HP ProBook 6455b Notebook PC
HP ProBook 6555b Notebook PC
HP ProBook 6450b Notebook PC
HP ProBook 6550b Notebook PC

Maintenance and Service Guide

Safety warning notice

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

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1 Product description

Category	Description	HP ProBook 6555b Notebook PC	HP ProBook 6455b Notebook PC	HP ProBook 6550b Notebook PC	HP ProBook 6450b Notebook PC
Product Name	HP ProBook 6555b Notebook PC	√			
	HP ProBook 6455b Notebook PC		√		
	HP ProBook 6550b Notebook PC			√	
	HP ProBook 6450b Notebook PC				√
Processor	AMD Phenom II Quad Core Mobile N970 2.2-GHz processor (35W, 2-MB L2 cache)	√	√		
	AMD Phenom II Quad Core Mobile N950 2.1-GHz processor (35W, 2-MB L2 cache)	√	√		
	AMD Phenom II Quad Core Mobile N930 2.0-GHz processor (35W, 2-MB L2 cache)	√	√		
	AMD Phenom II Triple Core Mobile N870 2.3-GHz processor (35W, 1.5-MB L2 cache)	√	√		
	AMD Phenom II Triple Core Mobile N850 2.2-GHz, processor (35W, 1.5-MB L2 cache)	√	√		
	AMD Phenom II Triple Core Mobile N830 2.1-GHz processor (35W, 1.5-MB L2 cache)	√	√		
	AMD Phenom II Dual Core Mobile N660 3.0-GHz processor (35W, 2-MB L2 cache)	√	√		
	AMD Phenom II Dual Core Mobile N640 2.9-GHz processor (35W, 2-MB L2 cache)	√	√		
	AMD Phenom II Dual Core Mobile N620 2.8-GHz processor (35W, 2-MB L2 cache)	√	√		
	AMD Turion II Dual Core Mobile N530 2.5-GHz processor (25W, 2-MB L2 cache)	√	√		

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	AMD Turion II Dual Core Mobile P520 2.3-GHz processor (25W, 2-MB L2 cache)	√	√		
	AMD Athlon II Dual Core P340 2.2-GHz processor (25W, 1-MB L2 cache)	√	√		
	AMD Athlon II Dual Core P320 2.1-GHz processor (25W, 1-MB L2 cache)	√	√		
	Intel Core i7-740QM (1.73 GHz (Turbo up to 2.93), 6 MB L3 cache, 8 threads, 45W)			√	√
	Intel Core i7-720QM (1.60 GHz (Turbo up to 2.80 GHz), 6 MB L3 cache, 8 threads, 45 W)			√	√
	Intel Core i7-620M (2.66 GHz (Turbo up to 3.33 GHz), 4 MB L3 cache, 4 threads, 35 W)			√	√
	Intel Core i5-540M (2.53 GHz (Turbo up to 3.06 GHz), 3 MB L3 cache, 4 threads, 35 W)			√	√
	Intel Core i5-520M (2.4 GHz (Turbo up to 2.93 GHz), 3 MB L3 cache, 4 threads, 35 W)			√	√
	Intel Core i5-480M (2.66 GHz (Turbo up to 3.00-GHz), 3-MB L3 cache, 4 threads, 35 W)			√	√
	Intel Core i5-450M (2.40 GHz (Turbo up to 2.66 GHz), 3 MB L3 cache, 4 threads, 35 W)			√	√
	Intel Core i3-370M (2.40 GHz, 3 MB L3 cache, 35W)			√	√
	Intel Core i3-350M (2.26 GHz, 3 MB)			√	√
	Intel P4500 (1.8 GHz), 2MB, 35W			√	√
Chipset	AMD M880G RS880M (500 MHz)	√	√		
	AMD M880G SB820M (D1)	√	√		
	Intel Calpella			√	√
	Mobile Intel HM57 Chipset			√	√
	Mobile Intel QM57 Chipset			√	√
Graphics	ATI Mobility Radeon™ HD 4250 Universal Memory Architecture (UMA) graphics	√	√		

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	ATI Mobility Radeon™ HD 540v UMA graphics			√	√
	Supports dual-display ports through docking station	√	√	√	√
Panels	Supports HP Privacy Filter	√	√	√	√
	Supports 16×9 aspect ratio display panels	√	√	√	√
	15.6-in, HD, LED, AntiGlare (AG) (1366×768)	√		√	
	15.6" HD+ LED WVA AG (1600x900)	√		√	
	15.6" HD LED AG (1366x768) WWAN	√		√	
	15.6" HD+ LED WVA AG (1600x900) WWAN	√		√	
	15.6-in, HD, LED, AG (1366×768) with webcam	√		√	
	15.6" HD+ LED WVA AG with webcam (1600x900)	√		√	
	15.6" HD LED AG with webcam (1366x768) WWAN	√		√	
	15.6" HD+ LED WVA AG with webcam (1600x900) WWAN	√		√	
	14.0" HD LED AG (1366x768)		√		√
	14.0" HD LED BrightView (BV) (1366x768)				√
	14.0" HD+ LED AG (1600x900)		√		√
	14.0-in, HD, LED, AG (1366x768) WWAN				√
	14.0-in, HD, LED, BV (1366x768) WWAN				√
	14.0-in, HD+, LED, AG (1600×900) WWAN				√
	14.0" HD LED AG with webcam (1366x768)		√		√
	14.0" HD LED BV with webcam (1366x768)				√
	14.0" HD+ LED AG with webcam (1600x900)		√		√
	14.0" HD LED AG with webcam (1366x768) WWAN		√		√

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	14.0" HD LED BV with webcam (1366x768) WWAN				√
	14.0" HD+ LED AG with webcam (1600x900) WWAN		√		√
Memory	2 customer-accessible/upgradable memory module slots (both slots are customer-accessible)	√	√	√	√
	Supports up to 8GB	√	√	√	√
	Supports the following DDR3, PC3-12800 configurations at 1600-MHz in all supported countries and regions:	√	√	√	√
	8192-MB total system memory (4096 × 2)				
	4096-MB total system memory (4096 × 1)				
	4096-MB total system memory (2048 × 2)				
	3072-MB total system memory (2048 + 1024)				
	2048-MB total system memory (2048 x 1)				
	2048-MB total system memory (1024 × 2)				
	1024-MB total system memory (1024 × 1) NOTE: Not available with 64-bit operating systems or Media Restore.				
Mass storage devices	Supports **9.50-mm**, **6.35-cm** (2.50-in) hard drives and solid-state drives	√	√	√	√
	Customer-accessible	√	√	√	√
	Supports HP 3D DriveGuard	√	√	√	√
	Supports the following hard drives: ● 500-GB, 7200-rpm ● 320-GB, 7200-rpm SED ● 320-GB, 7200-rpm ● 250-GB, 7200-rpm ● 160-GB, 7200-rpm	√	√	√	√
	Supports 128-GB solid-state drive	√	√	√	√

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	Supports 80-GB solid-state drive	√	√	√	√
Optical drive	Single screw removal	√	√	√	√
	Customer-accessible	√	√	√	√
	Supports 12.70-mm, optical drives	√	√	√	√
	Supports no drive option in optical drive bay with slot bezel	√	√	√	√
	Supports the following optical drives: ● Blu-ray ROM with LightScribe DVD±RW SuperMulti Double-Layer Drive ● DVD±RW SuperMulti Double-Layer Drive with LightScribe ● DVD-ROM Drive	√	√	√	√
	Supports a 500-GB, 7200-rpm hard drive with cradle	√	√	√	√
Microphone	Integrated dual-array digital microphone only on computer models equipped with a webcam	√	√	√	√
	Integrated mono digital microphone only on computer models not equipped with a webcam	√	√	√	√
Audio	IDT 92HD75B high-definition audio	√	√	√	√
	Stereo speakers (2)	√	√	√	√
Webcam	Integrated 2-megapixel camera with fixed focus	√	√	√	√
Modem	56k v.92 MDC data/fax modem	√	√	√	√
	Modem cable not included	√	√	√	√
Ethernet	Marvell 88E8059 10/100/1000 network interface card (NIC)	√	√		
	82577LC non-vPro (HM57)			√	√
	82577LM vPro (QM57)			√	√
	Intel Ethernet with iAMT			√	√
	NIC Power Down technology	√	√	√	√
	S3/S4/S5 wake on LAN (AC mode only)	√	√	√	√
	Ethernet cable not included	√	√	√	√

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Wireless	Integrated wireless local-area network (WLAN) options via MiniCard:	√	√	√	√
	2 WLAN antennas built into the display assembly	√	√	√	√
	Broadcom 4322 802.11 a/b/g 2 x 2 Half MiniCard	√	√	√	√
	Intel 1000 802.11b/g/n 1 x 2 Half MiniCard Halogen-Free HMC			√	√
	Intel 6200 802.11a/g/n 2 x 2 Half MiniCard HMC			√	√
	Broadcom BCM94313HMG2L 802.11 b/g/n 1 x 1 Half Minicard	√	√	√	√
	Broadcom 4312 802.11 b/g Half MiniCard (Russia only)	√	√	√	√
	Supports no-WLAN option	√	√	√	√
	Integrated wireless wide-area network (WWAN) options via MiniCard: ● Qualcomm HSPA, EVDO-A MiniCard ● WWAN security provided by subscriber identity module (SIM), user-accessible behind battery ● 2 WWAN antennas (worldwide, 5-band) built into the display assembly	√	√	√	√
	Integrated wireless personal-area network (WPAN) options via Bluetooth® module	√	√	√	√
External media cards	ExpressCard/54 slot	√	√	√	√

Category	Description	HP ProBook 6555b Notebook PC	HP ProBook 6455b Notebook PC	HP ProBook 6550b Notebook PC	HP ProBook 6450b Notebook PC
	Media Card Reader supporting the following optional digital card formats: ● Memory Stick ● Memory Stick Pro ● Memory Stick Duo (adapter required) ● Memory Stick Duo Pro (adapter required) ● MultiMediaCard ● MultiMediaCard HS ● Secure Digital (SD) Memory Card ● Secure Digital (SD) High Capacity Memory Card ● Secure Digital (SD) HS Memory Card ● xD-Picture Card	√	√	√	√
Docking	Docking supported through the HP Advanced 120W Docking Station and HP 90W Docking Station	√	√	√	√
Ports	1394a	√	√	√	√
	Accessory battery connector	√	√	√	√
	VGA, (Dsub 15-pin) supporting 1600 × 1200 external resolution at 75 Hz, hot plug/unplug, and auto detection for correct output to wide-aspect vs. standard aspect video	√	√	√	√
	Docking connector	√	√	√	√
	Display port	√	√	√	√
	Multi-pin AC power	√	√	√	√
	RJ-11 (modem)	√	√	√	√
	RJ-45 (Ethernet, includes link and activity lights)	√	√	√	√
	Serial			√	
	Stereo headphone	√	√	√	√
	Stereo microphone	√	√	√	√
	USB v. 2.0	√	√	√	√
	USB v. 2.0/eSATA combo	√	√	√	√

Category	Description	HP ProBook 6555b Notebook PC	HP ProBook 6455b Notebook PC	HP ProBook 6550b Notebook PC	HP ProBook 6450b Notebook PC
Keyboard/ pointing device	Full-sized keyboard with spill-resistant design and drains	√	√	√	√
	Supports dual-point (pointing stick and TouchPad) and TouchPad-only configurations		√		√
	Supports dual-point (pointing stick and TouchPad) and TouchPad-only configurations with numeric keypad	√		√	
	Supports 2-way scroll with legend	√	√	√	√
	Taps enabled as default	√	√	√	√
Power requirements	90-W HP Smart Adapter	√	√		
	90-W PFC EM HP Smart Adapter (India only)	√	√		
	90-W Smart Adapter (discrete only)			√	√
	90-W Smart Adapter (UMA only)			√	√
	Supports multi-pin AC connector and 3-wire plug (with ground pin)	√	√	√	√
	Supports 6-cell Lithium Ion (Li Ion) battery (47 WH)			√	√
	Supports 6-cell Lithium Ion (Li Ion) battery (55 WH)	√	√	√	√
	Supports 9-cell Li Ion battery (93 WH)	√	√	√	√
	NOTE: Does not support HP Fast Charge.				
	Supports 6-cell Long Life Battery	√	√	√	√
	Supports 8-cell Extended Life Battery	√	√	√	√
	Supports 12-cell Ultra Capacity Battery	√	√	√	√
	Supports HP Fast Charge Technology	√	√	√	√
Security	Security cable slot	√	√	√	√
	Trusted platform module (TPM) 1.2 and TPM enhanced drive lock	√	√	√	√
	Optional HP fingerprint reader	√	√		√
	Fingerprint reader with 14.0" Keyboard Deck				√
	Fingerprint reader with 15.6" Keyboard Deck			√	

Category	Description	HP ProBook 6555b Notebook PC	HP ProBook 6455b Notebook PC	HP ProBook 6550b Notebook PC	HP ProBook 6450b Notebook PC
	Optional active integrated Smart Card Reader	√	√	√	√
	Full volume encryption	√	√	√	√
	Preboot authentication (password and smart card)	√	√	√	√
	Supports no Fingerprint option	√	√	√	√
	Supports no fingerprint reader 14.0" Keyboard Deck				√
	Supports no fingerprint reader 15.6" Keyboard Deck			√	
Operating system	**Preinstalled without Microsoft® Office:**	√	√	√	√
	● Windows® 7 Home Premium 64				
	● Windows 7 Home Premium 32				
	● Windows 7 Pro 64				
	● Windows 7 Pro 32				
	● Windows Vista® Business 32				
	● Windows 7 Professional (including a downgrade right to Genuine Windows Vista Business pre-installed)				
	● Windows Vista Home Basic 32				
	● Windows XP Pro 32 with Windows 7 Pro downgrade				
	● FreeDOS				
	● Red Flag Linux				

Category	Description	HP ProBook 6555b Notebook PC	HP ProBook 6455b Notebook PC	HP ProBook 6550b Notebook PC	HP ProBook 6450b Notebook PC
	Preinstalled with Microsoft Office:	√	√	√	√
	● Windows 7 Home Basic 32				
	● Windows 7 Home Premium 64				
	● Windows 7 Home Premium 32				
	● Windows 7 Pro 64				
	● Windows 7 Pro 32				
	● Windows Vista Home Basic 32				
	● Windows vista Home Basic 32 with PowerPoint Certificate of Authenticity (COA)				
	● Windows Vista Business 32				
	● Windows 7 Professional (including a downgrade right to Genuine Windows Vista Business pre-installed)				
	● Windows XP Professional available through downgrade rights from Windows 7 Professional				
	Preinstalled with Microsoft Office Personal, Microsoft Office Personal with PowerPoint, and Microsoft Office Professional:	√	√	√	√
	● Windows 7 Home Premium 64				
	● Windows 7 Home Premium 32				
	● Windows 7 Pro 64				
	● Windows 7 Pro 32				
	● Windows Vista Business 32				
	● Windows 7 Professional (including a downgrade right to Genuine Windows Vista Business pre-installed)				
	● Windows XP Professional available through downgrade rights from Windows 7 Professional				

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	Restore Media (OSDVD):	√	√	√	√
	● Windows 7 Home Basic 32				
	● Windows 7 Home Premium 64				
	● Windows 7 Home Premium 32				
	● Windows 7 Pro 64				
	● Windows 7 Pro 32				
	● Windows Vista Business 32				
	● Windows Vista Home Basic 32				
	● Windows XP Professional available through downgrade rights from Windows 7 Professional				
	Restore media (DRDVD):	√	√	√	√
	● Windows 7 DRDVD with Windows DVD				
	● Windows 7 DRDVD without Windows DVD				
	● Windows Vista DRDVD				
	● Windows XP DRDVD with Windows 7 downgrade				
	Restore media (SRDVD):	√	√	√	√
	● Linux - Red Flag				
	Office restore media: Microsoft Office ready restore DVD	√	√	√	√
	Certified:	√	√	√	√
	● SuSE Linux				
	● Microsoft Logo (Windows 7 and Windows Vista Premium)				
	Web-only support:	√	√	√	√
	● Windows 7 Enterprise 64				
	● Windows 7 Enterprise 32				
	● Windows 7 Ultimate 64				
	● Windows 7 Ultimate 32				
	● Windows Vista Enterprise 32				
	● Windows Vista Enterprise 64				
Serviceability	**End-user replaceable parts:**				

Category	Description	HP ProBook 6555b Notebook PC	HP ProBook 6455b Notebook PC	HP ProBook 6550b Notebook PC	HP ProBook 6450b Notebook PC
	AC adapter	√	√	√	√
	Battery (system)	√	√	√	√
	Hard drive	√	√	√	√
	Memory module	√	√	√	√
	Optical drive	√	√	√	√
	SIM	√	√	√	√
	WLAN module	√	√	√	√
	WPAN 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:

For Windows 7 and Windows Vista:

1. Select **Start > Computer > System Properties**.

2. In the left pane, click **Device Manager**.

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

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 applications, running utilities, or changing Windows settings. Refer to Help and Support for more information.
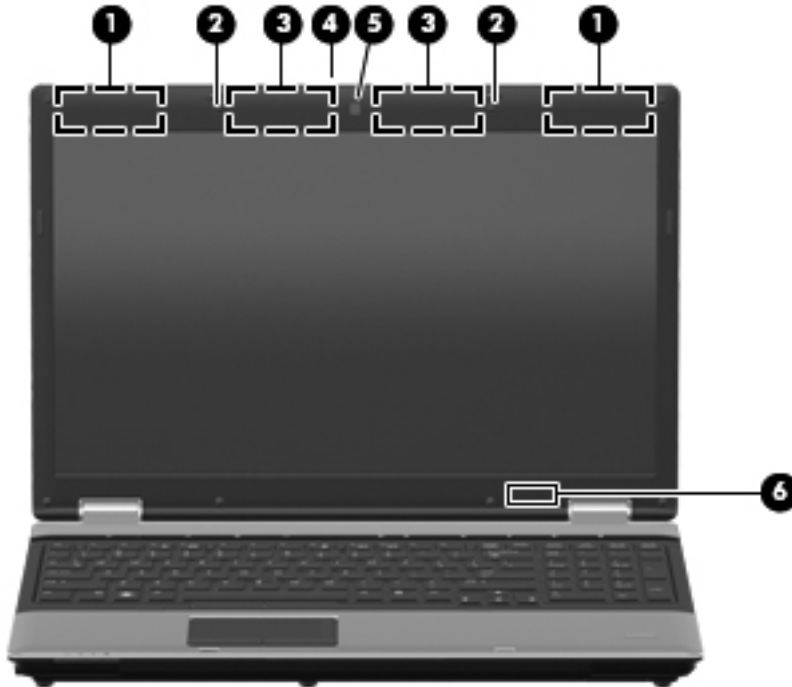
For Windows XP:

1. Select **Start > My Computer**.

2. In the left pane of the System Tasks window, click **View system information**.

3. Select **Hardware tab > Device Manager**.

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

Top components

Display components

NOTE: Your computer may look slightly different from the illustration in this section.

Item	Component	Description
(1)	WWAN antennas (2)*	Send and receive wireless signals to communicate with wireless wide-area networks (WWAN).
(2)	Internal microphones (1 or 2, varying by computer model)†	Record sound. **NOTE:** If there is a microphone icon next to each microphone opening, your computer has internal microphones.
(3)	WLAN antennas (2)*	Send and receive wireless signals to communicate with wireless local area networks (WLAN).
(4)	Webcam light (select models only)	On: The webcam is in use.
(5)	Webcam (select models only)	Records audio and video and captures still photographs.
(6)	Internal display switch	Turns off the display or initiates the Sleep state (Windows 7 and Windows Vista) or Standby (Windows XP) if the display is closed while the power is on.

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

†Only computers equipped with a webcam are equipped with 2 microphones. Computers not equipped with a webcam are equipped with only one microphone.

Keys

NOTE: Refer to the illustration that most closely matches your computer.

Item	Component	Description
(1)	esc key	Displays system information when pressed in combination with the fn key.
(2)	fn key	Executes frequently used system functions when pressed in combination with a function key or the esc key.
(3)	Windows logo key	Displays the Windows Start menu.
(4)	Windows applications key	Displays a shortcut menu for items beneath the pointer.
(5)	Integrated numeric keypad keys	Can be used like the keys on an external numeric keypad.
(6)	Function keys	Execute frequently used system functions when pressed in combination with the fn key.

Item	Component	Description
(1)	esc key	Displays system information when pressed in combination with the fn key.
(2)	fn key	Executes frequently used system functions when pressed in combination with a function key or the esc key.
(3)	Windows logo key	Displays the Windows Start menu.
(4)	Windows applications key	Displays a shortcut menu for items beneath the pointer.
(5)	Embedded numeric keypad keys	Can be used like the keys on an external numeric keypad.
(6)	Function keys	Execute frequently used system functions when pressed in combination with the fn key.

Pointing devices

Item	Component	Description
(1)	Pointing stick (select models only)*	Moves the pointer and selects or activates items on the screen.
(2)	Left pointing stick button (select models only)*	Functions like the left button on an external mouse.
(3)	TouchPad	Moves the pointer and selects or activates items on the screen.
(4)	Left TouchPad button*	Functions like the left button on an external mouse.
(5)	Right pointing stick button*	Functions like the right button on an external mouse.
(6)	TouchPad scroll zone	Scrolls up or down.
(7)	Right TouchPad button*	Functions like the right button on an external mouse.

*This table describes factory settings. To view or change pointing device preferences:

● In Windows 7 and Windows Vista: Select **Start > Control Panel > Hardware and Sound > Mouse**.

● In Windows XP: Select **Start > Control Panel > Printers and Other Hardware > Mouse**.
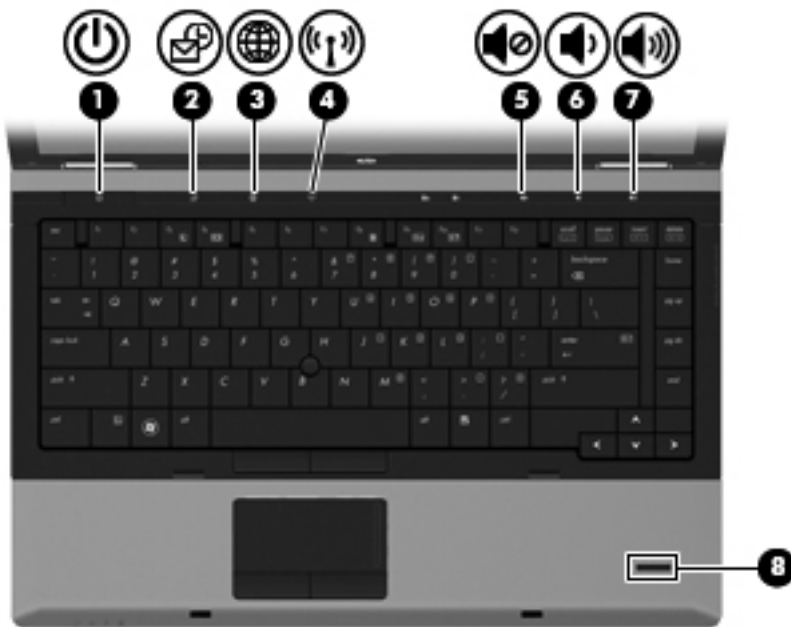
Buttons and fingerprint reader

📝 NOTE: Refer to the illustration that most closely matches your computer.

Item	Component	Description
(1)	Power button	● When the computer is off, press the button to turn on the computer. ● When the computer is on, press the button to shut down the computer. ● When the computer is in the Sleep state (Windows 7 and Windows Vista) or Standby (Windows XP), press the button briefly to exit Sleep or Standby. ● When the computer is in Hibernation, press the button briefly to exit Hibernation. If the computer has stopped responding and Windows shutdown procedures are ineffective, press and hold the power button for at least 5 seconds to turn off the computer. To learn more about your power settings, select one of the following: ● In Windows 7 and Windows Vista: select **Start > Control Panel > System and Maintenance > Power Options**. ● In Windows XP: select **Start > Control Panel > Performance and Maintenance > Power Options**.

Item	Component	Description
(2)	QuickLook button	● When the computer is off, press the button to open HP QuickLook.
		● When the computer is on, press the button to open Software Setup.
		NOTE: If Software Setup is not available, the default Web browser opens.
(3)	QuickWeb button	● When the computer is off, press the button to open HP QuickWeb.
		● When the computer is on, press the button to open the default Web browser.
(4)	Wireless button	Turns the wireless feature on or off but does not establish a wireless connection.
(5)	Volume mute button	Mutes and restores speaker sound.
(6)	Volume down button	Decreases computer volume.
(7)	Volume up button	Increases computer volume.
(8)	Calculator button (select models only)	Opens the Windows calculator feature.
(9)	Fingerprint reader	Allows a fingerprint logon to Windows, instead of a password logon.

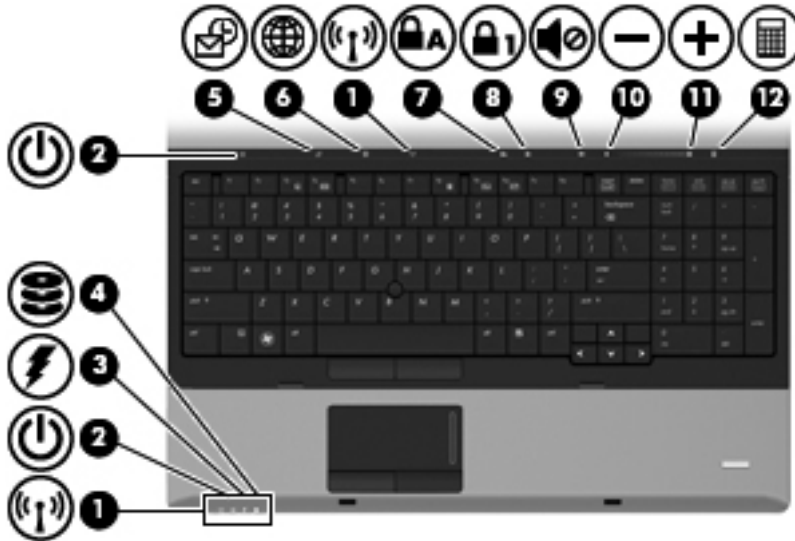| Item	Component	Description
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(7)	Volume up button	Increases computer volume.
(8)	Fingerprint reader	Allows a fingerprint logon to Windows, instead of a password logon.

Lights

NOTE: Refer to the illustration that most closely matches your computer.
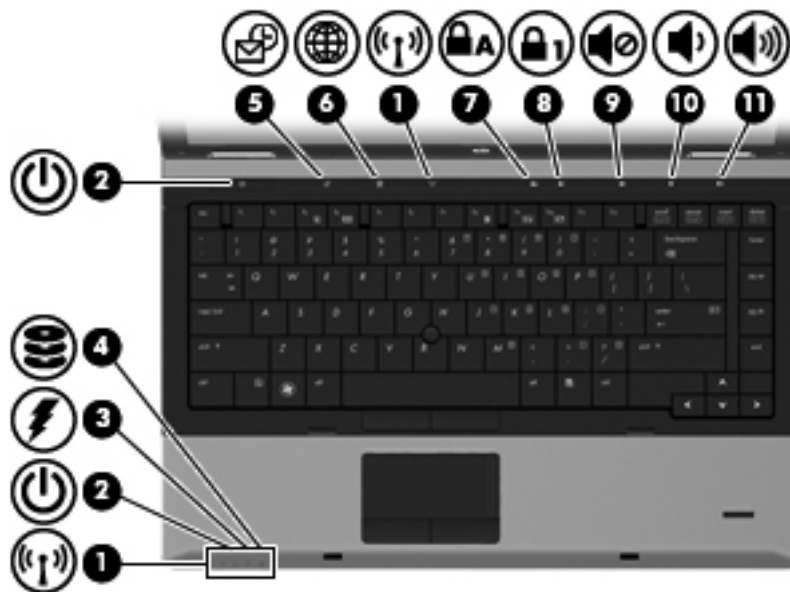

Item	Component	Description
(1)	Wireless lights (2)*	• Blue: An integrated wireless device, such as a WLAN device, the HP Mobile Broadband Module (select models only), and/or a Bluetooth device, is on.
		• Amber: All wireless devices are off.
(2)	Power lights (2)†	• On: The computer is on.
		• Blinking: The computer is in the Sleep state (Windows 7 and Windows Vista) or Standby (Windows XP).
		• Off: The computer is off or in Hibernation.
(3)	Battery light	• Amber: A battery is charging.
		• Turquoise: A battery is close to full charge capacity.
		• Blinking amber: A battery that is the only available power source has reached a low battery level. When the battery reaches a critical battery level, the battery light begins blinking rapidly.
		• Off: If the computer is plugged into an external power source, the light turns off when all batteries in the computer are fully charged. If the computer is not plugged into an external power source, the light stays off until the battery reaches a low battery level.
(4)	Drive light	• Blinking turquoise: The hard drive or optical drive (select models only) is being accessed.
		• Amber: HP 3D DriveGuard has temporarily parked the hard drive.

Item	Component	Description
(5)	QuickLook light	• On: The computer is on. • Off: The computer is off or in the Sleep state (Windows 7 and Windows Vista) or Standby (Windows XP) or Hibernation.
(6)	QuickWeb light	On: The Web browser is in use.
(7)	Caps lock light	On: Caps lock is on.
(8)	Num lock light	On: Num lock is on or the embedded numeric keypad is enabled.
(9)	Volume mute light	• Turquoise: Speaker sound is on. • Amber: Speaker sound is off.
(10)	Volume down light	Blinking: The volume down button is being used to decrease the speaker volume.
(11)	Volume up light	Blinking: The volume up button is being used to increase the speaker volume.
(12)	Calculator light	On: The Windows calculator function is on.

*The 2 wireless lights display the same information. The light on the wireless button is visible only when the computer is open. The wireless light on the front of the computer is visible whether the computer is open or closed.

†The 2 power lights display the same information. The light on the power button is visible only when the computer is open. The power light on the front of the computer is visible whether the computer is open or closed.

Item	Component	Description
(1)	Wireless lights (2)*	• Blue: An integrated wireless device, such as a WLAN device, the HP Mobile Broadband Module (select models only), and/or a Bluetooth device, is on. • Amber: All wireless devices are off.

Item	Component	Description
(2)	Power lights (2)†	- On: The computer is on. - Blinking: The computer is in the Sleep state (Windows 7 and Windows Vista) or Standby (Windows XP). - Off: The computer is off or in Hibernation.
(3)	Battery light	- Amber: A battery is charging. - Turquoise: A battery is close to full charge capacity. - Blinking amber: A battery that is the only available power source has reached a low battery level. When the battery reaches a critical battery level, the battery light begins blinking rapidly. - Off: If the computer is plugged into an external power source, the light turns off when all batteries in the computer are fully charged. If the computer is not plugged into an external power source, the light stays off until the battery reaches a low battery level.
(4)	Drive light	- Blinking turquoise: The hard drive or optical drive (select models only) is being accessed. - Amber: HP 3D DriveGuard has temporarily parked the hard drive.
(5)	QuickLook light	- On: The computer is on. - Off: The computer is off or in the Sleep state (Windows 7 and Windows Vista) or Standby (Windows XP) or Hibernation.
(6)	QuickWeb light	On: The Web browser is in use.
(7)	Caps lock light	On: Caps lock is on.
(8)	Num lock light	On: Num lock is on or the embedded numeric keypad is enabled.
(9)	Volume mute light	- Turquoise: Speaker sound is on. - Amber: Speaker sound is off.
(10)	Volume down light	Blinking: The volume down button is being used to decrease the speaker volume.
(11)	Volume up light	Blinking: The volume up button is being used to increase the speaker volume.

*The 2 wireless lights display the same information. The light on the wireless button is visible only when the computer is open. The wireless light on the front of the computer is visible whether the computer is open or closed.

†The 2 power lights display the same information. The light on the power button is visible only when the computer is open. The power light on the front of the computer is visible whether the computer is open or closed.
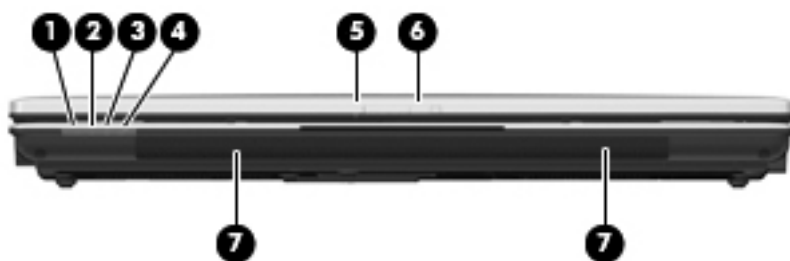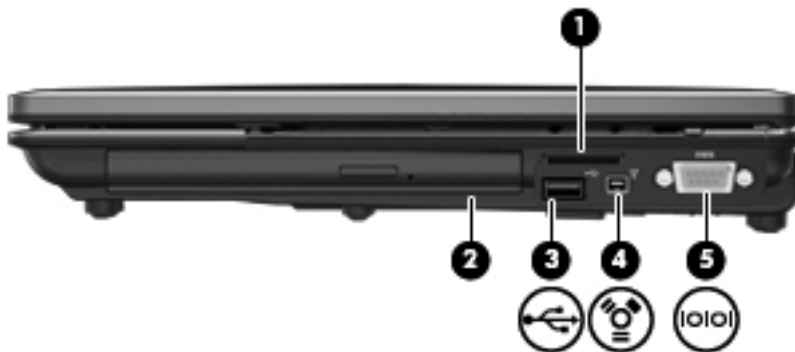
Front components

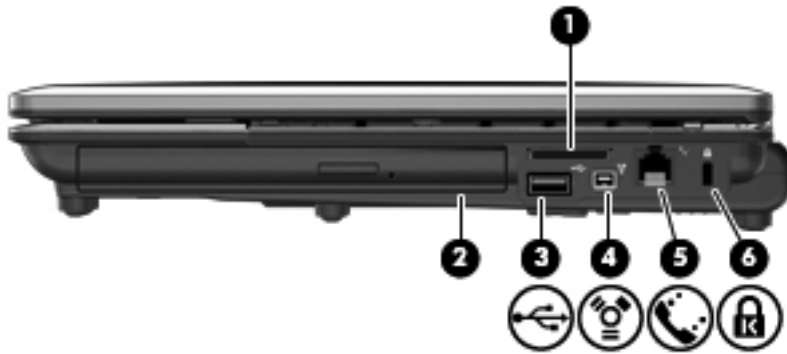| Item	Component	Description
(1)	Wireless light	● Blue: An integrated wireless device, such as a wireless local area network (WLAN) device, the HP Mobile Broadband Module (select models only), and/or a Bluetooth device, is on.
		● Amber: All wireless devices are off.
(2)	Power light	● On: The computer is on.
		● Blinking: The computer is in the Sleep state (Windows 7 and Windows Vista) or Standby (Windows XP).
		● Off: The computer is off or in Hibernation.
(3)	Battery light	● Amber: A battery is charging.
		● Turquoise: A battery is close to full charge capacity.
		● Blinking amber: A battery that is the only available power source has reached a low battery level. When the battery reaches a critical battery level, the battery light begins blinking rapidly.
		● Off: If the computer is plugged into an external power source, the light turns off when all batteries in the computer are fully charged. If the computer is not plugged into an external power source, the light stays off until the battery reaches a low battery level.
(4)	Drive light	● Blinking turquoise: The hard drive or optical drive (select models only) is being accessed.
		● Amber: HP 3D DriveGuard has temporarily parked the hard drive.
(5)	Webcam light (select models only)	On: The webcam is in use.
(6)	Display release latch	Opens the computer.
(7)	Speakers (2)	Produce sound.

Right-side components

NOTE: Refer to the illustration that most closely matches your computer.

Item	Component	Description
(1)	Media Card Reader	Supports the following optional digital card formats:
		● Memory Stick
		● Memory Stick Pro
		● Memory Stick Duo (adapter required)
		● Memory Stick Duo Pro (adapter required)
		● MultiMediaCard
		● MultiMediaCard Plus
		● Secure Digital (SD) Memory Card
		● Secure Digital (SD) High Capacity Memory Card
		● micro Secure Digital (SD) Memory Card (adapter required)
		● xD-Picture Card
(2)	Upgrade bay	Supports an optical drive or a hard drive.
(3)	USB port	Connects an optional USB device.
(4)	1394 port	Connects an optional IEEE 1394 or 1394a device, such as a camcorder.
(5)	Serial port (select models only)	Connects an optional device such as a serial modem, mouse, or printer.

Item	Component	Description
(1)	Media Card Reader	Supports the following optional digital card formats:
		● Memory Stick
		● Memory Stick Pro
		● Memory Stick Duo (adapter required)
		● Memory Stick Duo Pro (adapter required)
		● MultiMediaCard
		● MultiMediaCard Plus
		● Secure Digital (SD) Memory Card
		● Secure Digital (SD) High Capacity Memory Card
		● micro Secure Digital (SD) Memory Card (adapter required)
		● xD-Picture Card
(2)	Upgrade bay	Supports an optical drive or a hard drive.
(3)	USB port	Connects an optional USB device.
(4)	1394 port	Connects an optional IEEE 1394 or 1394a device, such as a camcorder.
(5)	RJ-11 (modem) jack	Connects a modem cable.
(6)	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

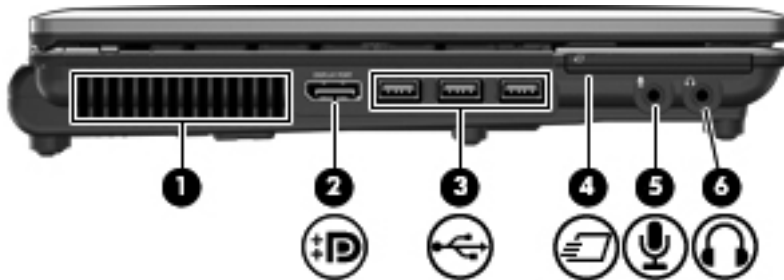NOTE: Refer to the illustration that most closely matches your computer.

Item	Component	Description
(1)	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.
(2)	DisplayPort	Connects an optional digital display device such as a high-performance monitor or projector.
(3)	USB ports (3)	Connect optional USB devices.
(4)	ExpressCard slot	Supports optional ExpressCards.
(5)	Audio-in (microphone) jack	Connects an optional computer headset microphone, stereo array microphone, or monaural microphone.
(6)	Audio-out (headphone) jack	Produces sound when connected to optional powered stereo speakers, headphones, ear buds, a headset, or television audio.
		NOTE: When a device is connected to the headphone jack, the computer speakers are disabled.

Item	Component	Description
(1)	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.

Item	Component	Description
(2)	DisplayPort	Connects an optional digital display device such as a high-performance monitor or projector.
(3)	USB ports (3)	Connect optional USB devices.
(4)	Smart Card Reader (select models only)	Supports optional smart cards and Java™ Cards.
(5)	Audio-in (microphone) jack	Connects an optional computer headset microphone, stereo array microphone, or monaural microphone.
(6)	Audio-out (headphone) jack	Produces sound when connected to optional powered stereo speakers, headphones, ear buds, a headset, or television audio. **NOTE:** When a device is connected to the headphone jack, the computer speakers are disabled.

Rear components

NOTE: Your computer may look slightly different from the illustration in this section.

Item	Component	Description
(1)	Security cable slot	Attaches an optional security cable to the computer.
		NOTE: The security cable is designed to act as a deterrent, but it may not prevent the computer from being mishandled or stolen.
(2)	RJ-11 (modem) jack	Connects a modem cable.
(3)	RJ-45 (network) jack	Connects a network cable.
(4)	External monitor port	Connects an external VGA monitor or projector.
(5)	Power connector	Connects an AC adapter.

Item	Component	Description
(1)	RJ-45 (network) jack	Connects a network cable.
(2)	External monitor port	Connects an external VGA monitor or projector.
(3)	Power connector	Connects an AC adapter.

Bottom components
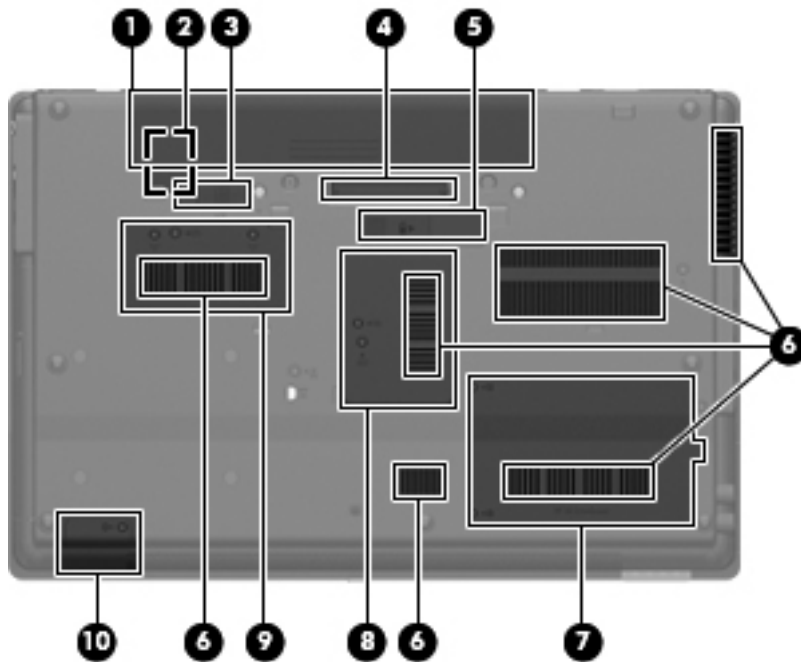
Item	Component	Description
(1)	Battery bay	Holds the battery.
(2)	SIM slot	Contains a wireless subscriber identity module (SIM) (select models only). The SIM slot is located inside the battery bay.
(3)	Battery release latch	Releases the battery from the battery bay.
(4)	Docking connector	Connects an optional docking device.
(5)	Accessory battery connector	Connects an optional accessory battery.
(6)	Vents (6)	Enable 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.
(7)	Hard drive bay	Holds the hard drive.
(8)	Memory module compartment	Contains an expansion memory module slot.

