



Compaq Mini CQ10 Notebook PC

Maintenance and Service Guide

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Safety Warning Notice

⚠ **WARNING!** To reduce the possibility of heat-related injuries or of overheating the computer, do not place the computer directly on your lap or obstruct the air vents. Use the computer 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 computer and the AC adapter comply with the user-accessible surface temperature limits defined by the International Standard for Safety of Information Technology Equipment (IEC 60950).

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1 Product description

Category	Description
Product name	Compaq Mini CQ10
Processor	Intel Atom N270 1.6-GHz processor, 512-KB Level 2 cache, 533-MHz front-side bus (FSB)
Chipset	Northbridge: 945GSE; 533-MHz bus speed Southbridge: ICH7M
Graphics	Intel® Graphics Media Accelerator 950 Universal Memory Architecture (UMA) graphics subsystem
Panels	All display assemblies include 1 webcam, 1 microphone, 2 speakers, and 2 wireless local-area network (WLAN) antennas and cables; 2 wireless wide-area network (WWAN) antennas and cables and a 5-band WWAN antenna and cable is optional Wide aspect 16:9 ratio panels 25.7-cm (10.1-inch) WSVGA (1024 × 600) AntiGlare LED
Memory	One customer-accessible/upgradable memory module slot Supports up to 2 GB of single-channel memory DDR2 PC2-6400, 533-MHz memory module NOTE: Although the computer supports 2-GB system memory, it only is available with 1-GB system memory. Supports the following configurations: <ul style="list-style-type: none">• 1024-MB total system memory (1024 × 1)• 2048-MB total system memory (2048 × 1)
Mass storage devices	Supports 9.5-mm, 6.35-cm (2.50-inch) hard drives Serial ATA 160 GB, 5400 RPM
Optical drive	Supports external USB optical drives only
Diskette drive	Supports external USB diskette drives only
Audio/Visual	High-definition (HD) audio

Category	Description
	Integrated 4-ohm, 1.5-W speakers (2)
	Fixed integrated analog microphone
	Fixed VGA webcam, 640 × 480 resolution, $f/2.8$, up to 30 frames per second
Modem	Supports external USB modems only
Ethernet	Integrated Atheros® AR8132 PCIe 10/100BASE-T Ethernet controller
Wireless	Integrated wireless local area network (WLAN) and Bluetooth® options by way of WLAN module:
	Two WLAN antennas built into display assembly
	Support for the following WLAN formats:
	<ul style="list-style-type: none"> • 802.11b/g • 802.11b/g/n • 802.11b/g with Bluetooth
	Integrated wireless wide area network (WWAN) options by way of WWAN module:
	Two WWAN antennas built into display assembly
	Support for 5-band WWAN antenna option
	Subscriber identity module (SIM) security (customer-accessible in battery bay)
External media cards	Digital Media Slot with push-push insert/eject port supporting:
	<ul style="list-style-type: none"> • Memory Stick (MS) • MS/Pro • MultiMediaCard (MMC) • Secure Digital High Capacity (SDHC) memory card • xD-Picture Card
Internal media cards	Two Mini Card slots:
	<ul style="list-style-type: none"> • Full-size Mini Card slot • Half-size Mini Card slot
Ports	Audio-in/out (microphone/stereo headphone) with jack detection
	VGA (D-sub 15) supporting external 1600 × 1200 monitor at 75 Hz and external WUXGA monitor at 60 Hz (hot plug/unplug with auto-detect of standard- or wide-aspect video)
	RJ-45 (Ethernet, includes link and activity lights)
	USB (3)
	3-pin AC power
Keyboard/pointing device	92% keyboard

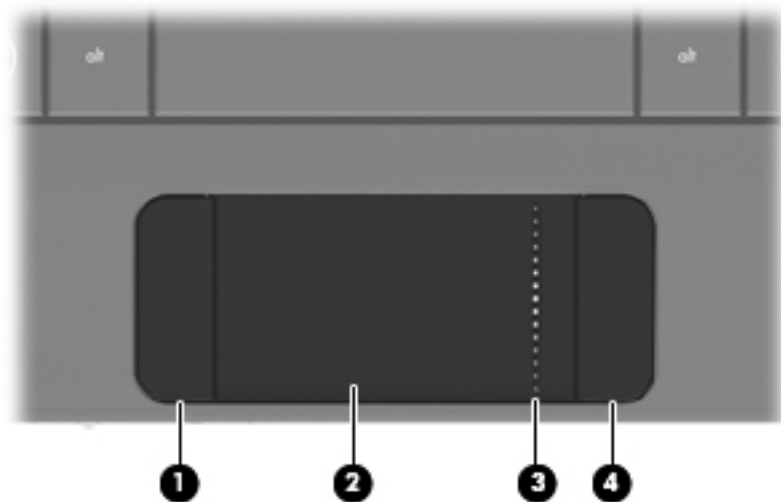
Category	Description
	TouchPad, with 2 TouchPad buttons and 2-way scrolling (taps enabled by default)
Power requirements	30-W UMA AC adapter (non-Smart) with localized cable plug support
	AC adapter connector on cable
	6-cell Li-ion battery (55-Wh) 2.55-Ah, 6-hour target life
	3-cell Li-ion battery (28-Wh) 2.55-Ah , 3-hour target life
Security	Supports HP Kensington Security Lock
Operating system	Preinstalled:
	Windows XP Home Edition SP3
Serviceability	End-user replaceable parts:
	AC adapter
	Battery (system)
	Keyboard
	Hard drive (located under the keyboard)
	Memory modules

2 External component identification

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

Top components

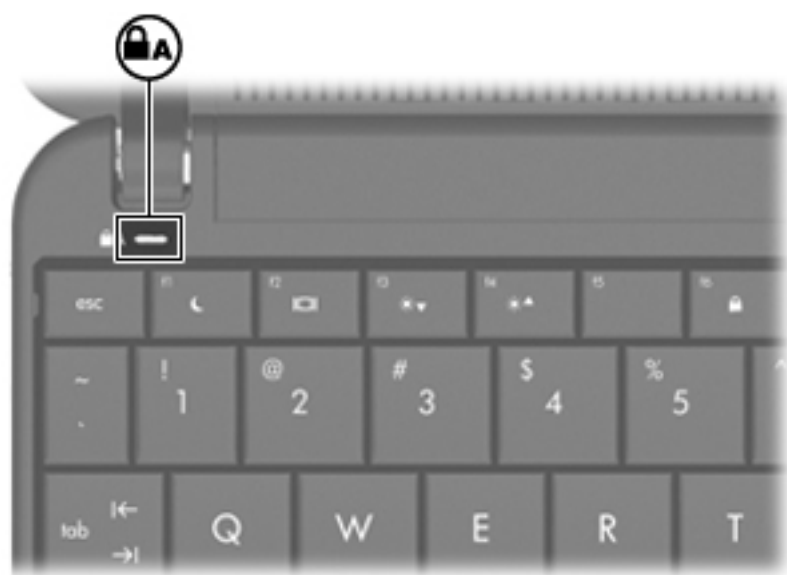
TouchPad



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

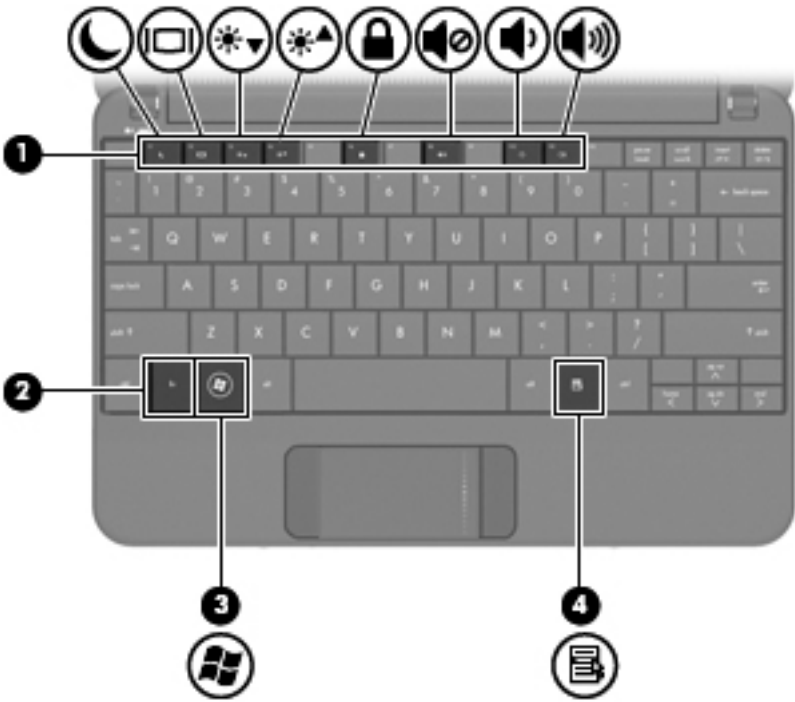
*This table describes factory settings. To view or change pointing device preferences, select **Start > Control Panel > Printers and Other Hardware > Mouse**.



Light



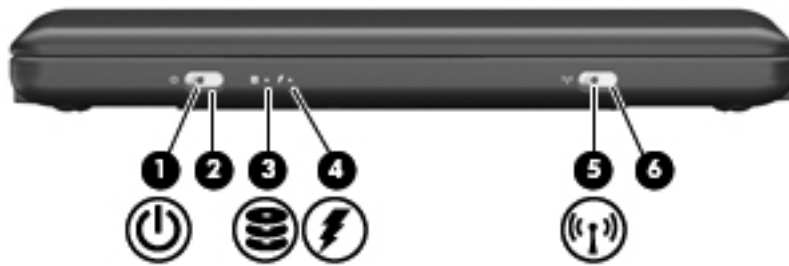
Component	Description
Caps lock light	On: Caps lock is on.




Keys




Component		Description
(1)	Function keys	Execute frequently used system functions when pressed in combination with the fn key.
(2)	fn key	Executes frequently used system functions when pressed in combination with a function key.
(3)	 Windows® logo key	Displays the Windows Start menu.
(4)	 Windows applications key	Displays a shortcut menu for items beneath the pointer.

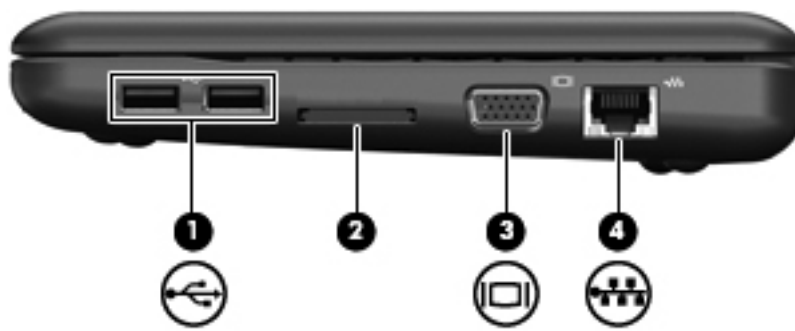
Front components






Component	Description
(1)  Power light	<ul style="list-style-type: none"> On: The computer is on. Blinking: The computer is in Standby. Off: The computer is off or in Hibernation.
(2) Power switch	<ul style="list-style-type: none"> 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 Standby, briefly slide the switch to exit Standby. When the computer is in Hibernation, briefly slide the switch to exit Hibernation. <p>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.</p> <p>To learn more about your power settings, select Start > Control Panel > Performance and Maintenance > Power Options.</p>
(3)  Drive light	Blinking: The hard drive or flash drive is being accessed.
(4)  Battery light	<ul style="list-style-type: none"> On: A battery is charging. Blinking: A battery that is the only available power source has reached a low battery level. When the battery reaches a critical battery level, the battery light begins blinking rapidly. Off: If the computer is plugged into an external power source, the light turns off when all batteries in the computer are fully charged. If the computer is not plugged into an external power source, the light stays off until the battery reaches a low battery level.

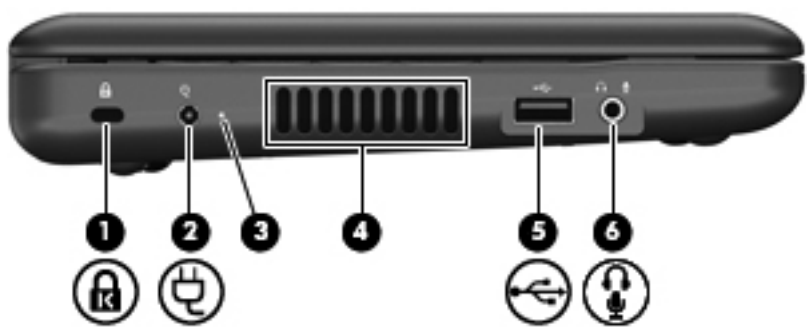
Component		Description
(5)	 Wireless light	<ul style="list-style-type: none"> Blue: An integrated wireless device, such as a wireless local area network (WLAN) device, is on. Amber: All wireless devices are off.
(6)	Wireless switch	<p>Turns the wireless feature on or off, but does not establish a wireless connection.</p> <p>NOTE: A wireless network must be set up in order to establish a wireless connection.</p>





Right-side components



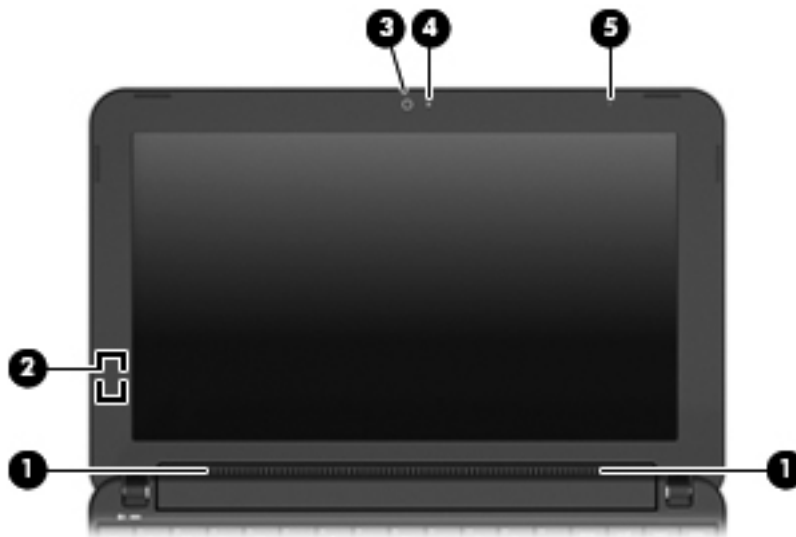
Component		Description
(1)	 USB ports (2)	Connect optional USB devices.
(2)	Digital Media Slot	Supports the following optional digital card formats: <ul style="list-style-type: none">• Memory Stick (MS)• MS/Pro• MultiMediaCard (MMC)• Secure Digital High Capacity (SDHC) Memory Card• xD-Picture card
(3)	 External monitor port	Connects an optional external display, such as a monitor or projector, to the computer.
(4)	 RJ-45 (network) jack	Connects a network cable.

Left-side components



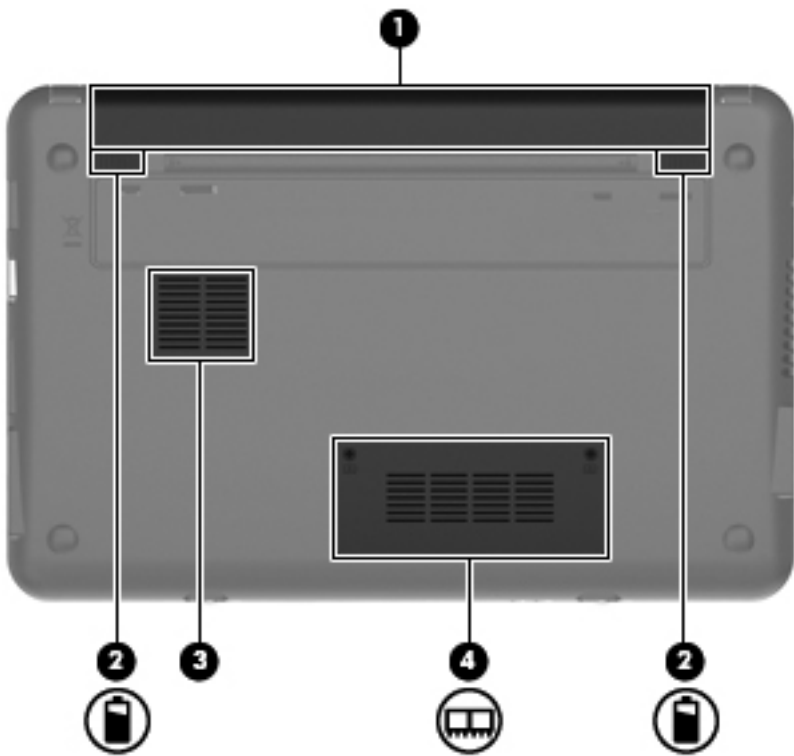
Component		Description
(1)	 Security cable slot	Attaches an optional security cable to the computer. NOTE: The security cable is designed to act as a deterrent, but it may not prevent the computer from being mishandled or stolen.
(2)	 Power connector	Connects an AC adapter.
(3)	AC adapter light	On: The computer is connected to external power. Off: The computer is not connected to external power.
(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)	 USB port	Connects an optional USB device.
(6)	 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 <i>Regulatory, Safety and Environmental Notices</i> . NOTE: When an audio component is connected to the jack, the computer speakers are disabled. The audio component cable must have a 4-conductor connector.



Display components



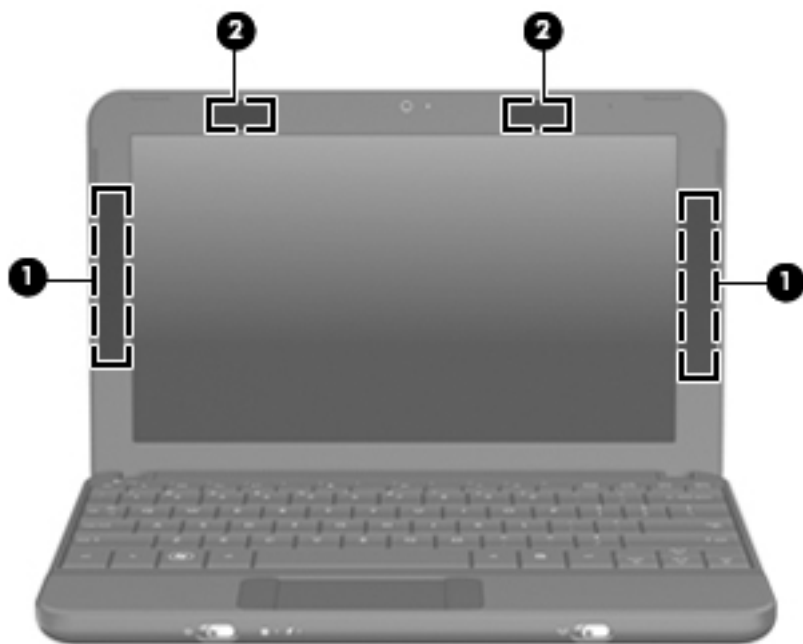
Component		Description
(1)	Speakers (2)	Produce sound.
(2)	Internal display switch	Turns off the display if the display is closed while the power is on. NOTE: The display switch is not visible from the outside of the computer.
(3)	Webcam	Captures still photographs and videos. NOTE: To capture videos, you need to install additional webcam software.
(4)	Webcam light	On: The webcam is in use.
(5)	Internal microphone	Records sound.

