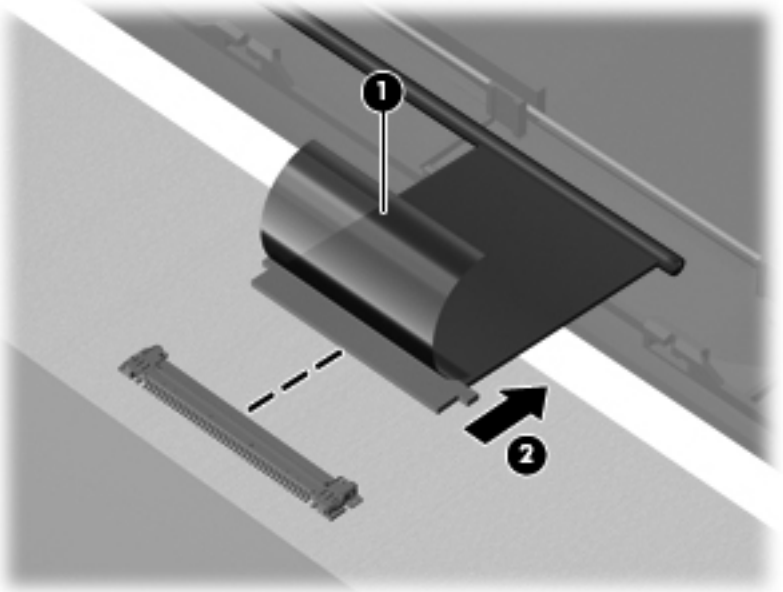
6. If you need to remove the webcam module, unplug the cable from the webcam module **(1)**, remove the silver Phillips 2.0x3.0 screw **(2)**, and then lift the module from the display **(3)**. The webcam module is available using spare part number 631703-001.



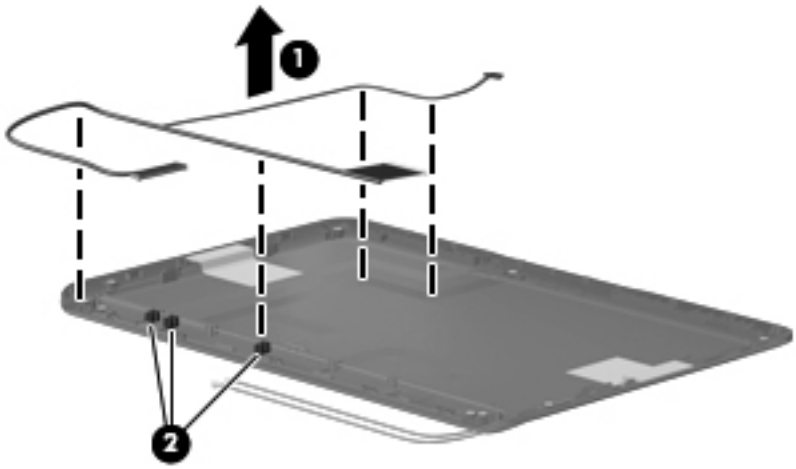
7. If you need to remove the display panel from the display enclosure, remove the 4 Phillips 2.0×4.0 screws **(1)** that secure the panel to the enclosure, lift the top of the display panel **(2)**, and then rotate it up and out of the display enclosure. The display panel is available using spare part number 624218-001.



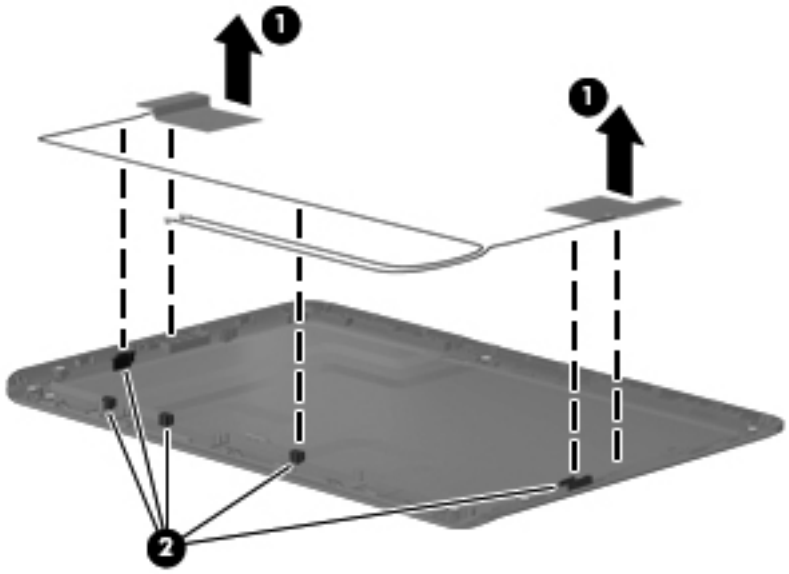
8. If you need to remove the display/webcam cable assembly, disconnect the display cable **(1)** from the connector **(2)** on the back of the display panel. The display/webcam cable is available using spare part number 633490-001.



9. Lift the display/webcam cable **(1)** from its routing path **(2)** in the display enclosure.



10. If you need to remove the antenna cables, lift the cables **(1)** from the routing path **(2)** in the display enclosure. The antenna cables are available using spare part number 631698-001.



11. If you need to replace the display enclosure, use the following spare part numbers:

    - 633492-001 for black Compaq-branded models
    - 633477-001 for black HP-branded models
    - 633478-001 for white HP-branded models
    - 633479-001 for red HP-branded models
    - 633480-001 for blue HP-branded models

Reverse this procedure to reassemble and install the display assembly.

Fan/heat sink assembly

Description	Spare part number
Fan/heat sink assembly (includes replacement thermal material)	622330-001

NOTE: To properly ventilate the computer, allow at least a 7.6-cm (3-in) clearance on the left side of the computer. The computer uses an electric fan for ventilation. The fan is controlled by a temperature sensor and is designed to turn on automatically when high temperature conditions exist. These conditions are affected by high external temperatures, system power consumption, power management/battery conservation configurations, battery fast charging, and software requirements. Exhaust air is displaced through the ventilation grill located on the left side of the computer.