Item	Component	Description
(9)	HP Mobile Broadband Module compartment	Contains an HP Mobile Broadband Module (select models only). **NOTE:** 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.
(10)	Bluetooth compartment	Contains a Bluetooth device.

3   Illustrated parts catalog
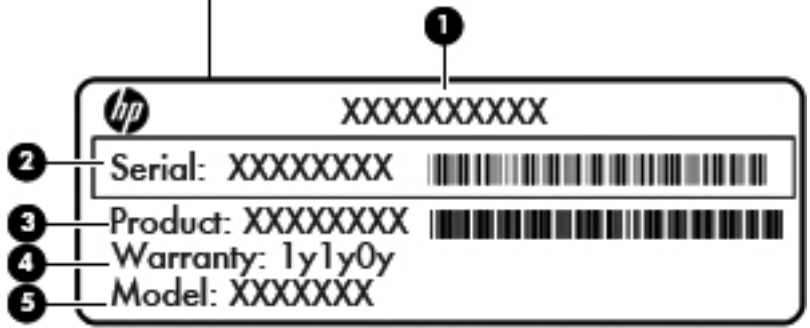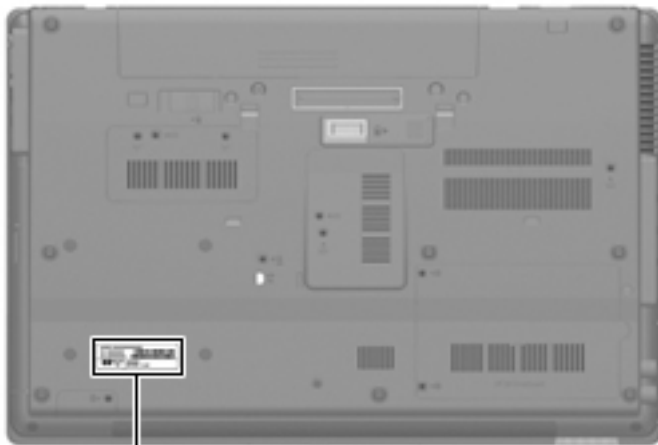
Service tag

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) Part number/Product number (p/n): This number provides specific information about the product's hardware components. The part number helps a service technician determine what components and parts are needed.

(4) Warranty period: This number describes the duration of the warranty period for the computer.

(5) Model description: This is the alphanumeric identifier used to locate documents, drivers, and support for the computer.

The service tag label includes the following information:

- **(1)** XXXXXXXXX
- **(2)** Serial: XXXXXXX
- **(3)** Product: XXXXXXX
- **(4)** Warranty: 1y1y0y
- **(5)** Model: XXXXXXX

Computer major components
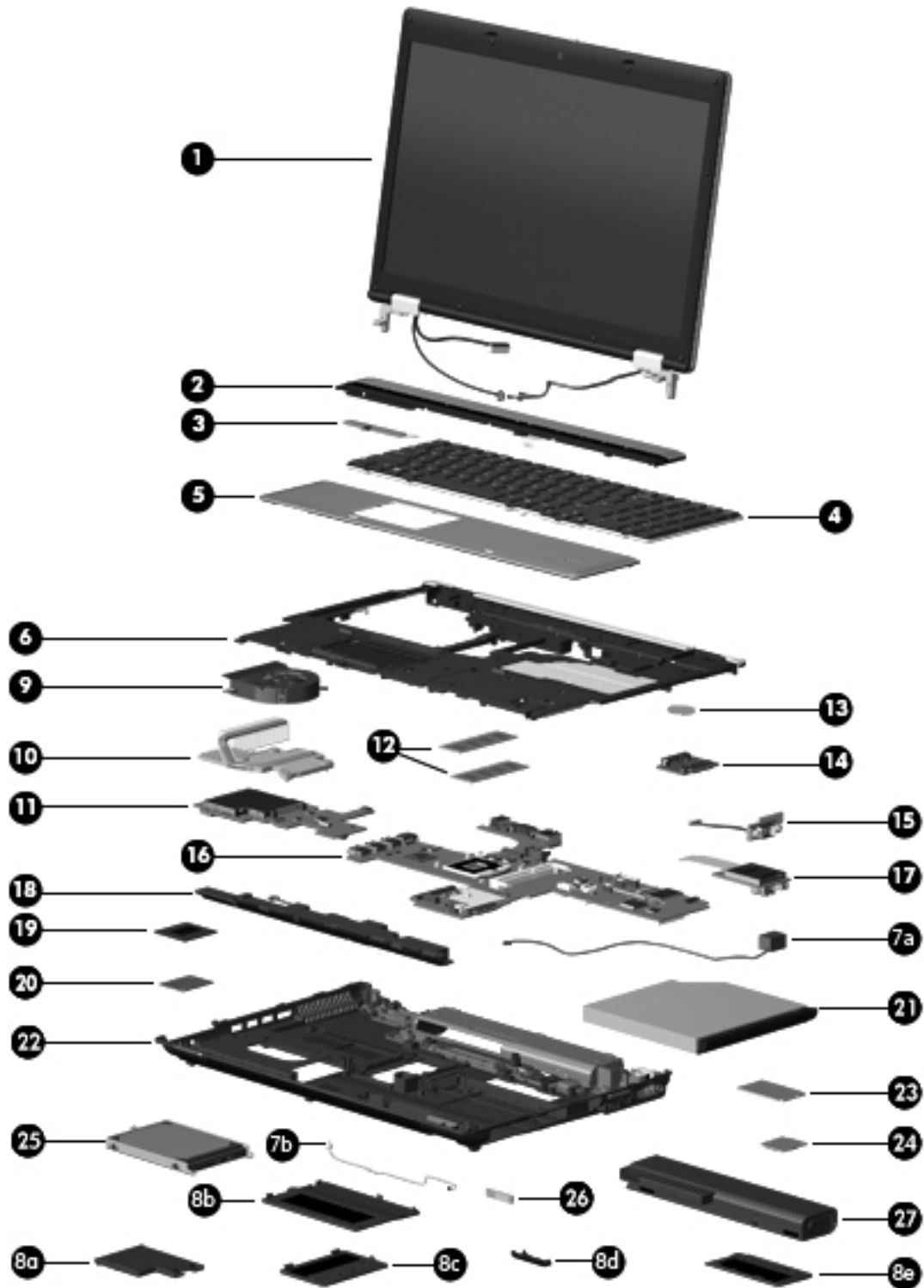
Item	Description	Spare part number
(1)	**Display assembly** (includes 3 WLAN antenna transceivers and cables, microphones, nameplate, and logo):	
	For use only on HP Compaq 6555b and 6550b Notebook PC models:	

Item	Description	Spare part number
	15.6-in HD LED AG (1366×768)	613361-001
	15.6-in HD+ LED WVA AG (1600×900)	613366-001
	15.6-in HD LED AG (1366×768) with WWAN capability (includes 2 WWAN antenna cables)	613369-001
	15.6-in HD+ LED WVA AG (1600×900) with WWAN capability (includes 2 WWAN antenna cables)	613367-001
	15.6-in HD LED AG with webcam (1366×768)	613362-001
	15.6-in HD+ LED WVA AG with webcam (1600×900)	613368-001
	15.6-in HD+ LED AG with webcam (1600×900) with WWAN capability (includes 2 WWAN antenna cables)	613371-001
	15.6-in HD+ LED WVA AG with webcam (1600×900) with WWAN capability (includes 2 WWAN antenna cables)	613370-001
	For use only on HP Compaq 6455b and 6450b Notebook PC models:	
	14.0-in HD LED AG (1366×768)	613372-001
	14.0-in HD+ LED AG (1600×900)	613376-001
	14.0-in HD LED AG (1366×768) with WWAN capability (includes 2 WWAN antenna cables)	613381-001
	14.0-in HD+ LED AG (1600×900) with WWAN capability (includes 2 WWAN antenna cables)	613379-001
	14.0-in HD LED AG (1366×768) with webcam	613373-001
	14.0-in HD+ LED AG (1600×900) with webcam	613380-001
	14.0-in HD LED AG (1366×768) with webcam and WWAN capability (includes 2 WWAN antenna cables)	613383-001
	14.0-in HD+ LED AG (1600×900) with webcam and WWAN capability (includes 2 WWAN antenna cables)	613382-001
	14.0-in HD LED BV (1366×768)	613374-001
	14.0-in HD LED BV (1366×768) with WWAN capability (includes 2 WWAN antenna cables)	613377-001
	14.0-in HD LED BV (1366×768) with webcam and WWAN capability (includes 2 WWAN antenna cables)	613375-001
	14.0-in HD LED BV (1366×768) with webcam and WWAN capability (includes 2 WWAN antenna cables)	613378-001
	NOTE: See Display assembly components on page 46 for display assembly internal component spare part information.	
(2)	**Switch cover** (includes capacitive board and cable):	
	For use only on computer models equipped with a 15.6-in display assembly	613342-001
	For use only on computer models equipped with a 14.0-in display assembly	613341-001
(3)	**Power button board** (includes cable)	613310-001
(4)	**Keyboard** (includes keyboard cable):	
	For use only on computer models equipped with a 15.6-in display assembly, pointing stick, TouchPad, and numeric keypad:	

Item	Description	Spare part number
	For use in Belgium	613385-A41
	For use in Bulgaria	613385-261
	For use in the Czech Republic and Slovakia	613385-211
	For use in Denmark	613385-081
	For use in Europe	613385-A81
	For use in France	613385-051
	For use in French Canada	613385-121
	For use in Germany	613385-041
	For use in Greece	613385-DJ1
	For use in Hungary	613385-211
	For use in Iceland	613385-DD1
	For use in Israel	613385-BB1
	For use in Italy	613385-061
	For use in Japan	613385-291
	For use in Latin America	613385-161
	For use in the Netherlands	613385-B31
	For use in Norway	613385-091
	For use in Portugal	613385-131
	For use in Russia	613385-251
	For use in Saudi Arabia	613385-171
	For use in Slovenia	613385-BA1
	For use in South Korea	613385-AD1
	For use in Spain	613385-071
	For use in Sweden and Finland	613385-B71
	For use in Switzerland	613385-BG1
	For use in Taiwan	613385-AB1
	For use in Thailand	613385-281
	For use in Turkey	613385-141
	For use in the United Kingdom	613385-031
	For use in the United States	613385-001
	For use only on computer models equipped with a 15.6-in display assembly, TouchPad, and numeric keypad:	
	For use in Belgium	613386-A41
	For use in Bulgaria	613386-261
	For use in the Czech Republic and Slovakia	613386-A81

Item	Description	Spare part number
	For use in Denmark	613386-081
	For use in Europe	613386-DW1
	For use in France	613386-051
	For use in French Canada	613386-121
	For use in Germany	613386-041
	For use in Greece	613386-DJ1
	For use in Hungary	613386-211
	For use in Iceland	613386-DD1
	For use in Israel	613386-BB1
	For use in Italy	613386-061
	For use in Japan	613386-291
	For use in Korea	613386-AD1
	For use in Latin America	613386-161
	For use in the Netherlands	613386-B31
	For use in Norway	613386-091
	For use in Portugal	613386-131
	For use in Russia	613386-251
	For use in Saudi Arabia	613386-171
	For use in Slovenia	613386-BA1
	For use in South Korea	613386-AD1
	For use in Spain	613386-071
	For use in Sweden and Finland	613386-B71
	For use in Switzerland	613386-BG1
	For use in Taiwan	613386-AB1
	For use in Thailand	613386-281
	For use in Turkey	613386-141
	For use in the United Kingdom	613386-031
	For use in the United States	613386-001
	For use only on computer models equipped with a 14.0-in display assembly, pointing stick, and TouchPad:	
	For use in Belgium	613332-A41
	For use in Bulgaria	613332-261
	For use in Czech Republic and Slovakia	613332-A81
	For use in Denmark	613332-081
	For use in Europe	613332-DW1

Item	Description	Spare part number
	For use in France	613332-051
	For use in French Canada	613332-121
	For use in Germany	613332-041
	For use in Greece	613332-DJ1
	For use in Hungary	613332-211
	For use in Iceland	613332-DD1
	For use in Israel	613332-BB1
	For use in Italy	613332-061
	For use in Japan	613332-291
	For use in Korea	613332-AD1
	For use in Latin America	613332-161
	For use in Netherlands	613332-B31
	For use in Norway	613332-091
	For use in Latin America	613332-161
	For use in Portugal	613332-131
	For use in Russia	613332-251
	For use in Saudi Arabia	613332-171
	For use in Slovenia	613332-BA1
	For use in Spain	613332-071
	For use in Sweden and Finland	613332-B71
	For use in Switzerland	613332-BG1
	For use in Taiwan	613332-AB1
	For use in Thailand	613332-281
	For use in Turkey	613332-141
	For use in the United Kingdom	613332-031
	For use in the United States	613332-001
	For use only on computer models equipped with a 14.0-in display assembly and TouchPad:	
	For use in Belgium	613384-A41
	For use in Bulgaria	613384-261
	For use in Czech Republic and Slovakia	613384-A81
	For use in Denmark	613384-081
	For use in Europe	613384-DW1
	For use in France	613384-051
	For use in French Canada	613384-121

Item	Description	Spare part number
	For use in Germany	613384-041
	For use in Greece	613384-DJ1
	For use in Hungary	613384-211
	For use in Iceland	613384-DD1
	For use in Israel	613384-BB1
	For use in Italy	613384-061
	For use in Japan	613384-291
	For use in Korea	613384-AD1
	For use in Netherlands	613384-B31
	For use in Norway	613384-091
	For use in Portugal	613384-131
	For use in Russia	613384-251
	For use in Saudi Arabia	613384-171
	For use in Slovenia	613384-BA1
	For use in Spain	613384-071
	For use in Sweden and Finland	613384-B71
	For use in Switzerland	613384-BG1
	For use in Taiwan	613384-AB1
	For use in Thailand	613384-281
	For use in Turkey	613384-141
	For use in United Kingdom	613384-031
	For use in the United States	613384-001
(5)	**Palm rest:**	
	For use only on computer models equipped with a 15.6-in display assembly and a fingerprint reader (includes fingerprint reader board and cable)	613339-001
	For use only on computer models equipped with a 15.6-in display assembly but not a fingerprint reader	613340-001
	For use only on computer models equipped with a 14.0-in display assembly and a fingerprint reader (includes fingerprint reader board and cable)	613338-001
	For use only on computer models equipped with a 14.0-in display assembly but not a fingerprint reader	613337-001
(6)	**Top cover** (includes TouchPad, TouchPad cable, TouchPad button board, and TouchPad button board cable):	
	For use only on computer models equipped with a 15.6-in display assembly and 2-button TouchPad	613335-001
	For use only on computer models equipped with a 15.6-in display assembly and 4-button TouchPad	613336-001

Item	Description	Spare part number
	For use only on computer models equipped with a 14.0-in display assembly and 2-button TouchPad	613333-001
	For use only on computer models equipped with a 14.0-in display assembly and 4-button TouchPad	613334-001
	Fingerprint reader board (not illustrated, includes cable):	
	For use only on computer models equipped with a 15.6-in display assembly	613318-001
	For use only on computer models equipped with a 14.0-in display assembly	613317-001
	Cable Kit, includes:	613352-001
(7a)	Modem module cable (includes RJ-11 connector)	
(7b)	Bluetooth module cable	
	NOTE: See Cable Kit on page 48 for more Cable Kit spare part information.	
	Plastics Kit	
	For use only on computer models equipped with a 15.6-in display assembly	613344-001
	For use only on computer models equipped with a 14.0-in display assembly	613343-001
	Includes:	
(8a)	ExpressCard slot bezel	
(8b)	Mass storage device cover	
(8c)	Memory module compartment cover	
(8d)	Bluetooth module compartment cover	
(8e)	Wireless module compartment cover	
	Optical drive slot bezel (not illustrated)	
	NOTE: See Plastics Kit on page 50 for more Plastics Kit spare part information.	
(9)	**Fan**	613349-001
(10)	**Heat sink** (includes replacement thermal material):	
	For use only on HP Compaq 6555b and 6455b computer models	613399-001
	For use only on HP Compaq 6550b and 6450b computer models equipped with a graphics subsystem with discrete memory	613350-001
	For use only on HP Compaq 6550b and 6450b computer models equipped with a graphics subsystem with UMA memory	613351-001
	Heat sink for use on the SouthBridge chipset	615956-001
(11)	**ExpressCard assembly:**	
	For use only on computer models equipped with a 15.6-in display assembly	613316-001
	For use only on computer models equipped with a 14.0-in display assembly	613315-001
	Smart Card Reader (not illustrated, factory-installed on select models only)	
	Smart Card Reader HF	622597-001
	Smart Card Reader	534043-001

Item	Description	Spare part number
(12)	**Memory modules** (2, 1600-MHz, DDR3, PC3-12800 shared):	
	4096-MB	641369-002
	2048-MB	652972-002
	1024-MB	598859-002
(13)	**RTC battery:**	
	For use only on HP Compaq 6550b and 6450b computer models	449137-001
(14)	**Optical drive connector board** (for use only on computer models equipped with a 15.6-in display assembly)	613314-001
(15)	**Serial connector and cable** (for use only on computer models equipped with a 15.6-in display assembly)	613313-001
(16)	**System board** (includes replacement thermal material):	
	For use only on HP Compaq 6555b and 6455b computer models:	
	For use only on computer models equipped with a graphics subsystem with UMA memory in all countries and regions except Russia and the People's Republic of China	613397-001
	For use only on computer models equipped with a graphics subsystem with UMA memory and WWAN capability in all countries and regions except Russia and the People's Republic of China	613398-001
	For use only on computer models equipped with a graphics subsystem with UMA memory in Russia and the People's Republic of China	616787-001
	For use only on computer models equipped with a graphics subsystem with UMA memory and WWAN capability in Russia and the People's Republic of China	616788-001
	For use only on computer models equipped with a graphics subsystem with UMA memory in the People's Republic of China	616789-001
	For use only on computer models equipped with a graphics subsystem with UMA memory and WWAN capability in the People's Republic of China	616790-001
	For use only on HP Compaq 6550b and 6450b computer models:	
	For use only on computer models equipped with an Intel HM57 graphics subsystem with discrete memory in all countries and regions except Russia and the People's Republic of China	613296-001
	For use only on computer models equipped with an Intel HM57 graphics subsystem with discrete memory and WWAN capability in all countries and regions except Russia and the People's Republic of China	613297-001
	For use only on computer models equipped with an Intel QM57 graphics subsystem with discrete memory and WWAN capability in all countries and regions except Russia and the People's Republic of China	613298-001
	For use only on computer models equipped with an Intel HM57 graphics subsystem with discrete memory in Russia and the People's Republic of China	613302-001
	For use only on computer models equipped with an Intel HM57 graphics subsystem with discrete memory and WWAN capability in Russia and the People's Republic of China	613401-001
	For use only on computer models equipped with an Intel QM57 graphics subsystem with discrete memory and WWAN capability in all countries and regions except Russia and the People's Republic of China	613303-001

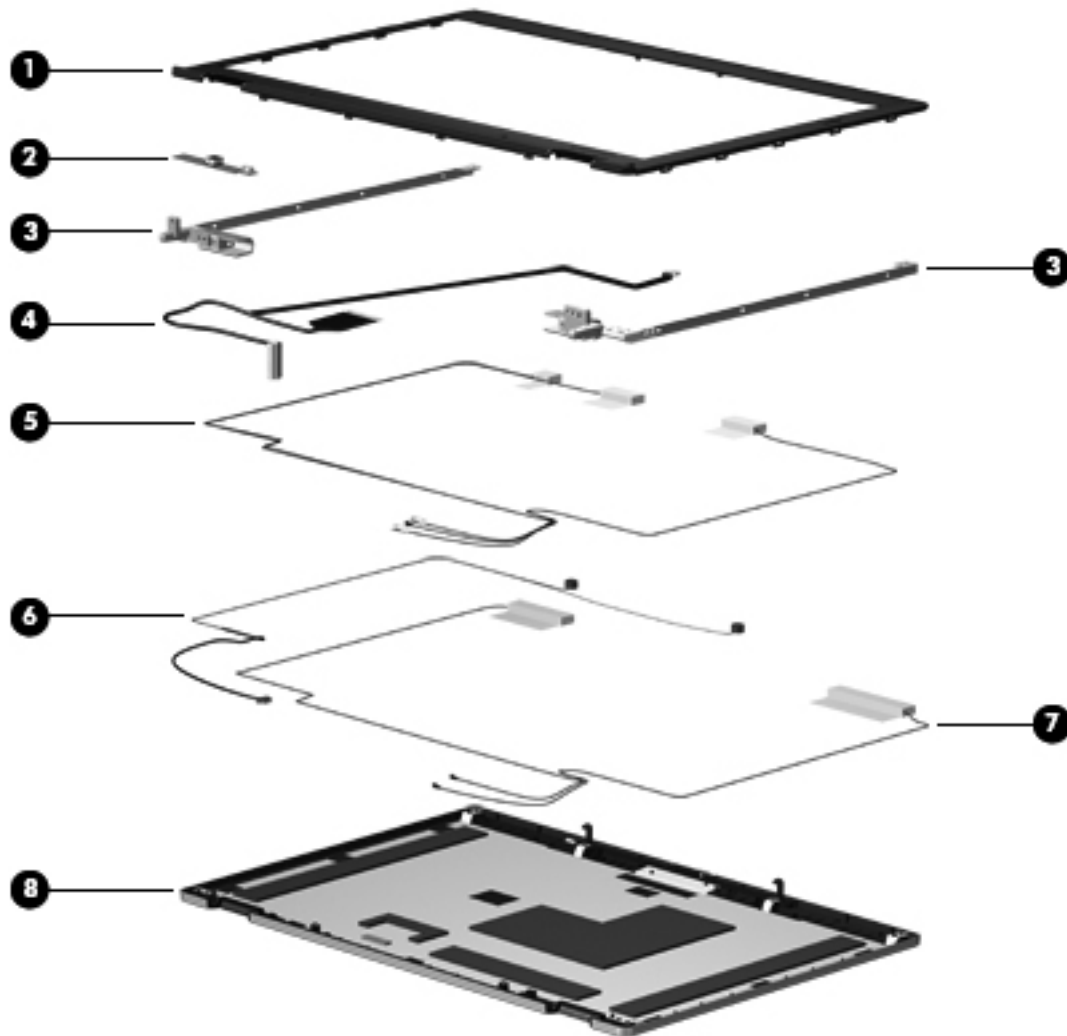| Item	Description	Spare part number
	For use only on computer models equipped with an Intel HM57 graphics subsystem with discrete memory in the People's Republic of China	613307-001
	For use only on computer models equipped with an Intel HM57 graphics subsystem with discrete memory and WWAN capability in the People's Republic of China	613308-001
	For use only on computer models equipped with an Intel QM57 graphics subsystem with discrete memory and WWAN capability in the People's Republic of China	613309-001
	For use only on computer models equipped with an Intel HM57 graphics subsystem with UMA memory in all countries and regions except Russia and the People's Republic of China	613293-001
	For use only on computer models equipped with an Intel HM57 graphics subsystem with UMA memory and WWAN capability in all countries and regions except Russia and the People's Republic of China	613294-001
	For use only on computer models equipped with an Intel QM57 graphics subsystem with UMA memory and WWAN capability in all countries and regions except Russia and the People's Republic of China	613295-001
	For use only on computer models equipped with an Intel HM57 graphics subsystem with UMA memory in Russia and the People's Republic of China	613299-001
	For use only on computer models equipped with an Intel HM57 graphics subsystem with UMA memory and WWAN capability in Russia and the People's Republic of China	613300-001
	For use only on computer models equipped with an Intel QM57 graphics subsystem with UMA memory and WWAN capability in Russia and the People's Republic of China	613301-001
	For use only on computer models equipped with an Intel HM57 graphics subsystem with UMA memory in the People's Republic of China	613304-001
	For use only on computer models equipped with an Intel HM57 graphics subsystem with UMA memory and WWAN capability in the People's Republic of China	6133305-001
	For use only on computer models equipped with an Intel QM57 graphics subsystem with UMA memory and WWAN capability in the People's Republic of China	613306-001
(17)	**Flash media/1394 board** (includes cable):	
	For use only on computer models equipped with a 15.6-in display assembly	613312-001
	For use only on computer models equipped with a 14.0-in display assembly	613311-001
(18)	**Speaker assembly** (includes cable):	
	For use only on computer models equipped with a 15.6-in display assembly	613348-001 or 663947-001
	For use only on computer models equipped with a 14.0-in display assembly	613347-001 or 663946-001
(19)	**Processor** (includes replacement thermal material):	
	For use only on HP Compaq 6555b and 6455b computer models:	
	AMD Phenom II Quad Core Mobile N970 2.2-GHz processor (35W, 2-MB L2 cache)	635496-001
	AMD Phenom II Quad Core Mobile N950 2.1-GHz processor (35W, 2-MB L2 cache)	616346-001
	AMD Phenom II Quad Core Mobile N930 2.0-GHz processor (35W, 2-MB L2 cache)	594169-001
	AMD Phenom II Triple Core Mobile N870 2.3-GHz processor (35W, 1.5-MB L2 cache)	635495-001
	AMD Phenom II Triple Core Mobile N850 2.2-GHz processor (35W, 1.5-MB L2 cache)	616345-001

Item	Description	Spare part number
	AMD Phenom II Triple Core Mobile N830 2.1-GHz processor (35W, 1.5-MB L2 cache)	594168-001
	AMD Phenom II Dual Core Mobile N660 3.0-GHz processor (35W, 2-MB L2 cache)	635494-001
	AMD Phenom II Dual Core Mobile N640 2.9-GHz processor (35W, 2-MB L2 cache)	616344-001
	AMD Phenom II Dual Core Mobile N620 2.8-GHz processor (35W, 2-MB L2 cache)	594166-001
	AMD Turion II Dual Core Mobile N530 2.5-GHz processor (25W, 2-MB L2 cache)	594172-001
	AMD Turion II Dual Core Mobile P520 2.3-GHz processor (25W, 2-MB L2 cache)	594173-001
	AMD Athlon II Dual Core P360 2.3-GHz processor (35W, 1-MB L2 cache)	636635-001
	AMD Athlon II Dual Core P340 2.2-GHz processor (25W, 1-MB L2 cache)	616343-001
	AMD Athlon II Dual Core P320 2.1-GHz processor (25W, 1-MB L2 cache)	594165-001
	For use only on HP Compaq 6550b and 6450 computer models:	
	Intel Core i7-740QM 1.73-GHz processor (turbo up to 2.93-GHz), 6-MB L3 cache, 8 threads, 45W	612259-001
	Intel Core i7-720QM 1.60-GHz processor (turbo up to 2.80-GHz), 6-MB L3 cache, 8 threads, 45W	603011-001
	Intel Core i7-640M 2.80-GHz processor (turbo up to 3.33-GHz), 4-MB L3 cache, 4 threads, 35W	625826-001
	Intel Core i7-620M 2.66-GHz processor (turbo up to 3.33-GHz), 4-MB L3 cache, 4 threads, 35W	603010-001
	Intel Core i5-580M 2.66-GHz processor (turbo up to 3.33-GHz), 3-MB L3 cache, 4 threads, 35W	625825-001
	Intel Core i5-560M 2.66-GHz processor (turbo up to 3.20-GHz), 3-MB L3 cache, 4 threads, 35W	625824-001
	Intel Core i5-540M 2.53-GHz processor (turbo up to 3.06-GHz), 3-MB L3 cache, 4 threads, 35W	594646-001
	Intel Core i5-520M 2.40-GHz processor (turbo up to 2.93-GHz), 3-MB L3 cache, 4 threads, 35W	594645-001
	Intel Core i5-480M 2.66-GHz processor (turbo up to 3.00-GHz), 3-MB L3 cache, 4 threads, 35W	634693-001
	Intel Core i5-460M 2.53-GHz processor (turbo up to 2.93-GHz), 3-MB L3 cache, 4 threads, 35W	626039-001
	Intel Core i5-450M 2.40-GHz processor (turbo up to 2.66-GHz), 3-MB L3 cache, 4 threads, 35W	613585-001
	Intel Core i3-380M 2.53-GHz processor, 3-MB L3 cache, 35W	625823-001
	Intel Core i3-370M 2.40-GHz processor, 3-MB L3 cache, 35W	613584-001
	Intel Core i3-350M 2.26-GHz processor , 3-MB L3 cache	595586-001
	Intel P4600 2.0-GHz processor, 2-MB L2 cache, 35W	628941-001
	Intel P4500 1.8-GHz processor, 2-MB L2 cache, 35W	611699-001
(20)	**Modem module:**	628824-001

NOTE: The modem module spare part kit does not include a modem module cable. The modem module cable is included in the Cable Kit, spare part numbers 613352-001.

Item	Description	Spare part number
(21)	**Optical drive** (includes bezel and bracket):	
	Blu-ray ROM with LightScribe DVD±RW SuperMulti Double-Layer Drive	613358-001
	DVD±RW SuperMulti Double-Layer Drive with LightScribe	613360-001
	DVD-ROM Drive	613359-001
	Upgrade Bay Cradle (not illustrated):	613682-001
(22)	**Base enclosure** (includes 7 rubber feet and battery release latch):	
	For use only on computer models equipped with a 15.6-in display assembly	613331-001
	For use only on computer models equipped with a 14.0-in display assembly	613330-001
	Rubber Kit (not illustrated, includes 7 rubber feet, 2 base enclosure screw covers, and 8 display bezel screw covers)	613459-001
(23)	**HSPA EV-DO WWAN module**	531993-001
(24)	**WLAN module:**	
	Broadcom 4322 802.11 a/b/g WLAN module for use in Antigua and Barbuda, Barbados, Belize, Canada, the Cayman Islands, Guam, Puerto Rico, Trinidad and Tobago, the U.S. Virgin Islands, and the United States	582564-001
	Broadcom 4322 802.11 a/b/g WLAN module for use in Afghanistan, Albania, Algeria, Andorra, Angola, 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, Cambodia, Cameroon, Cape Verde, the Central African Republic, Chad, Chile, Colombia, Comoros, the Congo, Costa Rica, Croatia, Cyprus, the Czech Republic, Denmark, Djibouti, Dominica, the Dominican Republic, East Timor, Ecuador, Egypt, El Salvador, Equatorial Guinea, Eritrea, Estonia, Ethiopia, Fiji, Finland, France, French Guiana, Gabon, Gambia, Georgia, Germany, Ghana, Gibraltar, Greece, Grenada, Guadeloupe, Guatemala, Guinea, Guinea-Bissau, Guyana, Haiti, Honduras, Hong Kong, Hungary, Iceland, India, Indonesia, Ireland, Italy, the Ivory Coast, Jamaica, Japan, Jordan, Kazakhstan, Kenya, Kiribati, Kuwait, Kyrgyzstan, Laos, Latvia, Lebanon, Lesotho, Liberia, Liechtenstein, Lithuania, Luxembourg, Macedonia, Madagascar, Malawi, Malaysia, the Maldives, Mali, Malta, the Marshall Islands, Martinique, Mauritania, Mauritius, Mexico, Micronesia, Monaco, Mongolia, Montenegro, Morocco, Mozambique, Namibia, Nauru, Nepal, the Nether Antilles, the Netherlands, New Zealand, Nicaragua, Niger, Nigeria, Norway, Oman, Pakistan, Palau, Panama, Papua New Guinea, Paraguay, the People's Republic of China, Peru, the Philippines, Poland, Portugal, Qatar, 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, Suriname, Swaziland, Sweden, Switzerland, Taiwan, Tajikistan, Tanzania, Thailand, Togo, Tonga, Tunisia, Turkey, Turkmenistan, Tuvalu, Uganda, Ukraine, the United Arab Emirates, the United Kingdom, Uruguay, Uzbekistan, Vanuatu, Venezuela, Vietnam, Yemen, Zaire, Zambia, and Zimbabwe	582564-002
	Broadcom BCM94313HMG2L 802.11 b/g/n 1 x 1 Half MiniCard	593836-001
	Intel Centrino Wireless-N 1000 802.11 b/g/n 1×2 WLAN module	593530-001
	Intel Centrino Advanced-N6200 802.11 a/b/g/n 2x2 WLAN module	572509-001
(25)	**Mass storage device:**	
	Hard drive (includes bracket and screws):	
	● 500-GB, 7200-rpm	634919-001

Item	Description	Spare part number
	● 320-GB, 7200-rpm	603783-001
	● 320-GB, 7200-rpm, SED, 7 mm	641674-001
	250-GB, 7200-rpm	613353-001
	160-GB, 7200-rpm	620893-001
	Hard Drive Hardware Kit (not illustrated, includes hard drive bracket and 4 screws)	
	For use with standard hard drives	630891-001
	For use with 7 mm hard drives	691416-001
	Solid-state drive (includes bracket):	
	● 128-GB, 2.5-in solid-state drive	613356-001
	● 80-GB, 2.5-in solid-state drive	625133-001
(26)	**Bluetooth module**	537921-001
	NOTE: The Bluetooth module spare part kit does not include a Bluetooth module cable. The Bluetooth module cable is included in the Cable Kit, spare part numbers 613352-001.	
(27)	**Battery:**	
	9-cell, 93-WH battery	586031-001
	8-cell, 59-WH battery	581973-001
	6-cell, 55-WH battery	486296-001
	6-cell, 51-WH battery (for use only on HP Compaq 6555b and 6455b computer models)	593578-001
	6-cell, 51-WH battery (for use only on HP Compaq 6550b and 6450b computer models)	627971-001
	6-cell, 47-WH battery (for use only on HP Compaq 6550b and 6450b computer models)	486295-001

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:**	
	For use only on computer models equipped with a 15.6-in display assembly and a webcam	613322-001
	For use only on computer models equipped with a 15.6-in display assembly but not a webcam	613321-001
	For use only on computer models equipped with a 14.0-in display assembly and a webcam	613320-001
	For use only on computer models equipped with a 14.0-in display assembly but not a webcam	613319-001
(2)	**Webcam module**	611026-001
(3)	**Display Hinge Kit** (includes left and right display hinges):	

Item	Description	Spare part number
	For use only on computer models equipped with a 15.6-in display assembly	613328-001
	For use only on computer models equipped with a 14.0-in display assembly	613327-001
	Display Cable Kit:	
	For use only on computer models equipped with a 15.6-in HD+ display assembly	583956-001
	For use only on computer models equipped with a 14.0-in HD display assembly	583231-001
	Includes:	
(4)	Display panel cable and webcam cable	
(5)	WLAN antenna transceivers and cables	
(6)	Microphones and cables	
(7)	WWAN antenna transceivers and cables	
(8)	**Display enclosure** (includes 3 WLAN antenna transceivers and cables, and 2 WWAN antenna transceivers and cables):	
	For use only on computer models equipped with a 15.6-in display assembly	613325-001
	For use only on computer models equipped with a 14.0-in display assembly	613323-001
	Display panel (not illustrated):	
	15.6-in, High-Definition+, AntiGlare, LED, WVA, LVDS display panel	624643-001
	15.6-in, High-Definition, AntiGlare, LED, SVA, LVDS display panel	624238-001
	14.0-in, High-Definition+, AntiGlare, LED, WVA, LVDS display panel	624236-001
	14.0-in, High-Definition, AntiGlare, LED, SVA, LVDS display panel	623176-001
	14.0-in, High-Definition, BrightView, LED, SVA, LVDS display panel	592144-001
	Display assembly rubber kit	663433-001

Cable Kit
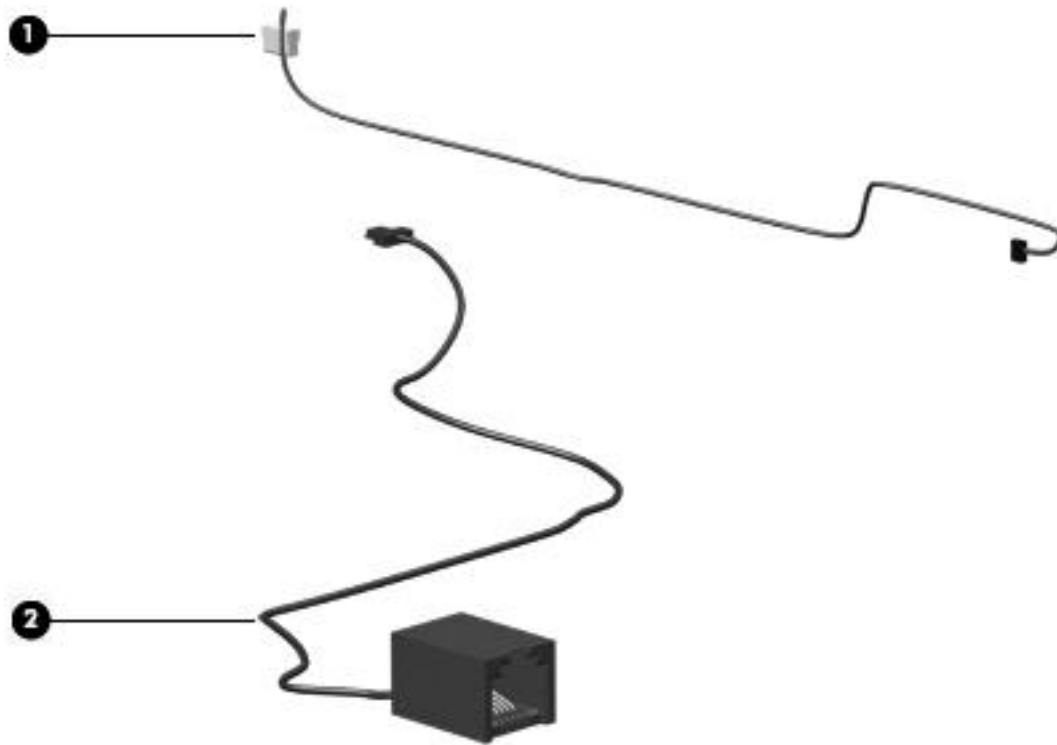
Item	Description	Spare part number
	Cable Kit:	613352-001
(1)	Bluetooth module cable	
(2)	Modem module cable (includes RJ-11 connector)	

Mass storage devices
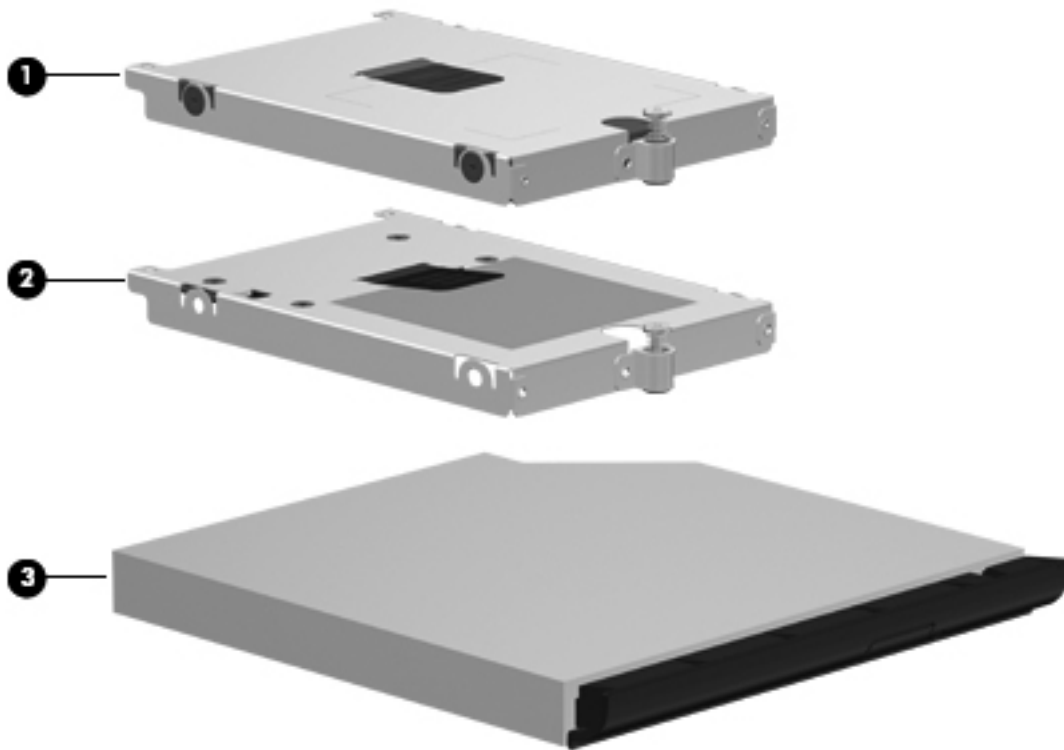
Item	Description	Spare part number
(1)	**Hard drive** (includes cable adapter, bracket, and 4 isolators):	
	500-GB, 7200-rpm	634919-001
	320-GB, 7200-rpm	603783-001
	320-GB, 7200-rpm, SED, 7 mm	641674-001
	250-GB, 7200-rpm	613353-001
	160-GB, 7200-rpm	620893-001
	Hard Drive Hardware Kit (not illustrated, includes hard drive bracket and 4 screws)	
	For use with standard hard drives	630891-001
	For use with 7 mm hard drives	691416-001
(2)	**Solid-state drive** (includes cable adapter, bracket, and 4 isolators):	
	128-GB solid-state drive	613356-001
	80-GB solid-state drive	625133-001
(3)	**Optical drive** (includes bezel and bracket):	
	Blu-ray ROM with LightScribe DVD±RW SuperMulti Double-Layer Drive	613358-001
	DVD±RW SuperMulti Double-Layer Drive with LightScribe	613360-001
	DVD-ROM Drive	613359-001
	Upgrade Bay Cradle (not illustrated):	613682-001

