



HP Mini 2102, HP Mini 210, and Compaq Mini 210

Maintenance and Service Guide

© Copyright 2009 Hewlett-Packard
Development Company, L.P.

Intel is a trademark of Intel Corporation in
the U.S. and other countries. Microsoft,
Windows, and Windows Vista are U.S.
registered trademarks of Microsoft
Corporation.

The information contained herein is subject
to change without notice. The only
warranties for HP products and services are
set forth in the express warranty statements
accompanying such products and services.
Nothing herein should be construed as
constituting an additional warranty. HP shall
not be liable for technical or editorial errors
or omissions contained herein.

First Edition: December 2009

Document Part Number: 595074-001

Safety warning notice

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

Table of contents

1 Product description	1
2 External component identification	5
Identifying the hardware	5
Top components	6
TouchPad	6
Lights	7
Keys	8
Front components	8
Right-side components	9
Left-side components	10
Display components	11
Bottom components	12
Wireless antennas	13
3 Illustrated parts catalog	14
Service tag	14
Computer major components	15
Display assembly components	21
Mass storage devices	23
Miscellaneous parts	24
Sequential part number listing	25
4 Removal and replacement procedures	31
Preliminary replacement requirements	31
Tools required	31
Service considerations	31
Plastic parts	31
Cables and connectors	32
Drive handling	32
Grounding guidelines	33
Electrostatic discharge damage	33
Packaging and transporting guidelines	34

Workstation guidelines	34
Equipment guidelines	35
Component replacement procedures	36
Service tag	36
Computer feet	37
Battery	38
SIM	39
Service cover	40
Hard drive	41
WWAN module	43
WLAN module	45
Memory module	47
RTC battery	48
Keyboard	49
Top cover	52
Speakers	55
TouchPad	56
Display assembly	58
System board	61
Fan/heat sink assembly	63
Power connector cable	65
5 Setup Utility	67
Starting Setup Utility	67
Using Setup Utility	67
Changing the language of Setup Utility	67
Navigating and selecting in Setup Utility	68
Displaying system information	68
Restoring default settings in Setup Utility	68
Exiting Setup Utility	69
Setup Utility Menus	69
Main Menu	69
Security Menu	69
System Configuration Menu	70
Diagnostics Menu	70
6 Backup and recovery (Windows only)	71
Windows 7	71
Backing up and recovering using Roxio BackOnTrack	71
Creating a copy of the hard drive	72
Performing a recovery	72
Using the Disaster Recovery utility	72
Downloading and extracting the Disaster Recovery utility	73

Restoring your hard drive image	73
Using the Instant Restore utility	74
Using the Instant Restore utility when the operating system is functioning	74
Using the Instant Restore utility when the operating system is not functioning	74
Using Windows Backup and Restore	74
Using system restore points	75
When to create restore points	75
Creating a system restore point	75
Restoring to a previous date and time	75
Backing up and recovering using HP Recovery Manager	76
Backing up your information	76
Creating a set of recovery discs	77
Performing a recovery	78
Recovering using the recovery discs	78
Recovering using the partition on the hard drive (select models only)	78
Windows XP	79
Backing up your information	79
Creating a copy of the hard drive	80
Performing a recovery	80
Using the Disaster Recovery Utility	81
Downloading and extracting the Disaster Recovery utility	81
Restoring your hard drive image	81
Using the Instant Restore utility	82
Using the Instant Restore utility when the operating system is functioning	82
Using the Instant Restore utility when the operating system is not functioning	82
7 Connector pin assignments	83
Audio-in (microphone)	83
Audio-out (headphone)	83
External monitor	84
RJ-45 (network)	85
Universal Serial Bus	85
8 Power cord set requirements	86
Requirements for all countries	86
Requirements for specific countries and regions	87
9 Recycling	88
Battery	88
Display	88

1 Product description

Category	Description	HP Mini 2102 and HP Mini 210	Compaq Mini 210
Product Name	HP Mini 2102	√	
	HP Mini 210	√	
	Compaq Mini 210		√
Processor	Intel® Atom™ N450 1.66-GHz processor, 512-KB level 2 cache, 667-MHz front-side bus (FSB)	√	√
Chipset	Intel NM10 Express	√	√
Graphics	Intel Graphics Media Accelerator 3150 universal memory architecture (UMA) graphics subsystem with Broadcom Crystal HD Enhanced Video Accelerator hardware decoder card	√	√
Panels	All display assemblies include 1 webcam, 1 microphone, 1 speaker box, and 2 wireless local-area network (WLAN) antenna transceivers/cables; wireless wide-area network (WWAN) is optional	√	√
	Wide aspect 16:9 ratio panels, typical brightness: 200nits	√	√
	10.1-inch high-definition (HD), AntiGlare, flush glass (1024 × 600) LED	√	√
	10.1-inch standard-definition (SD), WSVGA, AntiGlare (1024 × 600) LED	√	√
Memory	One customer-accessible/upgradable memory module slot	√	√
	PC2-4200, 667-MHz, DDR2	√	√
	Supports the following configurations: <ul style="list-style-type: none"> • 2048-MB total system memory (2048 × 1) <p>NOTE: Supported on computers with Windows® XP and Windows 7.</p> • 1024-MB total system memory (1024 × 1) <p>NOTE: Supported only on computers with Windows 7.</p> 	√	√

Category	Description	HP Mini 2102 and HP Mini 210	Compaq Mini 210
Hard drives	Supports the following 9.5-mm (0.37-in) × 6.35-cm (2.50-inch), parallel SATA, 7200-rpm hard drives:	√	√
	<ul style="list-style-type: none"> 320-GB <p>NOTE: Supported only on computers with Windows 7.</p>		
	<ul style="list-style-type: none"> 250-GB <p>NOTE: Supported only on computers with Windows 7.</p>		
	<ul style="list-style-type: none"> 160-GB <p>NOTE: Supported on computers with Windows 7 and Windows XP.</p>		
Optical drive	Supports external USB optical drives only	√	√
Diskette drive	Supports external USB diskette drives only	√	√
Audio/Visual	HD audio	√	√
	Supports BEATS audio driver	√	√
	Integrated 1.5-w speakers (2)	√	√
	Fixed integrated, digital microphone	√	√
	Fixed Integrated VGA webcam, 640 × 480 resolution, up to 30 frames per second	√	√
Modem	Supports external USB modems only	√	√
Ethernet	Integrated Realtek RTL8703EL 10/100 network interface card (NIC)	√	√
Wireless	Integrated WLAN by way of:	√	√
	<ul style="list-style-type: none"> Atheros 9285G 802.11b/g/n 1×1 WiFi Adapter module Broadcom 4312G 802.11b/g WiFi Adapter module Broadcom 4312G 802.11b/g WiFi and 2070 Bluetooth 2.1+EDR Combo Adapter module 		
	2 WLAN antennas built into display assembly	√	√
	Integrated WWAN by way of HP un2400 Mobile Broadband Module (optional)	√	√

Category	Description	HP Mini 2102 and HP Mini 210	Compaq Mini 210
External media cards	Digital Media Slot (consumer models) or Media Card Reader (commercial models) with push-push technology supporting: <ul style="list-style-type: none"> Memory Stick (MS) MS/Pro MultiMediaCard (MMC) Secure Digital High Capacity (SDHC) Memory Card (standard and large size) xD-Picture 	√	√
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 combo, supporting jack detection	√	√
	RJ-45 (Ethernet, includes link and activity lights)	√	√
	USB (2–3)	√	√
	VGA, supporting up to 1600 x 900 external resolution @ 60Hz, hot plug /unplug, and auto detection for correct output to wide-aspect vs. standard aspect video	√	√
	3-pin AC power	√	√
Keyboard/pointing device	93% island-style keyboard	√	√
	HP Clickpad TouchPad with multi-touch/gesture support	√	√
	No numeric pad supported.		
	TouchPad with 2 TouchPad buttons and 2-way scrolling (taps enabled and some gestures enabled by default)		
	TouchPad on/off button with LED indicator		
Power requirements	40-W UMA AC adapter (non-Smart) with localized cable plug support and stepped plug	√	√
	AC adapter connector on cable	√	√
	1.0-m (3.28-ft) power cord	√	√
	3-cell Lithium-ion(Li-ion) battery (2.55-Ah, 28-Wh)	√	√
	6-cell Lithium-ion(Li-ion) battery (2.80-Ah, 62-Wh)	√	√
Security	Supports Kensington security lock	√	√
Operating system	Windows 7 Home Basic	√	
	Windows 7 Home Premium	√	√
	Windows XP Home SP3, ultra low-cost personal computer (ULCPC) edition	√	√

Category	Description	HP Mini 2102 and HP Mini 210	Compaq Mini 210
	Support for HP QuickWeb	√	√
	FreeDOS	√	
Serviceability	End-user replaceable parts:		
	AC adapter	√	√
	Battery (system)	√	√
	Hard drive	√	√
	Memory module	√	√
	WLAN module	√	√
	WWAN module	√	√

2 External component identification

Identifying the hardware

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

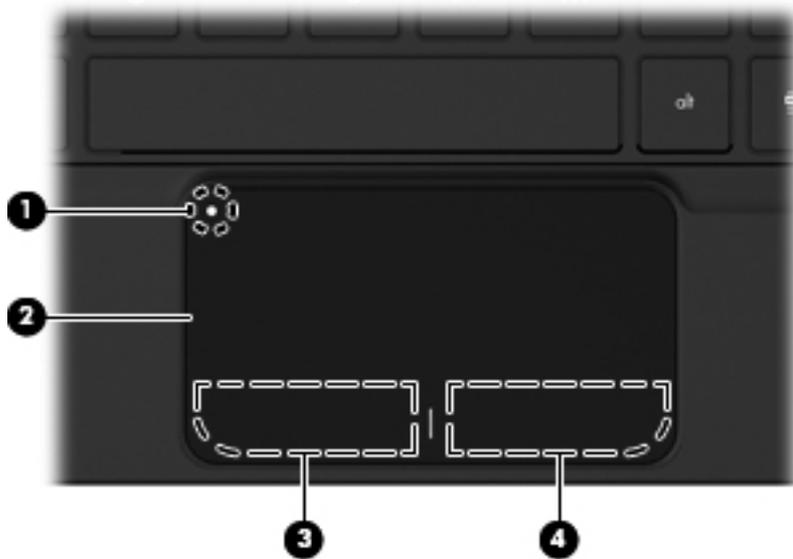
To see a list of hardware installed in the computer, follow these steps:

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

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

Top components

TouchPad



Item	Component	Description
(1)	TouchPad on/off button	Turns the TouchPad on and off. Quickly double-tap the button to turn the TouchPad on and off.
(2)	TouchPad	Moves the pointer and selects or activates items on the screen.
(3)	Left TouchPad button*	Functions like the left button on an external mouse.
(4)	Right TouchPad button*	Functions like the right button on an external mouse.

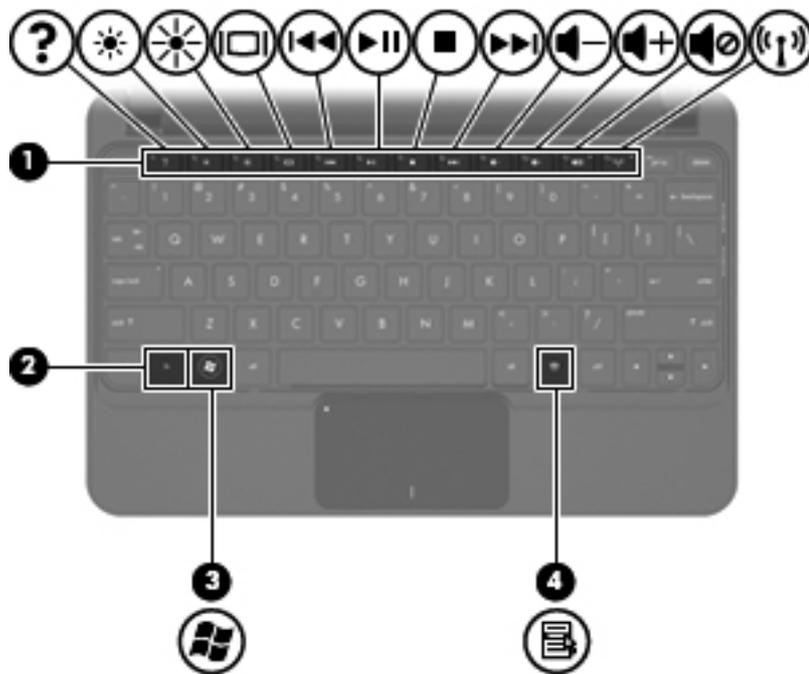
*This table describes factory settings. To view or change pointing device preferences, select **Start > Control Panel > Printers and Other Hardware > Mouse**.

Lights



Item	Component	Description
(1)	TouchPad light	<ul style="list-style-type: none">On: The TouchPad is disabled.Off: The TouchPad is enabled.
(2)	Caps lock light	On: Caps lock is on.
(3)	Mute light	On: Speaker sound is off.
(4)	Wireless light	<ul style="list-style-type: none">White: An integrated wireless device, such as a wireless local area network (WLAN) device and/ or a Bluetooth device, is on. NOTE: Wireless devices are enabled at the factory.Off: All wireless devices are off.

Keys



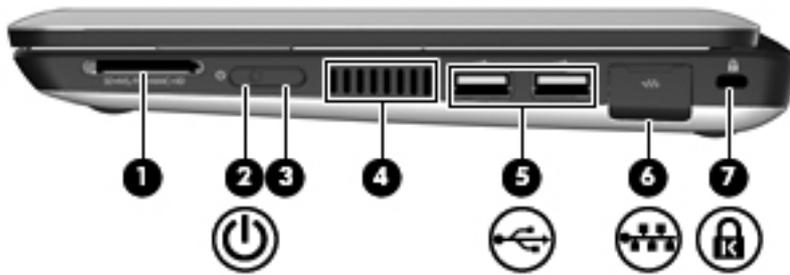
Item	Component	Description
(1)	Action keys	Execute frequently used system functions.
(2)	fn key	Executes frequently used system functions when pressed in combination with a function key or the <code>esc</code> key.
(3)	Windows logo key	Displays the Windows Start menu.
(4)	Windows applications key	Displays a shortcut menu for items beneath the pointer.

Front components



Component	Description
Speakers (2)	Produce sound.

Right-side components

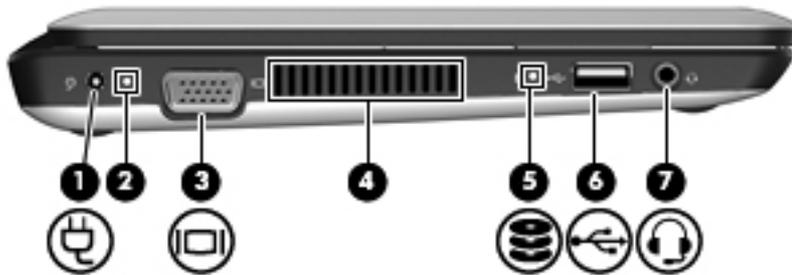


item	Component	Description
(1)	Digital Media Slot	<p>Supports the following optional digital card formats:</p> <ul style="list-style-type: none"> • Memory Stick (MS) • MS/Pro • MultiMediaCard (MMC) • Secure Digital High Capacity (SDHC) Memory Card (standard and large size) • xD-Picture
(2)	Power light	<ul style="list-style-type: none"> • White: The computer is on. • Blinking white: The computer is in the Standby state. • Off: The computer is off or in Hibernation.
(3)	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. If the computer has stopped responding and Windows shutdown procedures are ineffective, slide and hold the power switch for at least 5 seconds to turn off the computer. To learn more about your power settings, select Start > Control Panel > Performance and Maintenance > Power Options.
(4)	Vent	Enables airflow to cool internal components.
(5)	USB ports (2)	<p>Connect optional USB devices.</p> <p>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.</p>

item	Component	Description
(6)	RJ-45 (network) jack and cover	Connects a network cable.
(7)	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.

Left-side components



item	Component	Description
(1)	Power connector	Connects an AC adapter.
(2)	Battery light	<ul style="list-style-type: none"> Off: The computer is running on battery power. Blinking white: The battery has reached a low battery level, a critical battery level, or there is a battery error. When the battery reaches a critical battery level, the battery light begins blinking rapidly. Amber: A battery is charging. White: The computer is connected to external power and the battery is fully charged.
(3)	External monitor port	Connects an optional external display, such as a monitor or projector, to the computer.
(4)	Vent	Enables airflow to cool internal components. NOTE: The computer fan starts up automatically to cool internal components and prevent overheating. It is normal for the internal fan to cycle on and off during routine operation.
(5)	Drive light	<ul style="list-style-type: none"> Blinking: The hard drive is being accessed. Amber (select models only): HP ProtectSmart Hard Drive Protection has temporarily parked the hard drive.

item	Component	Description
(6)	USB port	Connects an optional USB device.
(7)	Audio-out (headphone) jack/Audio-in (microphone) jack	Produces sound when connected to optional powered stereo speakers, headphones, earbuds, a headset, or television audio. Also connects an optional headset microphone.

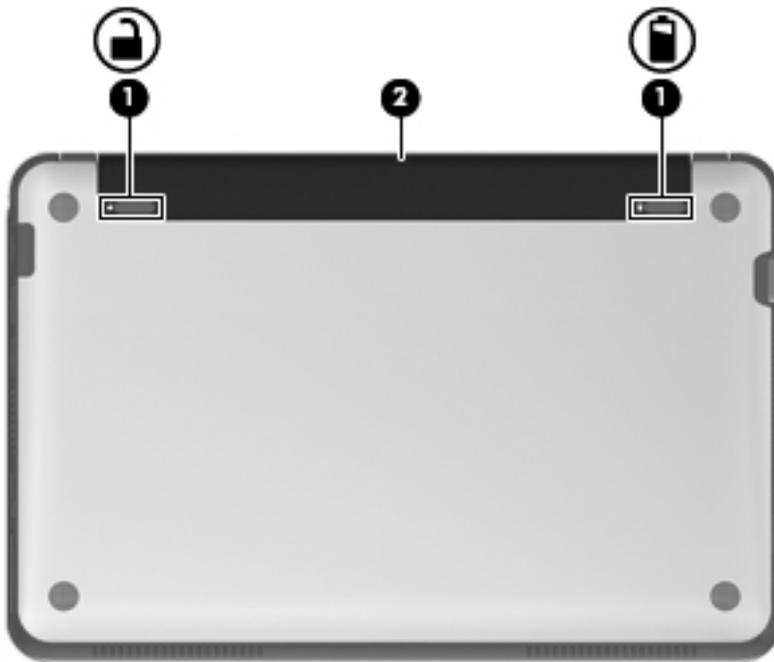
NOTE: When an audio component is connected to the jack, the computer speakers are disabled. The audio component cable must have a 4-conductor connector.

