HP EliteBook 8530p Notebook PC
HP EliteBook 8530w Mobile Workstation

Maintenance and Service Guide

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Fourth Edition: April 2012

Document Part Number: 469429-004

Safety warning notice

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

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1 Product description

Category	Description	HP EliteBook 8530p Notebook PC	HP EliteBook 8530w Mobile Workstation
Product Name	**HP EliteBook 8530p Notebook PC**	√	
	HP EliteBook 8530w Mobile Workstation		√
Processors	**Intel® Core™2 Extreme processors**		
	QX9300, Quad Core 2.53-GHz processor 12-MB L2 cache, 1066-MHz front side bus (FSB)		√
	X9100, Dual-Core 3.06-GHz processor 6-MB L2 cache, 1066-MHz FSB		√
	Intel Core2 Quad processors		
	Q9100, 2.26-GHz processor 6-MB L2 cache, 1066-MHz FSB		√
	Q9000, 2.00-GHz processor 6-MB L2 cache, 1066-MHz FSB		√
	Intel Core2 Duo processors		
	T9900, 3.06-GHz processor 6-MB L2 cache, 1066-MHz FSB	√	√
	T9800, 2.93-GHz processor 6-MB L2 cache, 1066-MHz FSB	√	√
	T9600, 2.8-GHz processor 6-MB L2 cache, 1066-MHz FSB	√	√
	T9550, 2.66-GHz processor 6-MB L2 cache, 1066-MHz FSB	√	√
	T9400, 2.53-GHz processor 6-MB L2 cache, 1066-MHz FSB	√	√
	P9500, 2.53-GHz processor 3-MB L2 cache, 1066-MHz FSB	√	√
	P8800, 2.66-GHz processor 3-MB L2 cache, 1066-MHz FSB	√	√
	P8700, 2.53-GHz processor 3-MB L2 cache, 1066-MHz FSB	√	√
	P8600, 2.4-GHz processor 3-MB L2 cache, 1066-MHz FSB	√	√

Category	Description	HP EliteBook 8530p Notebook PC	HP EliteBook 8530w Mobile Workstation
	P8400, 2.26-GHz processor 3-MB L2 cache, 1066-MHz FSB	√	√
Chipset	Intel PM45 Express Chipset with iAMT 4.0 support	√	√
	Southbridge Intel ICH9M-enhanced	√	√
Graphics	ATI M86M ATI Mobility Radeon HD 3650 graphics card with 256 MB of graphics subsystem memory (supports Hypermemory)	√	
	ATI M86M ATI Mobility FireGL V5700 graphics card with 256 MB of graphics subsystem memory (supports Hypermemory)		√
	nVidia NB9P-GLM2 graphics card with 512 MB of graphics subsystem memory (supports Quadro FX 770M)		√
	HDMI 1.3 compliance	√	√
	OpenGL driver support		√
Panel	All display assemblies include 3 wireless local area network (WLAN) antennas	√	√
	15.4-in WUXGA AntiGlare with webcam	√	√
	15.4-in WSXGA+ AntiGlare with webcam	√	√
	15.4-in WXGA AntiGlare with webcam	√	√
	15.4-in WUXGA AntiGlare with 2 wireless wide area network (WWAN) antennas	√	√
	15.4-in WSXGA+ AntiGlare with 2 WWAN antennas	√	√
	15.4-in WXGA AntiGlare with 2 WWAN antennas	√	√
	15.4-in WUXGA AntiGlare	√	√
	15.4-in WSXGA+ AntiGlare	√	√
	15.4-in WXGA AntiGlare	√	√
	15.4-in WUXGA AntiGlare for computers with Extreme and Quad CPUs		√
	15.4-in WSXGA+ AntiGlare for computers with Extreme and Quad CPUs		√
	15.4-in WXGA AntiGlare for computers with Extreme and Quad CPUs		√
	15.4-in WUXGA AntiGlare with webcam for computers with Extreme and Quad CPUs		√
	15.4-in WXGA AntiGlare with webcam for computers with Extreme and Quad CPUs		√

Category	Description	HP EliteBook 8530p Notebook PC	HP EliteBook 8530w Mobile Workstation
	15.4-in WXGA AntiGlare with webcam for computers with Extreme and Quad CPUs		√
	Support privacy filter	√	√
Memory	Two customer-accessible/upgradable memory module slots	√	√
	Supports dual-channel memory	√	√
	Supports up to 8 GB of system RAM	√	√
	PC2-6400, 800-MHz, DDR2	√	√
	Supports the following configurations: • 8192 (4096 × 2, dual-channel) (select models) • 6144 (4906 + 2048) • 5120 (4096 + 1024) • 4096 (2048 × 2, dual-channel) • 4096 (4096 x1) • 3072 (2048 + 1024) • 2048 (1024 × 2, dual-channel) • 2048 (2048 × 1) • 1024 (1024 × 1)	√	√
Hard drives	Supports 9.5-mm, 6.35-cm (2.50-in) hard drives	√	√
	Customer-accessible	√	√
	Serial ATA	√	√
	Supports the following drives: • 500-GB, 7200- and 5400-rpm • 320-GB, 7200-rpm • 250-GB, 7200- and 5400-rpm • 160-GB, 7200- and 5400-rpm • 120-GB, 5400-rpm	√	√
	Supports the following solid-state drives: • 128-GB • 80-GB	√	√
	HP 3D DriveGuard	√	√
	RAID 0/1 Support	√	√

Category	Description	HP EliteBook 8530p Notebook PC	HP EliteBook 8530w Mobile Workstation
Upgrade bay	Fixed (removal of 1 screw required)	√	√
	Customer-accessible	√	√
	Serial ATA	√	√
	12.7-mm tray load	√	√
	Supports the following drives: • DVD±RW and CD-RW Super Multi DL Combo Drive with LightScribe • Blu-ray Disc ROM with SuperMulti DVD+/-R/RW DL Drive • DVD-ROM Drive	√	√
Diskette drive	Supports external USB diskette drive only	√	√
	Supports boot from external USB diskette drive	√	√
Microphone	Integrated dual-array microphone	√	√
Audio	HD audio - ADI 1984A	√	√
Webcam	Integrated 2.1-megpixel webcam with business card reader support	√	√
Modem	56K V.92 1.5-in data/fax modem with digital line guard	√	√
	HD audio interface	√	√
Ethernet	Intel 10/100/1000 network interface card (NIC) with iAMT	√	√
	S4/S5 wake on LAN: DC - no	√	√
	S4/S5 wake on LAN: AC - yes	√	√
	NIC power down technology	√	√
Wireless	**Integrated WLAN options by way of wireless module:**		
	Three WLAN antennas built into display assembly	√	√
	Support for no WLAN option	√	√
	Support for the following WLAN formats: • Intel 802.11a/b/g/n • Intel 802.11a/b/g • Intel 802.11a/b/g/n with iAMT 4.0 support • Intel 802.11a/b/g with iAMT support	√	√
	Integrated WWAN options by way of wireless module:		
	Two WWAN 5-band antennas built into display assembly	√	√

Category	Description	HP EliteBook 8530p Notebook PC	HP EliteBook 8530w Mobile Workstation
	Subscriber identity module (SIM) security (customer-accessible in battery bay)	√	√
	Support for the following WWAN formats: • Evolution-data optimized (EVDO) • High-speed downlink packet access (HSDPA)	√	√
	Integrated personal area network (PAN) options by way of Bluetooth® module:		
	Support for no PAN option	√	√
	Broadcom Bluetooth	√	√
External media card	One ExpressCard/54 slot	√	√
	Integrated Media Card Reader with SD, MMC, MS, MSpro, xD, Memory Stick Duo support	√	√
Ports	Audio-in (stereo microphone)	√	√
	Audio-out (stereo headphone)	√	√
	HDMI	√	√
	RJ-11 (modem)	√	√
	RJ-45 (Ethernet, includes link and activity lights)	√	√
	USB 2.0 (4)	√	√
	eSATA/USB 2.0 combo (1)	√	√
	VGA (Dsub 15-pin) supporting 1600 × 1200 external resolution at 75-GHz (hot plug with auto-detect)	√	√
	1394a	√	√
	3-pin AC power	√	√
Docking	HP Docking Station	√	√
	HP Advanced Docking Station	√	√
Keyboard/pointing devices	12.3-in keyboard with durable key cap coating	√	√
	Dual point (pointing stick and TouchPad) with 3 pointing stick buttons and 3 TouchPad buttons and vertical scrolling (taps enabled as default)	√	√
	Windows Vista® Hardware Start Button	√	√

Category	Description	HP EliteBook 8530p Notebook PC	HP EliteBook 8530w Mobile Workstation
Power requirements	AC adapter with localized cable plug support (3-wire plug with ground pin, supports 3-pin DC connector): • 180-W • 150-W • 120-W	√	√
	8-cell, 2.55-Ah (73-Wh) Li-ion battery	√	√
	Support for 8-cell Extended Life Battery	√	√
	Support for 12-cell Ultra Capacity Battery	√	√
Security	Integrated fingerprint reader	√	√
	Integrated smart card reader	√	√
	Security cable slot	√	√
	Trusted platform module (TPM) V.1.2	√	√
	Full volume encryption	√	√
	Preboot authentication (password, smart card, biometric)	√	√
Operating system	**Preinstalled:**		
	Windows 7 Professional 32	√	√
	Windows Vista Business 64 (select regions)		√
	Windows Vista Business 64 with WWAN (select regions)		√
	Windows Vista Business 32 (select regions)	√	√
	Windows Vista Business 32 with WWAN (select regions)	√	√
	Windows Vista Home Basic 32 (select regions)	√	√
	Windows Vista Home Basic 32 with WWAN (select regions)	√	√
	Windows Vista Business with XP Professional image (select regions)	√	√
	Windows Vista Business with XP Professional image with WWAN (select regions)	√	√
	FreeDOS	√	√
	FreeDOS with WWAN	√	√
	Preinstalled with Microsoft® Office:		
	Windows 7 Professional 32 with Microsoft® Office 2007 Personal with Powerpoint	√	√
	Windows 7 Professional 32 with Microsoft Office 2007 Personal	√	√

Category	Description	HP EliteBook 8530p Notebook PC	HP EliteBook 8530w Mobile Workstation
	Windows 7 Professional 32 with Microsoft Office 2007 Professional	√	√
	Windows 7 Professional 32 with Microsoft Office 2007 Ready	√	√
	Windows Vista Ultimate 32 with Office 2007 Ready (select regions)	√	√
	Windows Vista Ultimate 32 with Office 2007 Ready with WWAN (select regions)	√	√
	Windows Vista Business 64 with Office 2007 Ready		√
	Windows Vista Business 64 with Office 2007 Ready with WWAN		√
	Windows Vista Business 32 with Office 2007 Ready	√	√
	Windows Vista Business 32 with Office 2007 Ready with WWAN	√	√
	Windows Vista Home Basic 32 with Office 2007 Ready	√	√
	Windows Vista Home Basic 32 with Office 2007 Ready with WWAN	√	√
	Windows Vista Business with XP Professional with Office 2007 Ready	√	√
	Windows Vista Business with XP Professional with Office 2007 Ready with WWAN	√	√
	Windows Vista Business 32 with Office 2007 Professional (Japan only)	√	
	Windows Vista Business 32 with Office 2007 Professional with WWAN (Japan only)	√	
	Windows Vista Business 32 with Office 2007 Personal (Japan only)	√	
	Windows Vista Business 32 with Office 2007 Personal with WWAN (Japan only)	√	
	Windows Vista Business 32 with Office 2007 Personal with PowerPoint (Japan only)	√	
	Windows Vista Business 32 with Office 2007 Personal with PowerPoint with WWAN (Japan only)	√	
	Windows Vista Business with XP Professional with Office 2007 Professional (Japan only)	√	√
	Windows Vista Business with XP Professional with Office 2007 Professional with WWAN (Japan only)	√	√
	Windows Vista Business with XP Professional with Office 2007 Personal (Japan only)	√	√

Category	Description	HP EliteBook 8530p Notebook PC	HP EliteBook 8530w Mobile Workstation
	Windows Vista Business with XP Professional with Office 2007 Personal with WWAN (Japan only)	√	√
	Windows Vista Business with XP Professional with Office 2007 Personal with PowerPoint (Japan only)	√	√
	Windows Vista Business with XP Professional with Office 2007 Personal with PowerPoint with WWAN (Japan only)	√	√
	Restore Media:		
	Windows 7 Professional 32	√	√
	Windows Vista Ultimate 32	√	√
	Windows Vista Business 32/64	√	√
	Windows Vista Home Basic 32	√	√
	Windows XP Professional	√	√
	DRDVD Windows 7	√	√
	DRDVD Windows XP Professional	√	√
	DRDVD Windows Vista	√	√
	Office Ready restore DVD	√	√
	Supported:		
	Windows XP 64 (Service Pack 2)		√
	Certified:		
	Novell: SuSE Linux Enterprise Desktop	√	√
Serviceability	**End-user replaceable parts:**		
	AC adapter	√	√
	Battery (system)	√	√
	Hard drive	√	√
	Keyboard	√	√
	Memory module	√	√
	Optical drive	√	√
	WLAN module	√	√

2 External component identification

Display components

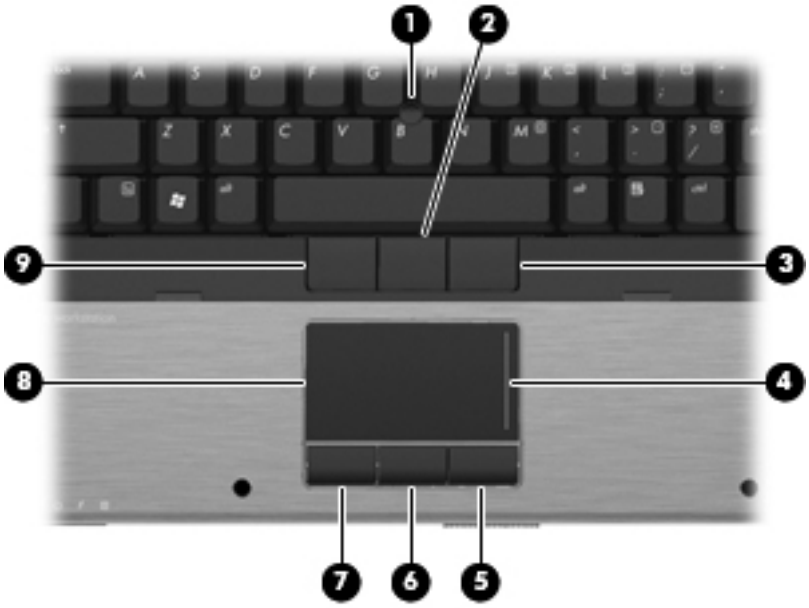
Item	Component	Function
(1)	WWAN antennas (2) (select models only)*	Send and receive wireless signals to communicate with WWANs.
(2)	WLAN antennas (3) (select models only)*	Send and receive wireless signals to communicate with WLANs.

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

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

Top components

Pointing devices

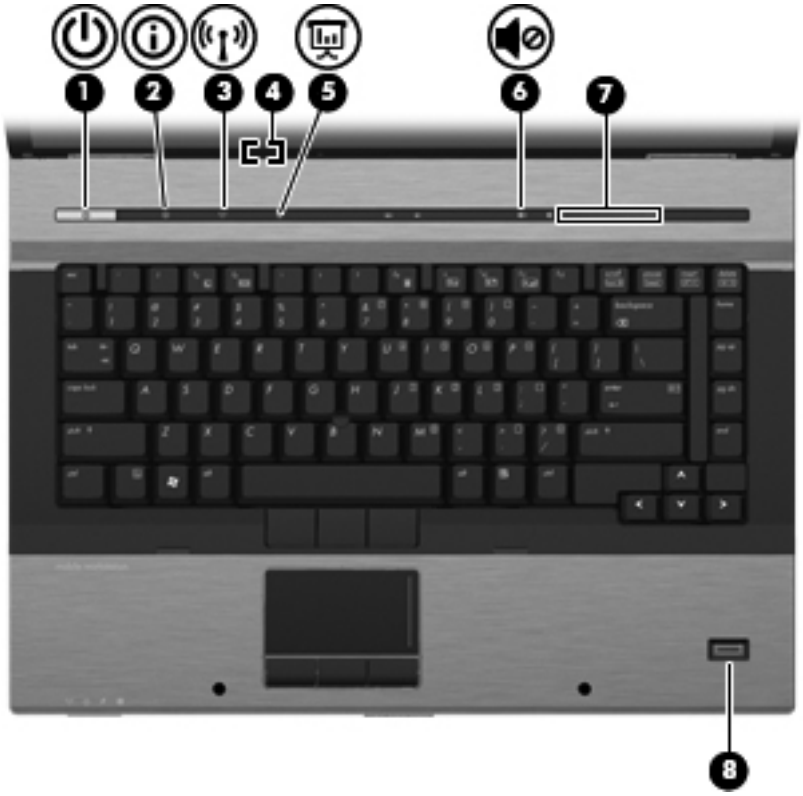


Item	Component	Function
(1)	Pointing stick	Moves the pointer and selects or activates items on the screen.
(2)	Center pointing stick button	Functions like the center button on an external mouse.
(3)	Right pointing stick button	Functions like the right button on an external mouse.
(4)	TouchPad scroll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

NOTE: This table describes factory settings. View or change pointing device preferences as follows:

- In Windows Vista, select **Start > Control Panel > Hardware and Sound > Mouse**.
- In Windows XP, select **Start > Control Panel > Printers and Other Hardware > Mouse**.

Buttons, switches, and fingerprint reader

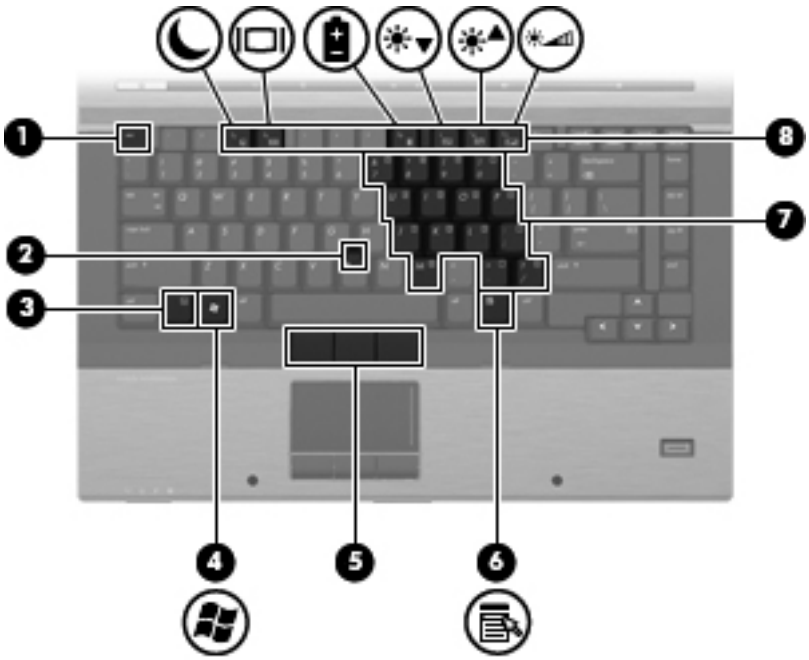


Item	Component	Function
(1)	Power button	• When the computer is off, press the button to turn on the computer. • When the computer is on, press the button to shut down the computer. • When the computer is in the Sleep state (Windows Vista) or in Standby (Windows XP), press the button briefly to exit the Sleep state 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 power settings, follow these steps: • In Windows Vista, select **Start > Control Panel > System and Maintenance > Power Options**. • In Windows XP, select **Start > Control Panel > System and Maintenance > Power Options**.
(2)	Info button	Launches Info Center, which enables you to open various software solutions.

Item	Component	Function
(3)	Wireless button	Turns the wireless feature on or off, but does not establish a wireless connection. **NOTE:** A wireless network must be set up in order to establish a wireless connection.
(4)	Internal display switch	Turns off the display if the display is closed while the power is on.
(5)	Presentation button	Starts the presentation feature.
(6)	Volume mute button	Mutes and restores speaker sound.
(7)	Volume scroll zone	Adjusts speaker volume. Slide your finger to the left to decrease volume and to the right to increase volume. You can also press the left side of the volume scroll zone to decrease volume, or press the right side of the volume scroll zone to increase volume.
(8)	HP Fingerprint Sensor (finger print reader)	Allows a fingerprint logon to Windows, instead of a password logon.

Keys

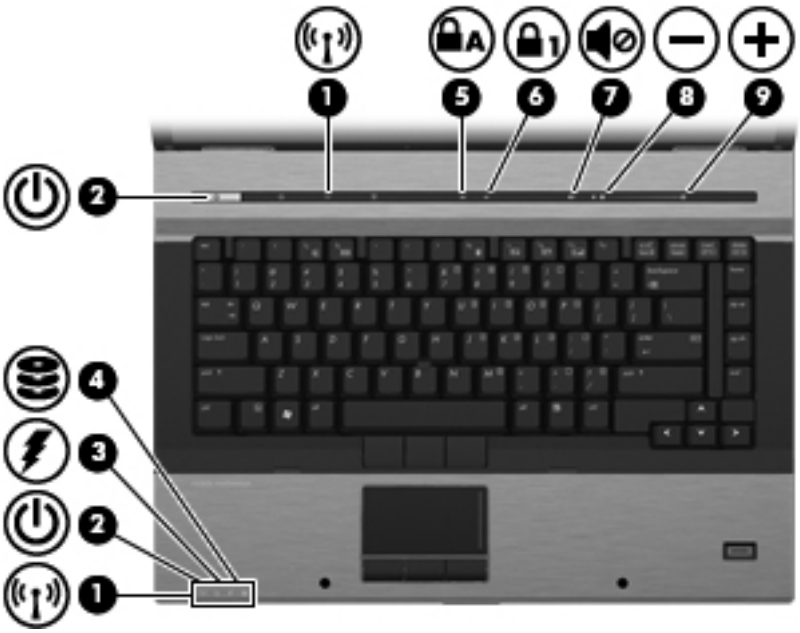
NOTE: Your computer may look slightly different from the illustration in this section.



Item	Component	Function
(1)	esc key	Displays system information when pressed in combination with the fn key.
(2)	Pointing stick	Moves the pointer and selects or activates items on the screen.

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

Lights



Item	Component	Function
(1)	Wireless lights (2)†	• Turquoise: An integrated wireless device, such as a wireless local area network (WLAN) device, the HP Mobile Broadband Module, 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 Vista) or in Standby (Windows XP). • Off: The computer is off or in Hibernation.

Item	Component	Function
(3)	Battery light	• Amber: A battery is charging. • Blinking 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 is being accessed. • Amber: HP 3D DriveGuard has temporarily parked the internal hard drive.
(5)	Caps lock light	On: Caps lock is on.
(6)	Num lock light	On: Num lock is on or the embedded numeric keypad is enabled.
(7)	Volume mute light	• Turquoise: Computer sound is on. • Amber: Computer sound is off.
(8)	Volume down light	Blinking: The volume scroll zone is being used to decrease speaker volume.
(9)	Volume up light	Blinking: The volume scroll zone is being used to increase speaker volume.

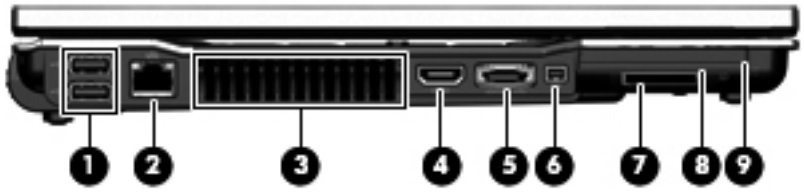
*The 2 power lights display the same information. The light on the power button is visible only when the computer is open. The power light on the front of the computer is visible whether the computer is open or closed.

†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.

Front components

Item	Component	Function
(1)	Wireless light	• Turquoise: An integrated wireless device, such as a WLAN device, the HP Mobile Broadband Module, and/or a Bluetooth device, is turned on. • Amber: All wireless devices are turned off.
(2)	Power light	• On: The computer is on. • Blinking: The computer is in the Sleep state (Windows Vista) or in Standby (Windows XP). • Off: The computer is off or in Hibernation.
(3)	Battery light	• Amber: A battery is charging. • Blinking 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 is being accessed. • Amber (select models only): HP 3D DriveGuard has temporarily parked the hard drive.
(5)	Speakers	Produce sound.
(6)	Display release latch	Opens the computer.