Plastics Kit
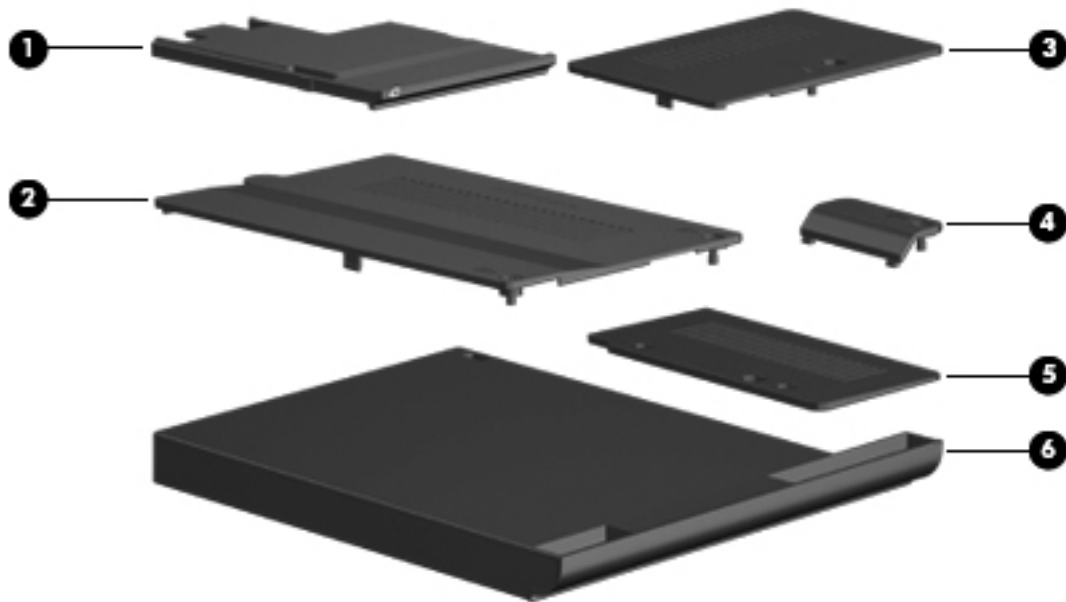
Item	Description	Spare part number
	Plastics Kit	
	For use only on computer models equipped with a 15.6-in display assembly	613344-001
	For use only on computer models equipped with a 14.0-in display assembly	613343-001
	Includes:	
(1)	ExpressCard slot bezel	
(2)	Mass storage device cover (includes 2 captive screws)	
(3)	Memory module compartment cover (includes 1 captive screw)	
(4)	Bluetooth module compartment cover (includes 1 captive screw)	
(5)	Wireless module compartment cover (includes 2 captive screws)	
(6)	Optical drive slot bezel	

Miscellaneous parts

Description	Spare part number
AC adapter:	
90-W PFC HP Smart adapter	609940-001
90-W PFC EM HP Smart adapter	609947-001
65-W PFC RC/V HP Smart adapter	609939-001
65-W PFC RC/V EM HP Smart adapter	609948-001
Power cord:	
For use in Argentina	490371-D01
For use in Brazil	490371-201
For use in Denmark	490371-081
For use in Europe, the Middle East, and Africa	490371-021
For use in Israel	490371-BB1
For use in Italy	490371-061
For use in South Africa	490371-AR1
For use in Switzerland	490371-111
For use in the United Kingdom and Singapore	490371-031
For use in Singapore and the United Kingdom	490371-031
Screw Kit:	613345-001
Hex HM5.0×10.0 screw lock	
Phillips PM3.0×3.0 screw	
Phillips PM2.5×13.0 captive screw	
Phillips PM2.5×11.0 captive screw	
Phillips PM2.5×9.0 captive screw	
Phillips PM2.5×6.0 screw	
Phillips PM2.0×6.0 captive screw	
Phillips PM2.0×5.0 screw	
Phillips PM2.0×3.0 screw	
Slotted Torx T8M2.5×11.0 screw	
Slotted Torx T8M2.5×7.0 screw	

Sequential part number listing

Spare part number	Description
449137-001	RTC battery for use only on HP Compaq 6550b and 6450b computer models
486295-001	6-cell, 47-WH battery
486296-001	6-cell, 55-WH battery
490371-001	Power cord for use in Canada, Mexico, and the United States
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-AR1	Power cord for use in South Africa
490371-BB1	Power cord for use in Israel
490371-D01	Power cord for use in Argentina
531993-001	HSPA EV-DO WWAN module
534043-001	Smart Card Reader (factory-installed on select models only)
537921-001	Bluetooth module **NOTE:** The Bluetooth module spare part kit does not include a Bluetooth module cable. The Bluetooth module cable is included in the Cable Kit, spare part numbers 613352-001 (for use only on computer models equipped with a 15.6-in display assembly) and 583957-001 (for use only on computer models equipped with a 14.0-in display assembly).
582564-001	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

Spare part number	Description
582564-002	Broadcom 43224 802.11 a/g/n WLAN module for use in Afghanistan, Albania, Algeria, Andorra, Angola, 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, Cambodia, Cameroon, Cape Verde, the Central African Republic, Chad, Chile, Colombia, Comoros, the Congo, Costa Rica, Croatia, Cyprus, the Czech Republic, Denmark, Djibouti, Dominica, the Dominican Republic, East Timor, Ecuador, Egypt, El Salvador, Equatorial Guinea, Eritrea, Estonia, Ethiopia, Fiji, Finland, France, French Guiana, Gabon, Gambia, Georgia, Germany, Ghana, Gibraltar, Greece, Grenada, Guadeloupe, Guatemala, Guinea, Guinea-Bissau, Guyana, Haiti, Honduras, Hong Kong, Hungary, Iceland, India, Indonesia, Ireland, Italy, the Ivory Coast, Jamaica, Japan, Jordan, Kazakhstan, Kenya, Kiribati, Kuwait, Kyrgyzstan, Laos, Latvia, Lebanon, Lesotho, Liberia, Liechtenstein, Lithuania, Luxembourg, Macedonia, Madagascar, Malawi, Malaysia, the Maldives, Mali, Malta, the Marshall Islands, Martinique, Mauritania, Mauritius, Mexico, Micronesia, Monaco, Mongolia, Montenegro, Morocco, Mozambique, Namibia, Nauru, Nepal, the Nether Antilles, the Netherlands, New Zealand, Nicaragua, Niger, Nigeria, Norway, Oman, Pakistan, Palau, Panama, Papua New Guinea, Paraguay, the People's Republic of China, Peru, the Philippines, Poland, Portugal, Qatar, 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, Suriname, Swaziland, Sweden, Switzerland, Taiwan, Tajikistan, Tanzania, Thailand, Togo, Tonga, Tunisia, Turkey, Turkmenistan, Tuvalu, Uganda, Ukraine, the United Arab Emirates, the United Kingdom, Uruguay, Uzbekistan, Vanuatu, Venezuela, Vietnam, Yemen, Zaire, Zambia, and Zimbabwe
586031-001	9-cell, 93-WH battery
592144-001	14.0-in, HD, BrightView, LED, SVA, LVDS display panel
593530-001	Intel Centrino Wireless-N 1000 802.11 b/g/n 1×2 WLAN module
572509-001	Intel Centrino Advanced-N6200 802.11 a/b/g/n 2x2 WLAN module
581973-001	8-cell, 59-WH battery
593578-001	6-cell, 51-WH battery
593836-001	Broadcom 43224 802.11 a/g/n WLAN module for use in Antigua and Barbuda, Barbados, Belize, Canada, the Cayman Islands, Guam, Puerto Rico, Trinidad and Tobago, the U.S. Virgin Islands, and the United States
594165-001	AMD Athlon II Dual Core processor for Notebook PCs P320 (2.1-GHz/25W/1 MB L2 cache) for use only on HP Compaq 6555b and 6455b computer models (includes replacement thermal material)
594166-001	AMD Phenom II Dual Core processor N620 (2.8-GHz/35W/2 MB L2 cache) for use only on HP Compaq 6555b and 6455b computer models (includes replacement thermal material)
594168-001	AMD Phenom II Triple Core processor N830 (2.1-GHz/35W/1.5 MB L2 cache) for use only on HP Compaq 6555b and 6455b computer models (includes replacement thermal material)
594169-001	AMD Phenom II Quad Core processor N930 (2.0-GHz/35W/2 MB L2 cache) for use only on HP Compaq 6555b and 6455b computer models (includes replacement thermal material)
594172-001	AMD Turion II Dual Core Mobile processor N530 (2.5-GHz/25W/2 MB L2 cache) for use only on HP Compaq 6555b and 6455b computer models (includes replacement thermal material)
594173-001	AMD Turion II Dual Core processor P520 (2.3-GHz/25W/2 MB L2 cache) for use only on HP Compaq 6555b and 6455b computer models (includes replacement thermal material)
594645-001	Intel Core i5-520M (2.4-GHz (turbo up to 2.93-GHz), 3 MB L3 cache, 4 threads, 35 W) for use only on HP Compaq 6550b and 6450b computer models (includes replacement thermal material)
594646-001	Intel Core i5-540M (2.53-GHz (turbo up to 3.06-GHz), 3 MB L3 cache, 4 threads, 35 W) for use only on HP Compaq 6550b and 6450b computer models (includes replacement thermal material)

Spare part number	Description
595586-001	Intel Core i3-350M (2.26-GHz, 3 MB) for use only on HP Compaq 6550b and 6450b computer models (includes replacement thermal material)
598859-002	1024-MB memory module (1333-MHz, DDR3)
603010-001	Intel Core i7-620M (2.66-GHz (turbo up to 3.33-GHz), 4 MB L3 cache, 4 threads, 35 W) for use only on HP Compaq 6550b and 6450b computer models (includes replacement thermal material)
603011-001	Intel Core i7-720QM (1.60-GHz (turbo up to 2.80-GHz), 6 MB L3 cache, 8 threads, 45 W) for use only on HP Compaq 6550b and 6450b computer models (includes replacement thermal material)
603783-001	320-GB, 7200-rpm hard drive (includes bracket)
609939-001	65-W PFC RC/V HP Smart adapter
609940-001	90-W PFC HP Smart adapter
609947-001	90-W PFC EM HP Smart adapter
609948-001	65-W PFC RC/V EM HP Smart adapter
611026-001	Webcam module
611699-001	Intel P4500 (1.8-GHz), 2MB, 35W for use only on HP Compaq 6550b and 6450b computer models (includes replacement thermal material)
612259-001	Intel Core i7-740QM 1.73-GHz (turbo up to 2.93) processor, 6-MB L3 cache, 8 threads, 45W, for use only on HP Compaq 6550b and 6450b computer models (includes replacement thermal material)
613293-001	Intel HM57 system board for use only on HP Compaq 6550b and 6450b computer models equipped with a graphics subsystem with UMA memory in Russia and the People's Republic of China (includes replacement thermal material)
613294-001	Intel HM57 system board for use only on HP Compaq 6550b and 6450b computer models equipped with a graphics subsystem with UMA memory and WWAN capability in Russia and the People's Republic of China (includes replacement thermal material)
613295-001	Intel QM57 system board for use only on HP Compaq 6550b and 6450b computer models equipped with a graphics subsystem with UMA memory and WWAN capability in Russia and the People's Republic of China (includes replacement thermal material)
613296-001	Intel HM57 system board for use only on HP Compaq 6550b and 6450b computer models equipped with a graphics subsystem with discrete memory in Russia and the People's Republic of China (includes replacement thermal material)
613297-001	Intel HM57 system board for use only on HP Compaq 6550b and 6450b computer models equipped with a graphics subsystem with discrete memory and WWAN capability in Russia and the People's Republic of China (includes replacement thermal material)
613298-001	Intel QM57 system board for use only on HP Compaq 6550b and 6450b computer models equipped with a graphics subsystem with discrete memory and WWAN capability in Russia and the People's Republic of China (includes replacement thermal material)
613299-001	Intel HM57 system board for use only on HP Compaq 6550b and 6450b computer models equipped with a graphics subsystem with UMA memory in all countries and regions except Russia and the People's Republic of China (includes replacement thermal material)
613300-001	Intel HM57 system board for use only on HP Compaq 6550b and 6450b computer models equipped with a graphics subsystem with UMA memory in and WWAN capability all countries and regions except Russia and the People's Republic of China (includes replacement thermal material)
613301-001	Intel QM57 system board for use only on HP Compaq 6550b and 6450b computer models equipped with a graphics subsystem with UMA memory and WWAN capability in all countries and regions except Russia and the People's Republic of China (includes replacement thermal material)

Spare part number	Description
613302-001	Intel HM57 system board for use only on HP Compaq 6550b and 6450b computer models equipped with a graphics subsystem with discrete memory in the People's Republic of China (includes replacement thermal material)
613303-001	Intel QM57 system board for use only on HP Compaq 6550b and 6450b computer models equipped with a graphics subsystem with discrete memory and WWAN capability in the People's Republic of China (includes replacement thermal material)
613304-001	Intel HM57 system board for use only on HP Compaq 6550b and 6450b computer models equipped with a graphics subsystem with UMA memory in the People's Republic of China (includes replacement thermal material)
613305-001	Intel HM57 system board for use only on HP Compaq 6550b and 6450b computer models equipped with a graphics subsystem with UMA memory and WWAN capability in the People's Republic of China (includes replacement thermal material)
613306-001	Intel QM57 system board for use only on HP Compaq 6550b and 6450b computer models equipped with a graphics subsystem with UMA memory and WWAN capability in the People's Republic of China (includes replacement thermal material)
613307-001	Intel HM57 system board for use only on HP Compaq 6550b and 6450b computer models equipped with a graphics subsystem with discrete memory in the People's Republic of China (includes replacement thermal material)
613308-001	Intel HM57 system board for use only on HP Compaq 6550b and 6450b computer models equipped with a graphics subsystem with discrete memory and WWAN capability in the People's Republic of China (includes replacement thermal material)
613309-001	Intel QM57 system board for use only on HP Compaq 6550b and 6450b computer models equipped with a graphics subsystem with discrete memory and WWAN capability in the People's Republic of China (includes replacement thermal material)
613310-001	Power button board (includes cable)
613311-001	Flash media/1394 board for use only on computer models equipped with a 14.0-in display assembly
613312-001	Flash media/1394 board for use only on computer models equipped with a 15.6-in display assembly
613313-001	Serial connector and cable for use only on computer models equipped with a 15.6-in display assembly
613314-001	Optical drive connector board for use only on computer models equipped with a 15.6-in display assembly
613315-001	ExpressCard assembly for use only on computer models equipped with a 14.0-in display assembly
613316-001	ExpressCard assembly for use only on computer models equipped with a 15.6-in display assembly
613317-001	Fingerprint reader board for use only on computer models equipped with a 14.0-in display assembly
613318-001	Fingerprint reader board for use only on computer models equipped with a 15.6-in display assembly
613319-001	Display bezel for use only on computer models equipped with a 14.0-in display assembly but not a webcam
613320-001	Display bezel for use only on computer models equipped with a 14.0-in display assembly and a webcam
613321-001	Display bezel for use only on computer models equipped with a 15.6-in display assembly but not a webcam

Spare part number	Description
613322-001	Display bezel for use only on computer models equipped with a 15.6-in display assembly and a webcam
613323-001	Display enclosure for use only on computer models equipped with a 14.0-in display assembly and two microphones (includes 3 WLAN antenna transceivers and cables, and 2 WWAN antenna transceivers and cables)
613325-001	Display enclosure for use only on computer models equipped with a 15.6-in display assembly (includes 3 WLAN antenna transceivers and cables, and 2 WWAN antenna transceivers and cables)
613327-001	Display hinges for use only on computer models equipped with a 14.0-in display assembly
613328-001	Display hinges for use only on computer models equipped with a 15.6-in display assembly
613329-001	Display Cable Kit for use only on computer models equipped with one microphone but not a webcam
613330-001	Base enclosure for use only on computer models equipped with a 14.0-in display assembly (includes 7 rubber feet and battery release latch)
613331-001	Base enclosure for use only on computer models equipped with a 15.6-in display assembly (includes 7 rubber feet and battery release latch)
613332-001	Keyboard for use only on computer models equipped with a 14.0-in display assembly with a pointing stick and TouchPad in the United States (includes keyboard cable)
613332-031	Keyboard for use only on computer models equipped with a 14.0-in display assembly with a pointing stick and TouchPad in the United Kingdom (includes keyboard cable)
613332-041	Keyboard for use only on computer models equipped with a 14.0-in display assembly with a pointing stick and TouchPad in Germany (includes keyboard cable)
613332-051	Keyboard for use only on computer models equipped with a 14.0-in display assembly with a pointing stick and TouchPad in France (includes keyboard cable)
613332-061	Keyboard for use only on computer models equipped with a 14.0-in display assembly with a pointing stick and TouchPad in Italy (includes keyboard cable)
613332-071	Keyboard for use only on computer models equipped with a 14.0-in display assembly with a pointing stick and TouchPad in Spain (includes keyboard cable)
613332-081	Keyboard for use only on computer models equipped with a 14.0-in display assembly with a pointing stick and TouchPad in Denmark (includes keyboard cable)
613332-091	Keyboard for use only on computer models equipped with a 14.0-in display assembly with a pointing stick and TouchPad in Norway (includes keyboard cable)
613332-121	Keyboard for use only on computer models equipped with a 14.0-in display assembly with a pointing stick and TouchPad in French Canada (includes keyboard cable)
613332-131	Keyboard for use only on computer models equipped with a 14.0-in display assembly with a pointing stick and TouchPad in Portugal (includes keyboard cable)
613332-141	Keyboard for use only on computer models equipped with a 14.0-in display assembly with a pointing stick and TouchPad in Turkey (includes keyboard cable)
613332-161	Keyboard for use only on computer models equipped with a 14.0-in display assembly with a pointing stick and TouchPad in Latin America (includes keyboard cable)
613332-171	Keyboard for use only on computer models equipped with a 14.0-in display assembly with a pointing stick and TouchPad in Saudi Arabia (includes keyboard cable)
613332-201	Keyboard for use only on computer models equipped with a 14.0-in display assembly with a pointing stick and TouchPad in Brazil (includes keyboard cable)

Spare part number	Description
613332-211	Keyboard for use only on computer models equipped with a 14.0-in display assembly with a pointing stick and TouchPad in Hungary (includes keyboard cable)
613332-251	Keyboard for use only on computer models equipped with a 14.0-in display assembly with a pointing stick and TouchPad in Russia (includes keyboard cable)
613332-261	Keyboard for use only on computer models equipped with a 14.0-in display assembly with a pointing stick and TouchPad in Bulgaria (includes keyboard cable)
613332-281	Keyboard for use only on computer models equipped with a 14.0-in display assembly with a pointing stick and TouchPad in Thailand (includes keyboard cable)
613332-291	Keyboard for use only on computer models equipped with a 14.0-in display assembly with a pointing stick and TouchPad in Japan (includes keyboard cable)
613332-A41	Keyboard for use only on computer models equipped with a 14.0-in display assembly with a pointing stick and TouchPad in Belgium (includes keyboard cable)
613332-A81	Keyboard for use only on computer models equipped with a 14.0-in display assembly with a pointing stick and TouchPad in the Czech Republic and Slovakia (includes keyboard cable)
613332-AB1	Keyboard for use only on computer models equipped with a 14.0-in display assembly with a pointing stick and TouchPad in Taiwan (includes keyboard cable)
613332-AD1	Keyboard for use only on computer models equipped with a 14.0-in display assembly with a pointing stick and TouchPad in South Korea (includes keyboard cable)
613332-B31	Keyboard for use only on computer models equipped with a 14.0-in display assembly with a pointing stick and TouchPad in the Netherlands (includes keyboard cable)
613332-B71	Keyboard for use only on computer models equipped with a 14.0-in display assembly with a pointing stick and TouchPad in Finland and Sweden (includes keyboard cable)
613332-BA1	Keyboard for use only on computer models equipped with a 14.0-in display assembly with a pointing stick and TouchPad in Slovenia (includes keyboard cable)
613332-BB1	Keyboard for use only on computer models equipped with a 14.0-in display assembly with a pointing stick and TouchPad in Israel (includes keyboard cable)
613332-BG1	Keyboard for use only on computer models equipped with a 14.0-in display assembly with a pointing stick and TouchPad in Switzerland (includes keyboard cable)
613332-DD1	Keyboard for use only on computer models equipped with a 14.0-in display assembly with a pointing stick and TouchPad in Iceland (includes keyboard cable)
613332-DJ1	Keyboard for use only on computer models equipped with a 14.0-in display assembly with a pointing stick and TouchPad in Greece (includes keyboard cable)
613332-DW1	Keyboard for use only on computer models equipped with a 14.0-in display assembly with a pointing stick and TouchPad in Europe (includes keyboard cable)
613333-001	Top cover for use only on computer models equipped with a 14.0-in display assembly and 2-button TouchPad (includes TouchPad, TouchPad cable, TouchPad button board, and TouchPad button board cable)
613334-001	Top cover for use only on computer models equipped with a 14.0-in display assembly and 4-button TouchPad (includes TouchPad, TouchPad cable, TouchPad button board, and TouchPad button board cable)
613335-001	Top cover for use only on computer models equipped with a 15.6-in display assembly and 2-button TouchPad (includes TouchPad, TouchPad cable, TouchPad button board, and TouchPad button board cable)
613336-001	Top cover for use only on computer models equipped with a 15.6-in display assembly and 4-button TouchPad (includes TouchPad, TouchPad cable, TouchPad button board, and TouchPad button board cable)

Spare part number	Description
613337-001	Palm rest for use only on computer models equipped with a 14.0-in display assembly but not a fingerprint reader
613338-001	Palm rest for use only on computer models equipped with a 14.0-in display assembly and a fingerprint reader (includes fingerprint reader board and cable)
613339-001	Palm rest for use only on computer models equipped with a 15.6-in display assembly and a fingerprint reader (includes fingerprint reader board and cable)
613340-001	Palm rest for use only on computer models equipped with a 15.6-in display assembly but not a fingerprint reader
613341-001	Switch cover for use only on computer models equipped with a 14.0-in display assembly (includes capacitive board and cable)
613342-001	Switch cover for use only on computer models equipped with a 15.6-in display assembly (includes capacitive board and cable)
613343-001	Plastics Kit for use only on computer models equipped with a 14.0-in display assembly **NOTE:** See "Plastics Kit-in on page 3-14 for more Plastics Kit spare part information.
613344-001	Plastics Kit for use only on computer models equipped with a 15.6-in display assembly **NOTE:** See "Plastics Kit-in on page 3-14 for more Plastics Kit spare part information.
613345-001	Screw Kit
613347-001	Speaker assembly for use only on computer models equipped with a 14.0-in display assembly (includes cable)
613348-001	Speaker assembly for use only on computer models equipped with a 15.6-in display assembly (includes cable)
613349-001	Fan
613350-001	Heat sink for use only on HP Compaq 6550b and 6450b computer models equipped with a graphics subsystem with discrete memory (includes replacement thermal material)
613351-001	Heat sink for use only on HP Compaq 6550b and 6450b computer models equipped with a graphics subsystem with UMA memory (includes replacement thermal material)
613352-001	Cable Kit **NOTE:** See "Cable Kit-in on page 3-12 for more Cable Kit spare part information.
613353-001	250-GB, 7200-rpm hard drive (includes bracket)
613356-001	128-GB, 2.5-in solid-state drive (includes bracket)
613358-001	Blu-ray ROM with LightScribe DVD±RW SuperMulti Double-Layer Drive (includes bezel and bracket)
613359-001	DVD-ROM Drive (includes bezel and bracket)
613360-001	DVD±RW and CD-RW SuperMulti Double-Layer Drive (includes bezel and bracket)
613361-001	15.6-in, HD, LED, AG display assembly (1366 x 768) for use only on computer models not equipped with a webcam (includes 3 WLAN antenna transceivers and cables, microphones, nameplate, and logo)
613362-001	15.6-in, HD, LED, AG display assembly (1366 x 768) for use only on computer models equipped with a webcam (includes 3 WLAN antenna transceivers and cables, microphones, nameplate, and logo)

Spare part number	Description
613366-001	15.6-in, HD+, LED, WVA, AG display assembly (1600 x 900) for use only on computer models not equipped with a webcam (includes 3 WLAN antenna transceivers and cables, microphones, nameplate, and logo)
613367-001	15.6-in, HD+, LED, WVA, AG display assembly (1600 x 900), WWAN, for use only on computer models not equipped with a webcam (includes 3 WLAN antenna transceivers and cables, microphones, nameplate, and logo)
613368-001	15.6-in, HD+, LED, WVA, AG display assembly (1600 x 900) for use only on computer models equipped with a webcam (includes 3 WLAN antenna transceivers and cables, microphones, nameplate, and logo)
613369-001	15.6-in, HD, LED, AG display assembly (1366 x 768), WWAN, for use only on computer models not equipped with a webcam (includes 3 WLAN antenna transceivers and cables, microphones, nameplate, and logo)
613370-001	15.6-in, HD+, LED, WVA, AG display assembly (1600 x 900) for use only on computer models equipped with a webcam and WWAN (includes 3 WLAN antenna transceivers and cables, 2 WWAN antenna transceivers and cables, microphones, nameplate, and logo)
613371-001	15.6-in, HD+, LED, AG display assembly (1600 x 900) for use only on computer models equipped with a webcam and WWAN (includes 3 WLAN antenna transceivers and cables, 2 WWAN antenna transceivers and cables, microphones, nameplate, and logo)
613372-001	14.0-in, HD, LED, AG display assembly (1366 x 768) for use only on computer models not equipped with a webcam (includes 3 WLAN antenna transceivers and cables, 2 WWAN antenna transceivers and cables, microphones, nameplate, and logo)
613373-001	14.0-in, HD, LED, AG display assembly (1366 x 768) for use only on computer models equipped with a webcam (includes 3 WLAN antenna transceivers and cables, 2 WWAN antenna transceivers and cables, microphones, nameplate, and logo)
613374-001	14.0-in, HD, LED, BV display assembly (1366 x 768) for use only on HP Compaq 6450b computer models not equipped with a webcam (includes 3 WLAN antenna transceivers and cables, 2 WWAN antenna transceivers and cables, microphones, nameplate, and logo)
613375-001	14.0-in, HD, LED, BV display assembly (1366 x 768) for use only on HP Compaq 6450b computer models equipped with a webcam (includes 3 WLAN antenna transceivers and cables, 2 WWAN antenna transceivers and cables, microphones, nameplate, and logo)
613376-001	14.0-in, HD+, LED, AG, display assembly (1600 x 900) for use only on computer models not equipped with a webcam (includes 3 WLAN antenna transceivers and cables, 2 WWAN antenna transceivers and cables, microphones, nameplate, and logo)
613377-001	14.0-in, HD, LED, BV display assembly (1366 x 768), WWAN, for use only on HP Compaq 6450b computer models not equipped with a webcam (includes 3 WLAN antenna transceivers and cables, 2 WWAN antenna transceivers and cables, microphones, nameplate, and logo)
613378-001	14.0-in, HD, LED, BV display assembly (1366 x 768), WWAN, for use only on HP Compaq 6450b computer models equipped with a webcam (includes 3 WLAN antenna transceivers and cables, 2 WWAN antenna transceivers and cables, microphones, nameplate, and logo)
613379-001	14.0-in, HD, LED, AG display assembly for use only on computer models equipped with a webcam (includes 3 WLAN antenna transceivers and cables, 2 WWAN antenna transceivers and cables, microphones, nameplate, and logo)
613380-001	14.0-in, HD+, LED, AG display assembly (1600 x 900) for use only on computer models equipped with a webcam (includes 3 WLAN antenna transceivers and cables, 2 WWAN antenna transceivers and cables, microphones, nameplate, and logo)
613381-001	14.0-in, HD, LED, AG display assembly for use only on computer models not equipped with a webcam (includes 3 WLAN antenna transceivers and cables, 2 WWAN antenna transceivers and cables, microphones, nameplate, and logo)

Spare part number	Description
613382-001	14.0-in, HD+, LED, AG display assembly (1600 x 900) for use only on computer models equipped with a webcam and WWAN (includes 3 WLAN antenna transceivers and cables, 2 WWAN antenna transceivers and cables, microphones, nameplate, and logo)
613383-001	14.0-in, HD, LED, AG display assembly (1366 x 768) for use only on computer models equipped with a webcam and WWAN (includes 3 WLAN antenna transceivers and cables, 2 WWAN antenna transceivers and cables, microphones, nameplate, and logo)
613384-001	Keyboard for use only on computer models equipped with a 14.0-in display assembly and TouchPad in the United States (includes keyboard cable)
613384-031	Keyboard for use only on computer models equipped with a 14.0-in display assembly and TouchPad in the United Kingdom (includes keyboard cable)
613384-041	Keyboard for use only on computer models equipped with a 14.0-in display assembly and TouchPad in Germany (includes keyboard cable)
613384-051	Keyboard for use only on computer models equipped with a 14.0-in display assembly and TouchPad in France (includes keyboard cable)
613384-061	Keyboard for use only on computer models equipped with a 14.0-in display assembly and TouchPad in Italy (includes keyboard cable)
613384-071	Keyboard for use only on computer models equipped with a 14.0-in display assembly and TouchPad in Spain (includes keyboard cable)
613384-081	Keyboard for use only on computer models equipped with a 14.0-in display assembly and TouchPad in Denmark (includes keyboard cable)
613384-091	Keyboard for use only on computer models equipped with a 14.0-in display assembly and TouchPad in Norway (includes keyboard cable)
613384-121	Keyboard for use only on computer models equipped with a 14.0-in display assembly and TouchPad in French Canada (includes keyboard cable)
613384-131	Keyboard for use only on computer models equipped with a 14.0-in display assembly and TouchPad in Portugal (includes keyboard cable)
613384-141	Keyboard for use only on computer models equipped with a 14.0-in display assembly and TouchPad in Turkey (includes keyboard cable)
613384-161	Keyboard for use only on computer models equipped with a 14.0-in display assembly and TouchPad in Latin America (includes keyboard cable)
613384-171	Keyboard for use only on computer models equipped with a 14.0-in display assembly and TouchPad in Saudi Arabia (includes keyboard cable)
613384-201	Keyboard for use only on computer models equipped with a 14.0-in display assembly and TouchPad in Brazil (includes keyboard cable)
613384-211	Keyboard for use only on computer models equipped with a 14.0-in display assembly and TouchPad in Hungary (includes keyboard cable)
613384-251	Keyboard for use only on computer models equipped with a 14.0-in display assembly and TouchPad in Russia (includes keyboard cable)
613384-261	Keyboard for use only on computer models equipped with a 14.0-in display assembly and TouchPad in Bulgaria (includes keyboard cable)
613384-281	Keyboard for use only on computer models equipped with a 14.0-in display assembly and TouchPad in Thailand (includes keyboard cable)
613384-291	Keyboard for use only on computer models equipped with a 14.0-in display assembly and TouchPad in Japan (includes keyboard cable)

Spare part number	Description
613384-A41	Keyboard for use only on computer models equipped with a 14.0-in display assembly and TouchPad in Belgium (includes keyboard cable)
613384-A81	Keyboard for use only on computer models equipped with a 14.0-in display assembly and TouchPad in the Czech Republic and Slovakia (includes keyboard cable)
613384-AB1	Keyboard for use only on computer models equipped with a 14.0-in display assembly and TouchPad in Taiwan (includes keyboard cable)
613384-AD1	Keyboard for use only on computer models equipped with a 14.0-in display assembly and TouchPad in South Korea (includes keyboard cable)
613384-B31	Keyboard for use only on computer models equipped with a 14.0-in display assembly and TouchPad in the Netherlands (includes keyboard cable)
613384-B71	Keyboard for use only on computer models equipped with a 14.0-in display assembly and TouchPad in Finland and Sweden (includes keyboard cable)
613384-BA1	Keyboard for use only on computer models equipped with a 14.0-in display assembly and TouchPad in Slovenia (includes keyboard cable)
613384-BB1	Keyboard for use only on computer models equipped with a 14.0-in display assembly and TouchPad in Israel (includes keyboard cable)
613384-BG1	Keyboard for use only on computer models equipped with a 14.0-in display assembly and TouchPad in Switzerland (includes keyboard cable)
613384-DD1	Keyboard for use only on computer models equipped with a 14.0-in display assembly and TouchPad in Iceland (includes keyboard cable)
613384-DJ1	Keyboard for use only on computer models equipped with a 14.0-in display assembly and TouchPad in Greece (includes keyboard cable)
613384-DW1	Keyboard for use only on computer models equipped with a 14.0-in display assembly and TouchPad in Europe (includes keyboard cable)
613385-001	Keyboard for use only on computer models equipped with a 15.6-in display assembly with a pointing stick, TouchPad, and a numeric keypad in the United States (includes keyboard cable)
613385-031	Keyboard for use only on computer models equipped with a 15.6-in display assembly with a pointing stick, TouchPad, and a numeric keypad in the United Kingdom (includes keyboard cable)
613385-041	Keyboard for use only on computer models equipped with a 15.6-in display assembly with a pointing stick, TouchPad, and a numeric keypad in Germany (includes keyboard cable)
613385-051	Keyboard for use only on computer models equipped with a 15.6-in display assembly with a pointing stick, TouchPad, and a numeric keypad in France (includes keyboard cable)
613385-061	Keyboard for use only on computer models equipped with a 15.6-in display assembly with a pointing stick, TouchPad, and a numeric keypad in Italy (includes keyboard cable)
613385-071	Keyboard for use only on computer models equipped with a 15.6-in display assembly with a pointing stick, TouchPad, and a numeric keypad in Spain (includes keyboard cable)
613385-081	Keyboard for use only on computer models equipped with a 15.6-in display assembly with a pointing stick, TouchPad, and a numeric keypad in Denmark (includes keyboard cable)
613385-091	Keyboard for use only on computer models equipped with a 15.6-in display assembly with a pointing stick, TouchPad, and a numeric keypad in Norway (includes keyboard cable)
613385-121	Keyboard for use only on computer models equipped with a 15.6-in display assembly with a pointing stick, TouchPad, and a numeric keypad in French Canada (includes keyboard cable)
613385-131	Keyboard for use only on computer models equipped with a 15.6-in display assembly with a pointing stick, TouchPad, and a numeric keypad in Portugal (includes keyboard cable)

Spare part number	Description
613385-141	Keyboard for use only on computer models equipped with a 15.6-in display assembly with a pointing stick and TouchPad and a numeric keypad in Turkey (includes keyboard cable)
613385-161	Keyboard for use only on computer models equipped with a 15.6-in display assembly with a pointing stick, TouchPad, and a numeric keypad in Latin America (includes keyboard cable)
613385-171	Keyboard for use only on computer models equipped with a 15.6-in display assembly with a pointing stick, TouchPad, and a numeric keypad in Saudi Arabia (includes keyboard cable)
613385-211	Keyboard for use only on computer models equipped with a 15.6-in display assembly with a pointing stick, TouchPad, and a numeric keypad in Hungary (includes keyboard cable)
613385-251	Keyboard for use only on computer models equipped with a 15.6-in display assembly with a pointing stick, TouchPad, and a numeric keypad in Russia (includes keyboard cable)
613385-261	Keyboard for use only on computer models equipped with a 15.6-in display assembly with a pointing stick, TouchPad, and a numeric keypad in Bulgaria (includes keyboard cable)
613385-281	Keyboard for use only on computer models equipped with a 15.6-in display assembly with a pointing stick, TouchPad, and a numeric keypad in Thailand (includes keyboard cable)
613385-291	Keyboard for use only on computer models equipped with a 15.6-in display assembly with a pointing stick, TouchPad, and a numeric keypad in Japan (includes keyboard cable)
613385-A41	Keyboard for use only on computer models equipped with a 15.6-in display assembly with a pointing stick, TouchPad, and a numeric keypad in Belgium (includes keyboard cable)
613385-A81	Keyboard for use only on computer models equipped with a 15.6-in display assembly with a pointing stick, TouchPad, and a numeric keypad in the Czech Republic and Slovakia (includes keyboard cable)
613385-AB1	Keyboard for use only on computer models equipped with a 15.6-in display assembly with a pointing stick, TouchPad, and a numeric keypad in Taiwan (includes keyboard cable)
613385-AD1	Keyboard for use only on computer models equipped with a 15.6-in display assembly with a pointing stick, TouchPad, and a numeric keypad in South Korea (includes keyboard cable)
613385-B31	Keyboard for use only on computer models equipped with a 15.6-in display assembly with a pointing stick, TouchPad, and a numeric keypad in the Netherlands (includes keyboard cable)
613385-B71	Keyboard for use only on computer models equipped with a 15.6-in display assembly with a pointing stick, TouchPad, and a numeric keypad in Sweden and Finland (includes keyboard cable)
613385-BA1	Keyboard for use only on computer models equipped with a 15.6-in display assembly with a pointing stick, TouchPad, and a numeric keypad in Slovenia (includes keyboard cable)
613385-BB1	Keyboard for use only on computer models equipped with a 15.6-in display assembly with a pointing stick, TouchPad, and a numeric keypad in Israel (includes keyboard cable)
613385-BG1	Keyboard for use only on computer models equipped with a 15.6-in display assembly and a pointing stick in Switzerland (includes keyboard cable)
613385-DD1	Keyboard for use only on computer models equipped with a 15.6-in display assembly with a pointing stick, TouchPad, and a numeric keypad in Iceland (includes keyboard cable)
613385-DJ1	Keyboard for use only on computer models equipped with a 15.6-in display assembly with a pointing stick, TouchPad, and a numeric keypad in Greece (includes keyboard cable)
613385-DW1	Keyboard for use only on computer models equipped with a 15.6-in display assembly with a pointing stick, TouchPad, and a numeric keypad in Europe (includes keyboard cable)
613386-001	Keyboard for use only on computer models equipped with a 15.6-in display assembly, TouchPad, and a numeric keypad in the United States (includes keyboard cable)
613386-031	Keyboard for use only on computer models equipped with a 15.6-in display assembly, TouchPad, and a numeric keypad in the United Kingdom (includes keyboard cable)

Spare part number	Description
613386-041	Keyboard for use only on computer models equipped with a 15.6-in display assembly, TouchPad, and a numeric keypad in Germany (includes keyboard cable)
613386-051	Keyboard for use only on computer models equipped with a 15.6-in display assembly, TouchPad, and a numeric keypad in France (includes keyboard cable)
613386-061	Keyboard for use only on computer models equipped with a 15.6-in display assembly, TouchPad, and a numeric keypad in Italy (includes keyboard cable)
613386-071	Keyboard for use only on computer models equipped with a 15.6-in display assembly, TouchPad, and a numeric keypad in Spain (includes keyboard cable)
613386-081	Keyboard for use only on computer models equipped with a 15.6-in display assembly, TouchPad, and a numeric keypad in Denmark (includes keyboard cable)
613386-091	Keyboard for use only on computer models equipped with a 15.6-in display assembly, TouchPad, and a numeric keypad in Norway (includes keyboard cable)
613386-121	Keyboard for use only on computer models equipped with a 15.6-in display assembly, TouchPad, and a numeric keypad in French Canada (includes keyboard cable)
613386-131	Keyboard for use only on computer models equipped with a 15.6-in display assembly, TouchPad, and a numeric keypad in Portugal (includes keyboard cable)
613386-141	Keyboard for use only on computer models equipped with a 15.6-in display assembly, TouchPad, and a numeric keypad in Turkey (includes keyboard cable)
613386-161	Keyboard for use only on computer models equipped with a 15.6-in display assembly, TouchPad, and a numeric keypad in Latin America (includes keyboard cable)
613386-171	Keyboard for use only on computer models equipped with a 15.6-in display assembly, TouchPad, and a numeric keypad in Saudi Arabia (includes keyboard cable)
613386-211	Keyboard for use only on computer models equipped with a 15.6-in display assembly, TouchPad, and a numeric keypad in Hungary (includes keyboard cable)
613386-251	Keyboard for use only on computer models equipped with a 15.6-in display assembly, TouchPad, and a numeric keypad in Russia (includes keyboard cable)
613386-261	Keyboard for use only on computer models equipped with a 15.6-in display assembly, TouchPad, and a numeric keypad in Bulgaria (includes keyboard cable)
613386-281	Keyboard for use only on computer models equipped with a 15.6-in display assembly, TouchPad, and a numeric keypad in Thailand (includes keyboard cable)
613386-291	Keyboard for use only on computer models equipped with a 15.6-in display assembly, TouchPad, and a numeric keypad in Japan (includes keyboard cable)
613386-A41	Keyboard for use only on computer models equipped with a 15.6-in display assembly, TouchPad, and a numeric keypad in Belgium (includes keyboard cable)
613386-A81	Keyboard for use only on computer models equipped with a 15.6-in display assembly, TouchPad, and a numeric keypad in the Czech Republic and Slovakia (includes keyboard cable)
613386-AB1	Keyboard for use only on computer models equipped with a 15.6-in display assembly, TouchPad, and a numeric keypad in Taiwan (includes keyboard cable)
613386-AD1	Keyboard for use only on computer models equipped with a 15.6-in display assembly, TouchPad, and a numeric keypad in South Korea (includes keyboard cable)
613386-B31	Keyboard for use only on computer models equipped with a 15.6-in display assembly, TouchPad, and a numeric keypad in the Netherlands (includes keyboard cable)
613386-B71	Keyboard for use only on computer models equipped with a 15.6-in display assembly, TouchPad, and a numeric keypad in Sweden and Finland (includes keyboard cable)

Spare part number	Description
613386-BA1	Keyboard for use only on computer models equipped with a 15.6-in display assembly, TouchPad, and a numeric keypad in Slovenia (includes keyboard cable)
613386-BB1	Keyboard for use only on computer models equipped with a 15.6-in display assembly, TouchPad, and a numeric keypad in Israel (includes keyboard cable)
613386-BG1	Keyboard for use only on computer models equipped with a 15.6-in display assembly, TouchPad, and a numeric keypad in Switzerland (includes keyboard cable)
613386-DD1	Keyboard for use only on computer models equipped with a 15.6-in display assembly, TouchPad, and a numeric keypad in Iceland (includes keyboard cable)
613386-DJ1	Keyboard for use only on computer models equipped with a 15.6-in display assembly, TouchPad, and a numeric keypad in Greece (includes keyboard cable)
613386-DW1	Keyboard for use only on computer models equipped with a 15.6-in display assembly, TouchPad, and a numeric keypad in Europe (includes keyboard cable)
613397-001	AMD UMA system board for use only on HP Compaq 6555b and 6455b computer models (includes replacement thermal material)
613398-001	AMD UMA, WWAN, system board for use only on HP Compaq 6555b and 6455b computer models (includes replacement thermal material)
613399-001	Heat sink for use only on HP Compaq 6555b and 6455b computer models (includes replacement thermal material)
613401-001	Intel discrete HM57, WWAN, system board for use only on HP Compaq 6555b and 6455b computer models in Russia and China (includes replacement thermal material)
613459-001	Rubber Kit (includes 7 rubber feet, 2 base enclosure screw covers, and 8 display bezel screw covers)
613584-001	Intel Core i3-370M (2.40-GHz, 3 MB L3 cache, 35W) for use only on HP Compaq 6550b and 6450b computer models (includes replacement thermal material)
613585-001	Intel Core i5-450M (2.40-GHz (turbo up to 2.66-GHz), 3 MB L3 cache, 4 threads, 35 W) for use only on HP Compaq 6550b and 6450b computer models (includes replacement thermal material)
613682-001	Upgrade Bay Cradle
615956-001	Heat sink for SouthBridge chipset
615957-001	Display Cable Kit for use only on computer models equipped with one microphone and a webcam
615958-001	Display Cable Kit for use only on computer models equipped with two microphones but not a webcam
615959-001	Display Cable Kit for use only on computer models equipped with two microphones and a webcam
616343-001	AMD Athlon II Dual Core P340 2.2-GHz processor (25W, 1-MB L2 cache)
616344-001	AMD Phenom II Dual Core Mobile N640 2.9-GHz processor (35W, 2-MB L2 cache)
616345-001	AMD Phenom II Triple Core Mobile N850 2.2-GHz processor (35W, 1.5-MB L2 cache)
616346-001	AMD Phenom II Quad Core Mobile N950 2.1-GHz processor (35W, 2-MB L2 cache)
616787-001	AMD UMA system board for use only on HP Compaq 6555b and 6455b computer models in Russia and China (includes replacement thermal material)
616788-001	AMD UMA, WWAN, system board for use only on HP Compaq 6555b and 6455b computer models in Russia and China (includes replacement thermal material)
616789-001	AMD UMA system board for use only on HP Compaq 6555b and 6455b computer models in the People's Republic of China (includes replacement thermal material)

Spare part number	Description
616790-001	AMD UMA, WWAN, system board for use only on HP Compaq 6555b and 6455b computer models in the People's Republic of China (includes replacement thermal material)
620893-001	160-GB, 7200-rpm hard drive (includes bracket)
622597-001	Smart Card Reader HF (factory-installed on select models only)
623176-001	14.0-in, HD, AG, LED, SVA, LVDS display panel
624236-001	14.0-in, HD+, AG, LED, WVA, LVDS display panel
624238-001	15.6-in, HD, AG, LED, SVA, LVDS display panel
624643-001	15.6-in, HD+, AG, LED, WVA, LVDS display panel
625133-001	80-GB, 2.5-in solid-state drive
625823-001	Intel Core i3-380M 2.53-GHz processor (3-MB L3 cache; includes replacement thermal material)
625824-001	Intel Core i5-560M 2.66-GHz (turbo up to 3.20-GHz) processor (3-MB L3 cache, 4 threads, 35 W; includes replacement thermal material)
625825-001	Intel Core i5-560M 2.66-GHz (turbo up to 3.33-GHz) processor (3-MB L3 cache, 4 threads, 35 W; includes replacement thermal material)
625826-001	Intel Core i7-640M 2.80-GHz (turbo up to 3.33-GHz) processor (4-MB L3 cache, 4 threads, 35 W; includes replacement thermal material)
626039-001	Intel Core i5-460M 2.53-GHz (turbo up to 2.80-GHz) processor (3-MB L3 cache, 4 threads, 35 W; includes replacement thermal material)
627971-001	6-cell, 51-WH battery
628824-001	Modem module for use in all countries and regions except Australia and New Zealand

NOTE: The modem module spare part kit does not include a modem module cable. The modem module cable is included in the Cable Kit, spare part numbers 613352-001. |
628941-001	Intel P4600 2.0-GHz processor (2-MB L2 cache, 35W; includes replacement thermal material)
630891-001	Hard Drive Hardware Kit (includes hard drive bracket and screws)
634693-001	Intel Core i5-480M 2.66-GHz (turbo up to 2.93-GHz) processor (3-MB L3 cache, 4 threads, 35 W; includes replacement thermal material)
634919-001	500-GB, 7200-rpm hard drive (includes bracket)
635494-001	AMD Phenom II Dual Core Mobile N660 3.0-GHz processor (35W, 2-MB L2 cache)
635495-001	AMD Phenom II Triple Core Mobile N870 2.3-GHz processor (35W, 1.5-MB L2 cache)
635496-001	AMD Phenom II Quad Core Mobile N970 2.2-GHz processor (35W, 2-MB L2 cache)
636635-001	AMD Athlon II Dual Core P360 2.3-GHz processor (35W, 1-MB L2 cache)
641369-002	4096-MB memory module (1600-MHz, DDR3)
641674-001	320-GB. 7200-rpm, SED, 7 mm hard drive
652972-002	2048-MB memory module (1600-MHz, DDR3)
663433-001	Display assembly rubber kit
663946-001	Speaker for use in 14.1-in models

Spare part number	Description
663947-001	Speaker for use in 15.6-in models
691416-001	Hard Drive Hardware Kit for use with 7 mm hard drives

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
- Phillips P0 screwdriver
- Phillips P1 screwdriver
- Torx T8 screwdriver

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

Packaging and transporting guidelines

Follow these grounding guidelines when packaging and transporting equipment:

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

Workstation guidelines

Follow these grounding workstation guidelines:

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

Equipment guidelines

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

- When seated, wear a wrist strap connected to a grounded system. Wrist straps are flexible straps with a minimum of one megohm ±10% resistance in the ground cords. To provide proper ground, wear a strap snugly against the skin at all times. On grounded mats with banana-plug connectors, use alligator clips to connect a wrist strap.