Before removing the fan/heat sink assembly, follow these steps:

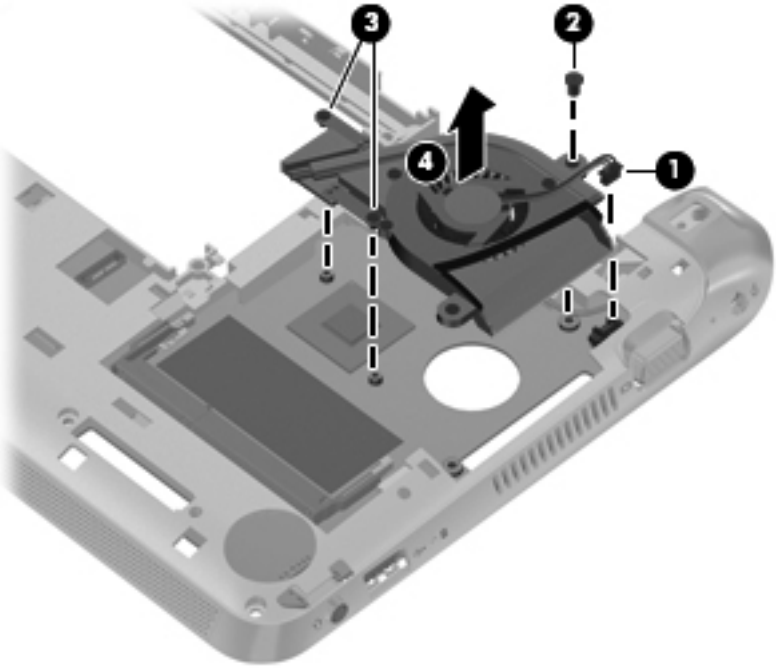
1. Shut down the computer. If you are unsure whether the computer is off or in Hibernation, turn the computer on, and then shut it down through the operating system.
2. Disconnect all external devices connected to the computer.
3. Disconnect the power from the computer by first unplugging the power cord from the AC outlet and then unplugging the AC adapter from the computer.
4. Remove the following components:
   a. Battery (see Battery on page 35).
   b. Service access cover (see Service access cover on page 38).

Remove the fan/heat sink assembly:

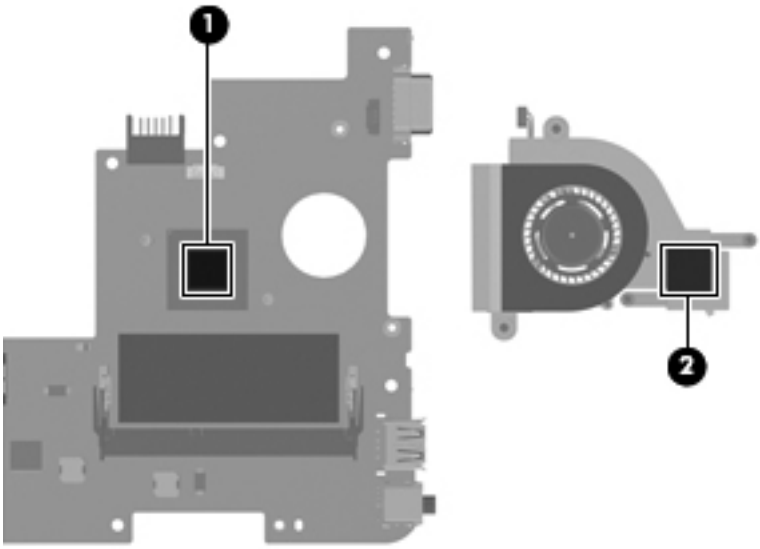
1. Turn the computer upside down.
2. Disconnect the fan cable **(1)** from the system board.
3. Remove the Phillips 2.0×3.0 screw **(2)**, and then loosen the 2 Phillips 2.0x4.0 captive screws **(3)** that secure the fan/heat sink assembly to the system board.

4. Remove the fan/heat sink assembly **(4)**.

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



NOTE: The thermal material must be thoroughly cleaned from the surfaces of the fan/heat sink assembly and the system board each time the fan/heat sink assembly is removed: Thermal paste is used on the processor **(1)** and the fan/heat sink assembly section **(2)** that services it.



Reverse this procedure to install the fan/heat sink assembly.

System board

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

Description	Spare part number
System boards for use in models without high-definition video:	
Intel Atom N455 1.66-GHz processor for use in models without WWAN	633486-001
Intel Atom N455 1.66-GHz processor for use in models with WWAN	633494-001
Intel Atom N475 1.83-GHz processor for use in models without WWAN	633487-001
Intel Atom N475 1.83-GHz processor for use in models with WWAN	633495-001
System boards for use in models with high-definition video:	
Intel Atom N455 1.66-GHz processor for use in models without WWAN	636336-001
Intel Atom N455 1.66-GHz processor for use in models with WWAN	636338-001
Intel Atom N475 1.83-GHz processor for use in models without WLAN	636337-001
Intel Atom N475 1.83-GHz processor for use in models with WLAN	636339-001
System board with Intel Atom N550 1.5-GHz processor, 1-MB level 2 cache, 667-MHz FSB, dual-core	638148-001

Before removing the system board, follow these steps:

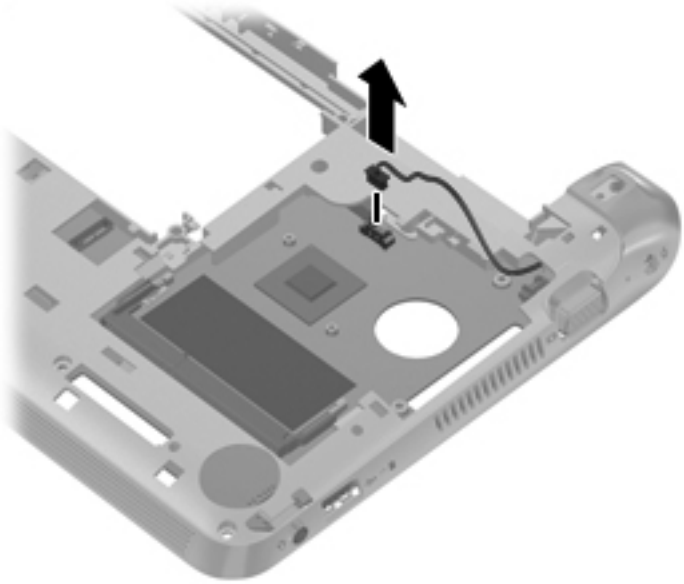
1. Shut down the computer. If you are unsure whether the computer is off or in Hibernation, turn the computer on, and then shut it down through the operating system.
2. Disconnect all external devices connected to the computer.
3. Disconnect the power from the computer by first unplugging the power cord from the AC outlet and then unplugging the AC adapter from the computer.
4. Remove the following components:
   a. Battery (see Battery on page 35).
   b. Service access cover (see Service access cover on page 38).
   c. Hard drive (see Hard drive on page 40).
   d. Keyboard (see Keyboard on page 50).
   e. Display assembly (see Display assembly on page 56).
5. Disconnect the WWAN antenna cables from the WWAN module (see WWAN and GPS modules (select models only) on page 43).
6. Disconnect the WLAN antenna cables from the WLAN module (see WLAN module on page 45).

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:

- SIM (see SIM on page 37)
- WWAN module (see WWAN and GPS modules (select models only) on page 43)
- WLAN module (see WLAN module on page 45)
- Memory module (see Memory module on page 47)
- RTC battery (see RTC battery on page 48)
- Fan/heat sink assembly (see Fan/heat sink assembly on page 64)

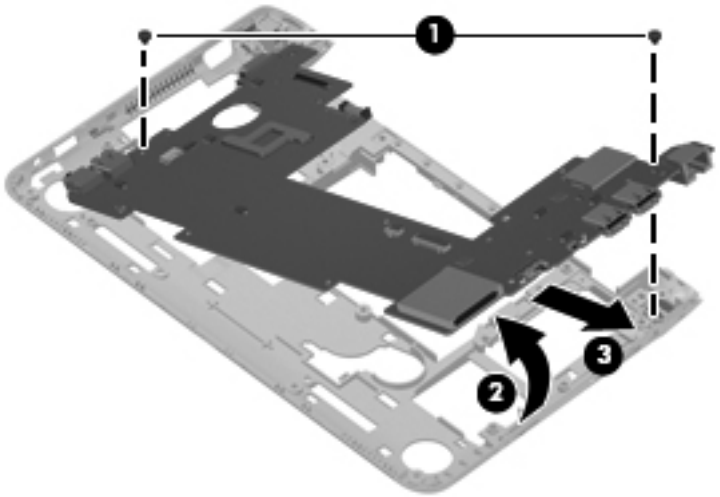
Remove the system board:

1. Disconnect the power connector cable from the system board.



2. Remove the 2 Phillips 2.0×4.0 screws **(1)** that secure the system board to the base enclosure.
3. Lift the right side of the system board **(2)** until it rests at an angle.

4. Remove the system board **(3)** by sliding it up and away from the base enclosure.



Reverse the procedure to install the system board.

Power connector cable

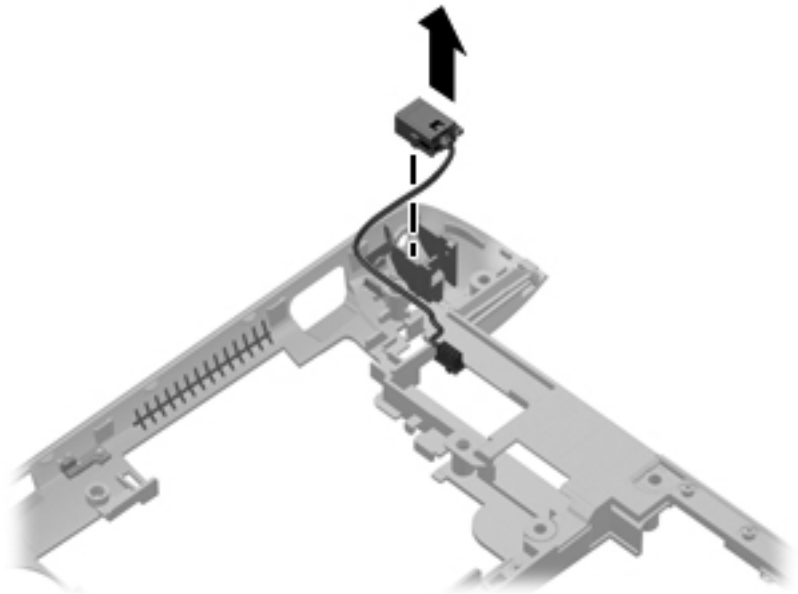
Description	Spare part number
Power connector cable	622329-001
Power connector bracket	634873-001

Before removing the power connector cable, follow these steps:

1. Shut down the computer. If you are unsure whether the computer is off or in Hibernation, turn the computer on, and then shut it down through the operating system.
2. Disconnect all external devices connected to the computer.
3. Disconnect the power from the computer by first unplugging the power cord from the AC outlet and then unplugging the AC adapter from the computer.
4. Remove the following components:
   a. Battery (see Battery on page 35).
   b. Service access cover (see Service access cover on page 38).
   c. Hard drive (see Hard drive on page 40).
   d. Keyboard (see Keyboard on page 50).
   e. Top cover (see Top cover on page 53).
   f. Display assembly (see Display assembly on page 56).
   g. System board (see System board on page 66).

Remove the power connector cable:

- Remove the power connector cable by grasping the connector and removing it from the base enclosure.



Reverse this procedure to install the power connector cable.

5 Setup Utility

Starting Setup Utility

Setup Utility is a ROM-based information and customization utility that can be used even when your Windows operating system is not working.

The utility reports information about the computer and provides settings for startup, security, and other preferences.

To start Setup Utility:

- Open Setup Utility by turning on or restarting the computer, and then pressing f10 while the “F10 = BIOS Setup Options” message is displayed in the lower-left corner of the screen.

Using Setup Utility

Changing the language of Setup Utility

The following procedure explains how to change the language of Setup Utility. If Setup Utility is not already running, begin at step 1. If Setup Utility is already running, begin at step 2.