Left-side components



Item	Component	Function
(1)	USB ports (2)	Connect optional USB devices.
(2)	RJ-45 (network) jack	Connects a network cable. **NOTE:** The RJ-45 (network) jack provides Gigabit Ethernet functionality.
(3)	Vent	Enables airflow to cool internal components. **NOTE:** The computer fan starts up automatically to cool internal components and prevent overheating. It is normal for the internal fan to cycle on and off during routine operation.
(4)	HDMI port	Connects an optional video or audio device, such as a high-definition television, or any compatible digital or audio component.
(5)	eSATA port	Connects an eSATA device.
(6)	1394 port (select models only)	Connects an optional IEEE 1394 or 1394a device, such as a camcorder.
(7)	Media Card Reader	Supports the following optional digital card formats: Memory Stick (MS), Memory Stick Duo (MS Duo), Memory Stick Pro (MSpro), MultiMedia Card (MMC), Secure Digital (SD) Memory Card, and xD-Picture Card.
(8)	Smart card reader	Supports optional smart cards.
(9)	ExpressCard slot	Supports optional ExpressCards.

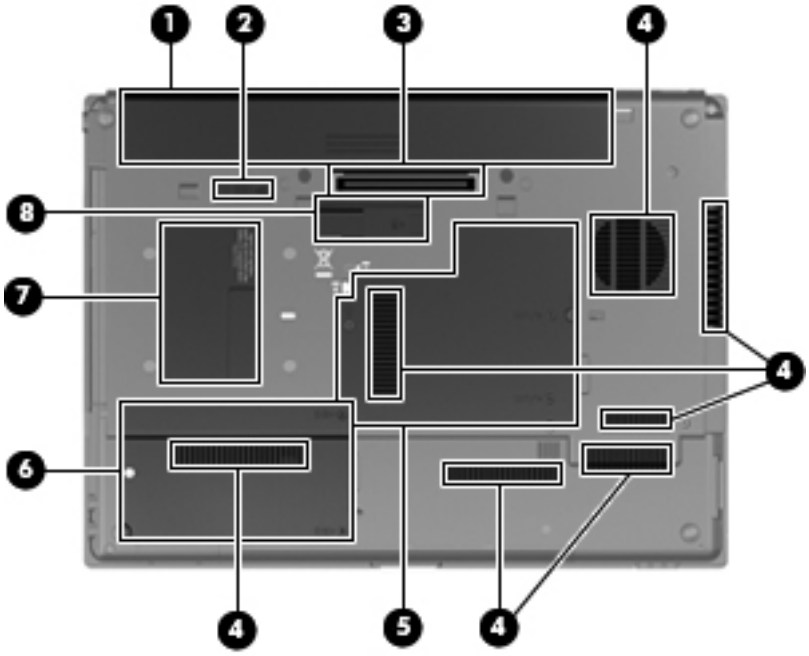
Rear components

Item	Component	Function
(1)	Power connector	Connects an AC adapter.
(2)	External monitor port	Connects an external VGA monitor or projector.

Right-side components

Item	Component	Function
(1)	Audio-out (headphone) jack	Produces sound when connected to optional powered stereo speakers, headphones, ear buds, a headset, or television audio.
(2)	Audio-in (microphone) jack	Connects an optional computer headset microphone, stereo array microphone, or monaural microphone.
(3)	USB ports (2) (select models only)	Connect optional USB devices.
(4)	Optical drive	Reads optical discs and, on select models, also writes to optical discs.
(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.

Bottom components



Item	Component	Function
(1)	Battery bay	Holds the battery and a wireless subscriber identity module (SIM). The SIM slot is located inside the battery bay. **NOTE:** The battery must be installed for the SIM to operate.
(2)	Battery release latch	Release the battery from the battery bay.
(3)	Docking connector	Connects an optional docking device.
(4)	Vents (7)	Enables airflow to cool internal components. **NOTE:** The computer fan starts up automatically to cool internal components and prevent overheating. It is normal for the internal fan to cycle on and off during routine operation.
(5)	Memory module compartment	Contains a memory module slot and an HP Broadband Module. **CAUTION:** To prevent an unresponsive system, replace the wireless module only with a wireless module authorized for use in the computer by the governmental agency that regulates wireless devices in your country or region. If you replace the module and then receive a warning message, remove the module to restore computer functionality, and then contact technical support through Help and Support.
(6)	Hard drive bay	Holds the hard drive.
(7)	Business card holder	Holds an optional business card.
(8)	Accessory battery connector	Connects an optional accessory battery.

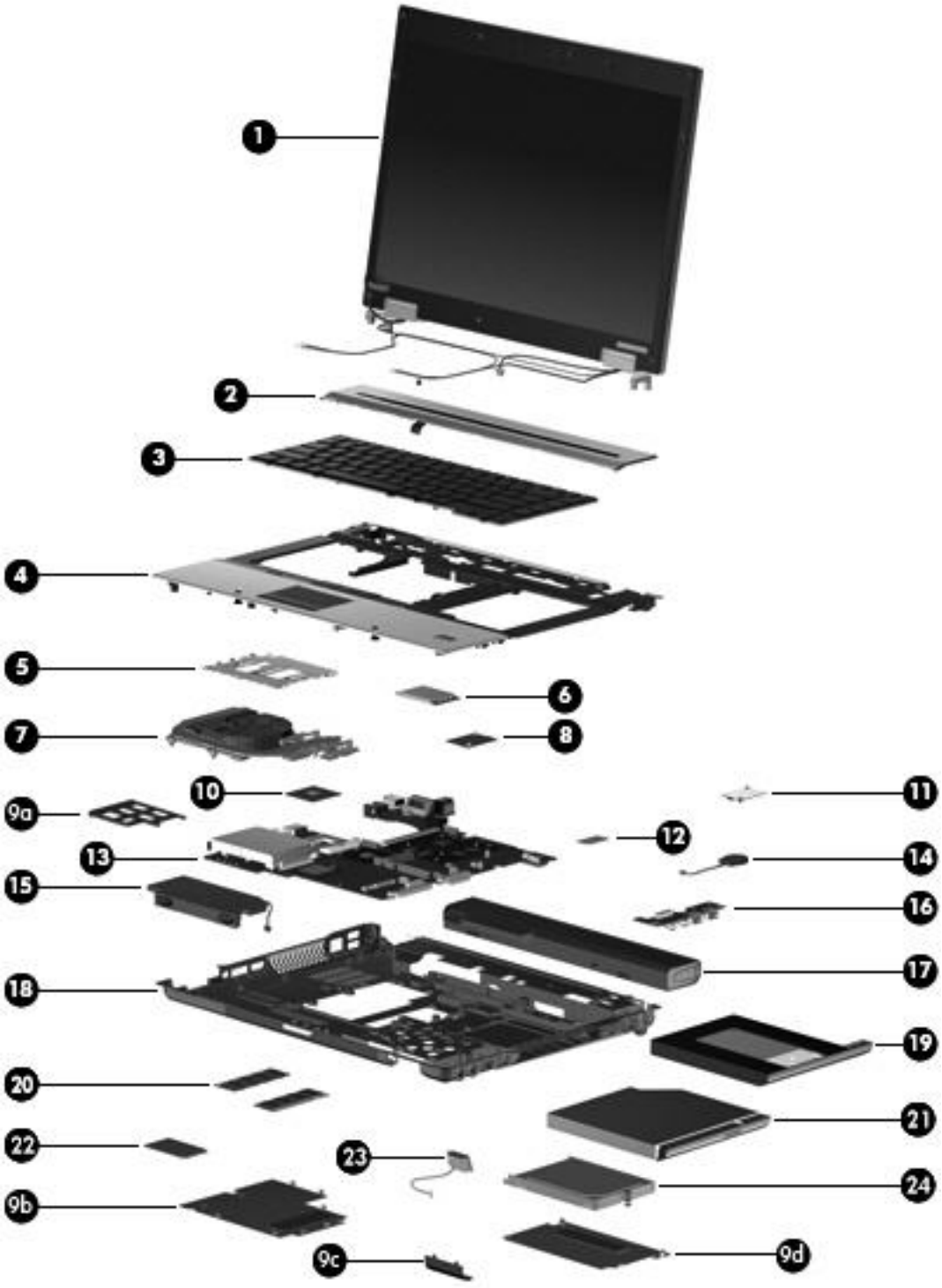
3 Illustrated parts catalog

Service tag

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

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

Computer major components



Item	Description	Spare part number
(1)	**Display assembly** for use with HP EliteBook 8530p computer models equipped with WLAN and WWAN capability (includes 3 WLAN antenna transceivers and cables and 2 WWAN antenna transceivers and cables)	

Item	Description	Spare part number
	15.4-in, WXGA	495043-001
	15.4-in, WSXGA+	495044-001
	15.4-in, WUXGA	495045-001
	Display assembly for use with HP EliteBook 8530w computer models equipped with WLAN and WWAN capability (includes 3 WLAN antenna transceivers and cables and 2 WWAN antenna transceivers and cables)	
	15.4-in, WXGA	495046-001
	15.4-in, WSXGA+	495047-001
	15.4-in, WUXGA	495048-001
	Display assembly for use with HP EliteBook 8530p computer models equipped with WLAN and WWAN capability and integrated webcam (includes 3 WLAN antenna transceivers and cables and 2 WWAN antenna transceivers and cables)	
	15.4-in, WXGA with integrated webcam	495049-001
	15.4-in, WSXGA+ with integrated webcam	495050-001
	15.4-in, WUXGA with integrated webcam	495051-001
	Display assembly for use with HP EliteBook 8530w computer models equipped with WLAN and WWAN capability and integrated webcam (includes 3 WLAN antenna transceivers and cables and 2 WWAN antenna transceivers and cables)	
	15.4-in, WXGA with integrated webcam	506809-001
	15.4-in, WSXGA+ with integrated webcam	506810-001
	15.4-in, WUXGA with integrated webcam	506811-001
	Display assembly for use with HP EliteBook 8530w computer models equipped with Intel Core2 Extreme and Quad processors, and WLAN and WWAN capability (includes 3 WLAN antenna transceivers and cables and 2 WWAN antenna transceivers and cables)	
	15.4-in, WXGA	515889-001
	15.4-in, WSXGA+	515890-001
	15.4-in, WUXGA	515891-001
	Display assembly for use with HP EliteBook 8530w computer models equipped with Intel Core2 Extreme and Quad processors, WLAN and WWAN capability, and integrated webcam (includes 3 WLAN antenna transceivers and cables and 2 WWAN antenna transceivers and cables)	
	15.4-in, WXGA with integrated webcam	515892-001
	15.4-in, WSXGA+ with integrated webcam	515893-001
	15.4-in, WUXGA with integrated webcam	515894-001
	Display internal components:	
	Display bezel for use with HP EliteBook 8530p computer models equipped with WLAN and WWAN capability	501111-001
	Display bezel for use with HP EliteBook 8530w computer models equipped with WLAN and WWAN capability	506812-001
	Display bezel for use with HP EliteBook 8530p computer models equipped with WLAN and WWAN capability	501112-001

Item	Description	Spare part number
	Display bezel for use with HP EliteBook 8530w computer models equipped with WLAN and WWAN capability and integrated webcam	506813-001
	Display hinges for use with HP EliteBook 8530p computer models	495070-001
	Display hinges for use with HP EliteBook 8530w computer models	502334-001
	Display inverter	487431-001
	Display panel enclosure	600907-001
	Display cable	600908-001
(2)	**Switch cover**	495073-001
	LED board (includes cable)	501232-001
(3)	**Keyboard with pointing stick** (includes pointing stick and pointing stick cable)	
	For use in Belgium	495042-A41
	For use in Brazil	495042-201
	For use in the Czech Republic	495042-221
	For use in Denmark	495042-081
	For use in France	495042-051
	For use in French Canada	495042-121
	For use in Germany	495042-041
	For use in Greece	495042-DJ1
	For use in Hungary	495042-211
	For use in Iceland	495042-DD1
	For use in Israel	495042-BB1
	For use in Italy	495042-061
	For use in Japan	495042-291
	For use in Latin America	495042-161
	For use in the Netherlands	495042-B31
	For use in Norway	495042-091
	For use in Portugal	495042-131
	For use in Russia	495042-251
	For use in Saudi Arabia	495042-171
	For use in Slovakia	495042-231
	For use in Slovenia	495042-BA1
	For use in South Korea	495042-AD1
	For use in Spain	495042-071
	For use in Sweden	495042-B71
	For use in Switzerland	495042-BG1

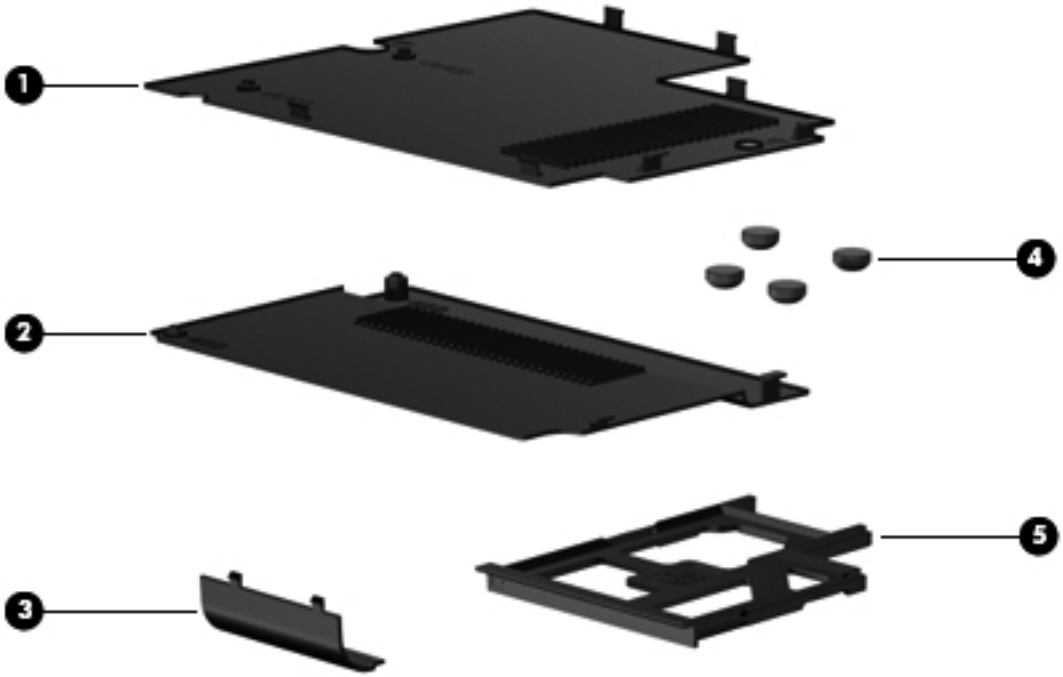
Item	Description	Spare part number
	For use in Taiwan	495042-AB1
	For use in Thailand	495042-281
	For use in Turkey	495042-141
	For use in the United Kingdom	495042-031
	For use in the United States	495042-001
(4)	**Top cover** **NOTE:** The top cover spare part kits do not include the fingerprint reader board and cable. The fingerprint reader board and cable are available using spare part number 495063-001.	
	For use with computer models with Core2 Duo or Extreme Dual-Core processors	502335-001
	For use with HP EliteBook 8530w computer models with Quad Core processors	502336-001
	For use with HP EliteBook 8530p computer models	495068-001
	Fingerprint reader board (not illustrated; includes fingerprint reader board cable)	495063-001
(5)	**TouchPad** (includes TouchPad cable)	
	With 3 TouchPad buttons and 3 pointing stick buttons for use with keyboards with pointing stick (includes TouchPad cable)	
(6)	**WLAN module**	
	Intel Wi-Fi Link 1300 802.11a/b/g/n 1x2WLAN module with iAMT 4.0 support:	
	• For use in Antigua and Barbuda, Argentina, Aruba, the Bahamas, Barbados, Bermuda, Brunei, Canada, the Cayman Islands, Chile, Colombia, Costa Rica, the Dominican Republic, Ecuador, El Salvador, Guam, Guatemala, Haiti, Honduras, Hong Kong, India, Indonesia, Malaysia, Mexico, Panama, Paraguay, Peru, Saudi Arabia, Taiwan, Uruguay, the United States, Venezuela, and Vietnam	480985-001 or 506078-001
	Intel Wi-Fi Link 5300 802.11a/b/g/n 3x3 WLAN module with iAMT 4.0 support:	
	• For use in Antigua and Barbuda, Argentina, Aruba, the Bahamas, Barbados, Bermuda, Brunei, Canada, the Cayman Islands, Chile, Colombia, Costa Rica, the Dominican Republic, Ecuador, El Salvador, Guam, Guatemala, Haiti, Honduras, Hong Kong, India, Indonesia, Malaysia, Mexico, Panama, Paraguay, Peru, Saudi Arabia, Taiwan, Uruguay, the United States, Venezuela, and Vietnam	480986-001 or 506679-001
	Intel Wi-Fi Link 5100 802.11 a/b/g 1x2 WLAN Module with iAMT 4.0 support:	
	• For use in Russia, Ukraine, and Pakistan	482957-001 or 506680-001
(7)	**Fan**	
	For use with the HP EliteBook 8530p computer models or the HP EliteBook 8530w computer models	495079-001
	For use with the Quad Core processor	495080-001
	Heat sink (includes a heat sink clip and replacement thermal material)	
	Thermal Material Kits (not illustrated)	
	For use with the Quad Core processor and nVidia graphics card	501116-001
	For use with the Quad Core processor and ATI graphics card	495074-001

Item	Description	Spare part number
	For use with the Dual-Core processor and nVidia graphics card	495075-001
	For use with the Dual-Core processor and ATI graphics card	501117-001
(8)	**Graphics card** (includes replacement thermal material)	
	ATI M86M ATI Mobility Radeon HD 3650 graphics card with 256 MB of graphics subsystem memory (supports Hypermemory)	495081-001
	ATI M86M ATI Mobility FireGL V5700 graphics card with 256 MB of graphics subsystem memory (supports Hypermemory)	502337-001
	nVidia NB9P-GLM2 graphics card with 512 MB of graphics subsystem memory (supports Quadro FX 770M)	502338-001
	Plastics Kit (see Plastics Kit on page 27 for more Plastics Kit spare part information):	495076-001
(9a)	ExpressCard slot protective insert	
(9b)	Memory module compartment cover	
(9c)	Bluetooth module cover	
(9d)	Hard drive cover	
	Base enclosure rubber screw covers (2, not illustrated)	
	Computer feet (4, not illustrated)	
(10)	**Processor**	
	Intel Core2 Extreme processors	
	QX9300, 2.53-GHz Quad Core processor (12-MB L2 cache, 1066-MHz FSB)	501107-001
	X9100, 3.06-GHz processor (6-MB L2 cache, 1066-MHz FSB)	501106-001
	Intel Core2 Quad processors	
	Q9100, 2.26-GHz processor (6-MB L2 cache, 1066-MHz FSB)	506808-001
	Q9000, 2.0-GHz processor (6-MB L2 cache, 1066-MHz FSB)	508257-001
	Intel Core2 Duo processors	
	T9900, 3.06-GHz processor (6-MB L2 cache, 1066-MHz FSB)	618809-001
	T9800, 2.93-GHz processor (6-MB L2 cache, 1066-MHz FSB)	515897-001
	T9600, 2.8-GHz processor (6-MB L2 cache, 1066-MHz FSB)	495041-001
	T9550, 2.66-GHz processor (6-MB L2 cache, 1066-MHz FSB)	515896-001
	T9400, 2.53-GHz processor (6-MB L2 cache, 1066-MHz FSB)	495040-001
	P9600, 2.66-GHz processor (3-MB L2 cache, 1066-MHz FSB)	618812-001
	P9500, 2.53-GHz processor (3-MB L2 cache, 1066-MHz FSB)	515895-001
	P8800, 2.66-GHz processor (3-MB L2 cache, 1066-MHz FSB)	618810-001
	P8700, 2.53-GHz processor (3-MB L2 cache, 1066-MHz FSB)	618811-001
	P8600, 2.4-GHz processor (3-MB L2 cache, 1066-MHz FSB)	495039-001
	P8400, 2.26-GHz processor (3-MB L2 cache, 1066-MHz FSB)	495038-001

Item	Description	Spare part number
(11)	**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 number 495064-001. See Cable Kit on page 28 for more Cable Kit spare part number information.	
	For use in all countries except for Asia Pacific and Japan	461750-001
	For use in Asia Pacific and Japan	461750-011
(12)	**SIM**	not spared
(13)	**System board**	
	For use in all countries and regions except Russia and China:	
	• For use in HP EliteBook 8530w models with Intel Core2 Quad-Core processors	500906-001
	• For use in HP EliteBook 8530w models with Intel Core2 Extreme Dual-Core processors	500905-001
	• For use in HP EliteBook 8530p and 8530w models with Intel Core2 Duo processors	500907-001
	For use only in Russia and China:	
	• For use in HP EliteBook 8530w models with Intel Core2 Extreme Dual-Core processors	510349-001
	• For use in HP EliteBook 8530w models with Intel Core2 Quad-Core processors	510350-001
	• For use in HP EliteBook 8530p and 8530w models with Intel Core2 Duo processors	510348-001
(14)	**RTC battery**	501115-001
(15)	**Speaker assembly**	495072-001
(16)	**USB/audio board** (includes USB board cable and audio board cable)	495065-001
(17)	**8-cell, 2.55-Ah (73-Wh) Li-ion battery**	
	For use in all countries and regions except for Japan	493976-001
	For use in Japan	534057-291
(18)	**Base enclosure** (includes rubber feet)	
	For use with HP EliteBook 8530w computer models with Quad Core processor	495083-001
	For use with HP EliteBook 8530p computer models	495082-001
(19)	**Optical drive** (includes bezel)	
	DVD±RW and CD-RW SuperMulti DL Combo Drive with LightScribe	495061-001
	Blu-ray Disc ROM with SuperMulti DVD+/-R/RW DL Drive	495062-001
	DVD-ROM Drive	495060-001
(20)	**Memory modules** (PC2-6400, 667-MHz, DDR2)	
	4-GB	598855-001
	2-GB	598858-001
	1-GB	598861-001
(21)	**Optical drive bracket**	502332-001

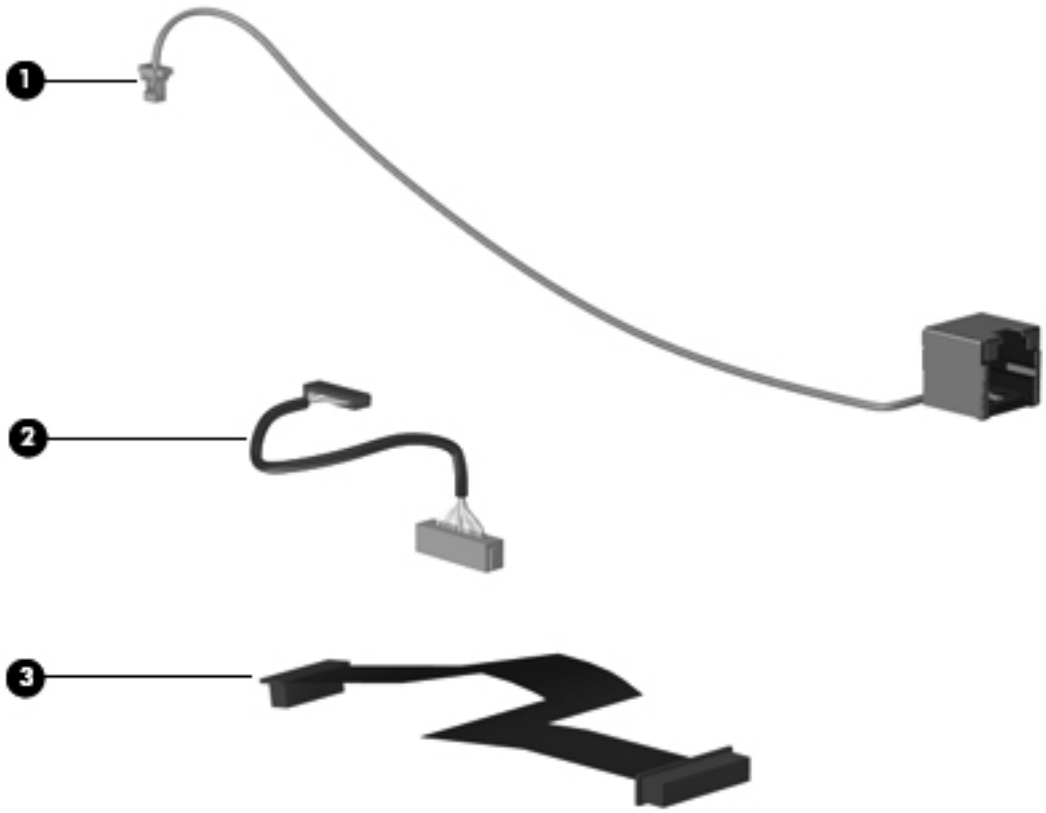
Item	Description	Spare part number
(22)	**WWAN module**	
	HP un2400 Mobile Broadband Module	483377-001
(23)	**Broadcom Bluetooth module** (does not include Bluetooth module cable) **NOTE:** The Bluetooth module spare part kit does not include a Bluetooth module cable. The Bluetooth module cable is included in the Cable Kit, spare part number 495064-001. See Cable Kit on page 28 for more Cable Kit spare part number information.	
	For use in all countries and regions	483113-001
(24)	**Hard drive** (includes hard drive bracket)	
	500-GB, 7200-rpm	634924-001
	500-GB, 5400-rpm	634632-001
	320-GB, 7200-rpm	603783-001
	250-GB, 7200-rpm	495059-001
	160-GB, 7200-rpm	483186-001
	160-GB, 7200-rpm (Seagate only)	580297-001
	160-GB, 5400-rpm	514071-001
	128-GB solid-state drive	574721-001
	HP Intel 80-GB solid-state drive	636545-001
	80-GB solid-state drive	501113-001
	Cable Kit (not illustrated; see Cable Kit on page 28 for more Cable Kit spare part number information)	495064-001
	Hard drive hardware kit (includes rails and screws)	634022-001