- When standing, use foot straps and a grounded floor mat. Foot straps (heel, toe, or boot straps) can be used at standing workstations and are compatible with most types of shoes or boots. On conductive floors or dissipative floor mats, use foot straps on both feet with a minimum of one megohm resistance between the operator and ground. To be effective, the conductive strips must be worn in contact with the skin.

The following grounding equipment is recommended to prevent electrostatic damage:

- Antistatic tape

- Antistatic smocks, aprons, and sleeve protectors

- Conductive bins and other assembly or soldering aids

- Nonconductive foam

- Conductive tabletop workstations with ground cords of one megohm resistance

- Static-dissipative tables or floor mats with hard ties to the ground

- Field service kits

- Static awareness labels

- Material-handling packages

- Nonconductive plastic bags, tubes, or boxes

- Metal tote boxes

- Electrostatic voltage levels and protective materials

The following table lists the shielding protection provided by antistatic bags and floor mats.

Material	Use	Voltage protection level
Antistatic plastic	Bags	1,500 V
Carbon-loaded plastic	Floor mats	7,500 V
Metallized laminate	Floor mats	5,000 V

Component replacement procedures

This chapter provides removal and replacement procedures.

There are as many as 92 screws, in 11 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) Part number/Product number (p/n): This number provides specific information about the product's hardware components. The part number helps a service technician to determine what components and parts are needed.

(4) Warranty period: This number describes the duration of the warranty period for the device.

(5) Model description: This is the alphanumeric identifier used to locate documents, drivers, and support for the device.
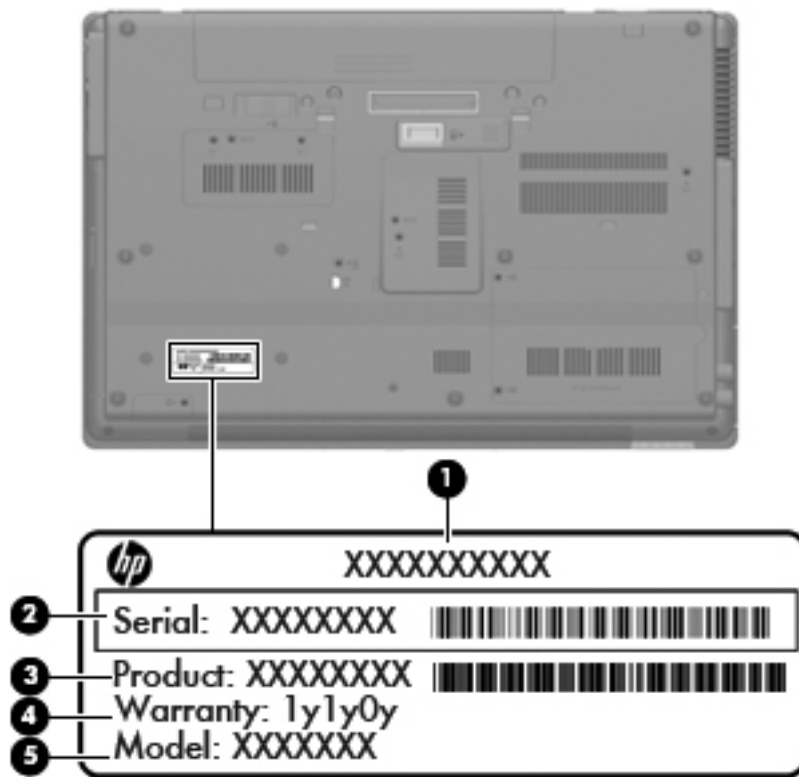
Computer feet

The computer feet are adhesive-backed rubber pads. The feet are included in the Rubber Kit, spare part number 613459-001. There are 7 rubber feet that attach to the base enclosure in the locations shown in the following illustration.
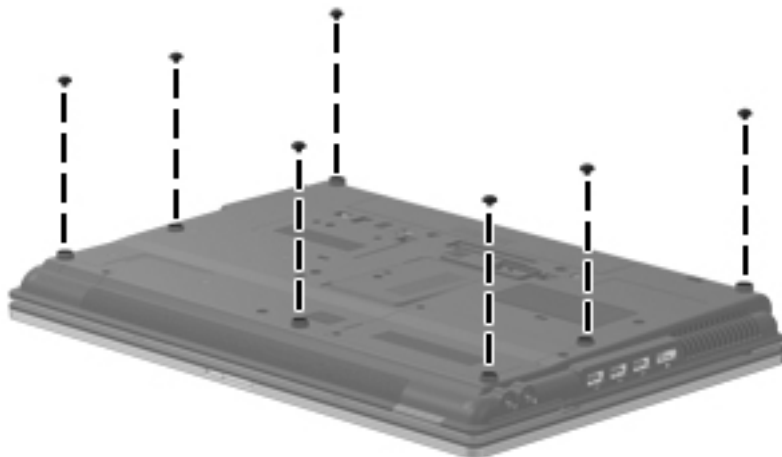
Battery

Description	Spare part number
9-cell, 93-WH battery	586031-001
8-cell, 59-WH battery	581973-001
6-cell, 55-WH battery	486296-001
6-cell, 51-WH battery (for use only on HP Compaq 6550b and 6450b computer models)	627971-001
6-cell, 51-WH battery (for use only on HP Compaq 6555b and 6455b computer models)	593578-001
6-cell, 47-WH battery (for use only on HP Compaq 6550b and 6450b computer models)	486295-001

Before removing the 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.

Remove the battery:

1. Turn the computer upside down on a flat surface, with the front toward you.

2. Slide the battery release latch **(1)** to release the battery.

3. Remove the battery **(2)**.
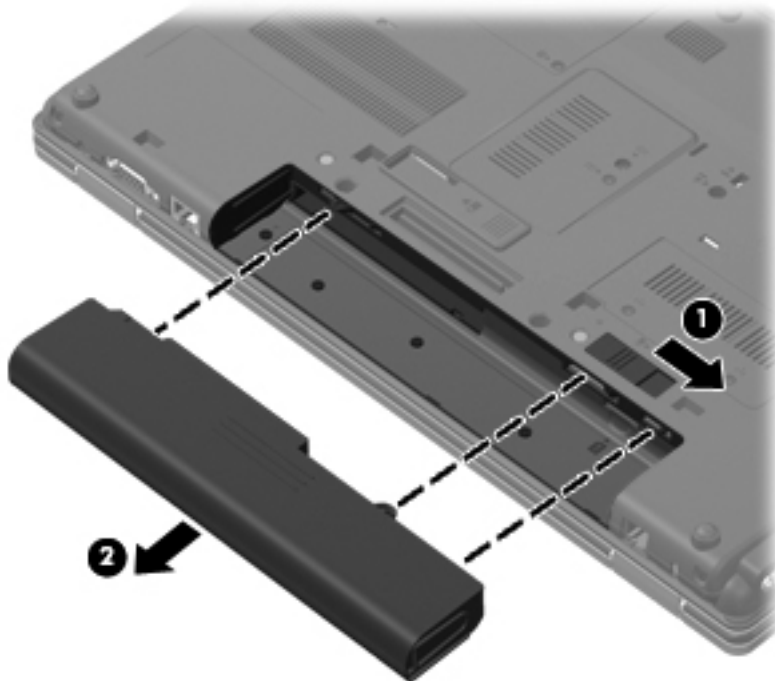
Insert the battery into the battery bay until it is seated. The battery release latch automatically locks the battery into place.

SIM

NOTE: The SIM is provided by the end user as a security measure for the WWAN module. The SIM should be removed, placed into a static-dissipative container, and then replaced when the computer is reassembled.

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 74).

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.
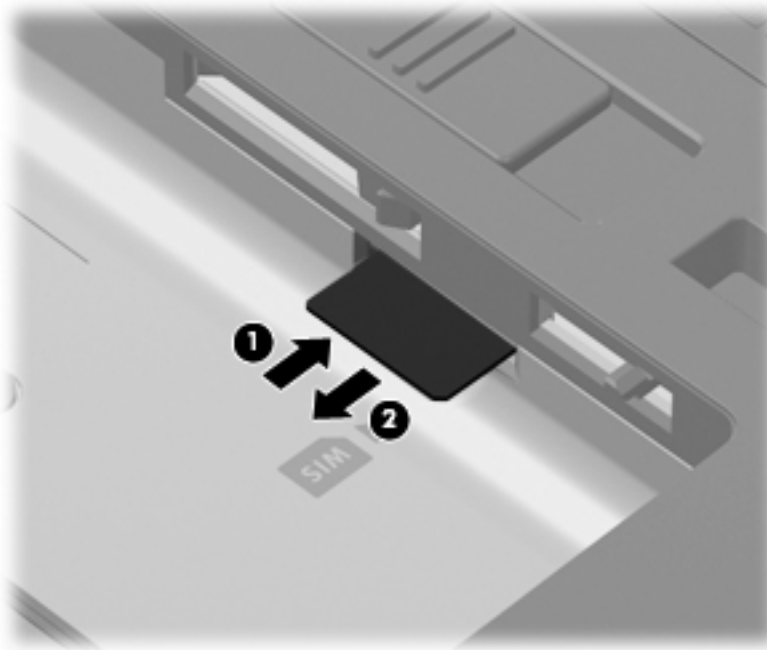
Insert the SIM into the SIM slot, and gently push the SIM into the slot until it is firmly seated.

Bluetooth module

NOTE: The Bluetooth module spare part kit does not include a Bluetooth module cable. The Bluetooth module cable is included in the Cable Kit, spare part numbers 613352-001.

Description	Spare part number
Bluetooth module	537921-001

Before removing the Bluetooth 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 74).

5. Remove the accessory cover (see Mass storage device on page 78).

Remove the Bluetooth module:

1. Loosen the Phillips PM2.0×6.0 captive screw **(1)** that secures the Bluetooth module compartment cover to the computer.

2. Lift the Bluetooth module compartment cover **(2)** straight up to remove it. The Bluetooth module compartment cover is included in the Plastics Kit, spare part numbers 613343-001 (for use only on computer models equipped with a 14.0-in display assembly) and 613344-001 (for use only on computer models equipped with a 15.6-in display assembly).

3. Release the Bluetooth module **(1)** by lifting the right side of the module out of the Bluetooth module compartment.

4. Disconnect the Bluetooth module cable **(2)** from the Bluetooth module.

5. Remove the Bluetooth module **(3)**.
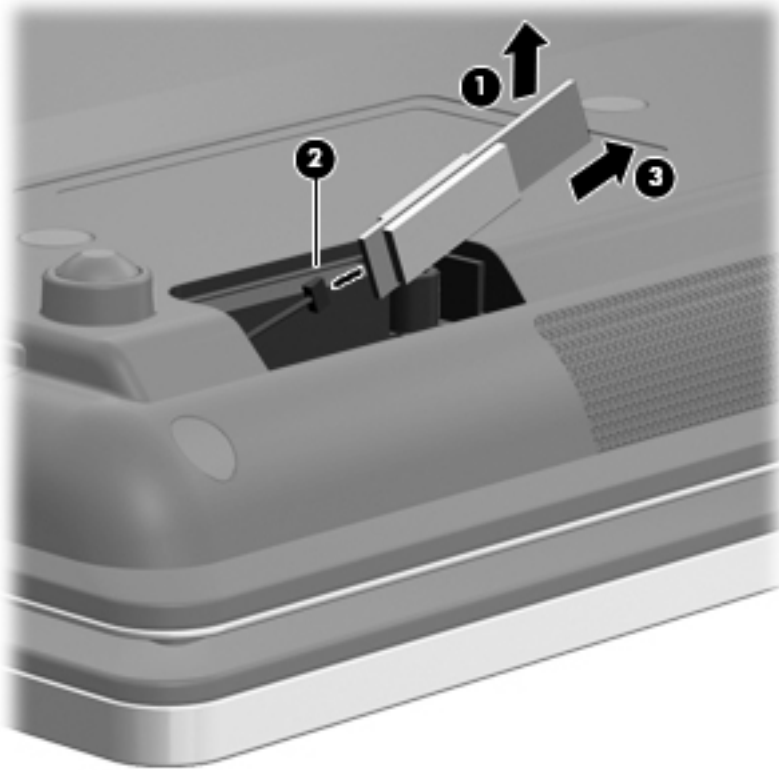
Reverse this procedure to install the Bluetooth module.

Mass storage device

NOTE: The mass storage device spare part kit includes a bracket.

Description	Spare part number
Hard drive:	
500-GB, 7200-rpm	634919-001
320-GB, 7200-rpm	603783-001
320-GB, 7200-rpm, SED, 7 mm	641674-001
250-GB, 7200-rpm	613353-001
160-GB, 7200-rpm	620893-001
Hard Drive Hardware Kit (not illustrated, includes hard drive bracket and 4 screws)	
For use with standard hard drives	630891-001
For use with 7 mm hard drives	691416-001
Solid-state drive:	
128-GB, 2.5-in solid-state drive	613356-001
80-GB, 2.5-in solid-state drive	625133-001

Before removing the mass storage device, 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).

Remove the mass storage device:

1. Position the computer with the front toward you.

2. Loosen the two Phillips PM2.0×6.0 captive screws **(1)** that secure the mass storage device cover to the computer.

3. Lift the left side of the cover **(2)** to detach it from the computer.

4. Remove the mass storage device cover **(3)**. The mass storage device cover is included in the Plastics Kit, spare part numbers 613343-001 (for use only on computer models equipped with a 14.0-in display assembly) and 613344-001 (for use only on computer models equipped with a 15.6-in display assembly).
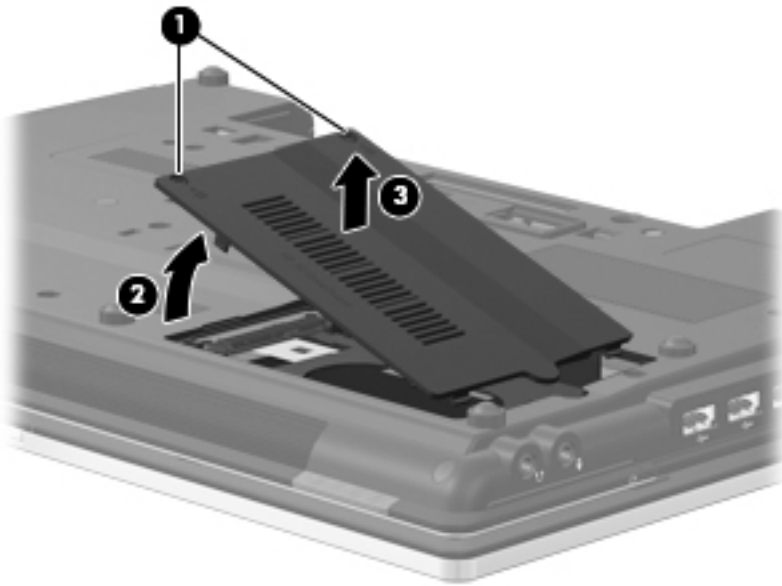
5. Loosen the Phillips PM2.5×13.0 captive screw **(1)** that secures the mass storage device in the mass storage device bay.

6. Grasp the Mylar tab **(2)** on the mass storage device bracket, and slide the mass storage device **(3)** to the right to disconnect it from the system board.

7. Remove the mass storage device **(4)** from the mass storage device bay.
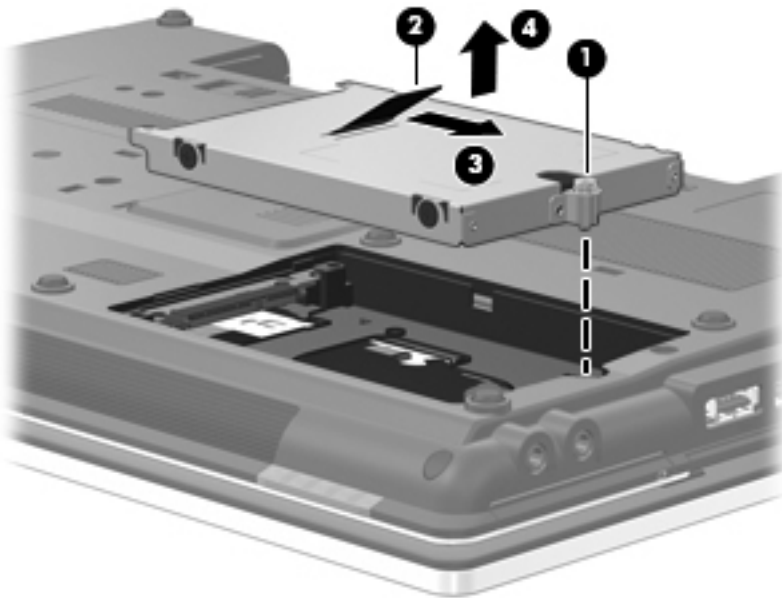
8. If it is necessary to replace the mass storage device bracket, follow these steps:

   a. Remove the four Phillips PM3.0×3.0 screws **(1)** that secure the mass storage device bracket to the mass storage device.

   b. Lift the bracket **(2)** straight up to remove it from the mass storage device.
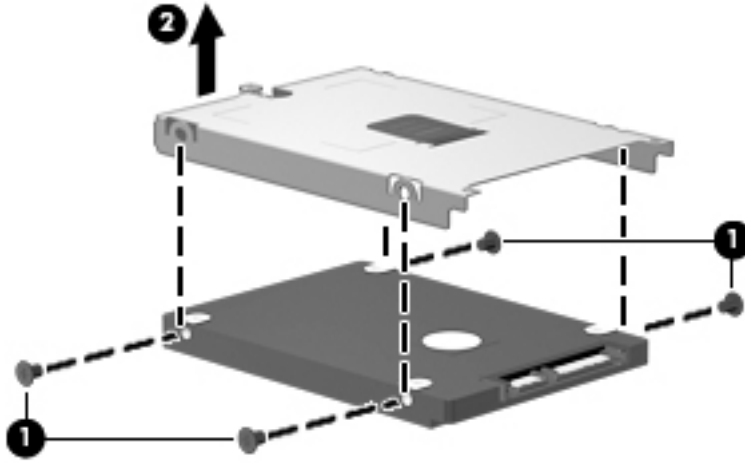
Reverse this procedure to reassemble and install the mass storage device.

Expansion memory module

Description	Spare part number
4096-MB (1600-MHz, DDR3)	641369-002
2048-MB (1600-MHz, DDR3)	652972-002
1024-MB (1333-MHz, DDR3)	598859-002

Before removing the expansion 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 74).

Remove the expansion memory module:

1. Position the computer with the front toward you.

2. Loosen the Phillips PM2.0×6.0 captive screw **(1)** that secures the memory module compartment cover to the computer.

3. Lift the left side of the cover **(2)** to detach it from the computer.

4. Remove the memory module compartment cover **(3)**. The memory module compartment cover is included in the Plastics Kit, spare part numbers 613343-001 (for use only on computer models equipped with a 14.0-in display assembly) and 613344-001 (for use only on computer models equipped with a 15.6-in display assembly).
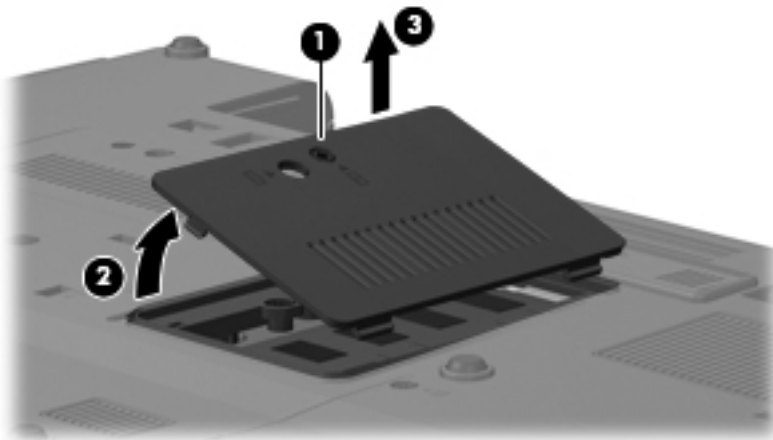
5. Pull away the retention clips **(1)** on each side of the memory module to release the memory module. (The memory module tilts up.)

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

6. 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.
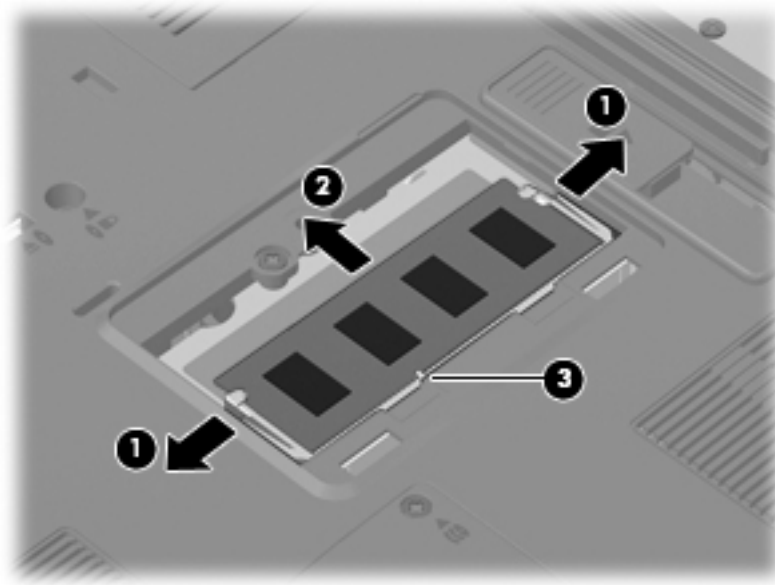
Reverse this procedure to install the expansion memory module.

WLAN module

Description	Spare part number
Broadcom 4322 802.11 a/b/g WLAN module for use in Antigua and Barbuda, Barbados, Belize, Canada, the Cayman Islands, Guam, Puerto Rico, Trinidad and Tobago, the U.S. Virgin Islands, and the United States	582564-001
Broadcom 4322 802.11 a/b/g WLAN module for use in Afghanistan, Albania, Algeria, Andorra, Angola, 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, Cambodia, Cameroon, Cape Verde, the Central African Republic, Chad, Chile, Colombia, Comoros, the Congo, Costa Rica, Croatia, Cyprus, the Czech Republic, Denmark, Djibouti, Dominica, the Dominican Republic, East Timor, Ecuador, Egypt, El Salvador, Equatorial Guinea, Eritrea, Estonia, Ethiopia, Fiji, Finland, France, French Guiana, Gabon, Gambia, Georgia, Germany, Ghana, Gibraltar, Greece, Grenada, Guadeloupe, Guatemala, Guinea, Guinea-Bissau, Guyana, Haiti, Honduras, Hong Kong, Hungary, Iceland, India, Indonesia, Ireland, Italy, the Ivory Coast, Jamaica, Japan, Jordan, Kazakhstan, Kenya, Kiribati, Kuwait, Kyrgyzstan, Laos, Latvia, Lebanon, Lesotho, Liberia, Liechtenstein, Lithuania, Luxembourg, Macedonia, Madagascar, Malawi, Malaysia, the Maldives, Mali, Malta, the Marshall Islands, Martinique, Mauritania, Mauritius, Mexico, Micronesia, Monaco, Mongolia, Montenegro, Morocco, Mozambique, Namibia, Nauru, Nepal, the Nether Antilles, the Netherlands, New Zealand, Nicaragua, Niger, Nigeria, Norway, Oman, Pakistan, Palau, Panama, Papua New Guinea, Paraguay, the People's Republic of China, Peru, the Philippines, Poland, Portugal, Qatar, 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, Suriname, Swaziland, Sweden, Switzerland, Taiwan, Tajikistan, Tanzania, Thailand, Togo, Tonga, Tunisia, Turkey, Turkmenistan, Tuvalu, Uganda, Ukraine, the United Arab Emirates, the United Kingdom, Uruguay, Uzbekistan, Vanuatu, Venezuela, Vietnam, Yemen, Zaire, Zambia, and Zimbabwe	582564-002
Broadcom BCM94313HMG2L 802.11 b/g/n 1 x 1 Half MiniCard	593836-001
Intel Centrino Wireless-N 1000 802.11 b/g/n 1×2 WLAN module	593530-001
Intel Centrino Advanced-N6200 802.11 a/b/g/n 2x2 WLAN module	572509-001

⚠ **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 74).

Remove the WLAN module:

1. Position the computer with the front toward you.

    📝 **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. Loosen the two Phillips PM2.0×6.0 captive screws **(1)** that secure the wireless module compartment cover to the computer.

3. Lift the rear edge of the cover **(2)** to detach it from the computer.

4. Remove the wireless module compartment cover **(3)**. The wireless module compartment cover is included in the Plastics Kit, spare part numbers 613343-001 (for use only on computer models equipped with a 14.0-in display assembly) and 613344-001 (for use only on computer models equipped with a 15.6-in display assembly).
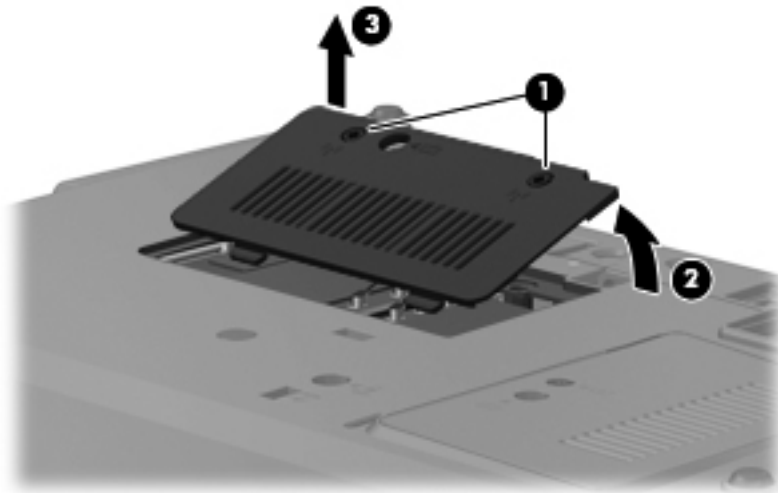
5. Disconnect the WLAN antenna cables **(1)** from the terminals on the WLAN module.

    📝 **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. If the computer is equipped with an 802.11a/g/n WLAN module, the yellow WLAN antenna cable is connected to the middle terminal on the WLAN module.

6. Remove the two Phillips PM2.5×6.0 screws **(2)** that secure the WLAN module to the system board. (The WLAN module tilts up.)

7. Remove the WLAN module **(3)** by pulling it 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.
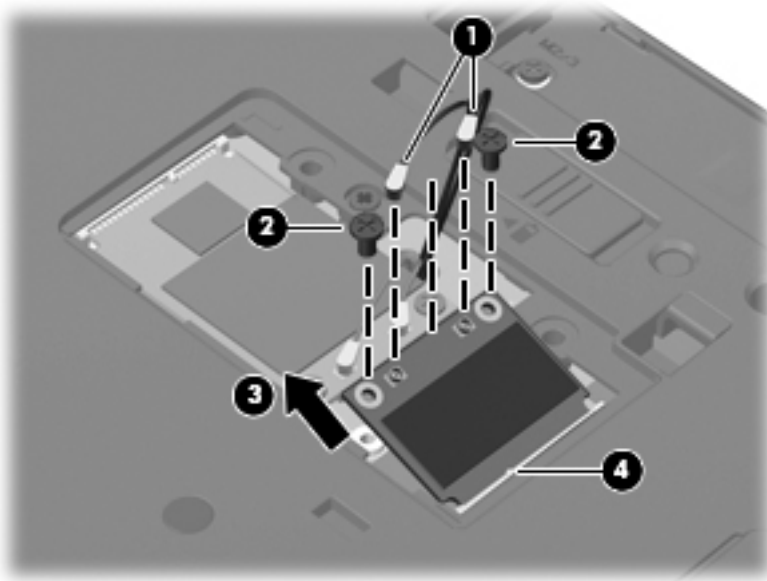
> **NOTE:** If the WLAN antennas are not connected to the terminals on the WLAN module, the protective sleeves must be installed on the antenna connectors, as shown in the following illustration.
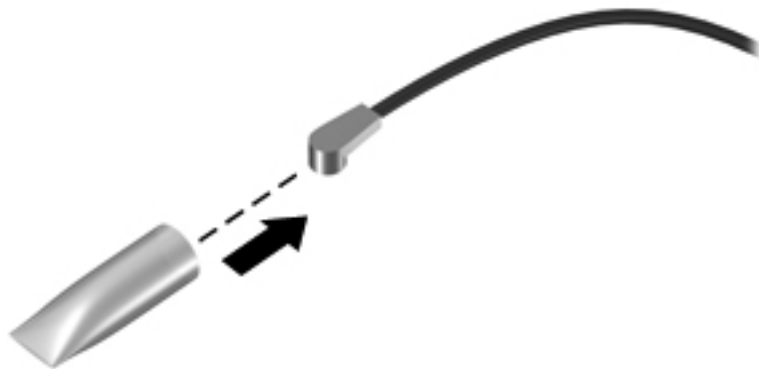
Reverse this procedure to install the WLAN module.

WWAN module

Description	Spare part number
HSPA EV-DO 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 74).

5. Remove the wireless module compartment cover (see WLAN module on page 83).

Remove the WWAN module:

1. Position the computer with the front toward you.

2. 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.

3. Remove the two Phillips PM2.5×6.0 screws **(2)** that secure the WWAN module to the system board. (The WWAN module tilts up.)

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

NOTE: WWAN modules are designed with a notch **(4)** to prevent incorrect insertion of the WWAN module into the WWAN module slot.
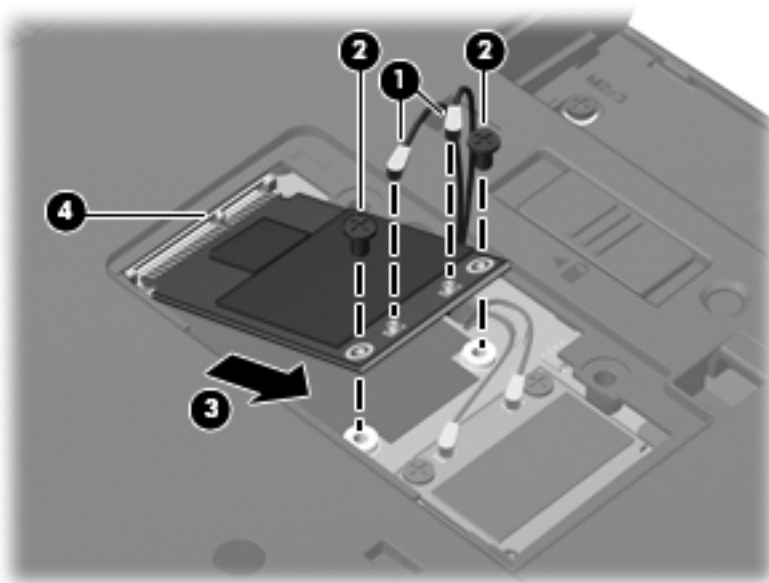
NOTE: If the WWAN antennas are not connected to the terminals on the WWAN module, the protective sleeves must be installed on the antenna connectors, as shown in the following illustration.
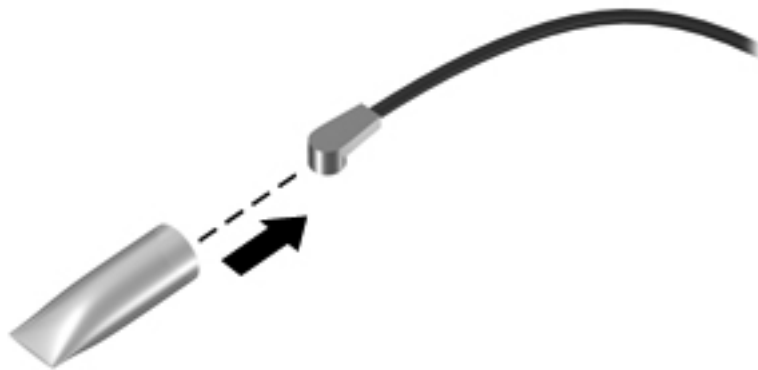
Reverse this procedure to install the WWAN module.

Optical drive

NOTE: The optical drive spare part kit includes an optical drive bezel and bracket.

Description	Spare part number
Blu-ray ROM with LightScribe DVD±RW SuperMulti Double-Layer Drive	613358-001
DVD±RW and CD-RW SuperMulti Double-Layer Drive	613360-001
DVD-ROM Drive	613359-001
Upgrade Bay Cradle:	613682-001

Before removing the optical 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 74).

Remove the optical drive:

1. Position the computer with the front toward you.

2. Loosen the Phillips PM2.5×11.0 captive screw **(1)** that secures the optical drive to the computer.

3. Insert a flat-bladed screwdriver or similar tool into the optical drive tab access **(2)** and press the tab to the left to release the optical drive from the computer.

4. Remove the optical drive **(3)** from the optical drive bay.
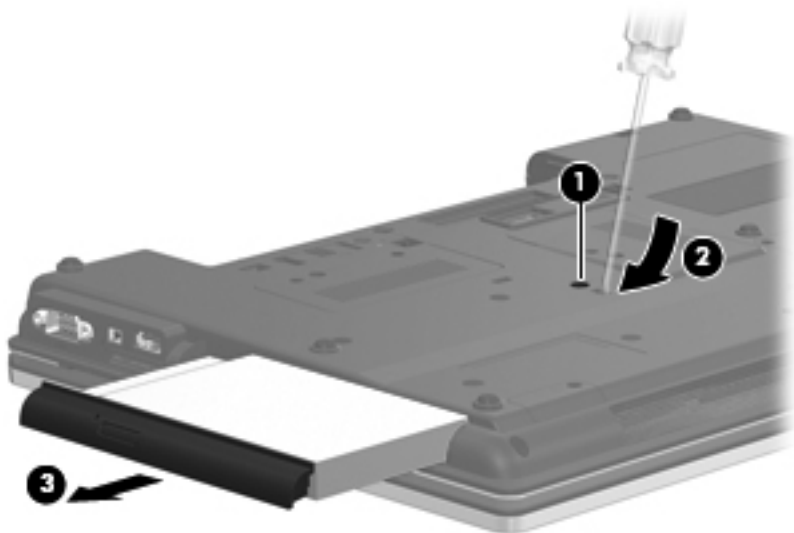
5. If it is necessary to replace the optical drive bracket, follow these steps:

    a. Position the optical drive with the rear toward you.

    b. Remove the three Phillips PM2.0×3.0 screws **(1)** that secure the optical drive bracket to the optical drive.

    c. Remove the optical drive bracket **(2)**.
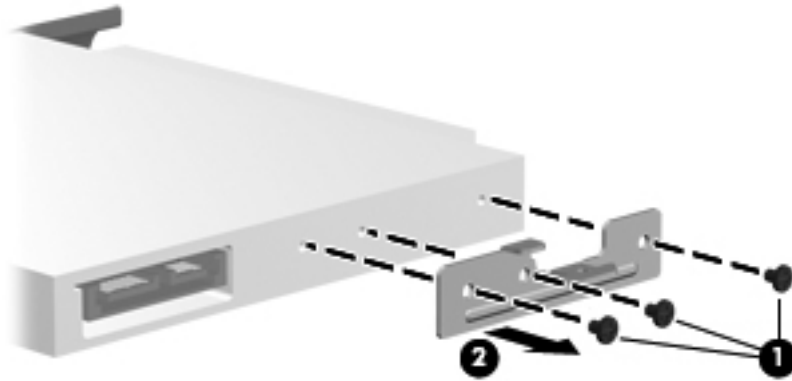
Reverse this procedure to reassemble and install the optical drive.