Display components



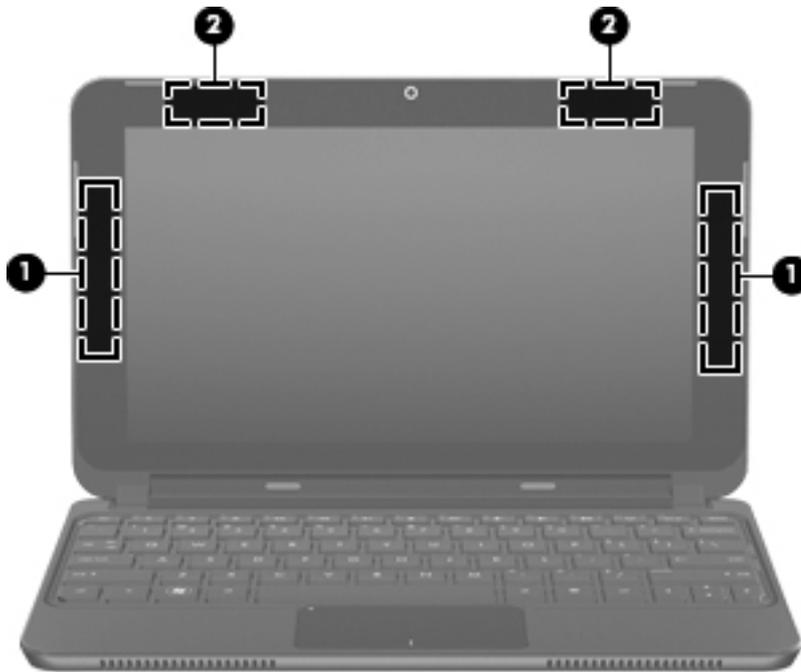
item	Component	Description
(1)	Internal display switch	Initiates Standby if the display is closed while the power is on. NOTE: The display switch is not visible from the outside of the computer.
(2)	Webcam light	On: The webcam is in use.
(3)	Webcam	Records video and captures still photographs. NOTE: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

Bottom components



item	Component	Description
(1)	Battery release latches (2)	Release the battery from the battery bay.
(2)	Battery bay	Holds the battery.

Wireless antennas



item	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, select **Start > Help and Support > User Guides**.

3 Illustrated parts catalog

Service tag

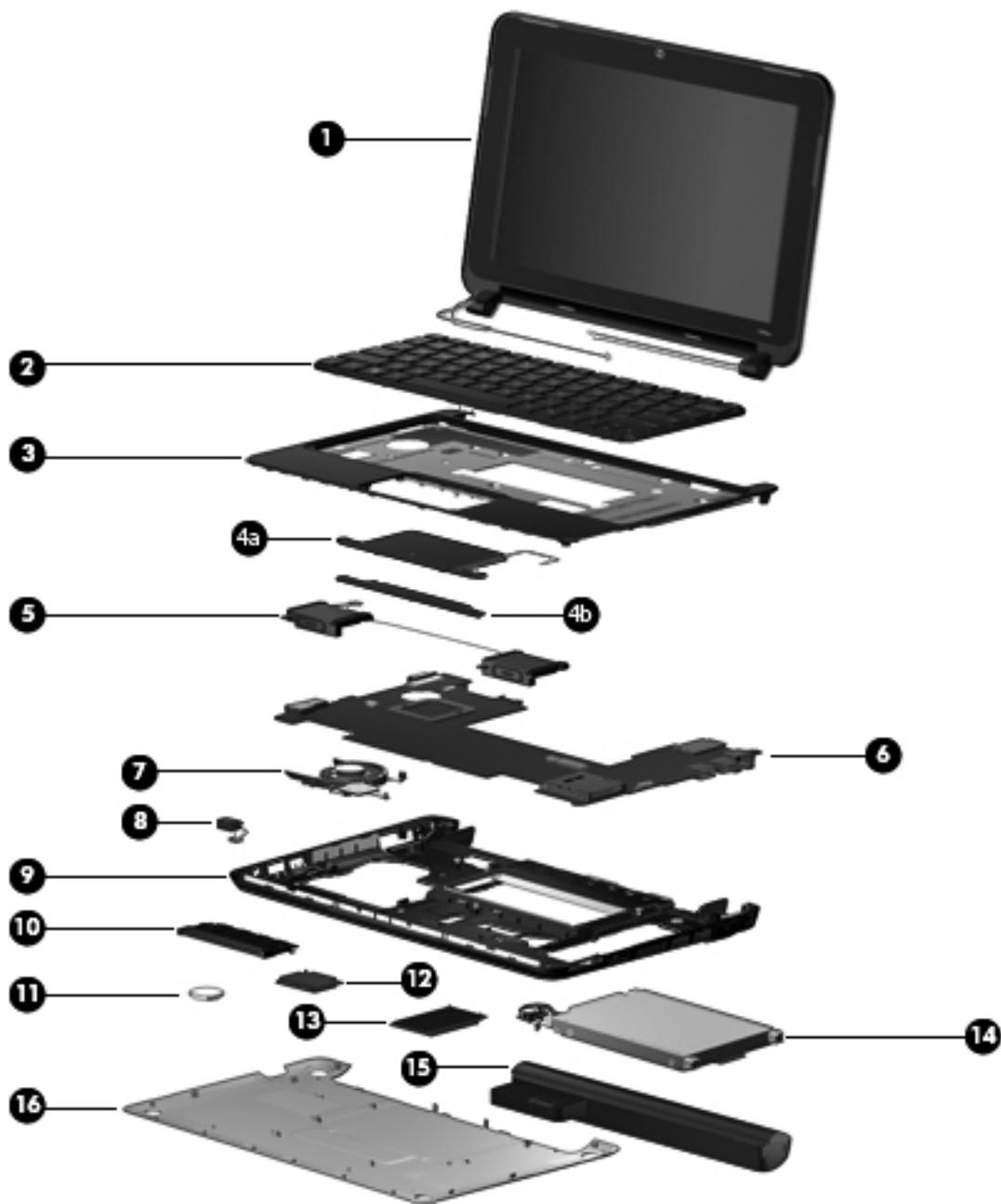
When ordering parts or requesting information, provide the computer serial number and model description provided on the service tag:

 **NOTE:** The computer battery must be removed to access the service tag.

- (1) Product name: This is the product name affixed to the front of the device.
- (2) Serial number (s/n): This is an alphanumeric identifier that is unique to each product.
- (3) Model description: This is the alphanumeric identifier used to locate documents, drivers, and support for the device.
- (4) Warranty period: This number describes the duration of the warranty period for the device.
- (5) 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.



Computer major components



Item	Description	Spare part number
(1)	10.1-in display assembly (includes display panel cable, 2 WLAN transceivers and cables, 2 WWAN transceivers and cables, and webcam/microphone module and cable):	
	For use only with HP 2102 and Mini 210 computer models:	
	<ul style="list-style-type: none"> • HD, AntiGlare, flush glass display assembly in black 	589648-001
	<ul style="list-style-type: none"> • HD, AntiGlare, flush glass display assembly in blue 	589646-001
	<ul style="list-style-type: none"> • HD, AntiGlare, flush glass display assembly in red 	589644-001

Item	Description	Spare part number
	• HD, AntiGlare, flush glass display assembly in silver	589642-001
	• HD, AntiGlare, standard display assembly in black	589650-001
	• WSVGA, AntiGlare, flush glass display assembly in black	589647-001
	• WSVGA, AntiGlare, flush glass display assembly in blue	589645-001
	• WSVGA, AntiGlare, flush glass display assembly in red	589643-001
	• WSVGA, AntiGlare, flush glass display assembly in silver	589641-001
	• WSVGA, AntiGlare, standard display assembly in black	589649-001
	• WSVGA, AntiGlare, standard display assembly in silver	589651-001
	10.1-in, WSVGA, AntiGlare, standard display assembly in black for use only with Compaq Mini 210 computer models	589640-001
(2)	Keyboard (includes cable)	
	With painted surface:	
	• For use in Belgium	590527-A41
	• For use in Brazil	590527-201
	• For use in the Czech Republic	590527-221
	• For use in Denmark, Finland, and Norway	590527-DH1
	• For use in France	590527-051
	• For use in French Canada	590527-121
	• For use in Germany	590527-041
	• For use in Greece	590527-DJ1
	• For use in Hungary	590527-211
	• For use in Israel	590527-BB1
	• For use in Italy	590527-061
	• For use in Japan	590527-291
	• For use in Latin America	590527-161
	• For use in the Netherlands	590527-B31
	• For use in Portugal	590527-131
	• For use in Russia	590527-251
	• For use in Saudi Arabia	590527-171
	• For use in Slovenia	590527-BA1
	• For use in South Korea	590527-AD1
	• For use in Spain	590527-071
	• For use in Switzerland	590527-BG1
	• For use in Taiwan	590527-AB1

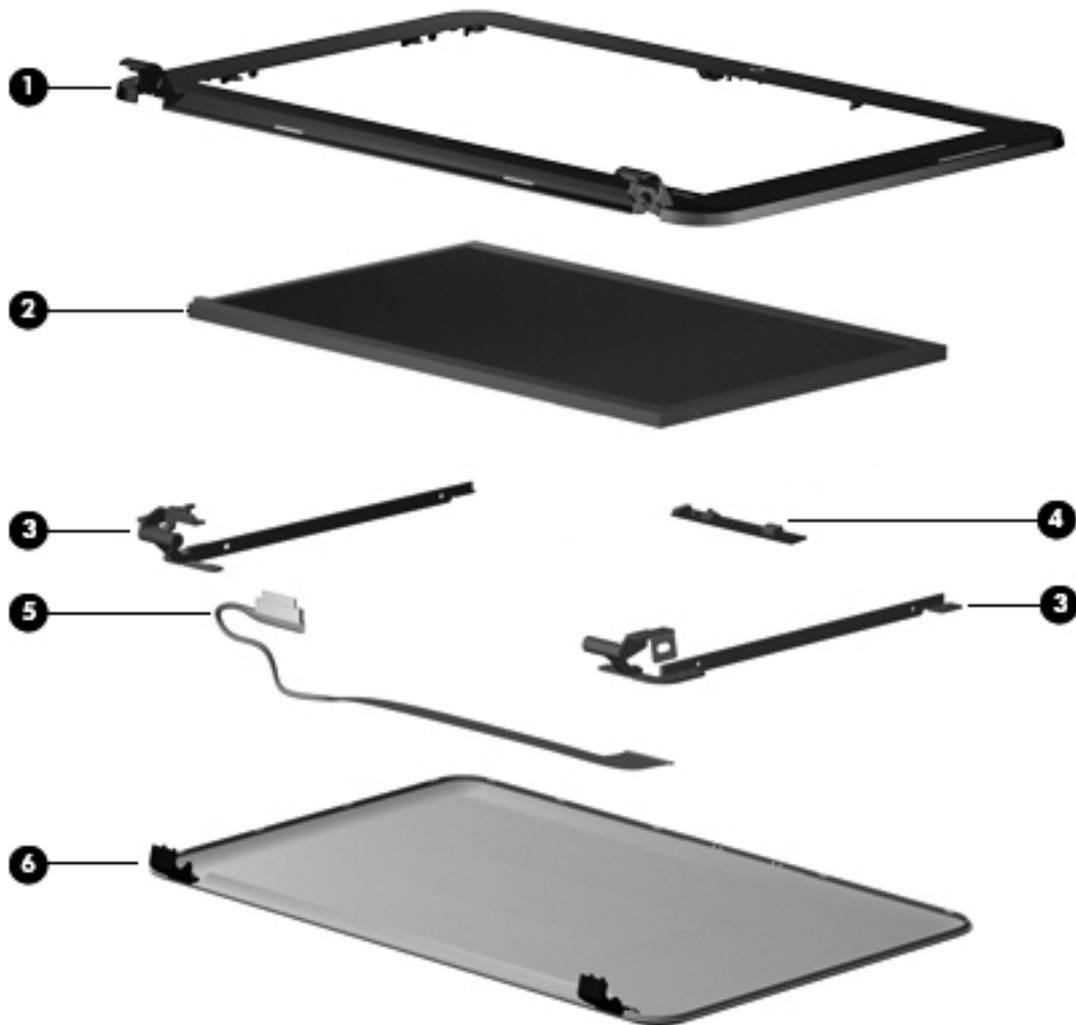
Item	Description	Spare part number
	• For use in Thailand	590527-281
	• For use in Turkey	590527-141
	• For use in the United Kingdom	590527-031
	• For use in the United States	590527-001
	With textured surface:	
	• For use in Belgium	590526-A41
	• For use in Brazil	590526-201
	• For use in the Czech Republic	590526-221
	• For use in Denmark, Finland, and Norway	590526-DH1
	• For use in France	590526-051
	• For use in French Canada	590526-121
	• For use in Germany	590526-041
	• For use in Greece	590526-DJ1
	• For use in Hungary	590526-211
	• For use in Israel	590526-BB1
	• For use in Italy	590526-061
	• For use in Japan	590526-291
	• For use in Latin America	590526-161
	• For use in the Netherlands	590526-B31
	• For use in Portugal	590526-131
	• For use in Russia	590526-251
	• For use in Saudi Arabia	590526-171
	• For use in Slovenia	590526-BA1
	• For use in South Korea	590526-AD1
	• For use in Spain	590526-071
	• For use in Switzerland	590526-BG1
	• For use in Taiwan	590526-AB1
	• For use in Thailand	590526-281
	• For use in Turkey	590526-141
	• For use in the United Kingdom	590526-031
	• For use in the United States	590526-001
(3)	Top cover:	
	In black	589676-001
	In blue	589688-001

Item	Description	Spare part number
	In red	589687-001
	In silver	589686-001
(4)	TouchPad (includes cable and bracket (4b)):	
	For use only with black top cover	589677-001
	For use only with blue top cover	589685-001
	For use only with red top cover	589684-001
	For use only with silver top cover	589683-001
(5)	Speakers (includes cable)	596153-001
(6)	System board (includes Intel Atom N450 1.66-GHz processor with 512-KB level 2 cache, 667-MHz FSB and replacement thermal material):	
	Includes Digital Media Card Reader	589638-001
	Does not include Digital Media Card Reader	589639-001
(7)	Fan/heat sink assembly (includes replacement thermal material)	589681-001
(8)	Power connector cable	589682-001
(9)	Base enclosure (includes 4 rubber feet and power connector bracket)	589678-001
	Rubber Kit (not illustrated, includes 4 rubber feet and RJ-45 cover)	589680-001
(10)	Memory module (667-MHz, DDR2):	
	2048-MB	589666-001
	1024-MB	589665-001
(11)	RTC battery	449729-001
(12)	WLAN module	
	Atheros 9285G 802.11b/g/n 1×1 WiFi Adapter module:	
	<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

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, the People's Republic of China, 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, 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 module:		
	<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, the People's Republic of China, 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, 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

Item	Description	Spare part number
	Broadcom 4312G 802.11b/g WiFi and 2070 Bluetooth 2.1+EDR Combo Adapter	575920-001
(13)	HP un2400 Mobile Broadband WWAN module	531993-001
(14)	Hard drive (includes cable adapter, 4 rubber isolators, and hard drive bracket)	
	Hard drive:	
	• 320-GB, 7200-rpm	590819-001
	• 250-GB, 7200-rpm	589670-001
	• 160-GB, 7200-rpm	589667-001
	Hard Drive Hardware Kit (not illustrated, includes cable adapter, 4 rubber isolators, and hard drive bracket)	589673-001
(15)	Battery	
	6-cell, 62-WHr (includes 2 release latches and 2 rubber feet)	590544-001
	3-cell, 28-WHr (includes 2 release latches)	590543-001
(16)	Service cover	589679-001

Display assembly components



 **NOTE:** Display assembly subcomponents are available only for standard display assemblies. Flush glass display assemblies are available only as hinge-up assemblies.