Plastics Kit



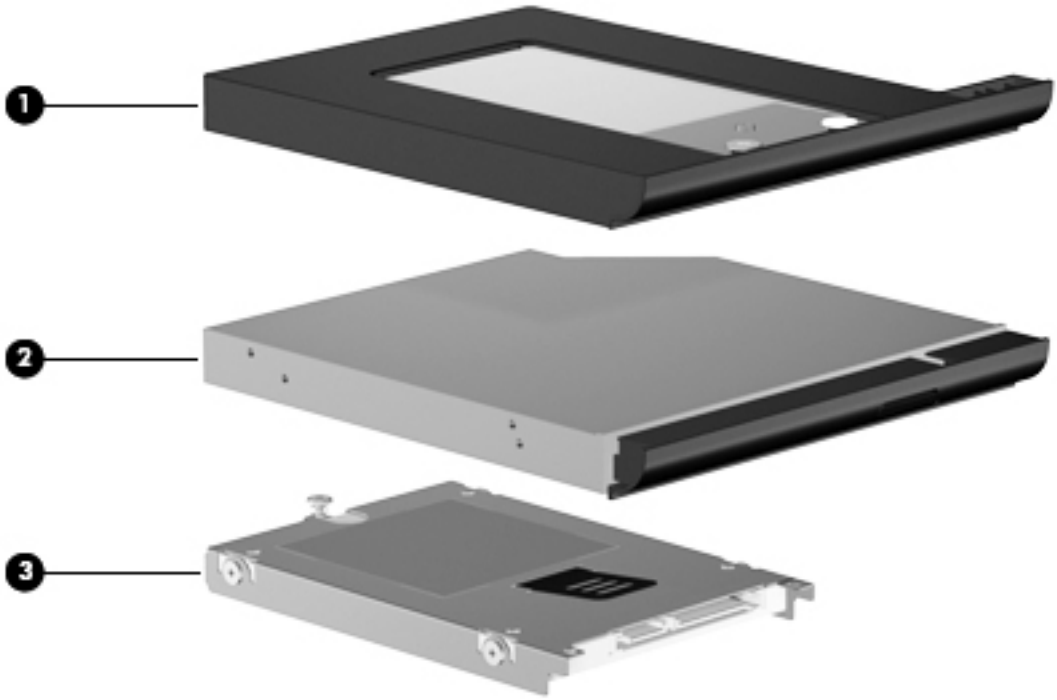
Item	Description	Spare part number
	Plastics Kit:	495076-001
(1)	Memory module compartment cover (includes one captive screw, secured by a C-clip)	
(2)	Hard drive cover (includes 2 captive screws, secured by C-clips)	
(3)	Bluetooth module cover	
(4)	Computer feet (4)	
(5)	ExpressCard slot protective insert	

Cable Kit



Item	Description	Spare part number
	Cable Kit:	495064-001
(1)	RJ-11 connector cable	
(2)	Microphone	
(3)	USB/audio cable	

Mass storage devices



Item	Description	Spare part number
(1)	**Optical drive**	
	DVD±RW and CD-RW SuperMulti DL Combo Drive with LightScribe	495061-001
	Blu-ray Disc ROM with SuperMulti DVD±R/RW DL Drive	495062-001
	DVD-ROM Drive	495060-001
(2)	**Optical drive bracket**	502332-001
(3)	**Hard drive** (includes bracket)	
	500-GB, 7200-rpm	634924-001
	500-GB, 5400-rpm	634632-001
	320-GB, 7200-rpm	603783-001
	250-GB, 7200-rpm	495059-001
	160-GB, 7200-rpm	483186-001
	160-GB, 7200-rpm (Seagate only)	580297-001
	160-GB, 5400-rpm	514071-001
	128-GB solid-state drive (SSD)	574721-001
	HP Intel 80-GB solid-state drive	636545-001
	80-GB solid-state drive	501113-001
	Hard drive hardware kit (includes rails and screws)	634022-001

Miscellaneous parts

Description	Spare part number
AC adapters	
90-W AC adapter, 3P/RC	463955-001
90-W AC adapter, RC/V EM (for use in India)	535593-001
90-W AC adapter, RC/V 3W	613153-001
90-W AC adapter, RC/V EM 3W (for use only in India)	613160-001
90-W AC adapter, RC/V 3W	620656-001
120-W AC adapter, 3P/RC	463953-001
120-W AC adapter, RC/V 3W	613154-001
150-W AC adapter, 3P/RC	463954-001
150-W AC adapter, RC/V 3W	613156-001
180-W AC adapter, 3P/RC	463952-001
External MultiBay II	366143-001
External MultiBay II power cable and stand	366144-001
HP Extended Life Battery	456946-001
MultiBay 8X DVD-ROM Drive	373314-001
MultiBay 24X DVD/CD-RW Combo Drive	373315-001
Nylon carrying case	325814-001
USB 1.1 diskette drive	359118-001
Power cords:	
For use in Australia	490371-011
For use in Brazil	490371-201
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 Japan	490371-291
For use in the People's Republic of China	490371-AA1
For use in South Africa	490371-AR1
For use in South Korea	490371-AD1
For use in Switzerland	490371-111
For use in the United Kingdom	490371-031

Description	Spare part number
For use in the United States	490371-001
Screw Kit • Phillips PM3.0x5.0 screw • Phillips PM2.5×9.0 captive screw • Phillips PM2.5×7.0 screw • Phillips PM2.5×5.0 screw • Phillips PM2.5×3.0 screw • Phillips PM2.0×11.0 captive screw • Phillips PM2.0×5.0 captive screw • Phillips PM2.0×5.0 screw • Phillips PM2.0×4.0 barrel screw • Phillips PM2.0×3.0 screw • Phillips PM2.0×3.0 broadhead screw • Torx T8M2.5x12.0 captive screw • Torx T8M2.5x8.0 screw • Torx T8M2.5×7.0 captive screw	495077-001

Sequential part number listing

Spare part number	Description
456946-001	HP Extended Life Battery
461750-001	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 number 485064-001. See Cable Kit on page 28 for more Cable Kit spare part number information.
461750-011	Modem module for use in Asia-Pacific and Japan.
463952-001	180-W AC adapter
463953-001	120-W AC adapter
463954-001	150-W AC adapter
463955-001	90-W AC adapter
480985-001	Intel Wi-Fi Link 5100 802.11a/b/g/n 1x2 WLAN module with iAMT 4.0 support for use in Antigua and Barbuda, Argentina, Aruba, the Bahamas, Barbados, Bermuda, Brunei, Canada, the Cayman Islands, Chile, Colombia, Costa Rica, the Dominican Republic, Ecuador, El Salvador, Guam, Guatemala, Haiti, Honduras, Hong Kong, India, Indonesia, Malaysia, Mexico, Panama, Paraguay, Peru, Saudi Arabia, Taiwan, Uruguay, the United States, Venezuela, and Vietnam

Spare part number	Description
480986-001	Intel Wi-Fi Link 5300 802.11a/b/g/n 3x3 WLAN module with iAMT 4.0 support for use in Antigua and Barbuda, Argentina, Aruba, the Bahamas, Barbados, Bermuda, Brunei, Canada, the Cayman Islands, Chile, Colombia, Costa Rica, the Dominican Republic, Ecuador, El Salvador, Guam, Guatemala, Haiti, Honduras, Hong Kong, India, Indonesia, Malaysia, Mexico, Panama, Paraguay, Peru, Saudi Arabia, Taiwan, Uruguay, the United States, Venezuela, and Vietnam
482957-001	Intel Wi-Fi Link 5100 802.11 a/b/g 1x2 WLAN Module with iAMT 4.0 support for use in Russia, Ukraine, and Pakistan
483113-001	Bluetooth module for use in all countries and regions
483186-001	160-GB, 7200-rpm hard drive
483377-001	HP un2400 Mobile Broadband Module
486565-001	Pointing stick
487431-001	Display inverter
490371-001	Power cord for use in North America
490371-011	Power cord for use in Australia
490371-021	Power cord for use in Europe, the Middle East, and Africa
490371-031	Power cord for use in the United Kingdom
490371-061	Power cord for use in Italy
490371-111	Power cord for use in Switzerland
490371-201	Power cord for use in Brazil
490371-291	Power cord for use in Japan
490371-AA1	Power cord for use in the People's Republic of China
490371-AD1	Power cord for use in South Korea
490371-AR1	Power cord for use in South Africa
490371-BB1	Power cord for use in Israel
493976-001	8-cell, 2.55-Ah (73-Wh) Li-ion battery for use in all countries and regions except Japan
495038-001	Intel Core2 Duo P8400, 2.26-GHz processor (3-MB L2 cache, 1066-MHz FSB)
495039-001	Intel Core2 Duo P8600, 2.4-GHz processor (3-MB L2 cache, 1066-MHz FSB)
495040-001	Intel Core2 Duo T9400, 2.53-GHz processor (6-MB L2 cache, 1066-MHz FSB)
495041-001	Intel Core2 Duo T9600, 2.8-GHz processor (6-MB L2 cache, 1066-MHz FSB)
495042-001	Keyboard with pointing stick for use in the United States (includes keyboard and pointing stick cables)
495042-031	Keyboard with pointing stick for use in the United Kingdom (includes keyboard and pointing stick cables)
495042-041	Keyboard with pointing stick for use in Germany (includes keyboard and pointing stick cables)
495042-051	Keyboard with pointing stick for use in France (includes keyboard and pointing stick cables)
495042-061	Keyboard with pointing stick for use in Italy (includes keyboard and pointing stick cables)
495042-071	Keyboard with pointing stick for use in Spain (includes keyboard and pointing stick cables)
495042-081	Keyboard with pointing stick for use in Denmark (includes keyboard and pointing stick cables)

Spare part number	Description
495042-091	Keyboard with pointing stick for use in Norway (includes keyboard and pointing stick cables)
495042-121	Keyboard with pointing stick for use in French Canada (includes keyboard and pointing stick cables)
495042-131	Keyboard with pointing stick for use in Portugal (includes keyboard and pointing stick cables)
495042-141	Keyboard with pointing stick for use in Turkey (includes keyboard and pointing stick cables)
495042-161	Keyboard with pointing stick for use in Latin America (includes keyboard and pointing stick cables)
495042-171	Keyboard with pointing stick for use in Saudi Arabia (includes keyboard and pointing stick cables)
495042-201	Keyboard with pointing stick for use in Brazil (includes keyboard and pointing stick cables)
495042-211	Keyboard with pointing stick for use in Hungary (includes keyboard and pointing stick cables)
495042-221	Keyboard with pointing stick for use in the Czech Republic (includes keyboard and pointing stick cables)
495042-231	Keyboard with pointing stick for use in Slovakia (includes keyboard and pointing stick cables)
495042-251	Keyboard with pointing stick for use in Russia (includes keyboard and pointing stick cables)
495042-281	Keyboard with pointing stick for use in Thailand (includes keyboard and pointing stick cables)
495042-291	Keyboard with pointing stick for use in Japan (includes keyboard and pointing stick cables)
495042-A41	Keyboard with pointing stick for use in Belgium (includes keyboard and pointing stick cables)
495042-AB1	Keyboard with pointing stick for use in Taiwan (includes keyboard and pointing stick cables)
495042-AD1	Keyboard with pointing stick for use in South Korea (includes keyboard and pointing stick cables)
495042-B31	Keyboard with pointing stick for use in the Netherlands and Europe (includes keyboard and pointing stick cables)
495042-B71	Keyboard with pointing stick for use in Sweden (includes keyboard and pointing stick cables)
495042-BA1	Keyboard with pointing stick for use in Slovenia (includes keyboard and pointing stick cables)
495042-BB1	Keyboard with pointing stick for use in Israel (includes keyboard and pointing stick cables)
495042-BG1	Keyboard with pointing stick for use in Switzerland (includes keyboard and pointing stick cables)
495042-DD1	Keyboard with pointing stick for use in Iceland (includes keyboard and pointing stick cables)
495042-DJ1	Keyboard with pointing stick for use in Greece (includes keyboard and pointing stick cables)
495043-001	15.4-in WXGA display assembly for use with HP EliteBook 8530p computer models equipped with WLAN and WWAN capability (includes 3 WLAN antenna transceivers and cables and 2 WWAN antenna transceivers and cables)
495044-001	15.4-in WSXGA+ display assembly for use with HP EliteBook 8530p computer models equipped with WLAN and WWAN capability (includes 3 WLAN antenna transceivers and 2 WWAN antenna transceivers and cables)
495045-001	15.4-in WUXGA display assembly for use with HP EliteBook 8530p computer models equipped with WLAN and WWAN capability (includes 3 WLAN antenna transceivers and cables and 2 WWAN antenna transceivers and cables)
495046-001	15.4-in WXGA display assembly for use with HP EliteBook 8530w computer models equipped with WLAN and WWAN capability (includes 3 WLAN antenna transceivers and cables and 2 WWAN antenna transceivers and cables)
495047-001	15.4-in WSXGA+ display assembly for use with HP EliteBook 8530w computer models equipped with WLAN and WWAN capability (includes 3 WLAN antenna transceivers and cables and 2 WWAN antenna transceivers and cables)

Spare part number	Description
495048-001	15.4-in WUXGA display assembly for use with HP EliteBook 8530w computer models equipped with WLAN and WWAN capability (includes 3 WLAN antenna transceivers and cables and 2 WWAN antenna transceivers and cables)
495049-001	15.4-in WXGA display assembly for use with HP EliteBook 8530p computer models equipped with WLAN and WWAN capability and integrated webcam (includes 3 WLAN antenna transceivers and cables and 2 WWAN antenna transceivers and cables)
495050-001	15.4-in WSXGA+ display assembly for use with HP EliteBook 8530p computer models equipped with WLAN and WWAN capability and integrated webcam (includes 3 WLAN antenna transceivers and cables and 2 WWAN antenna transceivers and cables)
495051-001	15.4-in WUXGA display assembly for use with HP EliteBook 8530p computer models equipped with WLAN and WWAN capability and integrated webcam (includes 3 WLAN antenna transceivers and cables and 2 WWAN antenna transceivers and cables)
495059-001	250-GB, 7200-rpm hard drive (includes hard drive bracket)
495060-001	DVD-ROM Drive
495061-001	DVD±RW and CD-RW SuperMulti DL Combo Drive with LightScribe
495062-001	Blu-ray Disc ROM with SuperMulti DVD±R/RW DL Drive
495063-001	Fingerprint reader board (includes fingerprint reader board cable)
495064-001	Cable Kit (see Cable Kit on page 28 for more Cable Kit spare part information)
495065-001	USB/audio board (includes USB cable and audio cable)
495068-001	Top cover for use with HP EliteBook 8530p computer models
495070-001	Display hinges for use with HP EliteBook 8530p computer models
495072-001	Speaker assembly
495073-001	Switch cover (includes LED board and cable)
495074-001	Thermal Material Kit for use with the Quad Core processor and ATI graphics card
495075-001	Thermal Material Kit for use with the Dual-Core processor and nVidia graphics card
495076-001	Plastics Kit (see Plastics Kit on page 27 for more Plastics Kit spare part information)
495077-001	Screw Kit
495078-001	Rubber Kit
495079-001	Fan for use with the HP EliteBook 8530p computer models or HP EliteBook 8530w computer models
495080-001	Fan for use with HP EliteBook 8530w computer models with the Quad Core processor
495081-001	ATI M86M ATI Mobility Radeon HD 3650 graphics card with 256 MB of graphics subsystem memory (supports Hypermemory; includes replacement thermal material)
495082-001	Base enclosure (includes rubber feet) for use with HP EliteBook 8530p computer models
495083-001	Base enclosure (includes rubber feet) for use with HP EliteBook 8530w computer models
495084-001	Wireless Antenna Kit
495085-001	ExpressCard assembly
500905-001	System board for use in HP EliteBook 8530w models with Intel Core2 Extreme Dual-Core processors
500906-001	System board for use in HP EliteBook 8530w models with Intel Core2 Quad-Core processors

Spare part number	Description
500907-001	System board for use in HP EliteBook 8530p and 8530w models with Intel Core2 Duo processors
501106-001	Intel Core2 Extreme X9100, 3.06-GHz processor (6-MB L2 cache, 1066-MHz FSB)
501107-001	Intel Core2 Extreme QX9300, 2.53-GHz processor (12-MB L2 cache, 1066-MHz FSB)
501111-001	Display bezel for use with HP EliteBook 8530p computer models equipped with WLAN and WWAN capability
501112-001	Display bezel for use with HP EliteBook 8530p computer models equipped with WLAN and WWAN capability and integrated webcam
501113-001	80-GB solid-state drive (SSD)
501115-001	RTC battery
501116-001	Thermal Material Kit for use with the Quad Core processor and nVidia graphics card
501117-001	Thermal Material Kit for use with the Dual-Core processor and ATI graphics card
501232-001	LED board (includes cable)
502332-001	Optical drive bracket
502334-001	Display hinges for use with HP EliteBook 8530w computer models
502335-001	Top cover for use with computer models with Core2 Duo or Extreme Dual-Core processors
502336-001	Top cover for use with HP EliteBook 8530w computer models with Quad Core processors
502337-001	ATI M86M ATI Mobility FireGL V5700 graphics card with 256 MB of graphics subsystem memory (supports Hypermemory; includes replacement thermal material)
502338-001	nVidia NB9P-GLM2 graphics card with 512 MB of graphics subsystem memory (supports Quadro FX 770M; includes replacement thermal material)
506678-001	Intel Wi-Fi Link 5100 802.11a/b/g/n 1x2 WLAN module with iAMT 4.0 support for use in Antigua and Barbuda, Argentina, Aruba, the Bahamas, Barbados, Bermuda, Brunei, Canada, the Cayman Islands, Chile, Colombia, Costa Rica, the Dominican Republic, Ecuador, El Salvador, Guam, Guatemala, Haiti, Honduras, Hong Kong, India, Indonesia, Malaysia, Mexico, Panama, Paraguay, Peru, Saudi Arabia, Taiwan, Uruguay, the United States, Venezuela, and Vietnam
506679-001	Intel Wi-Fi Link 5300 802.11a/b/g/n 3x3 WLAN module with iAMT 4.0 support for use in Antigua and Barbuda, Argentina, Aruba, the Bahamas, Barbados, Bermuda, Brunei, Canada, the Cayman Islands, Chile, Colombia, Costa Rica, the Dominican Republic, Ecuador, El Salvador, Guam, Guatemala, Haiti, Honduras, Hong Kong, India, Indonesia, Malaysia, Mexico, Panama, Paraguay, Peru, Saudi Arabia, Taiwan, Uruguay, the United States, Venezuela, and Vietnam
506680-001	Intel Wi-Fi Link 5100 802.11 a/b/g 1x2 WLAN Module with iAMT 4.0 support for use in for use in Russia, Ukraine, and Pakistan
506807-001	TouchPad with 3 TouchPad buttons and 3 pointing stick buttons (for use with keyboards with pointing stick; includes TouchPad cable)
506808-001	Intel Core2 Quad Q9100, 2.26-GHz processor (6-MB L2 cache, 1066-MHz FSB)
506809-001	15.4-in WXGA display assembly for use with HP EliteBook 8530w computer models equipped with WLAN and WWAN capability and integrated webcam (includes 3 WLAN antenna transceivers and cables and 2 WWAN antenna transceivers and cables)
506810-001	15.4-in WSXGA+ display assembly for use with HP EliteBook 8530w computer models equipped with WLAN and WWAN capability and integrated webcam (includes 3 WLAN antenna transceivers and cables and 2 WWAN antenna transceivers and cables)

Spare part number	Description
506811-001	15.4-in WUXGA display assembly for use with HP EliteBook 8530w computer models equipped with WLAN and WWAN capability and integrated webcam (includes 3 WLAN antenna transceivers and cables and 2 WWAN antenna transceivers and cables)
506812-001	Display bezel for use with HP EliteBook 8530w computer models equipped with WLAN and WWAN capability
506813-001	Display bezel for use with HP EliteBook 8530w computer models equipped with integrated webcam and WLAN and WWAN capability
508257-001	Intel Core2 Quad Q9000, 2.00-GHz processor (6-MB L2 cache, 1066-MHz FSB)
510348-001	System board for use in HP EliteBook 8530p and 8530w models with Intel Core2 Duo processors only in Russia and China
510349-001	System board for use in HP EliteBook 8530w models with Intel Core2 Extreme Dual-Core processors only in Russia and China
510350-001	System board for use in HP EliteBook 8530w models with Intel Core2 Quad-Core processors only in Russia and China
514071-001	160-GB, 5400-rpm hard drive
515889-001	15.4-in WXGA display assembly for use with HP EliteBook 8530w computer models equipped with Intel Core2 Extreme and Quad processors, and WLAN and WWAN capability (includes 3 WLAN antenna transceivers and cables and 2 WWAN antenna transceivers and cables)
515890-001	15.4-in WSXGA+ display assembly for use with HP EliteBook 8530w computer models equipped with Intel Core2 Extreme and Quad processors, and WLAN and WWAN capability (includes 3 WLAN antenna transceivers and cables and 2 WWAN antenna transceivers and cables)
515891-001	15.4-in WUXGA display assembly for use with HP EliteBook 8530w computer models equipped with Intel Core2 Extreme and Quad processors, and WLAN and WWAN capability (includes 3 WLAN antenna transceivers and cables and 2 WWAN antenna transceivers and cables)
515892-001	15.4-in WXGA display assembly for use with HP EliteBook 8530w computer models equipped with Intel Core2 Extreme and Quad processors, WLAN and WWAN capability, and integrated webcam (includes 3 WLAN antenna transceivers and cables and 2 WWAN antenna transceivers and cables)
515893-001	15.4-in WSXGA+ display assembly for use with HP EliteBook 8530w computer models equipped with Intel Core2 Extreme and Quad processors, WLAN and WWAN capability, and integrated webcam (includes 3 WLAN antenna transceivers and cables and 2 WWAN antenna transceivers and cables)
515894-001	15.4-in WUXGA display assembly for use with HP EliteBook 8530w computer models equipped with Intel Core2 Extreme and Quad processors, WLAN and WWAN capability, and integrated webcam (includes 3 WLAN antenna transceivers and cables and 2 WWAN antenna transceivers and cables)
515895-001	Intel Core2 Duo P9500, 2.53-GHz processor (3-MB L2 cache, 1066-MHz FSB)
515896-001	Intel Core2 Duo T9550, 2.66-GHz processor (6-MB L2 cache, 1066-MHz FSB)
515897-001	Intel Core2 Duo T9800, 2.93-GHz processor (6-MB L2 cache, 1066-MHz FSB)
534057-291	8-cell, 2.55-Ah (73-Wh) Li-ion battery for use in Japan
535593-001	90-W AC adapter, RC/V EM (for use in India)
574721-001	128-GB solid-state drive (SSD)
580297-001	160-GB, 7200-rpm hard drive (Seagate only)
598855-001	4-GB memory module (PC2-6400, 800-MHz, DDR2)
598858-001	2-GB memory module (PC2-6400, 800-MHz, DDR2)

Spare part number	Description
598861-001	1-GB memory module (PC2-6400, 800-MHz, DDR2)
600907-001	Display panel enclosure
600908-001	Display cable
603783-001	320-GB, 7200-rpm hard drive (includes hard drive bracket)
613153-001	90-W AC adapter, RC/V 3W
613154-001	120-W AC adapter, RC/V 3W
613156-001	150-W AC adapter, RC/V 3W
613160-001	90-W AC adapter, RC/V EM 3W for use only in India
618809-001	Intel Core2 Duo T9900, 3.06-GHz processor (6-MB L2 cache, 1066-MHz FSB)
618810-001	Intel Core2 Duo P8800, 2.66-GHz processor (3-MB L2 cache, 1066-MHz FSB)
618811-001	Intel Core2 Duo P8700, 2.53-GHz processor (3-MB L2 cache, 1066-MHz FSB)
618812-001	Intel Core2 Duo P9600, 2.66-GHz processor (3-MB L2 cache, 1066-MHz FSB)
620656-001	90-W AC adapter, RC/V 3W
634022-001	Hard drive hardware kit (includes rails and screws)
634632-001	500-GB, 5400-rpm hard drive
634924-001	500-GB, 7200-rpm hard drive
636545-001	HP Intel 80-GB solid-state drive

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 and P1 screwdrivers
- 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 computer, place the subassembly (and all accompanying screws) away from the work area to prevent damage.