Keyboard

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

For use in country or region:	Spare part number	For use in country or region:	Spare part number
Keyboard for use only on computer models equipped with a 15.6-in display assembly, pointing stick, TouchPad, and numeric keypad:			
For use in Belgium	613385-A41	For use in the Netherlands	613385-B31
For use in Bulgaria	613385-261	For use in Norway	613385-091
For use in the Czech Republic and Slovakia	613385-A81	For use in Portugal	613385-131
For use in Denmark	613385-081	For use in Russia	613385-251
For use in Europe	613385-DW1	For use in Saudi Arabia	613385-171
For use in France	613385-051	For use in Slovenia	613385-BA1
For use in French Canada	613385-121	For use in South Korea	613385-AD1
For use in Germany	613385-041	For use in Spain	613385-071
For use in Greece	613385-DJ1	For use in Sweden and Finland	613385-B71
For use in Hungary	613385-211	For use in Switzerland	613385-BG1
For use in Iceland	613385-DD1	For use in Taiwan	613385-AB1
For use in Israel	613385-BB1	For use in Thailand	613385-281
For use in Italy	613385-061	For use in Turkey	613385-141
For use in Japan	613385-291	For use in the United Kingdom	613385-031
For use in Latin America	613385-161	For use in the United States	613385-001
For use only on computer models equipped with a 15.6-in display assembly, TouchPad, and numeric keypad:			
For use in Belgium	613386-A41	For use in the Netherlands	613386-B31
For use in Bulgaria	613386-261	For use in Norway	613386-091
For use in the Czech Republic and Slovakia	613386-A81	For use in Portugal	613386-131
For use in Denmark	613386-081	For use in Russia	613386-251
For use in Europe	613386-DW1	For use in Saudi Arabia	613386-171
For use in France	613386-051	For use in Slovenia	613386-BA1
For use in French Canada	613386-121	For use in South Korea	613386-AD1
For use in Germany	613386-041	For use in Spain	613386-071
For use in Greece	613386-DJ1	For use in Sweden and Finland	613386-B71
For use in Hungary	613386-211	For use in Switzerland	613386-BG1
For use in Iceland	613386-DD1	For use in Taiwan	613386-AB1
For use in Israel	613386-BB1	For use in Thailand	613386-281
For use in Italy	613386-061	For use in Turkey	613386-141

For use in country or region:	Spare part number	For use in country or region:	Spare part number
For use in Japan	613386-291	For use in the United Kingdom	613386-031
For use in Latin America	613386-161	For use in the United States	613386-001
For use only on computer models equipped with a 14.0-in display assembly, pointing stick, and TouchPad:			
For use in Belgium	613332-A41	For use in the Netherlands	613332-B31
For use in Bulgaria	613332-261	For use in Norway	613332-091
For use in the Czech Republic and Slovakia	613332-A81	For use in Portugal	613332-131
For use in Denmark	613332-081	For use in Russia	613332-251
For use in Europe	613332-DW1	For use in Saudi Arabia	613332-171
For use in France	613332-051	For use in Slovenia	613332-BA1
For use in French Canada	613332-121	For use in South Korea	613332-AD1
For use in Germany	613332-041	For use in Spain	613332-071
For use in Greece	613332-DJ1	For use in Sweden and Finland	613332-B71
For use in Hungary	613332-211	For use in Switzerland	613332-BG1
For use in Iceland	613332-DD1	For use in Taiwan	613332-AB1
For use in Israel	613332-BB1	For use in Thailand	613332-281
For use in Italy	613332-061	For use in Turkey	613332-141
For use in Japan	613332-291	For use in the United Kingdom	613332-031
For use in Latin America	613332-161	For use in the United States	613332-001
For use only on computer models equipped with a 14.0-in display assembly and TouchPad:			
For use in Belgium	613384-A41	For use in the Netherlands	613384-B31
For use in Bulgaria	613384-261	For use in Norway	613384-091
For use in the Czech Republic and Slovakia	613384-A81	For use in Portugal	613384-131
For use in Denmark	613384-081	For use in Russia	613384-251
For use in Europe	613384-DW1	For use in Saudi Arabia	613384-171
For use in France	613384-051	For use in Slovenia	613384-BA1
For use in French Canada	613384-121	For use in South Korea	613384-AD1
For use in Germany	613384-041	For use in Spain	613384-071
For use in Greece	613384-DJ1	For use in Sweden and Finland	613384-B71
For use in Hungary	613384-211	For use in Switzerland	613384-BG1
For use in Iceland	613384-DD1	For use in Taiwan	613384-AB1
For use in Israel	613384-BB1	For use in Thailand	613384-281
For use in Italy	613384-061	For use in Turkey	613384-141

| For use in country or region:	Spare part number	For use in country or region:	Spare part number
For use in Japan	613384-291	For use in the United Kingdom	613384-031
For use in Latin America	613384-161	For use in the United States	613384-001

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 74).

Remove the keyboard:

1. Position the computer with the front toward you.

2. Loosen the three Phillips PM2.5×11.0 captive screws that secure the keyboard to the computer.
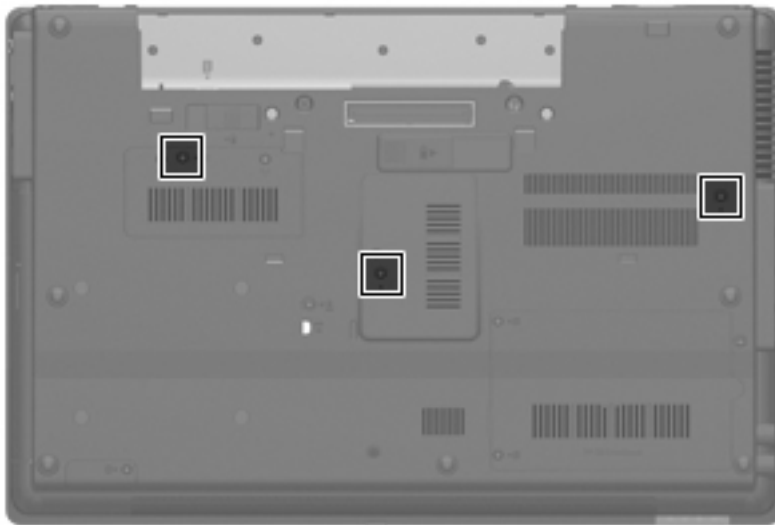
3. Turn the computer right-side up, with the front toward you.

4. Open the computer as far as it will open.

5. Slide the four keyboard tabs **(1)** forward.

6. Lift the rear edge of the keyboard **(2)**, and then swing it up and forward until it rests upside down on the palm rest.
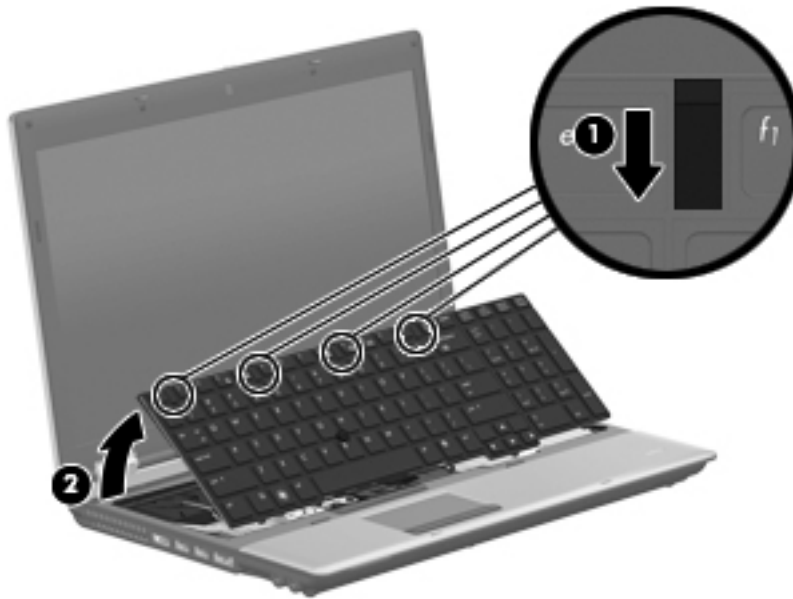
7. Release the zero insertion force (ZIF) connector to which the pointing stick cable **(1)** is attached, and then disconnect the pointing stick cable from the system board.

8. Release the ZIF connector to which the keyboard cable **(2)** is attached, and then disconnect the keyboard cable from the system board.
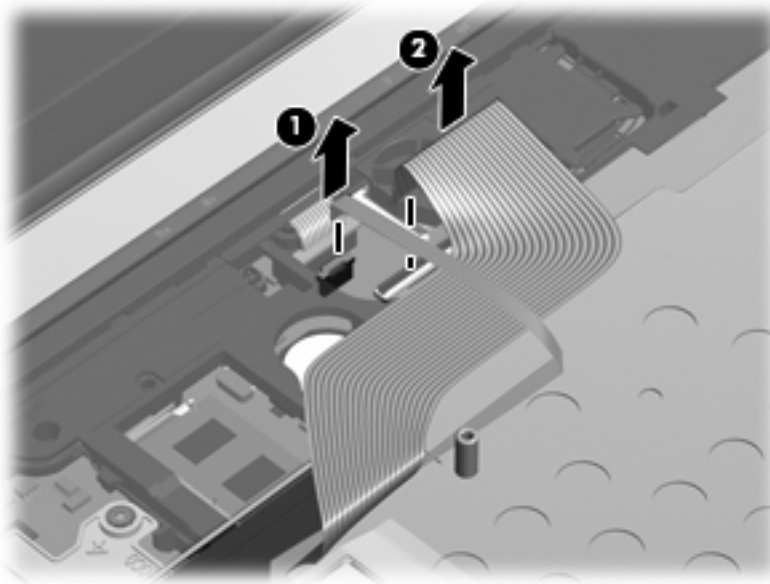
9. Remove the keyboard.

Reverse this procedure to install the keyboard.

Primary memory module

Description	Spare part number
4096-MB (1600-MHz, DDR3)	641369-002
2048-MB (1600-MHz, DDR3)	652972-002
1024-MB (1333-MHz, DDR3)	598859-002

Before removing the primary 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 74).

5. Remove the keyboard (see Keyboard on page 90).

Remove the primary memory module:

1. Position the computer with the front toward you.

2. 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.

3. 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.
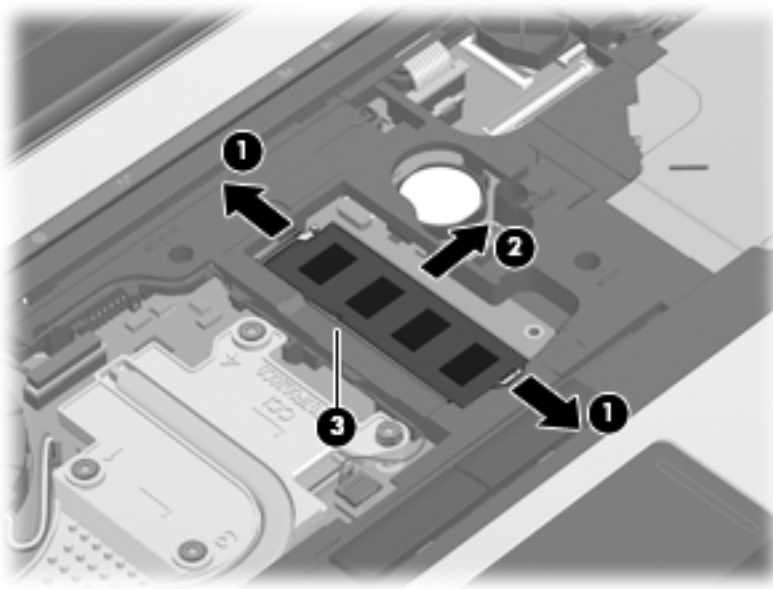
Reverse this procedure to install the primary memory module.

RTC battery

Description	Spare part number
For use only on HP Compaq 6550b and 6450b computer models	449137-001

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 74).

5. Remove the keyboard (see Keyboard on page 90).

Remove the RTC battery:

▲ Use a thin, non-conductive tool to remove the RTC battery from the socket on the system board.
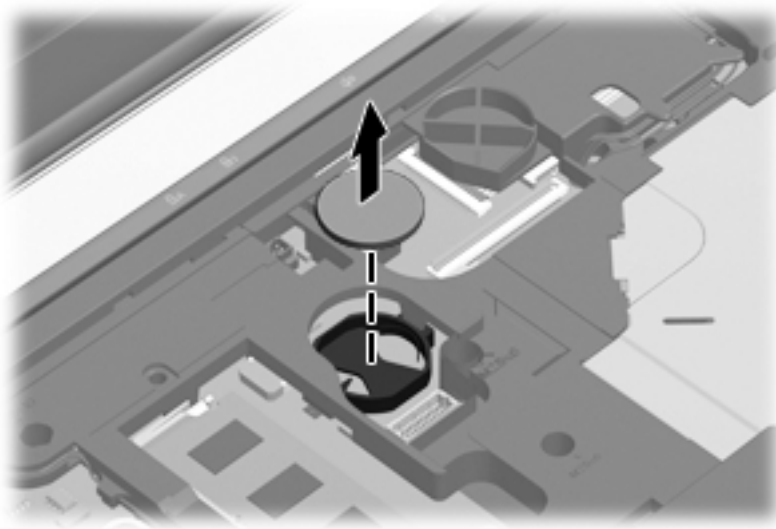
Reverse this procedure to install the RTC battery. When installing the RTC battery, make sure the "+" sign faces up.

Switch cover

NOTE: The switch cover spare part kit includes the capacitive board and cable.

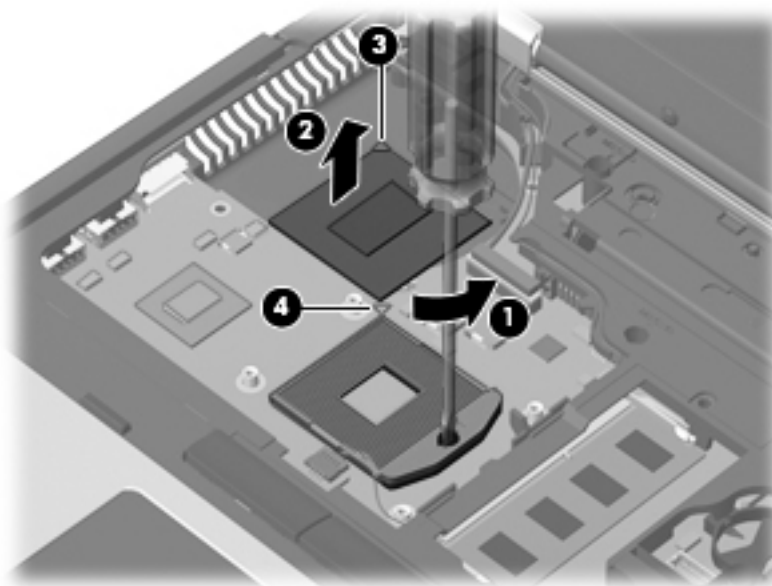| Description	Spare part number
For use only on computer models equipped with a 15.6-in display assembly	613342-001
For use only on computer models equipped with a 14.0-in display assembly	613341-001

Before removing the switch 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 74).

5. Remove the keyboard (see Keyboard on page 90).

Remove the switch cover:

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

2. Remove the three Phillips PM2.0×3.0 screws that secure the switch cover to the computer.
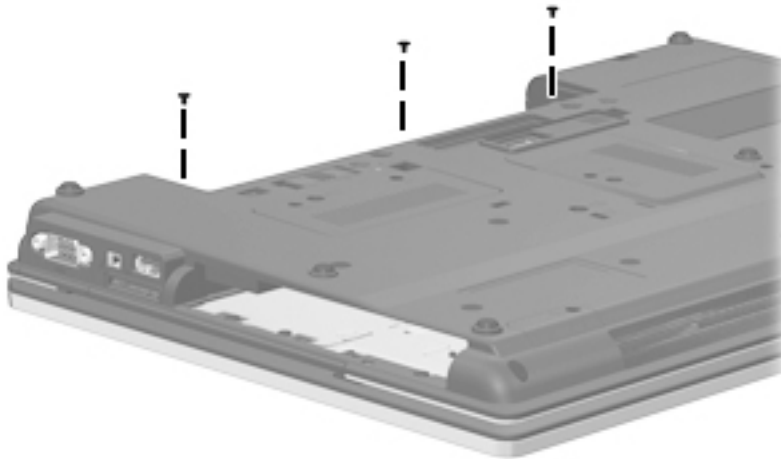
3. Turn the computer display-side up, with the front toward you.

4. Open the computer as far as possible.

5. Release the ZIF connector to which the LED board cable **(1)** is attached, and then disconnect the LED board cable from the system board.

6. Lift the left and right sides of the switch cover **(2)** until it detaches from the computer.
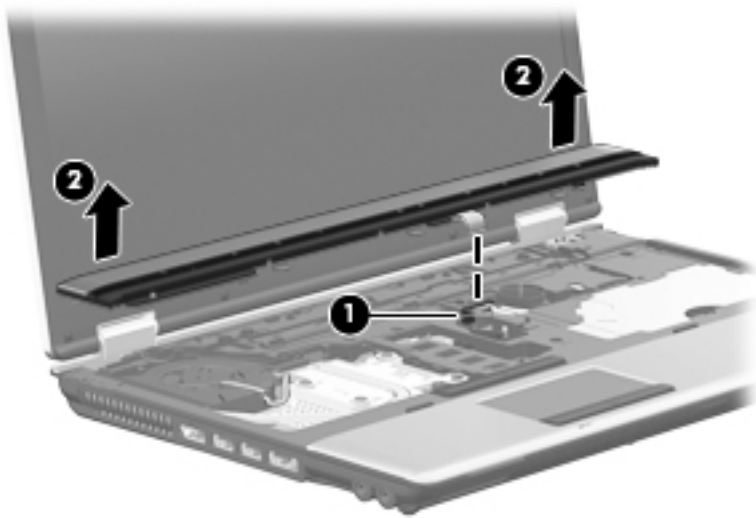
7. Remove the switch cover.

Reverse this procedure to install the switch cover.

Power button board

| Description	Spare part number
Power button board (includes cable)	613310-001

Before removing the power button 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 74).

5. Remove the switch cover (see Switch cover on page 97)

Remove the power button board:

1. Turn the switch cover upside down, with the rear toward you.

2. Release the ZIF connector to which the power button board cable is attached, and then disconnect the power button board cable **(1)** from the capacitive board.

3. Remove the two Phillips PM2.0×3.0 screws **(2)** that secure the power button board to the switch cover.

4. Remove the power button board **(3)** and cable.
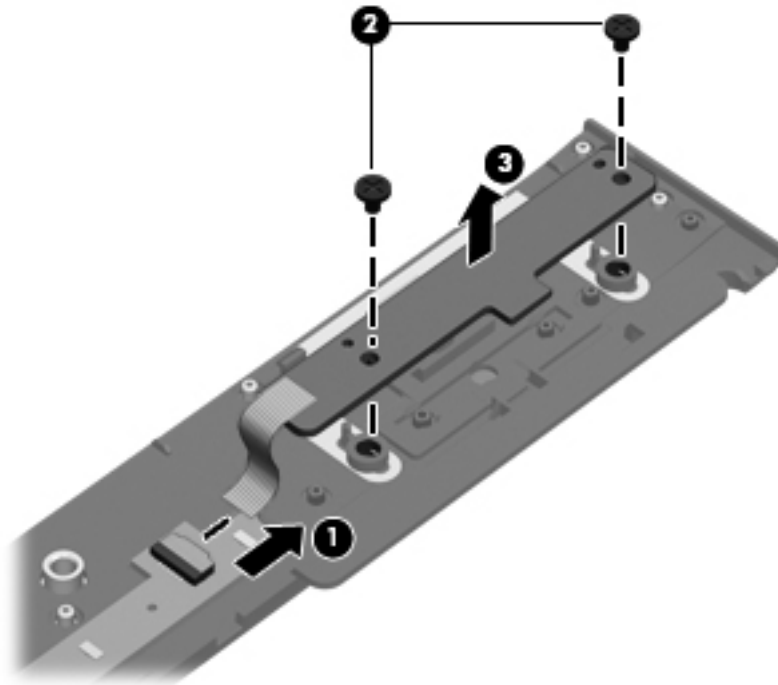
Reverse this procedure to install the power button board.

Palm rest

Description	Spare part number
For use only on computer models equipped with a 15.6-in display assembly and a fingerprint reader (includes fingerprint reader board and cable)	613339-001
For use only on computer models equipped with a 15.6-in display assembly but not a fingerprint reader	613340-001
For use only on computer models equipped with a 14.0-in display assembly and a fingerprint reader (includes fingerprint reader board and cable)	613338-001
For use only on computer models equipped with a 14.0-in display assembly but not a fingerprint reader	613337-001

Before removing the palm rest, 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 74).

5. Remove the mass storage device (see Mass storage device on page 78).

Remove the palm rest:

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

2. Remove the two rubber screw covers **(1)**. The rubber screw covers are included in the Rubber Kit, spare part number 613459-001.

3. Remove the four slotted Torx T8M2.5×7.0 screws **(2)** that secure the palm rest to the computer.
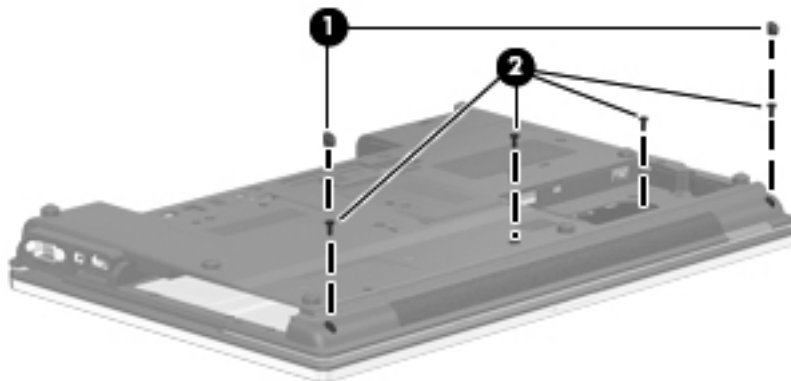
4. Turn the computer display-side up, with the front toward you.

5. Open the computer as far as possible.

6. If the computer is equipped with a fingerprint reader, release the ZIF connector to which the fingerprint reader board cable **(1)** is attached, and then disconnect the fingerprint reader board cable **(2)** from the system board.

7. Lift the front edge of the palm rest **(3)** until it rests at an angle, and then slide the palm rest forward **(4)** until it detaches from the computer.

8. If the computer is equipped with a fingerprint reader, remove the fingerprint reader board cable from the opening **(5)** in the top cover.
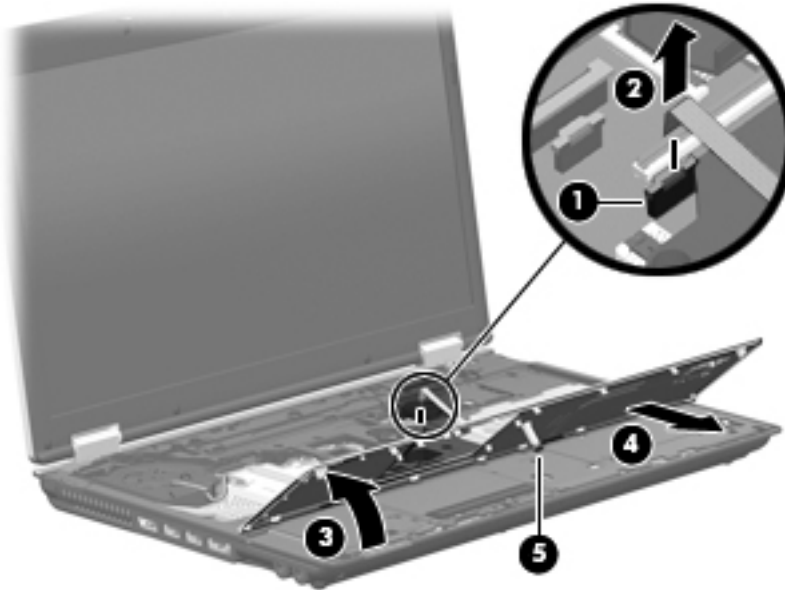
9. Remove the palm rest.

Reverse this procedure to install the palm rest.

Fan

Description	Spare part number
Fan	613349-001

NOTE: To properly ventilate the computer, allow at least a **7.6-cm** (3-inch) clearance on the right side and rear panel of the computer.

The computer uses an electric fan for ventilation. The fan is controlled by a temperature sensor and is designed to turn on automatically when high temperature conditions exist. These conditions are affected by high external temperatures, system power consumption, power management/battery conservation configurations, battery fast charging, and software requirements. Exhaust air is displaced through the ventilation grill located on the left side of the computer.

Before removing the fan, follow these steps:

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

2. Disconnect all external devices connected to the computer.

3. Disconnect the power from the computer by first unplugging the power cord from the AC outlet, and then unplugging the AC adapter from the computer.

4. Remove the battery (see).

5. Remove the keyboard (see).

6. Remove the switch cover (see).

Remove the fan:

1. Disconnect the fan cable **(1)** from the system board.

2. Remove the two slotted Torx T8M2.5×7.0 screws **(2)** that secure the fan to the system board.

3. Remove the fan **(3)**.
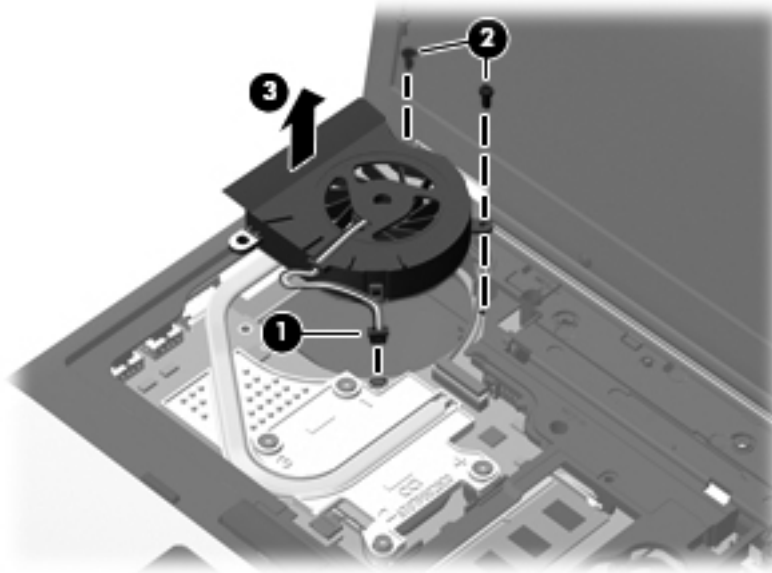
Reverse this procedure to install the fan.

Heat sink

NOTE: The heat sink spare part kit includes replacement thermal material.

Description	Spare part number
For use only on HP Compaq 6555b and 6455b computer models	613399-001
For use only on HP Compaq 6550b and 6450b computer models equipped with graphics subsystems with discrete memory	613350-001
For use only on HP Compaq 6550b and 6450b computer models equipped with graphics subsystems with UMA memory	613351-001
Heat sink for use on the SouthBridge chipset	615956-001

Before removing the heat sink, 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 74).

5. Remove the following components:

   a. Keyboard (see Keyboard on page 90)

   b. Switch cover (see Switch cover on page 97")

   c. Fan (see Fan on page 102)

Remove the heat sink:

1. Following the 1, 2, 3, 4 sequence stamped into the heat sink, loosen the four Phillips PM2.5×9.0 captive screws **(1)** that secure the heat sink to the system board.

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

2. Lift the right side of the heat sink **(2)** until it rests at an angle.

3. Release the heat sink **(3)** by sliding it up and to the right at an angle.
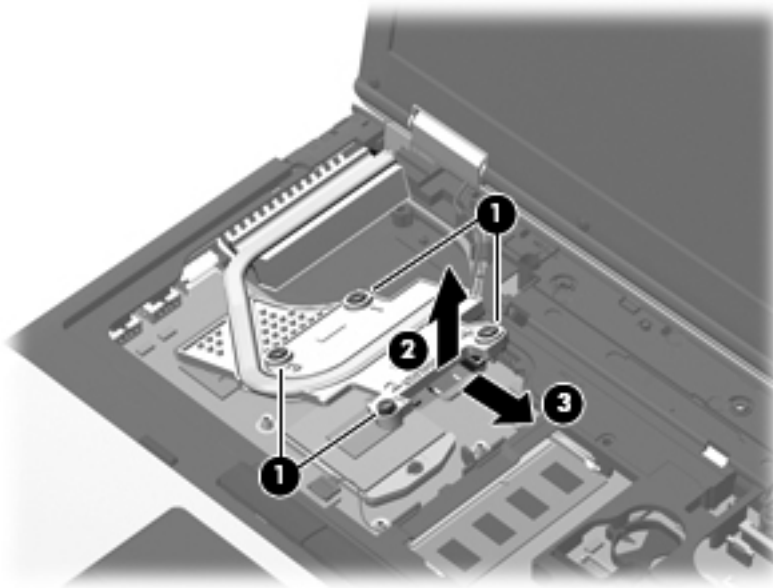
4. Remove the heat sink.

> **NOTE:** The thermal material must be thoroughly cleaned from the surfaces of the heat sink and the system board each time the heat sink is removed:

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

- Thermal pads are used on the Northbridge chip **(3)** and the heat sink section **(4)** that services it.

- Thermal pads are used on the Southbridge chip **(5)** and the heat sink section **(6)** that services it.

Replacement thermal material is included with all system board and heat sink spare part kits.
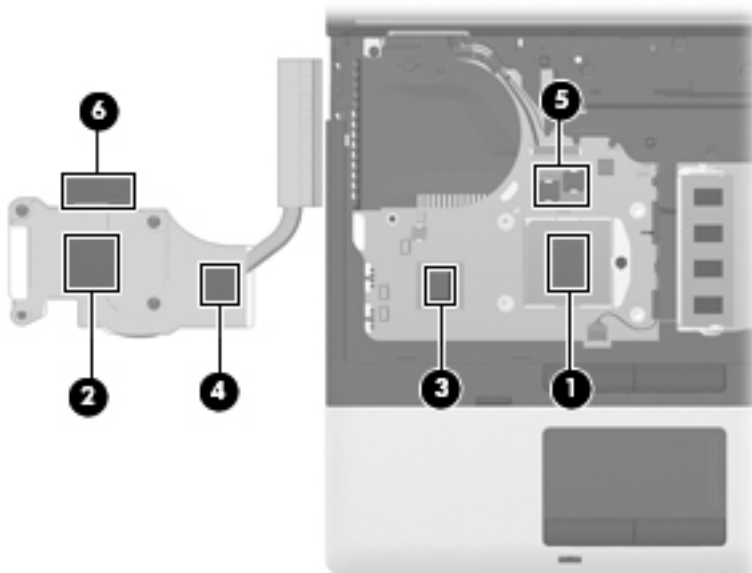
Reverse this procedure to install the heat sink.

Processor

NOTE: The processor spare part kit includes replacement thermal material.

Description	Spare part number
For use only on HP Compaq 6555b and 6455b computer models:	
AMD Phenom II Quad Core Mobile N970 2.2-GHz processor (35W, 2-MB L2 cache)	635496-001
AMD Phenom II Quad Core Mobile N950 2.1-GHz processor (35W, 2-MB L2 cache)	616346-001
AMD Phenom II Quad Core Mobile N930 2.0-GHz processor (35W, 2-MB L2 cache)	594169-001
AMD Phenom II Triple Core Mobile N870 2.3-GHz processor (35W, 1.5-MB L2 cache)	635495-001
AMD Phenom II Triple Core Mobile N850 2.2-GHz processor (35W, 1.5-MB L2 cache)	616345-001
AMD Phenom II Triple-Core Mobile N830 2.1-GHz processor (35W, 1.5-MB L2 cache)	594168-001
AMD Phenom II Dual Core Mobile N660 3.0-GHz processor (35W, 2-MB L2 cache)	635494-001
AMD Phenom II Dual Core Mobile N640 2.9-GHz processor (35W, 2-MB L2 cache)	616344-001
AMD Phenom II Dual Core Mobile N620 2.8-GHz processor (35W, 2-MB L2 cache)	594166-001
AMD Turion II Dual Core Mobile N530 2.5-GHz processor (25W, 2-MB L2 cache)	594172-001
AMD Turion II Dual Core Mobile P520 2.3-GHz processor (25W, 2-MB L2 cache)	594173-001
AMD Athlon II Dual Core P360 2.3-GHz processor (35W, 1-MB L2 cache)	636635-001
AMD Athlon II Dual Core P340 2.2-GHz processor (25W, 1-MB L2 cache)	616343-001
AMD Athlon II Dual Core P320 2.1-GHz processor (25W, 1-MB L2 cache)	594165-001
For use only on HP Compaq 6555b and 6455b computer models:	
Intel Core i7-740QM 1.73-GHz processor (turbo up to 2.93-GHz), 6-MB L3 cache, 8 threads, 45W	612259-001
Intel Core i7-720QM 1.60-GHz processor (turbo up to 2.80-GHz), 6-MB L3 cache, 8 threads, 45W	603011-001
Intel Core i7-640M 2.80-GHz processor (turbo up to 3.33-GHz), 4-MB L3 cache, 4 threads, 35W	625826-001
Intel Core i7-620M 2.66-GHz processor (turbo up to 3.33-GHz), 4-MB L3 cache, 4 threads, 35W	603010-001
Intel Core i5-580M 2.66-GHz processor (turbo up to 3.33-GHz), 3-MB L3 cache, 4 threads, 35W	625825-001
Intel Core i5-560M 2.66-GHz processor (turbo up to 3.20-GHz), 3-MB L3 cache, 4 threads, 35W	625824-001
Intel Core i5-540M 2.53-GHz processor (turbo up to 3.06-GHz), 3-MB L3 cache, 4 threads, 35W	594646-001
Intel Core i5-520M 2.40-GHz processor (turbo up to 2.93-GHz), 3-MB L3 cache, 4 threads, 35W	594645-001
Intel Core i5-480M 2.66-GHz processor (turbo up to 3.00-GHz), 3-MB L3 cache, 4 threads, 35W	634693-001
Intel Core i5-460M 2.53-GHz processor (turbo up to 2.93-GHz), 3-MB L3 cache, 4 threads, 35W	626039-001
Intel Core i5-450M 2.40-GHz processor (turbo up to 2.66-GHz), 3-MB L3 cache, 4 threads, 35W	613585-001
Intel Core i3-380M 2.53-GHz processor, 3-MB L3 cache, 35W	625823-001
Intel Core i3-370M 2.40-GHz processor, 3-MB L3 cache, 35W	613584-001
Intel Core i3-350M 2.26-GHz processor , 3-MB L3 cache	595586-001

Description	Spare part number
Intel P4600 2.0-GHz processor, 2-MB L2 cache, 35W	628941-001
Intel P4500 1.8-GHz processor, 2-MB L2 cache, 35W	611699-001

Before removing the processor, 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 74).

5. Remove the following components:

   a. Keyboard (see Keyboard on page 90)

   b. Switch cover (see Switch cover on page 97)

   c. Fan (see Fan on page 102)

   d. Heat sink (see Heat sink on page 104)

Remove the processor:

1. Use a flat-bladed screwdriver to turn the processor locking screw **(1)** one-half turn counterclockwise, until you hear a click.

2. Lift the processor **(2)** straight up and remove it.

> **NOTE:** When you install the processor, the gold triangle **(3)** on the processor must be aligned with the triangle **(4)** embossed on the processor socket.

Reverse this procedure to install the processor.

Display assembly

📝 **NOTE:** The display assembly spare part kit includes 3 WLAN antenna transceivers and cables, microphones, nameplate, and logo.

| Description	Spare part number
For use only on HP Compaq 6555b, 6550b, and 6455b computer models	
15.6" HD LED AG (1366×768)	613361-001
15.6" HD+ LED WVA AG (1600×900)	613366-001
15.6" HD LED AG (1366×768) WWAN	613369-001
15.6" HD+ LED WVA AG (1600×900) WWAN	613367-001
15.6" HD LED AG with webcam (1366×768)	613362-001
15.6" HD+ LED WVA AG with webcam (1600×900)	613368-001
15.6" HD+ LED AG with webcam (1600×900) WWAN	613371-001
15.6" HD+ LED WVA AG with webcam (1600×900) WWAN	613370-001
14.0" HD LED AG (1366×768)	613372-001
14.0" HD+ LED AG (1600×900)	613376-001
14.0" HD LED AG (1366×768) WWAN	613381-001
14.0" HD+ LED AG (1600×900) WWAN	613379-001
14.0" HD LED AG with webcam (1366×768)	613373-001
14.0" HD+ LED AG with webcam (1600×900)	613380-001
14.0" HD LED AG with webcam (1366×768) WWAN	613383-001
14.0" HD+ LED AG with webcam (1600×900) WWAN	613382-001
For use only on HP Compaq 6450b computer models	
14.0" HD LED BV (1366×768)	613374-001
14.0" HD LED BV (1366×768) WWAN	613377-001
14.0" HD LED BV with webcam (1366×768)	613375-001
14.0" HD LED BV with webcam (1366×768) WWAN	613378-001

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 74).

5. Disconnect the antenna cables from the WLAN (see) and WWAN modules (see).

6. Remove the keyboard (see).

7. Remove the switch cover (see).

Remove the display assembly:

1. Close the computer.

2. Position the computer with the rear panel toward you.

3. Remove the four slotted Torx T8M2.5×11.0 screws that secure the display assembly to the computer.
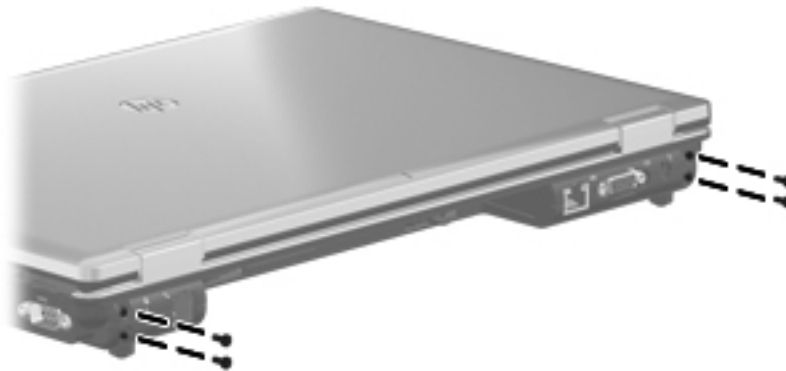
4. Turn the computer display-side up, with the front toward you.

5. Open the computer as far as it will open.

6. Disconnect the microphone cable **(1)** from the system board.

7. Remove the microphone cable from the clips and routing channel **(2)** built into the top cover.

8. Disconnect the display panel cable **(3)** from the system board.
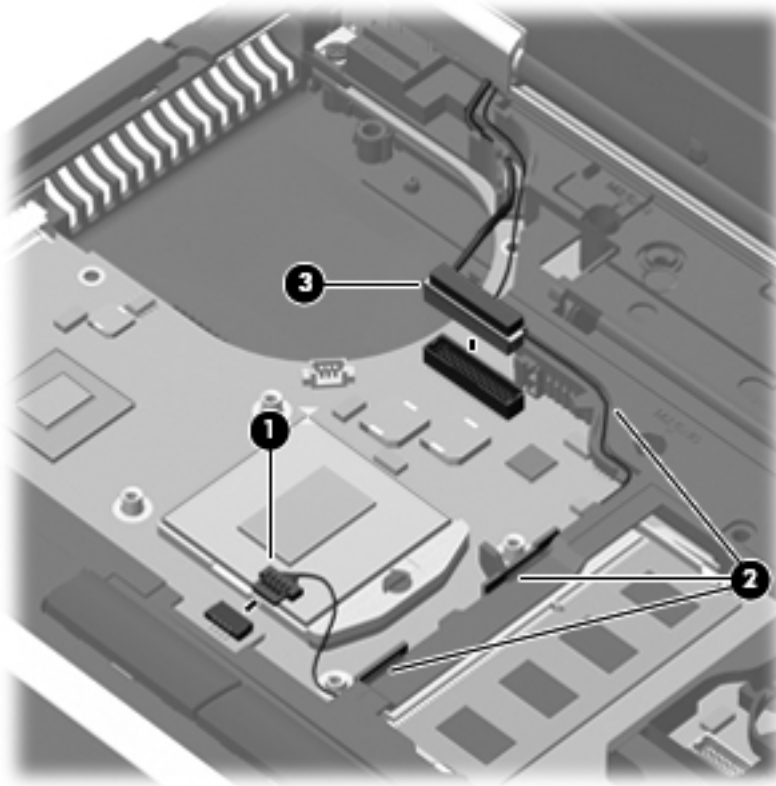
9. Release the wireless antenna cables from the opening in the top cover **(1)**.

10. Remove the wireless antenna cables from the clips **(2)** and routing channel built into the top cover.
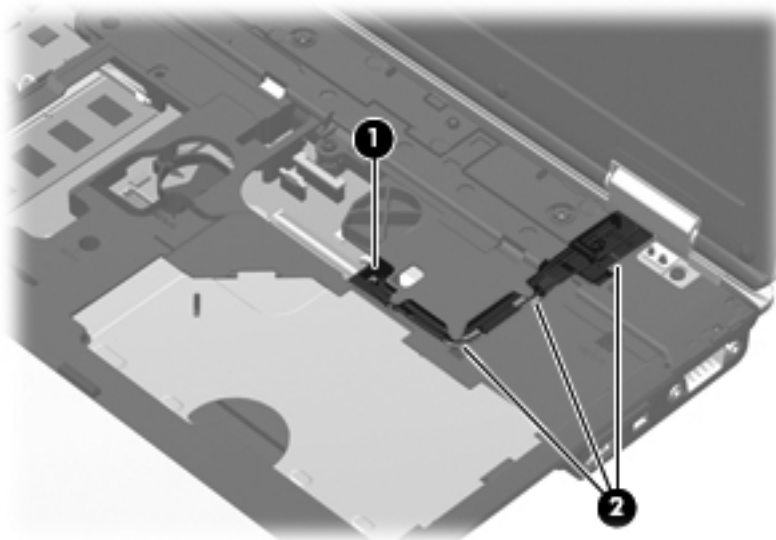
⚠ **CAUTION:** Support the display assembly when removing the following screws. Failure to support the display assembly can result in damage to the display assembly and other computer components.