1. Open Setup Utility by turning on or restarting the computer, and then pressing f10 while the “F10 = BIOS Setup Options” message is displayed in the lower-left corner of the screen.
2. Use the arrow keys to select **System Configuration > Language**, and then press enter.
3. Use the arrow keys to select a language, and then press enter.
4. When a confirmation prompt with your language selected is displayed, press enter.
5. To save your change and exit Setup Utility, use the arrow keys to select **Exit > Exit Saving Changes**, and then press enter.

Your change goes into effect immediately.

Navigating and selecting in Setup Utility

Because Setup Utility is not Windows based, it does not support the TouchPad. Navigation and selection are by keystroke.

- To choose a menu or a menu item, use the arrow keys.
- To choose an item in a list or to toggle a field, for example an Enable/Disable field, use either the arrow keys or f5 or f6.
- To select an item, press enter.
- To close a text box or return to the menu display, press esc.
- To display additional navigation and selection information while Setup Utility is open, press f1.

Displaying system information

The following procedure explains how to display system information in Setup Utility. If Setup Utility is not open, begin at step 1. If Setup Utility is open, begin at step 2.

1. Open Setup Utility by turning on or restarting the computer, and then pressing f10 while the “F10 = BIOS Setup Options” message is displayed in the lower-left corner of the screen.
2. Select the **Main** menu. System information such as the system time and date, and identification information about the computer is displayed.
3. To exit Setup Utility without changing any settings, use the arrow keys to select **Exit > Exit Discarding Changes**, and then press enter.

Restoring default settings in Setup Utility

The following procedure explains how to restore the Setup Utility default settings. If Setup Utility is not already running, begin at step 1. If Setup Utility is already running, begin at step 2.

1. Open Setup Utility by turning on or restarting the computer, and then pressing f10 while the “F10 = BIOS Setup Options” message is displayed in the lower-left corner of the screen.
2. Use the arrow keys to select **Exit > Load Setup Defaults**, and then press enter.
3. When the Setup Confirmation is displayed, press enter.
4. To save your change and exit Setup Utility, use the arrow keys to select **Exit > Exit Saving Changes**, and then press enter.

The Setup Utility default settings go into effect when the computer restarts.

NOTE: Your password, security, and language settings are not changed when you restore the factory default settings.

Exiting Setup Utility

You can exit Setup Utility with or without saving changes.

- To exit Setup Utility and save your changes from the current session:

  If the Setup Utility menus are not visible, press esc to return to the menu display. Then use the arrow keys to select **Exit > Exit Saving Changes**, and then press enter.

- To exit Setup Utility without saving your changes from the current session:

  If the Setup Utility menus are not visible, press esc to return to the menu display. Then use the arrow keys to select **Exit > Exit Discarding Changes**, and then press enter.

After either choice, the computer restarts in Windows.

Setup Utility menus

The menu tables in this section provide an overview of the Setup Utility options.

NOTE: Some of the Setup Utility menu items listed in this chapter may not be supported by your computer.

Main menu

Select	To do this
System information	• View and change the system time and date. • View identification information about the computer. • View specification information about the processor, memory size, and system BIOS.

Security menu

Select	To do this
Administrator password	Enter, change, or delete an administrator password.
Power-On Password	Enter, change, or delete a power-on password.

System Configuration menu

Select	To do this
Language Support	Change the Setup Utility language.

Select	To do this
Processor C4 State	Enable/disable the processor C4 sleep state.
Boot Options	Set the following boot options: • f10 and f12 Delay (sec.)—Set the delay for the f10 and f12 functions of Setup Utility in intervals of 5 seconds each (0, 5, 10, 15, 20). • HP QuickWeb—Enable/disable the HP QuickWeb menu in Setup Utility. • Internal Network Adapter boot—Enable/disable boot from Internal Network Adapter. • Boot Device Priority—Set the boot device priority for: ◦ Internal hard drive (select models only) ◦ USB floppy ◦ USB CD/DVD ROM drive ◦ USB flash drive ◦ USB Hard drive ◦ USB Card reader ◦ Network adapter **NOTE:** Only the devices attached to the system appear in the boot order menu.

Diagnostics menu

Select	To do this
Hard Disk Self Test (select models only)	Run a comprehensive self-test on the hard drive.
Memory Test	Run a diagnostic test on the system memory.

6 Specifications

Device specifications

	Metric	U.S.
Dimensions		
Depth	**19 cm**	7.5 in
Width	**27 cm**	11 in
Height	**2.3-3.2 cm**	0.91-0.93 in
Weight		
25.7-cm (10.1-in) LCD, equipped with a 3-cell battery, hard drive, 1-GB memory, WLAN module, and 2 wireless antennas	**1.14 kg**	2.52 lb
25.7-cm (10.1-in). LCD, equipped with a 6-cell battery, hard drive, 1-GB memory, WLAN module, and 2 wireless antennas	**1.31 kg**	2.88 lb
Input power		
Operating voltage	19.5 V dc @ 2.05A – 40 W	
Operating current	2.05 A	
Temperature		
Operating	**5°C to 35°C**	41°F to 95°F
Nonoperating	**-20°C to 65°C**	-4°F to 149°F
Relative humidity (noncondensing)		
Operating	10% to 90%	
Nonoperating	0% 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.

25.7-cm (10.1-in) WSVGA AntiGlare display specifications

	Metric	U.S.
Dimensions		
Height	**23.5 cm**	9.3 in
Width	**14.3 cm**	5.6 in
Diagonal	**25.7 cm**	10.1 in
Number of colors	262,144	
Contrast ratio	500:1 (typical)	
Brightness	200 nits (typical)	
Pixel resolution		
Pitch	**0.2175 × 0.2088 mm**	
Format	1024 × 600	
Configuration	RGB vertical stripe	
Backlight	LED	
Character display	80 × 25	
Total power consumption (varies by display)	3.46 W	
Viewing angle	+/-45° horizontal, +15/-35° vertical (typical)	

Hard drive specifications

	320-GB*	250-GB*	160-GB*
Dimensions			
Height	**9.5 mm**	**9.5 mm**	**9.5 mm**
Length	**100.2 mm**	**100.2 mm**	**100.2 mm**
Width	**70 mm**	**70 mm**	**70 mm**
Weight	**105-115 g**	**105-115 g**	**105-115 g**
Interface type	SATA	SATA	SATA
I/O data transfer rate (maximum)	100 Gbits/sec	100 Gbits/sec	100 Gbits/sec
Security	ATA security	ATA security	ATA security
Seek times (typical read, including setting)			
Single track	1.5 ms	1.5 ms	1.5 ms
Average (read/write)	11.0/12.0 ms	11.0/12.0 ms	11.0/12.0 ms
Maximum	21.0 ms	21.0 ms	21.0 ms
Logical blocks	625,142,448	488,397,168	312,581,808
Disc rotational speed	7200 rpm	7200 rpm	7200 rpm
Operating temperature	**0°C to 60°C** (32°F to 140°F)	**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. Actual drive specifications may differ slightly.