Bottom components



Component		Description
(1)	Battery bay	Holds the battery.
(2)	 Battery release latches (2)	Release the battery from the battery bay.
(3)	Vent	Enables airflow to cool internal components. NOTE: The computer fan starts up automatically to cool internal components and prevent overheating. It is normal for the internal fan to cycle on and off during routine operation.
(4)	 Memory module compartment	Contains the memory module slot.

Wireless antennas



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

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

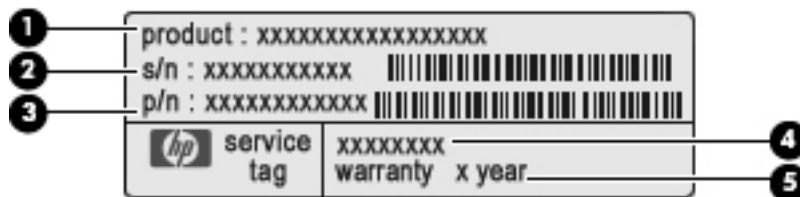
To see wireless regulatory notices, refer to the section of the *Regulatory, Safety and Environmental Notices* that applies to your country or region. To access these notices, click **Start > Help and Support > User Guides**.

3 Illustrated parts catalog

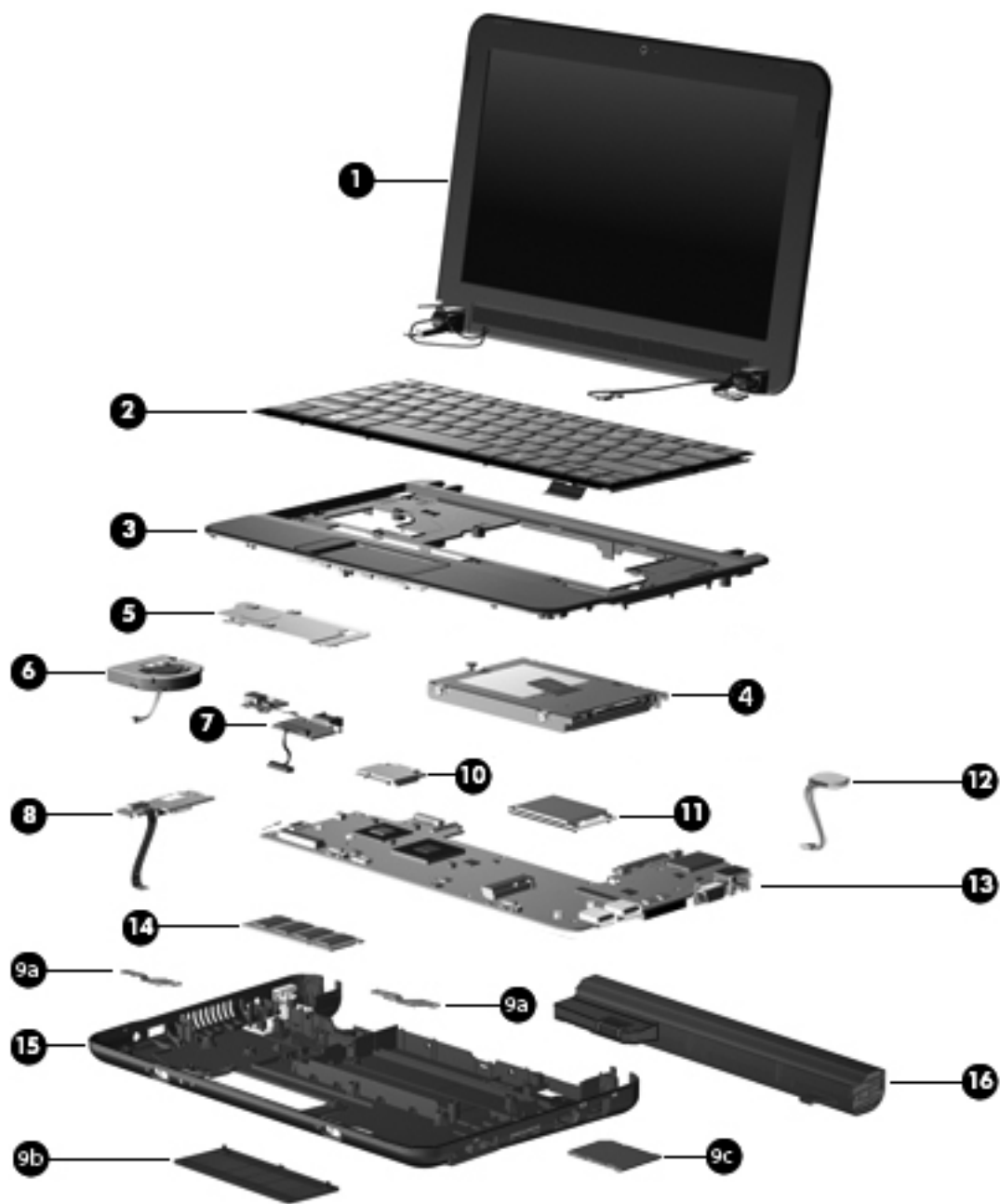
Service tag

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

- (1)** Product name: This is the product name affixed to the front of the computer.
- (2)** Serial number (s/n): This is an alphanumeric identifier that is unique to each product.
- (3)** Part number/Product number (p/n): This number provides specific information about the product's hardware components. The part number helps a service technician to determine what components and parts are needed.
- (4)** Model description: This is the alphanumeric identifier used to locate documents, drivers, and support for the computer.
- (5)** Warranty period: This number describes the duration of the warranty period for the computer.



Computer major components



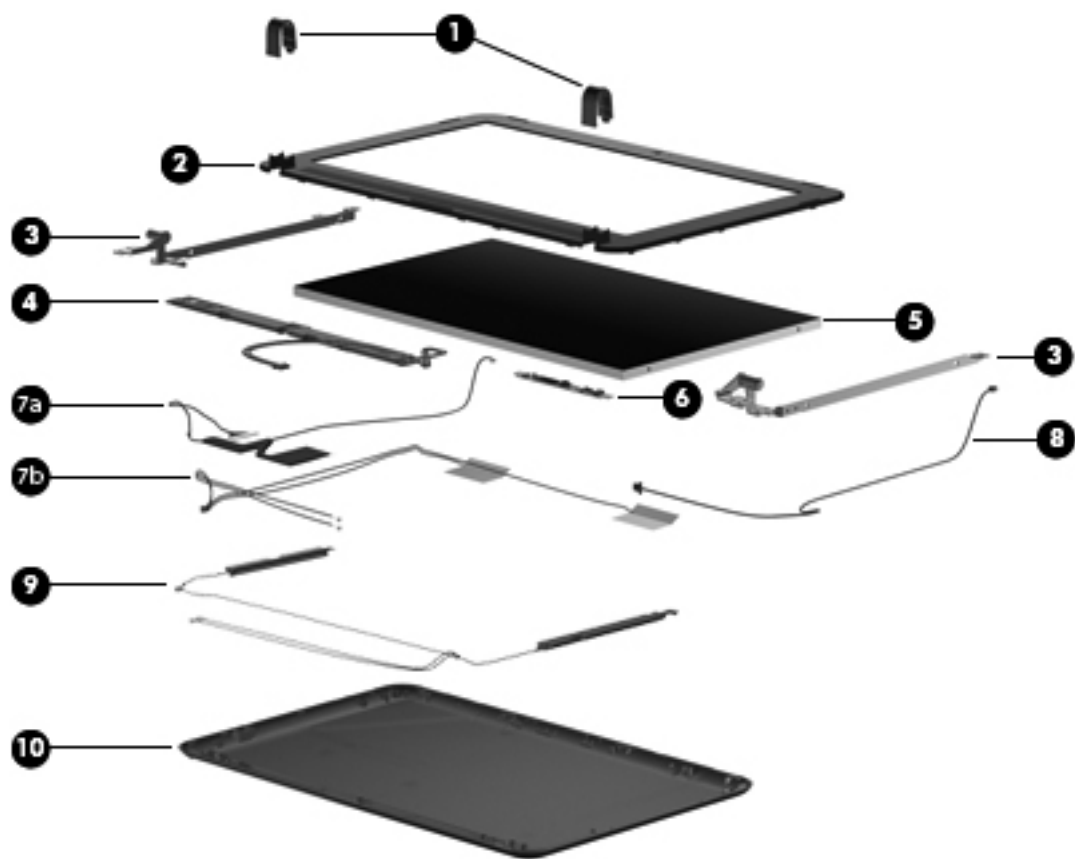
Item	Description	Spare part number
(1)	Display assembly Includes 1 webcam, 1 microphone, 2 speakers, and 2 WLAN antennas/cables; WWAN antennas/cables on select models See Display assembly subcomponents on page 20 for a comprehensive list of display assembly components.	
	<ul style="list-style-type: none">25.7-cm (10.1-inch), WSVGA, AntiGlare display assembly	600125-001

Item	Description	Spare part number
	<ul style="list-style-type: none"> 25.7-cm (10.1-inch), WSVGA, AntiGlare display assembly for use with WWAN option 	594806-001
(2)	Keyboard	
	<ul style="list-style-type: none"> For use in Brazil 	535689-201
	<ul style="list-style-type: none"> For use in the Czech Republic 	535689-221
	<ul style="list-style-type: none"> For use in Europe 	535689-A41
	<ul style="list-style-type: none"> For use in Finland, Norway, and Sweden 	535689-DH1
	<ul style="list-style-type: none"> For use in France 	535689-051
	<ul style="list-style-type: none"> For use in French Canada 	535689-121
	<ul style="list-style-type: none"> For use in Germany 	535689-041
	<ul style="list-style-type: none"> For use in Greece 	535689-DJ1
	<ul style="list-style-type: none"> For use in Hungary 	535689-211
	<ul style="list-style-type: none"> For use with international models 	535689-B31
	<ul style="list-style-type: none"> For use in Israel 	535689-BB1
	<ul style="list-style-type: none"> For use in Italy 	535689-061
	<ul style="list-style-type: none"> For use in Latin America 	535689-161
	<ul style="list-style-type: none"> For use in Portugal 	535689-131
	<ul style="list-style-type: none"> For use in Russia 	535689-251
	<ul style="list-style-type: none"> For use in Saudi Arabia 	535689-171
	<ul style="list-style-type: none"> For use in Spain 	535689-071
	<ul style="list-style-type: none"> For use in Switzerland 	535689-BG1
	<ul style="list-style-type: none"> For use in Turkey 	535689-141
	<ul style="list-style-type: none"> For use in the United Kingdom 	535689-031
	<ul style="list-style-type: none"> For use in the United States 	535689-001
(3)	Top cover with TouchPad	537622-001
	Mass storage devices	
(4)	Hard drive, 160-GB, 5400-RPM NOTE: Each hard drive mounts in the computer using a bracket and screws of the mounting kit. See Mass storage devices on page 43 for the mounting kit part number.	594809-001
(5)	Heat sink assembly (includes replacement thermal material)	537619-001
(6)	Fan	537613-001

Item	Description	Spare part number
(7)	USB/audio board (includes cable)	600124-001
(8)	DC connector/power board	599188-001
	Plastics/actuator kit	537612-001
(9a)	Power switch and wireless switch actuators	
(9b)	Memory module compartment cover	
(9c)	Bezel for Digital Media slot	
Wireless modules		
(10)	WLAN module	
	Broadcom 4312G 802.11b/g WiFi and 2070 Bluetooth 2.1+EDR Combo Adapter (BT3.0+HS ready)	575920-001
	Broadcom 43225 802.11b/g/n 2x2 WiFi Adapter	593837-001
	Atheros AR9285 802.11b/g/n 1x1 WiFi Adapter	
	<ul style="list-style-type: none"> For use in Canada, the Cayman Islands, Guam, Puerto Rico, the U.S. Virgin Islands, and the United States 	518436-001
	<ul style="list-style-type: none"> For use in Afghanistan, Albania, Algeria, Andorra, Angola, Antigua and Barbuda, Argentina, Armenia, Aruba, Australia, Austria, Azerbaijan, the Bahamas, Bahrain, Bangladesh, Barbados, Belarus, Belgium, Belize, Benin, Bermuda, Bhutan, Bolivia, Bosnia and Herzegovina, Botswana, Brazil, the British Virgin Islands, Brunei, Bulgaria, Burkina Faso, Burundi, Cameroon, Cape Verde, the Central African Republic, Chad, Chile, Colombia, Comoros, the Congo, Costa Rica, Croatia, Cyprus, the Czech Republic, Denmark, Djibouti, Dominica, the Dominican Republic, East Timor, Ecuador, Egypt, El Salvador, Equatorial Guinea, Eritrea, Estonia, Ethiopia, Fiji, Finland, France, French Guiana, Gabon, Gambia, Georgia, Germany, Ghana, Gibraltar, Greece, Grenada, Guadeloupe, Guatemala, Guinea, Guinea-Bissau, Guyana, Haiti, Honduras, Hong Kong, Hungary, Iceland, India, Ireland, Israel, Italy, the Ivory Coast, Jamaica, Jordan, Kazakhstan, Kenya, Kiribati, Kyrgyzstan, Laos, Latvia, Lebanon, Lesotho, Liberia, Liechtenstein, Lithuania, Luxembourg, Macedonia, Madagascar, Malawi, Malaysia, the Maldives, Mali, Malta, the Marshall Islands, Martinique, Mauritania, Mauritius, Mexico, Micronesia, Monaco, Mongolia, Montenegro, Morocco, Mozambique, Namibia, Nauru, Nepal, the Nether Antilles, the Netherlands, New Zealand, Nicaragua, Niger, Nigeria, Norway, Oman, Pakistan, Palau, Panama, Papua New Guinea, Paraguay, the People's Republic of China, Peru, the Philippines, Poland, Portugal, the Republic of Moldova, Romania, Russia, Rwanda, Samoa, San Marino, Sao Tome and Principe, Saudi Arabia, Senegal, Serbia, the Seychelles, Sierra Leone, Singapore, Slovakia, Slovenia, the Solomon Islands, Somalia, South Africa, South Korea, Spain, Sri Lanka, St. Kitts and Nevis, St. Lucia, St. Vincent and the Grenadines, Suriname, Swaziland, Sweden, Switzerland, Taiwan, Tajikistan, Tanzania, Togo, Tonga, Trinidad and Tobago, Tunisia, Turkey, Turkmenistan, Tuvalu, Uganda, Ukraine, the United Arab Emirates, the United Kingdom, Uruguay, Uzbekistan, Vanuatu, Venezuela, Vietnam, Yemen, Zaire, Zambia, and Zimbabwe 	518436-002
	Broadcom 4312G 802.11b/g WiFi Adapter	
	<ul style="list-style-type: none"> For use for use in Canada, the Cayman Islands, Guam, Puerto Rico, the United States, and the U.S. Virgin Islands 	504593-003

Item	Description	Spare part number
	<ul style="list-style-type: none"> For use in Afghanistan, Albania, Algeria, Andorra, Angola, Antigua and Barbuda, Argentina, Armenia, Aruba, Australia, Austria, Azerbaijan, the Bahamas, Bahrain, Bangladesh, Barbados, Belarus, Belgium, Belize, Benin, Bermuda, Bhutan, Bolivia, Bosnia and Herzegovina, Botswana, Brazil, the British Virgin Islands, Brunei, Bulgaria, Burkina Faso, Burundi, Cameroon, Cape Verde, the Central African Republic, Chad, Chile, Colombia, Comoros, the Congo, Costa Rica, Croatia, Cyprus, the Czech Republic, Denmark, Djibouti, Dominica, the Dominican Republic, East Timor, Ecuador, Egypt, El Salvador, Equatorial Guinea, Eritrea, Estonia, Ethiopia, Fiji, Finland, France, French Guiana, Gabon, Gambia, Georgia, Germany, Ghana, Gibraltar, Greece, Grenada, Guadeloupe, Guatemala, Guinea, Guinea-Bissau, Guyana, Haiti, Honduras, Hong Kong, Hungary, Iceland, India, Ireland, Israel, Italy, the Ivory Coast, Jamaica, Jordan, Kazakhstan, Kenya, Kiribati, Kyrgyzstan, Laos, Latvia, Lebanon, Lesotho, Liberia, Liechtenstein, Lithuania, Luxembourg, Macedonia, Madagascar, Malawi, Malaysia, the Maldives, Mali, Malta, the Marshall Islands, Martinique, Mauritania, Mauritius, Mexico, Micronesia, Monaco, Mongolia, Montenegro, Morocco, Mozambique, Namibia, Nauru, Nepal, the Nether Antilles, the Netherlands, New Zealand, Nicaragua, Niger, Nigeria, Norway, Oman, Pakistan, Palau, Panama, Papua New Guinea, Paraguay, the People's Republic of China, Peru, the Philippines, Poland, Portugal, the Republic of Moldova, Romania, Russia, Rwanda, Samoa, San Marino, Sao Tome and Principe, Saudi Arabia, Senegal, Serbia, the Seychelles, Sierra Leone, Singapore, Slovakia, Slovenia, the Solomon Islands, Somalia, South Africa, South Korea, Spain, Sri Lanka, St. Kitts and Nevis, St. Lucia, St. Vincent and the Grenadines, Suriname, Swaziland, Sweden, Switzerland, Taiwan, Tajikistan, Tanzania, Togo, Tonga, Trinidad and Tobago, Tunisia, Turkey, Turkmenistan, Tuvalu, Uganda, Ukraine, the United Arab Emirates, the United Kingdom, Uruguay, Uzbekistan, Vanuatu, Venezuela, Vietnam, Yemen, Zaire, Zambia, and Zimbabwe 	504593-004
WWAN Module		
(11)	Qualcomm EV-DO/HSPA WWAN module	531993-001
	NOTE: Available as an option.	
(12)	RTC battery (includes cable and double-sided tape)	537616-001
(13)	System board (includes processor and replacement thermal material)	
	<ul style="list-style-type: none"> Intel Atom N270 1.6-GHz processor, 512-KB Level 2 cache, 533-MHz front-side bus (FSB) 	594804-001
	<ul style="list-style-type: none"> Intel Atom N270 1.6-GHz processor, 512-KB Level 2 cache, 533-MHz front-side bus (FSB) for use with WWAN option 	599187-001
(14)	Memory module	
	<ul style="list-style-type: none"> 1024-MB, PC2-6400, DDR2, 533-MHz 	598861-001
	<ul style="list-style-type: none"> 1024-MB, PC2-6400, DDR2, 533-MHz, for use with WWAN option 	600131-001
(15)	Base enclosure (includes 4 rubber feet)	594810-001
(16)	Battery	
	<ul style="list-style-type: none"> 6-cell Li-ion battery (55-Wh) 2.55-Ah 	537627-001
	<ul style="list-style-type: none"> 3-cell Li-ion battery (28-Wh) 2.55-Ah 	537626-001