Item	Description	Spare part number
(1)	Display bezel (includes WLAN antenna transceivers and cables and WWAN antenna transceivers and cables):	
	For use only with HP Mini 2102 and 210 computer models	589656-001
	For use only with Compaq Mini 210 computer models	589655-001
(2)	Display panel:	
	10.1-in, HD, AntiGlare display panel	589653-001
	10.1-in, WSVGA, AntiGlare display panel	589652-001
(3)	Display Hinge Kit (includes left and right display hinges)	589657-001
(4)	Webcam/microphone module	589654-001
(5)	Display panel cable (includes webcam/microphone module cable)	589664-001

Item	Description	Spare part number
(6)	Display enclosure (includes WLAN antenna transceivers and cables and WWAN antenna transceivers and cables):	
	For use only with HP computer models in black	589661-001
	For use only with HP computer models in blue	589660-001
	For use only with HP computer models in red	589659-001
	For use only with HP computer models in silver	589658-001
	For use only with Compaq computer models	589662-001
	Display Screw Kit (not illustrated)	589663-001

Mass storage devices



 **NOTE:** Each hard drive spare part kit includes a cable adapter, bracket, and 4 isolators.

Item	Description	Spare part number
(1)	Hard drive:	
	320-GB, 7200-RPM	590819-001
	250-GB, 7200-RPM	589670-001
	160-GB, 7200-RPM	589667-001
	Hard Drive Hardware Kit (not illustrated)	589673-001
(3)	External optical drive:	
	Blu-ray ROM DVD±R/RW SuperMulti Double-Layer Drive with LightScribe	584384-001
	DVD±RW and CD-RW SuperMulti Double-Layer Combo Drive with LightScribe	584383-001

Miscellaneous parts

Description	Spare part number
40-W UMA AC adapter	584540-001
Power cord:	
For use in Argentina	490371-D01
For use in Australia	490371-011
For use in Brazil	490371-201
For use in Denmark	490371-081
For use in Europe	490371-021
For use in Israel	490371-BB1
For use in Italy	490371-061
For use in Japan	490371-291
For use in Norway	490371-091
For use in the People's Republic of China	490371-AA1
For use in Singapore and the United Kingdom	490371-031
For use in South Africa	490371-AR1
For use in South Korea	490371-AD1
For use in Switzerland	490371-111
For use in Taiwan	490371-AB1
Rubber Kit (includes 4 rubber feet and RJ-45 cover)	589680-001
Screw Kit	606695-001

Sequential part number listing

Spare part number	Description
449729-001	RTC battery
490371-001	Power cord for use in North America
490371-011	Power cord for use in Australia
490371-021	Power cord for use in Europe, the Middle East, and Africa
490371-031	Power cord for use in Singapore and the United Kingdom
490371-061	Power cord for use in Italy
490371-081	Power cord for use in Denmark
490371-111	Power cord for use in Switzerland
490371-201	Power cord for use in Brazil
490371-291	Power cord for use in Japan
490371-AA1	Power cord for use in the People's Republic of China
490371-AB1	Power cord for use in Taiwan
490371-AD1	Power cord for use in South Korea
490371-AR1	Power cord for use in South Africa
490371-BB1	Power cord for use in Israel
490371-D01	Power cord for use in Argentina
490371-D61	Power cord for use in India
504593-003	Broadcom 4312G 802.11b/g WiFi Adapter module for use in Canada, the Cayman Islands, Guam, Puerto Rico, the U.S. Virgin Islands, and the United States
504593-004	Broadcom 4312G 802.11b/g WiFi Adapter module 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, the People's Republic of China, 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, 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

Spare part number	Description
518436-001	Atheros 9285G 802.11b/g/n 1×1 WiFi Adapter module 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 1×1 WiFi Adapter module 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, the People's Republic of China, 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, 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	HP un2400 Mobile Broadband WWAN module
575920-001	Broadcom 4312G 802.11b/g WiFi and 2070 Bluetooth 2.1+EDR Combo Adapter
584383-001	DVD±RW and CD-RW SuperMulti Double-Layer Combo Drive with LightScribe
584384-001	Blu-ray ROM DVD±R/RW SuperMulti Double-Layer Drive with LightScribe
584540-001	40-W AC adapter
589638-001	System board with Digital Media Card Reader (includes Intel Atom N450 1.66-GHz processor with 512-KB level 2 cache, 667-MHz FSB and replacement thermal material):
589639-001	System board without Digital Media Card Reader (includes Intel Atom N450 1.66-GHz processor with 512-KB level 2 cache, 667-MHz FSB and replacement thermal material):
589640-001	10.1-in WSVGA, AntiGlare, standard display assembly in silver for use only with Compaq Mini 210 computer models (includes display panel cable, 2 WLAN transceivers and cables, 2 WWAN transceivers and cables, and webcam/microphone module and cable)
589641-001	10.1-in WSVGA, AntiGlare, flush glass display assembly in silver for use only with HP Mini 2102 and 210 computer models (includes display panel cable, 2 WLAN transceivers and cables, 2 WWAN transceivers and cables, and webcam/microphone module and cable)
589642-001	10.1-in HD, AntiGlare, flush glass display assembly in silver for use only with HP Mini 2102 and 210 computer models (includes display panel cable, 2 WLAN transceivers and cables, 2 WWAN transceivers and cables, and webcam/microphone module and cable)
589643-001	10.1-in WSVGA, AntiGlare, flush glass display assembly in red for use only with HP Mini 2102 and 210 computer models (includes display panel cable, 2 WLAN transceivers and cables, 2 WWAN transceivers and cables, and webcam/microphone module and cable)
589644-001	10.1-in HD, AntiGlare, flush glass display assembly in red for use only with HP Mini 2102 and 210 computer models (includes display panel cable, 2 WLAN transceivers and cables, 2 WWAN transceivers and cables, and webcam/microphone module and cable)

Spare part number	Description
589645-001	10.1-in WSVGA, AntiGlare, flush glass display assembly in blue for use only with HP Mini 2102 and 210 computer models (includes display panel cable, 2 WLAN transceivers and cables, 2 WWAN transceivers and cables, and webcam/microphone module and cable)
589646-001	10.1-in HD, AntiGlare, flush glass display assembly in blue for use only with HP Mini 2102 and 210 computer models (includes display panel cable, 2 WLAN transceivers and cables, 2 WWAN transceivers and cables, and webcam/microphone module and cable)
589647-001	10.1-in WSVGA, AntiGlare, flush glass display assembly in black for use only with HP Mini 2102 and 210 computer models (includes display panel cable, 2 WLAN transceivers and cables, 2 WWAN transceivers and cables, and webcam/microphone module and cable)
589648-001	10.1-in HD, AntiGlare, flush glass display assembly in black for use only with HP Mini 2102 and 210 computer models (includes display panel cable, 2 WLAN transceivers and cables, 2 WWAN transceivers and cables, and webcam/microphone module and cable)
589649-001	10.1-in WSVGA, AntiGlare, standard display assembly in black for use only with HP Mini 2102 and 210 computer models (includes display panel cable, 2 WLAN transceivers and cables, 2 WWAN transceivers and cables, and webcam/microphone module and cable)
589650-001	10.1-in HD, AntiGlare, standard display assembly in black for use only with HP Mini 2102 and 210 computer models (includes display panel cable, 2 WLAN transceivers and cables, 2 WWAN transceivers and cables, and webcam/microphone module and cable)
589651-001	10.1-in WSVGA, AntiGlare, standard display assembly in silver for use only with HP Mini 2102 and 210 computer models (includes display panel cable, 2 WLAN transceivers and cables, 2 WWAN transceivers and cables, and webcam/microphone module and cable)
589652-001	10.1-in, WSVGA, AntiGlare display panel
589653-001	10.1-in, HD, AntiGlare display panel
589654-001	Webcam/microphone module
589655-001	Display bezel for use only with Compaq Mini 210 computer models (includes WLAN antenna transceivers and cables and WWAN antenna transceivers and cables)
589656-001	Display bezel for use only with HP Mini 2102 and 210 computer models (includes WLAN antenna transceivers and cables and WWAN antenna transceivers and cables)
589657-001	Display Hinge Kit (includes left and right display hinges)
589658-001	Display enclosure for use only with HP Mini 2102 and 210 computer models in silver (includes WLAN antenna transceivers and cables and WWAN antenna transceivers and cables)
589659-001	Display enclosure for use only with HP Mini 2102 and 210 computer models in red (includes WLAN antenna transceivers and cables and WWAN antenna transceivers and cables)
589660-001	Display enclosure for use only with HP Mini 2102 and 210 computer models in blue (includes WLAN antenna transceivers and cables and WWAN antenna transceivers and cables)
589661-001	Display enclosure for use only with HP Mini 2102 and 210 computer models in black (includes WLAN antenna transceivers and cables and WWAN antenna transceivers and cables)
589662-001	Display enclosure for use only with Compaq Mini 210 computer models (includes WLAN antenna transceivers and cables and WWAN antenna transceivers and cables)
589663-001	Display Screw Kit
589664-001	Display panel cable (includes webcam/microphone module cable)
589665-001	1024-MB memory module (667-MHz, DDR2):
589666-001	2048-MB memory module (667-MHz, DDR2):
589667-001	160-GB, 7200-rpm hard drive (includes cable adapter, 4 rubber isolators, and hard drive bracket)

Spare part number	Description
589670-001	250-GB, 7200-rpm hard drive (includes cable adapter, 4 rubber isolators, and hard drive bracket)
589673-001	Hard Drive Hardware Kit (not illustrated, includes cable adapter, 4 rubber isolators, and hard drive bracket)
589676-001	Top cover, black
589677-001	TouchPad for use only with black top cover (includes cable and bracket)
589678-001	Base enclosure (includes 4 rubber feet and power connector bracket)
589679-001	Service cover
589680-001	Rubber Kit (includes 4 rubber feet and RJ-45 cover)
589681-001	Fan/heat sink assembly (includes replacement thermal material)
589682-001	Power connector cable
589683-001	TouchPad for use only with silver top cover (includes cable and bracket)
589684-001	TouchPad for use only with red top cover (includes cable and bracket)
589685-001	TouchPad for use only with blue top cover (includes cable and bracket)
589686-001	Top cover, silver
589687-001	Top cover, red
589688-001	Top cover, blue
590526-001	Keyboard with painted finish for use only in the United States (includes cable)
590526-031	Keyboard with painted finish for use only in the United Kingdom (includes cable)
590526-041	Keyboard with painted finish for use only in Germany (includes cable)
590526-051	Keyboard with painted finish for use only in France (includes cable)
590526-061	Keyboard with painted finish for use only in Italy (includes cable)
590526-071	Keyboard with painted finish for use only in Spain (includes cable)
590526-121	Keyboard with painted finish for use only in French Canada (includes cable)
590526-131	Keyboard with painted finish for use only in Portugal (includes cable)
590526-141	Keyboard with painted finish for use only in Turkey (includes cable)
590526-161	Keyboard with painted finish for use only in Latin America (includes cable)
590526-171	Keyboard with painted finish for use only in Saudi Arabia (includes cable)
590526-201	Keyboard with painted finish for use only in Brazil (includes cable)
590526-211	Keyboard with painted finish for use only in Hungary (includes cable)
590526-221	Keyboard with painted finish for use only in the Czech Republic (includes cable)
590526-251	Keyboard with painted finish for use only in Russia (includes cable)
590526-281	Keyboard with painted finish for use only in Thailand (includes cable)
590526-291	Keyboard with painted finish for use only in Japan (includes cable)
590526-A41	Keyboard with painted finish for use only in Belgium (includes cable)

Spare part number	Description
590526-AB1	Keyboard with painted finish for use only in Taiwan (includes cable)
590526-AD1	Keyboard with painted finish for use only in South Korea (includes cable)
590526-B31	Keyboard with painted finish for use only in the Netherlands (includes cable)
590526-BA1	Keyboard with painted finish for use only in Slovenia (includes cable)
590526-BB1	Keyboard with painted finish for use only in Israel (includes cable)
590526-BG1	Keyboard with painted finish for use only in Switzerland (includes cable)
590526-DH1	Keyboard with painted finish for use only in Denmark, Finland, and Norway (includes cable)
590526-DJ1	Keyboard with painted finish for use only in Greece (includes cable)
590527-001	Keyboard with textured finish for use only in the United States (includes cable)
590527-031	Keyboard with textured finish for use only in the United Kingdom (includes cable)
590527-041	Keyboard with textured finish for use only in Germany (includes cable)
590527-051	Keyboard with textured finish for use only in France (includes cable)
590527-061	Keyboard with textured finish for use only in Italy (includes cable)
590527-071	Keyboard with textured finish for use only in Spain (includes cable)
590527-121	Keyboard with textured finish for use only in French Canada (includes cable)
590527-131	Keyboard with textured finish for use only in Portugal (includes cable)
590527-141	Keyboard with textured finish for use only in Turkey (includes cable)
590527-161	Keyboard with textured finish for use only in Latin America (includes cable)
590527-171	Keyboard with textured finish for use only in Saudi Arabia (includes cable)
590527-201	Keyboard with textured finish for use only in Brazil (includes cable)
590527-211	Keyboard with textured finish for use only in Hungary (includes cable)
590527-221	Keyboard with textured finish for use only in the Czech Republic (includes cable)
590527-251	Keyboard with textured finish for use only in Russia (includes cable)
590527-281	Keyboard with textured finish for use only in Thailand (includes cable)
590527-291	Keyboard with textured finish for use only in Japan (includes cable)
590527-A41	Keyboard with textured finish for use only in Belgium (includes cable)
590527-AB1	Keyboard with textured finish for use only in Taiwan (includes cable)
590527-AD1	Keyboard with textured finish for use only in South Korea (includes cable)
590527-B31	Keyboard with textured finish for use only in the Netherlands (includes cable)
590527-BA1	Keyboard with textured finish for use only in Slovenia (includes cable)
590527-BB1	Keyboard with textured finish for use only in Israel (includes cable)
590527-BG1	Keyboard with textured finish for use only in Switzerland (includes cable)
590527-DH1	Keyboard with textured finish for use only in Denmark, Finland, and Norway (includes cable)
590526-DJ1	Keyboard with textured finish for use only in Greece (includes cable)

Spare part number	Description
590543-001	3-cell, 28-WHr battery (includes 2 release latches)
590544-001	6-cell, 62-WHr battery (includes 2 release latches and 2 rubber feet)
590819-001	320-GB, 7200-rpm hard drive (includes cable adapter, 4 rubber isolators, and hard drive bracket)
596153-001	Speakers (includes cable)
606695-001	Screw Kit

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 device, place the subassembly (and all accompanying screws) away from the work area to prevent damage.

Plastic parts

 **CAUTION:** Using excessive force during disassembly and reassembly can damage plastic parts. Use care when handling the plastic parts. Apply pressure only at the points designated in the maintenance instructions.

Cables and connectors

-
- △ **CAUTION:** When servicing the device, be sure that cables are placed in their proper locations during the reassembly process. Improper cable placement can damage the device.
-

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

Drive handling

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

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

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

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

Avoid dropping drives from any height onto any surface.

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

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

Avoid exposing a drive to temperature extremes or liquids.

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

Grounding guidelines

Electrostatic discharge damage

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

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

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

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

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

Use nonmagnetic tools.

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

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

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

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

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

Typical electrostatic voltage levels

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

Service tag

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

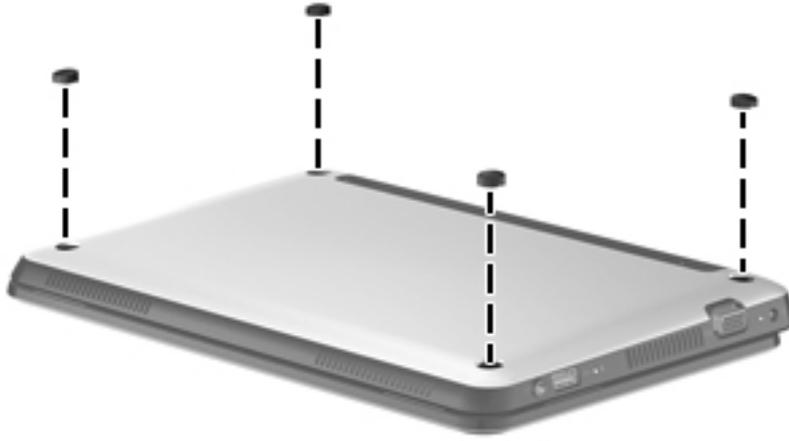
 **NOTE:** The computer battery must be removed to access the service tag.

- (1) Product name: This is the product name affixed to the front of the device.
- (2) Serial number (s/n): This is an alphanumeric identifier that is unique to each product.
- (3) Model description: This is the alphanumeric identifier used to locate documents, drivers, and support for the device.
- (4) Warranty period: This number describes the duration of the warranty period for the device.
- (5) 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.



Computer feet

The computer feet are adhesive-backed rubber pads. The feet are included in the Rubber Feet Kit, spare part number 589680-001. There are 4 rubber feet that attach to the base enclosure in the locations shown in the following illustration.



Battery

Description	Spare part number
6-cell, 62-WHr (includes 2 release latches and 2 rubber feet)	590544-001
3-cell, 28-WHr (includes 2 release latches)	590543-001

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 lock latch **(1)** to unlock the battery.
3. Slide the battery release latch **(2)** to release the battery.
4. Remove the battery **(3)**.



Reverse this procedure to install a battery.

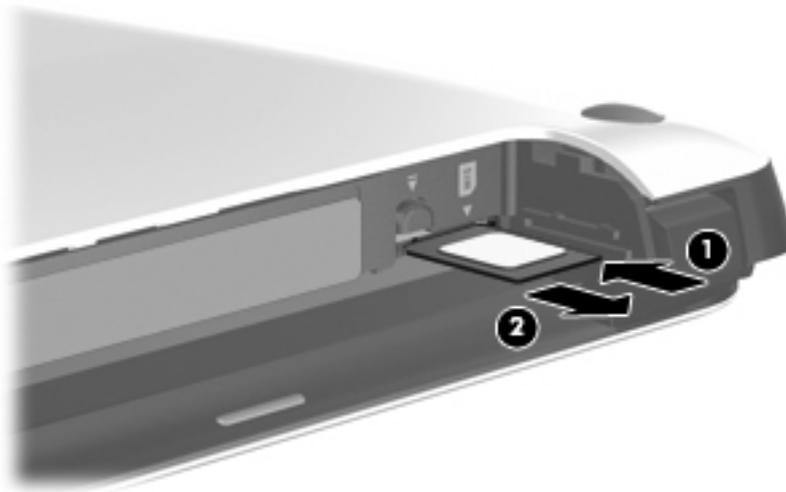
SIM

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 38](#)).