NOTE: Certain restrictions and exclusions apply. Contact technical support for details.

7 Backup and recovery

- Recovery discs
- Performing a system recovery
- Backing up your information

Recovery after a system failure is as good as your most recent backup. HP recommends that you create recovery discs immediately after software setup. As you add new software and data files, you should continue to back up your system on a regular basis to maintain a reasonably current backup.

Tools provided by the operating system and HP Recovery Manager software are designed to help you with the following tasks for safeguarding your information and restoring it in case of a computer failure:

- Creating a set of recovery discs (Recovery Manager software feature)
- Backing up your information
- Creating system restore points
- Recovering a program or driver
- Performing a full system recovery (from the partition or recovery discs)

NOTE: Recovery discs have been included if your computer does not have a partition. Use these discs to recover your operating system and software. To check for the presence of a recovery partition, click **Start**, right-click **Computer**, click **Manage**, and then click **Disk Management**. If the partition is present, an HP Recovery drive is listed in the window.

Recovery discs

HP recommends that you create recovery discs to be sure that you can restore your computer to its original factory state if the hard drive fails, or if for any reason you cannot recover using the recovery partition tools. Create these discs after setting up the computer for the first time.

Handle these discs carefully and keep them in a safe place. The software allows the creation of only one set of recovery discs.

NOTE: If your computer does not include an integrated optical drive, you can use an optional external optical drive (purchased separately) to create recovery discs, or you can purchase recovery discs for your computer from the HP Web site. 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.

Guidelines:

- Purchase high-quality DVD-R, DVD+R, BD-R (writable Blu-ray), or CD-R discs. DVDs and BDs have a much higher storage capacity than CDs. If you use CDs, up to 20 discs may be required, whereas only a few DVDs or BDs are required.

  NOTE: Read-write discs, such as CD-RW, DVD±RW, double-layer DVD±RW, and BD-RE (rewritable Blu-ray) discs, are not compatible with the Recovery Manager software.

- The computer must be connected to AC power during this process.
- Only one set of recovery discs can be created per computer.
- Number each disc before inserting it into the optical drive.
- If necessary, you can exit the program before you have finished creating the recovery discs. The next time you open Recovery Manager, you will be prompted to continue the disc creation process.

To create a set of recovery discs:

1. Select **Start > All Programs > Recovery Manager > Recovery Disc Creation**.
2. Follow the on-screen instructions.

Performing a system recovery

Recovery Manager software allows you to repair or restore the computer to its original factory state. Recovery Manager works from recovery discs or from a dedicated recovery partition (select models only) on the hard drive.

Note the following when performing a system recovery:

- You can recover only files that you have previously backed up. HP recommends that you use HP Recovery Manager to create a set of recovery discs (entire drive backup) as soon as you set up the computer.
- Windows has its own built-in repair features, such as System Restore. If you have not already tried these features, try them before using Recovery Manager.
- Recovery Manager recovers only software that was preinstalled at the factory. Software not provided with this computer must be downloaded from the manufacturer's Web site or reinstalled from the disc provided by the manufacturer.

Recovering using the dedicated recovery partition (select models only)

On some models, you can perform a recovery from the partition on the hard drive, accessed by clicking **Start** or pressing the f11 key. This type of recovery restores the computer to its factory condition without using recovery discs.

To restore the computer from the partition, follow these steps:

1. Access Recovery Manager in either of the following ways:

   - Select **Start > All Programs > Recovery Manager > Recovery Manager**.

     – 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 (HP Recovery)” message is displayed on the screen.

2. Click **System Recovery** in the **Recovery Manager** window.

3. Follow the on-screen instructions.

Recovering using the recovery discs

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.
3. Follow the on-screen instructions.

Backing up your information

You should back up your computer files on a regular schedule to maintain a current backup. You can back up your information to an optional external hard drive, a network drive, or discs. Back up your system at the following times:

- At regularly scheduled times

NOTE: Set reminders to back up your information periodically.

- Before the computer is repaired or restored
- Before you add or modify hardware or software

Guidelines:

- Create system restore points using the Windows System Restore feature, and periodically copy them to an optical disc or an external hard drive. For more information on using system restore points, refer to Using system restore points on page 82.
- Store personal files in the Documents library and back up this folder 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 reset your preferences.

Using Windows Backup and Restore

Windows Backup and Restore allows you to back up individual files or back up the entire computer image.

Guidelines:

- Be sure that the computer is connected to AC power before you start the backup process.
- Allow enough time to complete the backup process. Depending on file sizes, it may take over an hour.

To create a backup:

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. Refer to Help and Support for more information.

Using system restore points

A system restore point allows you to save and name a snapshot of your hard drive at a specific point in time. You can then recover back to that point if you want to reverse subsequent changes.

NOTE: Recovering to an earlier restore point does not affect data files saved or e-mails created since the last restore point.

You also can create additional restore points to provide increased protection for your files and settings.

When to create restore points

- Before you add or extensively modify software or hardware
- Periodically, whenever the computer is functioning optimally

NOTE: If you revert to a restore point and then change your mind, you can reverse the restoration.

Create 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. Follow the on-screen instructions.

Restore to a previous date and time

To revert to a restore point (created at a previous date and time), when the computer was functioning optimally, follow these steps:

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**.
5. Follow the on-screen instructions.