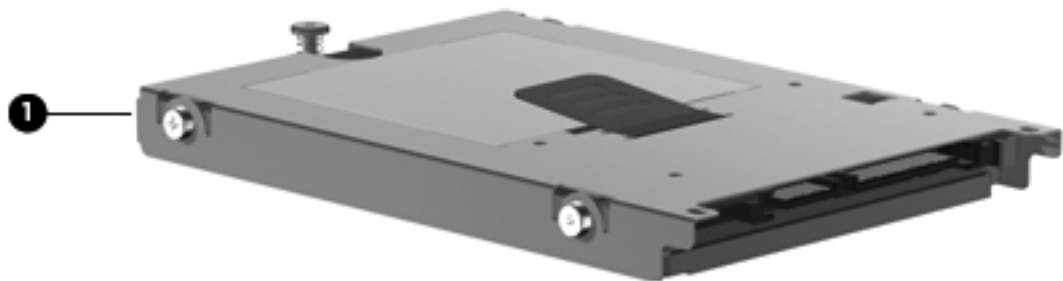
Display assembly subcomponents




Item	Description	Spare part number
(1)	EMI shield and hinge covers	599189-001
(2)	Display bezel with logo for use with webcam and microphone	537644-001
(3)	Display hinge kit (Includes left and right display panel hinges)	537658-001
(4)	Speaker assembly Includes 2 speakers, cable, and housing	594811-001
(5)	Display panel 25.7-cm (10.1-inch) WSVGA (16:9), non-PMMA, AntiGlare	600125-001
(6)	Webcam module	537660-001
	Display cable kit (not illustrated)	579571-001
	Includes:	
(7a)	• Display/webcam cable	
(7b)	• WLAN antenna assembly (530 × 1.37 mm and 440 × 1.37 mm)	
(8)	Microphone assembly (44 dB, 4.9 × 2.2, omnidirectional)	581323-001

Item	Description	Spare part number
(9)	WWAN antenna assembly (optional)	538022-001
(10)	Display back cover with logo	594808-001
	Display screw kit (not illustrated)	538510-001
	Includes 14 PM2.0×3.0×4.0×0.4T screws	

Mass storage devices



 **NOTE:** Each hard drive spare part kit includes a mounting bracket.

Item	Description	Spare part number
(1)	Hard drive, 160 GB, 5400 RPM	594809-001
	Hard drive mounting kit (not illustrated, includes mounting bracket and 4 PM3.0×3.0×4.5 screws)	537641-001

Miscellaneous parts

Description	Spare part number
30-W, 3-pin AC adapter	496813-001
Power cords, 3-pin, 1.83m	
<ul style="list-style-type: none"> For use in Argentina 	490371-D01
<ul style="list-style-type: none"> For use in Brazil 	490371-202
<ul style="list-style-type: none"> For use in Denmark 	490371-081
<ul style="list-style-type: none"> For use in Europe 	490371-021
<ul style="list-style-type: none"> For use in Israel 	490371-BB1
<ul style="list-style-type: none"> For use in Italy 	490371-061
<ul style="list-style-type: none"> For use in North America 	490371-001
<ul style="list-style-type: none"> For use in Singapore and the United Kingdom 	490371-031
<ul style="list-style-type: none"> For use in South Africa 	490371-AR1
<ul style="list-style-type: none"> For use in Switzerland 	490371-111
Rubber kit	537618-001
Includes 4 computer feet — two front and two rear	
Screw kit	537620-001
Includes the following screws:	
<ul style="list-style-type: none"> PM1.6×2.5 nickel PM2.0×3.5 PM2.5×4.0 black PM2.5×4.0 nickel PM2.5×6.0 T8 M2.5×4.0 	

Sequential part number listing

Spare part number	Description
490371-001	Power cord, 3-pin, 1.83m, for use in North America
490371-021	Power cord, 3-pin, 1.83m, for use in Europe
490371-031	Power cord, 3-pin, 1.83m, for use in Singapore and the United Kingdom
490371-061	Power cord, 3-pin, 1.83m, for use in Italy
490371-081	Power cord, 3-pin, 1.83m, for use in Denmark
490371-111	Power cord, 3-pin, 1.83m, for use in Switzerland
490371-202	Power cord, 3-pin, 1.83m, for use in Brazil
490371-AR1	Power cord, 3-pin, 1.83m, for use in South Africa
490371-BB1	Power cord, 3-pin, 1.83m, for use in Israel
490371-D01	Power cord, 3-pin, 1.83m, for use in Argentina
496813-001	30-W, 3-pin AC adapter
504593-003	Broadcom 4312G 802.11b/g WiFi Adapter for use for use in Canada, the Cayman Islands, Guam, Puerto Rico, the United States, and the U.S. Virgin Islands
504593-004	Broadcom 4312G 802.11b/g WiFi Adapter for use in Afghanistan, Albania, Algeria, Andorra, Angola, Antigua and Barbuda, Argentina, Armenia, Aruba, Australia, Austria, Azerbaijan, the Bahamas, Bahrain, Bangladesh, Barbados, Belarus, Belgium, Belize, Benin, Bermuda, Bhutan, Bolivia, Bosnia and Herzegovina, Botswana, Brazil, the British Virgin Islands, Brunei, Bulgaria, Burkina Faso, Burundi, Cameroon, Cape Verde, the Central African Republic, Chad, Chile, Colombia, Comoros, the Congo, Costa Rica, Croatia, Cyprus, the Czech Republic, Denmark, Djibouti, Dominica, the Dominican Republic, East Timor, Ecuador, Egypt, El Salvador, Equatorial Guinea, Eritrea, Estonia, Ethiopia, Fiji, Finland, France, French Guiana, Gabon, Gambia, Georgia, Germany, Ghana, Gibraltar, Greece, Grenada, Guadeloupe, Guatemala, Guinea, Guinea-Bissau, Guyana, Haiti, Honduras, Hong Kong, Hungary, Iceland, India, Ireland, Israel, Italy, the Ivory Coast, Jamaica, Jordan, Kazakhstan, Kenya, Kiribati, Kyrgyzstan, Laos, Latvia, Lebanon, Lesotho, Liberia, Liechtenstein, Lithuania, Luxembourg, Macedonia, Madagascar, Malawi, Malaysia, the Maldives, Mali, Malta, the Marshall Islands, Martinique, Mauritania, Mauritius, Mexico, Micronesia, Monaco, Mongolia, Montenegro, Morocco, Mozambique, Namibia, Nauru, Nepal, the Nether Antilles, the Netherlands, New Zealand, Nicaragua, Niger, Nigeria, Norway, Oman, Pakistan, Palau, Panama, Papua New Guinea, Paraguay, the People's Republic of China, Peru, the Philippines, Poland, Portugal, the Republic of Moldova, Romania, Russia, Rwanda, Samoa, San Marino, Sao Tome and Principe, Saudi Arabia, Senegal, Serbia, the Seychelles, Sierra Leone, Singapore, Slovakia, Slovenia, the Solomon Islands, Somalia, South Africa, South Korea, Spain, Sri Lanka, St. Kitts and Nevis, St. Lucia, St. Vincent and the Grenadines, Suriname, Swaziland, Sweden, Switzerland, Taiwan, Tajikistan, Tanzania, Togo, Tonga, Trinidad and Tobago, Tunisia, Turkey, Turkmenistan, Tuvalu, Uganda, Ukraine, the United Arab Emirates, the United Kingdom, Uruguay, Uzbekistan, Vanuatu, Venezuela, Vietnam, Yemen, Zaire, Zambia, and Zimbabwe
518436-001	Atheros 9285G 802.11b/g/n 1x1 WiFi Adapter for use in Canada, the Cayman Islands, Guam, Puerto Rico, the U.S. Virgin Islands, and the United States

518436-002	Atheros 9285G 802.11b/g/n 1x1 WiFi Adapter for use in Afghanistan, Albania, Algeria, Andorra, Angola, Antigua and Barbuda, Argentina, Armenia, Aruba, Australia, Austria, Azerbaijan, the Bahamas, Bahrain, Bangladesh, Barbados, Belarus, Belgium, Belize, Benin, Bermuda, Bhutan, Bolivia, Bosnia and Herzegovina, Botswana, Brazil, the British Virgin Islands, Brunei, Bulgaria, Burkina Faso, Burundi, Cameroon, Cape Verde, the Central African Republic, Chad, Chile, Colombia, Comoros, the Congo, Costa Rica, Croatia, Cyprus, the Czech Republic, Denmark, Djibouti, Dominica, the Dominican Republic, East Timor, Ecuador, Egypt, El Salvador, Equatorial Guinea, Eritrea, Estonia, Ethiopia, Fiji, Finland, France, French Guiana, Gabon, Gambia, Georgia, Germany, Ghana, Gibraltar, Greece, Grenada, Guadeloupe, Guatemala, Guinea, Guinea-Bissau, Guyana, Haiti, Honduras, Hong Kong, Hungary, Iceland, India, Ireland, Israel, Italy, the Ivory Coast, Jamaica, Jordan, Kazakhstan, Kenya, Kiribati, Kyrgyzstan, Laos, Latvia, Lebanon, Lesotho, Liberia, Liechtenstein, Lithuania, Luxembourg, Macedonia, Madagascar, Malawi, Malaysia, the Maldives, Mali, Malta, the Marshall Islands, Martinique, Mauritania, Mauritius, Mexico, Micronesia, Monaco, Mongolia, Montenegro, Morocco, Mozambique, Namibia, Nauru, Nepal, the Nether Antilles, the Netherlands, New Zealand, Nicaragua, Niger, Nigeria, Norway, Oman, Pakistan, Palau, Panama, Papua New Guinea, Paraguay, the People's Republic of China, Peru, the Philippines, Poland, Portugal, the Republic of Moldova, Romania, Russia, Rwanda, Samoa, San Marino, Sao Tome and Principe, Saudi Arabia, Senegal, Serbia, the Seychelles, Sierra Leone, Singapore, Slovakia, Slovenia, the Solomon Islands, Somalia, South Africa, South Korea, Spain, Sri Lanka, St. Kitts and Nevis, St. Lucia, St. Vincent and the Grenadines, Suriname, Swaziland, Sweden, Switzerland, Taiwan, Tajikistan, Tanzania, Togo, Tonga, Trinidad and Tobago, Tunisia, Turkey, Turkmenistan, Tuvalu, Uganda, Ukraine, the United Arab Emirates, the United Kingdom, Uruguay, Uzbekistan, Vanuatu, Venezuela, Vietnam, Yemen, Zaire, Zambia, and Zimbabwe
531993-001	Optional Qualcomm EV-DO/HSPA WWAN module
535689-001	Keyboard for use in the United States
535689-031	Keyboard for use in the United Kingdom
535689-041	Keyboard for use in Germany
535689-051	Keyboard for use in France
535689-061	Keyboard for use in Italy
535689-071	Keyboard for use in Spain
535689-121	Keyboard for use in French Canada
535689-131	Keyboard for use in Portugal
535689-141	Keyboard for use in Turkey
535689-161	Keyboard for use in Latin America
535689-171	Keyboard for use in Saudi Arabia
535689-201	Keyboard for use in Brazil
535689-211	Keyboard for use in Hungary
535689-221	Keyboard for use in the Czech Republic
535689-251	Keyboard for use in Russia
535689-A41	Keyboard for use in Europe
535689-B31	Keyboard for use with international models
535689-BB1	Keyboard for use in Israel
535689-BG1	Keyboard for use in Switzerland

535689-DH1	Keyboard for use in Finland, Norway, and Sweden
535689-DJ1	Keyboard for use in Greece
537612-001	Plastics/actuator kit
537613-001	Fan
537616-001	RTC battery (includes cable and double-sided tape)
537618-001	Rubber kit with 4 computer feet — two front and two rear
537619-001	Heat sink assembly (includes replacement thermal material)
537620-001	Screw kit
537622-001	Top cover with TouchPad
537626-001	Battery, 3-cell Li-ion battery (28-Wh) 2.55-Ah
537627-001	Battery, 6-cell Li-ion battery (55-Wh) 2.55-Ah
537641-001	Hard drive mounting kit (not illustrated, includes mounting bracket and 4 PM3.0×3.0×4.5 screws)
537644-001	Display bezel with Compaq logo for use with webcam and microphone
537658-001	Display hinge kit (includes left and right display panel hinges)
537660-001	Webcam module
538022-001	WWAN antenna assemblies (optional)
538510-001	Display screw kit
575920-001	Broadcom 4312G 802.11b/g WiFi and 2070 Bluetooth 2.1+EDR Combo Adapter
579571-001	Display cable kit (not illustrated, includes display/webcam cable and WLAN antennas)
581323-001	Microphone assembly (44 dB, 4.9 × 2.2, omnidirectional)
593837-001	Broadcom 43225 802.11b/g/n 2x2 WiFi Adapter
594804-001	System board, Intel Atom N270 1.6-GHz processor, 512-KB Level 2 cache, 533-MHz front-side bus (FSB)
594806-001	Display, 25.7-cm (10.1-inch), WSVGA, AntiGlare for use with WWAN
594808-001	Display back cover with logo
594809-001	Hard drive, 160-GB, 5400-RPM
594810-001	Base enclosure
594811-001	Speaker assembly (includes two 4-ohm speakers, cable, and housing)
598861-001	Memory module, 1024-MB, PC2-6400, DDR2, 533-MHz
599187-001	System board, Intel Atom N270 1.6-GHz processor, 512-KB Level 2 cache, 533-MHz front-side bus (FSB) for use with WWAN option
599188-001	DC connector/power board
599189-001	EMI shield and hinge covers
600124-001	USB/audio board (includes cable)

600125-001	Display, 25.7-cm (10.1-inch), WSVGA, AntiGlare
600131-001	Memory module, 1024-MB, PC2-6400, DDR2, 533-MHz, for use with WWAN option

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

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

Drive handling

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

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

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

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 computer when you are removing or installing internal components, observe these precautions:

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

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

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

Packaging and transporting guidelines

Follow these grounding guidelines when packaging and transporting equipment:

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

Workstation guidelines

Follow these grounding workstation guidelines:

- Cover the workstation with approved static-shielding material.
- Use a wrist strap connected to a properly grounded work surface and use properly grounded tools and equipment.
- Use conductive field service tools, such as cutters, 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 $\pm 10\%$ resistance in the ground cords. To provide proper ground, wear a strap snugly against the skin at all times. On grounded mats with banana-plug connectors, use alligator clips to connect a wrist strap.
- When standing, use foot straps and a grounded floor mat. Foot straps (heel, toe, or boot straps) can be used at standing workstations and are compatible with most types of shoes or boots. On conductive floors or dissipative floor mats, use foot straps on both feet with a minimum of one megohm resistance between the operator and ground. To be effective, the conductive 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

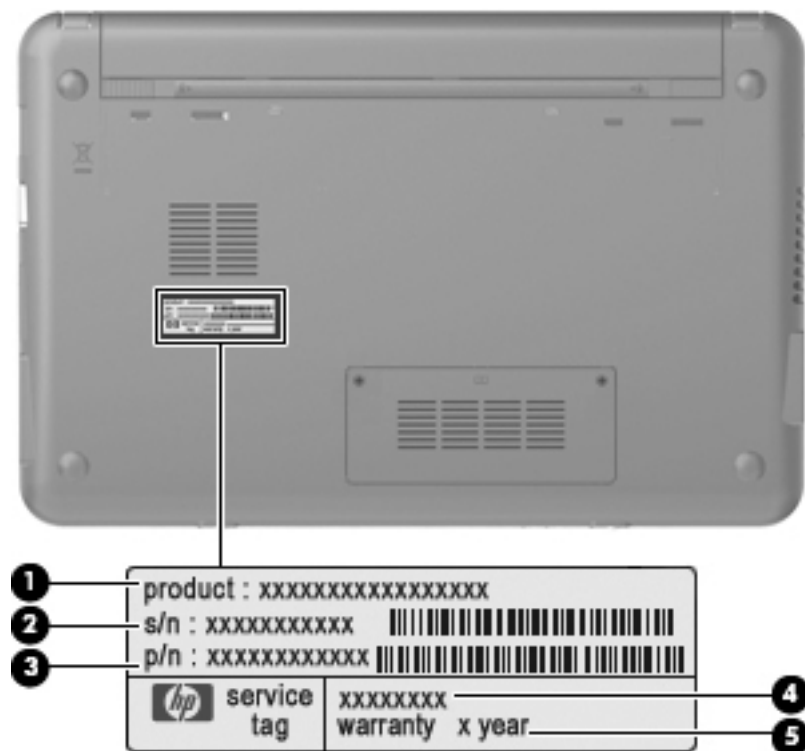
This chapter provides removal and replacement procedures.

There are as many as 54 screws, in 8 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.

Service tag

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

- (1)** Product name: This is the product name affixed to the front of the computer.
- (2)** Serial number (s/n): This is an alphanumeric identifier that is unique to each product.
- (3)** Part number/Product number (p/n): This number provides specific information about the product's hardware components. The part number helps a service technician to determine what components and parts are needed.
- (4)** Model description: This is the alphanumeric identifier used to locate documents, drivers, and support for the computer.
- (5)** Warranty period: This number describes the duration of the warranty period for the computer.



Computer feet

The computer feet are adhesive-backed rubber pads, tethered to the base enclosure.

Description	Spare part number
Rubber kit	537618-001



Battery

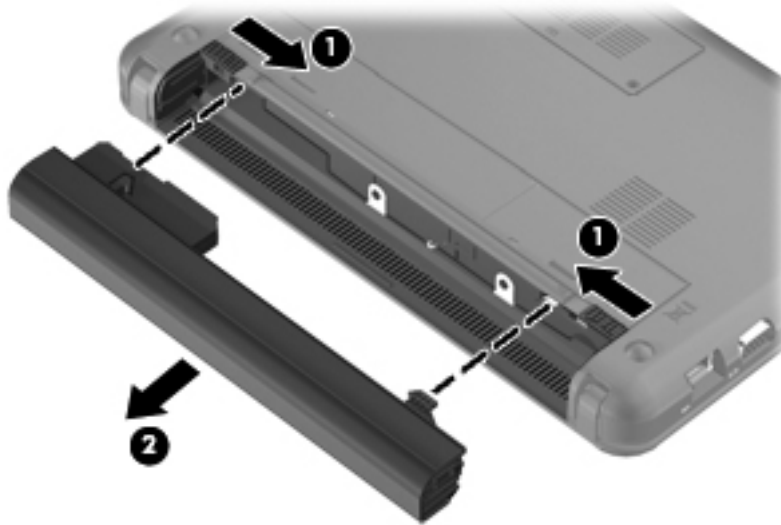
Description	Spare part number
6-cell Li-ion battery (55-Wh) 2.55-Ah	537627-001
3-cell Li-ion battery (28-Wh) 2.55-Ah	537626-001

Before disassembling the computer, 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.


Remove the battery:

1. Turn the computer upside down on a flat surface, with the battery bay toward you.
2. Slide the battery release latches **(1)** to release the battery.
3. Remove the battery **(2)**.



Reverse this procedure to install a battery.