Plastic parts

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

Cables and connectors

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

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

Drive handling

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

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

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

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

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

Avoid dropping drives from any height onto any surface.

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

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

Avoid exposing a drive to temperature extremes or liquids.

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

Grounding guidelines

Electrostatic discharge damage

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

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

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

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

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

Use nonmagnetic tools.

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

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

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

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

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

Typical electrostatic voltage levels

	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 97 screws and screw locks, in 17 different sizes, that must be removed, replaced, or loosened when servicing the computer. Make special note of each screw and screw lock size and location during removal and replacement.

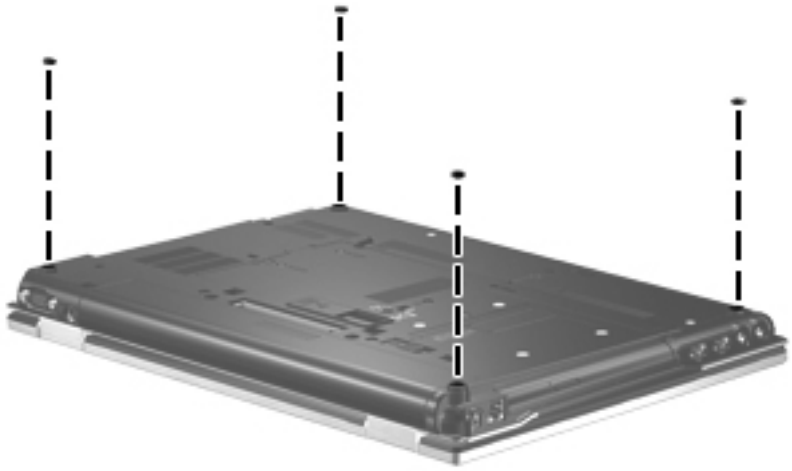
Service tag

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

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

Computer feet

The computer feet are adhesive-backed rubber pads. The feet are included in the Plastics Kit, spare part number 495076-001. There are 4 rubber feet that attach to the base enclosure in the locations illustrated below.



Battery

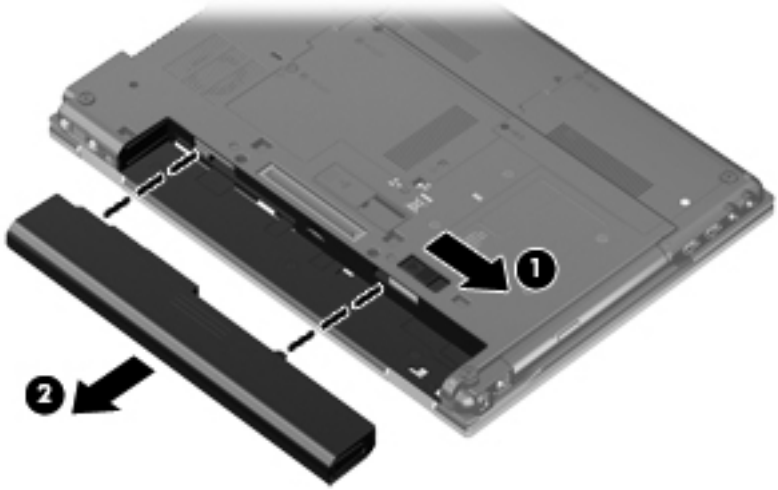
Description	Spare part number
8-cell, 2.55-Ah (73-Wh) Li-ion battery for use in all countries and regions except Japan	493976-001
8-cell, 2.55-Ah (73-Wh) Li-ion battery for use in Japan	534057-291

Before disassembling the computer, follow these steps:

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

Remove the battery:

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



Install the battery by inserting it into the battery bay until you hear a click.

SIM

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

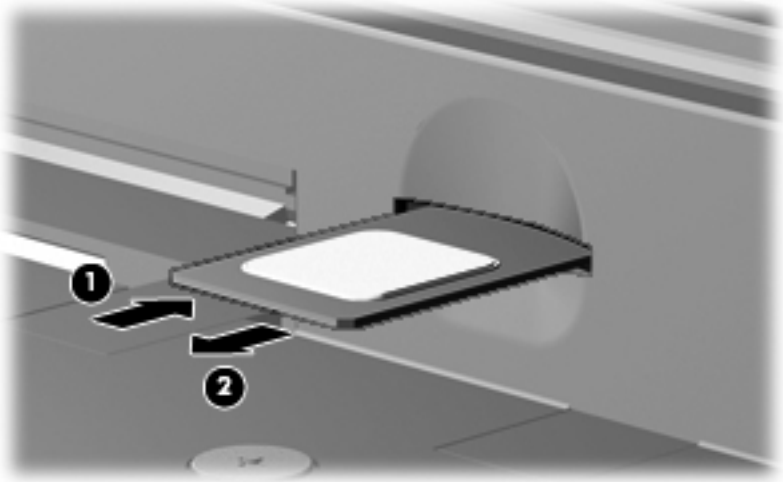
NOTE: If there is a SIM inserted in the SIM slot, it must be removed before disassembling the computer. Be sure that the SIM is reinserted in the SIM slot after reassembling the computer.

Before removing the SIM, follow these steps:

1. Shut down the computer. If you are unsure whether the computer is off or in Hibernation, turn the computer on, and then shut it down through the operating system.
2. Disconnect all external devices connected to the computer.
3. Disconnect the power from the computer by first unplugging the power cord from the AC outlet and then unplugging the AC adapter from the computer.
4. Remove the battery (see Battery on page 45).

Remove the SIM:

1. Press in on the SIM **(1)**. (The module is partially ejected from the SIM slot.)
2. Remove the SIM **(2)** from the SIM slot.



Reverse this procedure to install the SIM.

Optical drive

NOTE: All optical drive spare part kits include an optical drive bezel.

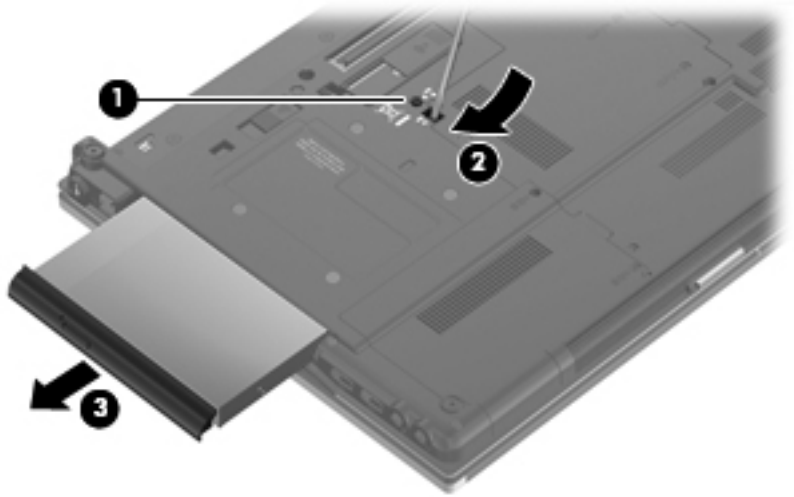
Description	Spare part number
DVD±RW and CD-RW SuperMulti DL Combo Drive with LightScribe	495061-001
Blu-ray Disc ROM with SuperMulti DVD±R/RW DL Drive	495062-001
DVD-ROM Drive	495060-001
Optical drive bracket	502332-001

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 45).

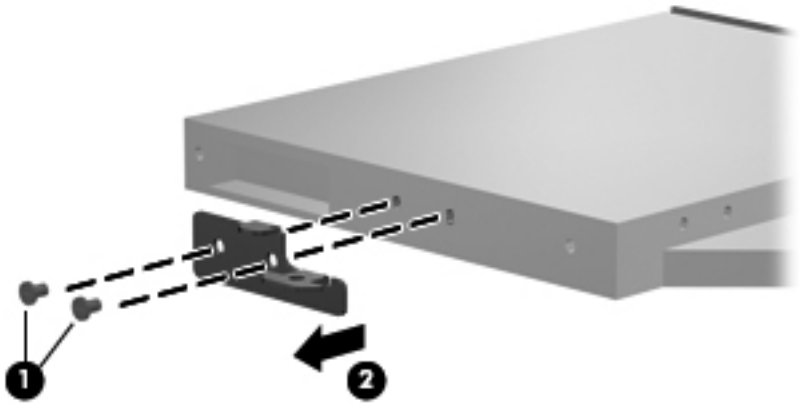
Remove the optical drive:

1. Position the computer with the right side toward you.
2. Remove the Phillips PM2.5×12.0 captive screw **(1)** that secures the optical drive to the computer.
3. Push the optical drive tab **(2)** to release the optical drive from the computer.
4. Remove the optical drive **(3)** from the computer.



5. If it is necessary to replace the optical drive bracket, position the optical drive with the rear toward you.

6. Remove the two Phillips PM2.0×3.0 screws **(1)** that secure the optical drive bracket to the optical drive.
7. Remove the optical drive bracket **(2)**.



Reverse this procedure to install an optical drive.

Display inverter

NOTE: If it has been determined that the display inverter is the component that must be replaced to complete the computer repair, the display assembly does not have to be removed. Follow the procedures in this section to replace the display inverter. For information on replacing the display assembly and the display hinges, see Display assembly on page 69.

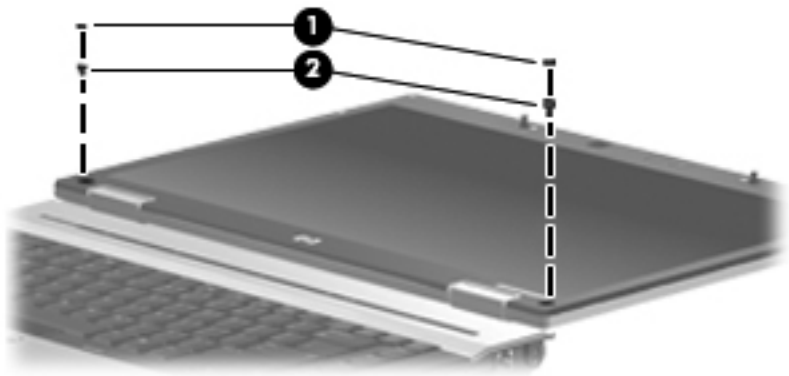
Description	Spare part number
Display inverter (includes 2-sided tape)	487431-001

Before removing the display inverter, 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 45).

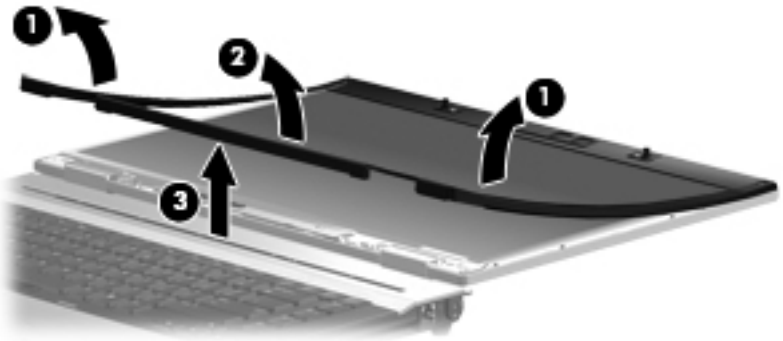
Remove the display inverter:

1. Turn the computer right-side up, with the front toward you.
2. Open the computer as far as possible.
3. Remove the two rubber screw covers **(1)** on the bottom edge of the display bezel.
4. Remove the two Phillips PM2.5×7.0 screws **(2)** that secure the display bezel bottom edge to the display assembly.

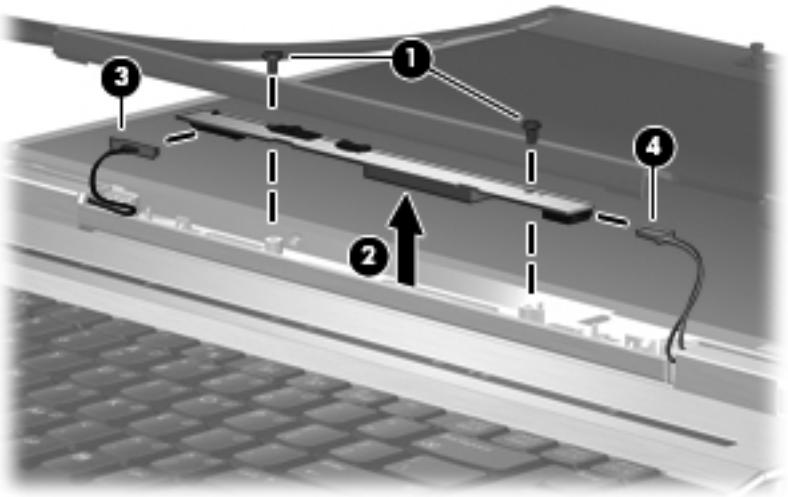


5. Flex the inside edges of the left and right sides **(1)** and the display bezel bottom edge **(2)** until the bezel disengages from the display assembly.

6. Release the display bezel bottom edge **(3)** from the display assembly.



7. Remove the two Phillips PM2.5×5.0 screws **(1)** that secure the display inverter to the display enclosure.
8. Release the inverter **(2)** from the display enclosure as far as the display panel cable and backlight cable allow.
9. Disconnect the backlight cable **(3)** and the display panel cable **(4)** from the display inverter.



10. Remove the display inverter.

Reverse this procedure to install the display inverter.

Hard drive

NOTE: All hard drive spare part kits include a hard drive bracket.

Description	Spare part number
500-GB, 7200-rpm hard drive	634924-001
500-GB, 5400-rpm hard drive	634632-001
320-GB, 7200-rpm hard drive	603783-001
250-GB, 7200-rpm hard drive	495059-001
160-GB, 7200-rpm hard drive	483186-001
160-GB, 7200-rpm hard drive (Seagate only)	580297-001
160-GB, 5400-rpm hard drive	514071-001
128-GB solid-state drive (SSD)	574721-001
HP Intel 80-GB solid-state drive	636545-001
80-GB solid-state drive	501113-001
Hard drive hardware kit (includes rails and screws)	634022-001

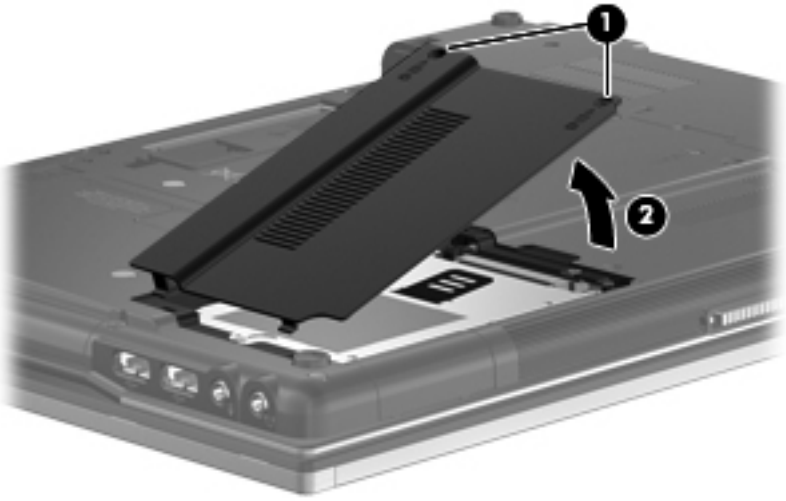
Before disassembling the computer, follow these steps:

1. Shut down the computer. If you are unsure whether the computer is off or in Hibernation, turn the computer on, and then shut it down through the operating system.
2. Disconnect all external devices connected to the computer.
3. Disconnect the power from the computer by first unplugging the power cord from the AC outlet and then unplugging the AC adapter from the computer.
4. Remove the battery (see Battery on page 45).

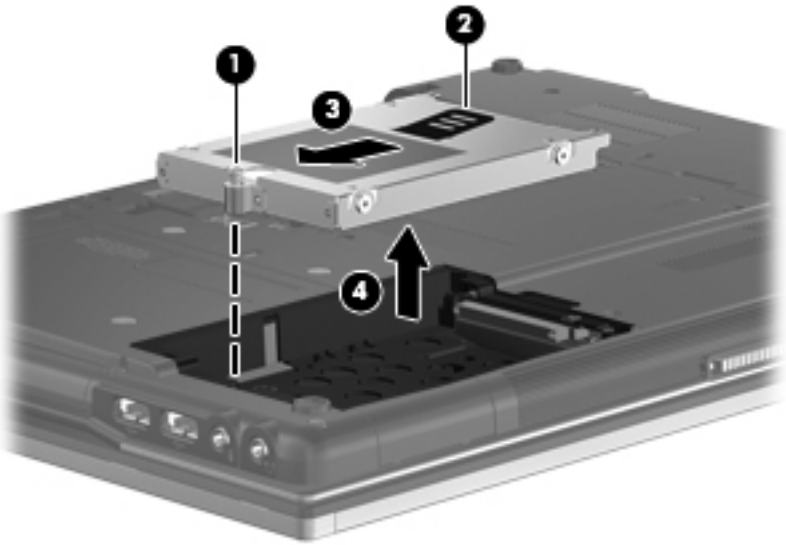
Remove the hard drive:

1. Position the computer with the front toward you.
2. Loosen the two Phillips PM2.0×5.0 captive screws **(1)** that secure the hard drive cover to the computer.

3. Lift the right side of the hard drive cover **(2)**, swing it to left, and remove the cover. The hard drive cover is included in the Plastics Kit, spare part number 495076-001

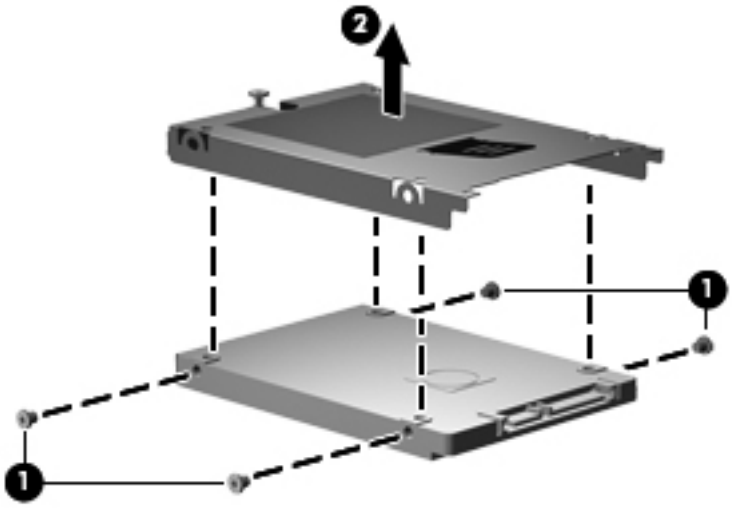


4. Loosen the Phillips PM2.5×11.0 captive screw **(1)** that secures the hard drive to the computer.
5. Grasp the Mylar tab **(2)** on the hard drive and slide the hard drive **(3)** to the left to disconnect it from the system board.
6. Remove the hard drive **(4)** from the hard drive bay.



7. If it is necessary to replace the hard drive bracket, remove the four Phillips PM3.0×5.0 hard drive bracket screws **(1)** from each side of the hard drive.

8. Lift the bracket **(2)** straight up to remove it from the hard drive.



Reverse this procedure to reassemble and install the hard drive.

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 number 495064-001. See Cable Kit on page 28 for more Cable Kit spare part number information.

Description	Spare part number
Bluetooth module for use in all countries and regions	483113-001

Before removing the Bluetooth module, follow these steps:

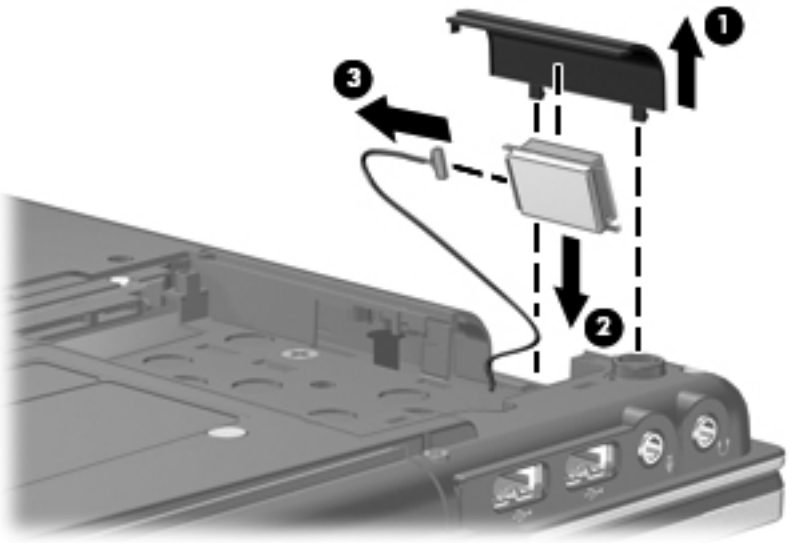
1. Shut down the computer. If you are unsure whether the computer is off or in Hibernation, turn the computer on, and then shut it down through the operating system.
2. Disconnect all external devices connected to the computer.
3. Disconnect the power from the computer by first unplugging the power cord from the AC outlet and then unplugging the AC adapter from the computer.
4. Remove the battery (see Battery on page 45).
5. Remove the hard drive (see Hard drive on page 51).

Remove the Bluetooth module:

1. Position the computer upside-down with the rear toward you.
2. Remove the Bluetooth cover by lifting it straight up **(1)** and off the computer as far as the cable connected to the module will allow.

NOTE: The Bluetooth module is housed in the cover.

3. Remove the Bluetooth module from the clip in the cover by sliding it straight down and out of the cover **(2)**.
4. Disconnect the Bluetooth module cable **(3)** from the Bluetooth module.



Reverse this procedure to reassemble and install the Bluetooth module.

RTC battery

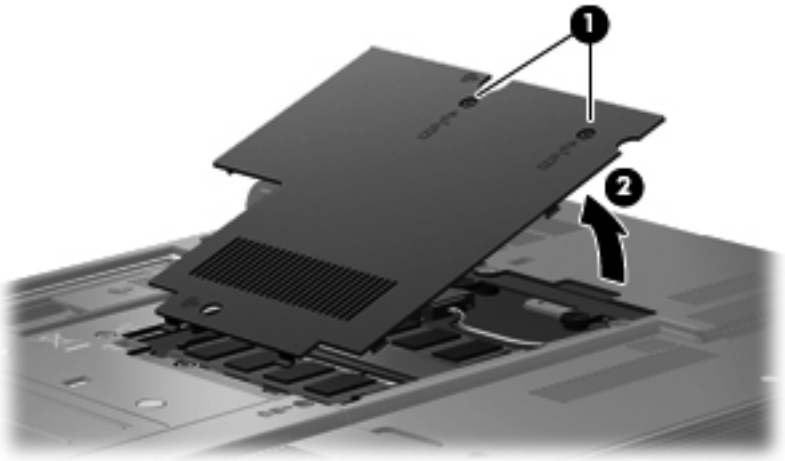
Description	Spare part number
RTC battery	501115-001

Before removing the 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 45).

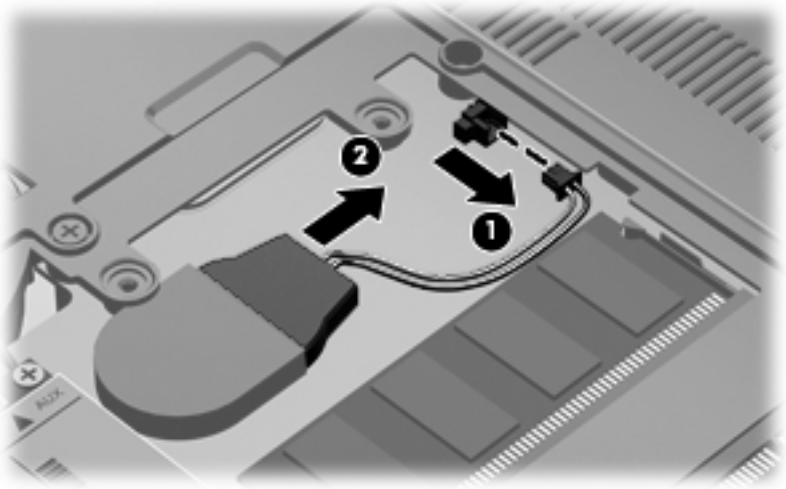
Remove the RTC battery:

1. Position the computer upside-down with the front toward you.
2. Loosen the two Phillips PM2.0×5.0 captive screws **(1)** that secure the memory module compartment cover to the computer.
3. Lift the right side of the cover **(2)**, swing it up and to the left, and remove the cover. The memory module compartment cover is included in the Plastics Kit, spare part number 495076-001.



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

5. Slide the RTC battery **(2)** out of the rubber pouch on the bottom of the system board.



Reverse this procedure to install the RTC battery.