8 Power cord set requirements

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

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

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

Requirements for all countries

The following requirements are applicable to all countries and regions:

- The length of the power cord set must be at least **1.5 m** (5.0 ft) and no more than **2.0 m** (6.5 ft).
- All power cord sets must be approved by an acceptable accredited agency responsible for evaluation in the country or region where the power cord set will be used.
- The power cord sets must have a minimum current capacity of 10 amps and a nominal voltage rating of 125 or 250 V AC, as required by the power system of each country or region.
- The appliance coupler must meet the mechanical configuration of an EN 60 320/IEC 320 Standard Sheet C13 connector for mating with the appliance inlet on the back of the computer.

Requirements for specific countries and regions

Country/region	Accredited agency	Applicable note number
Australia	EANSW	1
Austria	OVE	1
Belgium	CEBC	1
Canada	CSA	2
Denmark	DEMKO	1
Finland	FIMKO	1
France	UTE	1
Germany	VDE	1
Italy	IMQ	1
Japan	METI	3
The Netherlands	KEMA	1
Norway	NEMKO	1
The People's Republic of China	COC	5
South Korea	EK	4
Sweden	SEMKO	1
Switzlerland	SEV	1
Taiwan	BSMI	4
The United Kingdom	BSI	1
The United States	UL	2

1. The flexible cord must be Type HO5VV-F, 3-conductor, 1.0-mm² conductor size. Power cord set fittings (appliance coupler and wall plug) must bear the certification mark of the agency responsible for evaluation in the country or region where it will be used.
2. The flexible cord must be Type SPT-3 or equivalent, No. 18 AWG, 3-conductor. The wall plug must be a two-pole grounding type with a NEMA 5-15P (15 A, 125 V) or NEMA 6-15P (15 A, 250 V) configuration.
3. The appliance coupler, flexible cord, and wall plug must bear a “T” mark and registration number in accordance with the Japanese Dentori Law. The flexible cord must be Type VCT or VCTF, 3-conductor, 1.00-mm² conductor size. The wall plug must be a two-pole grounding type with a Japanese Industrial Standard C8303 (7 A, 125 V) configuration.
4. The flexible cord must be Type RVV, 3-conductor, 0.75-mm² conductor size. Power cord set fittings (appliance coupler and wall plug) must bear the certification mark of the agency responsible for evaluation in the country or region where it will be used.
5. The flexible cord must be Type VCTF, 3-conductor, 0.75-mm² conductor size. Power cord set fittings (appliance coupler and wall plug) must bear the certification mark of the agency responsible for evaluation in the country or region where it will be used.

9 Recycling

Battery

When a 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 computer battery disposal.

Display

⚠ **WARNING!** The backlight contains mercury. Caution must be exercised when removing and handling the backlight to avoid damaging this component and causing exposure to the mercury.

⚠ **CAUTION:** The procedures in this chapter can result in damage to display components. The only components intended for recycling purposes are the liquid crystal display (LCD) panel and the backlight. When you remove these components, handle them carefully.

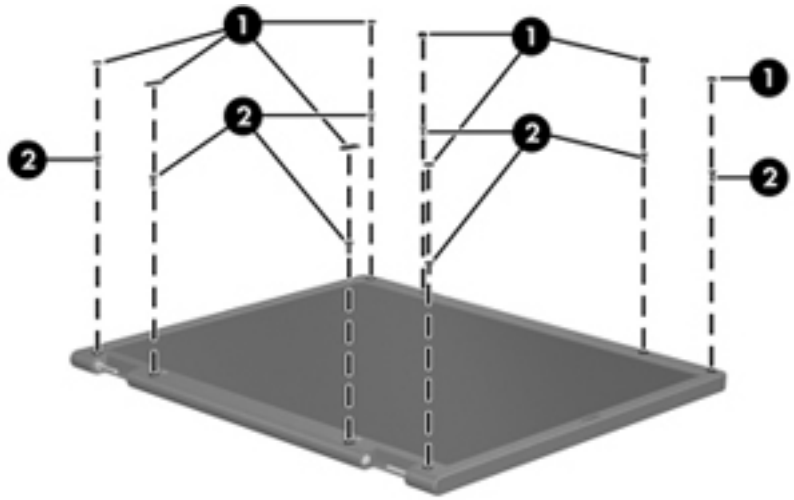
NOTE: Materials Disposal. This HP product contains mercury in the backlight in the display assembly that might require special handling at end-of-life. Disposal of mercury may be regulated because of environmental considerations. For disposal or recycling information, contact your local authorities, or see the Electronic Industries Alliance (EIA) Web site at http://www.eiai.org.

This section provides disassembly instructions for the display assembly. The display assembly must be disassembled to gain access to the backlight **(1)** and the liquid crystal display (LCD) panel **(2)**.

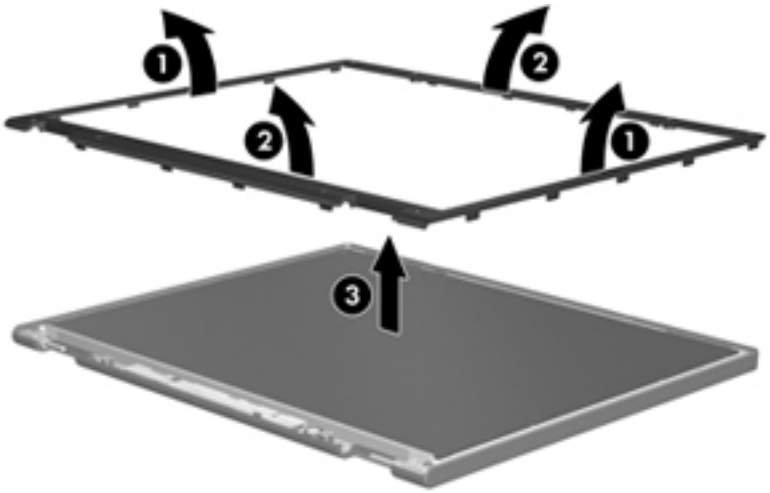
NOTE: The procedures provided in this chapter are general disassembly instructions. Specific details, such as screw sizes, quantities, and locations, and component shapes and sizes, can vary from one computer model to another.