Remove the SIM:

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



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

Service cover

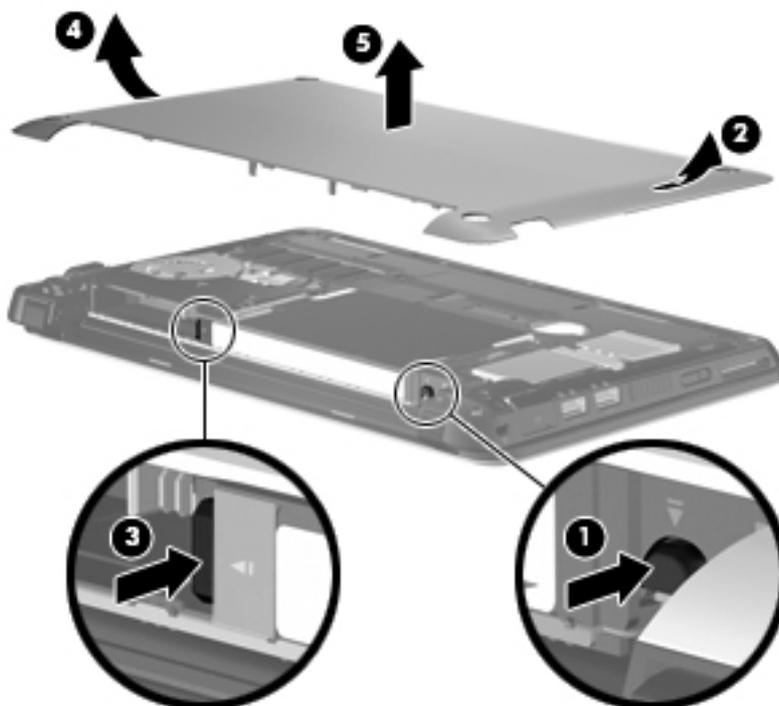
Description	Spare part number
Service cover	589679-001

Before removing the service 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 38](#)).

Remove the service cover:

1. Simultaneously press in on the right release button **(1)** and release the right side of the service cover **(2)**.
2. Simultaneously press in on the left release button **(3)** and release the left side of the service cover **(4)**.
3. Remove the service cover **(5)**.



Reverse this procedure to insert the service cover.

Hard drive

 **NOTE:** Each hard drive spare part kit includes a cable adapter, bracket, and four rubber isolators.

Description	Spare part number
Hard drive:	
320-GB, 7200-RPM	590819-001
250-GB, 7200-RPM	589670-001
160-GB, 7200-RPM	589667-001
Hard Drive Hardware Kit	589673-001

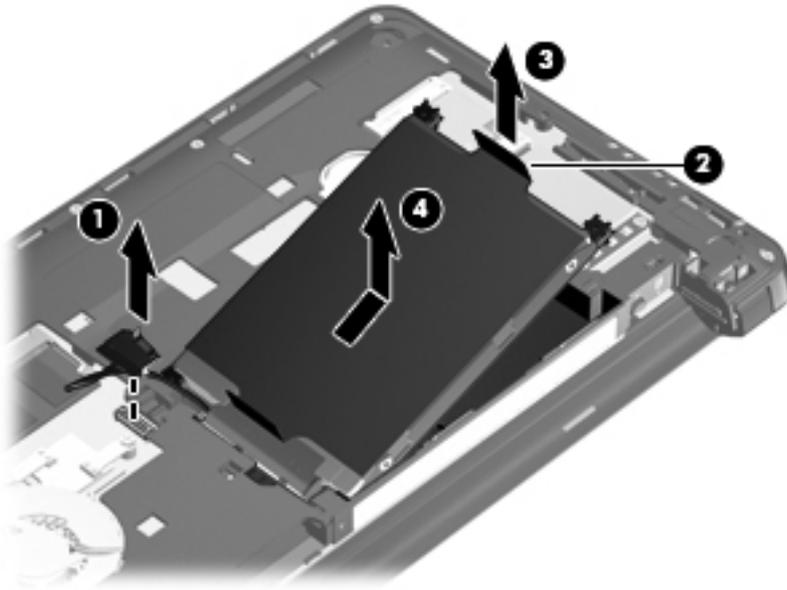
Before removing a hard drive, follow these steps:

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 38](#)).
5. Remove the service cover (see [Battery on page 38](#)).

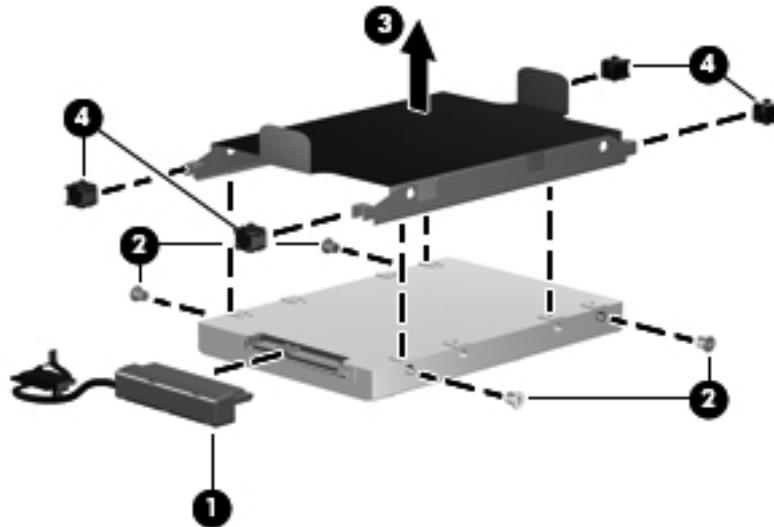
Remove the hard drive:

1. Disconnect the hard drive cable **(1)** from the system board.
2. Use the Mylar tab **(2)** on the right side of the hard drive to lift the right side of the drive **(3)** until it rests at an angle.

3. Remove the hard drive (4) by sliding it up and to the right at an angle.



4. If it is necessary to replace the hard drive bracket, follow these steps:
 - a. Disconnect the cable adapter (1) from the hard drive.
 - b. Remove the four Phillips PM3.0×3.0 screws (2) that secure the hard drive bracket to the drive.
 - c. Remove the hard drive bracket (3).
 - d. Remove the four rubber isolators (4) from the bracket.



Reverse this procedure to reassemble and install the hard drive.

WWAN module

Description	Spare part number
HP un2400 Mobile Broadband 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 device functionality, and then contact technical support.

Before removing the WWAN module, follow these steps:

1. Shut down the computer. If you are unsure whether the computer is off or in Hibernation, turn the computer on, and then shut it down through the operating system.
2. Disconnect all external devices connected to the computer.
3. Disconnect the power from the computer by first unplugging the power cord from the AC outlet and then unplugging the AC adapter from the computer.
4. Remove the battery (see [Battery on page 38](#)).
5. Remove the service cover (see [Service cover on page 40](#)).

Remove the WWAN module:

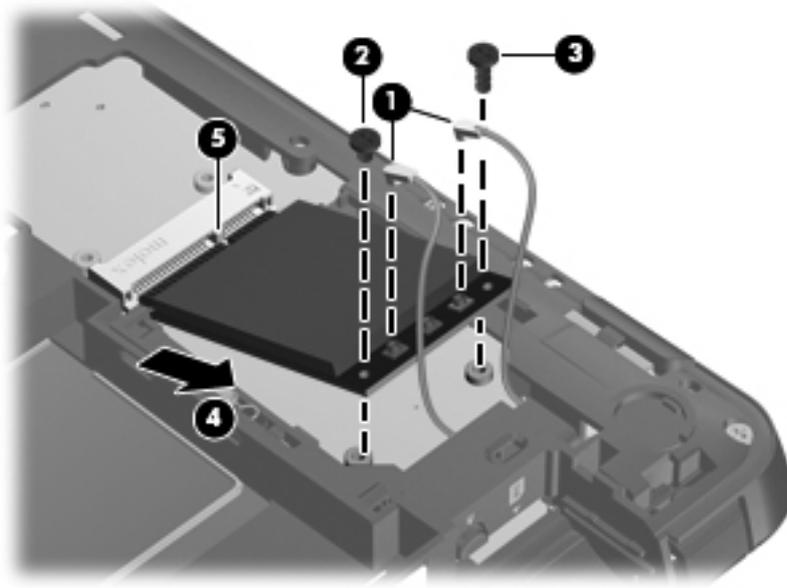
1. Disconnect the WWAN antenna cables **(1)** from the terminals on the WWAN module.

 **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.

2. Remove the Phillips PM2.0×4.0 screw **(2)** and the Phillips PM2.0×6.0 screw **(3)** that secure the WWAN module to the system board. (The WWAN module tilts up.)

3. Remove the WWAN module (4) by pulling the module away from the slot at an angle.

 **NOTE:** WWAN modules are designed with a notch (5) to prevent incorrect insertion of the WWAN module into the WWAN module slot.



Reverse this procedure to install the WWAN module.

WLAN module

Description	Spare part number
Atheros 9285G 802.11b/g/n 1×1 WiFi Adapter module:	
For use in Canada, the Cayman Islands, Guam, Puerto Rico, the U.S. Virgin Islands, and the United States	518436-001
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, the People's Republic of China, 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, 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:	
For use in Canada, the Cayman Islands, Guam, Puerto Rico, the U.S. Virgin Islands, and the United States	504593-003
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, the People's Republic of China, 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, 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
Broadcom 4312G 802.11b/g WiFi and 2070 Bluetooth 2.1+EDR Combo Adapter	575920-001

△ **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 through Help and Support.

Before removing the WLAN module, follow these steps:

1. Shut down the computer. If you are unsure whether the computer is off or in Hibernation, turn the computer on, and then shut it down through the operating system.
2. Disconnect all external devices connected to the computer.
3. Disconnect the power from the device by first unplugging the power cord from the AC outlet and then unplugging the AC adapter from the computer.
4. Remove the battery (see [Battery on page 38](#)).
5. Remove the service cover (see [Service cover on page 40](#)).

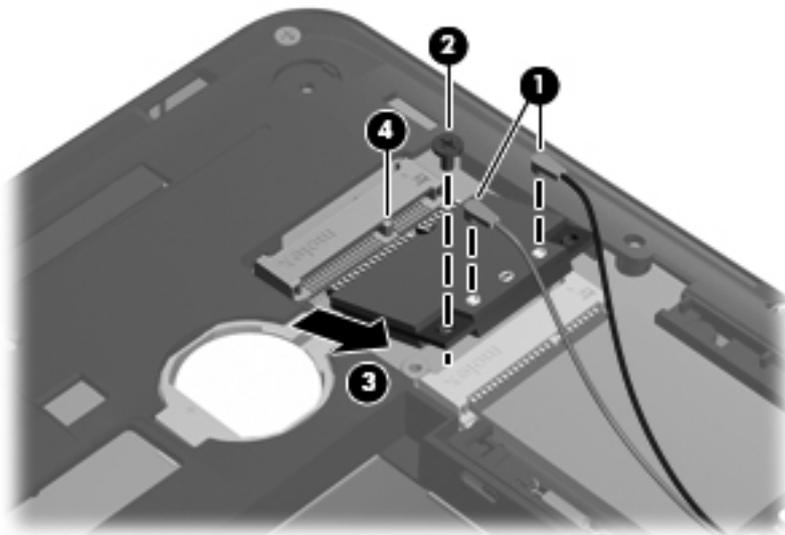
Remove the WLAN module:

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

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

2. Remove the two Phillips PM2.0×4.0 screws (2) that secure the WLAN module to the system board. (The WLAN module tilts up.)
3. Remove the WLAN module (3) by pulling the module away from the slot at an angle.

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



Reverse this procedure to install the WLAN module.

Memory module

Description	Spare part number
2048-MB memory module (667-MHz, DDR2)	589666-001
1024-MB memory module (667-MHz, DDR2)	589665-001

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 38](#)).
5. Remove the service cover (see [Service cover on page 40](#)).

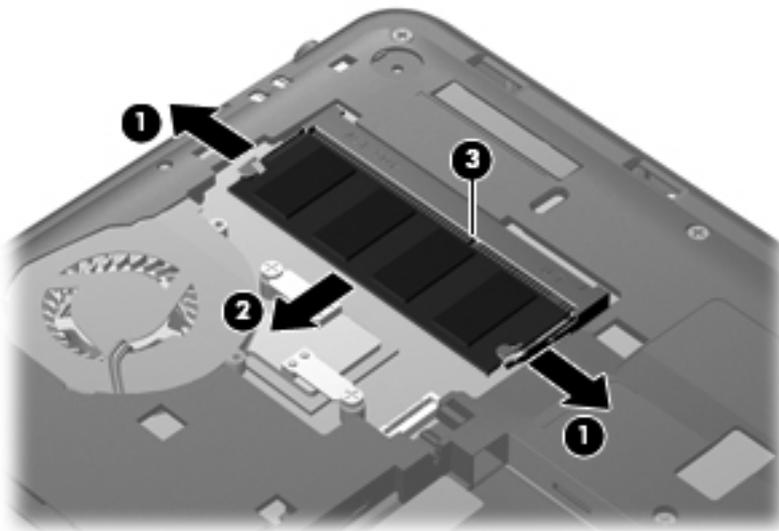
Remove the memory module:

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

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

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

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



Reverse this procedure to install the memory module.

RTC battery

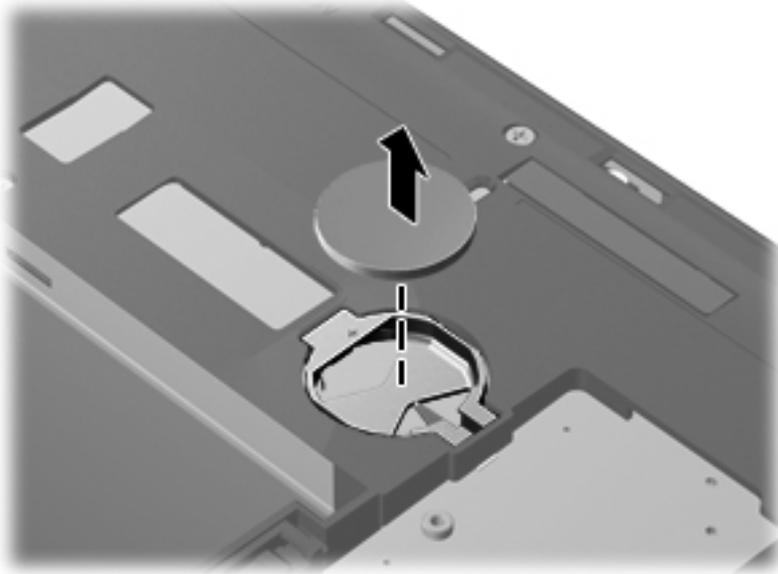
Description	Spare part number
RTC battery	449729-001

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 38](#)).
5. Remove the service cover (see [Service cover on page 40](#)).

Remove the RTC battery:

- ▲ Remove the RTC battery from the socket on the system board.



Reverse this procedure to install the RTC battery. When installing the RTC battery, make sure the “+” sign faces up.

Keyboard

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

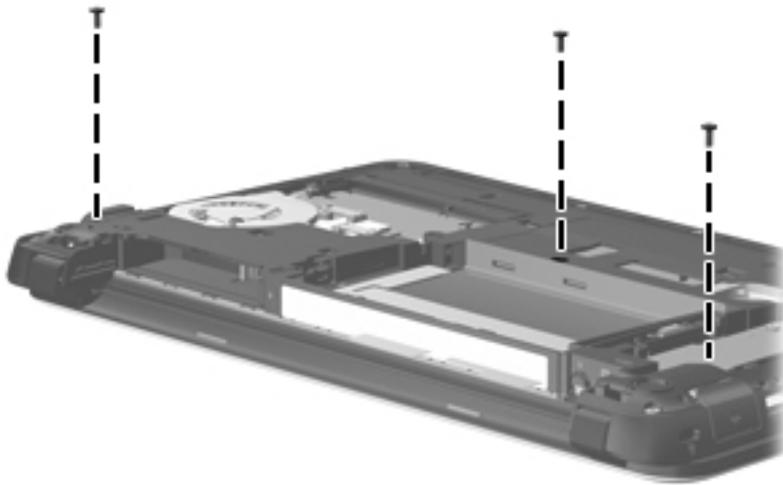
For use in:	Spare part number	For use in:	Spare part number
With painted finish:			
Belgium	590527-A41	The Netherlands	590527-B31
Brazil	590527-201	Portugal	590527-131
The Czech Republic	590527-221	Russia	590527-251
Denmark, Finland, and Norway	590527-DH1	Saudi Arabia	590527-171
France	590527-051	Slovenia	590527-BA1
French Canada	590527-121	South Korea	590527-AD1
Germany	590527-041	Spain	590527-071
Greece	590527-DJ1	Switzerland	590527-BG1
Hungary	590527-211	Taiwan	590527-AB1
Israel	590527-BB1	Thailand	590527-281
Italy	590527-061	Turkey	590527-141
Japan	590527-291	The United Kingdom	590527-031
Latin America	590527-161	The United States	590527-001
With textured finish:			
Belgium	590526-A41	The Netherlands	590526-B31
Brazil	590526-201	Portugal	590526-131
The Czech Republic	590526-221	Russia	590526-251
Denmark, Finland, and Norway	590526-DH1	Saudi Arabia	590526-171
France	590526-051	Slovenia	590526-BA1
French Canada	590526-121	South Korea	590526-AD1
Germany	590526-041	Spain	590526-071
Greece	590526-DJ1	Switzerland	590526-BG1
Hungary	590526-211	Taiwan	590526-AB1
Israel	590526-BB1	Thailand	590526-281
Italy	590526-061	Turkey	590526-141
Japan	590526-291	The United Kingdom	590526-031
Latin America	590526-161	The United States	590526-001

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 38](#)).
5. Remove the service cover (see [Service cover on page 40](#)).

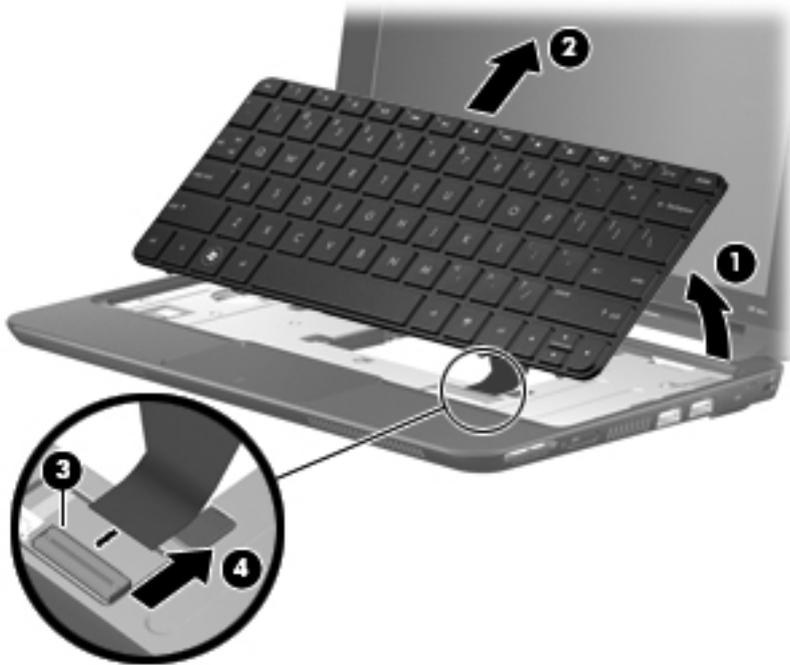
Remove the keyboard:

1. Remove the three Phillips PM2.0×6.0 screws that secure the keyboard to the computer.



2. Turn the computer right-side up, with the front toward you.
3. Open the computer as far as it will open.
4. Lift the rear edge of the keyboard **(1)** until it rests at an angle.
5. Slide the keyboard **(2)** back until the keyboard cable and connector are accessible.