11. Remove the two slotted Torx T8M2.5×11.0 screws **(1)** that secure the display assembly to the base enclosure.

12. Lift the display assembly **(2)** straight up and remove it.
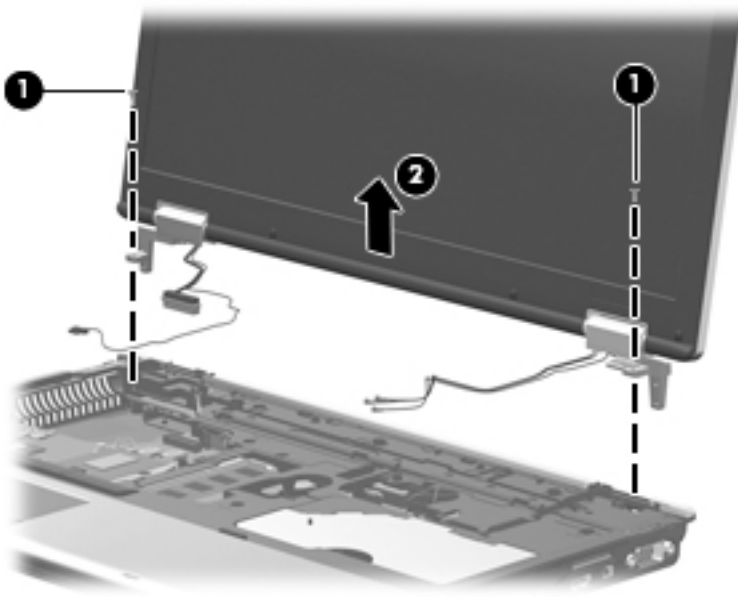
13. If it is necessary to replace the display bezel or any of the display assembly internal components:

   a. Remove the eight rubber screw covers **(1)**. The rubber screw covers are included in the Rubber Kit, spare part number 613459-001.

   b. Remove the eight Phillips PM2.5×6.0 screws **(2)** that secure the display bezel to the display assembly.
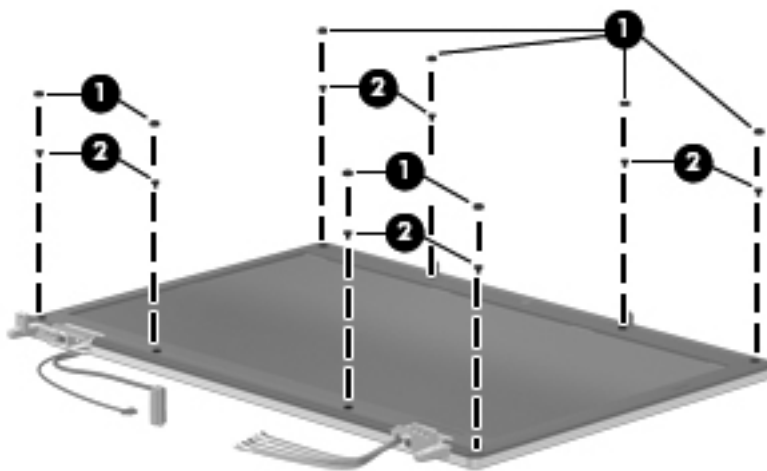
   c. Slide and hold the display release latch **(1)** to the right.

   d. Flex the inside edges of the top edge **(2)**, the left and right sides **(3)**, and the bottom edge **(4)** of the display bezel until the bezel disengages from the display enclosure.

e. Remove the display bezel **(5)**. The display bezel is available using the following spare part numbers:

- 613322-001—For use only on computer models equipped with a 15.6-in display assembly and a webcam

- 613321-001—For use only on computer models equipped with a 15.6-in display assembly but not a webcam

- 613320-001—For use only on computer models equipped with a 14.0-in display assembly and a webcam

- 613319-001—For use only on computer models equipped with a 14.0-in display assembly but not a webcam
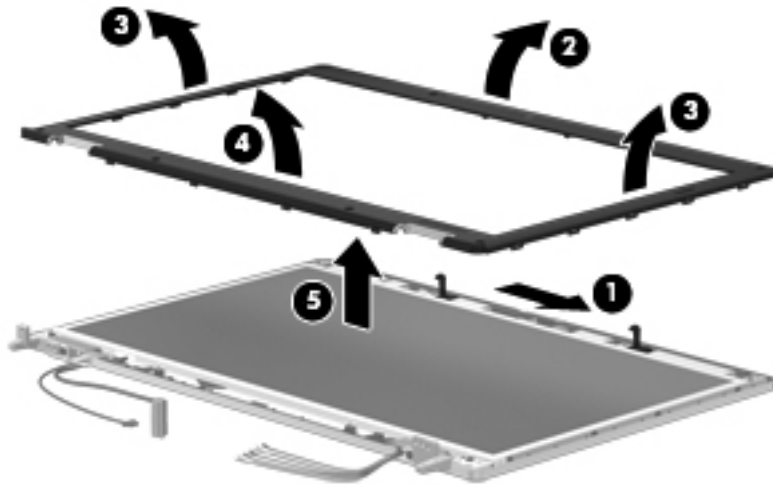
NOTE: When installing the display bezel, it may be necessary to replace the double-sided tape that secures the bezel to the display enclosure. The tape should be installed in the locations shown in the following illustration.
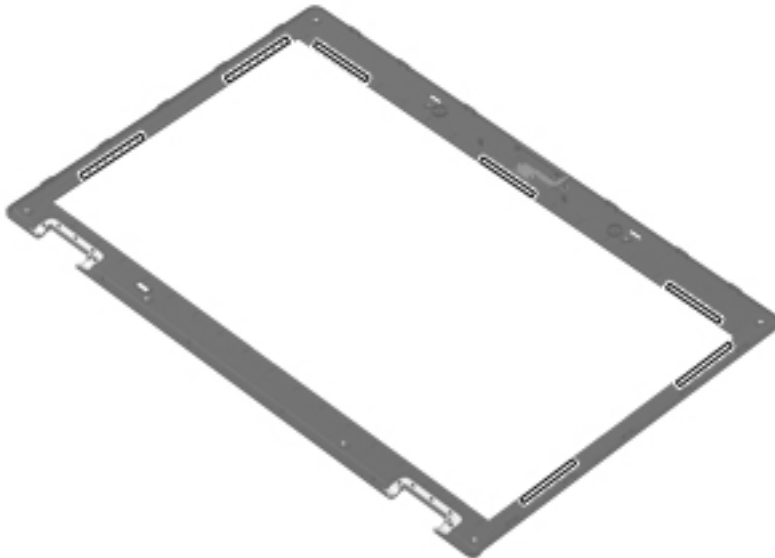
14. If it is necessary to replace the webcam module:

    a. Release the webcam module **(1)** as far from the display enclosure as the webcam module cable allows. (The webcam module is attached to the display enclosure with double-sided tape.)

    b. Disconnect the webcam module cable **(2)** from the webcam module.

    c. Remove the webcam module **(3)**. The webcam module is available using spare part number 611026-001.
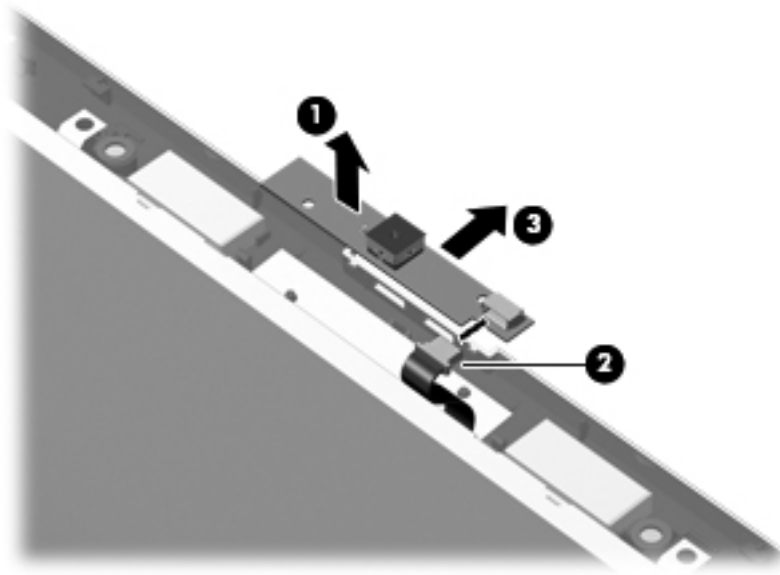
15. If it is necessary to replace the display panel cable or display hinges:

    a. Remove the two Phillips PM2.5×6.0 screws that secure the display panel to the display enclosure.

    b. Lift the top edge of the display panel **(1)**, and then swing it up and forward until it rests upside down in front of the display enclosure.

    c. Release the support strip **(2)** and locking bar **(3)** that secure the display panel cable to the display panel.

d. Disconnect the display panel cable **(4)** from the display panel.
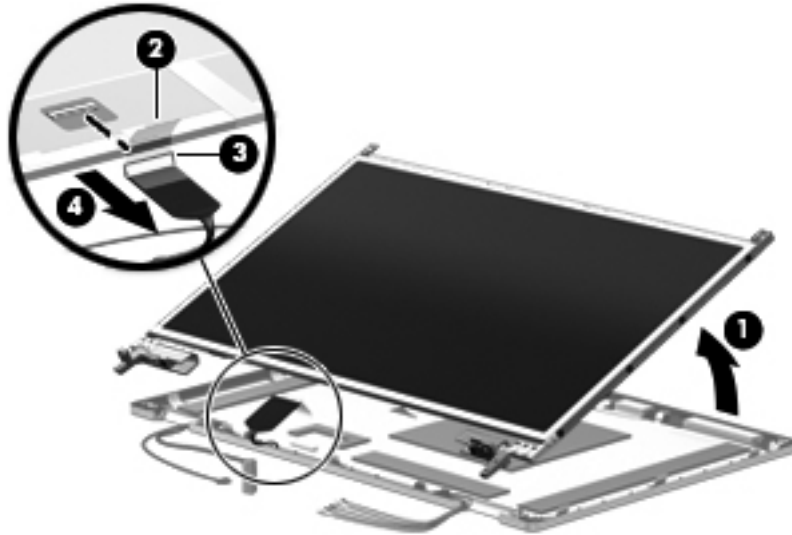
e. Remove the display panel.

f. Release the tabs **(1)** built into the display enclosure shielding that secure the display panel cable to the display enclosure.

g. Release the display panel cable from the clips **(2)** and routing channel built into the bottom edge of the display enclosure.

h. Remove the display panel cable **(3)**. The display panel cable is included in the Display Cable Kit, using the following spare part numbers:

- 615957-001–For use only on computer models equipped with one microphone and a webcam

- 615958-001–For use only on computer models equipped with two microphones but not a webcam

- 615959-001–For use only on computer models equipped with two microphones and a webcam
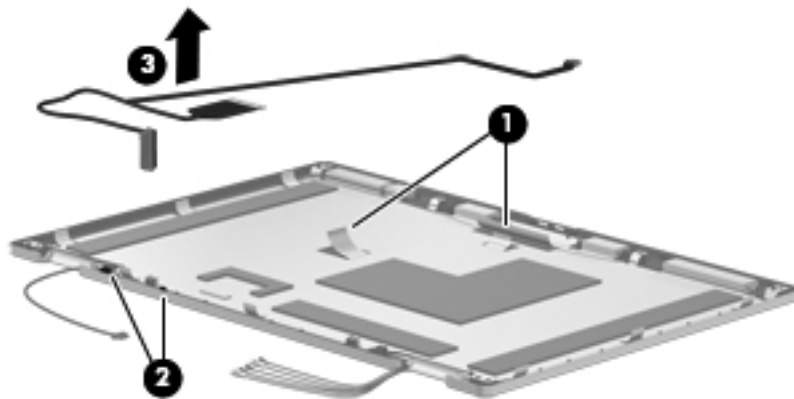
📝**NOTE:** Substeps i and j apply only to computer models equipped with a 15.6-in display assembly.

i.   Remove the eight Phillips PM2.0×3.0 screws **(1)** that secure the display hinges to the display panel.

j.   Remove the display hinges **(2)**. The display hinges are available in the Display Hinge Kit, spare part numbers 613328-001 (for use only on computer models equipped with a 15.6-in display assembly) and 613327-001 (for use only on computer models equipped with a 14.0-in display assembly).
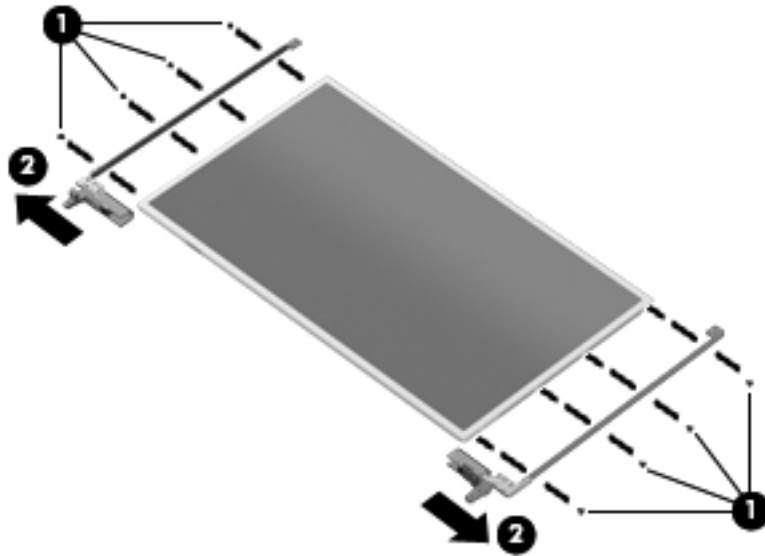
NOTE: Substeps k and l apply only to computer models equipped with a 14.0-in display assembly.

k.   Remove the six Phillips PM2.0×3.0 screws **(1)** that secure the display hinges to the display panel.

l.   Remove the display hinges **(2)**. The display hinges are available in the Display Hinge Kit, spare part numbers 613328-001 (for use only on computer models equipped with a 15.6-in display assembly) and 613327-001 (for use only on computer models equipped with a 14.0-in display assembly).
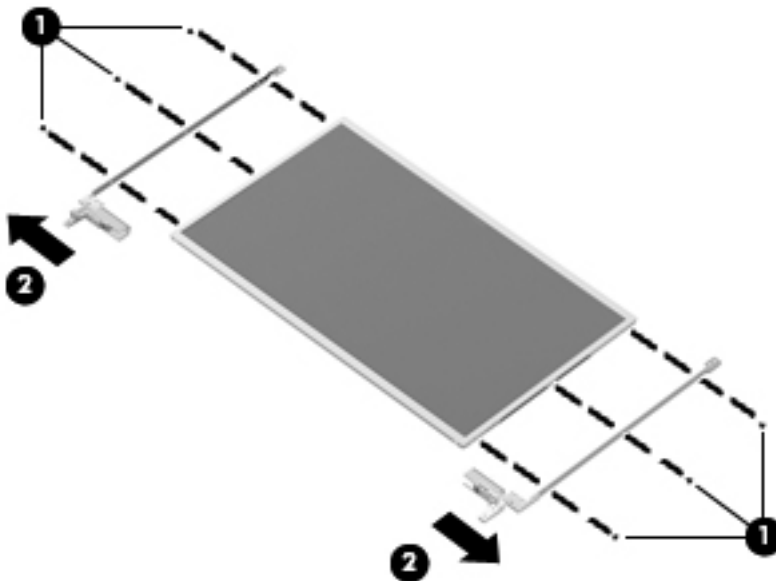
m. Remove the two Phillips PM2.0×3.0 screws **(1)** that secure the display hinge covers to the display hinges.

n. Remove the display hinge covers **(2)** by sliding them off of the display hinges. The display hinge covers are available in the Display Hinge Kit, spare part numbers 613328-001 (for use only on computer models equipped with a 15.6-in display assembly) and 613327-001 (for use only on computer models equipped with a 14.0-in display assembly).
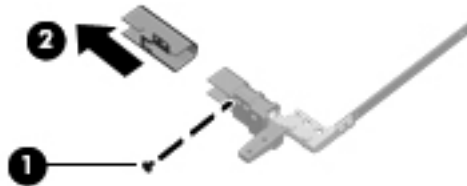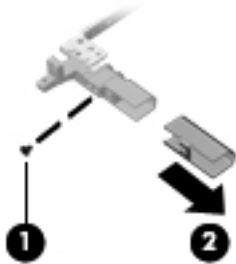
16. If it is necessary to replace the WLAN antenna transceivers and cables:

a. Release the tabs **(1)** built into the display enclosure shielding that secure the WLAN antenna cables.

b. Detach the WLAN antenna transceivers **(2)** from the display enclosure. (The transceivers are attached to the enclosure with double-sided tape.)

c. Remove the WLAN antenna transceivers **(3)** and cables. The WLAN antenna transceivers and cables are included in the Display Cable Kit, using the following spare part numbers:

- 583956-001–For use only on computer models equipped with a 15.6-in HD+ display assembly

- 589230-001–For use only on computer models equipped with a 15.6-in HD display assembly

● 589231-001–For use only on computer models equipped with a 14.0-in HD display assembly
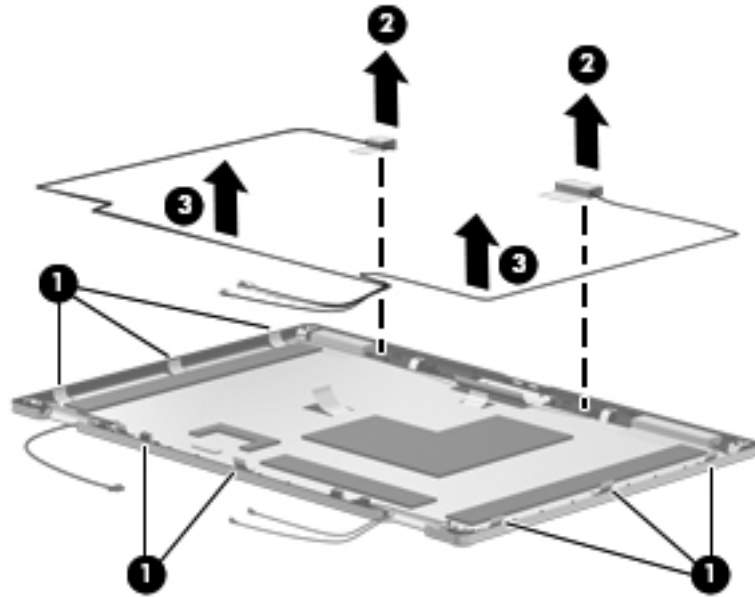
17. If it is necessary to replace the WWAN antenna transceivers and cables:

   a. Release the tabs **(1)** built into the display enclosure shielding that secure the WWAN antenna cables.

   b. Detach the WWAN antenna transceivers **(2)** from the display enclosure. (The transceivers are attached to the enclosure with double-sided tape.)

   c. Remove the WWAN antenna transceivers **(3)** and cables. The WWAN antenna transceivers and cables are included in the Display Cable Kit, using the following spare part numbers:

      ● 615957-001–For use only on computer models equipped with one microphone and a webcam

      ● 615958-001–For use only on computer models equipped with two microphones but not a webcam

● 615959-001–For use only on computer models equipped with two microphones and a webcam
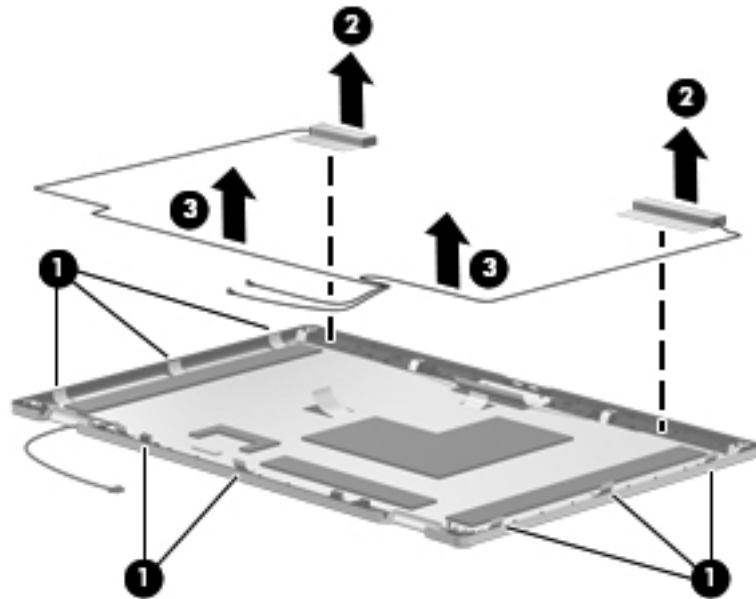
18. If it is necessary to replace the microphones and cables:

   a. Release the tabs **(1)** built into the display enclosure shielding that secure the microphone cables.

   b. Release the microphone receivers from the clips **(2)** built into the display enclosure.

   c. Release the microphone cables from the clips and routing channel **(3)** built into the bottom edge of the display enclosure.

   d. Remove the microphones and cables **(4)**. The microphones and cables are included in the Display Cable Kit, using the following spare part numbers:

      ● 615957-001–For use only on computer models equipped with one microphone and a webcam

      ● 615958-001–For use only on computer models equipped with two microphones but not a webcam

- 615959-001–For use only on computer models equipped with two microphones and a webcam
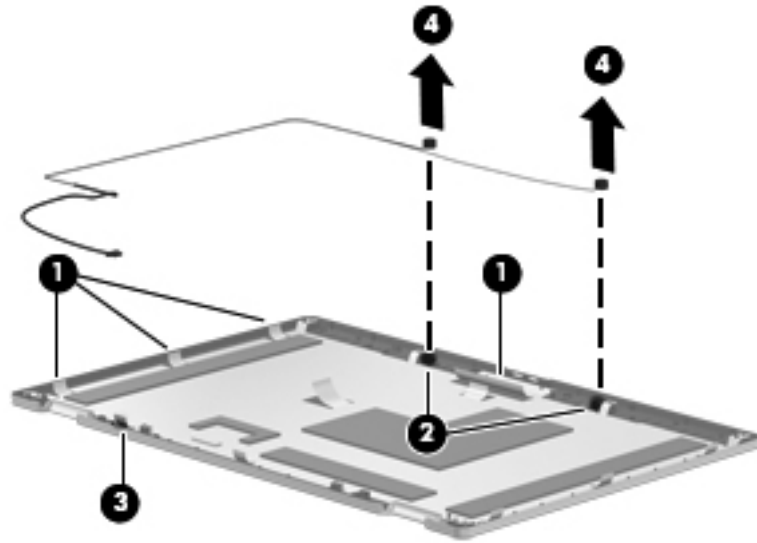
Reverse this procedure to reassemble and install the display assembly.

Top cover

NOTE: The top cover spare part kit includes the TouchPad, TouchPad cable, TouchPad button board, and TouchPad button board cable.

Description	Spare part number
Top cover for use only on computer models equipped with a 15.6-in display assembly and 2-button TouchPad	613335-001
Top cover for use only on computer models equipped with a 15.6-in display assembly and 4-button TouchPad	613336-001
Top cover for use only on computer models equipped with a 14.0-in display assembly and 2-button TouchPad	613333-001
Top cover for use only on computer models equipped with a 14.0-in display assembly and 4-button TouchPad	613334-001

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 74).

5. Remove the following components:

   ● Bluetooth module (see Bluetooth module on page 76)

   ● Mass storage device (see Mass storage device on page 78)

   ● Optical drive (see Optical drive on page 88)

   ● Keyboard (see Keyboard on page 90)

   ● Switch cover (see Switch cover on page 97)

   ● Palm rest (see Palm rest on page 100)

   ● Display assembly (see Display assembly on page 108)

Remove the top cover.

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

2. Remove the five slotted Torx T8M2.5×7.0 screws **(1)** (in the mass storage device bay) and the five Phillips PM2.0×3.0 screws **(2)** (in the optical drive and battery bays) that secure the top cover to the base enclosure.
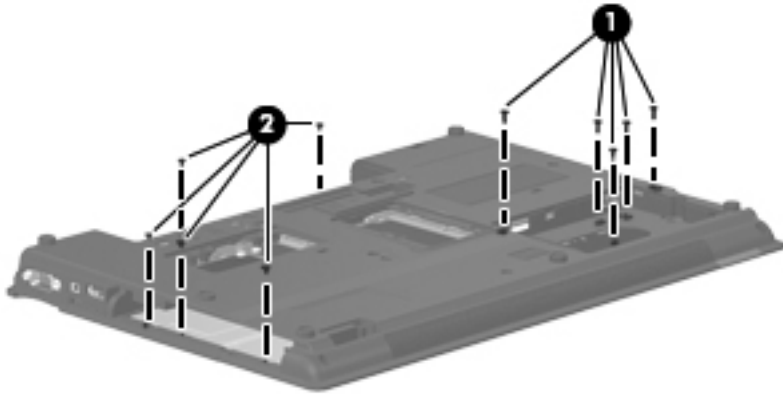
3. Turn the computer right-side up, with the front toward you.

   NOTE: Step 4 applies only to computer models equipped with a 15.6-in display assembly.

4. Remove the nine slotted Torx T8M2.5×7.0 screws **(1)** and the two slotted Torx T8M2.5×11.0 screws **(2)** that secure the top cover to the base enclosure.
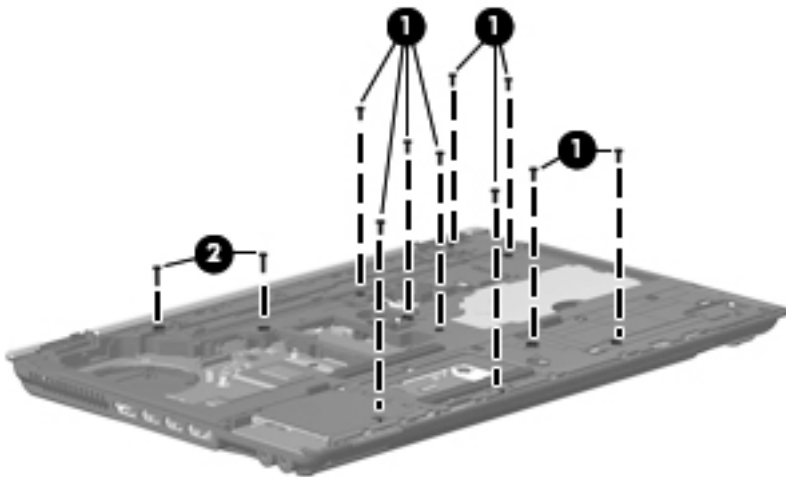
   NOTE: Step 5 applies only to computer models equipped with a 14.0-in display assembly.

5. Remove the six slotted Torx T8M2.5×7.0 screws **(1)** and the two slotted Torx T8M2.5×11.0 screws **(2)** that secure the top cover to the base enclosure.
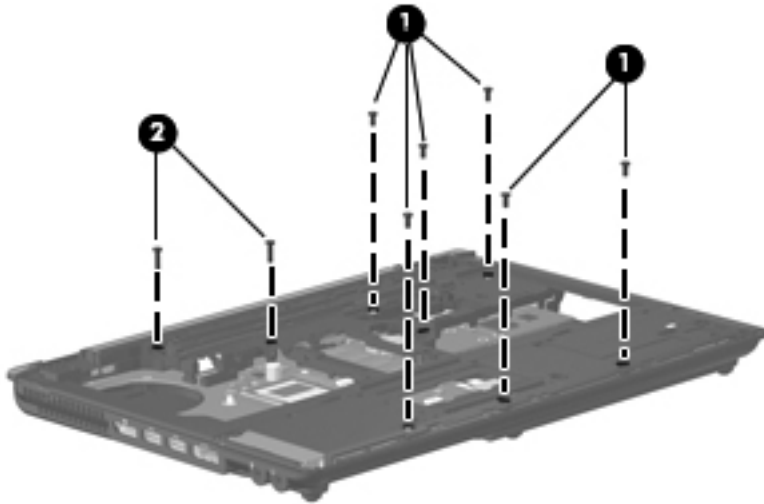
6. Lift the rear edge **(1)** of the top cover until it detaches from the base enclosure.

7. Remove the top cover **(2)** by lifting it straight up.
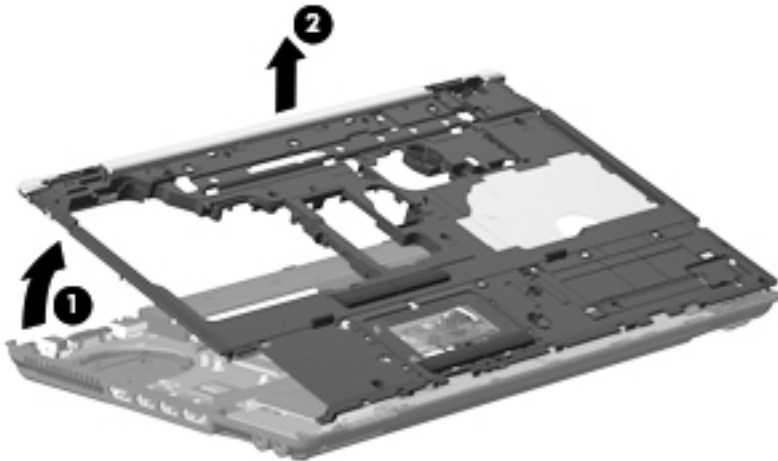
Reverse this procedure to install the top cover.

Smart Card Reader

Description	Spare part number
Smart Card Reader HF	622597-001
Smart Card Reader	534043-001

Before removing the Smart Card Reader, 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 74).

5. Remove the following components:

   ● Bluetooth module (see Bluetooth module on page 76)

   ● Mass storage device (see Mass storage device on page 78)

   ● Optical drive (see Optical drive on page 88)

   ● Keyboard (see Keyboard on page 90)

   ● Switch cover (see Switch cover on page 97)

   ● Palm rest (see Palm rest on page 100)

   ● Display assembly (see Display assembly on page 108)

Remove the Smart Card Reader:

1. Use a flat-bladed screwdriver **(1)** to release the hooks **(2)** on each side of the Smart Card Reader from the edges of the base enclosure.

2. Press in on the Smart Card Reader **(3)** to release it from the ExpressCard assembly.

3. Remove the Smart Card Reader **(4)** from the ExpressCard assembly.
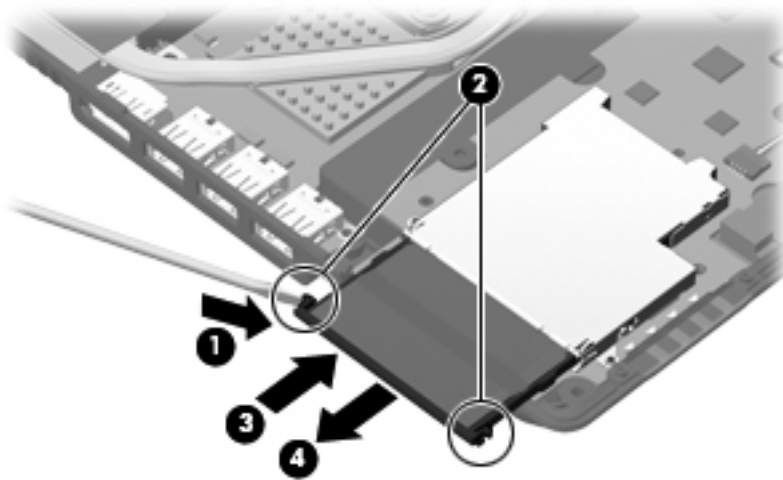
Reverse this procedure to install the Smart Card reader.

ExpressCard assembly

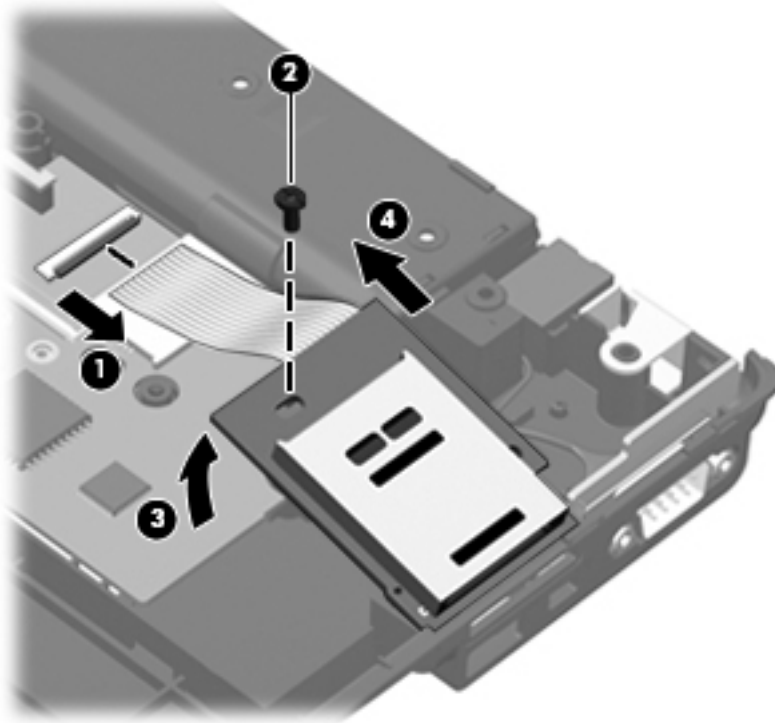| Description	Spare part number
For use only on computer models equipped with a 15.6-in display assembly	613316-001
For use only on computer models equipped with a 14.0-in display assembly	613315-001

Before removing the ExpressCard 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 74).

5. Remove the following components:

   ● Bluetooth module (see Bluetooth module on page 76)

   ● Mass storage device (see Mass storage device on page 78)

   ● Optical drive (see Optical drive on page 88)

   ● Keyboard (see Keyboard on page 90)

   ● Switch cover (see Switch cover on page 97)

   ● Palm rest (see Palm rest on page 100)

   ● Display assembly (see Display assembly on page 108)

   ● Top cover (see Top cover on page 120)

   ● Speaker assembly (only on computer models equipped with a 14.0-in display assembly, see Speaker assembly on page 129)

Remove the ExpressCard assembly:

NOTE: Steps 1 through 3 apply only to computer models equipped with a 15.6-in display assembly. See steps 4 and 5 for information on removing the ExpressCard assembly on computer models equipped with a 14.0-in display assembly.

1. Disconnect the speaker cable **(1)** from the ExpressCard assembly.

2. Lift the right side **(2)** of the ExpressCard assembly to disconnect it from the system board.

3. Remove the ExpressCard assembly **(3)** by sliding it up and to the right.
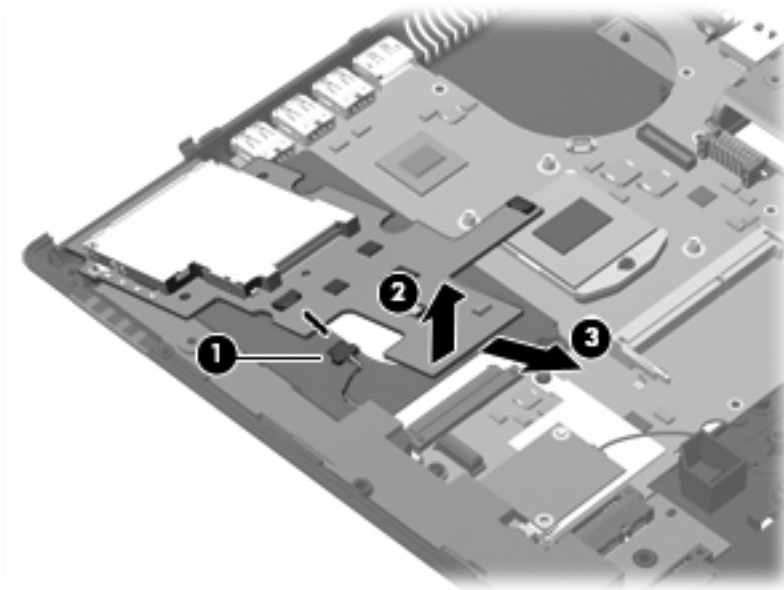
NOTE: Steps 4 and 5 apply only to computer models equipped with a 14.0-in display assembly.

4. Lift the right side **(1)** of the ExpressCard assembly to disconnect it from the system board.

5. Remove the ExpressCard assembly **(2)** by sliding it up and to the right.
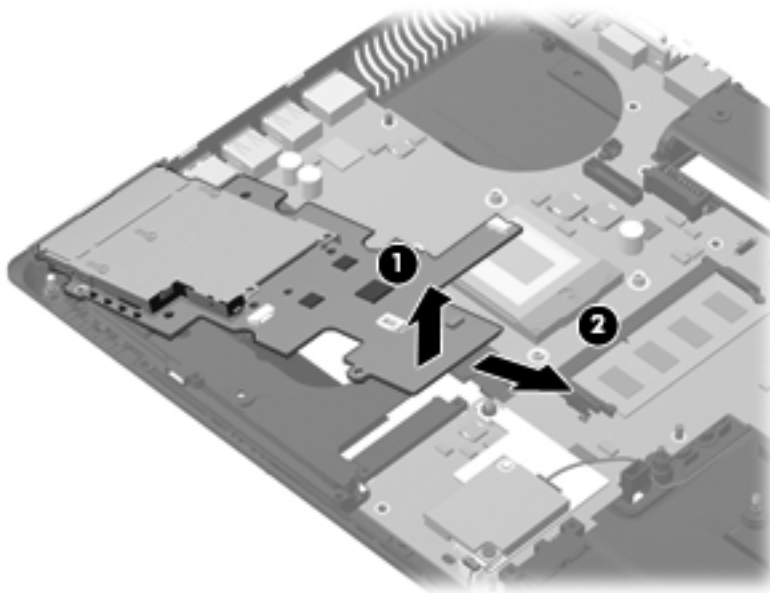
Reverse this procedure to install the ExpressCard assembly.

Modem module

NOTE: The modem module spare part kit does not include a modem module cable. The modem module cable is included in the Cable Kit, spare part numbers 613352-001.

Description	Spare part number
For use in all countries and regions except Australia and New Zealand	628824-001

Before removing the modem 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 74).

5. Remove the following components:

   a. Bluetooth module (see Bluetooth module on page 76)

   b. Mass storage device (see Mass storage device on page 78)

   c. Optical drive (see Optical drive on page 88)

   d. Keyboard (see Keyboard on page 90)

   e. Switch cover (see Switch cover on page 97)

   f. Palm rest (see Palm rest on page 100)

   g. Display assembly (see Display assembly on page 108)

   h. Top cover (see Top cover on page 120)

Remove the modem module:

1. Remove the Phillips PM2.0×5.0 screw **(1)** that secures the modem module to the system board.

2. Lift the right side **(2)** of the modem module to disconnect it from the system board.

3. Disconnect the modem module cable **(3)** from the modem module.
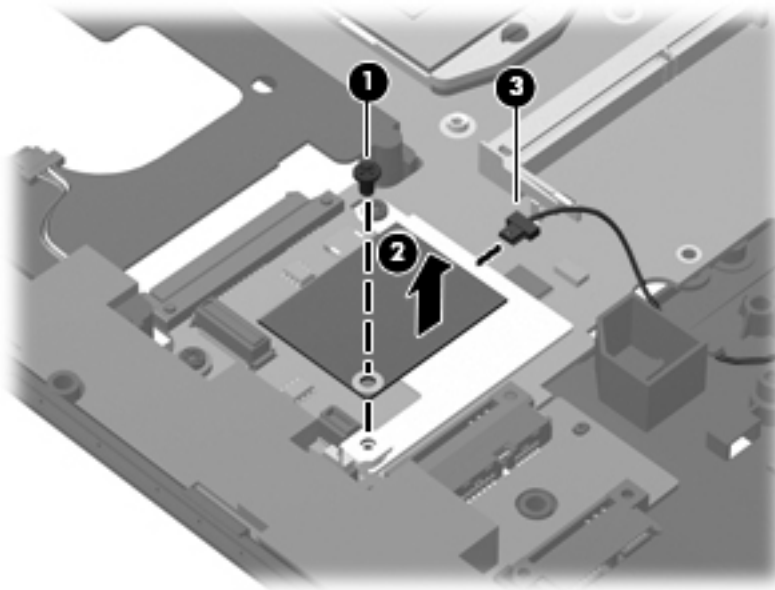
Reverse this procedure to install the modem module.

Speaker assembly

NOTE: The speaker assembly spare part kit includes a cable.

Description	Spare part number
For use only on computer models equipped with a 15.6-in display assembly	613348-001 or 663947-001
For use only on computer models equipped with a 14.0-in display assembly	613347-001 or 663946-001

Before removing the speaker 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 74).

5. Remove the following components:

   a. Bluetooth module (see Bluetooth module on page 76)

   b. Mass storage device (see Mass storage device on page 78)

   c. Optical drive (see Optical drive on page 88)

   d. Keyboard (see Keyboard on page 90)

   e. Switch cover (see Switch cover on page 97)

   f. Palm rest (see Palm rest on page 100)

   g. Display assembly (see Display assembly on page 108)

   h. Top cover (see Top cover on page 120)

   i. ExpressCard assembly (only on computer models equipped with a 15.6-in display assembly, see ExpressCard assembly on page 125)

Remove the speaker assembly:

NOTE: Steps 1 and 2 apply only to computer models equipped with a 15.6-in display assembly. See steps 3 through 5 for speaker assembly removal information for computer models equipped with 14.0-in display assembly.

1. Remove the slotted Torx T8M2.5×7.0 screw **(1)** that secures the speaker assembly to the base enclosure.

2. Remove the speaker assembly **(2)**.
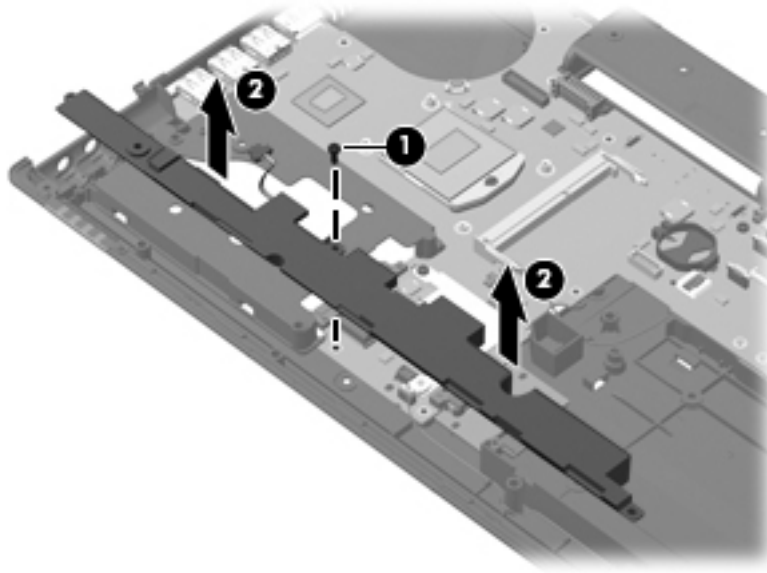
NOTE: Steps 3 through 5 apply only to computer models equipped with a 14.0-in display assembly.