Perform the following steps:

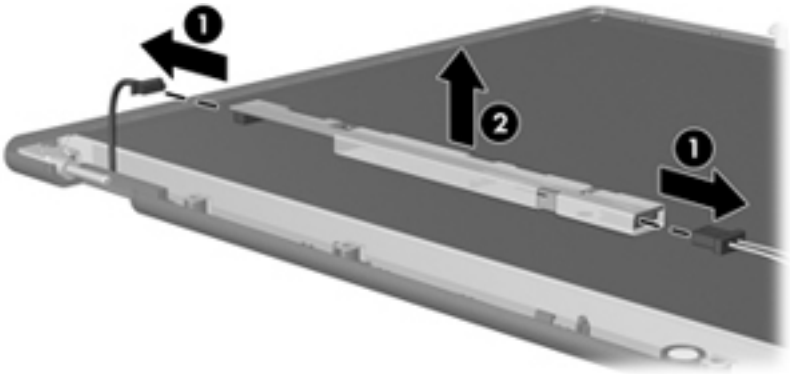
1. Remove all screw covers **(1)** and screws **(2)** that secure the display bezel to the display assembly.



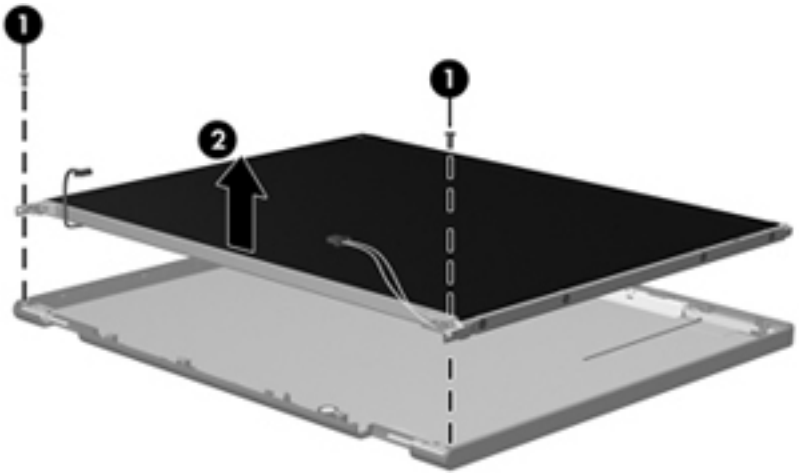
2. Lift up and out on the left and right inside edges **(1)** and the top and bottom inside edges **(2)** of the display bezel until the bezel disengages from the display assembly.
3. Remove the display bezel **(3)**.



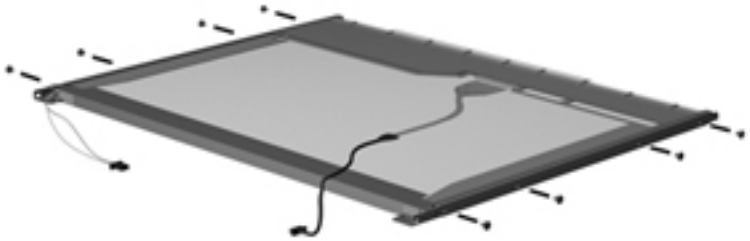
4. Disconnect all display panel cables **(1)** from the display inverter and remove the inverter 2.



5. Remove all screws **(1)** that secure the display panel assembly to the display enclosure.
6. Remove the display panel assembly **(2)** from the display enclosure.

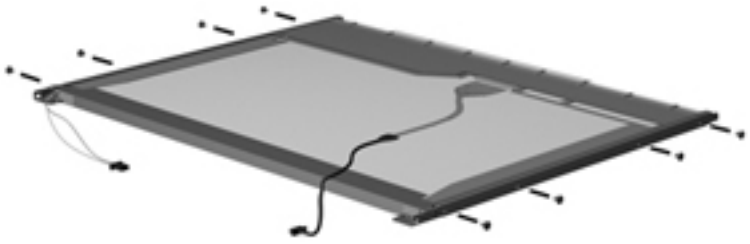


7. Turn the display panel assembly upside down.
8. Remove all screws that secure the display panel frame to the display panel.

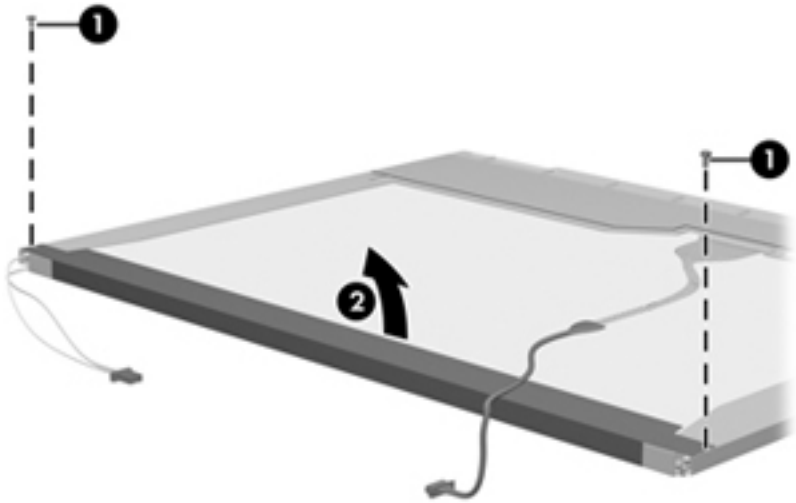


9. Use a sharp-edged tool to cut the tape **(1)** that secures the sides of the display panel to the display panel frame.

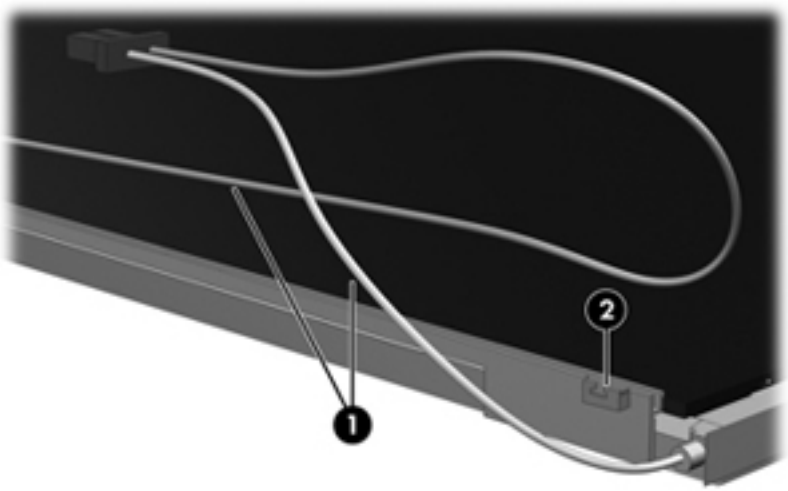
10. Remove the display panel frame **(2)** from the display panel.