6. Release the zero insertion force (ZIF) connector (3) to which the keyboard cable is attached, and then disconnect the keyboard cable (4) from the system board.



7. Remove the keyboard.

Reverse this procedure to install the keyboard.

Top cover

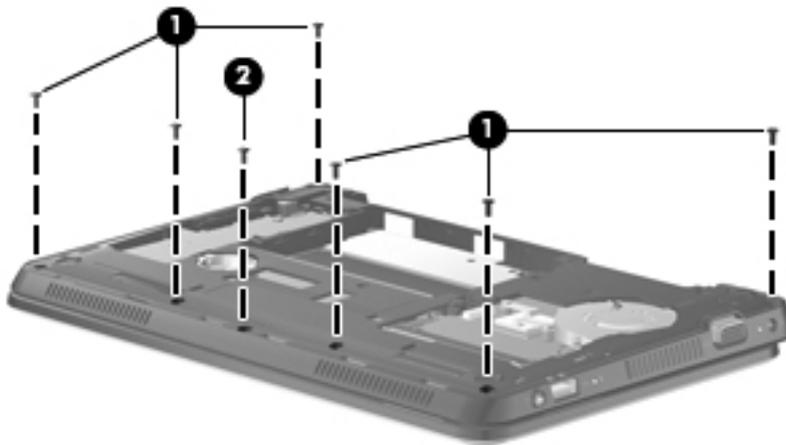
Description	Spare part number
In black	589676-001
In blue	589688-001
In red	589687-001
In silver	589686-001

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 38](#)).
5. Remove the service cover (see [Service cover on page 40](#)).
6. Remove the keyboard (see [Keyboard on page 49](#)).

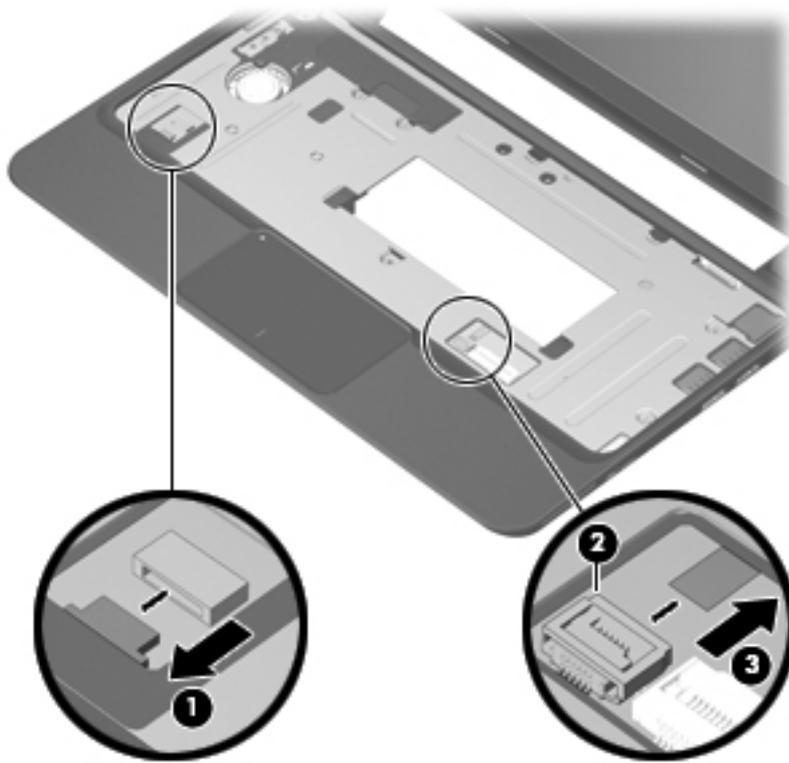
Remove the top cover.

1. Turn the computer upside down, with the front toward you.
2. Remove the six Phillips PM2.0×6.0 screws (1) and the Phillips PM2.5×4.0 screw (2) that secure the top cover to the base enclosure.

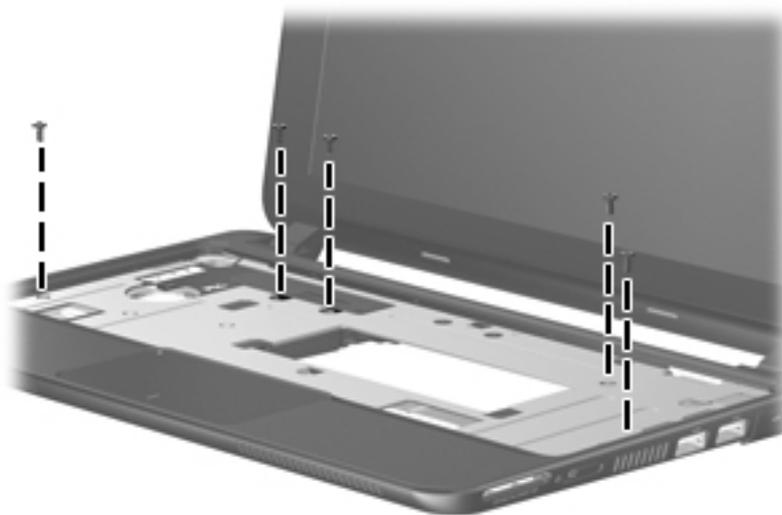


3. Turn the computer right-side up, with the front toward you.
4. Open the computer as far as it will open.
5. Disconnect the speaker cable (1) from the system board.

6. Release the ZIF connector (2) to which the TouchPad cable is connected, and then disconnect the TouchPad cable (3) from the system board.



7. Remove the five Phillips PM2.0×6.0 screws that secure the top cover to the base enclosure.



8. Release the top cover (1) by lifting the rear edge until it disengages from the base enclosure.

9. Remove the top cover (2) by lifting it straight up.



Reverse this procedure to install the top cover.

Speakers

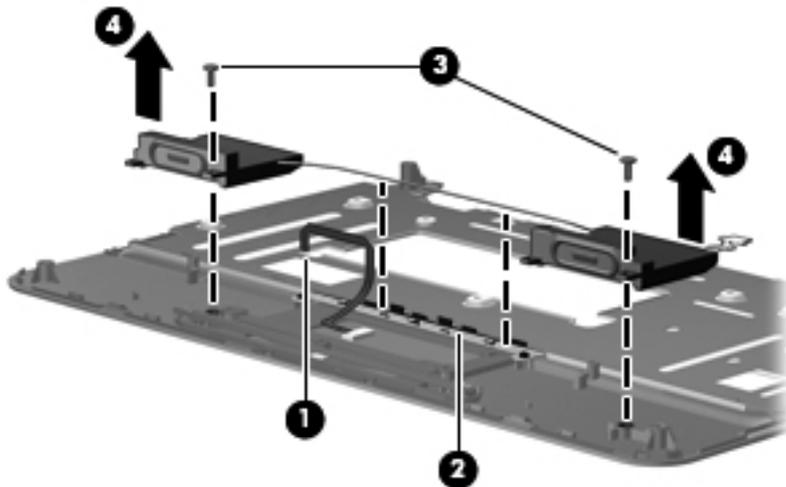
Description	Spare part number
Speakers (include cables)	596153-001

Before removing the speakers, 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 38](#)).
5. Remove the following components:
 - a. Service cover (see [Service cover on page 40](#)).
 - b. Keyboard (see [Keyboard on page 49](#)).
 - c. Top cover (see [Top cover on page 52](#)).

Remove the speakers:

1. Turn the top cover upside down, with the front toward you.
2. Release the TouchPad cable (1) from the top cover. (The TouchPad cable is attached to the top cover with double-sided adhesive).
3. Release the speaker cable from the clips (2) built into the TouchPad bracket.
4. Remove the two Phillips PM2.0×4.0 screws (3) that secure the speakers to the top cover.
5. Remove the speakers (4).



Reverse this procedure to install the speakers.

TouchPad

Description	Spare part number
For use only with a black top cover	589677-001
For use only with a blue top cover	589685-001
For use only with a red top cover	589684-001
For use only with a silver top cover	589683-001

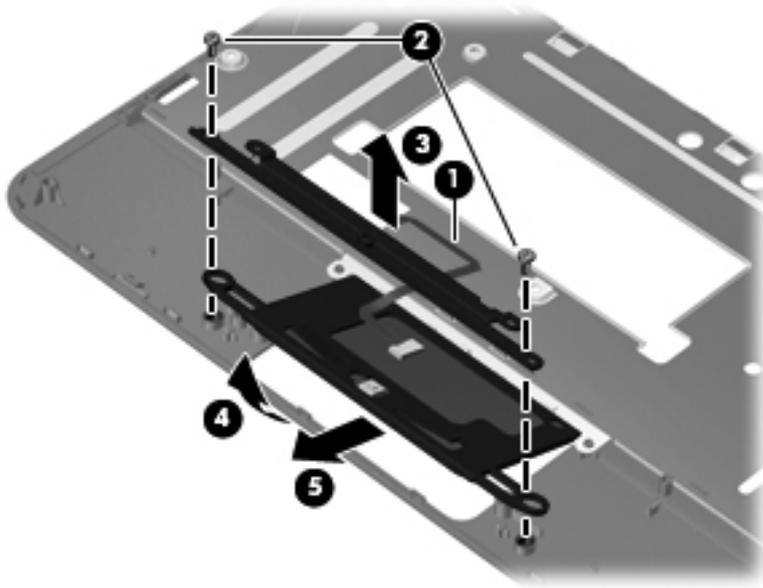
Before removing the TouchPad, follow these steps:

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 38](#)).
5. Remove the following components:
 - a. Service cover (see [Service cover on page 40](#)).
 - b. Keyboard (see [Keyboard on page 49](#)).
 - c. Top cover (see [Top cover on page 52](#)).
 - d. Speakers (see [Speakers on page 55](#)).

Remove the TouchPad:

1. Turn the top cover upside down, with the front toward you.
2. Release the TouchPad cable **(1)** from the top cover. (The TouchPad cable is attached to the top cover with double-sided adhesive).
3. Remove the two Phillips PM2.0×4.0 screws **(2)** that secure the TouchPad bracket to the top cover.
4. Remove the TouchPad bracket **(3)**.
5. Release the TouchPad **(4)** by lifting the front edge until it rests at an angle.

6. Remove the TouchPad (5) by sliding it forward.



Reverse this procedure to install the TouchPad.

Display assembly

Description	Spare part number
10.1-in display assembly (includes display panel cable, 2 WLAN transceivers and cables, 2 WWAN transceivers and cables, and webcam/microphone module and cable):	
For use only with HP Mini 2102 and 210 computer models:	
<ul style="list-style-type: none">• HD, AntiGlare, flush glass display assembly in black	589648-001
<ul style="list-style-type: none">• HD, AntiGlare, flush glass display assembly in blue	589646-001
<ul style="list-style-type: none">• HD, AntiGlare, flush glass display assembly in red	589644-001
<ul style="list-style-type: none">• HD, AntiGlare, flush glass display assembly in silver	589642-001
<ul style="list-style-type: none">• HD, AntiGlare, standard display assembly in black	589650-001
<ul style="list-style-type: none">• WSVGA, AntiGlare, flush glass display assembly in black	589647-001
<ul style="list-style-type: none">• WSVGA, AntiGlare, flush glass display assembly in blue	589645-001
<ul style="list-style-type: none">• WSVGA, AntiGlare, flush glass display assembly in red	589643-001
<ul style="list-style-type: none">• WSVGA, AntiGlare, flush glass display assembly in silver	589641-001
<ul style="list-style-type: none">• WSVGA, AntiGlare, standard display assembly in black	589649-001
<ul style="list-style-type: none">• WSVGA, AntiGlare, standard display assembly in silver	589651-001
10.1-in, WSVGA, AntiGlare, standard display assembly in black for use only with Compaq Mini 210 computer models	589640-001

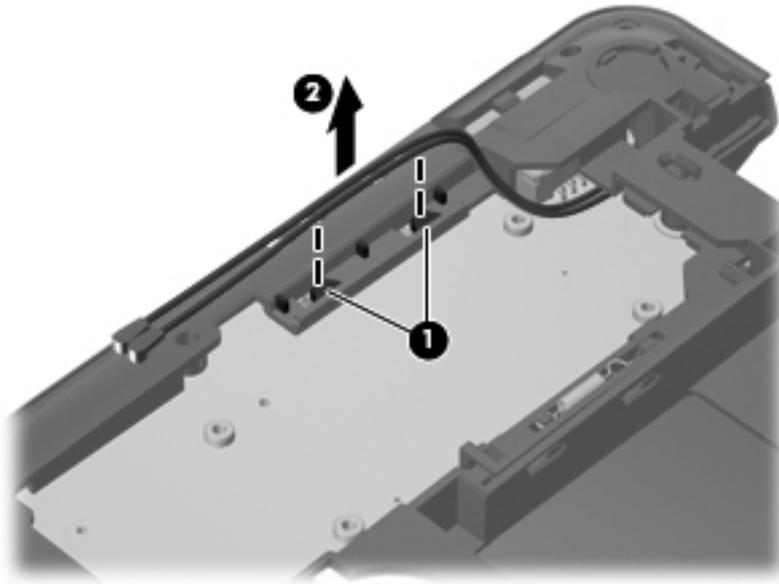
Before removing the display assembly, follow these steps:

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 38](#)).
5. Remove the service cover (see [Service cover on page 40](#)).
6. Disconnect the WWAN antenna cables from the WWAN module (see [WWAN module on page 43](#)).
7. Disconnect the WLAN antenna cables from the WLAN module (see [WLAN module on page 45](#)).
8. Remove the keyboard (see [Keyboard on page 49](#)).
9. Remove the top cover (see [Top cover on page 52](#)).

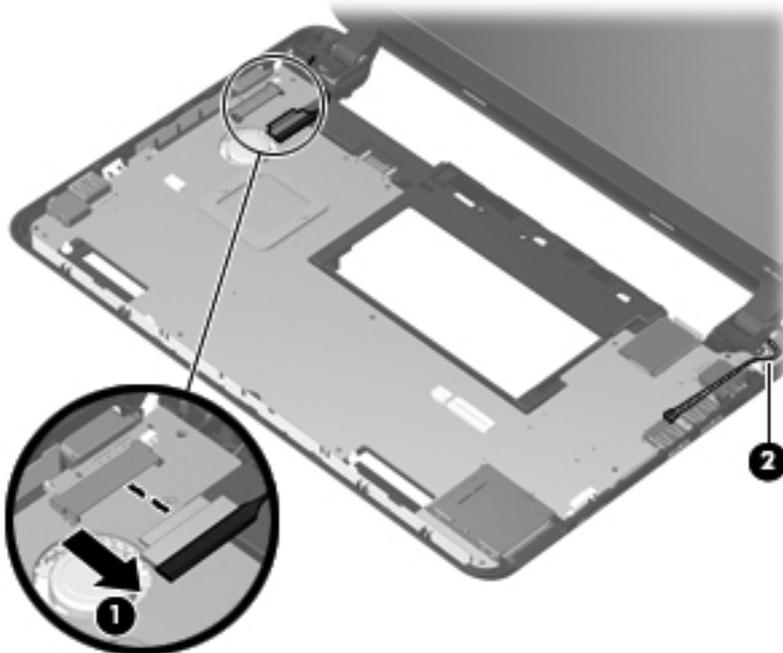
Remove the display assembly:

1. Close the computer.
2. Turn the computer upside down, with the front toward you.

3. Release the WLAN antenna cables (1) from the clips built into the base enclosure (2).

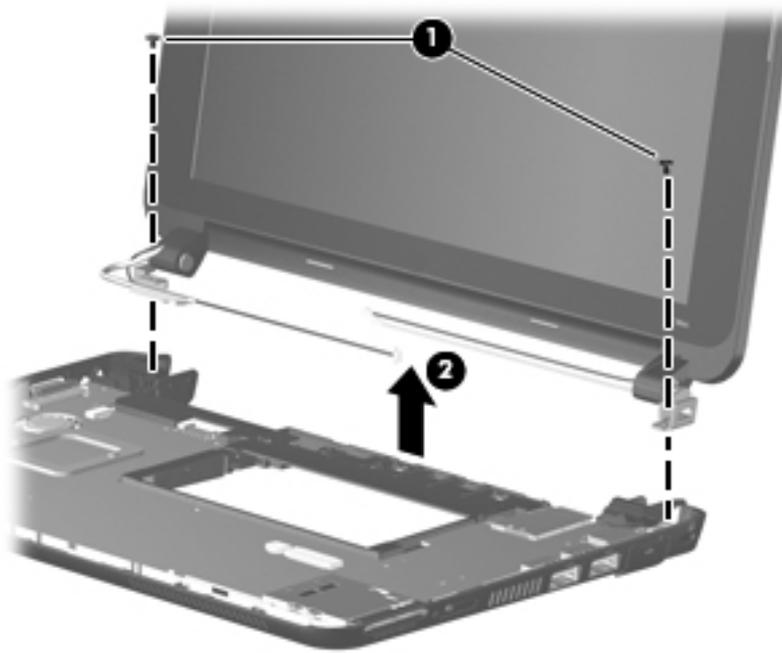


4. Turn the computer right-side up, with the front toward you.
5. Open the computer as far as it will open.
6. Disconnect the display panel cable (1) from the system board.
7. Release the wireless antenna cables (2) from the clip built into the base enclosure.