Memory modules

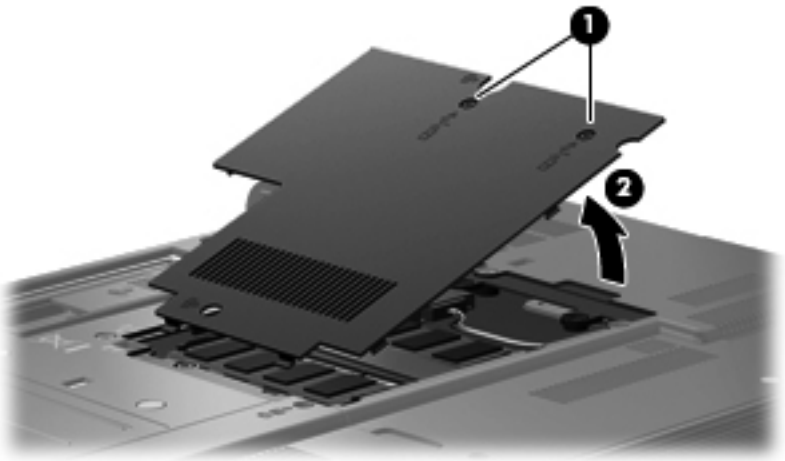
Description	Spare part number
1-GB (PC2-6400, 800-MHz, DDR2)	598861-001
2-GB (PC2-6400, 800-MHz, DDR2)	598858-001
4-GB (PC2-6400, 800-MHz, DDR2)	598855-001

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 45).

Remove the expansion memory module:

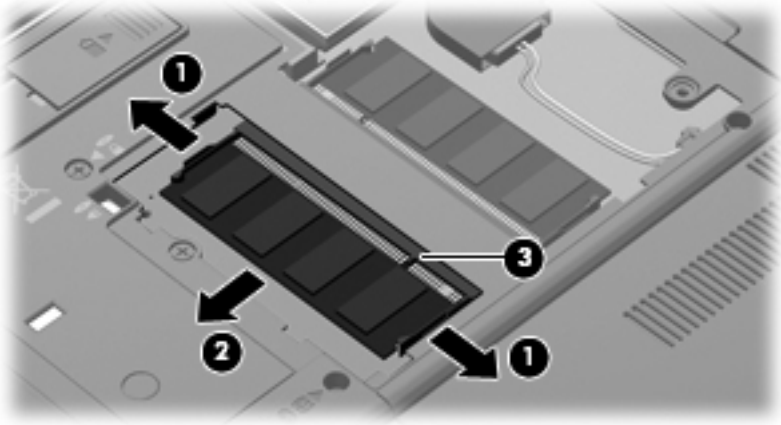
1. Position the computer upside-down with the front toward you.
2. Loosen the two Phillips PM2.0×5.0 captive screws **(1)** that secure the memory module compartment cover to the computer.
3. Lift the right side of the cover **(2)**, swing it up and to the left, and remove the cover. The memory module compartment cover is included in the Plastics Kit, spare part number 495076-001.



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

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

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

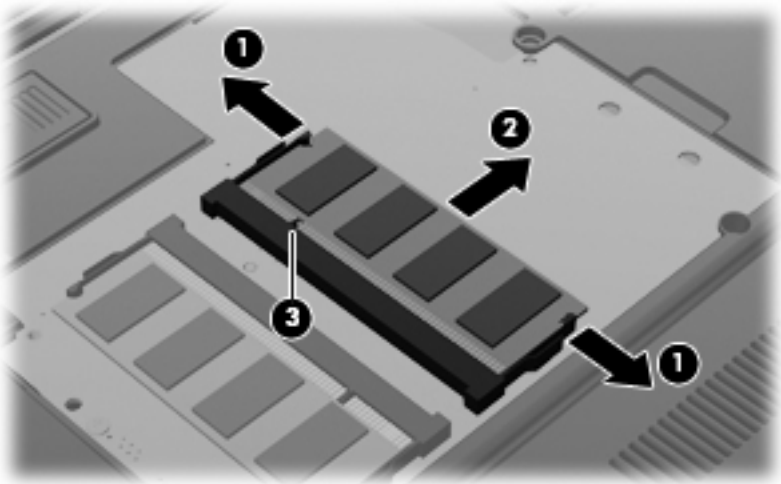


Reverse this procedure to install an expansion memory module.

Remove the primary memory module:

1. Spread the retaining tabs **(1)** on each side of the primary memory module slot to release the memory module. (The edge of the module opposite the slot rises away from the computer.)
2. Remove the primary memory module **(2)** by pulling the module away from the slot at an angle.

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



Reverse this procedure to install a primary memory module.

WWAN module

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

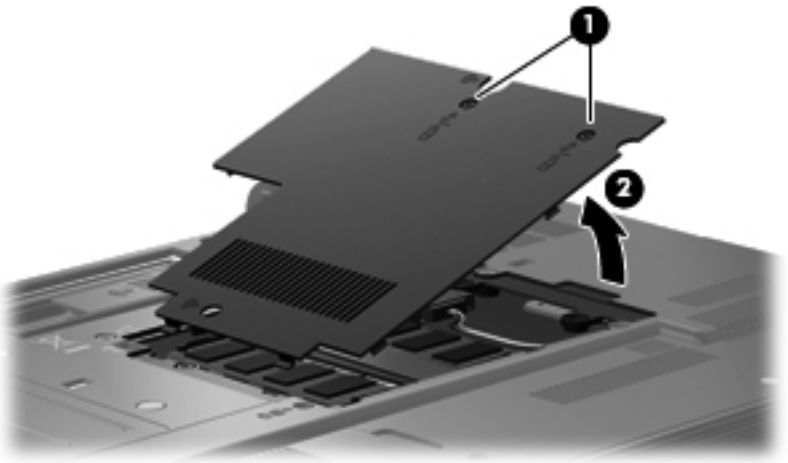
Description	Spare part number
HP un2400 Mobile Broadband Module	483377-001

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 45).
5. Remove the SIM (see SIM on page 46).

Remove the WWAN module:

1. Loosen the two Phillips PM2.0×5.0 captive screws **(1)** that secure the memory module compartment cover to the computer.
2. Lift the right side of the cover **(2)**, swing it up and to the left, and remove the cover. The memory module compartment cover is included in the Plastics Kit, spare part number 495076-001.



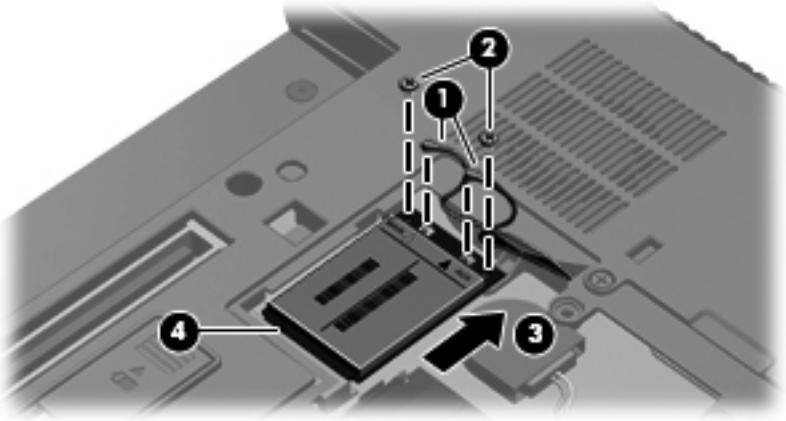
3. Disconnect the WWAN antenna cables **(1)** from the terminals on the WWAN module.

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.

4. Remove the two Phillips PM2.5×3.0 screws **(2)** that secure the WWAN module to the computer. (The edge of the module opposite the slot rises away from the computer.)

5. 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.



Reverse this procedure to install the WWAN module.

Keyboard

For use in:	Spare part number	For use in:	Spare part number
Keyboards with pointing stick (includes pointing stick cable):			
Belgium	495042-A41	The Netherlands and Europe	495042-B31
Brazil	495042-201	Norway	495042-091
The Czech Republic	495042-221	Portugal	495042-131
Denmark	495042-081	Russia	495042-251
France	495042-051	Saudi Arabia	495042-171
French Canada	495042-121	Slovakia	495042-231
Germany	495042-041	Slovenia	495042-BA1
Greece	495042-DJ1	Spain	495042-071
Hungary	495042-211	Sweden and Finland	495042-B71
Iceland	495042-DD1	Switzerland	495042-BG1
Israel	495042-BB1	Taiwan	495042-AB1
Italy	495042-061	Thailand	495042-281
Japan	495042-291	Turkey	495042-141
South Korea	495042-AD1	The United Kingdom	495042-031
Latin America	495042-161	The United States	495042-001

Before removing the keyboard, follow these steps:

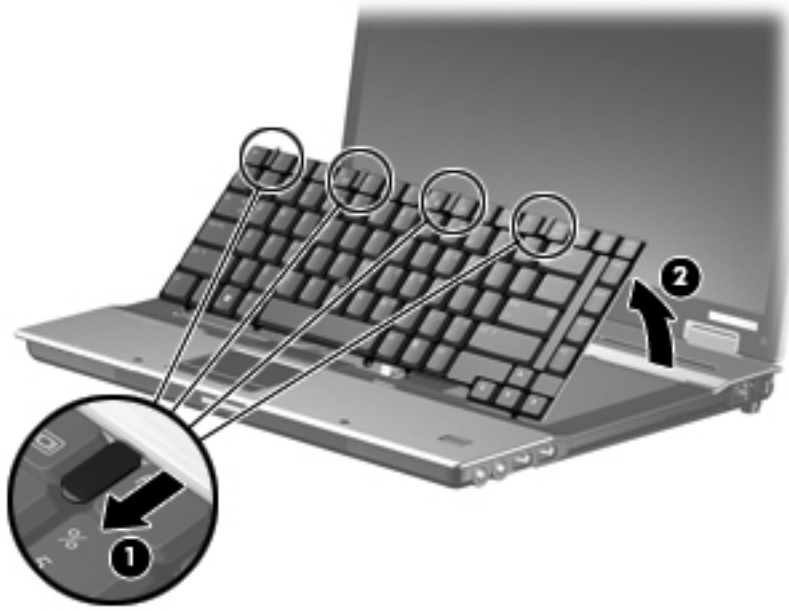
1. Shut down the computer. If you are unsure whether the computer is off or in Hibernation, turn the computer on, and then shut it down through the operating system.
2. Disconnect all external devices connected to the computer.
3. Disconnect the power from the computer by first unplugging the power cord from the AC outlet and then unplugging the AC adapter from the computer.
4. Remove the battery (see Battery on page 45).

Remove the keyboard:

1. Turn the computer upside-down, with the rear toward you.

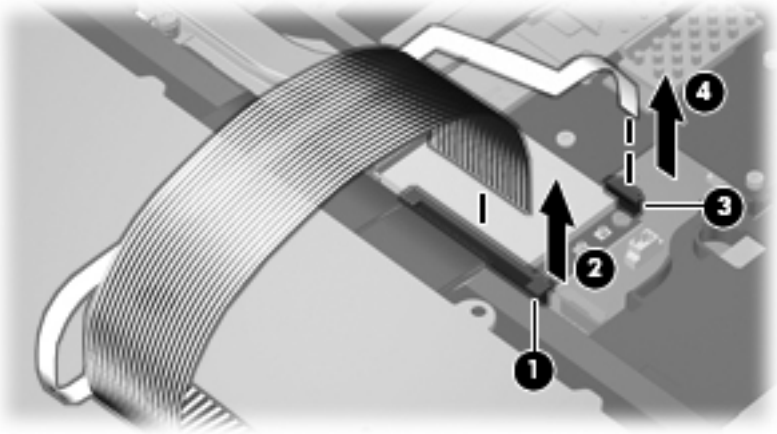
2. Loosen the two Phillips PM2.5×9.0 captive screws that secure the keyboard to the computer.

3. Turn the computer right-side up, with the front toward you.
4. Open the computer as far as possible.
5. Slide the four keyboard retention tabs **(1)** toward you. The tabs are located between the esc and f1 keys, between the f4 and f5 keys, between the f8 and f9 keys, and between the f12 and scroll keys.
6. Lift the rear edge of the keyboard **(2)**, and then rotate the keyboard forward until it rests upside-down on top of the TouchPad.



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

8. Release the ZIF connector **(3)** to which the pointing stick cable is attached, and disconnect the pointing stick cable **(4)** from the system board.



9. Remove the keyboard.

Reverse this procedure to install the keyboard.

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 number 495064-001. See Cable Kit on page 28 for more Cable Kit spare part number information.

Description	Spare part number
Modem module	461750-001
Modem module for use in Asia Pacific and Japan	461750-011

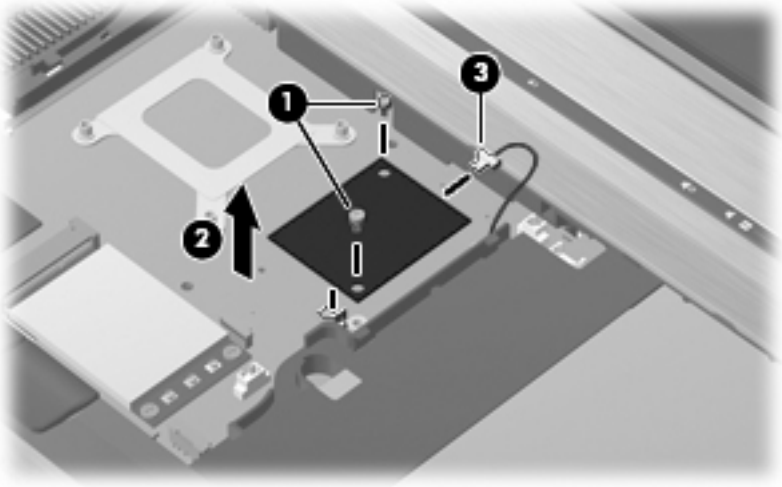
Before removing the modem module, follow these steps:

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 45).
5. Remove the following components:
   a. Hard drive (see Hard drive on page 51)
   b. Optical drive (see Optical drive on page 47)
   c. Keyboard (see Keyboard on page 61)

Remove the modem module:

1. Turn the computer right-side up, with the front toward you.
2. Remove the Phillips PM2.0×4.0 barrel screws **(1)** that secure the modem module to the system board.
3. Disconnect the modem module **(2)** from the system board by lifting it straight up.

4. Disconnect the modem module cable **(3)** from the modem module.



Reverse this procedure to install the modem module.

WLAN module

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

Description	Spare part number
Intel Wi-Fi Link 5100 802.11a/b/g/n 1x2 WLAN module with iAMT 4.0 support:	
• For use in Antigua and Barbuda, Argentina, Aruba, the Bahamas, Barbados, Bermuda, Brunei, Canada, the Cayman Islands, Chile, Colombia, Costa Rica, the Dominican Republic, Ecuador, El Salvador, Guam, Guatemala, Haiti, Honduras, Hong Kong, India, Indonesia, Malaysia, Mexico, Panama, Paraguay, Peru, Saudi Arabia, Taiwan, Uruguay, the United States, Venezuela, and Vietnam	480985-001 or 506678-001
Intel Wi-Fi Link 5300 802.11a/b/g/n 3x3 WLAN module with iAMT 4.0 support:	
• For use in Antigua and Barbuda, Argentina, Aruba, the Bahamas, Barbados, Bermuda, Brunei, Canada, the Cayman Islands, Chile, Colombia, Costa Rica, the Dominican Republic, Ecuador, El Salvador, Guam, Guatemala, Haiti, Honduras, Hong Kong, India, Indonesia, Malaysia, Mexico, Panama, Paraguay, Peru, Saudi Arabia, Taiwan, Uruguay, the United States, Venezuela, and Vietnam	480986-001 or 506679-001
Intel Wi-Fi Link 5100 802.11 a/b/g 1x2 WLAN Module with iAMT 4.0 support:	
• For use in Russia, Ukraine, and Pakistan	482957-001 or 506680-001

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 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 45).
5. Remove the keyboard (see Keyboard on page 61).

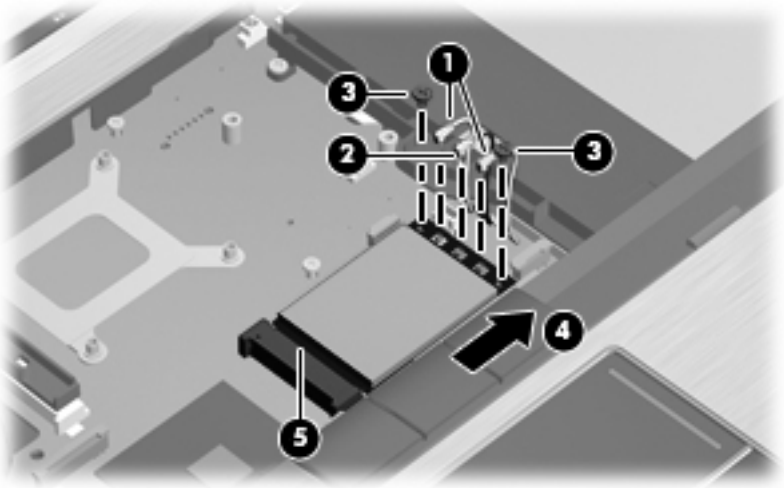
Remove the WLAN module:

1. Turn the computer right-side up, with the front toward you.
2. 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/b/g/n WLAN module, the yellow WLAN antenna cable **(2)** is connected to the middle terminal on the WLAN module.

3. Remove the two Phillips PM2.0×4.0 barrel screws **(3)** that secure the WLAN module to the computer. (The edge of the module opposite the slot rises away from the computer.)
4. Remove the WLAN module **(4)** by pulling the module away from the slot at an angle.

NOTE: WLAN modules are designed with a notch **(5)** to prevent incorrect insertion.



Reverse this procedure to install the WLAN module.

Switch cover

Description	Spare part number
Switch cover (includes LED board and cable)	495073-001

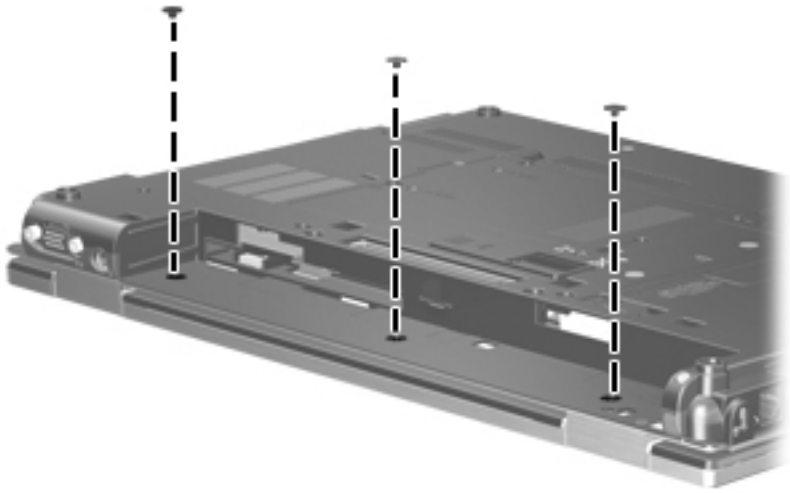
Before removing the switch cover, follow these steps:

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.

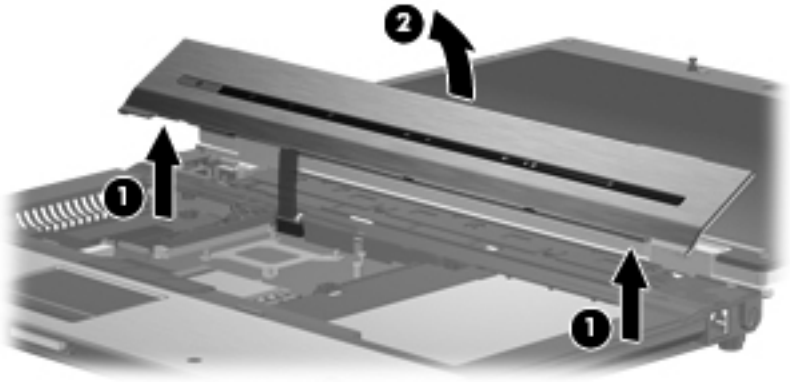
4. Remove the battery (see Battery on page 45).
5. Remove the keyboard (see Keyboard on page 61).

Remove the switch cover:

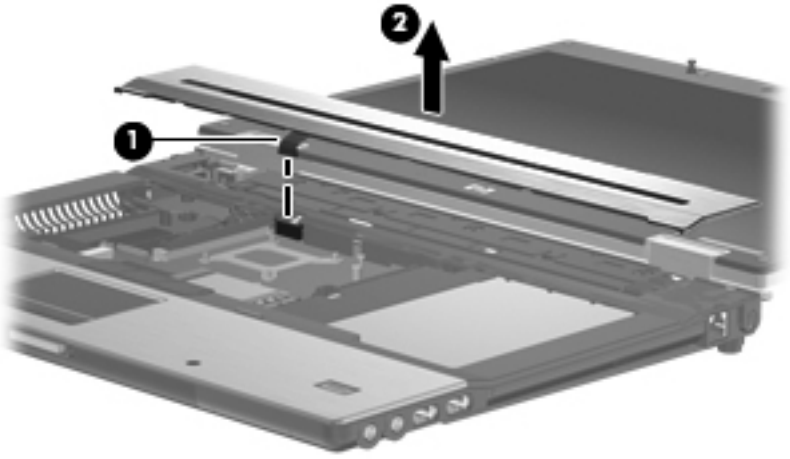
1. Turn the computer upside-down, with the rear toward you.
2. Remove the three Phillips PM2.0×2.0 broadhead screws that secure the switch cover to the computer.



3. Turn the computer right-side up, with the front toward you.
4. Open the computer as far as possible.
5. Release the switch cover by lifting the left and right inside edges of the switch cover **(1)** until it disengages from the computer.
6. Lift the switch cover **(2)** up and forward and rest it on the computer while being careful not to disconnect the LED board cable from the system board.



7. Disconnect the LED board cable **(1)** from the ZIF connector on the system board, and then remove the switch cover from the computer **(2)**.



Reverse this procedure to install the switch cover.

Display assembly

Description	Spare part number
Display assemblies for use with HP EliteBook 8530p computer models equipped with WLAN and WWAN capability (includes 3 WLAN antenna transceivers and cables and 2 WWAN antenna transceivers and cables)	
15.4-in, WXGA	495043-001
15.4-in, WSXGA+	495044-001
15.4-in, WUXGA	495045-001
Display assemblies for use with HP EliteBook 8530w computer models equipped with WLAN and WWAN capability (includes 3 WLAN antenna transceivers and cables and 2 WWAN antenna transceivers and cables)	
15.4-in, WXGA	495046-001
15.4-in, WSXGA+	495047-001
15.4-in, WUXGA	495048-001
Display assemblies for use with HP EliteBook 8530p computer models equipped WLAN and WWAN capability and integrated webcam (includes 3 WLAN antenna transceivers and cables and 2 WWAN antenna transceivers and cables)	
15.4-in, WXGA	495049-001
15.4-in, WSXGA+	495050-001
15.4-in, WUXGA	495051-001
Display assemblies for use with HP EliteBook 8530w computer models equipped with WLAN and WWAN capability and integrated webcam (includes 3 WLAN antenna transceivers and cables and 2 WWAN antenna transceivers and cables)	
15.4-in, WXGA	506809-001
15.4-in, WSXGA+	506810-001
15.4-in, WUXGA	506811-001
Display assemblies for use with HP EliteBook 8530w computer models equipped with Intel Core2 Extreme and Quad processors, and WLAN and WWAN capability (includes 3 WLAN antenna transceivers and cables and 2 WWAN antenna transceivers and cables)	
15.4-in, WXGA	515889-001
15.4-in, WSXGA+	515890-001
15.4-in, WUXGA	515891-001
Display assemblies for use with HP EliteBook 8530w computer models equipped with Intel Core2 Extreme and Quad processors, WLAN and WWAN capability (includes 3 WLAN antenna transceivers and cables and 2 WWAN antenna transceivers and cables)	
15.4-in, WXGA with integrated webcam	515892-001
15.4-in, WSXGA+ with integrated webcam	515893-001
15.4-in, WUXGA with integrated webcam	515894-001

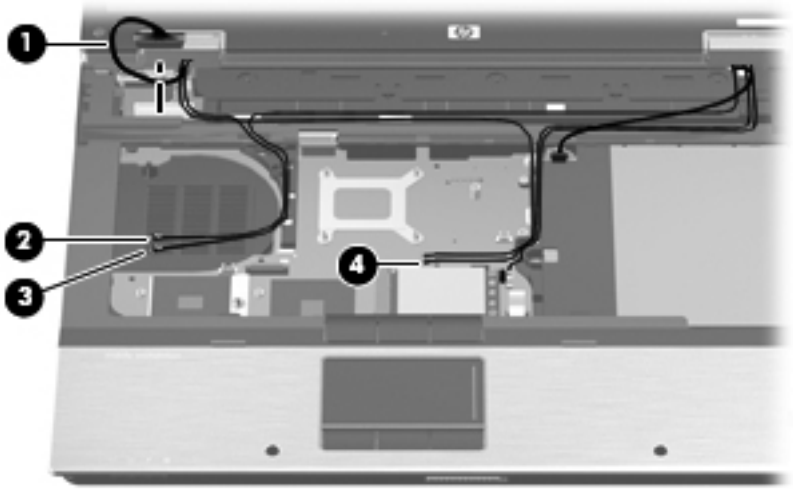
Before removing the display assembly, follow these steps:

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 45).
5. Disconnect the wireless antenna cables from the WLAN module (see WLAN module on page 65) and the WWAN module (see WWAN module on page 59).
6. Remove the following components:
   a. Keyboard (see Keyboard on page 61)
   b. Switch cover (see Switch cover on page 66)

Remove the display assembly:

1. Position the computer right-side up with the front toward you.
2. Disconnect the display panel cable **(1)** from the system board.
3. Remove the wireless antenna cables from the clips **(2)** and **(3)** and routing channels **(4)** built into the top cover.