3. Disconnect the speaker cable **(1)** from the ExpressCard assembly.

4. Remove the slotted Torx T8M2.5×7.0 screw **(2)** that secures the speaker assembly to the base enclosure.

5. Remove the speaker assembly **(3)**.
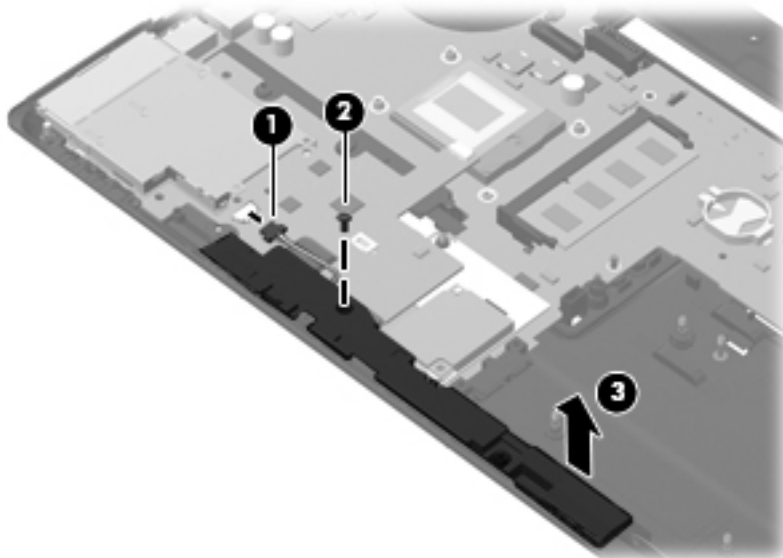
Reverse this procedure to install the speaker assembly.

Bluetooth module cable

NOTE: The Bluetooth module cable is included in the Cable Kit, spare part number 613352-001.

Before removing the Bluetooth module 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 74).

5. Remove the following components:

    a. Bluetooth module (see Bluetooth module on page 76)

    b. Mass storage device (see Mass storage device on page 78)

    c. Optical drive (see Optical drive on page 88)

    d. Keyboard (see Keyboard on page 90)

    e. Switch cover (see Switch cover on page 97)

    f. Palm rest (see Palm rest on page 100)

    g. Display assembly (see Display assembly on page 108)

    h. Top cover (see Top cover on page 120)

Remove the Bluetooth module cable:

1. Disconnect the Bluetooth module cable **(1)** from the system board.

2. Remove the Bluetooth module cable from the clips and routing channel **(2)** built into the base enclosure.
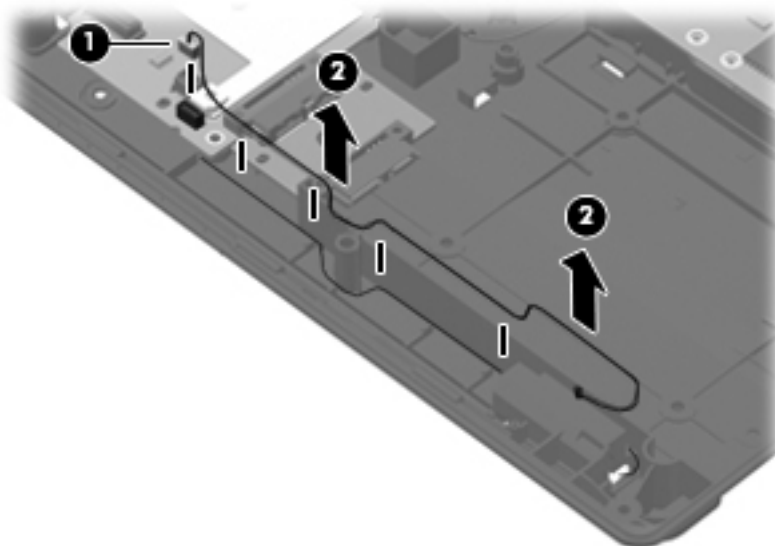
Reverse this procedure to install the Bluetooth module cable.

Flash media/1394 board

NOTE: The flash media/1394 board spare part kit includes a cable.

| Description	Spare part number
For use only on computer models equipped with a 15.6-in display assembly	613312-001
For use only on computer models equipped with a 14.0-in display assembly	613311-001

Before removing the flash media/1394 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 cord.

4. Remove the battery (see Battery on page 74).

5. Remove the following components:

   a. Bluetooth module (see Bluetooth module on page 76)

   b. Mass storage device (see Mass storage device on page 78)

   c. Optical drive (see Optical drive on page 88)

   d. Keyboard (see Keyboard on page 90)

   e. Switch cover (see Switch cover on page 97)

   f. Palm rest (see Palm rest on page 100)

   g. Display assembly (see Display assembly on page 108)

   h. Top cover (see Top cover on page 120)

Remove the flash media/1394 board:

1. Release the ZIF connector to which the flash media/1394 board cable is attached, and then disconnect the flash media/1394 board cable **(1)** from the system board.

2. Remove the slotted Torx T8M2.5×7.0 screw **(2)** that secures the flash media/1394 board to the base enclosure.

3. Lift the left side **(3)** of the flash media/1394 board to release the connectors from the openings in the base enclosure.

4. Remove the flash media/1394 board by sliding it up and to the left **(4)**.

Reverse this procedure to install the flash media/1394 board.

System board

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

Description	Spare part number
For use only on HP Compaq 6555b and 6455b computer models:	
For use only on computer models equipped with a graphics subsystem with UMA memory in all countries and regions except Russia and the People's Republic of China	613397-001
For use only on computer models equipped with a graphics subsystem with UMA memory and WWAN capability in all countries and regions except Russia and the People's Republic of China	613398-001
For use only on computer models equipped with a graphics subsystem with UMA memory in Russia and the People's Republic of China	616787-001
For use only on computer models equipped with a graphics subsystem with UMA memory and WWAN capability in Russia and the People's Republic of China	616788-001
For use only on computer models equipped with a graphics subsystem with UMA memory in the People's Republic of China	616789-001
For use only on computer models equipped with a graphics subsystem with UMA memory and WWAN capability in the People's Republic of China	616790-001
For use only on HP Compaq 6550b and 6450b computer models:	
For use only on computer models equipped with an Intel HM57 graphics subsystem with discrete memory in all countries and regions except Russia and the People's Republic of China	613296-001
For use only on computer models equipped with an Intel HM57 graphics subsystem with discrete memory and WWAN capability in all countries and regions except Russia and the People's Republic of China	613297-001
For use only on computer models equipped with an Intel QM57 graphics subsystem with discrete memory and WWAN capability in all countries and regions except Russia and the People's Republic of China	613298-001
For use only on computer models equipped with an Intel HM57 graphics subsystem with discrete memory in Russia and the People's Republic of China	613302-001
For use only on computer models equipped with an Intel HM57 graphics subsystem with discrete memory and WWAN capability in Russia and the People's Republic of China	613401-001
For use only on computer models equipped with an Intel QM57 graphics subsystem with discrete memory and WWAN capability in all countries and regions except Russia and the People's Republic of China	613303-001
For use only on computer models equipped with an Intel HM57 graphics subsystem with discrete memory in the People's Republic of China	613307-001
For use only on computer models equipped with an Intel HM57 graphics subsystem with discrete memory and WWAN capability in the People's Republic of China	613308-001
For use only on computer models equipped with an Intel QM57 graphics subsystem with discrete memory and WWAN capability in the People's Republic of China	613309-001
For use only on computer models equipped with an Intel HM57 graphics subsystem with UMA memory in all countries and regions except Russia and the People's Republic of China	613293-001
For use only on computer models equipped with an Intel HM57 graphics subsystem with UMA memory and WWAN capability in all countries and regions except Russia and the People's Republic of China	613294-001

Description	Spare part number
For use only on computer models equipped with an Intel QM57 graphics subsystem with UMA memory and WWAN capability in all countries and regions except Russia and the People's Republic of China	613295-001
For use only on computer models equipped with an Intel HM57 graphics subsystem with UMA memory in Russia and the People's Republic of China	613299-001
For use only on computer models equipped with an Intel HM57 graphics subsystem with UMA memory and WWAN capability in Russia and the People's Republic of China	613300-001
For use only on computer models equipped with an Intel QM57 graphics subsystem with UMA memory and WWAN capability in Russia and the People's Republic of China	613301-001
For use only on computer models equipped with an Intel HM57 graphics subsystem with UMA memory in the People's Republic of China	613304-001
For use only on computer models equipped with an Intel HM57 graphics subsystem with UMA memory and WWAN capability in the People's Republic of China	6133305-001
For use only on computer models equipped with an Intel QM57 graphics subsystem with UMA memory and WWAN capability in the People's Republic of China	613306-001

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 74).

5. Remove the following components:

   a. Bluetooth module (see Bluetooth module on page 76)

   b. Mass storage device (see Mass storage device on page 78)

   c. Optical drive (see Optical drive on page 88)

   d. Keyboard (see Keyboard on page 90)

   e. Switch cover (see Switch cover on page 97)

   f. Fan (see Fan on page 102)

   g. Heat sink (see Heat sink on page 104)

   h. Palm rest (see Palm rest on page 100)

   i. Display assembly (see Display assembly on page 108)

   j. Top cover (see Top cover on page 120)

   k. ExpressCard assembly (see ExpressCard assembly on page 125)

l. Speaker assembly (see Speaker assembly on page 129)

m. Card reader/USB board (see Flash media/1394 board on page 132)

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 75)

- Expansion and primary memory modules (see Primary memory module on page 94 and Expansion memory module on page 81)

- WLAN module (see WLAN module on page 83)

- WWAN module (see WWAN module on page 86)

- RTC battery (see RTC battery on page 96)

- Processor (see Processor on page 106)

- Modem module (see Modem module on page 127)

- Bluetooth module cable (see Bluetooth module cable on page 131)

Remove the system board:

1. Disconnect the following cables:

   - Bluetooth module cable **(1)** from the system board

   - Modem module cable **(2)** from the modem module

   - External monitor cable **(3)** from the system board
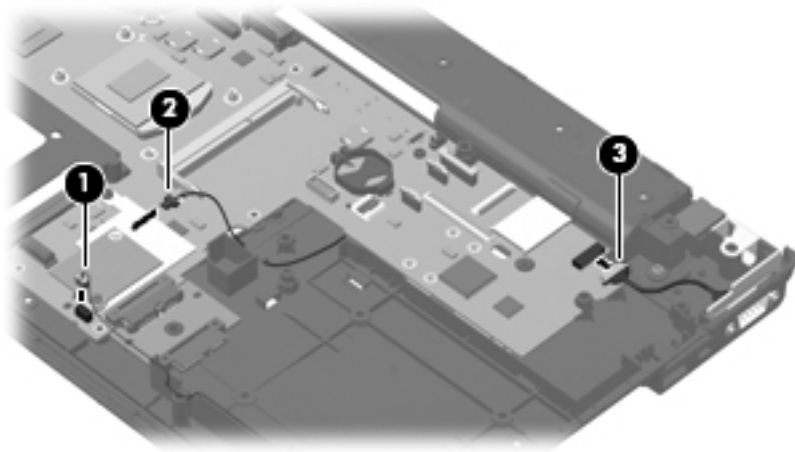
2. Remove the three slotted Torx T8M2.5×7.0 screws **(1)** and **(2)** that secure the system board to the base enclosure. The front-most screw **(2)** is present only on computer models equipped with a 15.6-in display assembly.
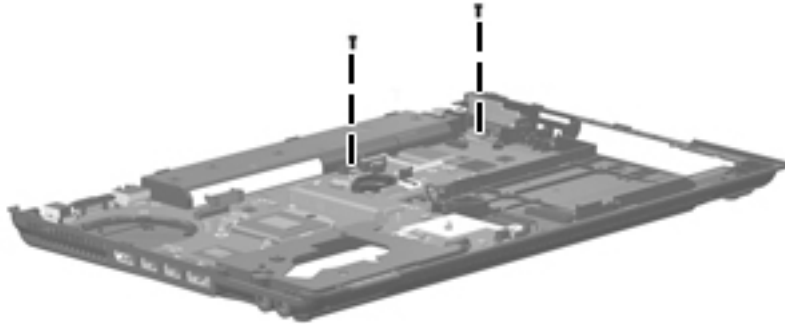
3. Use the middle of the system board **(1)** to lift the right side **(2)** of the system board until it rests at an angle.

4. Remove the system board **(3)** by sliding it away from the base enclosure at an angle.
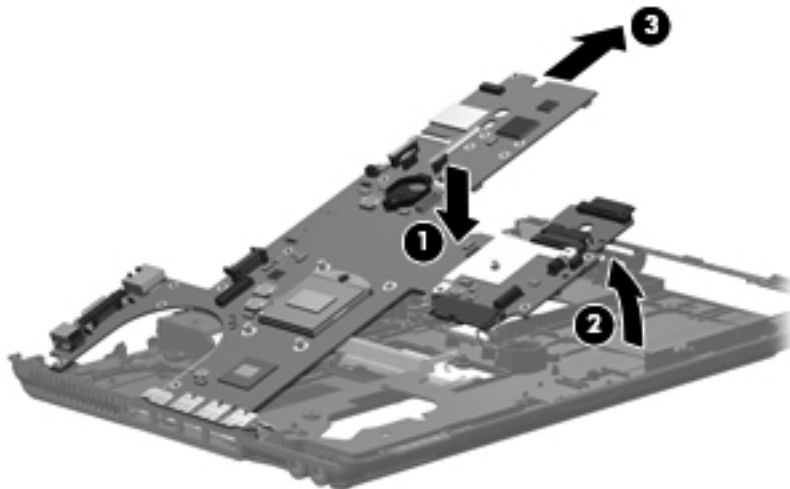
⚠ **CAUTION:** Do not attempt to remove the optical drive connector board from the system board until after the system board has been removed from the base enclosure. Failure to follow this caution can result in damage to the system board and the optical drive connector board.

5. If it is necessary to replace the optical drive connector board, slide the board off of the system board. The optical drive connector board is available using spare part number 613314-001. The optical drive connector board is used only with computer models equipped with a 15.6-in display assembly.
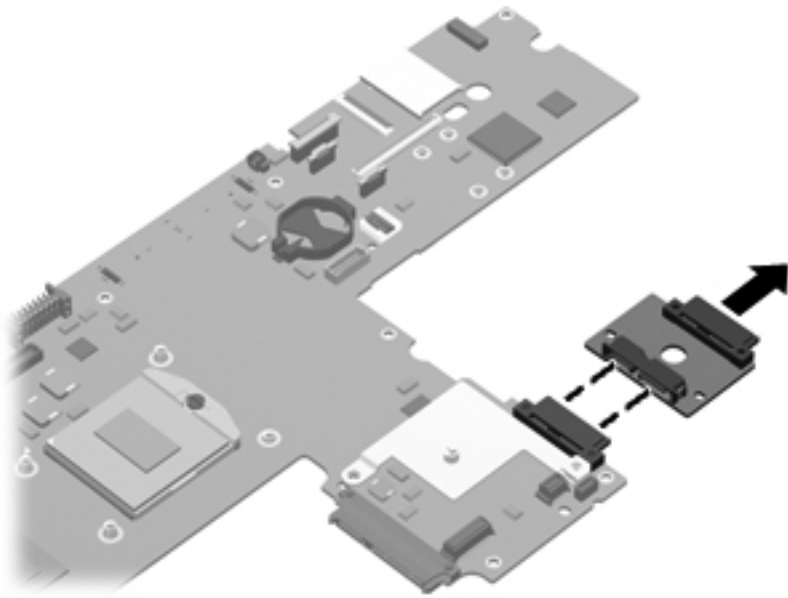
Reverse the procedure to install the system board.

Serial connector and cable

Description	Spare part number
Serial connector and cable for use only on computers equipped with a 15.6-in display assembly	613313-001

Before removing the serial connector and 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 74).

5. Remove the following components:

   a. Bluetooth module (see Bluetooth module on page 76)

   b. Mass storage device (see Mass storage device on page 78)

   c. Optical drive (see Optical drive on page 88)

   d. Keyboard (see Keyboard on page 90)

   e. Switch cover (see Switch cover on page 97)

   f. Fan (see Fan on page 102)

   g. Heat sink (see Heat sink on page 104)

   h. Palm rest (see Palm rest on page 100)

   i. Display assembly (see Display assembly on page 108)

   j. Top cover (see Top cover on page 120)

   k. ExpressCard assembly (see ExpressCard assembly on page 125)

   l. Speaker assembly (see Speaker assembly on page 129)

Remove the serial connector and cable:

1. Disconnect the serial connector cable **(1)** from the system board.

2. Remove the two Hex HM5.0×10.0 screw locks **(2)** that secure the serial connector to the base enclosure.

3. Remove the serial connector **(3)**.
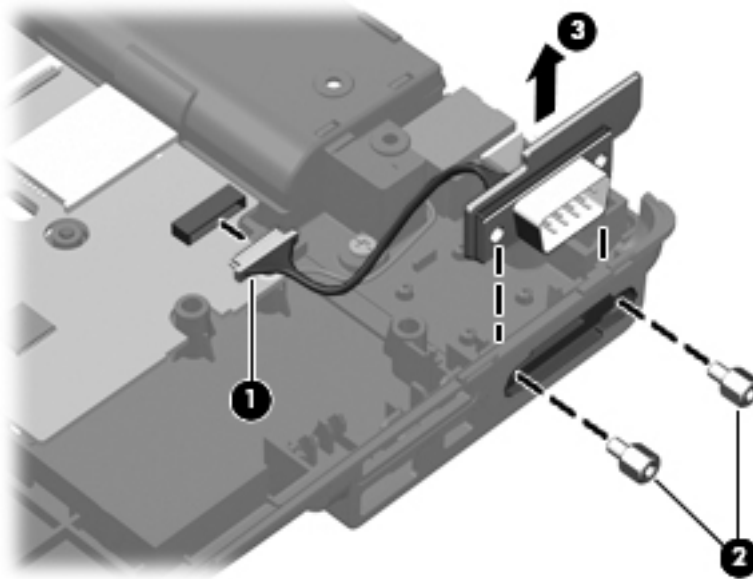
Reverse this procedure to install the serial connector and cable.

Modem module cable

NOTE: The modem module cable is included in the Cable Kit, spare part numbers 613352-001.

Before removing the modem module 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 74).

5. Remove the following components:

   a. Bluetooth module (see Bluetooth module on page 76)

   b. Mass storage device (see Mass storage device on page 78)

   c. Optical drive (see Optical drive on page 88)

   d. Keyboard (see Keyboard on page 90)

   e. Switch cover (see Switch cover on page 97)

   f. Fan (see Fan on page 102)

   g. Heat sink (see Heat sink on page 104)

   h. Palm rest (see Palm rest on page 100)

   i. Display assembly (see Display assembly on page 108)

   j. Top cover (see Top cover on page 120)

   k. ExpressCard assembly (see ExpressCard assembly on page 125)

   l. Speaker assembly (see Speaker assembly on page 129)

   m. Card reader/USB board (see Flash media/1394 board on page 132)

   n. System board (see System board on page 134)

Remove the modem module cable:

1. Release the RJ-11 connector **(1)** from the clip built into the base enclosure.

2. Release the modem module cable from the clips **(2)** and routing channel built into the base enclosure.

3. Remove the modem module cable **(3)**.
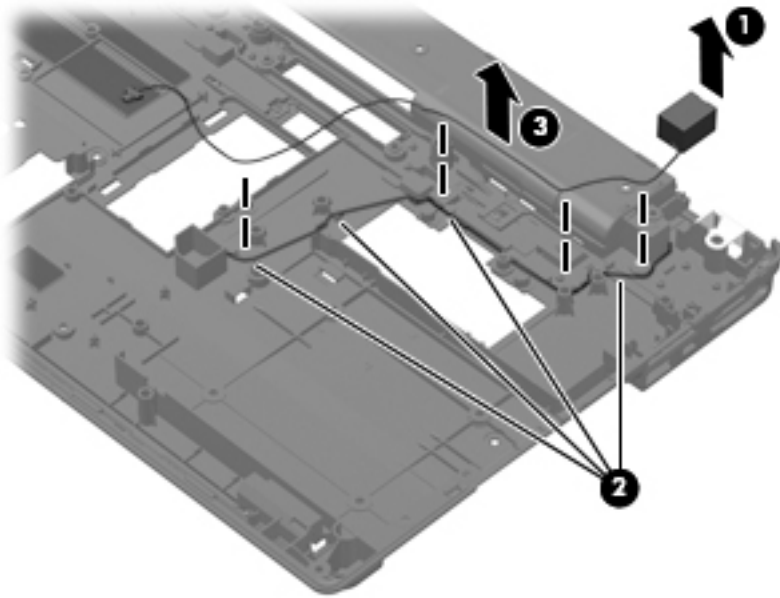
Reverse this procedure to install the modem module cable.

5 Computer Setup

Computer Setup in Windows 7

To view the drives installed on the computer, select **Start > Computer**.

On models with a secondary hard drive (drive D), the optical drive becomes drive E. The next drive added to the system, such as a new USB drive, will be assigned the next available drive letter.

Starting Computer Setup

Computer Setup is a preinstalled, ROM-based utility that can be used even when the operating system is not working or will not load.

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

> **NOTE:** An external keyboard or mouse connected to a USB port can be used with Computer Setup only if USB legacy support is enabled.

To start Computer Setup, follow these steps:

1. Turn on or restart the computer, and then press esc while the "Press the ESC key for Startup Menu" message is displayed at the bottom of the screen.

2. Press f10 to enter BIOS Setup.

Using Computer Setup

Navigating and selecting in Computer Setup

The information and settings in Computer Setup are accessed from the File, Security, Diagnostics, and System Configuration menus.

To navigate and select in Computer Setup, follow these steps:

1. Turn on or restart the computer, and then press esc while the "Press the ESC key for Startup Menu" message is displayed at the bottom of the screen.

   - To select a menu or a menu item, use the tab key and the keyboard arrow keys and then press enter, or use a pointing device to click the item.

   - To scroll up and down, click the up arrow or the down arrow in the upper-right corner of the screen, or use the up arrow key or the down arrow key.

   - To close open dialog boxes and return to the main Computer Setup screen, press esc, and then follow the on-screen instructions.

> **NOTE:** You can use either a pointing device (TouchPad, pointing stick, or USB mouse) or the keyboard to navigate and make selections in Computer Setup.

2. Press f10 to enter BIOS Setup.

3. Select the **File**, **Security**, **Diagnostics**, or **System Configuration** menu.

To exit Computer Setup menus, choose one of the following methods:

● To exit Computer Setup menus without saving your changes, click the **Exit** icon in the lower-left corner of the screen, and then follow the on-screen instructions.

– or –

Use the tab key and the arrow keys to select **File > Ignore changes and exit**, and then press enter.

– or –

● To save your changes and exit Computer Setup menus, click the **Save** icon in the lower-left corner of the screen, and then follow the on-screen instructions.

– or –

Use the tab key and the arrow keys to select **File > Save changes and exit**, and then press enter.

Your changes go into effect when the computer restarts.

Restoring factory settings in Computer Setup

> **NOTE:** Restoring defaults will not change the hard drive mode.

To return all settings in Computer Setup to the values that were set at the factory, follow these steps:

1. Turn on or restart the computer, and then press esc while the "Press the ESC key for Startup Menu" message is displayed at the bottom of the screen.

2. Press f10 to enter BIOS Setup.

3. Use a pointing device or the arrow keys to select **File > Restore defaults**.

4. Follow the on-screen instructions.

5. To save your changes and exit, click the **Save** icon in the lower-left corner of the screen, and then follow the on-screen instructions.

– or –

Use the arrow keys to select **File > Save changes and exit**, and then press enter.

Your changes go into effect when the computer restarts.

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

Computer Setup menus

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

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

File menu

Select	To do this
System Information	● View identification information for the computer and the batteries in the system. ● View specification information for the processor, cache and memory size, system ROM, video revision, and keyboard controller version.
Set System Date and Time	Set or change the date and time on the computer.
Restore defaults	Replace the configuration settings in Computer Setup with the original factory settings. (Hard drive mode, password settings, and security settings are not changed when you restore the factory settings.)
Ignore changes and exit	Cancel any changes entered during the current session. Then exit and restart the computer.
Save changes and exit	Save any changes entered during the current session. Then exit and restart the computer. Your changes go into effect when the computer restarts.

Diagnostics menu

Select	To do this
System Diagnostics menu	● F1 System Information—Displays the following information:
	◦ Identification information for the computer and the batteries in the system.
	◦ Specification information for the processor, cache and memory size, system ROM, video revision, and keyboard controller version.
	● F2 Start-up Test—Verifies the system components needed for starting the computer.
	● F3 Run-In Test—Runs a comprehensive check on system memory.
	● F4 Hard Disk Test—Runs a comprehensive self-test on any hard drive in the system.
	● F5 Error Log—Displays a log file if any errors have occurred.

System Configuration menu

NOTE: Some of the listed System Configuration options may not be supported by your computer.

Select	To do this
Language	Change the Computer Setup language.
Boot Options	● Set a Startup Menu delay (in seconds).
	● Enable/disable Custom Logo (disabled by default).
	● Enable/disable Display Diagnostic URL (enabled by default).
	● Enable/disable CD-ROM boot (enabled by default).
	● Enable/disable SD Card boot (enabled by default).
	● Enable/disable floppy boot (enabled by default).
	● Enable/disable PXE Internal NIC boot (enabled by default).
	● Set the Express Boot Popup delay in seconds.
	● Set the boot order.
Device Configurations	● Enable/disable USB legacy support (enabled by default). When enabled, USB legacy support allows the following:
	◦ Use of a USB keyboard in Computer Setup even when a Windows® operating system is not running.
	◦ Startup from bootable USB devices, including a hard drive, diskette drive, or optical drive connected by a USB port to the computer.
	● Select a parallel port mode: ECP (Enhanced Capabilities Port), standard, bidirectional, or EPP (Enhanced Parallel Port).
	● Enable/disable fan always on while connected to an AC outlet (enabled by default).
	● Enable/disable LAN Power Save (select models only). When enabled, saves power by turning off the LAN when not in use (enabled by default).
	● Enable/disable Data Execution Prevention. When enabled, the processor can disable some virus code execution, which helps to improve computer security.
	● SATA (Serial Advanced Technology Attachment) device mode. The following options are available:
	◦ AHCI (Advanced Host Controller Interface)
	◦ IDE (Integrated Drive Electronics)
	◦ RAID (select models only)

Select	To do this
	NOTE: Availability of the options above varies by computer model.
	● Enable/disable secondary battery fast charge (enabled by default).
	● Enable/disable HP QuickLook 2 (enabled by default).
	● Enable/disable Virtualization Technology (select models only; disabled by default).
	● Enable/disable TXT (Intel® Trusted Execution Technology) (select models only; disabled by default).
	● Enable/disable Dual Core CPU (select models only; enabled by default).
	● Enable/Disable Unified Extensible Firmware Interface (UEFI) mode (disabled by default).
Built-In Device Options	● Enable/disable the wireless button state (enabled by default).
	● Enable/disable embedded WWAN device radio (select models only; enabled by default).
	● Enable/disable embedded Bluetooth® device radio (enabled by default).
	● Enable/disable the Network Interface Controller (LAN) (enabled by default).
	● Set the wake on LAN state. Options include the following:
	◦ Disabled
	◦ Boot to Network (set by default)
	◦ Follow Boot Order
	● Enable/disable the fingerprint device (enabled by default).
	● Enable/disable a modem device (enabled by default).
	● Enable/disable the embedded WLAN device (enabled by default).
	● Enable/disable LAN/WLAN switching (disabled by default).
	● Enable the ambient light sensor (enabled by default).
	● Enable/disable the Notebook Multibay device (enabled by default).
	● Enable/disable the integrated camera (select models only; enabled by default).

Select	To do this
Port Options (all are enabled by default)	**NOTE:** All port options are enabled by default.
	● Enable/disable the Smart Card slot.
	● Enable/disable the ExpressCard slot.
	● Enable/disable the serial port.
	● Enable/disable the parallel port.
	● Enable/disable the flash media reader.
	● Enable/disable the USB port.
	CAUTION: Disabling the USB port also disables MultiBay devices and ExpressCard devices on the advanced port replicator.
	● Enable/disable the 1394 port.
AMT Options	**NOTE:** All AMT options are disabled by default.
	● Enable/disable Firmware Verbosity.
	● Enable/disable AMT Setup Prompt (CTRL-P).
	● Enable/disable USB Key Provisioning Support.
	● Enable/disable Unconfigure AMT on Next Boot.
	● Enable/disable Terminal Emulation Mode
	● Enable/disable Firmware Progress Event Support.
	● Enable/disable include TYPE-131 in SMBIOS.
Set Security Level	Change, view, or hide security levels for all BIOS menu items.
Restore Security Defaults	Restore the default security settings.

Computer Setup in Windows Vista

Starting Computer Setup

Computer Setup is a preinstalled, ROM-based utility that can be used even when the operating system is not working or will not load.

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

NOTE: An external keyboard or mouse connected to a USB port can be used with Computer Setup only if USB legacy support is enabled.

To start Computer Setup, follow these steps:

1. Turn on or restart the computer, and then press esc while the "Press the ESC key for Startup Menu" message is displayed at the bottom of the screen.

2. Press f10 to enter BIOS Setup.

Using Computer Setup

Navigating and selecting in Computer Setup

The information and settings in Computer Setup are accessed from the File, Security, Diagnostics, and System Configuration menus.

To navigate and select in Computer Setup, follow these steps:

1. Turn on or restart the computer, and then press esc while the "Press the ESC key for Startup Menu" message is displayed at the bottom of the screen.

   ● To select a menu or a menu item, use the tab key and the keyboard arrow keys and then press enter, or use a pointing device to click the item.

   ● To scroll up and down, click the up arrow or the down arrow in the upper-right corner of the screen, or use the up arrow key or the down arrow key.

   ● To close open dialog boxes and return to the main Computer Setup screen, press esc, and then follow the on-screen instructions.

   NOTE: You can use either a pointing device (TouchPad, pointing stick, or USB mouse) or the keyboard to navigate and make selections in Computer Setup.

2. Press f10 to enter BIOS Setup.

3. Select the **File**, **Security**, **Diagnostics**, or **System Configuration** menu.

To exit Computer Setup menus, choose one of the following methods:

- To exit Computer Setup menus without saving your changes, click the **Exit** icon in the lower-left corner of the screen, and then follow the on-screen instructions.

   – or –

   Use the tab key and the arrow keys to select **File > Ignore changes and exit**, and then press enter.

   – or –

- To save your changes and exit Computer Setup menus, click the **Save** icon in the lower-left corner of the screen, and then follow the on-screen instructions.

   – or –

   Use the tab key and the arrow keys to select **File > Save changes and exit**, and then press enter.

Your changes go into effect when the computer restarts.

Restoring factory settings in Computer Setup

NOTE: Restoring defaults will not change the hard drive mode.

To return all settings in Computer Setup to the values that were set at the factory, follow these steps:

1. Turn on or restart the computer, and then press esc while the "Press the ESC key for Startup Menu" message is displayed at the bottom of the screen.

2. Press f10 to enter BIOS Setup.

3. Use a pointing device or the arrow keys to select **File > Restore defaults**.

4. Follow the on-screen instructions.

5. To save your changes and exit, click the **Save** icon in the lower-left corner of the screen, and then follow the on-screen instructions.

   – or –

   Use the arrow keys to select **File > Save changes and exit**, and then press enter.

Your changes go into effect when the computer restarts.

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

Computer Setup menus

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

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

File menu

Select	To do this
System Information	● View identification information for the computer and the batteries in the system. ● View specification information for the processor, cache and memory size, system ROM, video revision, and keyboard controller version.
Set System Date and Time	Set or change the date and time on the computer.
Restore defaults	Replace the configuration settings in Computer Setup with the original factory settings. (Hard drive mode, password settings, and security settings are not changed when you restore the factory settings.)
Ignore changes and exit	Cancel any changes entered during the current session. Then exit and restart the computer.
Save changes and exit	Save any changes entered during the current session. Then exit and restart the computer. Your changes go into effect when the computer restarts.

Security menu

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

Select	To do this
Setup BIOS Administrator Password	Set up a BIOS administrator password.
User Management (requires a BIOS administrator password)	● Create a new BIOS user account. ● View a list of ProtectTools users.
Password Policy (requires a BIOS administrator password)	Revise password policy criteria.
HP SpareKey	Enable/disable HP SpareKey (disabled by default).
Always Prompt for HP SpareKey Enrollment	Enable/disable HP SpareKey enrollment (disabled by default).
Allow Reset of HP ProtectTools security keys	Enable/disable reset of HP ProtectTools security keys.
Change Password	Enter, change, or delete a BIOS administrator password.
HP SpareKey Enrollment	Enroll or reset HP SpareKey, which is a set of security questions and answers used if you forget your password.
DriveLock Passwords	● Enable/disable DriveLock on any computer hard drive (enabled by default). ● Change a DriveLock user password or master password. **NOTE:** DriveLock settings are accessible only when you enter Computer Setup by turning on (not restarting) the computer.
Automatic DriveLock	Enable/disable Automatic DriveLock support.
Disk Sanitizer	Run Disk Sanitizer to destroy all existing data on the primary hard drive or the drive in the upgrade bay. **CAUTION:** If you run Disk Sanitizer, the data on the selected drive is destroyed permanently.
System IDs	Enter a user-defined computer asset tracking number and ownership tag.

Diagnostics menu

Select	To do this

System Diagnostics Menu	● System Information—Displays the following information:
	
	  ◦ Identification information for the computer and the batteries in the system.
	
	  ◦ Specification information for the processor, cache and memory size, system ROM, video revision, and keyboard controller version.
	
	● Start-up Test—Verifies the system components needed for starting the computer.
	
	● Run-In Test—Runs a comprehensive check on system memory.
	
	● Hard Disk Test—Runs a comprehensive self-test on any hard drive in the system.
	
	● Error Log—Displays a log file if any errors have occurred.

System Configuration menu

NOTE: Some of the listed System Configuration options may not be supported by your computer.

Select	To do this
Language	Change the Computer Setup language.
Boot Options	- Set a Startup Menu delay (in seconds). - Enable/disable Custom Logo (disabled by default). - Enable/disable Display Diagnostic URL (enabled by default). - Enable/disable CD-ROM boot (enabled by default). - Enable/disable SD Card boot (enabled by default). - Enable/disable floppy boot (enabled by default). - Enable/disable PXE Internal NIC boot (disabled by default). - Set the Express Boot Popup delay in seconds. - Set the boot order.
Device Configurations	- Enable/disable USB legacy support (enabled by default). When enabled, USB legacy support allows the following: - Use of a USB keyboard in Computer Setup even when a Windows® operating system is not running. - Startup from bootable USB devices, including a hard drive, diskette drive, or optical drive connected by a USB port to the computer. - Enable/disable fan always on while connected to an AC outlet (disabled by default). - Enable/disable Data Execution Prevention (select models only; disabled by default). When enabled, the processor can disable some virus code execution, which helps to improve computer security. - SATA (Serial Advanced Technology Attachment) device mode. The following options are available: - AHCI (Advanced Host Controller Interface) - IDE (Integrated Drive Electronics)

Select	To do this
	NOTE: Availability of the options above varies by computer model.
	● Enable/disable HP QuickLook 2 (enabled by default).
	● Enable/disable Virtualization Technology (select models only; disabled by default).
	● Enable/disable Dual Core CPU (enabled by default).
	● Enable/Disable Unified Extensible Firmware Interface (UEFI) mode (enabled by default).
Built-In Device Options	● Enable/disable the wireless button state (enabled by default).
	● Enable/disable embedded WWAN device radio (enabled by default).
	● Enable/disable embedded Bluetooth® device radio (enabled by default).
	● Enable/disable the Network Interface Controller (LAN) (enabled by default).
	● Set the wake on LAN state. Options include the following:
	◦ Disabled
	◦ Boot to Network (set by default)
	◦ Follow Boot Order
	● Enable/disable the optical disc drive (enabled by default).
	● Enable/disable the microphone.
	● Enable/disable a modem device (enabled by default).
	● Enable/disable the embedded WLAN device (enabled by default).
	● Enable/disable LAN/WLAN switching (disabled by default).
	● Enable/disable the integrated camera (select models only; enabled by default).
Port Options (all are enabled by default)	**NOTE:** All port options are enabled by default.
	● Enable/disable the ExpressCard slot.
	● Enable/disable the flash media reader.
	● Enable/disable the USB port.
	CAUTION: Disabling the USB port also disables MultiBay devices and ExpressCard devices on the advanced port replicator.

Select	To do this
Set Security Level	Change, view, or hide security levels for all BIOS menu items.
Restore Security Defaults	Restore the default security settings.

Computer Setup in Windows XP

Starting Computer Setup

Computer Setup is a preinstalled, ROM-based utility that can be used even when the operating system is not working or will not load.

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

NOTE: An external keyboard or mouse connected to a USB port can be used with Computer Setup only if USB legacy support is enabled.

To start Computer Setup, follow these steps:

1. Turn on or restart the computer, and then press esc while the "Press the ESC key for Startup Menu" message is displayed at the bottom of the screen.

2. Press f10 to enter BIOS Setup.

Using Computer Setup

Navigating and selecting in Computer Setup

The information and settings in Computer Setup are accessed from the File, Security, Diagnostics, and System Configuration menus.

To navigate and select in Computer Setup, follow these steps:

1. Turn on or restart the computer, and then press esc while the "Press the ESC key for Startup Menu" message is displayed at the bottom of the screen.

   - To select a menu or a menu item, use the tab key and the keyboard arrow keys and then press enter, or use a pointing device to click the item.

   - To scroll up and down, click the up arrow or the down arrow in the upper-right corner of the screen, or use the up arrow key or the down arrow key.

   - To close open dialog boxes and return to the main Computer Setup screen, press esc, and then follow the on-screen instructions.

   NOTE: You can use either a pointing device (TouchPad, pointing stick, or USB mouse) or the keyboard to navigate and make selections in Computer Setup.

2. Press f10 to enter BIOS Setup.

3. Select the **File**, **Security**, **Diagnostics**, or **System Configuration** menu.

To exit Computer Setup menus, choose one of the following methods:

- To exit Computer Setup menus without saving your changes, click the **Exit** icon in the lower-left corner of the screen, and then follow the on-screen instructions.

  – or –

  Use the tab key and the arrow keys to select **File > Ignore changes and exit**, and then press enter.

  – or –

- To save your changes and exit Computer Setup menus, click the **Save** icon in the lower-left corner of the screen, and then follow the on-screen instructions.

  – or –

  Use the tab key and the arrow keys to select **File > Save changes and exit**, and then press enter.

Your changes go into effect when the computer restarts.

Restoring factory settings in Computer Setup

NOTE: Restoring defaults will not change the hard drive mode.

To return all settings in Computer Setup to the values that were set at the factory, follow these steps:

1. Turn on or restart the computer, and then press esc while the "Press the ESC key for Startup Menu" message is displayed at the bottom of the screen.

2. Press f10 to enter BIOS Setup.

3. Use a pointing device or the arrow keys to select **File > Restore defaults**.

4. Follow the on-screen instructions.

5. To save your changes and exit, click the **Save** icon in the lower-left corner of the screen, and then follow the on-screen instructions.

   – or –

   Use the arrow keys to select **File > Save changes and exit**, and then press enter.

Your changes go into effect when the computer restarts.

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

Computer Setup menus

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

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

File menu

Select	To do this
System Information	- View identification information for the computer and the batteries in the system. - View specification information for the processor, cache and memory size, system ROM, video revision, and keyboard controller version.
Set System Date and Time	Set or change the date and time on the computer.
Restore defaults	Replace the configuration settings in Computer Setup with the original factory settings. (Hard drive mode, password settings, and security settings are not changed when you restore the factory settings.)
Ignore changes and exit	Cancel any changes entered during the current session. Then exit and restart the computer.
Save changes and exit	Save any changes entered during the current session. Then exit and restart the computer. Your changes go into effect when the computer restarts.

Security menu

Select	To do this
Setup BIOS Administrator Password	Set up a BIOS administrator password.
User Management (requires a BIOS administrator password)	- Create a new BIOS user account. - View a list of ProtectTools users.
Password Policy (requires a BIOS administrator password)	Revise password policy criteria.
HP SpareKey	Enable/disable HP SpareKey (disabled by default).
Always Prompt for HP SpareKey Enrollment	Enable/disable HP SpareKey enrollment (disabled by default).
Allow Reset of HP ProtectTools security keys	Enable/disable reset of HP ProtectTools security keys.
Change Password	Enter, change, or delete a BIOS administrator password.
HP SpareKey Enrollment	Enroll or reset HP SpareKey, which is a set of security questions and answers used if you forget your password.
DriveLock Passwords	- Enable/disable DriveLock on any computer hard drive (enabled by default). - Change a DriveLock user password or master password. NOTE: DriveLock settings are accessible only when you enter Computer Setup by turning on (not restarting) the computer.
Automatic DriveLock	Enable/disable Automatic DriveLock support.
Disk Sanitizer	Run Disk Sanitizer to destroy all existing data on the primary hard drive or the drive in the upgrade bay. CAUTION: If you run Disk Sanitizer, the data on the selected drive is destroyed permanently.
System IDs	Enter a user-defined computer asset tracking number and ownership tag.

Diagnostics menu

Select	To do this
System Diagnostics Menu	● System Information—Displays the following information: ◦ Identification information for the computer and the batteries in the system. ◦ Specification information for the processor, cache and memory size, system ROM, video revision, and keyboard controller version. ● Start-up Test—Verifies the system components needed for starting the computer. ● Run-In Test—Runs a comprehensive check on system memory. ● Hard Disk Test—Runs a comprehensive self-test on any hard drive in the system. ● Error Log—Displays a log file if any errors have occurred.

System Configuration menu

NOTE: Some of the listed System Configuration options may not be supported by your computer.