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

8. Remove the two Phillips PM2.0×4.0 screws (1) that secure the display assembly to the base enclosure.
9. Remove the display assembly (2).



Reverse this procedure to reassemble and install the display assembly.

System board

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

Description	Spare part number
Includes Intel Atom N450 1.66-GHz processor with 512-KB level 2 cache, 667-MHz FSB and Digital Media Card Reader	589638-001
Includes Intel Atom N450 1.66-GHz processor with 512-KB level 2 cache, 667-MHz FSB, but does not include Digital Media Card Reader	589639-001

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 38](#)).
5. Remove the service cover (see [Service cover on page 40](#)).
6. Disconnect the hard drive cable from the system board (see [Hard drive on page 41](#)).
7. Disconnect the WWAN antenna cables from the WWAN module (see [WWAN module on page 43](#)).
8. Disconnect the WLAN antenna cables from the WLAN module (see [WLAN module on page 45](#)).
9. Remove the keyboard (see [Keyboard on page 49](#)).
10. Remove the top cover (see [Top cover on page 52](#)).

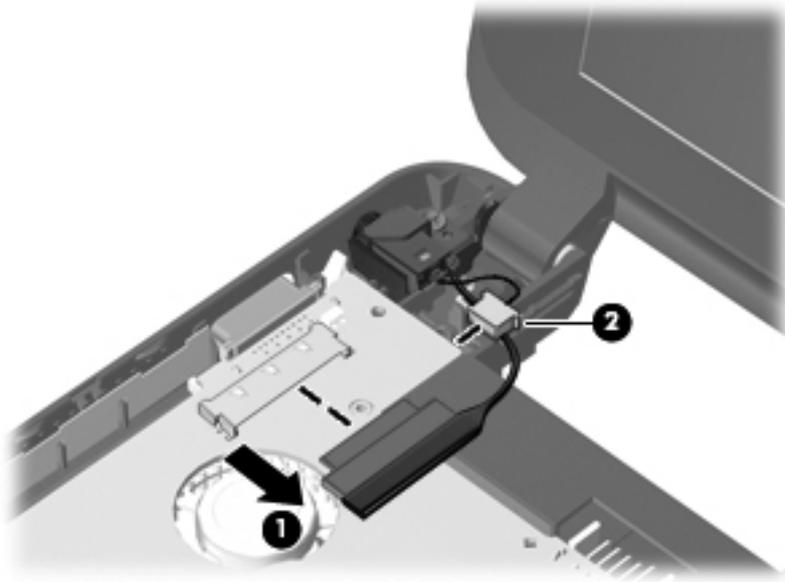
When replacing the system board, be sure that the following components are removed from the defective system board and installed on the replacement system board:

- SIM (see [SIM on page 39](#))
- WWAN module (see [WWAN module on page 43](#))
- WLAN module (see [WLAN module on page 45](#))
- Memory module (see [Memory module on page 47](#))
- RTC battery (see [RTC battery on page 48](#))
- Fan/heat sink assembly (see [Fan/heat sink assembly on page 63](#))

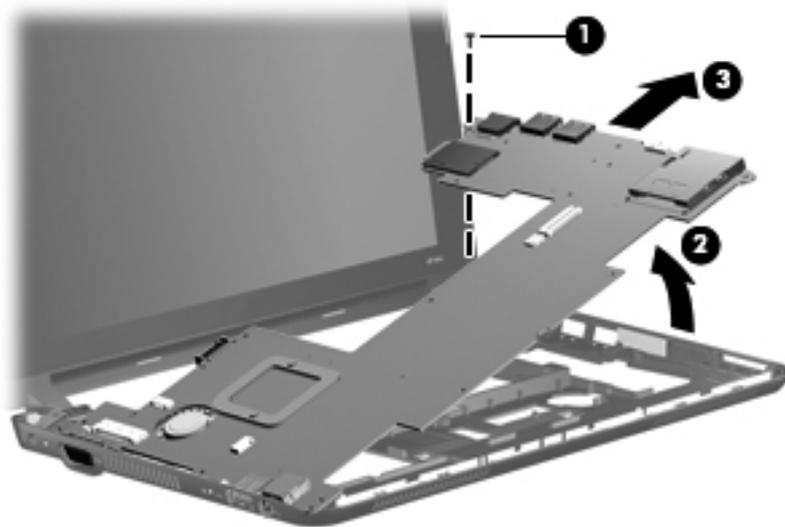
Remove the system board:

1. Disconnect the display panel cable (1) from the system board.

2. Disconnect the power connector cable (2) from the system board.



3. Remove the Phillips PM2.0×4.0 screw (1) that secures the system board to the base enclosure.
4. Lift the right side of the system board (2) until it rests at an angle.
5. Remove the system board (3) by sliding it up and away from the base enclosure.



Reverse the procedure to install the system board.

Fan/heat sink assembly

Description	Spare part number
Fan/heat sink assembly (includes replacement thermal material)	589681-001

 **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/heat sink assembly, follow these steps:

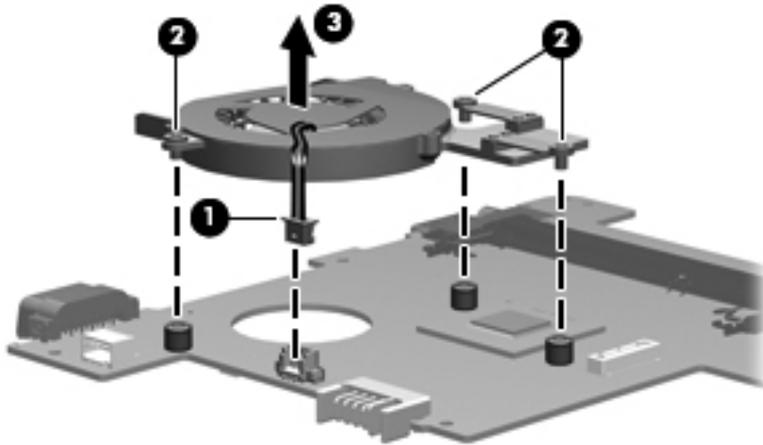
1. Shut down the computer. If you are unsure whether the computer is off or in Hibernation, turn the computer on, and then shut it down through the operating system.
2. Disconnect all external devices connected to the computer.
3. Disconnect the power from the computer by first unplugging the power cord from the AC outlet and then unplugging the AC adapter from the computer.
4. Remove the battery (see [Battery on page 38](#)).
5. Remove the service cover (see [Service cover on page 40](#)).
6. Disconnect the hard drive cable from the system board (see [Hard drive on page 41](#)).
7. Disconnect the WWAN antenna cables from the WWAN module (see [WWAN module on page 43](#)).
8. Disconnect the WLAN antenna cables from the WLAN module (see [WLAN module on page 45](#)).
9. Remove the following components:
 - a. Keyboard (see [Keyboard on page 49](#)).
 - b. Top cover (see [Top cover on page 52](#)).
 - c. System board (see [System board on page 61](#)).

Remove the fan/heat sink assembly:

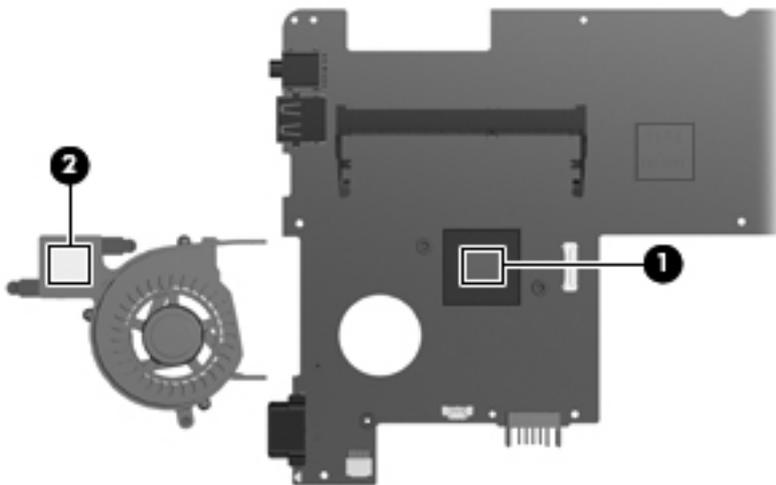
1. Turn the system board upside down, with the front toward you.
2. Disconnect the fan cable **(1)** from the system board.
3. Following the 1, 2, 3 sequence stamped into the fan/heat sink assembly, loosen the three Phillips PM2.0×4.0 captive screws **(2)** that secure the fan/heat sink assembly to the system board.

4. Remove the fan/heat sink assembly (3).

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



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



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

Power connector cable

Description	Spare part number
Power connector cable	589682-001

Before removing the power connector cable, follow these steps:

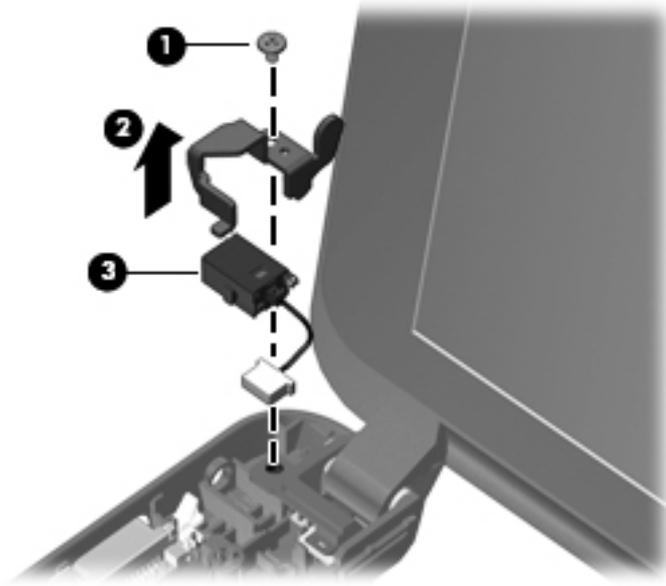
1. Shut down the computer. If you are unsure whether the computer is off or in Hibernation, turn the computer on, and then shut it down through the operating system.
2. Disconnect all external devices connected to the computer.
3. Disconnect the power from the computer by first unplugging the power cord from the AC outlet and then unplugging the AC adapter from the computer.
4. Remove the battery (see [Battery on page 38](#)).
5. Remove the service cover (see [Service cover on page 40](#)).
6. Disconnect the hard drive cable from the system board (see [Hard drive on page 41](#)).
7. Disconnect the WWAN antenna cables from the WWAN module (see [WWAN module on page 43](#)).
8. Disconnect the WLAN antenna cables from the WLAN module (see [WLAN module on page 45](#)).
9. Remove the following components:
 - a. Keyboard (see [Keyboard on page 49](#)).
 - b. Top cover (see [Top cover on page 52](#)).
 - c. Display assembly (see [Display assembly on page 58](#)).
 - d. System board (see [System board on page 61](#)).

Remove the power connector cable:

1. Remove the Phillips PM2.0×4.0 screw **(1)** that secures the power connector and bracket to the base enclosure.
2. Remove the power connector bracket **(2)**.

 **NOTE:** The power connector bracket is included in the base enclosure spare part kit, spare part number 589678-001.

3. Remove the power connector cable (3).



Reverse this procedure to install the power connector cable.

5 Setup Utility

Starting Setup Utility

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

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

To start Setup Utility:

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

Using Setup Utility

Changing the language of Setup Utility

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

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

Your change goes into effect immediately.

Navigating and selecting in Setup Utility

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

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

Displaying system information

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

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

Restoring default settings in Setup Utility

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

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

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

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

Exiting Setup Utility

You can exit Setup Utility with or without saving changes.

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

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

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

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

Setup Utility Menus

Main Menu

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

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

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.
Processor C4 State	Enable/disable the processor C4 standby 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 Setup Utility in intervals of 5 seconds each (0, 5, 10, 15, 20).• HP QuickWeb—Enable/disable the QuickWeb Boot menu in Setup Utility.• Internal Network Adapter boot—Enable/disable boot from Internal Network Adapter.• Boot Device Priority—Set the boot device priority 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 Backup and recovery (Windows only)

Windows 7

To protect your information, back up your files and folders. In case of system failure, you can use the backup files to restore your computer.

△ **CAUTION:** In the event of a hard drive failure, you cannot use your computer to access the Disaster Recovery utility. Therefore, HP recommends that you download the Disaster Recovery utility SoftPaq, and then extract it to a USB flash drive as soon as possible after software setup. For details, refer to “Downloading and extracting the Disaster Recovery utility” later in this section.

Depending on your computer model, you may have one of the following backup and recovery solutions:

- Roxio BackOnTrack
- HP Recovery Manager

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

Backing up and recovering using Roxio BackOnTrack

Successful recovery after a system failure depends on whether you have completely backed up your files. If Roxio BackOnTrack is preinstalled on your computer, it allows you to create a backup of your computer image. You should create the 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.

Note the following guidelines when backing up your information:

- Store personal files in the Documents library and back up this folder regularly.
- Back up templates stored in their associated programs.
- Save customized settings in a window, toolbar, or menu bar by taking a screen shot of your settings. The screen shot can be a time-saver if you have to reset your preferences.

To copy the screen and paste it into a word-processing document, follow these steps:

1. Display the screen.
2. Copy the screen: To copy the active window, press **alt+prt sc**. To copy the entire screen, press **prt sc**.
3. Open a word-processing document, click **Edit**, and then click **Paste**.
4. Save the document.

Creating a copy of the hard drive

The *back up drive* function of BackOnTrack creates a Disaster Recovery Set that is an exact image of your hard drive data. You can back up the image to an external hard drive (purchased separately).

To create a Disaster Recovery Set using BackOnTrack, follow these steps:

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

1. Click **Start**, click **All Programs**, and then click **Roxio**.
2. Click **BackOnTrack**, click **BackOnTrack Home**, and then click **Disaster Recovery**.
3. Click **Backup drive**.
4. Select a drive to back up.
5. Add a comment to describe the backup.

 **NOTE:** Comments are optional, but adding comments can help you remember the purpose of the backup. The date and list of drives being backed up are automatically included in the description.

6. Select a destination for the Disaster Recovery Set.

 **NOTE:** The destination cannot be a network drive.

7. Click the action button at the bottom-right of the computer screen.
8. Follow the on-screen instructions.

Performing a recovery

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

- BackOnTrack Disaster Recovery utility: You can use Disaster Recovery to recover your hard drive image (including your files, programs, and operating system) after a hard drive failure.
- BackOnTrack Instant Restore utility: You can use Instant Restore to quickly restore your computer to a working state if a software-related problem occurs. The Instant Restore utility automatically creates working states periodically. You can also define a working state by saving the current computer state manually.

For more information about computer system states, refer to the BackOnTrack software Help.

Using the Disaster Recovery utility

 **NOTE:** To perform a recovery with Disaster Recovery, you need a USB flash drive (purchased separately). For optimum performance, the capacity of the drive should be no larger than 2 GB.

Disaster Recovery recovers data from a Disaster Recovery Set that you previously created with Roxio BackOnTrack. Disaster Recovery is available from the HP Web site in a compressed file called a SoftPaq.

 **NOTE:** Running the SoftPaq makes the USB drive bootable.

Before performing a disaster recovery, you must download the Disaster Recovery utility and extract it to a USB flash drive.

Downloading and extracting the Disaster Recovery utility

To download and extract Disaster Recovery, follow these steps:

1. Connect a bootable USB flash drive or external drive to a USB port on your computer.
2. Open your Web browser, go to <http://www.hp.com/support>, and select your country or region.
3. Enter the SoftPak number SP42226 in the **Search** box, press **enter**, and then follow the on-screen instructions.
4. Click **Download only** to save the file to your computer.
5. When prompted, click **Save**, and then select the external drive from the list of storage locations.
6. After the file is downloaded, navigate to the USB flash drive or external drive, and then double-click the SoftPak file to format the USB flash drive and extract the Disaster Recovery files.
7. If prompted to do so, restart your computer after the installation is complete.

Restoring your hard drive image

To restore your hard drive image using Disaster Recovery, follow these steps:

1. Connect the external hard drive containing the Disaster Recovery Set to your computer.
2. Connect the bootable USB flash drive containing the extracted Disaster Recovery utility to a USB port on your computer.
3. Change the boot device order by turning on or restarting the computer, and then pressing **f9**.
4. Use the arrow keys to select the USB flash drive, and then press **enter**.
5. At the Roxio BackOnTrack Disaster Recovery screen, select **Disaster Recovery**, and then click **Next**.
6. Browse to the external hard drive containing the Disaster Recovery Set, and then click **Next**.
7. Click **Next** to proceed with the recovery.

 **NOTE:** This process may take several minutes.

8. After a message on the screen reports a successful recovery, click **Finish**.

Using the Instant Restore utility

You can restore your computer from Windows when the operating system is functioning. If the operating system is not functioning, you can also access the utility by restarting your computer.

 **NOTE:** For more information about the Instant Restore utility, refer to the BackOnTrack software Help.

Using the Instant Restore utility when the operating system is functioning

To recover information when the operating system is functioning properly, follow these steps:

1. Save and close all open documents and close any open programs.
2. Click **Start**, click **All Programs**, and then click **Roxio**.
3. Click **BackOnTrack**, click **BackOnTrack Home**, and then click **Instant Restore**.
4. Click **Restore State**, and then select a restore state.
5. Click the action button in the bottom-right corner of the computer screen.
6. Click **Yes** to confirm your selected restore state.

When the restore process is complete, the computer restarts and a notification message is displayed.

Using the Instant Restore utility when the operating system is not functioning

To recover information when the operating system is not functioning, follow these steps:

1. Restart the computer.
 **NOTE:** If the operating system has stopped responding and the computer screen is blue, restart the computer by turning the power switch off and then on.
2. When the computer logo is displayed on the screen, press **f6** repeatedly until the Windows status bar is displayed.
3. When the Roxio BackOnTrack screen is displayed, follow the on-screen instructions.

Using Windows Backup and Restore

To create a backup using Windows Backup and Restore, 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. Click **Start**, click **All Programs**, click **Maintenance**, and then click **Backup and Restore**.
2. Follow the on-screen instructions to set up and create a backup.