SIM

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

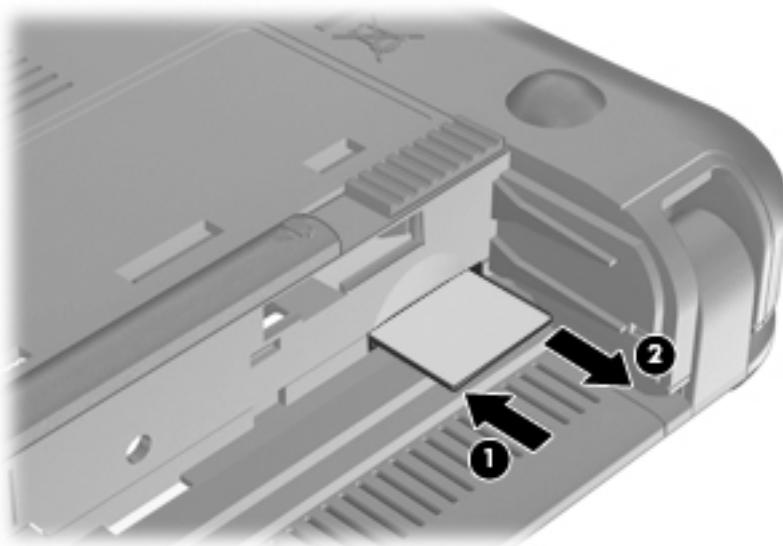
NOTE: If there is a SIM inserted in the SIM slot, it must be removed before disassembling the computer. Be sure that the SIM is reinserted in the SIM slot after reassembling the computer.

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)**. (The module is partially ejected from the SIM slot.)
2. Remove the SIM **(2)** from the SIM slot.



Reverse this procedure to insert the SIM.

Memory module

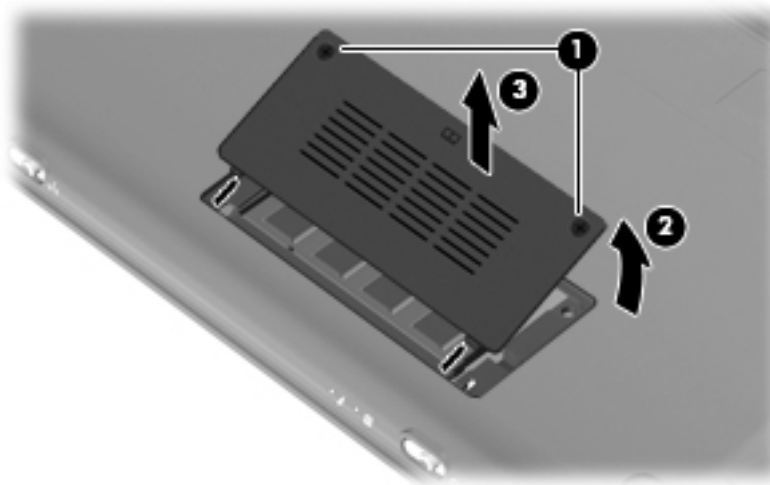
Description	Spare part number
1024-MB memory module (PC2-6400, DDR2, 533-MHz)	598861-001

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 battery (see [Battery on page 35](#)).
5. If your computer has WWAN capability, remove the SIM (see [SIM on page 36](#)).


Remove the memory module:

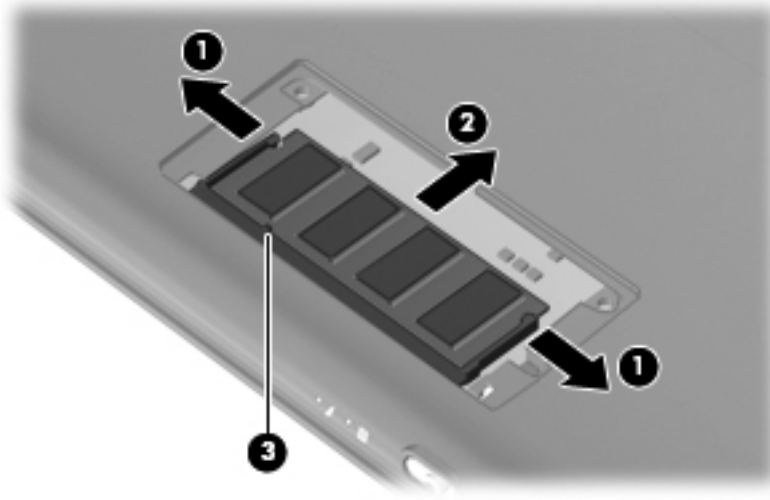
1. Loosen the 2 Phillips PM2.0×3.0 captive screws **(1)** that secure the memory module compartment cover to the computer.
2. Swing the cover up and away from the inside of the computer **(2)**, and then remove the cover **(3)**.



3. Spread the retaining tabs **(1)** on each side of the memory module slot to release the memory module. (The edge of the module opposite the slot rises away from the computer.)

4. Remove the memory module **(2)** by pulling the module away from the slot at an angle.

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



Reverse this procedure to install a memory module.

Keyboard

Description	Spare part number
Keyboard for use in Brazil	535689-201
Keyboard for use in Europe	535689-A41
Keyboard for use in Finland, Norway, and Sweden	535689-DH1
Keyboard for use in France	535689-051
Keyboard for use in French Canada	535689-121
Keyboard for use in Germany	535689-041
Keyboard for use in Greece	535689-DJ1
Keyboard for use in Hungary	535689-211
Keyboard for use in Israel	535689-BB1
Keyboard for use in Italy	535689-061
Keyboard for use in Latin America	535689-161
Keyboard for use in Portugal	535689-131
Keyboard for use in Russia	535689-251
Keyboard for use in Saudi Arabia	535689-171
Keyboard for use in Spain	535689-071
Keyboard for use in Switzerland	535689-111
Keyboard for use in the Czech Republic	535689-221
Keyboard for use in the United Kingdom	535689-031
Keyboard for use in the United States	535689-001
Keyboard for use in Turkey	535689-141
Keyboard for use with international models	535689-B31

Before removing the keyboard, follow these steps:

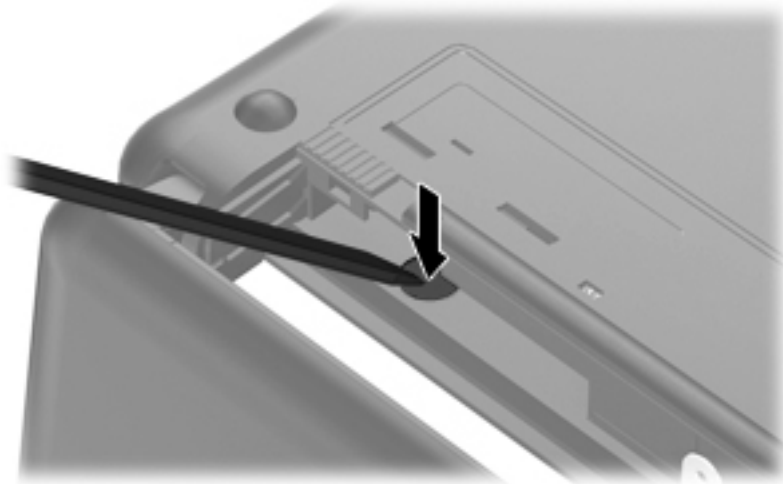
1. Shut down the computer. If you are unsure whether the computer is off or in Hibernation, turn the computer on, and then shut it down through the operating system.
2. Disconnect all external devices connected to the computer.
3. Disconnect the power from the computer by first unplugging the power cord from the AC outlet and then unplugging the AC adapter from the computer.
4. Remove the battery (see [Battery on page 35](#)).
5. If your computer has WWAN capability, remove the SIM (see [SIM on page 36](#)).

Remove the keyboard:

1. Remove the 3 Phillips PM2.0×3.0 screws that secure the keyboard to the computer.



2. Turn the computer right-side up, and then open the display as far as possible.
3. Turn the computer upside down, and locate the keyboard release access on the bottom of the computer, inside the battery bay.
4. Insert a flexible tool into the opening, and then press inward to release the keyboard.



5. Turn the computer right-side up, and then lift up on the top and left edges **(1)** of the keyboard until the keyboard releases completely.

6. Slide the keyboard back until its top edge rests on the display assembly **(2)**.



7. Release the zero insertion force (ZIF) connector **(1)** to which the keyboard cable is attached.
8. Disconnect the cable **(2)**, and then remove the keyboard.



9. Remove the keyboard.

Reverse this procedure to install the keyboard.

RTC battery


Description	Spare part number
RTC battery	537616-001

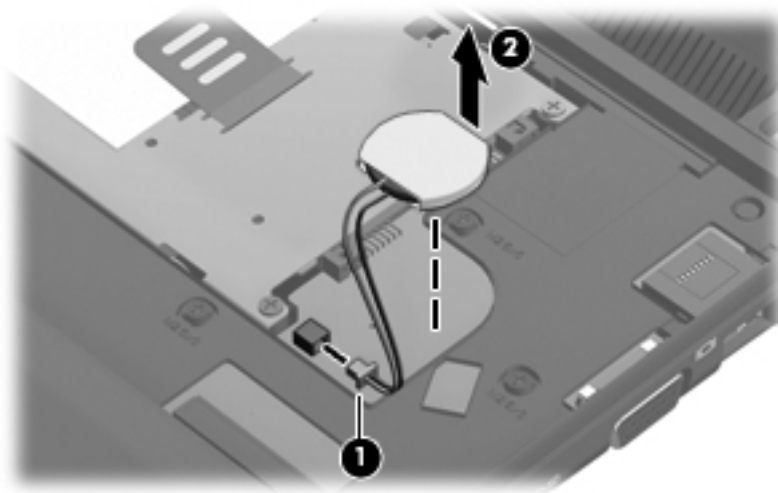
Before removing the real-time clock (RTC) battery, follow these steps:

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 battery (see [Battery on page 35](#)).
5. If your computer has WWAN capability, remove the SIM (see [SIM on page 36](#)).
6. Remove the Keyboard (see [Keyboard on page 39](#)).

Remove the RTC battery:


1. Disconnect the RTC battery cable **(1)** from the system board.
2. Detach the RTC battery **(2)** from the system board.

 **NOTE:** The RTC battery is attached to the system board with double-sided tape.



Reverse this procedure to install the RTC battery.

Mass storage devices

 **NOTE:** Each hard drive spare part kit includes a cable and bracket.

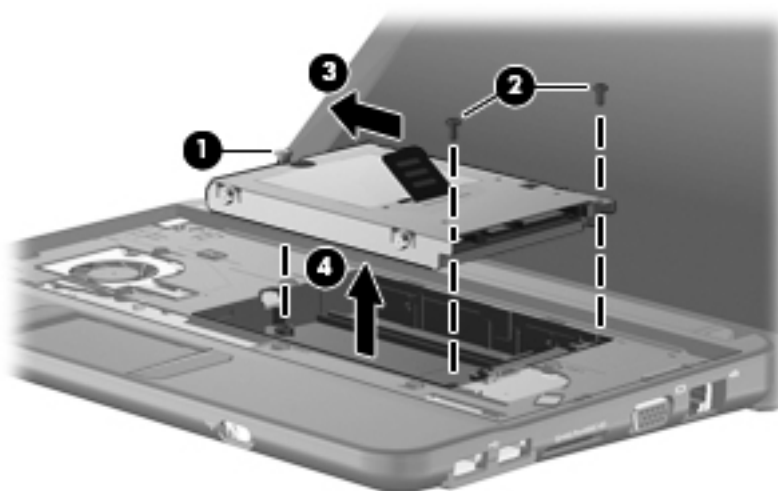
Description	Spare part number
Hard drive	
160 GB, 5400 RPM	594809-001
Hard drive mounting kit	537641-001

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 battery (see [Battery on page 35](#)).
5. If your computer has WWAN capability, remove the SIM (see [SIM on page 36](#)).
6. Remove the keyboard (see [Keyboard on page 39](#)).

To remove the hard drive:

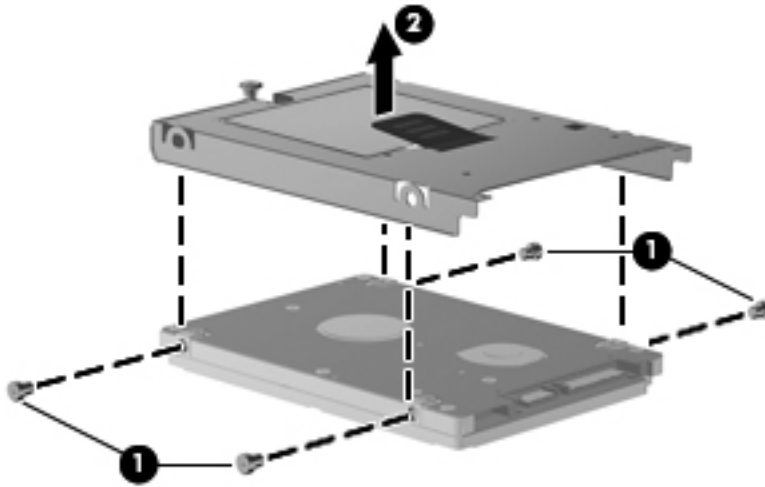
1. Loosen the Phillips PM2.5×10.0 captive screw **(1)**, and remove the 2 Phillips PM2.0×3.0 screws **(2)** that secure the assembly to the computer.
2. Use the Mylar tab to slide the assembly to the left **(3)** to disconnect it, and remove the assembly **(4)**.



Continue with one of the following sections for hard drive or solid-state drive replacement.

Hard drive

1. Remove the 4 Phillips PM3.0×3.0 screws **(1)** that secure the hard drive bracket to the hard drive.
2. Using the Mylar tab, lift the bracket **(2)** away from the hard drive.



Reverse this procedure to install a hard drive.

Top cover

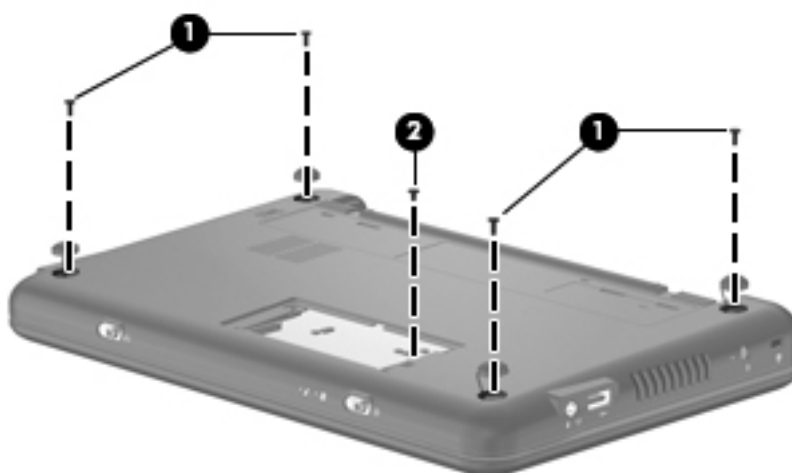
Description	Spare part number
Top cover with TouchPad	537622-001

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 battery (see [Battery on page 35](#)).
5. If your computer has WWAN capability, remove the SIM (see [SIM on page 36](#)).
6. Remove the memory module (see [Memory module on page 37](#)).
7. Remove the keyboard (see [Keyboard on page 39](#)).
8. Remove the hard drive assembly (see [Mass storage devices on page 43](#)).

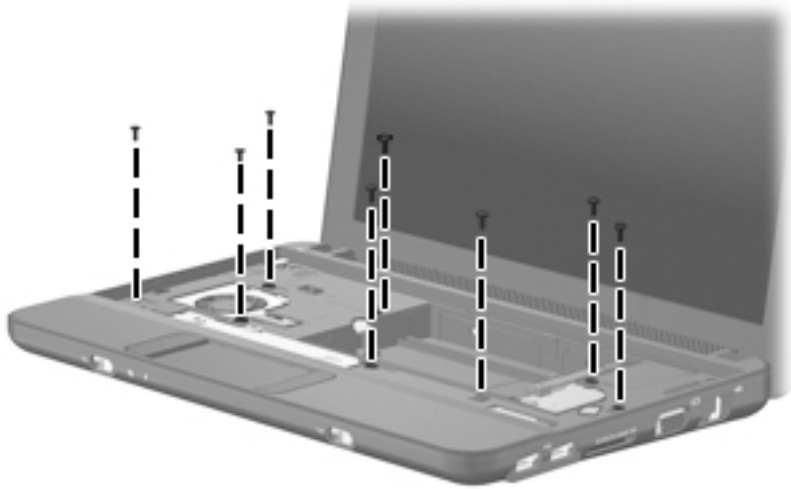
Remove the top cover.

1. Turn the computer upside down, with the front toward you.
2. Use a thin, flat tool to release the 4 rubber feet.
3. Remove the 4 Phillips PM2.5×6.0 screws **(1)**, and the Phillips PM2.0×4.0 screw **(2)** that secure the top cover to the base enclosure.

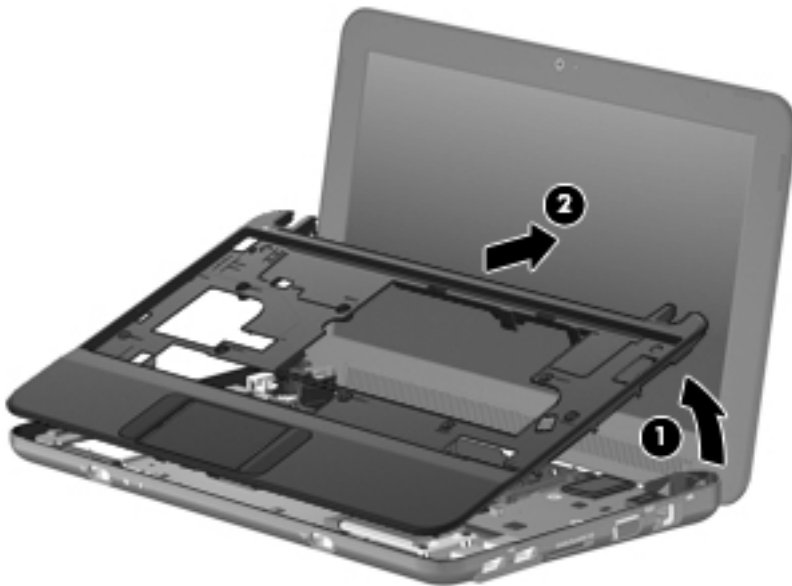


4. Turn the computer right-side up, with the front toward you.
5. Open the computer as far as possible.

6. Remove the 8 Phillips PM2.5×6.0 screws that secure the top cover to the base enclosure.

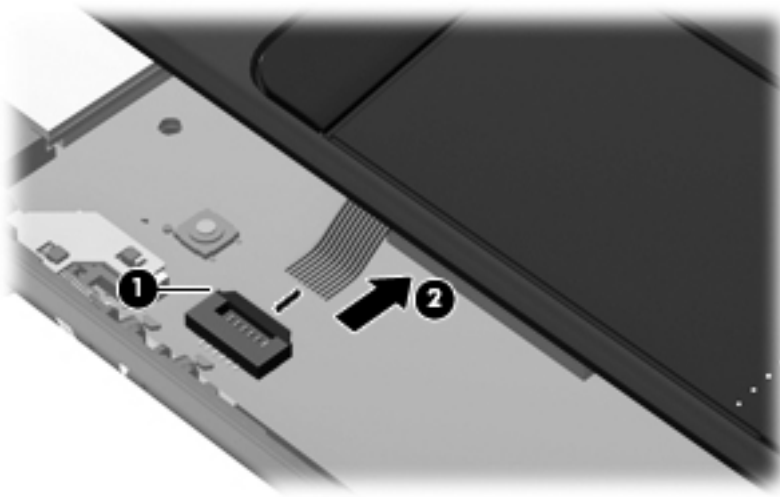


7. Lift the inside edge of the top cover **(1)** and swing it up. Then slide the top cover back slightly to rest against the display assembly **(2)** at an angle.