Select	To do this
Language	Change the Computer Setup language.
Boot Options	● Set a Startup Menu delay (in seconds).
	● Enable/disable Custom Logo (disabled by default).
	● Enable/disable Display Diagnostic URL (enabled by default).
	● Enable/disable CD-ROM boot (enabled by default).
	● Enable/disable SD Card boot (enabled by default).
	● Enable/disable floppy boot (enabled by default).
	● Enable/disable PXE Internal NIC boot (disabled by default).
	● Set the Express Boot Popup delay in seconds.
	● Set the boot order.
Device Configurations	● Enable/disable USB legacy support (enabled by default). When enabled, USB legacy support allows the following:
	◦ Use of a USB keyboard in Computer Setup even when a Windows® operating system is not running.
	◦ Startup from bootable USB devices, including a hard drive, diskette drive, or optical drive connected by a USB port to the computer.
	● Enable/disable fan always on while connected to an AC outlet (disabled by default).
	● Enable/disable Data Execution Prevention (select models only; disabled by default). When enabled, the processor can disable some virus code execution, which helps to improve computer security.
	● SATA (Serial Advanced Technology Attachment) device mode. The following options are available:
	◦ AHCI (Advanced Host Controller Interface)
	◦ IDE (Integrated Drive Electronics)

Select	To do this
	NOTE: Availability of the options above varies by computer model.
	● Enable/disable HP QuickLook 2 (enabled by default).
	● Enable/disable Virtualization Technology (select models only; disabled by default).
	● Enable/disable Dual Core CPU (enabled by default).
	● Enable/Disable Unified Extensible Firmware Interface (UEFI) mode (enabled by default).
Built-In Device Options	● Enable/disable the wireless button state (enabled by default).
	● Enable/disable embedded WWAN device radio (enabled by default).
	● Enable/disable embedded Bluetooth® device radio (enabled by default).
	● Enable/disable the Network Interface Controller (LAN) (enabled by default).
	● Set the wake on LAN state. Options include the following:
	◦ Disabled
	◦ Boot to Network (set by default)
	◦ Follow Boot Order
	● Enable/disable the optical disc drive (enabled by default).
	● Enable/disable the microphone.
	● Enable/disable a modem device (enabled by default).
	● Enable/disable the embedded WLAN device (enabled by default).
	● Enable/disable LAN/WLAN switching (disabled by default).
	● Enable/disable the integrated camera (select models only; enabled by default).
Port Options (all are enabled by default)	**NOTE:** All port options are enabled by default.
	● Enable/disable the ExpressCard slot.
	● Enable/disable the flash media reader.
	● Enable/disable the USB port.
	CAUTION: Disabling the USB port also disables MultiBay devices and ExpressCard devices on the advanced port replicator.

Select	To do this
Set Security Level	Change, view, or hide security levels for all BIOS menu items.
Restore Security Defaults	Restore the default security settings.

6 Specifications

Computer specifications

	39.6-cm (15.6-in) models	*35.6-cm* (14.0-in) models
Dimensions		
Depth	**24.8 cm** (9.76 in)	**23.6 cm** (9.29 in)
Width	**37.1 cm** (14.61 in)	**33.9 cm** (13.35 in)
Height (front to rear)	**3.5 to 3.9 cm** (1.38 to 1.54 in)	**3.4 to 3.9 cm** (1.34 to 1.54 in)
Weight		
● With WXGA display assembly, no optical drive, 320-GB, 7200-rpm hard drive, 2.55-AH battery, 1024-MB memory, no modem module, no Bluetooth module, no WWAN module, no webcam, and no fingerprint reader	**< 2.51 kg** (5.53 lb)	**< 2.26 kg** (4.98 lbs)
● With WXGA display assembly, DVD-ROM drive, 320-GB, 7200-rpm hard drive, 2.55-AH battery, 1024-MB memory, no modem module, no Bluetooth module, no WWAN module, no webcam, and no fingerprint reader	**< 2.64 kg** (5.82 lb)	**< 2.39 kg** (5.27 lb)
Input power		
Operating voltage	18.5 V dc @ 3.5 A - 65 W or 19.0 V dc @ 4.74 A - 90 W	
Operating current	3.5 A or 4.74 A	
Temperature		
Operating (not writing to optical disc)	**0°C to 35°C** (32°F to 95°F)	
Operating (writing to optical disc)	**5°C to 35°C** (41°F to 95°F)	
Nonoperating	**-20°C to 60°C** (-4°F to 140°F)	
Relative humidity		
Operating	10% to 90%	
Nonoperating	5% to 95%	
Maximum altitude (unpressurized)		

	39.6-cm (15.6-in) models	*35.6-cm* (14.0-in) models
Operating	**-15 m to 3,048 m** (-50 ft to 10,000 ft)	
Nonoperating	**-15 m to 12,192 m** (-50 ft to 40,000 ft)	

NOTE: Applicable product safety standards specify thermal limits for plastic surfaces. The computer operates well within this range of temperatures.

39.6-cm (15.6-in) display specifications

Dimensions	
Height	**19.5 cm** (7.68 in)
Width	**34.1 cm** (13.43 in)
Diagonal	**39.6 cm** (15.59 in)
Number of colors	Up to 16.8 million
Contrast ratio	250:1 (typical)
Brightness	200 nits (typical)
Pixel resolution	
Pitch	0.279 × 0.279 mm
Format	1366 × 768
Configuration	RGB vertical stripe
Backlight	LED
Character display	80 × 25
Total power consumption	4.0 W
Viewing angle	±40° horizontal, +120/-40° vertical (typical)

35.6-cm (14.0-in) display specifications

Dimensions	
Height	**17.6 cm** (6.93 in)
Width	**31.1 cm** (12.24 in)
Diagonal	**35.7 cm** (14.06 in)
Number of colors	Up to 16.8 million
Contrast ratio	250:1 (typical)
Brightness	200 nits (typical)
Pixel resolution	
Pitch	0.279 × 0.279 mm
Format	1366 × 768
Configuration	RGB vertical stripe
Backlight	LED
Character display	80 × 25
Total power consumption	4.0 W
Viewing angle	±40° horizontal, +120/-40° vertical (typical)

Hard drive specifications

	500-GB*	320-GB*	250-GB*	160-GB*
Dimensions				
Height	9.5 mm	9.5 mm	9.5 mm	9.5 mm
Width	70 mm	70 mm	70 mm	70 mm
Weight	101 g	101 g	101 g	101 g
Interface type	SATA	SATA	SATA	SATA
Transfer rate	100 MB/sec	100 MB/sec	100 MB/sec	100 MB/sec
Security	ATA security	ATA security	ATA security	ATA security
Seek times (typical read, including setting)				
Single track	1.0 ms	1.5 ms	2.0 ms	2.0 ms
Average	14.0 ms	12.0 ms	12.0 ms	12.0 ms
Maximum	22.0 ms	22.0 ms	22.0 ms	22.0 ms
Logical blocks	976,773,168	625,142,448	488,397,168	312,581,808
Disc rotational speed	7200 rpm	7200 rpm	7200 rpm	7200 rpm
Operating temperature	**5°C to 55°C** (41°F to 131°F)			

*1 GB = 1 billion bytes when referring to hard drive storage capacity. Actual accessible capacity is less. Actual drive specifications may differ slightly.

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

Blu-ray ROM DVD±RW SuperMulti Double-Layer Drive specifications

Applicable disc	
Read	BD-ROM, BD-ROM-DL, BD-R, BD-R-DL, BD-RE, BD-RE-DL, DVD-ROM, DVD+R, DVD+R-DL, DVD+RW, DVD-R, DVD-R-DL, DVD-RW, DVD-RAM (Ver.2), CD-DA, CD-ROM (mode 1 and mode 2), CD-ROM XA (mode 2, form 1 and form 2), Photo CD (single and multiple sessions), CD Extra, CD-R, CD-RW, and CD-TEXT
Write	DVD-RAM (Ver.2), DVD+R, DVD-R, CD-R, and CD-ROM
Random access time	
BD	< 230 ms
DVD	< 180 ms
Cache buffer	4.5 MB
Data transfer rate	
2X BD-RAM	9 MB/sec
8X DVD	2,400 KB/sec
16X CD-R	2,400 KB/sec
16X CD-RW	2,400 KB/sec

DVD±RW and CD-RW SuperMulti Double-Layer Drive specifications

Applicable disc	
Read	CD-DA, CD+(E)G, CD-MIDI, CD-TEXT, CDROM, CD-ROM XA, MIXED MODE CD, CD-I, CD-I Bridge (Photo-CD, Video CD), Multisession CD (Photo-CD, CD-EXTRA, Portfolio, CD-R, CD-RW), CD-R, CD-RW, DVD-ROM (DVD-5, DVD-9, DVD-10, DVD-18), DVD-R, DVD-RW, DVD+R, DVD+RW, DVD-RAM
Write	CD-R and CD-RW DVD+R, DVD+RW, DVD-R, DVD-RW, DVD-RAM
Random access time	
DVD	< 230 ms
CD	< 175 ms
Cache buffer	2 MB
Data transfer rate	
24X CD-ROM	3,600 KB/sec
8X DVD-ROM	10,800 KB/sec
24X CD-R	3,600 KB/sec
16X CD-RW	2,400 KB/sec
8X DVD+R	10,800 KB/sec
4X DVD+RW	5,400 KB/sec
8X DVD-R	10,800 KB/sec
4X DVD-RW	5,400 KB/sec
2.4X DVD+R(9)	2,700 KB/sec
5X DVD-RAM	6,750 KB/sec
Transfer mode	Multiword DMA Mode

DVD ROM Drive specifications

Applicable disc	
Read	CD-DA, CD+(E)G, CD-MIDI, CD-TEXT, CD-ROM, CD-ROM XA, MIXED MODE CD, CD-I, CD-I Bridge (Photo-CD, Video CD), Multisession CD (Photo-CD, CDEXTRA, Portfolio, CD-R, CD-RW), CDR, CD-RW, DVD-ROM (DVD-5, DVD-9, DVD-10, DVD-18), DVD-R, DVD-RW, DVD+R, DVD+RW, DVD-RAM
Write	CD-R and CD-RW
Random access time	
DVD	< 130 ms
CD	< 110 ms
Cache buffer	2 MB
Data transfer rate	
CD-R (24X)	3600 KB/s (150 KB/s at 1X CD rate)
CD-RW (24X)	3600 KB/s (150 KB/s at 1X CD rate)
CD-ROM (24X)	3600 KB/s (150 KB/s at 1X CD rate)
DVD (8X)	10,800 KB/s (1,352 KB/s at 1X DVD rate)

7   Backup and recovery

Windows 7 backup and recovery

To protect your information, use Windows® Backup and Restore to back up individual files and folders, back up your entire hard drive (select models only), create system repair discs (select models only), or create system restore points. In case of system failure, you can use the backup files to restore the contents of your computer.

Windows Backup and Restore provides the following options:

● Creating a system repair disc (select models only)

● Backing up individual files and folders

● Creating a system image (select models only)

● Scheduling automatic backups (select models only)

● Creating system restore points

● Recovering individual files

● Restoring the computer to a previous state

● Recovering information using recovery tools

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

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

Backing up

Recovery after a system failure is as complete as your most current backup. You should create system repair discs (select models only) and your initial backup immediately after software setup. As you add new software and data files, you should continue to back up your system on a regular basis to maintain a reasonably current backup. The system repair discs (select models only) are used to start up (boot) the computer and repair the operating system in case of system instability or failure. Your initial and subsequent backups allow you to restore your data and settings if a failure occurs.

You can back up your information to an optional external hard drive, a network drive, or discs.

Note the following when backing up:

- Store personal files in the Documents library, and back it up regularly.

- Back up templates that are stored in their associated programs.

- Save customized settings that appear in a window, toolbar, or menu bar by taking a screen shot of your settings. The screen shot can be a time-saver if you have to reset your preferences.

   To create a screen shot:

   1. Display the screen you want to save.

   2. Copy the screen image:

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

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

   3. Open a word-processing document, and then select **Edit>Paste**.

      The screen image is added to the document.

   4. Save the document.

- When backing up to discs, use any of the following types of discs (purchased separately): CD-R, CD-RW, DVD+R, DVD+R DL, DVD-R, DVD-R DL, or DVD±RW. The discs you use will depend on the type of optical drive installed in your computer.

   NOTE: DVDs and DVDs with double-layer (DL) support 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 the optical drive of the computer.

To create a backup using 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. Select **Start>All Programs>Maintenance>Backup and Restore**.

2. Follow the on-screen instructions to set up your backup, create a system image (select models only), or create a system repair disc (select models only).

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.

Recovering

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

- Windows recovery tools: You can use Windows Backup and Restore to recover information you have previously backed up. You can also use Windows Startup Repair to fix problems that might prevent Windows from starting correctly.

- f11 recovery tools: You can use f11 recovery tools to recover your original hard drive image. The image includes the Windows operating system and software programs installed at the factory.

NOTE: If you are unable to boot (start up) your computer and you cannot use the system repair discs you previously created (select models only), you must purchase a Windows 7 operating system DVD to reboot the computer and repair the operating system.

CAUTION: Using f11 completely erases hard drive contents and reformats the hard drive. All files you have created and any software installed on the computer are permanently removed. The f11 recovery tool reinstalls the operating system and HP programs and drivers that were installed at the factory. Software not installed at the factory must be reinstalled. Personal files must be restored from a backup.

1. If possible, back up all personal files.

2. If possible, check for the presence of the HP Recovery partition. select **Start**, right-click **Computer**, click **Manage**, and then click **Disk Management**.

   NOTE: If the HP Recovery partition is not listed, you must recover your operating system and programs using the *Windows 7 Operating System Operating System* DVD and the *Driver Recovery* disc (both purchased separately). For additional information, contact technical support by selecting **Start > Help and Support > Contact support**.

3. If the HP Recovery partition is listed, restart the computer, and then press esc while the "Press the ESC key for Startup Menu" message is displayed at the bottom of the screen.

4. Press f11 while the "Press f11 for recovery" message is displayed on the screen.

5. Follow the on-screen instructions.

NOTE: Windows 7 provides additional recovery tools through the operating system. For additional information, go to Help and Support.

NOTE: If you are unable to boot (start up) your computer, you must purchase a *Windows 7 Operating System* DVD to reboot the computer and repair the operating system. For additional information, contact technical support by selecting **Start>Help and Support>Contact support**.

Backup and recovery in Windows Vista

Overview

To protect your information, use the Backup and Restore Center to back up individual files and folders, back up your entire hard drive (select models only), or create system restore points. In case of system failure, you can use the backup files to restore the contents of your computer.

The Backup and Restore Center provides the following options:

- Backing up individual files and folders

- Backing up the entire hard drive (select models only)

- Scheduling automatic backups (select models only)

- Creating system restore points

- Recovering individual files

- Restoring the computer to a previous state

- Recovering information using recovery tools

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

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

Backing up your information

Recovery after a system failure is as complete as your most current backup. You should create your initial backup immediately after software setup. As you add new software and data files, you should continue to back up your system on a regular basis to maintain a reasonably current backup.

You can back up your information to an optional external hard drive, a network drive, or discs.

Note the following when backing up:

- Store personal files in the Documents folder, and back it up regularly.

- Back up templates that are stored in their associated programs.

- Save customized settings that appear in a window, toolbar, or menu bar by taking a screen shot of your settings. The screen shot can be a time-saver if you have to reset your preferences.

  To create a screen shot:

  1. Display the screen you want to save.

  2. Copy the screen image:

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

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

  3. Open a word-processing document, and then select **Edit > Paste**.

The screen image is added to the document.

4. Save the document.

- When backing up to discs, use any of the following types of discs (purchased separately): CD-R, CD-RW, DVD+R, DVD+R DL, DVD-R, DVD-R DL, or DVD±RW. The discs you use will depend on the type of optical drive installed in your computer.

NOTE: DVDs and DVDs with double-layer (DL) support 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 the optical drive of the computer.

To create a backup using Backup and Restore Center, follow these steps:

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

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

1. Select **Start > All Programs > Maintenance > Backup and Restore Center**.

2. Follow the on-screen instructions to back up your entire computer (select models only) or your files.

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.

Performing a recovery

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

- Windows recovery tools: You can use the Backup and Restore Center to recover information you have previously backed up. You can also use Windows Startup Repair to fix problems that might prevent Windows from starting correctly.

- f11 recovery tools: You can use the f11 recovery tools to recover your original hard drive image. The image includes the Windows operating system and software programs installed at the factory.

NOTE: If you are unable to boot (start up) your computer, you must purchase a Windows Vista® operating system DVD to reboot the computer and repair the operating system. For additional information, refer to the "Using a Windows Vista operating system DVD (purchased separately)" section in this guide.

Using the Windows recovery tools

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

1. Click **Start > All Programs > Maintenance > Backup and Restore Center**.

2. Follow the on-screen instructions to recover your entire computer (select models only) or your files.

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.

To recover your information using Startup Repair, follow these steps:

CAUTION: Using Startup Repair completely erases hard drive contents and reformats the hard drive. All files you have created and any software installed on the computer are permanently removed. When reformatting is complete, the recovery process restores the operating system, as well as the drivers, software, and utilities from the backup used for recovery.

1. If possible, back up all personal files.

2. If possible, check for the presence of the Windows partition and the HP Recovery partition. To find the partitions, select **Start > Computer**.

   NOTE: If the Windows partition and the HP Recovery partition have been deleted, you must recover your operating system and programs using the Windows Vista operating system DVD and the *Driver Recovery* disc (both purchased separately). For additional information, refer to the "Using a Windows Vista operating system DVD (purchased separately)" section in this guide.

3. Restart the computer, and then press f8 before the Windows operating system loads.

4. Select **Repair your computer**.

5. Follow the on-screen instructions.

NOTE: For additional information on recovering information using the Windows tools, perform a search for these topics in Help and Support.

Using f11

CAUTION: Using f11 completely erases hard drive contents and reformats the hard drive. All files you have created and any software installed on the computer are permanently removed. The f11 recovery tool reinstalls the operating system and HP programs and drivers that were installed at the factory. Software not installed at the factory must be reinstalled.

To recover the original hard drive image using f11, follow these steps:

1. If possible, back up all personal files.

2. If possible, check for the presence of the HP Recovery partition. To find the partition, select **Start > Computer**.

   NOTE: If the HP Recovery partition has been deleted, you must recover your operating system and programs using the Windows Vista operating system DVD and the *Driver Recovery* disc (both purchased separately). For additional information, refer to the "Using a Windows Vista operating system DVD (purchased separately)" section in this guide.

3. Turn on or restart the computer, and then press esc while the "Press the ESC key for Startup Menu" message is displayed at the bottom of the screen.

4. Press f11 while the "Press <F11> for recovery" message is displayed on the screen.

5. Follow the on-screen instructions.

Using a Windows Vista operating system DVD (purchased separately)

If you are unable to boot (start up) your computer, you must purchase a Windows Vista operating system DVD to reboot the computer and repair the operating system. Make sure that your most recent backup (stored on discs or on an external drive) is easily accessible. To order a Windows Vista operating system DVD, go to http://www.hp.com/support, select your country or region, and follow the on-screen instructions. You can also order the DVD by calling technical support. For contact information, refer to the *Worldwide Telephone Numbers* booklet included with the computer.

△ **CAUTION:** Using a Windows Vista operating system DVD completely erases hard drive contents and reformats the hard drive. All files you have created and any software installed on the computer are permanently removed. When reformatting is complete, the recovery process helps you restore the operating system, as well as drivers, software, and utilities.

To initiate recovery using a Windows Vista operating system DVD, follow these steps:

📝 **NOTE:** This process takes several minutes.

1. If possible, back up all personal files.

2. Restart the computer, and then insert the Windows Vista operating system DVD into the optical drive before the Windows operating system loads.

3. When prompted, press any keyboard key.

4. Follow the on-screen instructions.

5. Click **Next**.

6. Select **Repair your computer**.

7. Follow the on-screen instructions.

Backup and recovery in Windows XP

Overview

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

Windows provides the following options:

- Backing up individual files and folders

- Backing up all files and folders

- Scheduling automatic backups

- Creating recovery points

- Recovering information

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

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

Backing up your information

Recovery after a system failure is as complete as your most current backup. You should create your initial backup immediately after software setup. As you add new software and data files, you should continue to back up your system on a regular basis to maintain a reasonably current backup.

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

Note the following when backing up:

- Store personal files in the My Documents folder, and back it up periodically.

- Back up templates stored in their associated programs.

- Save customized settings that appear in a window, toolbar, or menu bar by taking a screen shot of your settings. The screen shot can be a time saver if you have to reset your preferences.

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

  a. Display the screen you want to save.

  b. Copy the screen image:

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

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

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

     The screen image is added to the document.

  d. Save the document.

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

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

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

1. Click **Start > All Programs > Accessories > System Tools > Backup**.

2. Follow the on-screen instructions.

Performing a recovery

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

● Windows recovery tools (select models only): You can use the Windows Backup utility to recover information you have previously backed up.

● *Operating System* and *Driver Recovery* discs (included with your computer): You can use the discs to recover your operating system and programs installed at the factory.

Recovering your information

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

1. If possible, back up all personal files.

2. Click **Start > All Programs > Accessories > System Tools > Backup**.

   The Backup or Restore Wizard opens.

3. Click **Restore files and settings**, and then click **Next**.

4. Follow the on-screen instructions.

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

Recovering the operating system and programs

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

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

1. If possible, back up all personal files.

2. Insert the *Operating System* disc into the optical drive.

3. Shut down the computer.

4. Turn on the computer.

5. Follow the on-screen instructions to install the operating system.

6. After the operating system is installed, remove the *Operating System* disc and insert the *Driver Recovery* disc.

7. Follow the on-screen instructions to install the drivers and programs.

Linux backup and recovery

Use the instructions in this section if SUSE Linux SLED 11 is installed on your computer.

To protect your information, back up your files and folders. Then if the system fails, you can restore your important files from copies. You can also use the options listed in this section to restore the operating system and programs that were installed at the factory.

⚠ **CAUTION:** Using f11 completely erases hard drive contents and reformats the hard drive. All files you have created and any software installed on the computer are permanently removed. The f11 recovery tool reinstalls the original operating system and HP programs and drivers that were installed at the factory. Software, drivers, and updates not installed by HP must be manually reinstalled. Personal files must be restored from a backup.

To recover the original hard drive image using f11, follow these steps:

1. If possible, back up all personal files.

2. Restart the computer, and then press f11 while the "Press <F11> for recovery" message is displayed on the screen.

3. Follow the on-screen instructions.

8   Connector pin assignments

1394
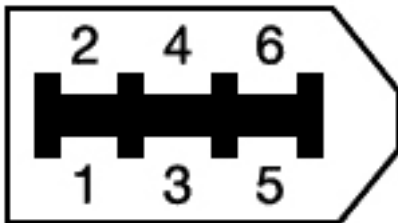
Pin	Signal
1	Power
2	Ground
3	TPB-
4	TPB+
5	TPA-
6	TPA+

Audio-in (microphone)
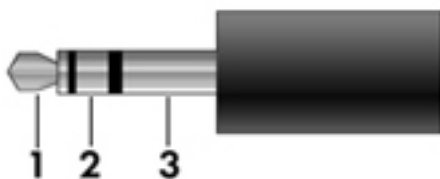
Pin	Signal
1	Audio signal in
2	Audio signal in
3	Ground

Audio-out (headphone)
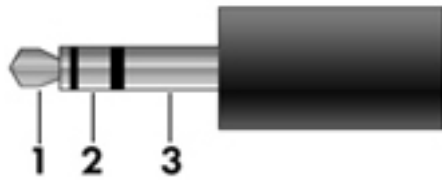
Pin	Signal
1	Audio out, left channel
2	Audio out, right channel
3	Ground

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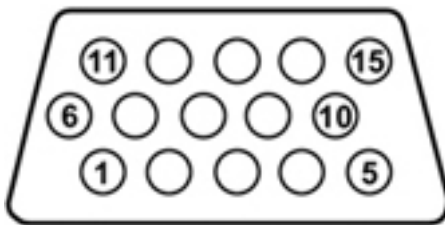
Pin	Signal
1	Red analog
2	Green analog
3	Blue analog
4	Not connected
5	Ground
6	Ground analog
7	Ground analog
8	Ground analog
9	+5 VDC
10	Ground
11	Monitor detect
12	DDC 2B data
13	Horizontal sync
14	Vertical sync
15	DDC 2B clock

RJ-45 (network)
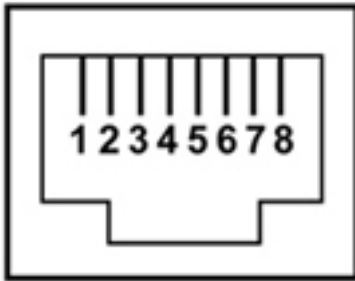
Pin	Signal
1	Transmit +
2	Transmit -
3	Receive +
4	Unused
5	Unused
6	Receive -
7	Unused
8	Unused

RJ-11 (modem)
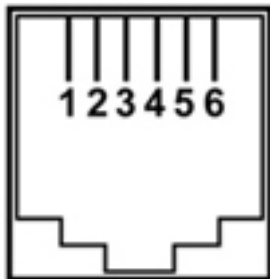
Pin	Signal
1	Unused
2	Tip
3	Ring
4	Unused
5	Unused
6	Unused

Serial (select models only)
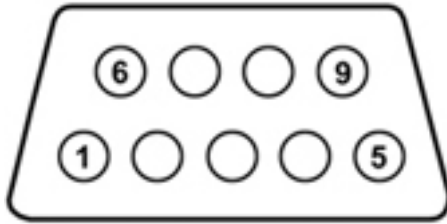
Pin	Signal
1	1 Data carrier detect
2	Received data
3	Transmitted data
4	Data terminal ready
5	Signal ground
6	Data set ready
7	Request to send
8	Clear to send
9	Ring indicator

Universal Serial Bus
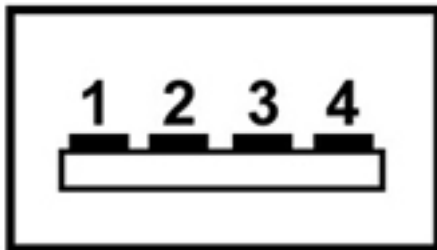
Pin	Signal
1	+5 VDC
2	Data
3	Data +
4	Ground

9   Power cord set requirements

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

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

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

Requirements for all countries

The following requirements are applicable to all countries and regions:

● The length of the power cord set must be at least **1.5 m** (5.0 ft) and no more than **2.0 m** (6.5 ft).

● All power cord sets must be approved by an acceptable accredited agency responsible for evaluation in the country or region where the power cord set will be used.

● The power cord sets must have a minimum current capacity of 10 amps and a nominal voltage rating of 125 or 250 V AC, as required by the power system of each country or region.

● The appliance coupler must meet the mechanical configuration of an EN 60 320/IEC 320 Standard Sheet C13 connector for mating with the appliance inlet on the back of the computer.

Requirements for specific countries and regions

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

1. The flexible cord must be Type HO5VV-F, 3-conductor, 1.0-mm² conductor size. Power cord set fittings (appliance coupler and wall plug) must bear the certification mark of the agency responsible for evaluation in the country or region where it will be used.

2. The flexible cord must be Type SPT-3 or equivalent, No. 18 AWG, 3-conductor. The wall plug must be a two-pole grounding type with a NEMA 5-15P (15 A, 125 V) or NEMA 6-15P (15 A, 250 V) configuration.

3. The appliance coupler, flexible cord, and wall plug must bear a "T" mark and registration number in accordance with the Japanese Dentori Law. The flexible cord must be Type VCT or VCTF, 3-conductor, 1.00-mm² conductor size. The wall plug must be a two-pole grounding type with a Japanese Industrial Standard C8303 (7 A, 125 V) configuration.

4. The flexible cord must be Type RVV, 3-conductor, 0.75-mm² conductor size. Power cord set fittings (appliance coupler and wall plug) must bear the certification mark of the agency responsible for evaluation in the country or region where it will be used.

5. The flexible cord must be Type VCTF, 3-conductor, 0.75-mm² conductor size. Power cord set fittings (appliance coupler and wall plug) must bear the certification mark of the agency responsible for evaluation in the country or region where it will be used.

10 Recycling

Battery

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

Display

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

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

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

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

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

Perform the following steps:

1. Remove all screw covers **(1)** and screws **(2)** that secure the display bezel to the display assembly.
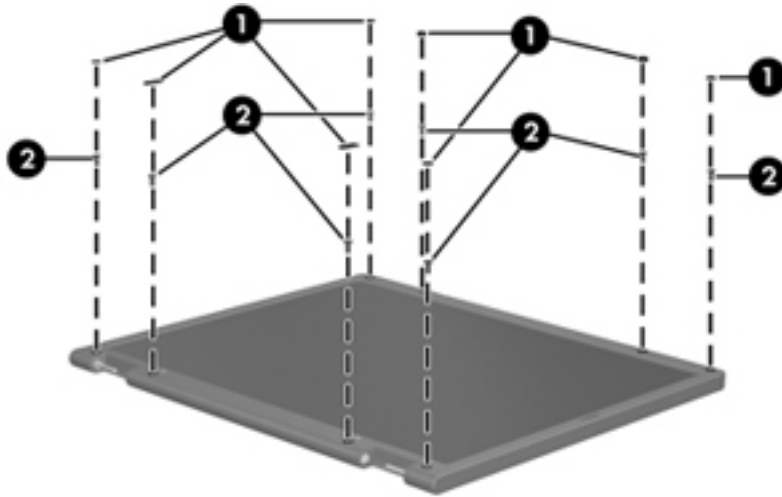
2. Lift up and out on the left and right inside edges **(1)** and the top and bottom inside edges **(2)** of the display bezel until the bezel disengages from the display assembly.

3. Remove the display bezel **(3)**.
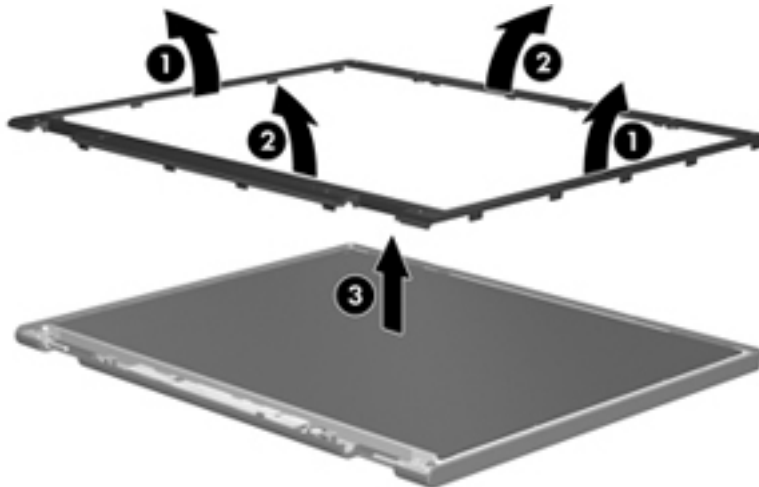
4. Disconnect all display panel cables **(1)** from the display inverter and remove the inverter **(2)**.
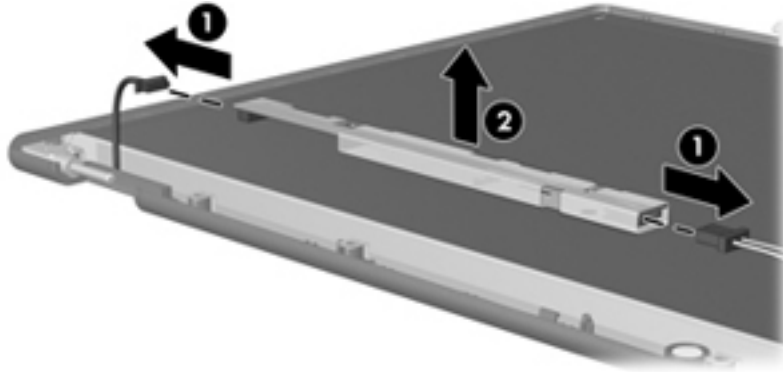
5. Remove all screws **(1)** that secure the display panel assembly to the display enclosure.

6. Remove the display panel assembly **(2)** from the display enclosure.
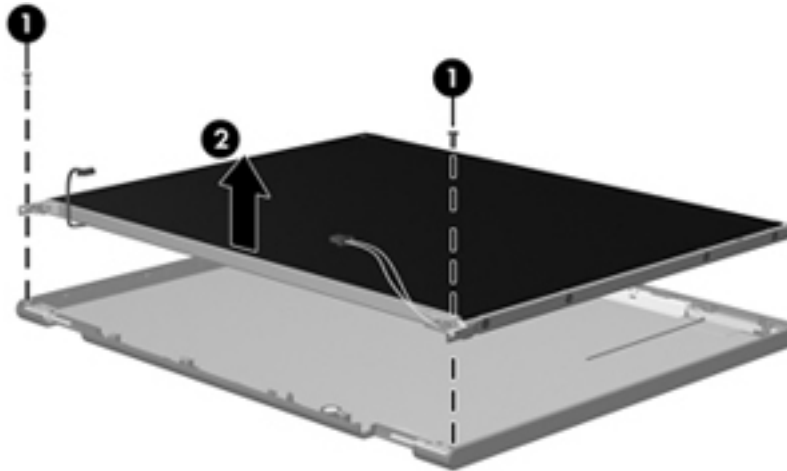
7. Turn the display panel assembly upside down.

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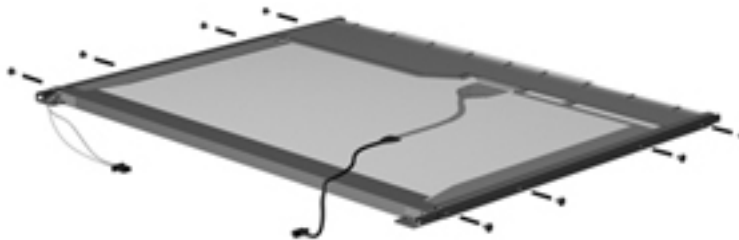
9. Use a sharp-edged tool to cut the tape **(1)** that secures the sides of the display panel to the display panel frame.

10. Remove the display panel frame **(2)** from the display panel.
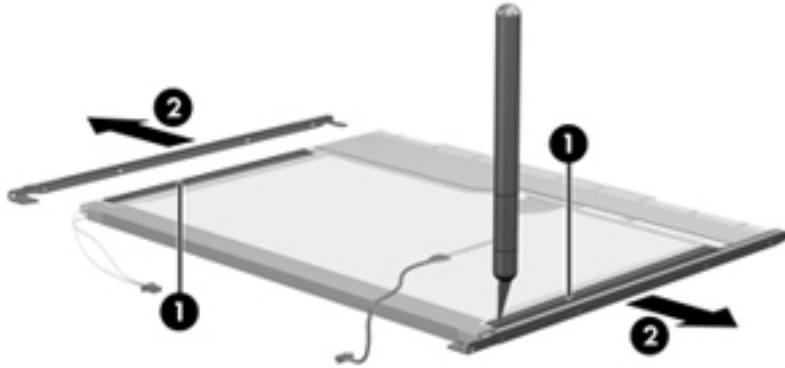
11. Remove the screws **(1)** that secure the backlight cover to the display panel.

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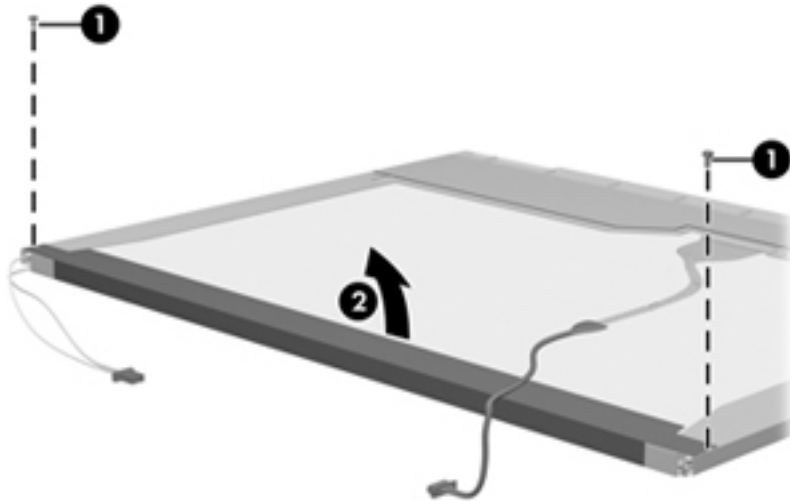
13. Remove the backlight cover.

14. Turn the display panel right-side up.

15. Remove the backlight cables **(1)** from the clip **(2)** in the display panel.
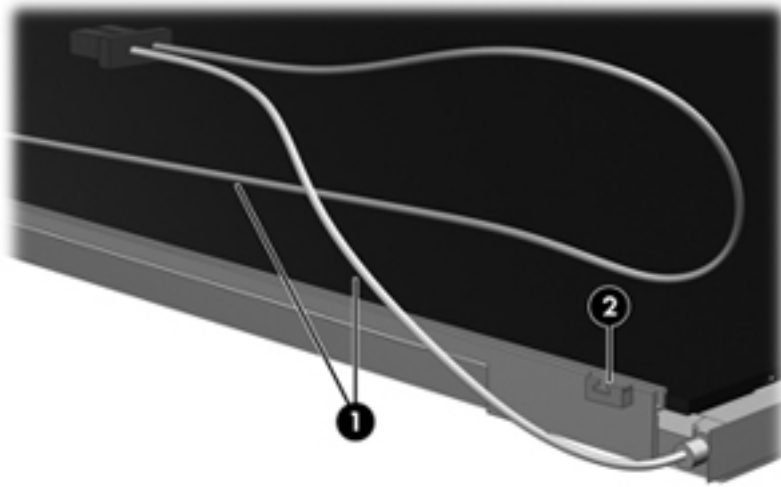
16. Turn the display panel upside down.

17. Remove the backlight frame from the display panel.
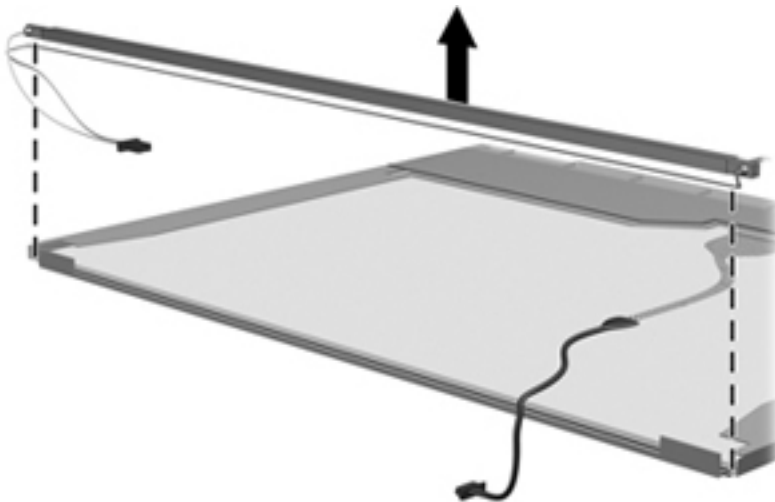
⚠ **WARNING!** The backlight contains mercury. Exercise caution when removing and handling the backlight to avoid damaging this component and causing exposure to the mercury.

18. Remove the backlight from the backlight frame.
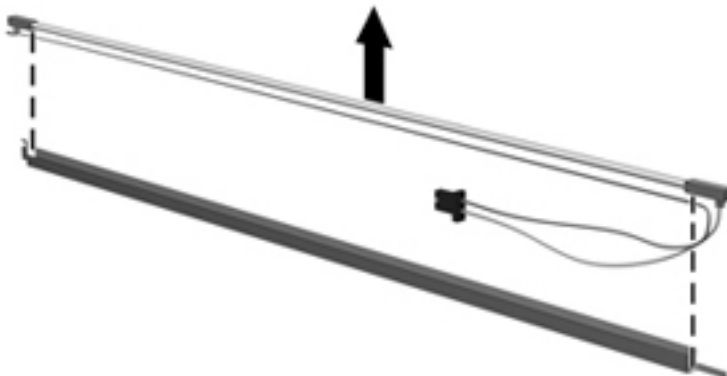
19. Disconnect the display cable **(1)** from the LCD panel.

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

21. Release the LCD panel **(3)** from the display rear panel.

22. Release the tape **(4)** that secures the LCD panel to the display rear panel.
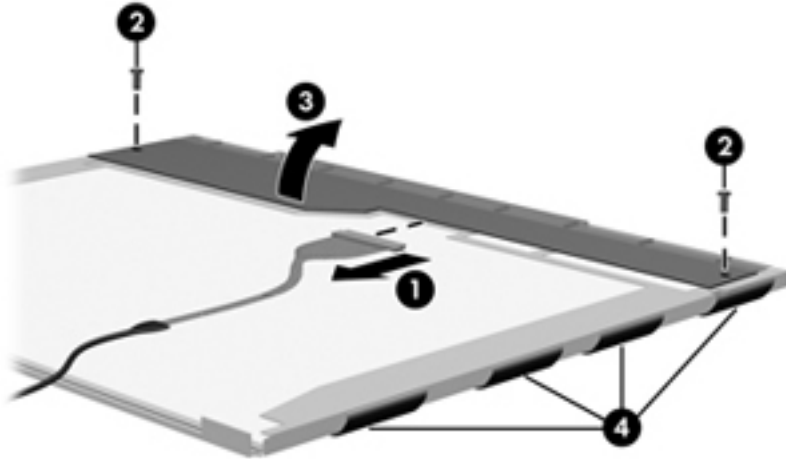
23. Remove the LCD panel.
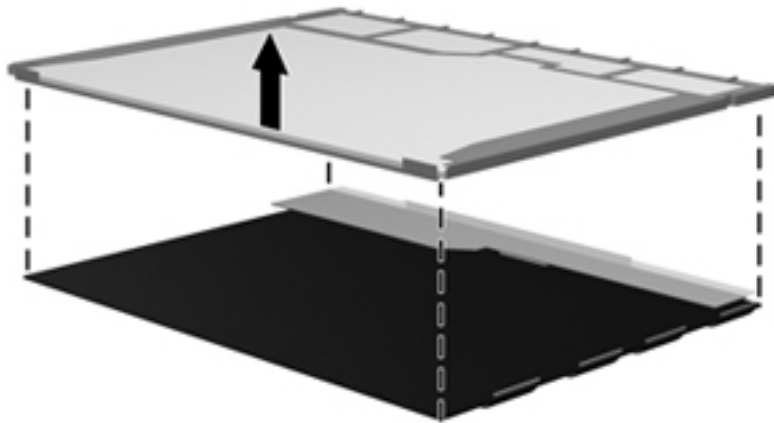
24. Recycle the LCD panel and backlight.

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