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

Using system restore points

When you back up your system, you are creating a system restore point. A system restore point allows you to save and name a snapshot of your hard drive at a specific point in time. You can then revert back to that point if you want to reverse subsequent changes made to your system.

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

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

When to create restore points

- Before you add or extensively modify software or hardware.
- Periodically, whenever the system is performing optimally.

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

Creating a system restore point

1. Click **Start**, click **Control Panel**, click **System and Security**, and then click **System**.
2. In the left pane, click **System protection**.
3. Click the **System Protection** tab.
4. Under **Protection Settings**, select the disk for which you want to create a restore point.
5. Click **Create**.
6. Follow the on-screen instructions.

Restoring to a previous date and time

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

1. Click **Start**, click **Control Panel**, click **System and Security**, and then click **System**.
2. In the left pane, click **System protection**.
3. Click the **System Protection** tab.
4. Click **System Restore**.
5. Follow the on-screen instructions.

Backing up and recovering using HP Recovery Manager

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

- Backing up your information
- Creating a set of recovery discs
- Creating system restore points
- Recovering a program or driver
- Performing a full system recovery

Backing up your information

As you add new software and data files, you should back up your system on a regular basis to maintain a reasonably current backup. Back up your system at the following times:

- At regularly scheduled times



NOTE: Set reminders to back up your information periodically.

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

Note the following when backing up:

- Create system restore points using the Windows System Restore feature, and periodically copy them to a disc.
- Store personal files in the Documents library, and periodically back up this folder.
- Back up templates stored in their associated programs.
- Save the customized settings in a window, toolbar, or menu bar by taking a screen shot of the settings. The screen shot can be a time-saver if you have to reset your preferences.

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

1. Display the screen.
2. Copy the screen:

To copy only the active window, press [alt+prt sc](#).

To copy the entire screen, press [prt sc](#).

3. Open a word-processing document, click **Edit**, and then click **Paste**.
 4. Save the document.
- You can back up your information to an optional external hard drive, a network drive, or discs.
 - When backing up to discs, use any of the following types of discs (purchased separately): CD-R, CD-RW, DVD+R, DVD-R, or DVD±RW. The discs you use depend on the type of optical drive you are using.

 **NOTE:** The external optical drive must be connected to the USB port *on the computer*, not to a USB port on another external device, such as a hub or docking station.

NOTE: DVDs store more information than CDs, so using them for backup reduces the number of recovery discs required.

- When backing up to discs, number each disc before inserting it into an optical drive.

Creating a set of recovery discs

HP recommends that you create recovery discs to be sure that you can restore your system to its original factory state if you experience serious system failure or instability. Create these discs after setting up the computer for the first time.

 **NOTE:** This task will require an optional external optical drive. The external optical drive must be connected to the USB port *on the computer*, not to a USB port on another external device, such as a hub or docking station.

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

Note the following guidelines before creating recovery discs:

- You will need high-quality DVD-R, DVD+R, BD-R (writable Blu-ray), or CD-R discs. All these discs are purchased separately. DVDs have a larger storage capacity than CDs. If you use CDs, up to 20 discs may be required, whereas only a few DVDs are required.

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

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

To create a set of recovery discs:

1. Click **Start**, click **All Programs**, click **Recovery Manager**, and then click **Recovery Disc Creation**.
2. Follow the on-screen instructions.

Performing a recovery

 **NOTE:** You can recover only files that you have previously backed up. HP recommends that you use Recovery Manager to create a set of recovery discs (entire drive backup) as soon as you set up your computer.

Recovery Manager software allows you to repair or restore the system if you experience system failure or instability. Recovery Manager works from recovery discs that you create or from a dedicated recovery partition (select models only) on the hard drive. However, computers that include a solid-state drive (SSD) may not have a recovery partition. If that is the case, recovery discs have been included with your computer. Use these discs to recover your operating system and software.

 **NOTE:** Windows has its own built-in repair features, such as System Restore. If you have not already tried these features, try them before using Recovery Manager. For more information on these built-in repair features, click **Start**, and then click **Help and Support**.

NOTE: Recovery Manager recovers only the software that was preinstalled at the factory. Software not provided with this computer must be downloaded from the manufacturer's Web site or reinstalled from the disc provided by the manufacturer.

Recovering using the recovery discs

To restore the system files from the recovery discs:

1. Back up all personal files.
2. Insert the first recovery disc into an optional optical drive, and restart the computer.

 **NOTE:** The external optical drive must be connected to the USB port *on the computer*, not to a USB port on another external device, such as a hub or docking station.

3. Follow the on-screen instructions.

Recovering using the partition on the hard drive (select models only)

On some models, you can perform a recovery from the partition on the hard drive, which is accessed by pressing either the Start button or **f11**. This restores the computer to its factory condition.

 **NOTE:** This method of recovery is also an HP Recovery Manager solution.

NOTE: Computers with an SSD may not have a recovery partition. If the computer does not have a recovery partition, you will not be able to recover using this procedure. Recovery discs have been included for computers that do not have a partition. Use these discs to recover your operating system and software.

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

1. Access Recovery Manager in either of the following ways:
 - Click **Start**, click **All Programs**, click **Recovery Manager**, and then click **Recovery Manager**.

– or –

 - a. Turn on or restart the computer.
 - b. Press **f11** while the “Press <F11> for recovery” message is displayed on the screen.

 **NOTE:** It may take several minutes for Recovery Manager to load.

2. In the Recovery Manager window, click **System Recovery**.
3. Follow the on-screen instructions.

Windows XP

To protect your information, back up your files and folders. In case of system failure, you can use the backup files to restore your computer.

△ **CAUTION:** In the event of a hard drive failure, you cannot use your computer to access the Disaster Recovery utility. Therefore, HP recommends that you download the Disaster Recovery utility SoftPaq, and then extract it to a USB flash drive as soon as possible after software setup. For details, refer to “Downloading and extracting the Disaster Recovery utility” later in this section.

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

Backing up your information

Successful recovery after a system failure depends on whether you have completely backed up your files. If Roxio BackOnTrack is preinstalled on your computer, it allows you to create a backup of your computer image. You should create the 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.

Note the following guidelines when backing up your information:

- Store personal files in the My Documents folder and back up this folder regularly.
- Back up templates stored in their associated programs.
- Save customized settings in a window, toolbar, or menu bar by taking a screen shot of your settings. The screen shot can be a time-saver if you have to reset your preferences.

To copy the screen and paste it into a word-processing document, follow these steps:

1. Display the screen.
2. Copy the screen:

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

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

3. Open a word-processing document, click **Edit**, and then click **Paste**.
4. Save the document.

Creating a copy of the hard drive

The *back up drive* function of BackOnTrack creates a Disaster Recovery Set that is an exact image of your hard drive data. You can back up the image to an external hard drive (purchased separately).

To create a Disaster Recovery Set using BackOnTrack, follow these steps:

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

1. Click **Start**, click **All Programs**, and then click **Roxio**.
2. Click **BackOnTrack**, click **BackOnTrack Home**, and then click **Disaster Recovery**.
3. Click **Backup drive**.
4. Select a drive to back up.
5. Add a comment to describe the backup.

 **NOTE:** Comments are optional, but adding comments can help you remember the purpose of the backup. The date and list of drives being backed up are automatically included in the description.

6. Select a destination for the Disaster Recovery Set.

 **NOTE:** The destination cannot be a network drive.

7. Click the action button at the bottom-right of the computer screen.
8. Follow the on-screen instructions.

Performing a recovery

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

- **BackOnTrack Disaster Recovery utility:** You can use Disaster Recovery to recover your hard drive image (including your files, programs, and operating system) after a hard drive failure.
- **BackOnTrack Instant Restore utility:** You can use Instant Restore to quickly restore your computer to a working state if a software-related problem occurs. The Instant Restore utility automatically creates working states periodically. You can also define a working state by saving the current computer state manually.

For more information about computer system states, refer to the BackOnTrack software Help.

Using the Disaster Recovery Utility

 **NOTE:** To perform a recovery with Disaster Recovery, you need a USB flash drive (purchased separately). For optimum performance, the capacity of the drive should be no larger than 2 GB.

Disaster Recovery recovers data from a Disaster Recovery Set that you previously created with Roxio BackOnTrack. Disaster Recovery is available from the HP Web site in a compressed file called a *SoftPaq*.

 **NOTE:** Running the SoftPaq makes the USB drive bootable.

Before performing a disaster recovery, you must download the Disaster Recovery utility and extract it to a USB flash drive.

Downloading and extracting the Disaster Recovery utility

To download and extract Disaster Recovery, follow these steps:

1. Connect a bootable USB flash drive or external drive to a USB port on your computer.
2. Open your Web browser, go to <http://www.hp.com/support>, and select your country or region.
3. Enter the SoftPaq number SP42226 in the Search box, press **enter**, and then follow the on-screen instructions.
4. Click **Download only** to save the file to your computer.
5. When prompted, click **Save**, and then select the external drive from the list of storage locations.
6. After the file is downloaded, navigate to the USB flash drive or external drive, and then double-click the SoftPaq file to format the USB flash drive and extract the Disaster Recovery files.
7. If prompted to do so, restart your computer after the installation is complete.

Restoring your hard drive image

To restore your hard drive image using Disaster Recovery, follow these steps:

1. Connect the external hard drive containing the Disaster Recovery Set to your computer.
2. Connect the bootable USB flash drive containing the extracted Disaster Recovery utility to a USB port on your computer.
3. Change the boot device order by turning on or restarting the computer, and then pressing **f9**.
4. Use the arrow keys to select the USB flash drive, and then press **enter**.
5. At the Roxio BackOnTrack Disaster Recovery screen, select **Disaster Recovery**, and then click **Next**.
6. Browse to the external hard drive containing the Disaster Recovery Set, and then click **Next**.
7. Click **Next** to proceed with the recovery.
This process may take several minutes.
8. After a message on the screen reports a successful recovery, click **Finish**.

Using the Instant Restore utility

You can restore your computer from Windows when the operating system is functioning. If the operating system is not functioning, you can also access the utility by restarting your computer.

 **NOTE:** For more information about the Instant Restore utility, refer to the BackOnTrack software Help.

Using the Instant Restore utility when the operating system is functioning

To recover information when the operating system is functioning properly, follow these steps:

1. Save and close all open documents and close any open programs.
2. Click **Start**, click **All Programs**, and then click **Roxio**.
3. Click **BackOnTrack**, click **BackOnTrack Home**, and then click **Instant Restore**.
4. Click **Restore State**, and then select a restore state.
5. Click the action button in the bottom-right corner of the computer screen.
6. Click **Yes** to confirm your selected restore state.

When the restore process is complete, the computer restarts and a notification message is displayed.

Using the Instant Restore utility when the operating system is not functioning

To recover information when the operating system is not functioning, follow these steps:

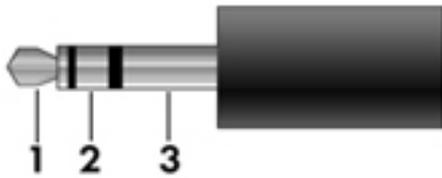
1. Restart the computer.

 **NOTE:** If the operating system has stopped responding and the computer screen is blue, restart the computer by turning the power switch off and then on.

2. When the computer logo is displayed on the screen, press **f6** repeatedly until the Windows status bar is displayed.
3. When the Roxio BackOnTrack screen is displayed, follow the on-screen instructions.

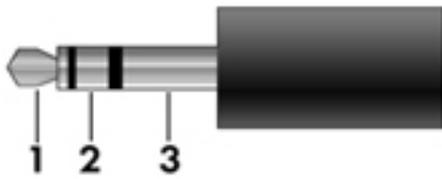
7 Connector pin assignments

Audio-in (microphone)



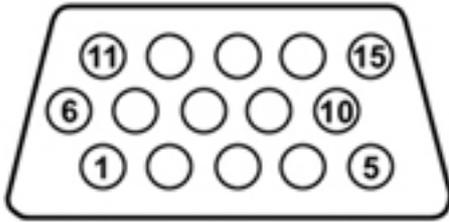
Pin	Signal
1	Audio signal in
2	Audio signal in
3	Ground

Audio-out (headphone)



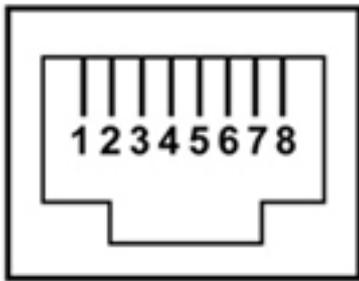
Pin	Signal
1	Audio out, left channel
2	Audio out, right channel
3	Ground

External monitor



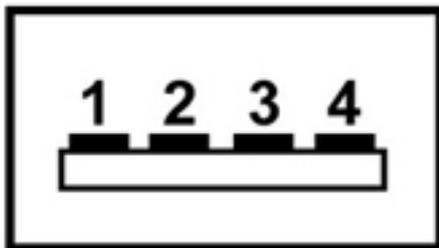
Pin	Signal
1	Red analog
2	Green analog
3	Blue analog
4	Not connected
5	Ground
6	Ground analog
7	Ground analog
8	Ground analog
9	+5 VDC
10	Ground
11	Monitor detect
12	DDC 2B data
13	Horizontal sync
14	Vertical sync
15	DDC 2B clock

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

8 Power cord set requirements

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

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

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

Requirements for all countries

The following requirements are applicable to all countries and regions:

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

Requirements for specific countries and regions

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

9 Recycling

Battery

When a battery has reached the end of its useful life, do not dispose of the battery in general household waste. Follow the local laws and regulations in your area for computer battery disposal.

Display

-
- ⚠ **WARNING!** The backlight contains mercury. Caution must be exercised when removing and handling the backlight to avoid damaging this component and causing exposure to the mercury.
 - ⚠ **CAUTION:** The procedures in this chapter can result in damage to display components. The only components intended for recycling purposes are the liquid crystal display (LCD) panel and the backlight. When you remove these components, handle them carefully.
 - 📄 **NOTE:** Materials Disposal. This HP product contains mercury in the backlight in the display assembly that might require special handling at end-of-life. Disposal of mercury may be regulated because of environmental considerations. For disposal or recycling information, contact your local authorities, or see the Electronic Industries Alliance (EIA) Web site at <http://www.eiai.org>.
-

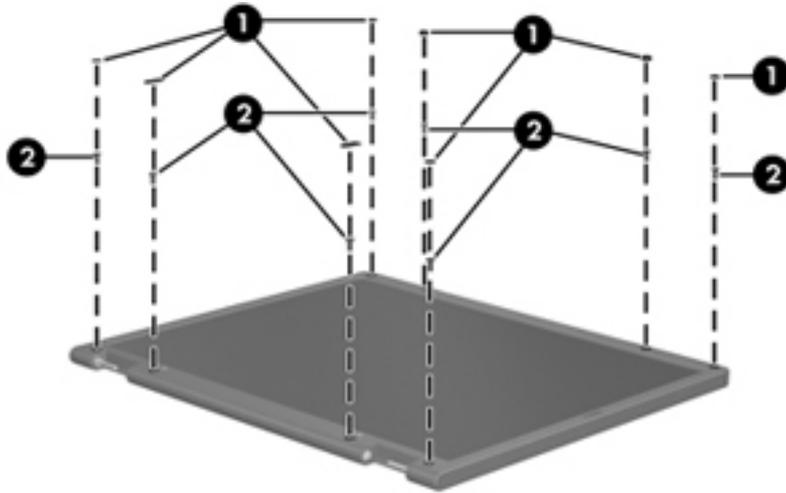
This section provides disassembly instructions for the display assembly. The display assembly must be disassembled to gain access to the backlight **(1)** and the liquid crystal display (LCD) panel **(2)**.



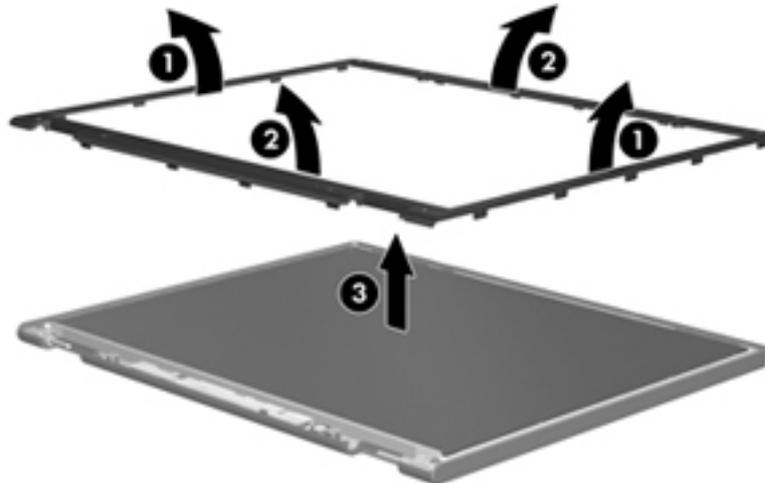
-
- 📄 **NOTE:** The procedures provided in this chapter are general disassembly instructions. Specific details, such as screw sizes, quantities, and locations, and component shapes and sizes, can vary from one computer model to another.
-

Perform the following steps:

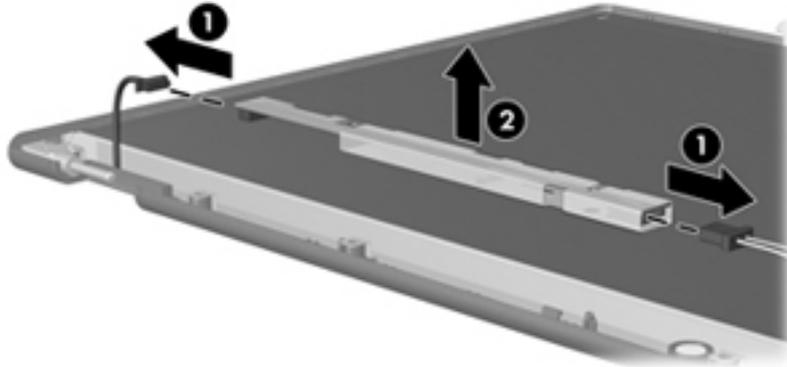
1. Remove all screw covers (1) and screws (2) that secure the display bezel to the display assembly.