8. Release the ZIF connector **(1)** to which the TouchPad button board cable is connected.

9. Disconnect the TouchPad button board cable **(2)** from the system board, and then remove the top cover.



Reverse this procedure to install the top cover.

WLAN module

Description	Spare part number
Broadcom 4312G 802.11b/g WiFi and 2070 Bluetooth 2.1+EDR Combo Adapter	575920-001
Broadcom 43225 802.11b/g/n 2x2 WiFi Adapter	593837-001
Atheros 9285G 802.11b/g/n 1x1 WiFi Adapter	
<ul style="list-style-type: none"> For use in Canada, the Cayman Islands, Guam, Puerto Rico, the U.S. Virgin Islands, and the United States 	518436-001
<ul style="list-style-type: none"> For use in Afghanistan, Albania, Algeria, Andorra, Angola, Antigua and Barbuda, Argentina, Armenia, Aruba, Australia, Austria, Azerbaijan, the Bahamas, Bahrain, Bangladesh, Barbados, Belarus, Belgium, Belize, Benin, Bermuda, Bhutan, Bolivia, Bosnia and Herzegovina, Botswana, Brazil, the British Virgin Islands, Brunei, Bulgaria, Burkina Faso, Burundi, Cameroon, Cape Verde, the Central African Republic, Chad, Chile, Colombia, Comoros, the Congo, Costa Rica, Croatia, Cyprus, the Czech Republic, Denmark, Djibouti, Dominica, the Dominican Republic, East Timor, Ecuador, Egypt, El Salvador, Equatorial Guinea, Eritrea, Estonia, Ethiopia, Fiji, Finland, France, French Guiana, Gabon, Gambia, Georgia, Germany, Ghana, Gibraltar, Greece, Grenada, Guadeloupe, Guatemala, Guinea, Guinea-Bissau, Guyana, Haiti, Honduras, Hong Kong, Hungary, Iceland, India, Ireland, Israel, Italy, the Ivory Coast, Jamaica, Jordan, Kazakhstan, Kenya, Kiribati, Kyrgyzstan, Laos, Latvia, Lebanon, Lesotho, Liberia, Liechtenstein, Lithuania, Luxembourg, Macedonia, Madagascar, Malawi, Malaysia, the Maldives, Mali, Malta, the Marshall Islands, Martinique, Mauritania, Mauritius, Mexico, Micronesia, Monaco, Mongolia, Montenegro, Morocco, Mozambique, Namibia, Nauru, Nepal, the Nether Antilles, the Netherlands, New Zealand, Nicaragua, Niger, Nigeria, Norway, Oman, Pakistan, Palau, Panama, Papua New Guinea, Paraguay, the People's Republic of China, Peru, the Philippines, Poland, Portugal, the Republic of Moldova, Romania, Russia, Rwanda, Samoa, San Marino, Sao Tome and Principe, Saudi Arabia, Senegal, Serbia, the Seychelles, Sierra Leone, Singapore, Slovakia, Slovenia, the Solomon Islands, Somalia, South Africa, South Korea, Spain, Sri Lanka, St. Kitts and Nevis, St. Lucia, St. Vincent and the Grenadines, Suriname, Swaziland, Sweden, Switzerland, Taiwan, Tajikistan, Tanzania, Togo, Tonga, Trinidad and Tobago, Tunisia, Turkey, Turkmenistan, Tuvalu, Uganda, Ukraine, the United Arab Emirates, the United Kingdom, Uruguay, Uzbekistan, Vanuatu, Venezuela, Vietnam, Yemen, Zaire, Zambia, and Zimbabwe 	518436-002
Broadcom 4312G 802.11b/g WiFi Adapter	

Description	Spare part number
<ul style="list-style-type: none"> For use in Canada, the Cayman Islands, Guam, Puerto Rico, the U.S. Virgin Islands, and the United States 	504593-003
<ul style="list-style-type: none"> For use in Afghanistan, Albania, Algeria, Andorra, Angola, Antigua and Barbuda, Argentina, Armenia, Aruba, Australia, Austria, Azerbaijan, the Bahamas, Bahrain, Bangladesh, Barbados, Belarus, Belgium, Belize, Benin, Bermuda, Bhutan, Bolivia, Bosnia and Herzegovina, Botswana, Brazil, the British Virgin Islands, Brunei, Bulgaria, Burkina Faso, Burundi, Cameroon, Cape Verde, the Central African Republic, Chad, Chile, Colombia, Comoros, the Congo, Costa Rica, Croatia, Cyprus, the Czech Republic, Denmark, Djibouti, Dominica, the Dominican Republic, East Timor, Ecuador, Egypt, El Salvador, Equatorial Guinea, Eritrea, Estonia, Ethiopia, Fiji, Finland, France, French Guiana, Gabon, Gambia, Georgia, Germany, Ghana, Gibraltar, Greece, Grenada, Guadeloupe, Guatemala, Guinea, Guinea-Bissau, Guyana, Haiti, Honduras, Hong Kong, Hungary, Iceland, India, Ireland, Israel, Italy, the Ivory Coast, Jamaica, Jordan, Kazakhstan, Kenya, Kiribati, Kyrgyzstan, Laos, Latvia, Lebanon, Lesotho, Liberia, Liechtenstein, Lithuania, Luxembourg, Macedonia, Madagascar, Malawi, Malaysia, the Maldives, Mali, Malta, the Marshall Islands, Martinique, Mauritania, Mauritius, Mexico, Micronesia, Monaco, Mongolia, Montenegro, Morocco, Mozambique, Namibia, Nauru, Nepal, the Nether Antilles, the Netherlands, New Zealand, Nicaragua, Niger, Nigeria, Norway, Oman, Pakistan, Palau, Panama, Papua New Guinea, Paraguay, the People's Republic of China, Peru, the Philippines, Poland, Portugal, the Republic of Moldova, Romania, Russia, Rwanda, Samoa, San Marino, Sao Tome and Principe, Saudi Arabia, Senegal, Serbia, the Seychelles, Sierra Leone, Singapore, Slovakia, Slovenia, the Solomon Islands, Somalia, South Africa, South Korea, Spain, Sri Lanka, St. Kitts and Nevis, St. Lucia, St. Vincent and the Grenadines, Suriname, Swaziland, Sweden, Switzerland, Taiwan, Tajikistan, Tanzania, Togo, Tonga, Trinidad and Tobago, Tunisia, Turkey, Turkmenistan, Tuvalu, Uganda, Ukraine, the United Arab Emirates, the United Kingdom, Uruguay, Uzbekistan, Vanuatu, Venezuela, Vietnam, Yemen, Zaire, Zambia, and Zimbabwe 	504593-004

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

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.

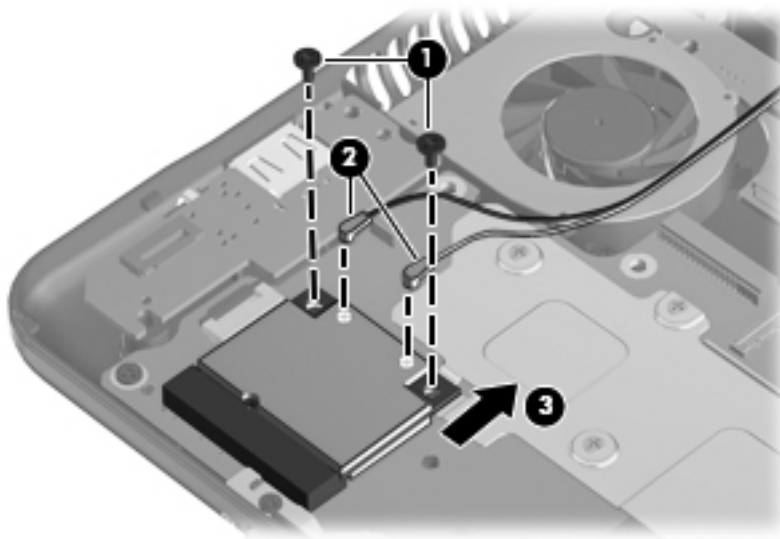
Before removing the WLAN module, follow these steps:

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 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](#)).

5. If your computer has WWAN capability, remove the SIM (see [SIM on page 36](#)).
6. Remove the following components:
 - a. Keyboard (see [Keyboard on page 39](#))
 - b. Hard drive (see [Mass storage devices on page 43](#))
 - c. Top cover (see [Top cover on page 45](#))

Remove the WLAN module:

1. Remove the 2 Phillips PM2.0×3.0 screws **(1)** that secure the WLAN module to the system board. (The edge of the module opposite the slot rises away from the computer.)
2. Disconnect the wireless antenna cables **(2)** from the terminals on the WLAN module.
3. Remove the WLAN module **(3)** by pulling the module away from the slot at an angle.



Reverse this procedure to install the WLAN module.

WWAN module

 **NOTE:** Not available for computers with Mobile Mi installed.

Description	Spare part number
Qualcomm EV-DO/HSPA WWAN module	531993-001

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


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.

Before removing the WWAN module, follow these steps:

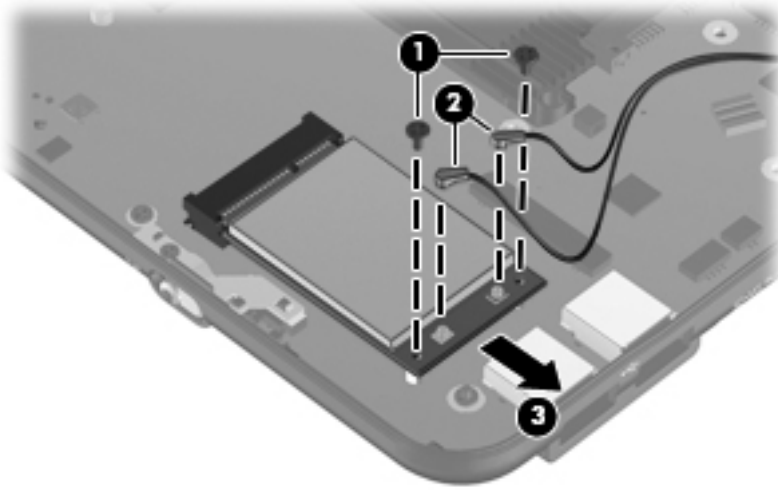
1. Shut down the computer. If you are unsure whether the computer is off or in Hibernation, turn the computer on, and then shut it down through the operating system.
2. Disconnect all external devices connected to the computer.
3. Disconnect the power from the computer by first unplugging the power cord from the AC outlet and then unplugging the AC adapter from the computer.
4. Remove the battery (see [Battery on page 35](#)).
5. Remove the SIM (see [SIM on page 36](#)).
6. Remove the following components:
 - a. Keyboard (see [Keyboard on page 39](#))
 - b. Hard drive or solid-state drive (see [Mass storage devices on page 43](#))
 - c. Top cover (see [Top cover on page 45](#))

Remove the WWAN module:

1. Remove the 2 Phillips PM2.0×3.0 screws **(1)** that secure the WWAN connector module **(3)** to the system board. (The edge of the module opposite the slot rises away from the computer.)
2. Disconnect the wireless antenna cables **(2)** from the terminals on the WWAN module.

 **NOTE:** The red WWAN antenna cable is connected to the WWAN module “Main” terminal. The blue WWAN antenna cable is connected to the WWAN module “Aux” terminal.

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



Reverse this procedure to install the WWAN module.

USB/audio board

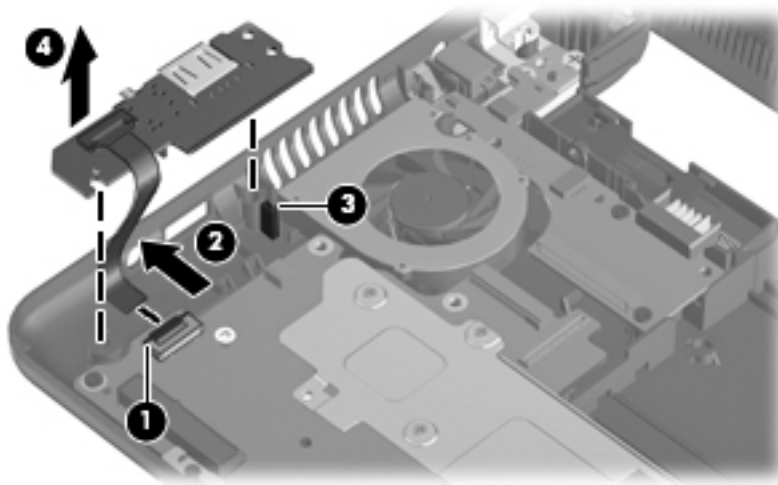
Description	Spare part number
USB/audio board (includes cable)	600124-001

Before removing the USB/audio 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 battery (see [Battery on page 35](#)).
5. If your computer has WWAN capability, remove the SIM (see [SIM on page 36](#)).
6. Remove the following components:
 - a. Keyboard (see [Keyboard on page 39](#)).
 - b. Hard drive (see [Mass storage devices on page 43](#)).
 - c. Top cover (see [Top cover on page 45](#)).

Remove the USB board:

1. Release the ZIF connector **(1)** to which the USB/audio board cable is connected, and disconnect the cable **(2)**.
2. Release the USB/audio board from the clip attached to the base enclosure **(3)**, and remove the USB/audio board **(4)**.



Reverse this procedure to install the USB/audio board.

DC connector/power board

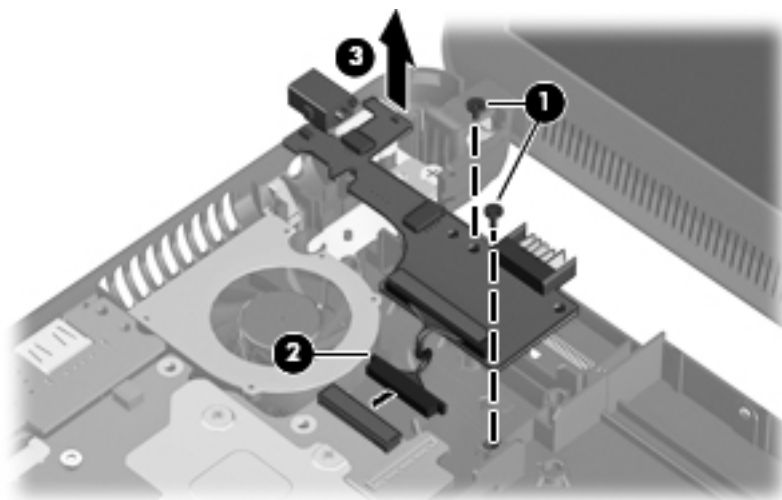
Description	Spare part number
DC connector/power board	599188-001

Before removing the power/battery pass-through 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 battery (see [Battery on page 35](#)).
5. If your computer has WWAN capability, remove the SIM (see [SIM on page 36](#)).
6. Remove the following components:
 - a. Keyboard (see [Keyboard on page 39](#))
 - b. Hard drive (see [Mass storage devices on page 43](#))
 - c. Top cover (see [Top cover on page 45](#))

Remove the power/battery pass-through board:

1. Disconnect the power cable **(1)**.
2. Remove the 2 Phillips PM2.5×4.0 screws **(2)** that secure the power/battery pass-through board to the base enclosure.
3. Remove the power/battery pass-through board **(3)**.



Reverse this procedure to install the power/battery pass-through board.

Fan

Description	Spare part number
Fan	537613-001



NOTE: To properly ventilate the computer, allow at least a 7.6-cm (3-inch) 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.

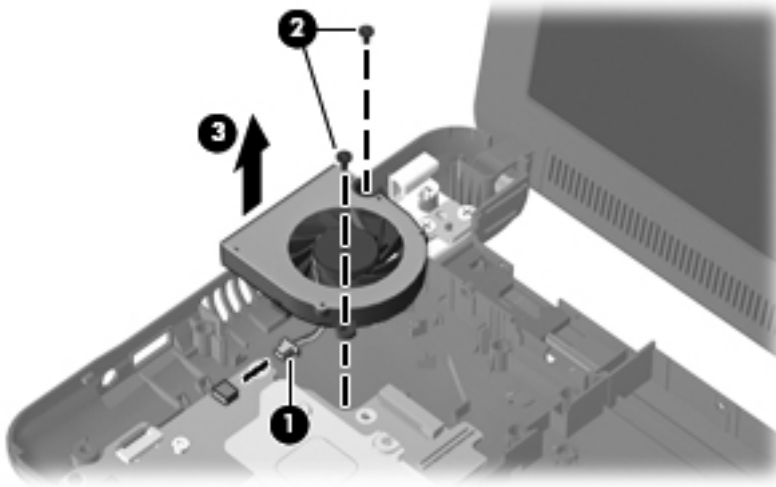
Before removing the fan, follow these steps:

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](#)).
5. If your computer has WWAN capability, remove the SIM (see [SIM on page 36](#)).
6. Remove the following components:
 - a. Keyboard (see [Keyboard on page 39](#))
 - b. Hard drive (see [Mass storage devices on page 43](#))
 - c. Top cover (see [Top cover on page 45](#))

Remove the fan:

1. Disconnect the fan cable **(1)**.
2. Remove the 2 Phillips PM2.5×4.0 screws **(2)** that secure the fan to the base enclosure.

3. Remove the fan (3).



Reverse this procedure to install the fan.

Heat sink assembly


Description	Spare part number
Heat sink assembly (includes replacement thermal material)	537619-001

Before removing the 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 battery (see [Battery on page 35](#)).
5. If your computer has WWAN capability, remove the SIM (see [SIM on page 36](#)).
6. Remove the following components:
 - a. Keyboard (see [Keyboard on page 39](#))
 - b. Hard drive (see [Mass storage devices on page 43](#))
 - c. Top cover (see [Top cover on page 45](#))
 - d. WLAN module (see [WLAN module on page 48](#))
 - e. Fan (see [Fan on page 55](#))

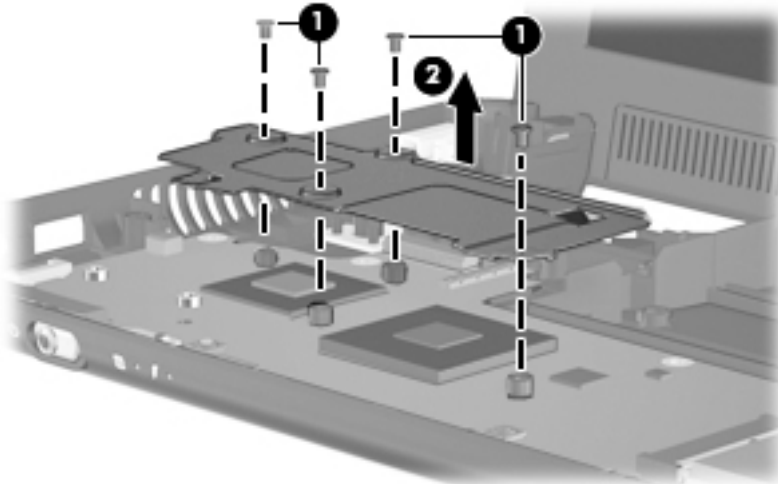
Remove the heat sink assembly:


1. Remove the 4 Phillips PM1.6×2.5 screws **(1)** that secure the heat sink assembly to the system board.

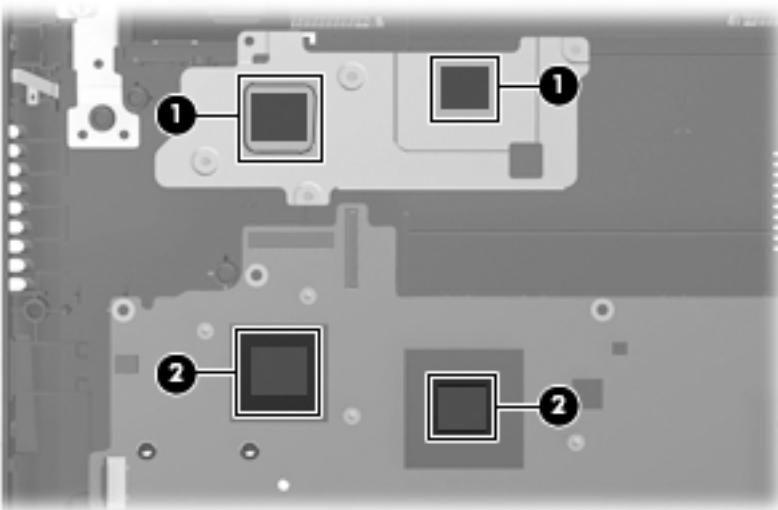
 **NOTE:** The screws are numbered 1 through 4. Follow this order when removing the screws.