4. Position the computer upside-down with the rear toward you.

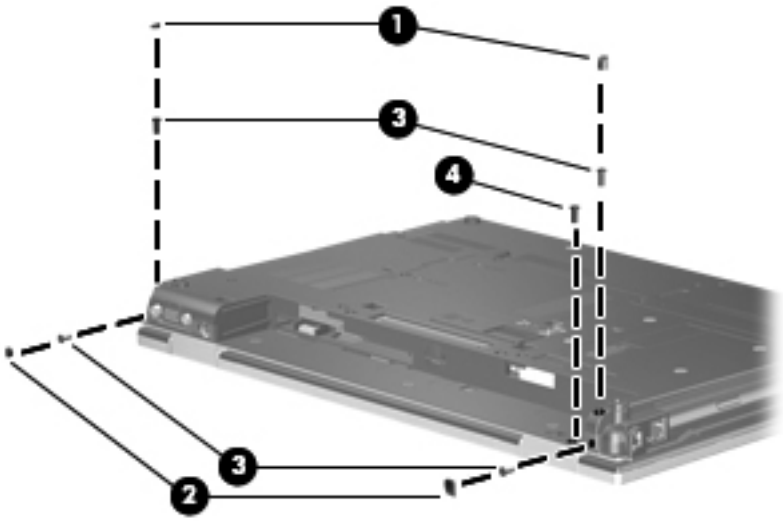
5. Remove the following:

   (1) One round screw cover on each side

   (2) One large round screw cover and one wedge screw cover on each side

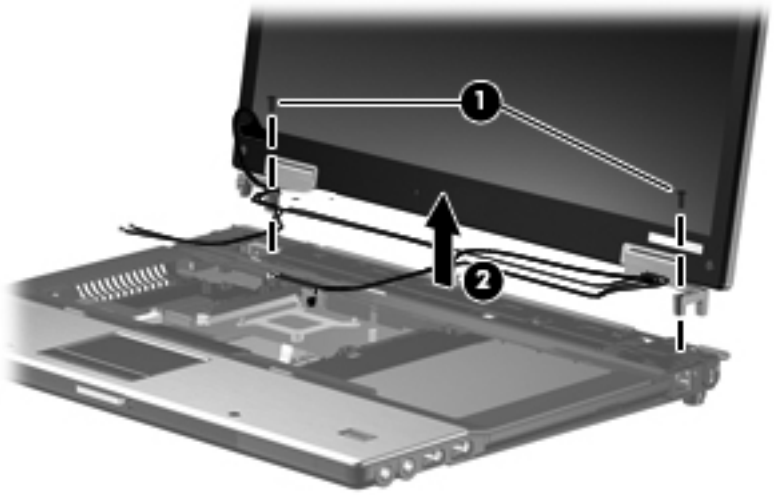
   (3) Four Torx T8M2.5×7.0 screws

   (4) One Phillips PM2.5×5.0 screw in the battery bay



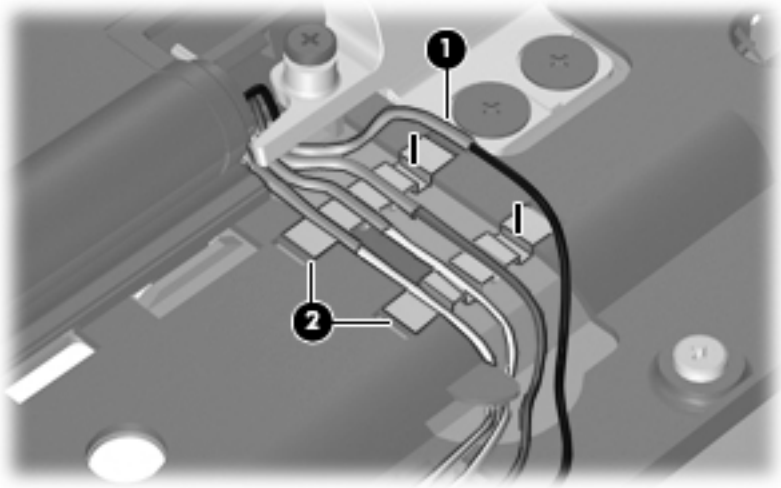
6. Remove the two Torx T8M2.5×7.0 screws **(1)** that secure the display assembly to the computer.

7. Lift the display assembly **(2)** straight up and remove it.



CAUTION: When installing the display assembly, be sure that the 4 wireless antenna cables routed out of the display right hinge are routed and arranged properly. Each antenna cable has an exposed section of cable and a metallic grounding sleeve **(1)**. The grounding sleeve must completely cover the exposed section of cable. Each cable must be secured inside a space in the copper grounding clip **(2)**. Left to right, the cables must be installed in a white, yellow, red, black sequence.

Failure to follow these routing instructions can result in degradation of the computer's WLAN and WWAN performance.



8. If it is necessary to replace the display bezel or display hinges, remove the following:

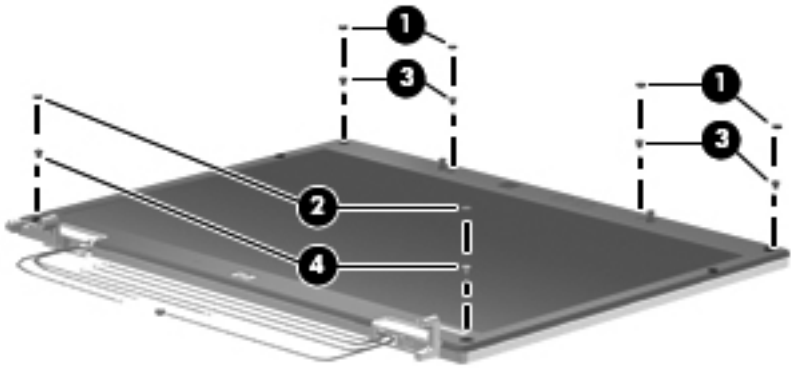
   (1) Four rubber screw covers on the display bezel top edge

   (2) Two rubber screw covers on the display bezel bottom edge

   (3) Four Phillips PM2.5×7.0 screws on the display bezel top edge

   (4) Two Phillips PM2.5×7.0 screws on the display bezel bottom edge

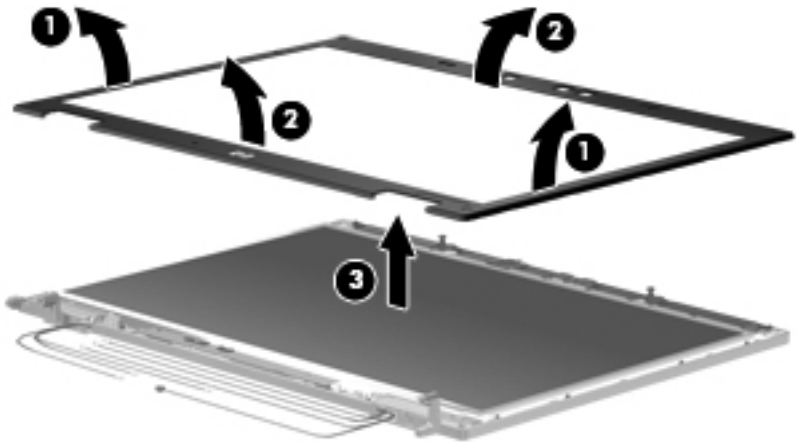
NOTE: See Display inverter on page 49 for display inverter replacement instructions.



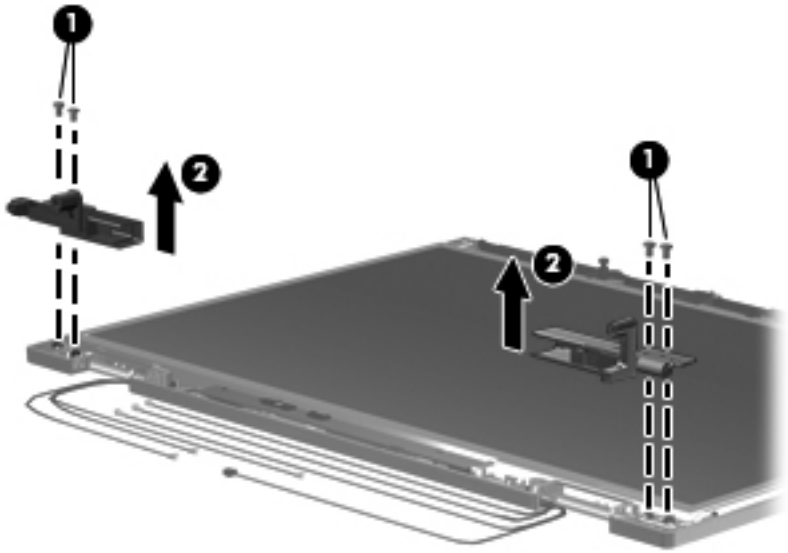
9. Flex the inside edges of the left and right sides **(1)** and the top and bottom sides **(2)** of the display bezel until the bezel disengages from the display enclosure.

10. Remove the display bezel **(3)**. The display bezel is available using the following spare part numbers:

    - 501111-001 (for use with HP EliteBook 8530p computer models equipped with WLAN and WWAN capability)
    - 501112-001 (for use with HP EliteBook 8530p computer models equipped with WLAN and WWAN capability and inegrated webcam)
    - 506812-001 (for use with HP EliteBook 8530w computer models equipped with WLAN and WWAN capability)
    - 506813-001 (for use with HP EliteBook 8530w computer models equipped with WLAN and WWAN capability and integrated webcam)



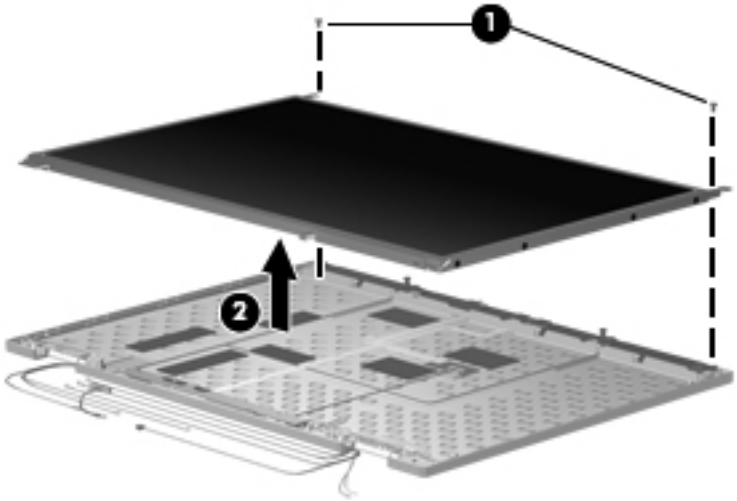
11. If it is necessary to replace the display hinges, remove the four Phillips PM2.5×5.0 screws **(1)** that secure each display hinge to the display panel.
12. Remove the display hinges **(2)**. The left and right display hinges are available using spare part number 495070-001.



13. Remove the two Phillips PM2.5×5.0 screws **(1)** that secure the display panel to the display enclosure.

    The enclosure is available using spare part number 600907-001. The display cable is available using spare part number 600908-001.

14. Remove the display panel **(2)**.



Reverse this procedure to reassemble and install the display assembly.

Top cover

Description	Spare part number
For use with computer models with Core2 Duo or Extreme Dual-Core processors	502335-001
For use with HP EliteBook 8530w computer models with Quad Core processors	502336-001
For use with HP EliteBook 8530p computer models	495068-001
Fingerprint reader board (includes fingerprint reader board cable)	495063-001

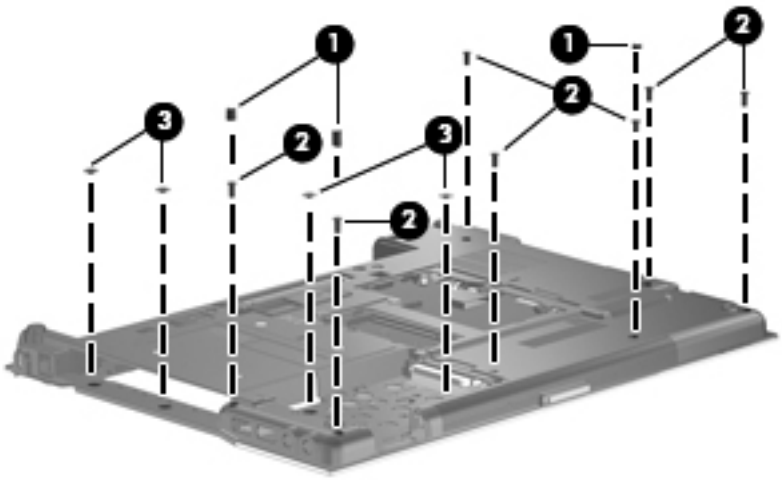
Before removing the top cover, follow these steps:

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 45).
5. Remove the following components:
   a. Hard drive (see Hard drive on page 51)
   b. Optical drive (see Optical drive on page 47)
   c. Keyboard (see Keyboard on page 61)
   d. Switch cover (see Switch cover on page 66)
   e. Display assembly (see Display assembly on page 69)

Remove the top cover:

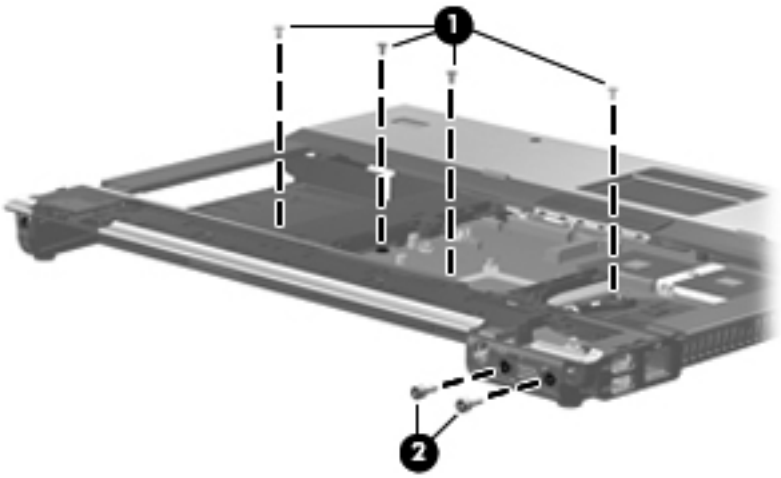
1. Turn the computer upside-down, with the front toward you.
2. Remove the two rubber screw covers **(1)**. The rubber screw covers are included in the Plastics Kit, spare part number 495076-001.
3. Remove the seven Torx T8M2.5×7.0 screws **(2)** that secure the top cover to the base enclosure.

4. Remove the four Phillips PM 2.0x3.0 broadhead screws **(3)**



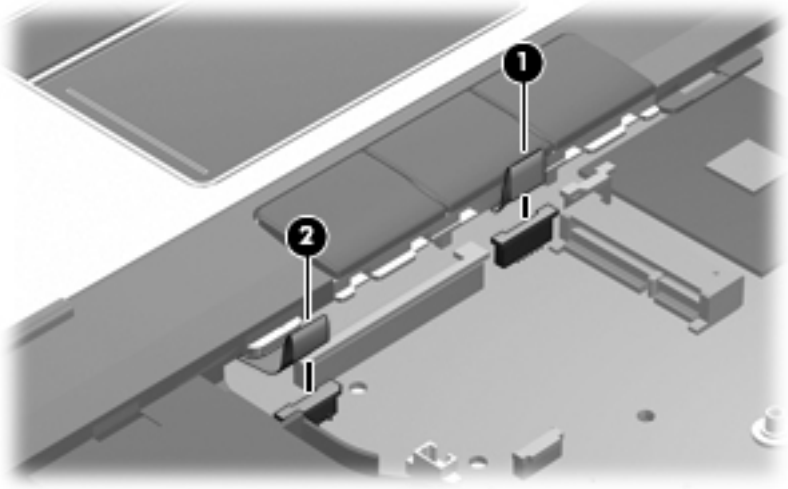
5. Turn the computer right-side up, with the rear toward you.

6. Remove the four Torx T8M2.5×8.0 screws **(1)** and the two HM2.5×6.0 screw locks **(2)** that secure the top cover to the computer.

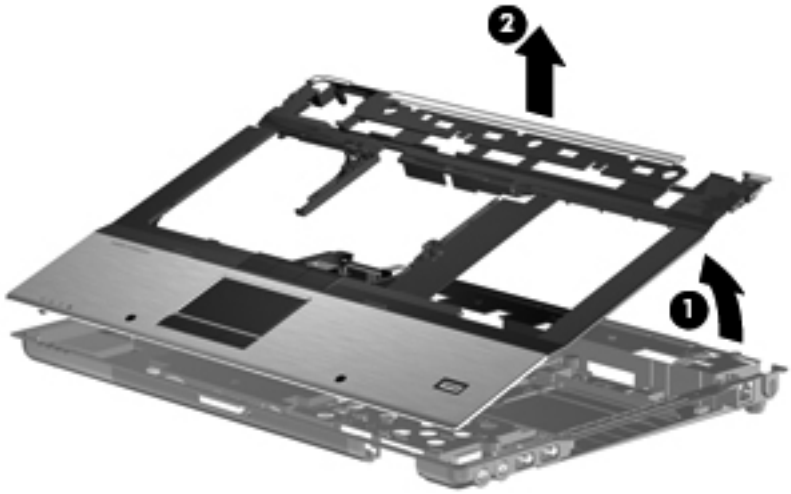


7. Remove the microphone cable from the routing path in the top cover, and then disconnect the microphone cable from the system board.

8. Disconnect the TouchPad board ZIF cable **(1)** and the fingerprint reader board ZIF cable **(2)** from the system board.



9. Lift the rear edge of the top cover **(1)** and swing it up and forward until it rests at an angle.
10. Remove the top cover **(2)**.



Reverse this procedure to install the top cover.

TouchPad

NOTE: All TouchPad spare part kits include a TouchPad cable. The TouchPad cable is also included in the Cable Kit, spare part number 495064-001.

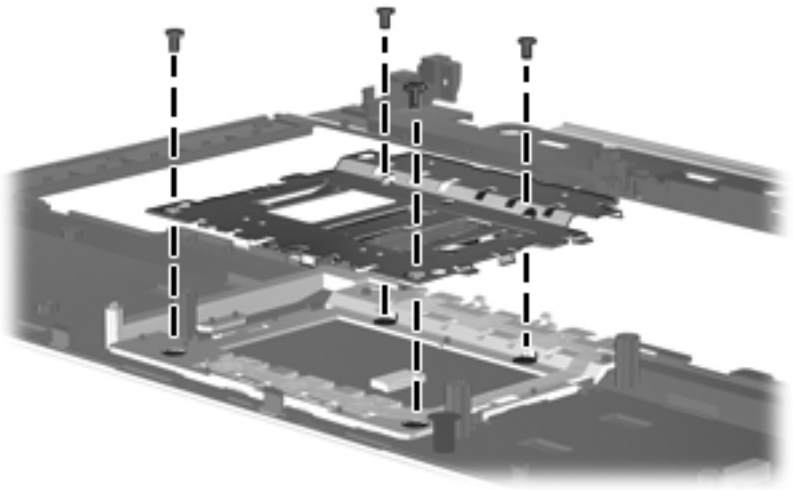
Description	Spare part number
With 3 TouchPad buttons and 3 pointing stick buttons for use with keyboards with pointing stick	506807-001

Before removing the TouchPad, follow these steps:

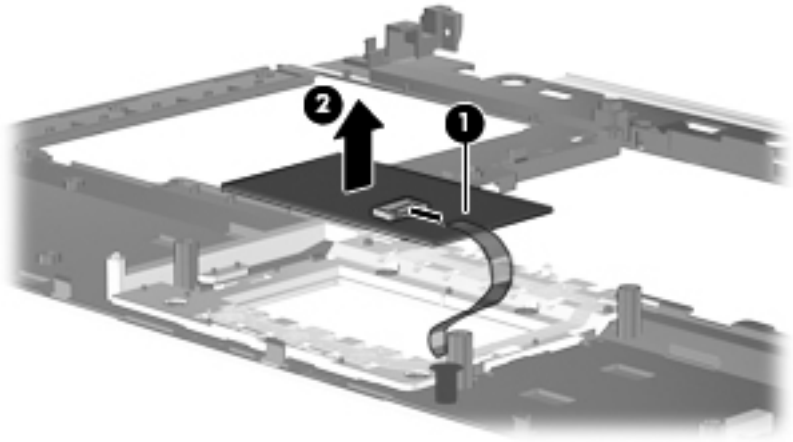
1. Shut down the computer. If you are unsure whether the computer is off or in Hibernation, turn the computer on, and then shut it down through the operating system.
2. Disconnect all external devices connected to the computer.
3. Disconnect the power from the computer by first unplugging the power cord from the AC outlet and then unplugging the AC adapter from the computer.
4. Remove the battery (see Battery on page 45).
5. Remove the following components:
   a. Hard drive (see Hard drive on page 51)
   b. Optical drive (see Optical drive on page 47)
   c. Keyboard (see Keyboard on page 61)
   d. Switch cover (see Switch cover on page 66)
   e. Display assembly (see Display assembly on page 69)
   f. Top cover (see Top cover on page 76)

Remove the TouchPad:

1. Turn the top cover upside-down, with the front toward you.
2. Remove the four Phillips PM2.0×3.0 screws that secure the TouchPad bracket to the top cover.



3. Slide the bracket forward and remove it, routing the cable through the opening in the bracket.
4. Disconnect the TouchPad cable **(1)** from the system board.
5. Remove the TouchPad **(2)**.



Reverse this procedure to install the TouchPad.

Fan

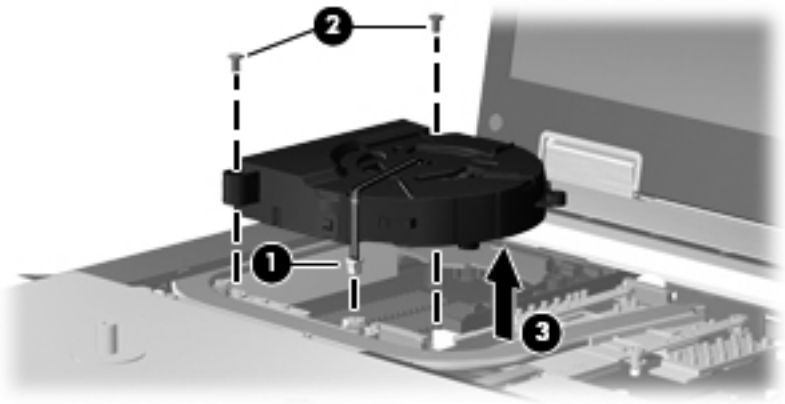
Description	Spare part number
For use with HP EliteBook 8530p computer models or HP EliteBook 8530w computer models	495079-001
For use with HP EliteBook 8530w computer models with Intel QX9300 Quad Core processor	495080-001

Before removing the fan, follow these steps:

1. Shut down the computer. If you are unsure whether the computer is off or in Hibernation, turn the computer on, and then shut it down through the operating system.
2. Disconnect all external devices connected to the computer.
3. Disconnect the power from the computer by first unplugging the power cord from the AC outlet and then unplugging the AC adapter from the computer.
4. Remove the battery (see Battery on page 45).
5. Remove the following components:
   a. Hard drive (see Hard drive on page 51)
   b. Optical drive (see Optical drive on page 47)
   c. Keyboard (see Keyboard on page 61)
   d. Switch cover (see Switch cover on page 66)
   e. Display assembly (see Display assembly on page 69)
   f. Top cover (see Top cover on page 76)

Remove the fan:

1. Position the computer right-side up, with the front toward you.
2. Disconnect the fan cable **(1)** from the system board.
3. Remove the two Torx 8M2.5x7.0 screws **(2)** that secure the fan to the base enclosure.
4. Lift the front edge of the fan to remove it from **(3)** from the base enclosure.