11. Remove the screws **(1)** that secure the backlight cover to the display panel.
12. Lift the top edge of the backlight cover **(2)** and swing it outward.

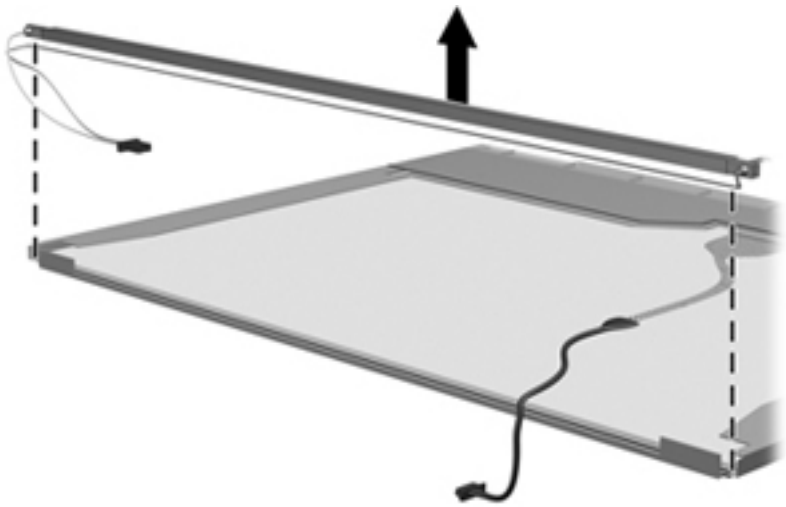


13. Remove the backlight cover.
14. Turn the display panel right-side up.
15. Remove the backlight cables **(1)** from the clip **(2)** in the display panel.



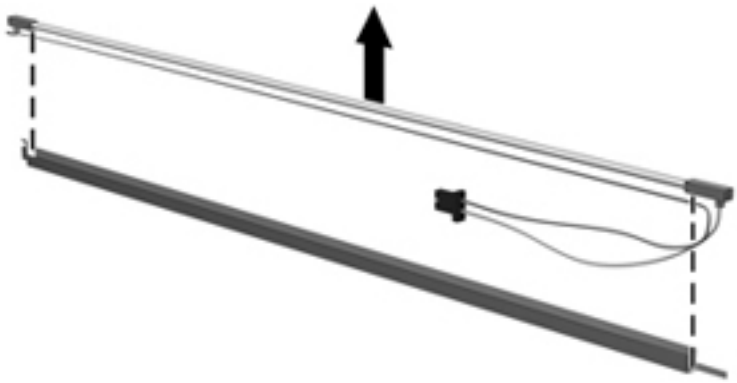
16. Turn the display panel upside down.

17. Remove the backlight frame from the display panel.



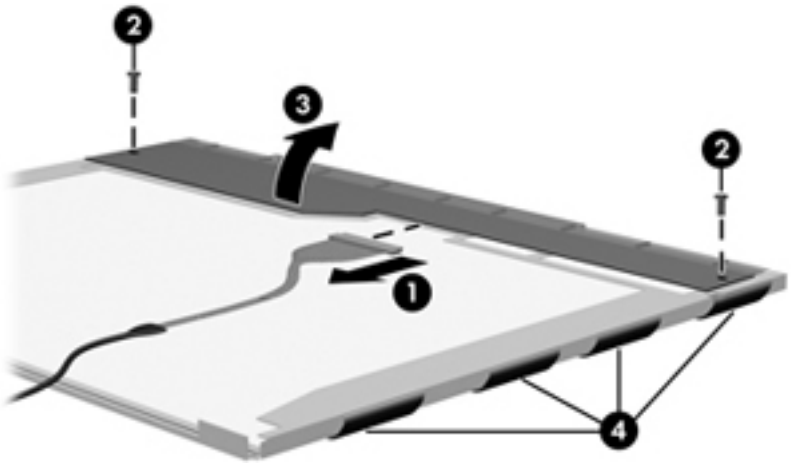
⚠ **WARNING!** The backlight contains mercury. Exercise caution when removing and handling the backlight to avoid damaging this component and causing exposure to the mercury.

18. Remove the backlight from the backlight frame.

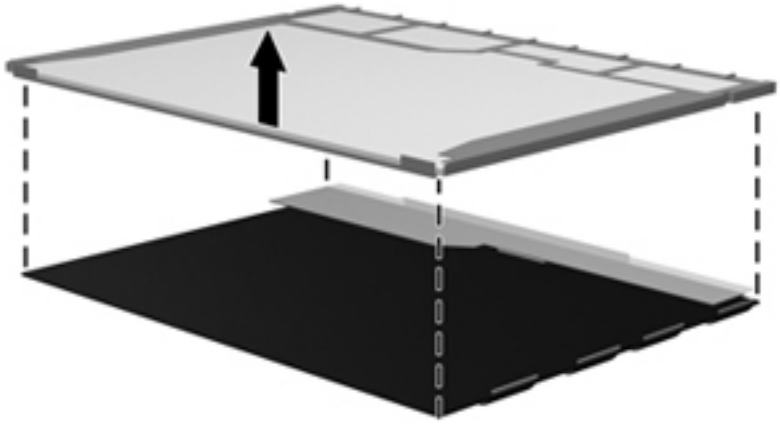


19. Disconnect the display cable **(1)** from the LCD panel.
20. Remove the screws **(2)** that secure the LCD panel to the display rear panel.
21. Release the LCD panel **(3)** from the display rear panel.

22. Release the tape **(4)** that secures the LCD panel to the display rear panel.



23. Remove the LCD panel.



24. Recycle the LCD panel and backlight.

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