2. Remove the heat sink assembly **(2)**.

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



 **NOTE:** The thermal material must be thoroughly cleaned from the surfaces of the heat sink assembly and the system board each time the heat sink assembly is removed. Thermal paste is used on the processor **(1)**, and thermal tape is used on the Northbridge chip **(2)**. Replacement thermal material is included with all heat sink assembly and system board spare part kits.



Reverse this procedure to install the heat sink assembly.

System board

Description	Spare part number
System board (includes processor and replacement thermal material)	
<ul style="list-style-type: none">Intel Atom N270 1.6-GHz processor, 512-KB Level 2 cache, 533-MHz front-side bus (FSB)	594804-001
<ul style="list-style-type: none">Intel Atom N270 1.6-GHz processor, 512-KB Level 2 cache, 533-MHz front-side bus (FSB) for use with WWAN option	599187-001

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 battery (see [Battery on page 35](#)).
5. If your computer has WWAN capability, remove the SIM (see [SIM on page 36](#)).
6. Remove the following components:
 - a. Keyboard (see [Keyboard on page 39](#))
 - b. Hard drive (see [Mass storage devices on page 43](#))
 - c. Top cover (see [Top cover on page 45](#))

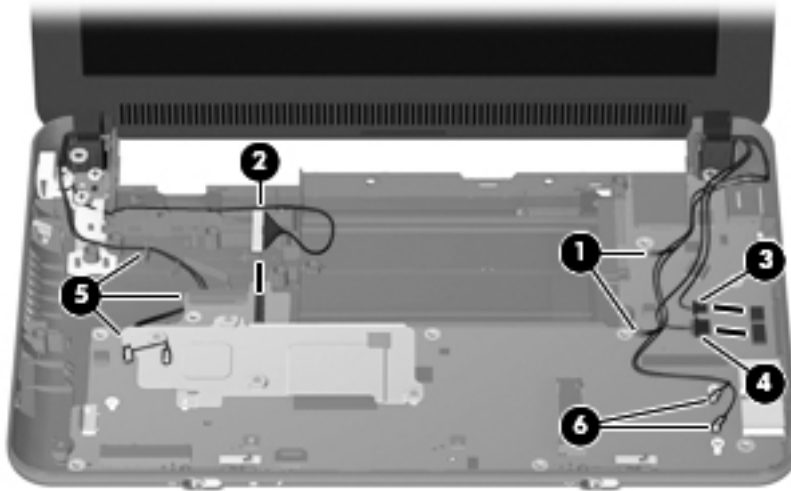
When replacing the system board, be sure that the following components are removed from the defective system board and installed on the replacement system board:

- WLAN module (see [WLAN module on page 48](#))
- WWAN module, if included (see [WWAN module on page 51](#))
- RTC battery (see [RTC battery on page 42](#))
- Heat sink assembly (see [Heat sink assembly on page 57](#))

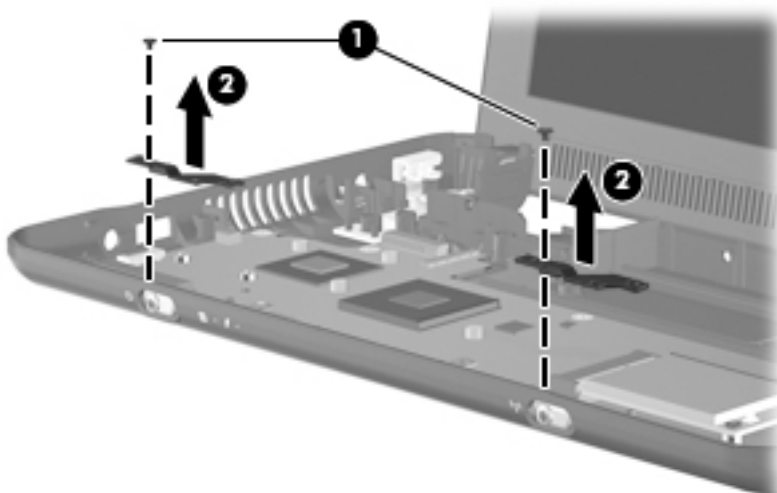
Remove the system board:

1. Release the tape securing the WWAN antennas **(1)**.

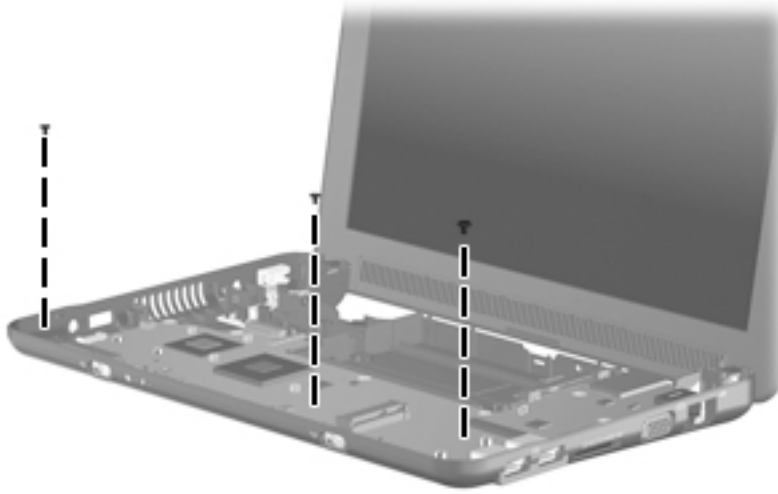
2. Disconnect the following cables from the system board:
 - (2) Display panel cable
 - (3) Microphone cable
 - (4) Speaker cable
 - (5) WLAN cables
 - (6) WWAN cables (select models only)



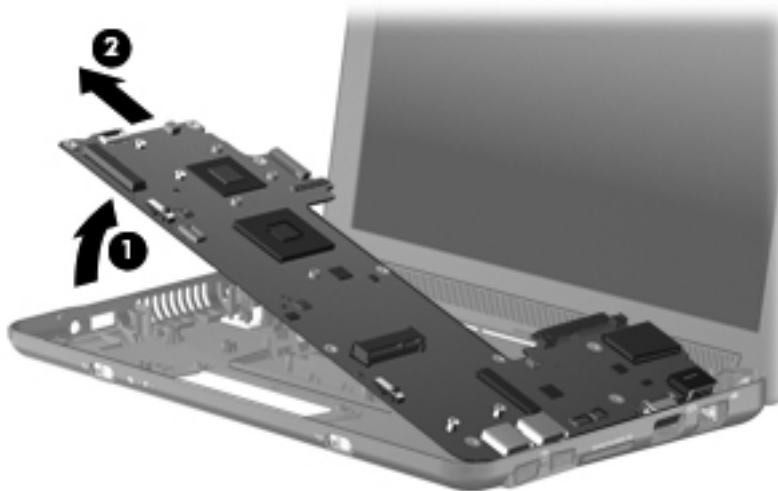
3. Remove the 2 Phillips PM1.6×2.0 screws (1) that secure the actuators for the power switch and wireless on/off switch to the system board.
4. Remove the actuators (2).



5. Remove the 3 Phillips PM2.5×4.0 screws that secure the system board to the base enclosure.




6. Grasp the system board at the midpoint of the left side **(1)**, and lift it up.
7. Pull the system board **(2)** out to the left at an angle to remove it.



8. Remove the system board.

Reverse the procedure to install the system board.

Display assembly

 **NOTE:** Each display assembly spare part kit includes 1 webcam, 1 microphone, 2 speakers, and 2 WLAN antenna assemblies; 2 WWAN antenna assemblies on select models.

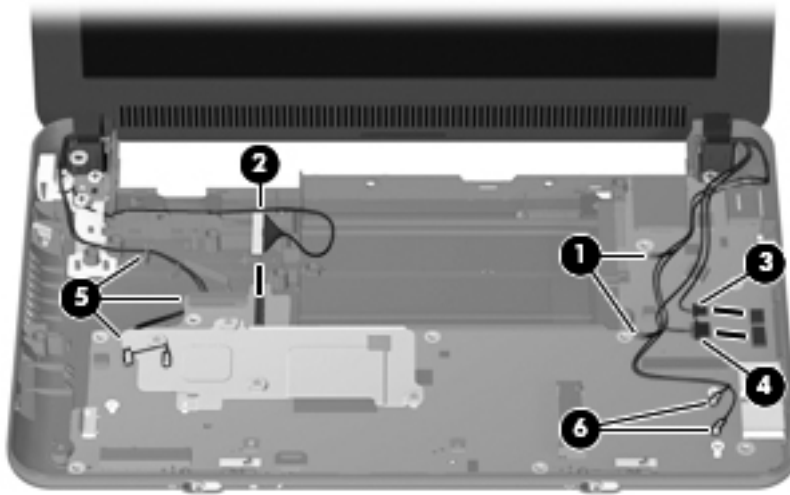
Description	Spare part number
Display, 25.7-cm (10.1-inch), WSVGA, AntiGlare for use with WWAN\	594806-001
Display, 25.7-cm (10.1-inch), WSVGA, AntiGlare	600125-001
Hinge covers	537617-001
Display bezel with logo for use with webcam and microphone	537644-001
Display hinge kit	537658-001
Includes left and right display panel hinges	
Speaker assembly	594811-001
Includes 2 speakers, cable, and housing	
Webcam module	537660-001
Display cable kit	579571-001
Includes display/webcam cable and WLAN antennas	
Microphone assembly (44 dB, 4.9 × 2.2, omnidirectional)	581323-001
WWAN antenna assemblies	538022-001
(Includes cables)	
Display back cover with logos	594808-001
Display screw kit (not illustrated)	538510-001

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 battery (see [Battery on page 35](#)).
5. If your computer has WWAN capability, remove the SIM (see [SIM on page 36](#)).
6. Remove the following components:
 - a. Keyboard (see [Keyboard on page 39](#))
 - b. Hard drive (see [Mass storage devices on page 43](#))
 - c. Top cover (see [Top cover on page 45](#))

Remove the display assembly:

1. Release the tape securing the WWAN antennas **(1)**.
2. Disconnect the following cables from the system board:
 - (2)** Display panel cable
 - (3)** Microphone cable
 - (4)** Speaker cable
 - (5)** WLAN cables
 - (6)** WWAN cables (select models only)

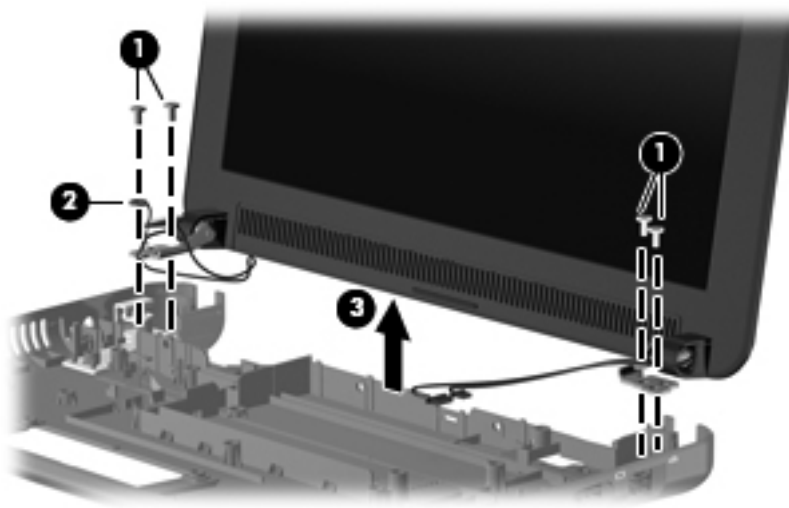


△ **CAUTION:** Support the display assembly when removing the following screws. Failure to support the display assembly can result in damage to the display assembly and other computer components.

3. Remove the 4 Phillips PM2.5×4.0 screws **(1)** that secure the display assembly to the computer.

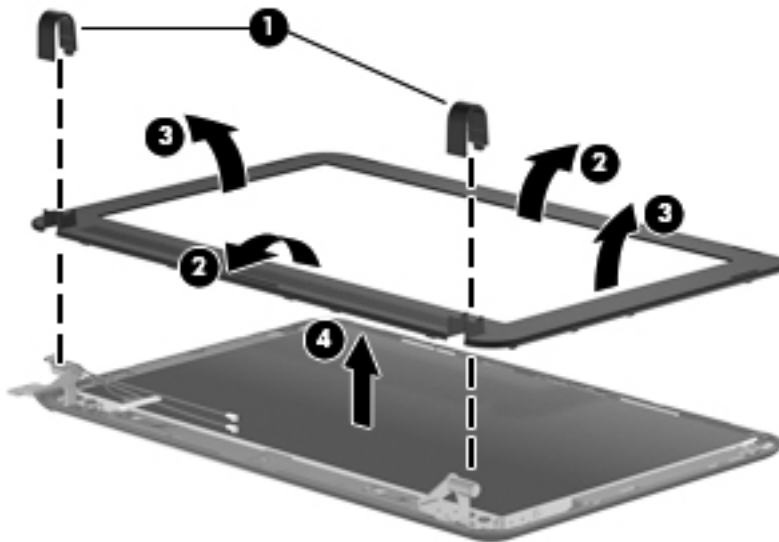
📝 **NOTE:** One screw on the left hinge **(2)** also secures the display panel cable ground strap.

4. Remove the display assembly (3).

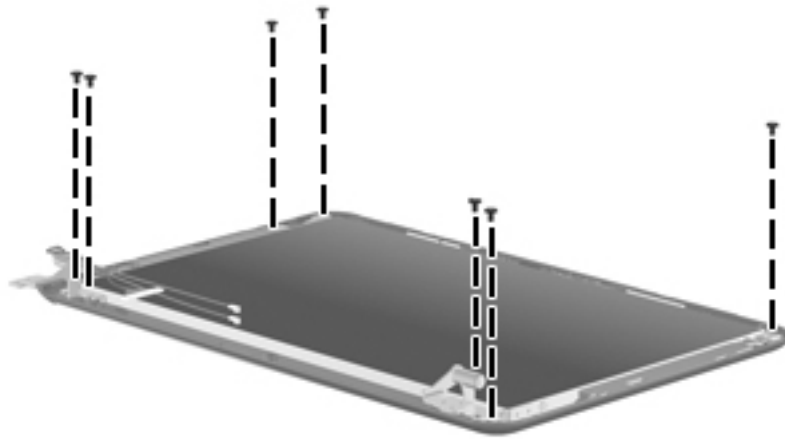


5. If it is necessary to replace the display bezel, perform the following steps:

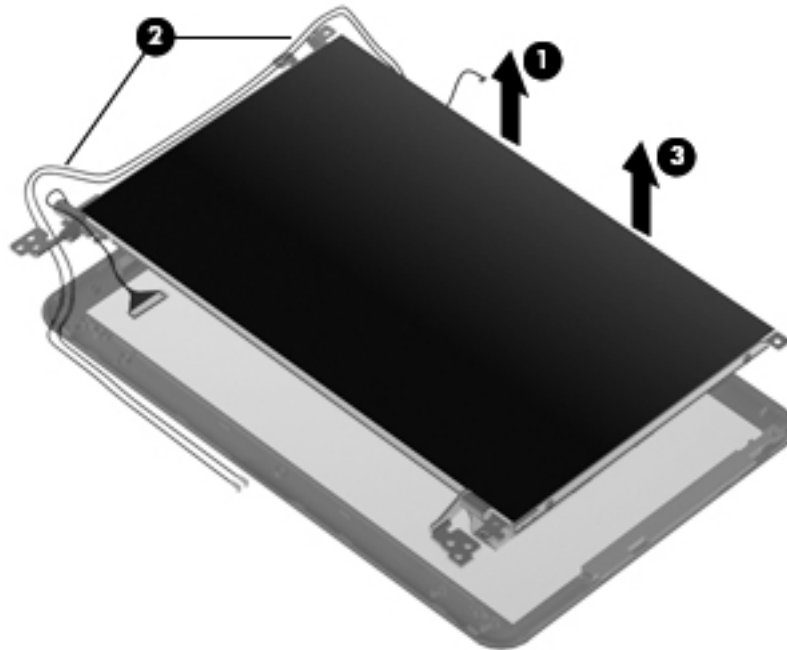
- a. Remove the display hinge covers (1).
- b. Flex the inside edges of the top and bottom (2), and then the left and right sides (3) of the display bezel until the bezel disengages from the display enclosure.
- c. Remove the display bezel (4).



- 6.** If it is necessary to replace the display panel, perform the following steps:
- a.** Remove the 7 Phillips PM2.0×3.0 screws that secure the display panel to the display enclosure.

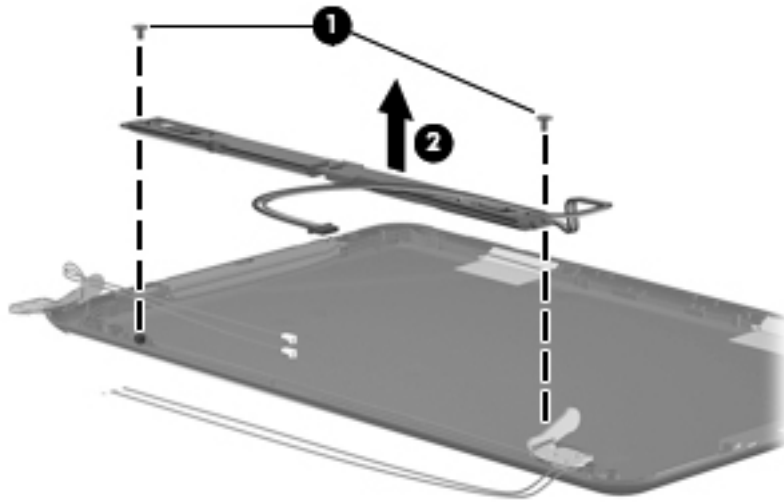


- b.** Lift the display panel up from the display enclosure **(1)**.
- c.** Disconnect the webcam cable **(2)** from the system board **(2)**
- d.** Remove the display panel **(3)** from the display enclosure.