Reverse this procedure to install the fan.

NOTE: To properly ventilate the computer, allow at least a 7.6-cm (3-in) clearance on the left side of the computer.

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

Heat sink

Description	Spare part number
Heat sink (includes a heat sink clip and replacement thermal material)	
Thermal Material Kits	
For use with the Quad Core processor and nVidia graphics card	501116-001
For use with the Quad Core processor and ATI graphics card	495074-001
For use with the Dual-Core processor and nVidia graphics card	495075-001
For use with the Dual-Core processor and ATI graphics card	501117-001

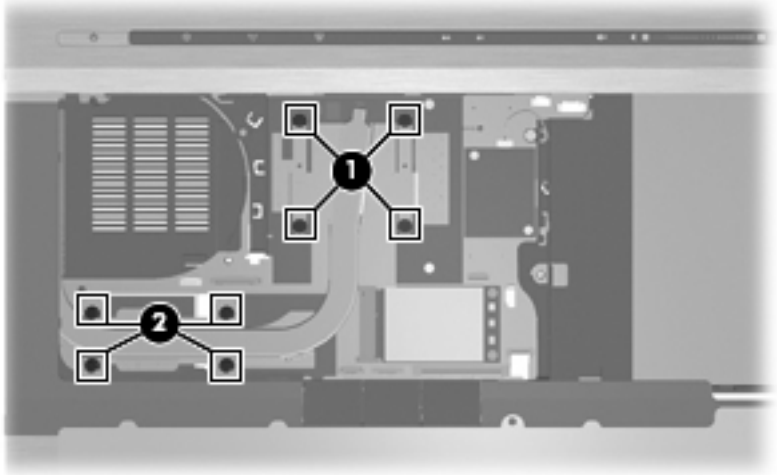
Before removing the heat sink, follow these steps:

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 45).
5. Remove the following components:
   a. Hard drive (see Hard drive on page 51)
   b. Optical drive (see Optical drive on page 47)
   c. Keyboard (see Keyboard on page 61)
   d. Switch cover (see Switch cover on page 66)
   e. Display assembly (see Display assembly on page 69)
   f. Top cover (see Top cover on page 76)
   g. Fan (see Fan on page 81)

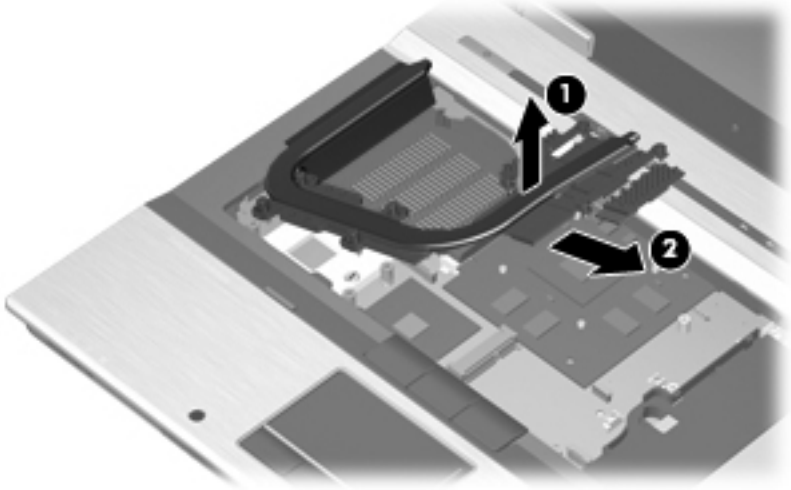
Remove the heat sink:

1. Position the computer right-side up, with the front toward you.

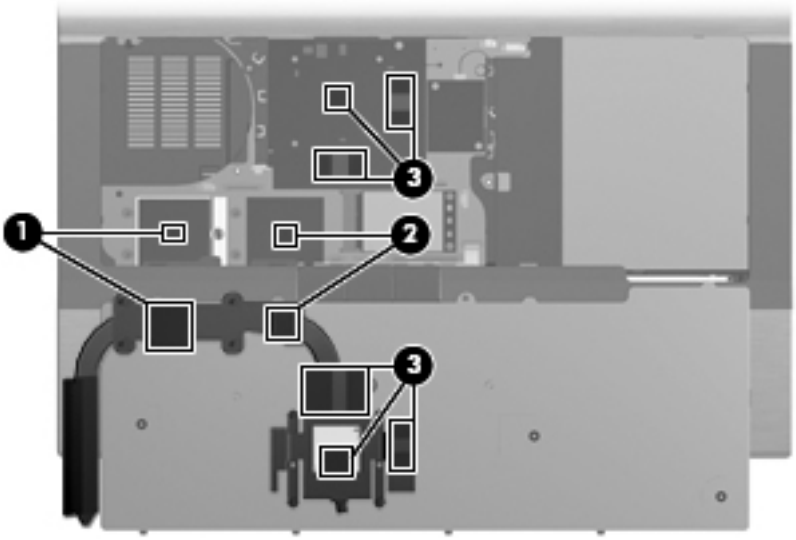
2. Remove the four Torx T8M2.0x7.0 captive screws **(1)** and the four Torx T8M2.5×12.0 captive screws **(2)** that secure the heat sink to the base enclosure.



3. Lift the right side of the heat sink **(1)** to disengage it from the graphics card.
4. Remove the heat sink **(2)** by sliding it to the right.



NOTE: The thermal material must be thoroughly cleaned from the surfaces of the heat sink **(1)**, **(2)**, and **(3)**, the processor **(1)**, the Northbridge chip **(2)**, and various capacitors **(3)** each time the heat sink is removed. Thermal material is included with all heat sink and processor spare part kits.



Reverse this procedure to install the heat sink.

Processor

NOTE: All processor spare part kits include replacement thermal material. The Thermal Material Kit is also available using spare part numbers 501117-001 (for use with Dual-Core processor and ATI graphics card), 495075-001 (for use with Dual-Core processor and nVidia graphics card), 495074-001 (for use with Quad Core processor and ATI graphics card), and 501116-001 (for use with Quad Core processor and nVidia graphics card),

Description	Spare part number
Intel Core2 Extreme QX9300, 2.53-GHz processor (12-MB L2 cache, 1066-MHz FSB)	501107-001
Intel Core2 Extreme X9100, 3.06-GHz processor (6-MB L2 cache, 1066-MHz FSB)	501106-001
Intel Core2 Quad Q9100, 2.26-GHz processor (6-MB L2 cache, 1066-MHz FSB)	506808-001
Intel Core2 Quad Q9000, 2.0-GHz processor (6-MB L2 cache, 1066-MHz FSB)	508257-001
Intel Core2 Duo T9900, 3.06-GHz processor (6-MB L2 cache, 1066-MHz FSB)	618809-001
Intel Core2 Duo T9800, 2.93-GHz processor (6-MB L2 cache, 1066-MHz FSB)	515897-001
Intel Core2 Duo T9600, 2.8-GHz processor (6-MB L2 cache, 1066-MHz FSB)	495041-001
Intel Core2 Duo T9550, 2.66-GHz processor (6-MB L2 cache, 1066-MHz FSB)	515896-001
Intel Core2 Duo T9400, 2.53-GHz processor (6-MB L2 cache, 1066-MHz FSB)	495040-001
Intel Core2 Duo P9600, 2.66-GHz processor (3-MB L2 cache, 1066-MHz FSB)	618812-001
Intel Core2 Duo P9500, 2.53-GHz processor (3-MB L2 cache, 1066-MHz FSB)	515895-001
Intel Core2 Duo P8800, 2.66-GHz processor (3-MB L2 cache, 1066-MHz FSB)	618810-001
Intel Core2 Duo P8700, 2.53-GHz processor (3-MB L2 cache, 1066-MHz FSB)	618811-001
Intel Core2 Duo P8600, 2.4-GHz processor (3-MB L2 cache, 1066-MHz FSB)	495039-001
Intel Core2 Duo P8400, 2.26-GHz processor (3-MB L2 cache, 1066-MHz FSB)	495038-001

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 45).
5. Remove the following components:
   a. Hard drive (see Hard drive on page 51)
   b. Optical drive (see Optical drive on page 47)
   c. Keyboard (see Keyboard on page 61)
   d. Switch cover (see Switch cover on page 66)

e. Display assembly (see Display assembly on page 69)

f. Top cover (see Top cover on page 76)

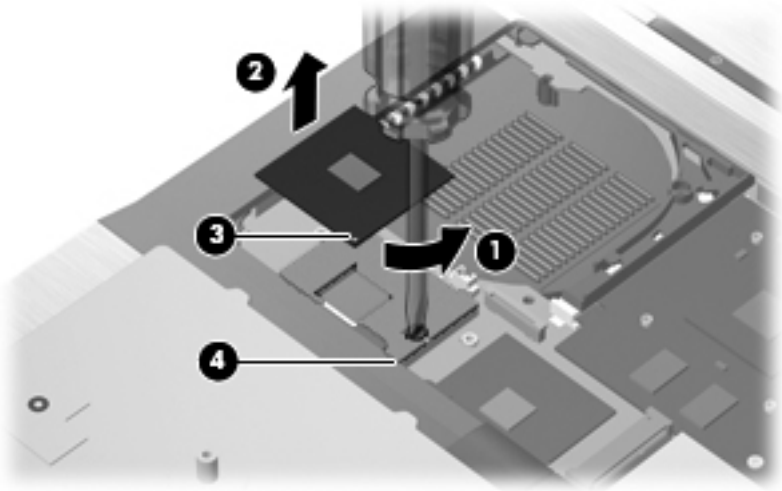
g. Fan (see Fan on page 81)

h. Heat sink (see Heat sink on page 83)

Remove the processor:

1. Position the computer right-side up, with the front toward you.
2. Use a flat-bladed screwdriver to turn the processor locking screw **(1)** one-half turn counterclockwise until you hear a click.
3. Lift the processor **(2)** straight up and remove it.

NOTE: The gold triangle **(3)** on the processor must be aligned with the triangle **(4)** embossed on the processor slot when you install the processor.



Reverse this procedure to install the processor.

Graphics card

NOTE: All graphics card spare part kits include replacement thermal material.

Description	Spare part number
ATI M86M ATI Mobility Radeon HD 3650 graphics card with 256 MB of graphics subsystem memory (supports Hypermemory)	495081-001
ATI M86M ATI Mobility FireGL V5700 graphics card with 256 MB of graphics subsystem memory (supports Hypermemory)	502337-001
nVidia NB9P-GLM2 graphics card with 512 MB of graphics subsystem memory (supports Quadro FX 770M)	502338-001
Thermal Material Kits	
For use with the ATI Quad Core processor	495074-001
For use with the nVidia Quad Core processor	501116-001

Description	Spare part number
For use with the ATI Dual-Core processor	501117-001
For use with the nVidia Quad Core processor	495075–001

Before removing the graphics card, follow these steps:

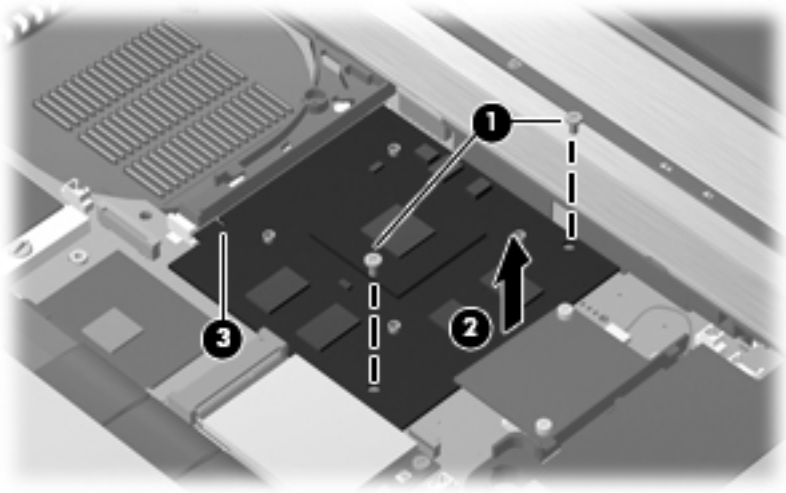
1. Shut down the computer. If you are unsure whether the computer is off or in Hibernation, turn the computer on, and then shut it down through the operating system.
2. Disconnect all external devices connected to the computer.
3. Disconnect the power from the computer by first unplugging the power cord from the AC outlet and then unplugging the AC adapter from the computer.
4. Remove the battery (see Battery on page 45).
5. Remove the following components:
   a. Hard drive (see Hard drive on page 51)
   b. Optical drive (see Optical drive on page 47)
   c. Keyboard (see Keyboard on page 61)
   d. Switch cover (see Switch cover on page 66)
   e. Display assembly (see Display assembly on page 69)
   f. Top cover (see Top cover on page 76)
   g. Fan (see Fan on page 81)
   h. Heat sink (see Heat sink on page 83)

Remove the graphics card:

1. Position the computer right-side up, with the front toward you.
2. Remove the two Phillips PM2.0×5.0 screws **(1)** that secure the graphics card to the computer. (The edge of the board opposite the graphics card slot rises away from the computer.)

3. Remove the graphics card **(2)** by sliding it away from the graphics card slot at an angle.

NOTE: The graphics card is designed with a notch **(3)** to prevent incorrect insertion.



Reverse this procedure to install the graphics card.

Speaker assembly

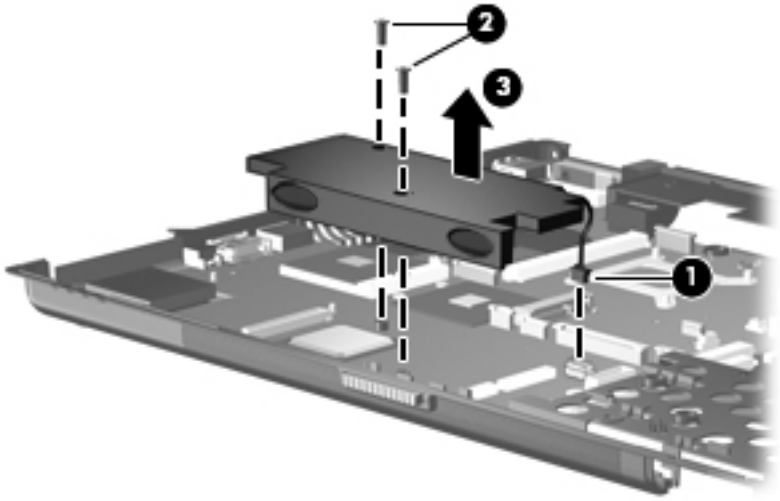
Description	Spare part number
Speaker assembly	495072-001

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 45).
5. Remove the following components:
   a. Hard drive (see Hard drive on page 51)
   b. Optical drive (see Optical drive on page 47)
   c. Keyboard (see Keyboard on page 61)
   d. Switch cover (see Switch cover on page 66)
   e. Display assembly (see Display assembly on page 69)
   f. Top cover (see Top cover on page 76)

Remove the speaker assembly:

1. Position the computer right-side up, with the front toward you.
2. Disconnect the speaker cable **(1)** from the system board.
3. Remove the two Torx PM2.5×7.0 screws **(2)** that secure the speaker assembly to the base enclosure.
4. Remove the speaker assembly **(3)** from the base enclosure.



Reverse this procedure to install the speaker assembly.

System board

NOTE: All system board spare part kits include replacement thermal material. The Thermal Material Kit is also available using spare part numbers 413706-001 (for use in all countries or regions except Japan and Asia countries and regions) and 445853-001 (for use only in Japan and Asia Pacific countries and regions).

Description	Spare part number
System boards for use in all countries and regions except Russia and China:	
For use in HP EliteBook 8530w models with Intel Core2 Quad-Core processors	500906-001
For use in HP EliteBook 8530w models with Intel Core2 Extreme Dual-Core processors	500905-001
For use in HP EliteBook 8530p and 8530w models with Intel Core2 Duo processors	500907-001
System boards for use only in Russia and China:	
For use in HP EliteBook 8530w models with Intel Core2 Extreme Dual-Core processors	510349-001
For use in HP EliteBook 8530w models with Intel Core2 Quad-Core processors	510350-001
For use in HP EliteBook 8530p and 8530w models with Intel Core2 Duo processors	510348-001

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 45).
5. Remove the following components:
   a. Hard drive (see Hard drive on page 51)
   b. Optical drive (see Optical drive on page 47)
   c. Keyboard (see Keyboard on page 61)
   d. Switch cover (see Switch cover on page 66)
   e. Display assembly (see Display assembly on page 69)
   f. Top cover (see Top cover on page 76)
   g. Fan (see Fan on page 81)
   h. Heat sink (see Heat sink on page 83)
   i. Speaker assembly (see Speaker assembly on page 89)
   j. Modem module (see Modem module on page 64)

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 46)
- Memory module (see Memory modules on page 57)
- WLAN module (see WLAN module on page 65)
- WWAN module (see WWAN module on page 59)
- Processor (see Processor on page 86)
- Graphics card (see Graphics card on page 87)
- ExpressCard assembly (see ExpressCard assembly on page 94)

Remove the system board:

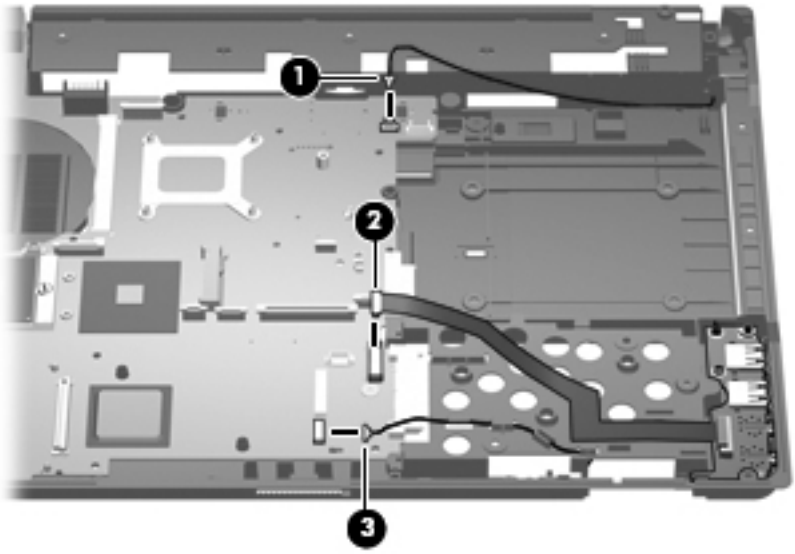
1. Position the computer right-side up, with the front toward you.

2. Disconnect the following cables from the system board:

   (1) RJ-11 connector cable

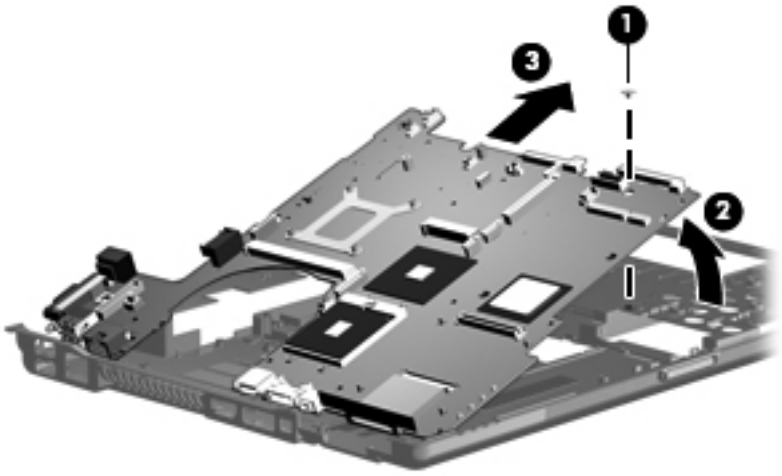
   (2) USB/audio board cable

   (3) Bluetooth module cable



3. Position the base enclosure with the rear panel toward you.
4. Remove the one black Phillips PM2.0×3.0 screw **(1)** that secures the system board frame to the base enclosure.
5. Lift the system board **(2)** and frame and slide them to the right **(3)** to remove them from the base enclosure.

NOTE: When removing the system board and frame, be sure that the USB/audio board cables route cleanly through the openings in the system board frame.



Reverse the preceding procedure to install the system board.

RJ-11 connector cable

NOTE: The RJ-11 connector cable is included in the Cables Kit, spare part number 452198-001.

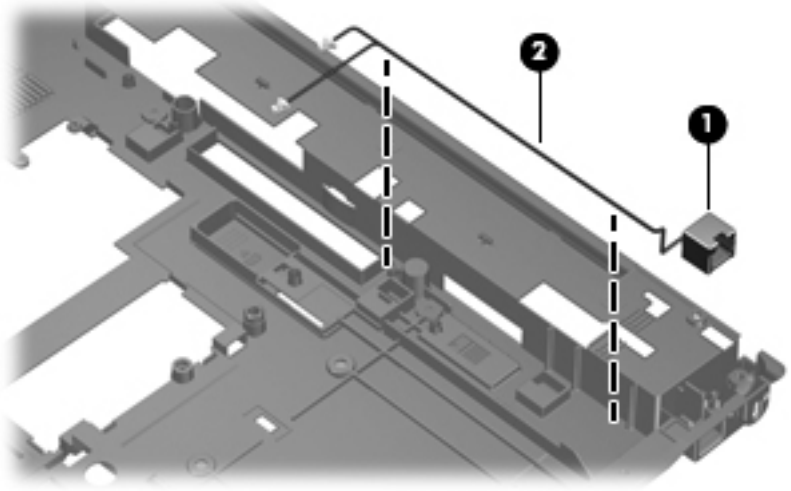
Before removing the RJ-11 connector cable, follow these steps:

1. Shut down the computer. If you are unsure whether the computer is off or in Hibernation, turn the computer on, and then shut it down through the operating system.
2. Disconnect all external devices connected to the computer.
3. Disconnect the power from the computer by first unplugging the power cord from the AC outlet and then unplugging the AC adapter from the computer.
4. Remove the battery (see Battery on page 45).
5. Remove the following components:
   a. Hard drive (see Hard drive on page 51)
   b. Optical drive (see Optical drive on page 47)
   c. Keyboard (see Keyboard on page 61)
   d. Switch cover (see Switch cover on page 66)
   e. Display assembly (see Display assembly on page 69)
   f. Top cover (see Top cover on page 76)
   g. Fan (see Fan on page 81)
   h. Heat sink (see Heat sink on page 83)
   i. Modem module (see Modem module on page 64)
   j. System board (see System board on page 90)

Remove the RJ-11 connector cable:

1. Position the computer right-side up, with the front toward you.
2. Remove the RJ-11 connector **(1)** from the clip built into the base enclosure.

3. Remove the RJ-11 connector cable from the clips and routing channel **(2)** built into the base enclosure.



4. Remove the RJ-11 connector cable from the base enclosure.

Reverse this procedure to install the RJ-11 connector cable.

ExpressCard assembly

Description	Spare part number
ExpressCard assembly	495085-001

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 45).
5. Remove the following components:
   a. Hard drive (see Hard drive on page 51)
   b. Optical drive (see Optical drive on page 47)
   c. Keyboard (see Keyboard on page 61)
   d. Switch cover (see Switch cover on page 66)
   e. Display assembly (see Display assembly on page 69)
   f. Top cover (see Top cover on page 76)
   g. Fan (see Fan on page 81)

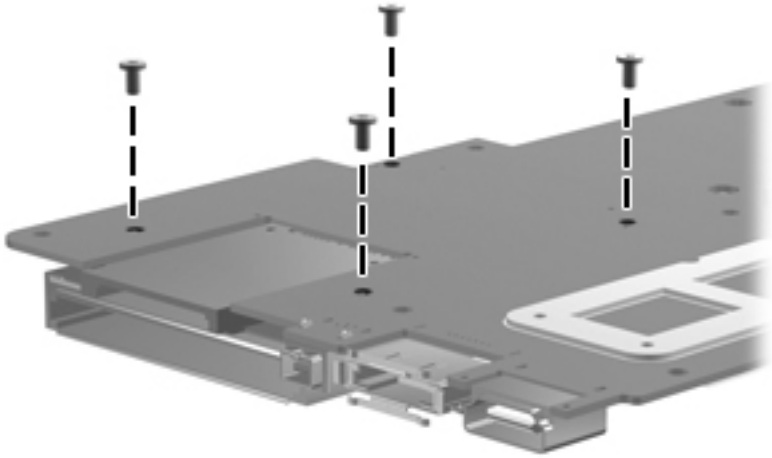
h. Heat sink (see Heat sink on page 83)

i. Modem module (see Modem module on page 64)

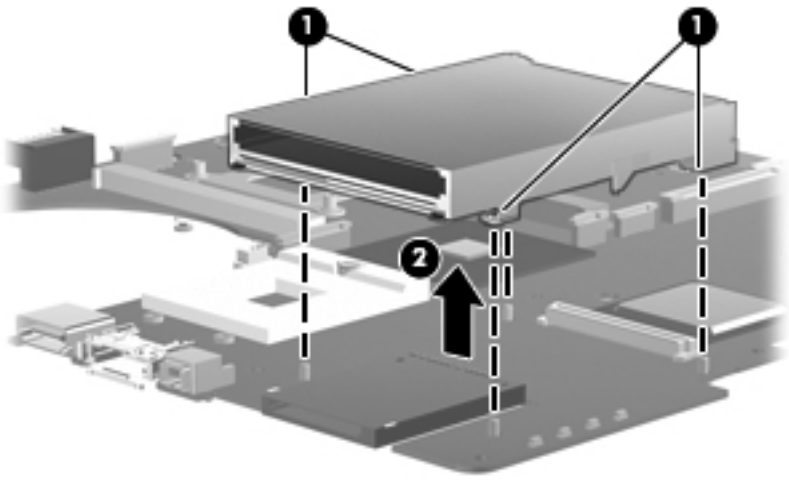
j. System board (see System board on page 90)

Remove the ExpressCard assembly:

1. Turn the system board upside-down, with the front toward you.
2. Remove the four Phillips PM2.0×5.0 screws that secure the ExpressCard assembly to the system board.