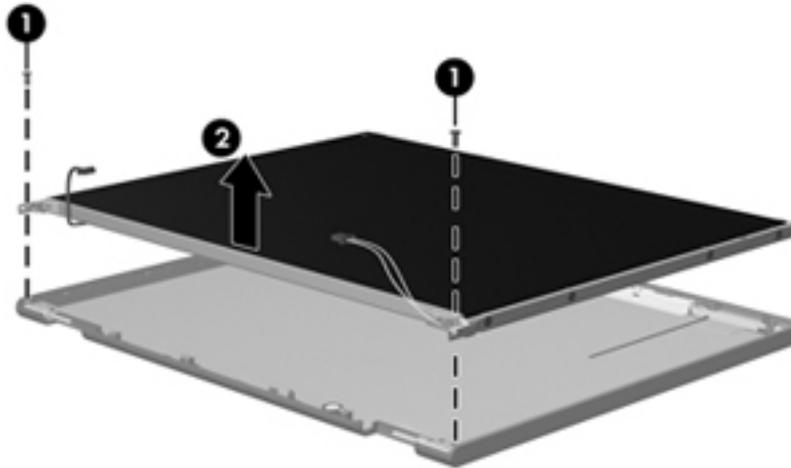
2. Lift up and out on the left and right inside edges (1) and the top and bottom inside edges (2) of the display bezel until the bezel disengages from the display assembly.
3. Remove the display bezel 3.



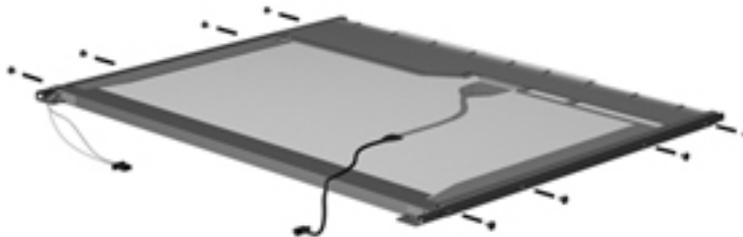
4. Disconnect all display panel cables (1) from the display inverter and remove the inverter 2.



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

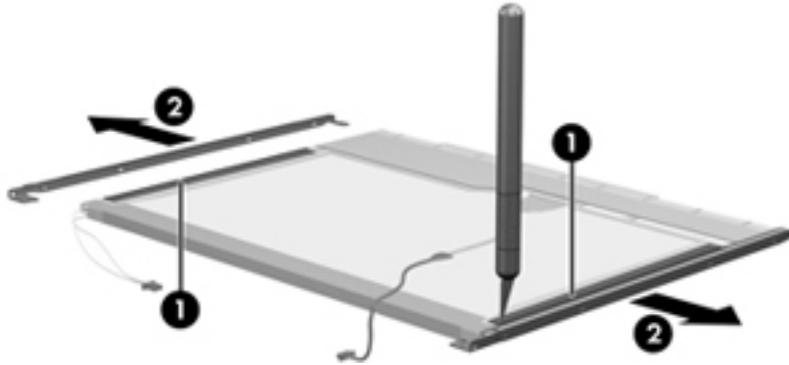


7. Turn the display panel assembly upside down.
8. Remove all screws that secure the display panel frame to the display panel.



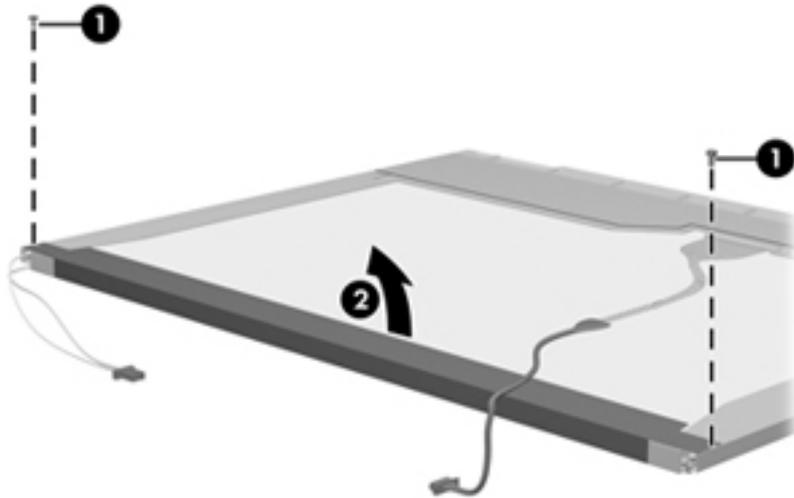
9. Use a sharp-edged tool to cut the tape (1) that secures the sides of the display panel to the display panel frame.

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



11. Remove the screws (1) that secure the backlight cover to the display panel.

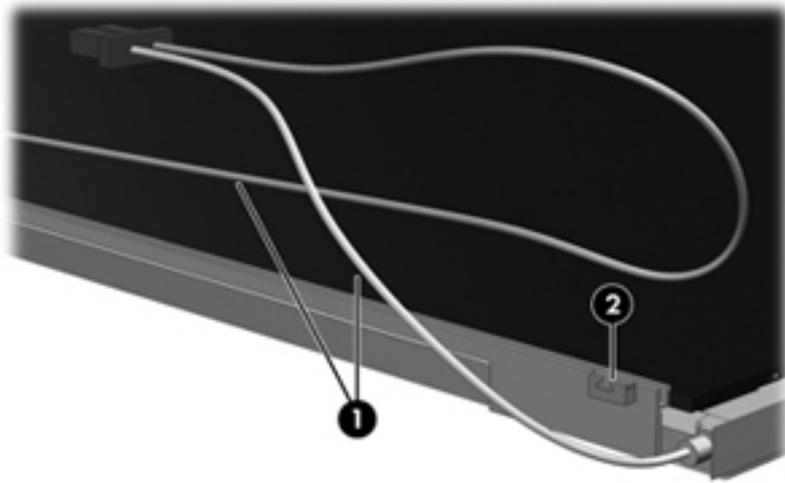
12. Lift the top edge of the backlight cover (2) and swing it outward.



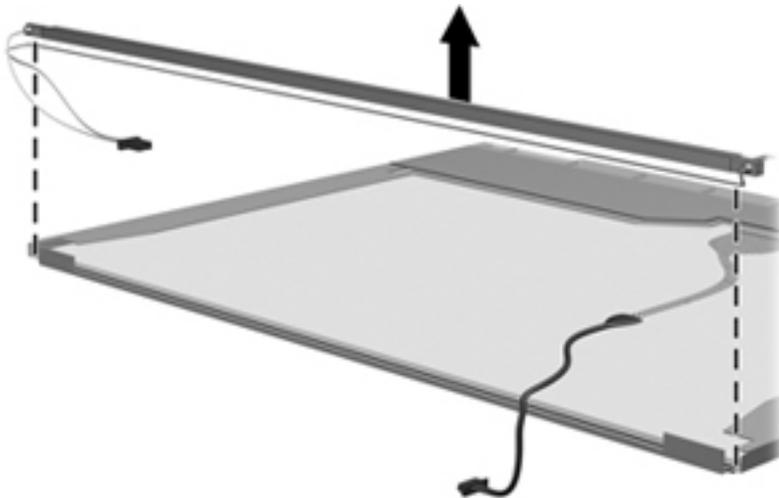
13. Remove the backlight cover.

14. Turn the display panel right-side up.

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

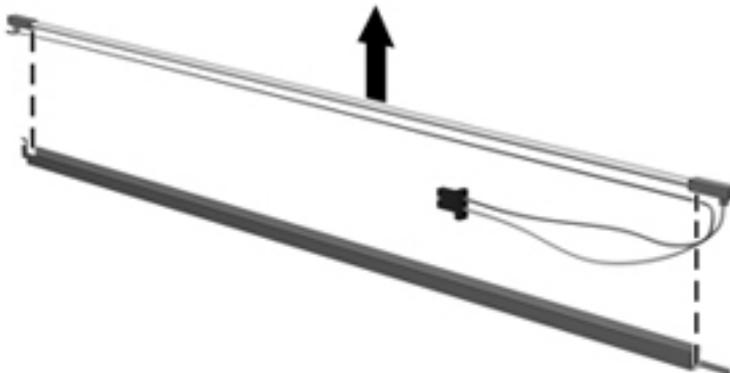


16. Turn the display panel upside down.
17. Remove the backlight frame from the display panel.

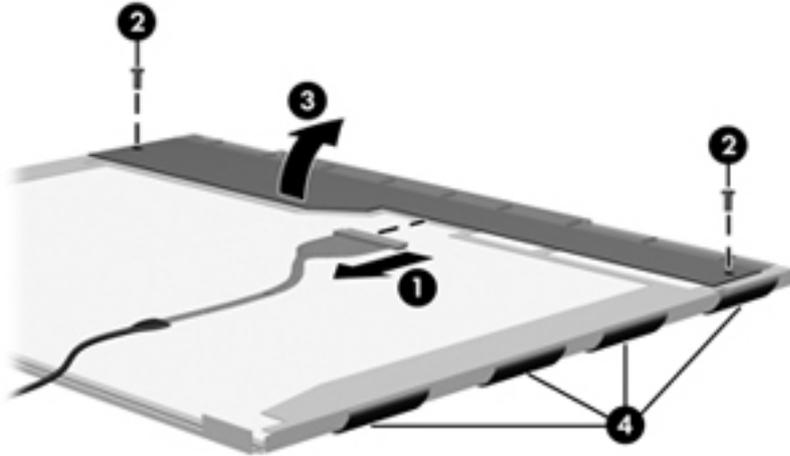


⚠ WARNING! The backlight contains mercury. Exercise caution when removing and handling the backlight to avoid damaging this component and causing exposure to the mercury.

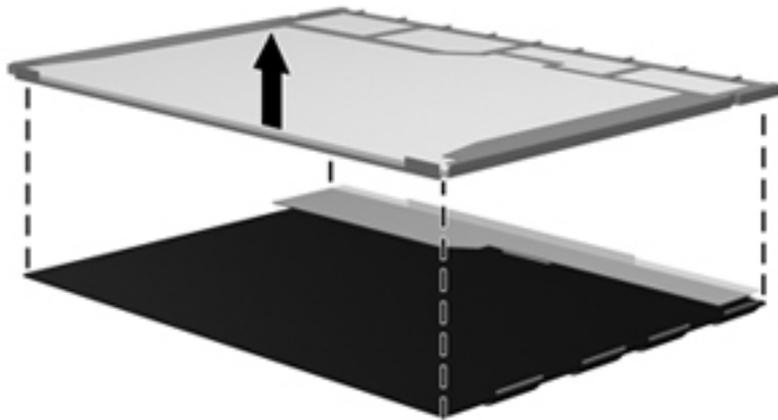
18. Remove the backlight from the backlight frame.



19. Disconnect the display cable (1) from the LCD panel.
20. Remove the screws (2) that secure the LCD panel to the display rear panel.
21. Release the LCD panel (3) from the display rear panel.
22. Release the tape (4) that secures the LCD panel to the display rear panel.



23. Remove the LCD panel.



24. Recycle the LCD panel and backlight.

Index

- A**
 - AC adapter, spare part
 - number 24, 26
 - action keys 8
 - antenna
 - locations 13
 - audio, product description 2
 - audio-in jack
 - connector pinout 83
 - location 11
 - audio-out jack
 - connector pinout 83
 - location 11
- B**
 - base enclosure, spare part
 - number 18, 28
 - battery
 - removal 38
 - spare part numbers 20, 30, 38
 - battery bay 12
 - battery light 10
 - battery release latches 12
 - Blu-ray ROM DVD±R/RW SuperMulti Drive, spare part
 - number 23, 26
 - boot options 70
 - buttons
 - TouchPad 6
 - TouchPad on/off 6
- C**
 - cables, service considerations 32
 - caps lock light 7
 - changing the language of Setup Utility 67
 - chipset, product description 1
 - components
 - bottom 12
 - display 11
 - front 8
 - left-side 10
 - pointing device 6
 - right-side 9
 - TouchPad 6
 - computer feet
 - locations 37
 - spare part number 37
 - connector pinout
 - audio-in jack 83
 - audio-out jack 83
 - external monitor port 84
 - headphone 83
 - microphone 83
 - monitor port 84
 - network jack 85
 - RJ-45 jack 85
 - Universal Serial Bus (USB) port 85
 - connectors, service considerations 32
- D**
 - Diagnostics Menu, Setup Utility 70
 - Digital Media Slot 9
 - diskette drive
 - precautions 32
 - product description 2
 - display assembly
 - removal 58
 - spare part
 - numbers 15, 26, 27, 58
 - display bezel, spare part
 - numbers 21, 27
 - display enclosure, spare part
 - numbers 22, 27
 - Display Hinge Kit, spare part
 - number 21, 27
 - display panel cable, spare part
 - number 21, 27
 - display panel, spare part
 - numbers 21, 27
 - Display Screw Kit, spare part
 - number 22, 27
 - display switch 11
 - drive light 10
 - drives, preventing damage 32
 - DVD±RW and CD-RW SuperMulti Combo Drive, spare part
 - number 23, 26
- E**
 - electrostatic discharge 33
 - Ethernet, product description 2
 - exiting Setup Utility 69
 - external media cards, product description 3
 - external monitor port
 - connector pinout 84
 - location 10
- F**
 - fan/heat sink assembly
 - removal 63
 - spare part number 18, 28, 63
 - feet
 - locations 37
 - spare part number 37
 - fn key 8
- G**
 - graphics, product description 1
 - grounding equipment and methods 35
- H**
 - hard drive
 - precautions 32

- product description 2
- removal 41
- self test 70
- spare part
 - numbers 20, 23, 27, 28, 30, 41
- hard drive bracket, removal 42
- Hard Drive Hardware Kit, spare part number 20, 23, 28, 41
- headphone jack
 - connector pinout 83
 - location 11
- hinge, spare part number 21, 27

I

- internal media cards, product description 3

J

- jacks
 - audio-in 11
 - audio-out 11
 - headphone 11
 - microphone 11
 - network 10
 - RJ-45 10

K

- keyboard
 - product description 3
 - removal 49
 - spare part
 - numbers 16, 28, 29, 49
- keys
 - action 8
 - fn 8
 - Windows applications 8
 - Windows logo 8

L

- language support 70
- lights
 - battery 10
 - caps lock 7
 - drive 10
 - mute 7
 - power 9
 - TouchPad 7
 - webcam 11
 - wireless 7

M

- Main Menu, Setup Utility 69
- memory module
 - product description 1
 - removal 47
 - spare part numbers 18, 27, 47
- memory test 70
- microphone 11
- microphone jack
 - connector pinout 83
 - location 11
- model name 1
- modem, product description 2
- monitor port
 - connector pinout 84
 - location 10
- mute light 7

N

- navigating in Setup Utility 68
- network jack
 - connector pinout 85
 - location 10

O

- operating system, product description 3
- optical drive
 - product description 2
 - spare part numbers 23, 26

P

- packing guidelines 34
- panels, product description 1
- passwords 69
- plastic parts 31
- pointing device
 - components 6
 - product description 3
- ports
 - external monitor 10
 - monitor 10
 - product description 3
 - Universal Serial Bus (USB) 9, 11
- power connector 10
- power connector cable
 - removal 65
 - spare part number 18, 28, 65

- power cord
 - set requirements 86
 - spare part numbers 24, 25
- power light 9
- power requirements, product description 3
- power switch 9
- processor C4 state 70
- processor, product description 1
- product description
 - audio 2
 - chipset 1
 - diskette drive 2
 - Ethernet 2
 - external media cards 3
 - graphics 1
 - hard drive 2
 - internal media cards 3
 - keyboard 3
 - memory module 1
 - modem 2
 - operating system 3
 - optical drive 2
 - panels 1
 - pointing device 3
 - ports 3
 - power requirements 3
 - processors 1
 - product name 1
 - security 3
 - serviceability 4
 - video 2
 - wireless 2
- product name 1

R

- removal/replacement
 - preliminaries 31
 - procedures 36
- restoring default settings in Setup Utility 68
- RJ-45 jack
 - connector pinout 85
 - location 10
- RTC battery
 - removal 48
 - spare part number 18, 25, 48
- Rubber Kit, spare part number 18, 24, 28

S

- Screw Kit, spare part
 - number 24, 30
- security cable slot 10
- Security Menu, Setup Utility 69
- security, product description 3
- selecting in Setup Utility 68
- serial number 14
- service considerations 31
- service cover
 - removal 40
 - spare part number 20, 28, 40
- service tag 14, 36
- serviceability, product description 4
- Setup Utility
 - changing the language 67
 - Diagnostics Menu 70
 - exiting 69
 - Main Menu 69
 - menus 69
 - navigating 68
 - restoring default settings 68
 - Security Menu 69
 - selecting 68
 - starting 67
 - System Configuration Menu 70
 - using 67
- Setup Utility menus 69
- SIM, removal 39
- speakers
 - location 8
 - removal 55
 - spare part number 18, 30, 55
- starting Setup Utility 67
- static-shielding materials 35
- system board
 - removal 61
 - spare part numbers 18, 26, 61
- System Configuration Menu, Setup Utility 70
- system information 68, 69

T

- tools required 31
- top cover
 - removal 52
 - spare part numbers 17, 28, 52

- TouchPad
 - location 6
 - removal 56
 - spare part numbers 18, 28, 56
- TouchPad button 6
- TouchPad light 7
- TouchPad on/off button 6
- transporting guidelines 34

U

- Universal Serial Bus (USB) port
 - connector pinout 85
 - location 9, 11
- using Setup Utility 67

V

- vent 9, 10
- video, product description 2

W

- webcam 11
- webcam light 11
- webcam/microphone module,
 - spare part number 21, 27
- Windows applications key 8
- Windows logo key 8
- wireless antenna
 - locations 13
- wireless light 7
- wireless module, product description 2
- WLAN module
 - removal 45
 - spare part numbers 18, 25, 26, 45
- workstation guidelines 34
- WWAN module
 - removal 43
 - spare part number 20, 26, 43