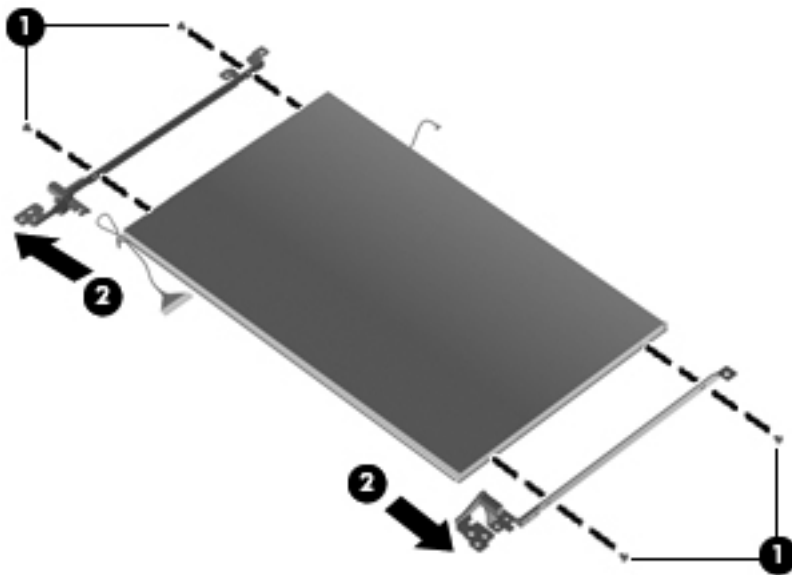
- 7.** If it is necessary to replace the speaker assembly, perform the following steps:
- a.** Remove the two Phillips PM2.0×3.0 screws **(1)** that secure the speaker assembly to the display enclosure.

- b.** Remove the speaker assembly **(2)**.



- 8.** If it is necessary to replace the display hinges, perform the following steps:

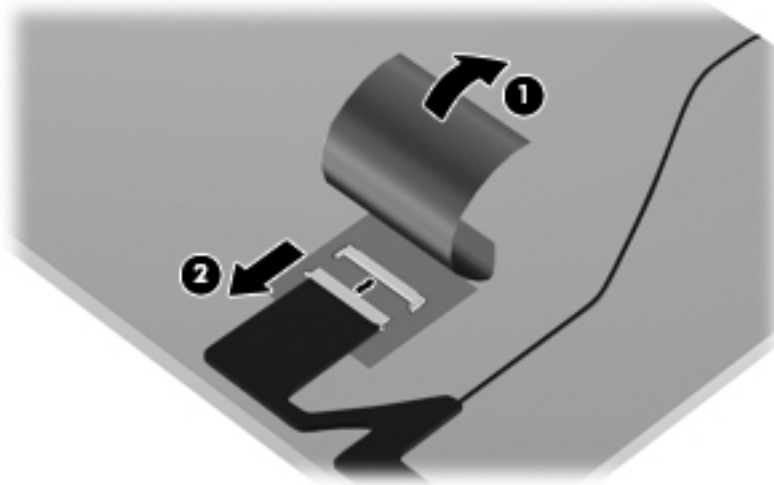
- a.** Remove the 2 Phillips PM2.0×3.0 screws **(1)** that secure each hinge to the display enclosure.
- b.** Remove the hinges **(2)**.



- 9.** If it is necessary to replace the display panel cable, perform the following steps:

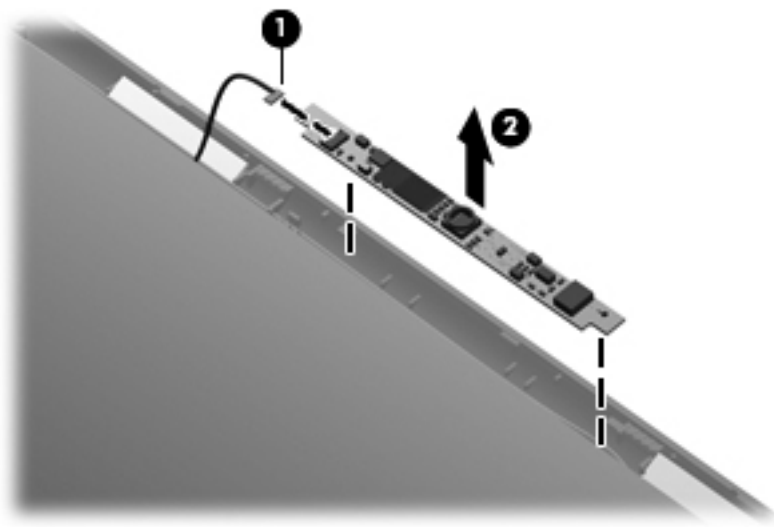
- a.** Peel back the Mylar protection on the back of the display panel **(1)**.

- b.** Disconnect the display panel cable **(2)**.



- 10.** If it is necessary to replace the webcam module, perform the following steps:

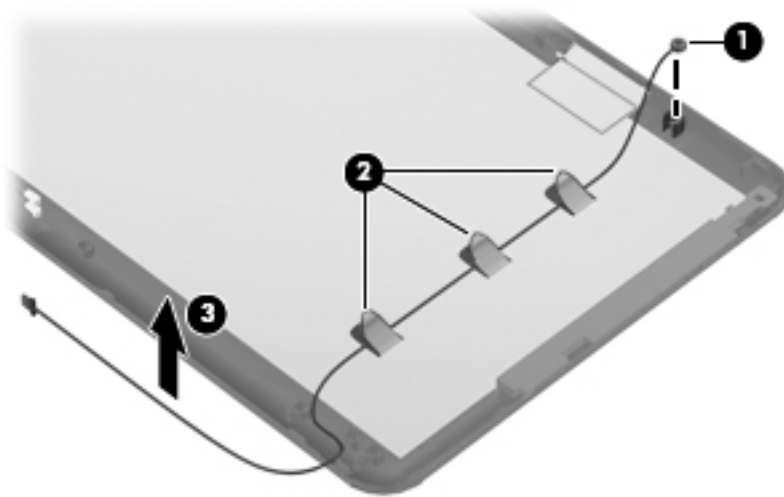
- a.** Disconnect the webcam cable **(1)** from the webcam.
- b.** Remove the webcam **(2)**.



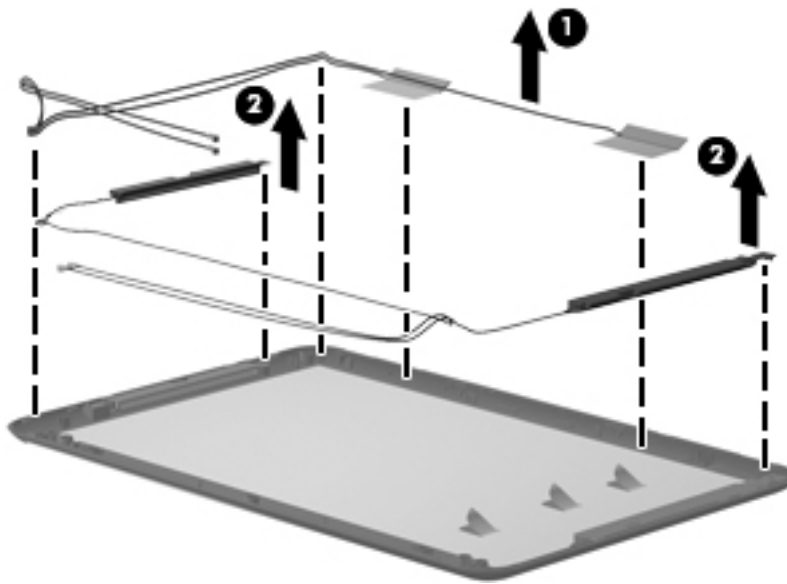
- 11.** If it is necessary to replace the microphone receiver, perform the following steps:

- a.** Release the microphone receiver from the clip **(1)** that secures it to the display enclosure.

- b. Pull the receiver through the tabs **(2)**, and remove the microphone receiver **(3)**.



12. If it is necessary to replace the wireless antenna transceivers and cables, detach the cables from the adhesive **(1)** that secures them to the display enclosure, and then remove the cables **(2)**.



Reverse this procedure to reassemble and install the display assembly.

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 the 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 the Setup Utility is open, press **f1**.

Displaying system information

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

1. Open the 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 the Setup Utility without changing any settings, use the arrow keys to select **Exit > Exit Discarding Changes**, and then press **enter**.

Restoring default settings in the Setup Utility

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

1. Open the 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 the 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 the Setup Utility

You can exit the Setup Utility with or without saving changes.

- To exit the 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 the 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 and loads the operating system.

Setup Utility menus

The menu tables in this section provide an overview of 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	<ul style="list-style-type: none">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	<p>Set the following boot options:</p> <ul style="list-style-type: none"> • f10 and f12 Delay (sec.)—Set the delay for the f10 and f12 functions of the Setup Utility in intervals of 5 seconds each (0, 5, 10, 15, 20). • Internal Network Adapter boot—Enable/disable boot from Internal Network Adapter. • Boot Order—Set the boot order for: <ul style="list-style-type: none"> ◦ Internal hard drive (select models only) ◦ USB Floppy ◦ USB CD/DVD ROM Drive ◦ USB flash drive ◦ USB Hard drive ◦ USB Card Reader ◦ Network adapter <p>NOTE: Only the devices attached to the system will appear in the boot order menu.</p>

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

Computer specifications

	Metric	U.S.
Dimensions		
Depth	16.67 cm	6.56 in
Width	26.17 cm	10.30 in
Height	2.52 cm	0.99 in
Weight		
25.7cm (10.1-in.) LCD, equipped with a 3-cell battery, hard drive, 1-GB memory, WLAN module, and 2 wireless antennas	1.17 kg	2.57 lb
Input power		
Operating voltage	19 V dc @ 1.58 A – 30 W	
Operating current	1.58 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 computer operates well within this range of temperatures.		

(25.7-cm) 10.1-inch, WSVGA, AntiGlare display specifications

Dimensions	Metric	U.S.
Height	12.53 cm	4.93 in
Width	22.27 cm	8.77 in
Diagonal	25.55 cm	10.06 in
Number of colors	262,144	
Contrast ratio	400:1 (typical)	
Brightness	200 nits (typical)	
Pixel resolution		
Pitch	0.2175 × 0.2175 mm	
Format	1024 × 600	
Configuration	RGB vertical stripe	
Backlight	Edge lit	
Character display	80 × 25	
Total power consumption	3.0 W	
Viewing angle	+/-40° horizontal, +20/-40° vertical (typical)	

Hard drive specifications

160-GB*	
Dimensions	
Height	9.5 mm
Width	70 mm
Weight	101 g
Interface type	
SATA	
Transfer rate	
100 MB/sec	
Security	
ATA security	
Seek times (typical read, including setting)	
Single track	3 ms
Average	13 ms
Maximum	24 ms
Logical blocks	
117,210,240	
Disc rotational speed	
5400 rpm	
Operating temperature	
* 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.	

System DMA specifications

Hardware DMA	System function
DMA0	Not applicable
DMA1*	Not applicable
DMA2*	Not applicable
DMA3	Not applicable
DMA4	Direct memory access controller

System interrupt specifications

Hardware IRQ	System function
IRQ0	System timer
IRQ1	Standard 101-/102-Key or Microsoft® Natural PS/2 Keyboard
IRQ8	System CMOS/real-time clock
IRQ9 *	Microsoft ACPI-compliant system
IRQ12	Synaptics PS/2 TouchPad
IRQ13	Numeric data processor
IRQ14	Primary IDE channel
IRQ15	Intel® 82801G (ICH7 Family) SMBus Controller—27DA
IRQ16	Broadcom 802.11b/g WLAN no. 2
	Intel 82801G (ICH7 Family) PCI Express Root Port—27D0
	Intel 82801G (ICH7 Family) USB Universal Host Controller—27CB
	Microsoft UAA Bus Driver for High Definition Audio
	Mobile Intel 945 Express Chipset Family
IRQ17	Intel 82801G (ICH7 Family) PCI Express Root Port—27D2
IRQ18	Intel 82801G (ICH7 Family) USB Universal Host Controller—27CA
IRQ19	Intel 82801G (ICH7 Family) USB Universal Host Controller—27C9
IRQ23	Intel 82801G (ICH7 Family) USB Universal Host Controller—27C8
	Intel 82801G (ICH7 Family) USB2 Enhanced Host Controller—27CC
* Default configuration	

System I/O address specifications

I/O address (hex)	System function (shipping configuration)
000 - 00F	DMA controller
000 - CF7	PCI bus
010 - 01F	Motherboard resources
020 - 021	Programmable interrupt controller
022 - 03F	Motherboard resources
040 - 043	System timer
044 - 05F	Motherboard resources
060 - 060	Standard 101-/102-Key or Microsoft® Natural PS/2 Keyboard
061 - 061	System speaker
062 - 062	Microsoft ACPI-Compliant Embedded Controller
063- 063	Motherboard resources
064 - 064	Standard 101-/102-Key or Microsoft Natural PS/2 Keyboard
065 - 065	Motherboard resources
066 - 066	Microsoft ACPI-Compliant Embedded Controller
067 - 06F	Motherboard resources
070 - 071	System CMOS/real-time clock
072 - 07F	Motherboard resources
080 - 080	Motherboard resources
081 - 083	DMA controller
084 - 086	Motherboard resources
087 - 087	DMA controller
088 - 088	Motherboard resources
089 - 08B	DMA controller
08C - 08E	Motherboard resources
08F - 08F	DMA controller
090 - 09F	Motherboard resources
0A0 - 0A1	Programmable interrupt controller
0A2 - 0BF	Motherboard resources
0C0 - 0DF	DMA controller
0E0 - 0EF	Motherboard resources
0F0 - 0FF	Numeric data processor

I/O address (hex)	System function (shipping configuration)
1F0 - 1F7	Primary IDE channel
274 - 277	ISAPNP Read Data Port
279 - 279	ISAPNP Read Data Port
3B0 - 3BB	Mobile Intel® 945 Express Chipset Family
3C0 - 3DF	Mobile Intel 945 Express Chipset Family
3F6 - 3F6	Primary IDE channel
400 - 41F	Intel 82801G (ICH7 Family) SMBus Controller—27DA
480 - 4BF	Motherboard resources
4D0 - 4D1	Motherboard resources
500 - 501	Motherboard resources
800 - 87F	Motherboard resources
A79 - A79	ISAPNP Read Data Port
0D00 - FFFF	PCI bus
D480 - D49F	Intel 82801G (ICH7 Family) USB Universal Host Controller—27C8
D800 - D81F	Intel 82801G (ICH7 Family) USB Universal Host Controller—27CA
D880 - D89F	Intel 82801G (ICH7 Family) USB Universal Host Controller—27C9
DC00 - DC1F	Intel 82801G (ICH7 Family) USB Universal Host Controller—27C8
DC80 - DC87	Mobile Intel 945 Express Chipset Family
E000 - EFFF	Intel 82801G (ICH7 Family) PCI Express Root Port—27D2
FFA0 - FFAF	Intel 82801G (ICH7 Family) Ultra ATA Storage Controllers—27DF

System memory map specifications

Memory address	System function
00000000 - 0009FFFF	System board
000A0000 - 000BFFFF	Mobile Intel® 945 Express Chipset Family
000A0000 - 000BFFFF	PCI bus
000C0000 - 000CFFFF	System board
000D0000 - 000DFFFF	PCI bus
000E0000 - 000FFFFF	System board
00100000 - 3F7FFFFF	System board
3F800000 - DFFFFFFF	PCI bus
D0000000 - DFFFFFFF	Mobile Intel 945 Express Chipset Family
E0000000 - E3FFFFFF	Motherboard resources
E4000000 - FED8FFFF	PCI bus
FE880000 - FE8FFFFF	Mobile Intel 945 Express Chipset Family
FE937C00 - FE937FFF	Intel 82801G (ICH7 Family) USB2 Enhanced Host Controller—27CC
FE938000 - FE93BFFF	Microsoft® UAA Bus Driver for High Definition Audio
FE940000 - FE97FFFF	Mobile Intel 945 Express Chipset Family
FE980000 - FE9FFFFF	Mobile Intel 945 Express Chipset Family
FEA00000 - FEAFFFFF	Intel 82801G (ICH7 Family) PCI Express Root Port—27D0
FEAFC000 - FEAFFFFF	Broadcom 802.11b/g WLAN
FEB00000 - FEBFFFFF	Intel 82801G (ICH7 Family) PCI Express Root Port—27D2
FEC00000 - FEC00FFF	Motherboard resources
FED13000 - FED19FFF	System board
FED1C000 - FED1FFFF	Motherboard resources
FED20000 - FED3FFFF	Motherboard resources
FED40000 - FED8FFFF	Motherboard resources
FED90000 - FFFFFFFF	System board
FEE00000 - FEE00FFF	Motherboard resources

7 Backup and recovery

Select the section in this chapter that applies to the operating system installed on your computer.

Windows XP backup and recovery

Use the instructions in this section if Windows XP is installed on your computer.

To protect your information, use the Windows® Backup utility (select models only) to back up files and folders or create recovery points. In case of system failure, you can use the backup files to restore your computer.

Windows provides the following options:

- Backing up individual files and folders
- Backing up all files and folders
- Scheduling automatic backups
- Creating recovery points
- Recovering information



NOTE: For detailed instructions, perform a search for these topics in Help and Support.

NOTE: In case of system instability, HP recommends that you print the recovery procedures and save them for later use.

Backing up your information

Recovery after a system failure is as complete as your most current backup. You should create your initial backup 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.

You can back up individual files or folders to an optional external hard drive or to a network drive.

Note the following when backing up:

- Store personal files in the My Documents folder, and back it up periodically.
- Back up templates stored in their associated programs.
- Save customized settings that appear 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.

To copy the screen and paste it into a word-processing document:

a. Display the screen you want to save.

b. Copy the screen image:

To copy only the active window, press **alt+fn+prt sc**.

To copy the entire screen, press **fn+prt sc**.

c. Open a word-processing document, select **Edit > Paste**.

The screen image is added to the document.

d. Save the document.

To create a backup using the Windows Backup utility (select models only), follow these steps:



NOTE: Be sure that the computer is connected to AC power before you start the backup process.

NOTE: The backup process may take over an hour, depending on file size and the speed of the computer.

1. Select **Start > All Programs > Accessories > System Tools > Backup**.
2. Follow the on-screen instructions.

Performing a recovery


In case of system failure or instability, the computer provides the following tools to recover your files:

- Windows recovery tools (select models only): You can use the Windows Backup utility to recover information you have previously backed up.
- *Operating System* and *Driver Recovery* discs (included with your computer): You can use the discs to recover your operating system and programs installed at the factory.

Recovering your information

To recover information you previously backed up, follow these steps:

1. If possible, back up all personal files.
2. Select **Start > All Programs > Accessories > System Tools > Backup**.
The Backup or Restore Wizard opens.
3. Select **Restore files and settings >Next**.
4. Follow the on-screen instructions.

 **NOTE:** For additional information on initiating a recovery in Windows, perform a search for this topic in Help and Support.

Recovering the operating system and programs

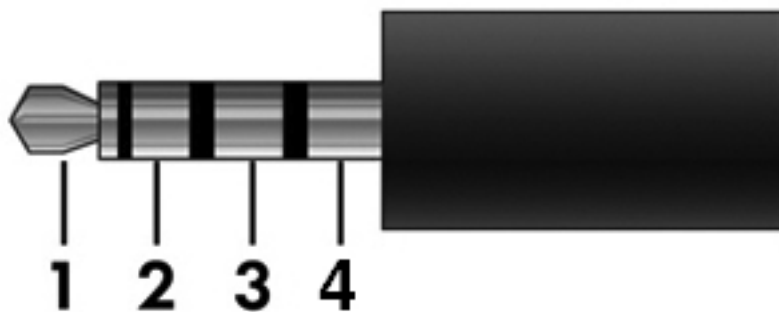
△ **CAUTION:** The recovery process reformats and completely erases the hard drive. All files you have created and any software installed on the computer are permanently removed. The recovery process reinstalls the original operating system, software, and drivers. Software, drivers, and updates not installed by HP must be manually reinstalled.

To recover your operating system and programs, follow these steps:

1. If possible, back up all personal files.
2. Insert the *Operating System* disc into the optical drive.
3. Shut down the computer.
4. Turn on the computer.
5. Follow the on-screen instructions to install the operating system.
6. After the operating system is installed, remove the *Operating System* disc and insert the *Driver Recovery* disc.
7. Follow the on-screen instructions to install the drivers and programs.

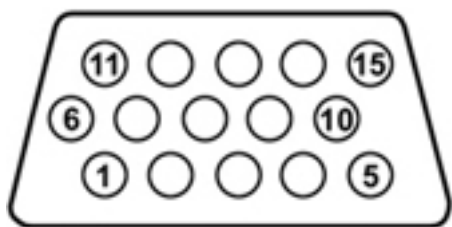
8 Connector pin assignments

Audio-out (headphone)/Audio-in (microphone) jack



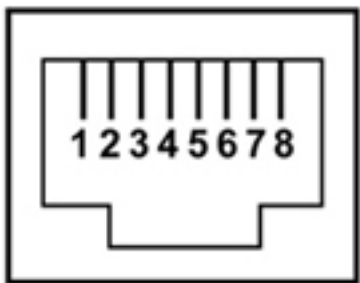
Pin	Signal
1	Left audio signal in
2	Right audio signal in
3	Ground
4	Microphone

External monitor



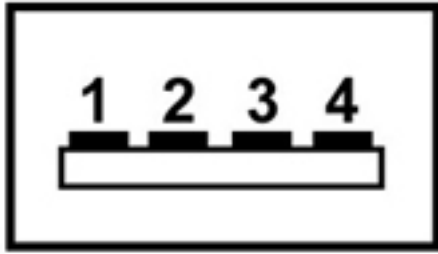
Pin	Signal
1	Red analog
2	Green analog
3	Blue analog
4	Not connected
5	Ground
6	Ground analog
7	Ground analog
8	Ground analog
9	+5 VDC
10	Ground
11	Monitor detect
12	DDC 2B data
13	Horizontal sync
14	Vertical sync
15	DDC 2B clock

RJ-45 (network)



Pin	Signal
1	Transmit +
2	Transmit -
3	Receive +
4	Unused
5	Unused
6	Receive -
7	Unused
8	Unused

Universal Serial Bus



Pin	Signal
1	+5 VDC
2	Data -
3	Data +
4	Ground

9 Power cord set requirements

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

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

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

Requirements for all countries and regions

The requirements listed below 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	CCC	5
South Korea	EK	4
Sweden	SEMKO	1
Switzerland	SEV	1
Taiwan	BSMI	4
The United Kingdom	BSI	1
The United States	UL	2

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

10 Recycling

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.

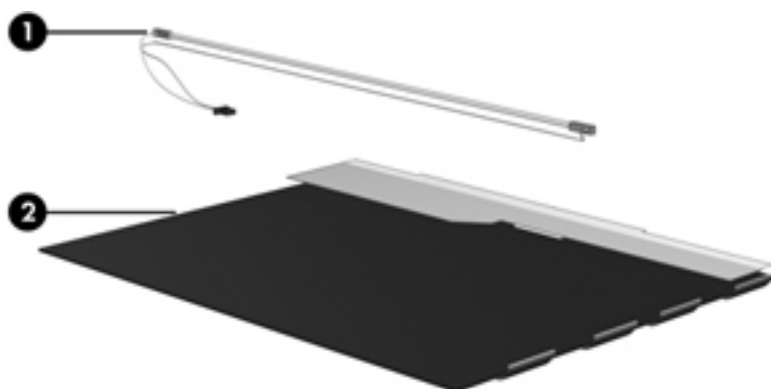
Display

⚠ **WARNING!** The backlight contains mercury. Exercise caution 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.eiae.org>.

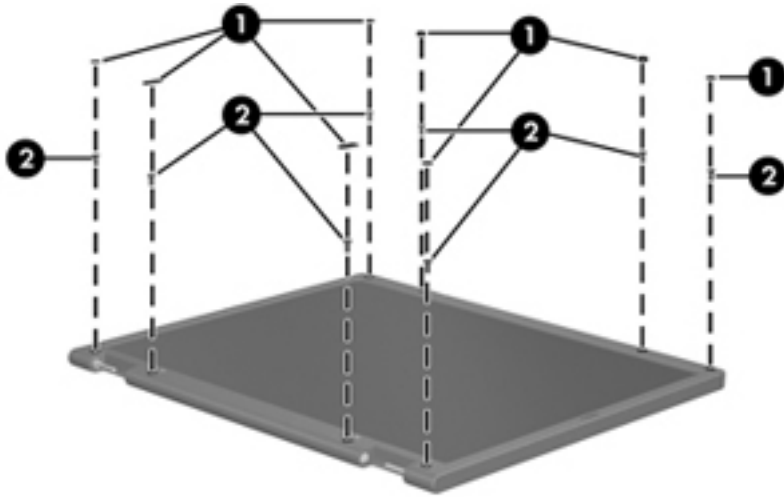
This section provides disassembly instructions for the display assembly. The display assembly must be disassembled to gain access to the backlight **(1)** and the liquid crystal display (LCD) panel **(2)**.



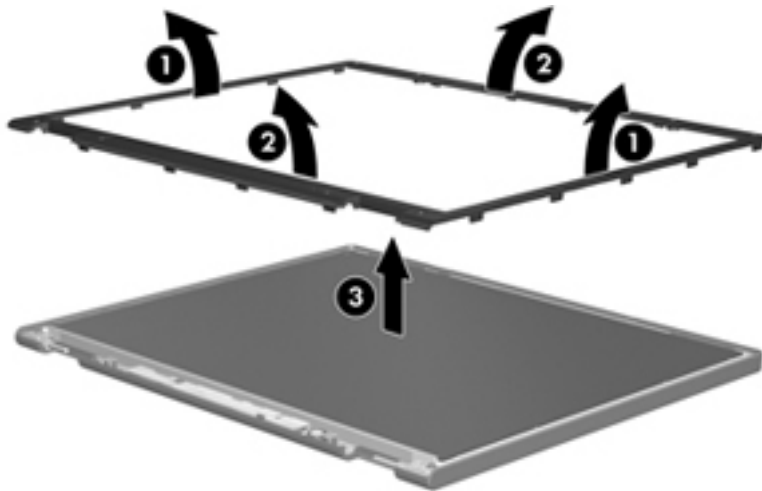
📋 **NOTE:** The procedures provided in this chapter are general disassembly instructions. Specific details, such as screw sizes, quantities, and locations, and component shapes and sizes, can vary from one computer model to another.

Perform the following steps to disassemble the display assembly:

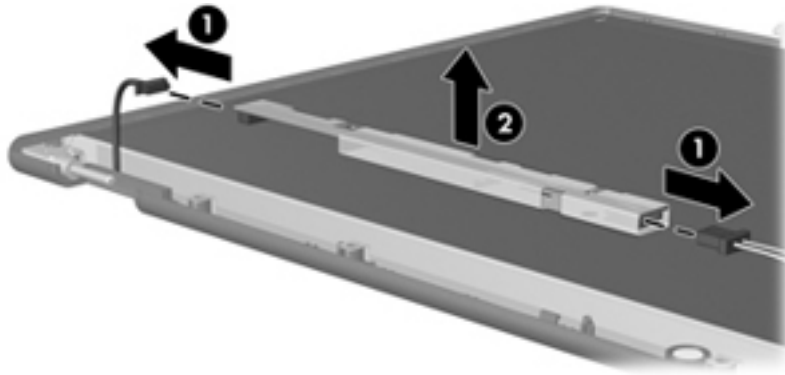
1. Remove all screw covers **(1)** and screws **(2)** that secure the display bezel to the display assembly.



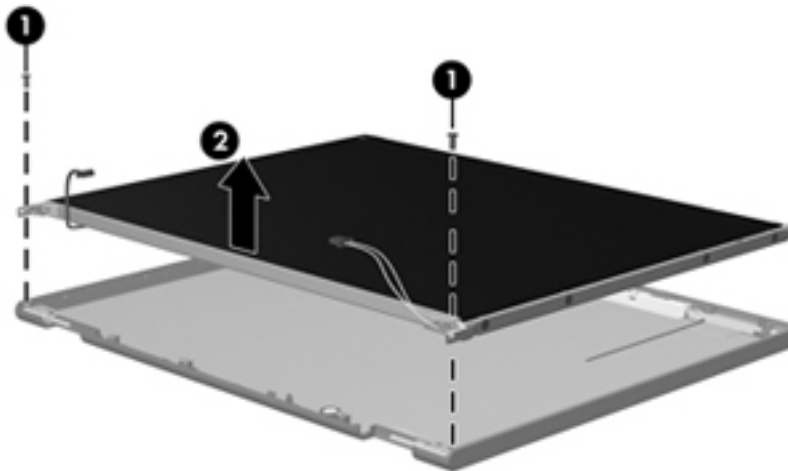
2. Lift up and out on the left and right inside edges **(1)** and the top and bottom inside edges **(2)** of the display bezel until the bezel disengages from the display assembly.
3. Remove the display bezel **(3)**.



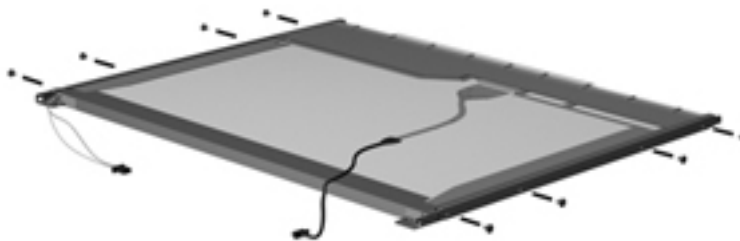
4. Disconnect all display panel cables **(1)** from the display inverter and remove the inverter **(2)**.



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.

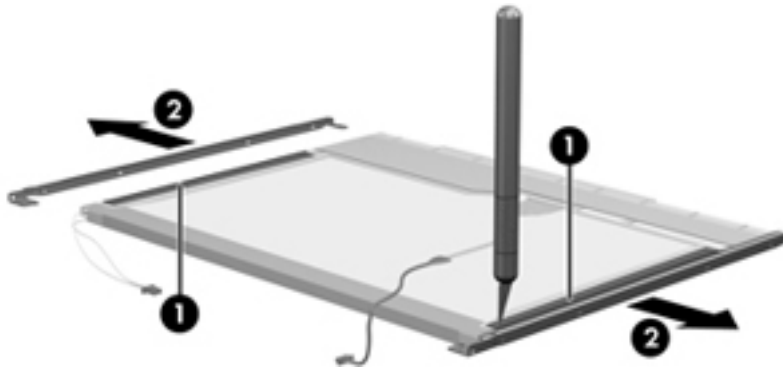


7. Turn the display panel assembly upside down.
8. Remove all screws that secure the display panel frame to the display panel.



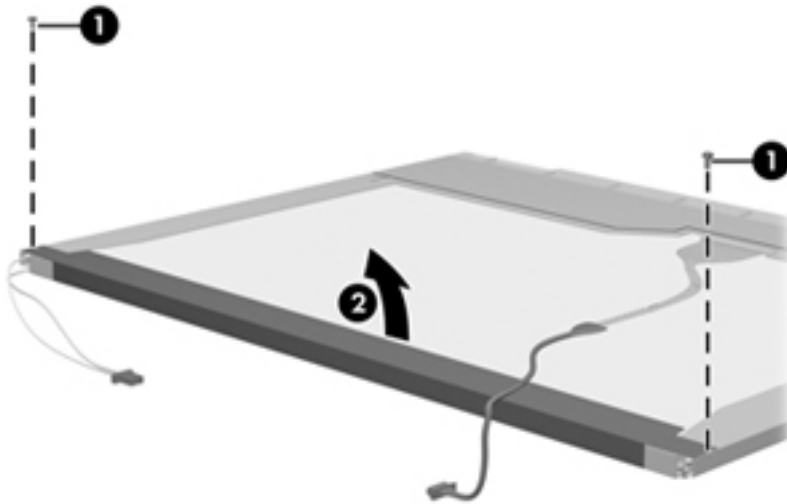
9. Use a sharp-edged tool to cut the tape **(1)** that secures the sides of the display panel to the display panel frame.

- 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.

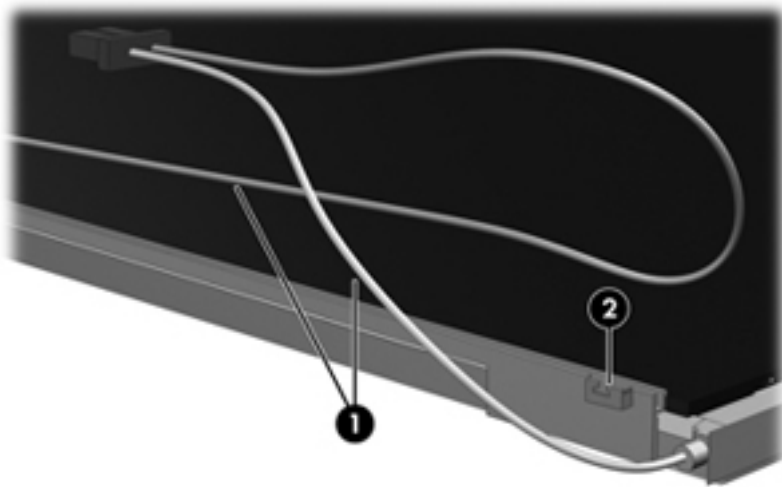
- 12.** Lift the top edge of the backlight cover **(2)** and swing it outward.



- 13.** Remove the backlight cover.

- 14.** Turn the display panel right-side up.

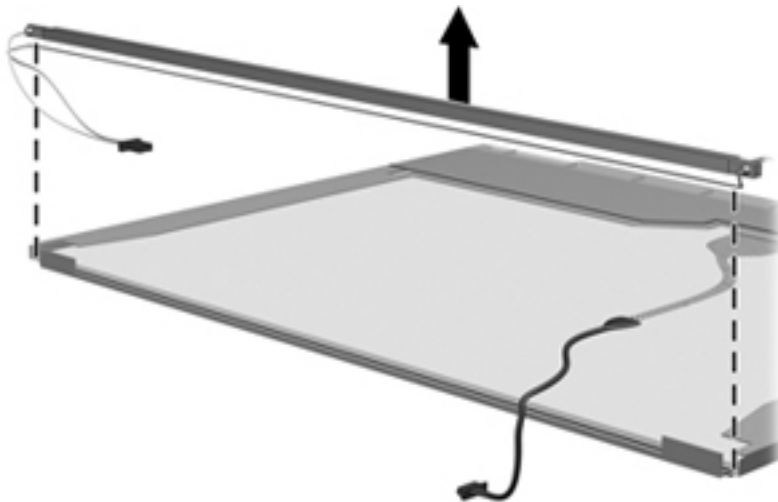
- 15.** Remove the backlight cables **(1)** from the clip **(2)** in the display panel.



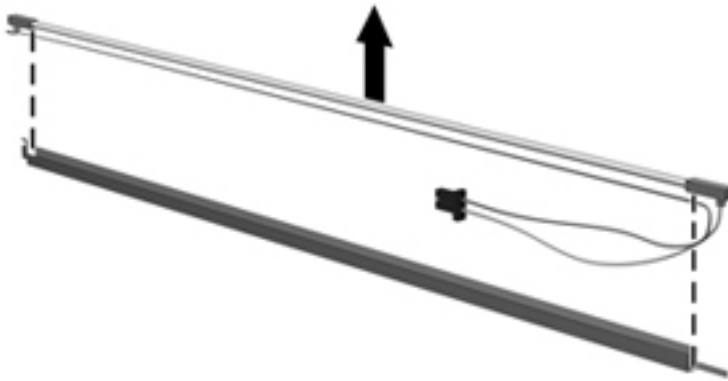
- 16.** Turn the display panel upside down.

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

- 17.** Remove the backlight frame from the display panel.



18. Remove the backlight from the backlight frame.

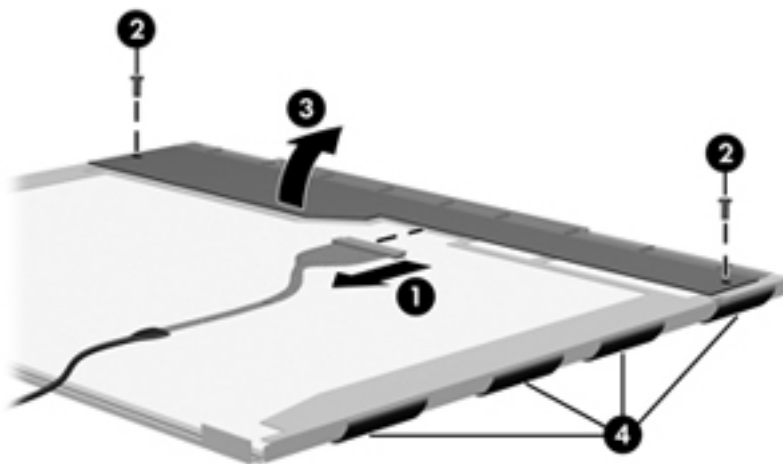


19. Disconnect the display panel cable **(1)** from the LCD panel.

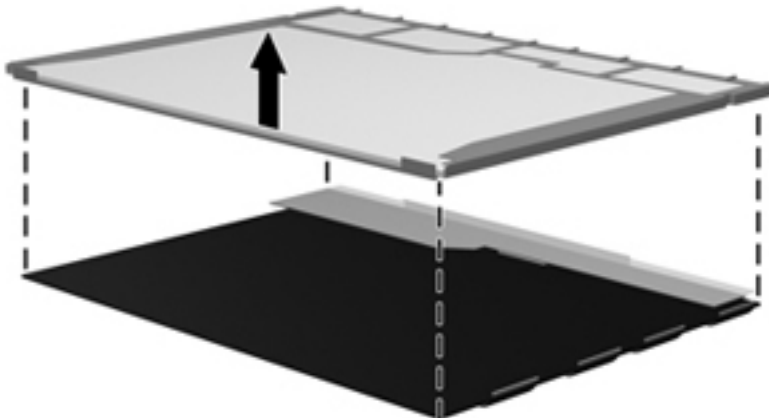
20. Remove the screws **(2)** that secure the LCD panel to the display rear panel.

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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