3. Detach the slots on the ExpressCard assembly from the tabs on the ExpressCard connector **(1)**.
4. Remove the ExpressCard assembly **(2)**.



Reverse this procedure to install the ExpressCard assembly.

USB/audio board

Description	Spare part number
USB/audio board (includes USB cable and audio cable)	495065-001

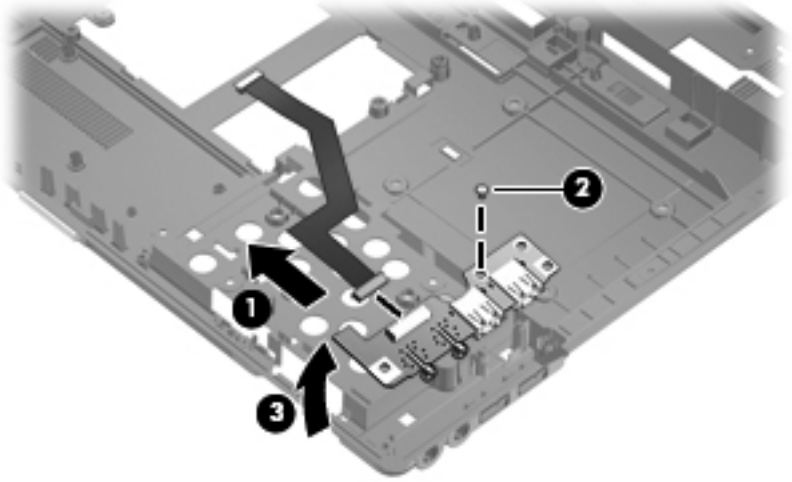
Before removing the USB/audio board, follow these steps:

1. Shut down the computer. If you are unsure whether the computer is off or in Hibernation, turn the computer on, and then shut it down through the operating system.
2. Disconnect all external devices connected to the computer.
3. Disconnect the power from the computer by first unplugging the power cord from the AC outlet and then unplugging the AC adapter from the computer.
4. Remove the battery (see Battery on page 45).
5. Remove the following components:
   a. Hard drive (see Hard drive on page 51)
   b. Optical drive (see Optical drive on page 47)
   c. Keyboard (see Keyboard on page 61)
   d. Switch cover (see Switch cover on page 66)
   e. Display assembly (see Display assembly on page 69)
   f. Top cover (see Top cover on page 76)
   g. Fan (see Fan on page 81)
   h. Heat sink (see Heat sink on page 83)
   i. Modem module (see Modem module on page 64)
   j. System board (see System board on page 90)

Remove the USB/audio board:

1. Position the computer right-side up, with the front toward you.
2. Disconnect the cable from the USB/audio board **(1)**.
3. Remove the Torx T82.5×8.0 screw **(2)** that secures the USB/audio board to the base enclosure.

4. Lift the left side of the USB/audio board **(3)** until the USB and audio connectors disengage from the openings in the base enclosure.



5. Remove the USB/audio board and cables from the base enclosure.

Reverse this procedure to install the USB/audio board.

5 Computer Setup

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 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.
   - 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 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 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.

Select	To do this
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 (enabled by default).
Always Prompt for HP SpareKey Enrollment	Enable/disable HP SpareKey enrollment (enabled by default).
Fingerprint Reset on Reboot (If Present)	Reset/clear the fingerprint reader ownership (select models only; 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.
TPM Embedded Security	Enable/disable support for Trusted Platform Module (TPM) Embedded Security, which protects the computer from unauthorized access to owner functions available in Embedded Security for ProtectTools. For more information, refer to the ProtectTools software Help. **NOTE:** You must have a setup password to change this setting.
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	• 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.

6 Specifications

Computer specifications

	Metric	U.S.
Dimensions		
Length	26.0 cm	10.24 in
Width	35.7 cm	14.00 in
Height (front to rear)	2.8 to 3.4 cm	1.10 to 1.34 in
Weight (equipped with optical drive, 8-cell battery, one 512-MB memory module, pointing stick, and TouchPad)	2.77 kg	6.1 lbs
Input power		
Operating voltage	19.0 V dc @ 4.74 A – 90 W	
Operating current	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)		
Operating (14.7 to 10.1 psia)	-15 m to 3,048 m	50 ft to 10,000 ft
Nonoperating (14.7 to 4.4 psia)	-15 m to 12,192 m	-50 ft to 40,000 ft
Shock		
Operating	125 g, 2 ms, half-sine	
Nonoperating	200 g, 2 ms, half-sine	
Random vibration		
Operating	0.75 g zero-to-peak, 10 Hz to 500 Hz, 0.25 oct/min sweep rate	

	Metric	U.S.
Nonoperating	1.50 g zero-to-peak, 10 Hz to 500 Hz, 0.5 oct/min sweep rate	

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

15.4-in, WUXGA display specifications

	Metric	U.S.
Dimensions		
Height	20.7 cm	8.15 in
Width	33.1 cm	13.03 in
Diagonal	39.1 cm	15.39 in
Number of colors	Up to 16.8 million	
Contrast ratio	200:1 (typical)	
Brightness	180 nits (typical)	
Pixel resolution		
Pitch	0.197 × 0.197 mm	
Format	1920 × 1200	
Configuration	RGB vertical stripe	
Backlight	CCFT	
Character display	80 × 25	
Total power consumption	7.0 W	
Viewing angle	+/-40 horizontal, +/–50° vertical (typical)	

15.4-in, WSXGA+ display specifications

	Metric	U.S.
Dimensions		
Height	20.7 cm	8.15 in
Width	33.1 cm	13.03 in
Diagonal	39.1 cm	15.39 in
Number of colors	Up to 16.8 million	
Contrast ratio	200:1 (typical)	
Brightness	180 nits (typical)	
Pixel resolution		
Pitch	0.197 × 0.197 mm	
Format	1680 × 1050	
Configuration	RGB vertical stripe	
Backlight	CCFT	
Character display	80 × 25	
Total power consumption	7.0 W	
Viewing angle	+/-40 horizontal, +/–50° vertical (typical)	

15.4-in, WXGA display specifications

	Metric	U.S.
Dimensions		
Height	20.7 cm	8.15 in
Width	33.1 cm	13.03 in
Diagonal	39.1 cm	15.39 in
Number of colors	Up to 16.8 million	
Contrast ratio	200:1 (typical)	
Brightness	180 nits (typical)	
Pixel resolution		
Pitch	0.197 × 0.197 mm	
Format	1366 × 768	
Configuration	RGB vertical stripe	
Backlight	CCFT	
Character display	80 × 25	
Total power consumption	7.0 W	
Viewing angle	+/-40 horizontal, +/–50° 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	3 ms	3 ms	3 ms	3 ms
Average	13 ms	13 ms	13 ms	13 ms
Maximum	24 ms	24 ms	24 ms	24 ms
Logical blocks	1,048,576,000	625,141,400	488,397,168	312,560,640
Disc rotational speed	7200 and 5400 rpm	7200 rpm	7200 and 5400 rpm	7200 rpm and 5400 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.				

DVD±RW and CD-RW SuperMulti DL Combo 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, 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
Center hole diameter	1.5 cm (0.59 in)	
Disc diameter		
Standard disc	12 cm (4.72 in)	
Mini disc	8 cm (3.15 in)	
Disc thickness	1.2 mm (0.047 in)	
Track pitch	0.74 µm	
Access time	**CD**	**DVD**
Random	< 175 ms	< 230 ms
Full stroke	< 285 ms	< 335 ms
Audio output level	Line-out, 0.7 Vrms	
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	
Startup time	< 15 seconds	
Stop time	< 6 seconds	

Blu-ray Disc ROM Drive with SuperMulti DVD±R/RW Double Layer

Applicable disc	Read:	Write:	
	CD-DA, CD+(E)G, CD-MIDI, CDTEXT, CD-ROM, 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, DVDROM (DVD-5, DVD-9, DVD-10, DVD-18), DVD-R, DVD-RW, DVD+R, DVD+RW, DVD-RAM, HD-ROM (Single Layer), HD-ROM (Dual Layer), HD DVD-R, HD DVD-R for Dual Layer, HD DVD-RW	CD-R and CD-RW DVD+R, DVD+R(9), DVD+RW, DVD-R, DVD-R(9),DVD-RW, DVD-RAM	
Access time	**CD**	**DVD**	**HD**
Random	170 ms	170 ms	230 ms
Cache buffer	8 MB		
Data transfer rate			
24X CD-ROM	3,600 KB/sec		
8X DVD	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		
1X BD-ROM	4,500 KB/sec		
1X BD-R read	4,500 KB/sec		
1X BD-RE read	4,500 KB/sec		
Transfer mode	Multiword DMA Mode		

DVD-ROM Drive specifications

Applicable disc	DVD-ROM (DVD-5, DVD-9, DVD-10, DVD-18, CD-ROM (Mode 1 and 2), CD Digital Audio, CD-XA ready (Mode 2, Form 1 and Form 2), CD-I (Mode 2, Form 1 and Form 2), CD-R, CD-RW, Photo CD (single and multisession), CD-Bridge	
Center hole diameter	1.5 cm (0.59 in)	
Disc diameter		
Standard disc	12 cm (4.72 in)	
Mini disc	8 cm (3.15 in)	
Disc thickness	1.2 mm (0.047 in)	
Track pitch	0.74 µm	
Access time	**CD**	**DVD**
Random	< 100 ms	< 125 ms
Full stroke	< 175 ms	< 225 ms
Audio output level	Line-out, 0.7 Vrms	
Cache buffer	512 KB	
Data transfer rate		
CD-R (24X)	3600 KB/s (150 KB/s at 1X CD rate)	
CD-RW (10X)	1500 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)	
Multiword DMA mode 2	16.6 MB/s	
Startup time	< 10 seconds	
Stop time	< 3 seconds	

System DMA specifications

Hardware DMA	System function
DMA0	Not applicable
DMA1*	Not applicable
DMA2*	Not applicable
DMA3	Not applicable
DMA4	Direct memory access controller
DMA5*	Available for PC Card
DMA6	Not assigned
DMA7	Not assigned
*PC Card controller can use DMA 1, 2, or 5.	

System interrupt specifications

Hardware IRQ	System function
IRQ0	System timer
IRQ1	Standard 101-/102-Key or Microsoft Natural Keyboard
IRQ2	Cascaded
IRQ3	Intel 82801DB/DBM USB2 Enhanced Host Controller—24CD
IRQ4	COM1
IRQ5*	Conexant AC—Link Audio Intel 82801DB/DBM SMBus Controller—24C3 Data Fax Modem with SmartCP
IRQ6	Diskette drive
IRQ7*	Parallel port
IRQ8	System CMOS/real-time clock
IRQ9*	Microsoft ACPI-compliant system
IRQ10*	Intel USB UHCI controller—24C2 Intel 82852/82855 GM/GME Graphic Controller Realtek RTL8139 Family PCI Fast Ethernet Controller
IRQ11	Intel USB EHCI controller—24CD Intel USB UHCI controller—24C4 Intel USB UHCI controller—24C7 Intel Pro/Wireless 2200BG TI OHCI 1394 host controller TI PCI1410 CardBus controller
IRQ12	Synaptics PS/2 TouchPad
IRQ13	Numeric data processor
IRQ14	Primary IDE channel
IRQ15	Secondary IDE channel
*Default configuration; audio possible configurations are IRQ5, IRQ7, IRQ9, IRQ10, or none.	
NOTE: PC Cards may assert IRQ3, IRQ4, IRQ5, IRQ7, IRQ9, IRQ10, IRQ11, or IRQ15. Either the infrared or the serial port may assert IRQ3 or IRQ4.	

System I/O address specifications

I/O address (hex)	System function (shipping configuration)
000 - 00F	DMA controller no. 1
010 - 01F	Unused
020 - 021	Interrupt controller no. 1
022 - 024	Opti chipset configuration registers
025 - 03F	Unused
02E - 02F	87334 “Super I/O” configuration for CPU
040 - 05F	Counter/timer registers
044 - 05F	Unused
060	Keyboard controller
061	Port B
062 - 063	Unused
064	Keyboard controller
065 - 06F	Unused
070 - 071	NMI enable/RTC
072 - 07F	Unused
080 - 08F	DMA page registers
090 - 091	Unused
092	Port A
093 - 09F	Unused
0A0 - 0A1	Interrupt controller no. 2
I/O Address (hex)	System Function (shipping configuration)
0A2 - 0BF	Unused
0C0 - 0DF	DMA controller no. 2
0E0 - 0EF	Unused
0F0 - 0F1	Coprocessor busy clear/reset
0F2 - 0FF	Unused
100 - 16F	Unused
170 - 177	Secondary fixed disk controller
178 - 1EF	Unused
1F0 - 1F7	Primary fixed disk controller
1F8 - 200	Unused
201	JoyStick (decoded in ESS1688)
202 - 21F	Unused

I/O address (hex)	System function (shipping configuration)
220 - 22F	Entertainment audio
230 - 26D	Unused
26E - 26	Unused
278 - 27F	Unused
280 - 2AB	Unused
2A0 - 2A7	Unused
2A8 - 2E7	Unused
2E8 - 2EF	Reserved serial port
2F0 - 2F7	Unused
2F8 - 2FF	Infrared port
300 - 31F	Unused
320 - 36F	Unused
370 - 377	Secondary diskette drive controller
378 - 37F	Parallel port (LPT1/default)
380 - 387	Unused
388 - 38B	FM synthesizer—OPL3
38C - 3AF	Unused
3B0 - 3BB	VGA
3BC - 3BF	Reserved (parallel port/no EPP support)
3C0 - 3DF	VGA
3E0 - 3E1	PC Card controller in CPU
3E2 - 3E3	Unused
3E8 - 3EF	Internal modem
3F0 - 3F7	“A” diskette controller
3F8 - 3FF	Serial port (COM1/default)
CF8 - CFB	PCI configuration index register (PCIDIVO-1)
CFC - CFF	PCI configuration data register (PCIDIVO-1)

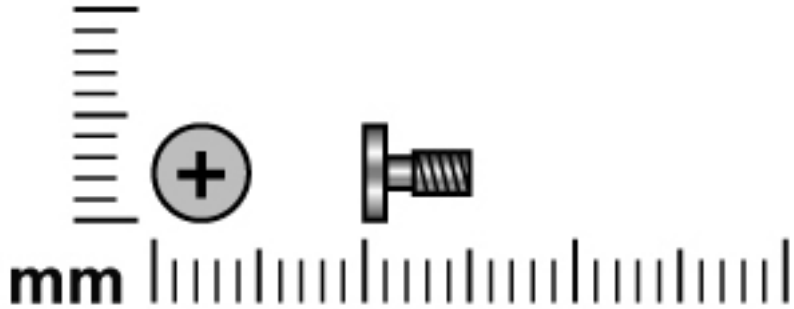
System memory map specifications

Size	Memory address	System function
640 KB	00000000-0009FFFF	Base memory
128 KB	000A0000-000BFFFF	Video memory
48 KB	000C0000-000CBFFF	Video BIOS
160 KB	000C8000-000E7FFF	Unused
64 KB	000E8000-000FFFFF	System BIOS
15 MB	00100000-00FFFFFF	Extended memory
58 MB	04800000-07FFFFFF	Super extended memory
58 MB	04800000-07FFFFFF	Unused
2 MB	08000000-080FFFFF	Video memory (direct access)
4 GB	08200000-FFFEFFFF	Unused
64 KB	FFFF0000-FFFFFFFF	System BIOS

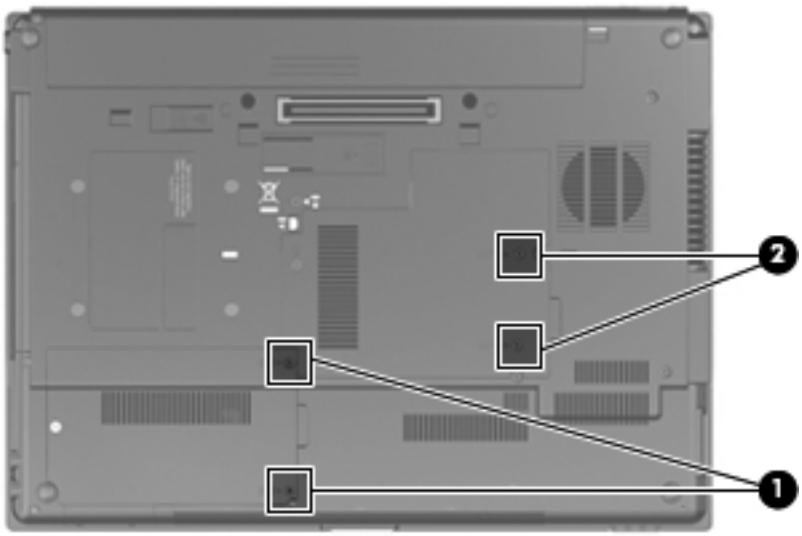
7 Screw listing

This section provides specification and reference information for the screws and screw locks used in the computer. All screws listed in this section are available in the Screw Kit, spare part number 495077-001.

Phillips PM2.0×5.0 captive screw



Color	Quantity	Length	Thread	Head diameter
Black	4	5.0 mm	2.0 mm	4.5 mm

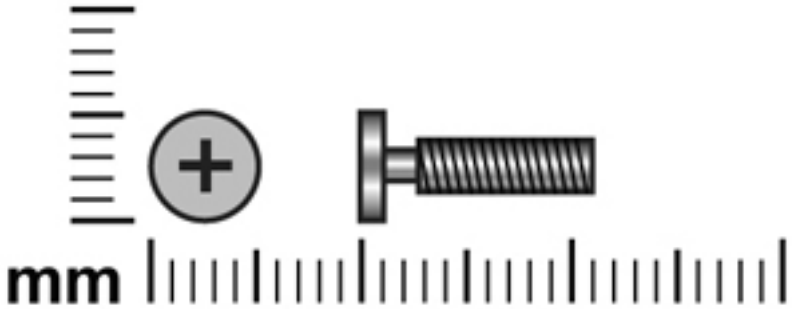


Where used:

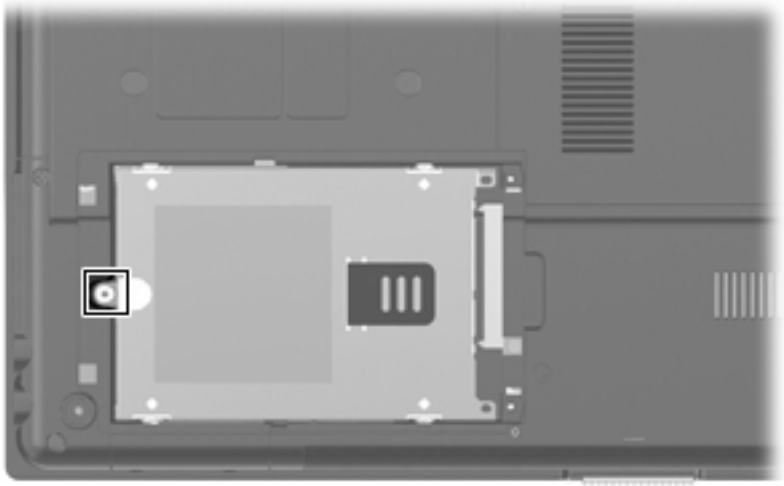
(1) Two screws that secure the hard drive cover to the computer (screws are captured on the cover by C-clips)

(2) Two screws that secure the memory module compartment cover to the computer (screws are captured on the cover by C-clips)

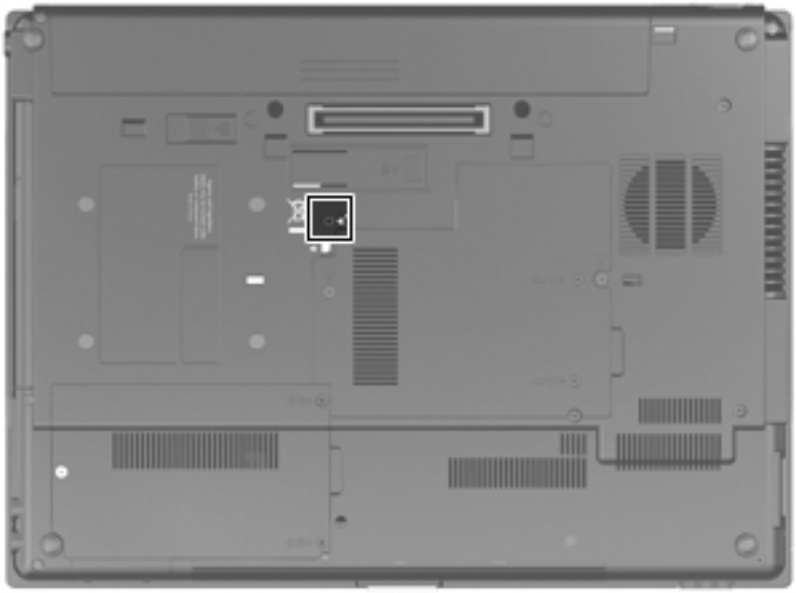
Phillips PM2.5×11.0 captive screw



Color	Quantity	Length	Thread	Head diameter
Black	2	11.0 mm	2.5 mm	5.0 mm

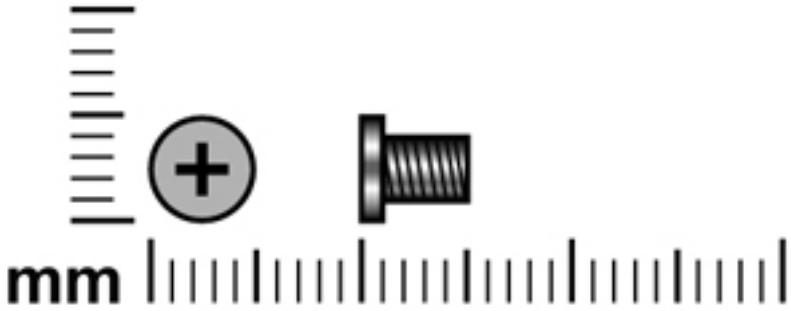


Where used: One screw that secures the hard drive to the computer

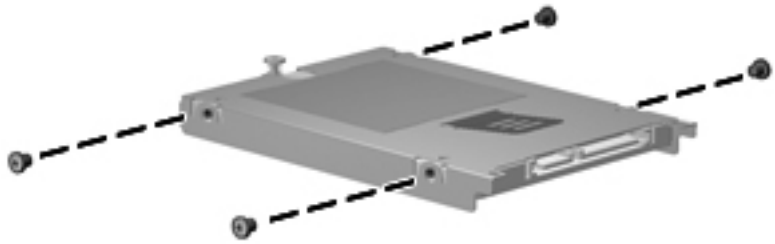


Where used: One screw that secures the optical drive to the computer

Phillips PM3.0×5.0 screw

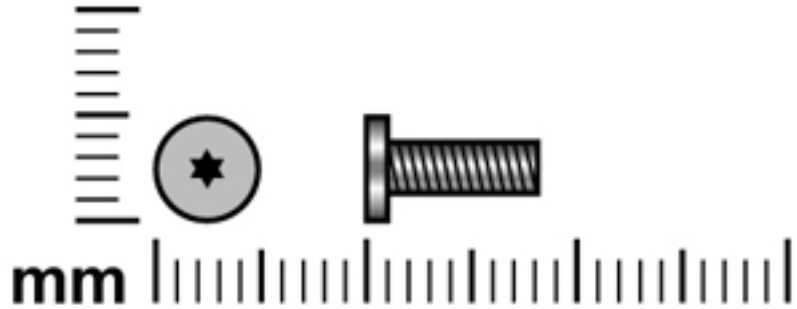


Color	Quantity	Length	Thread	Head diameter
Silver	4	5.0 mm	3.0 mm	5.0 mm



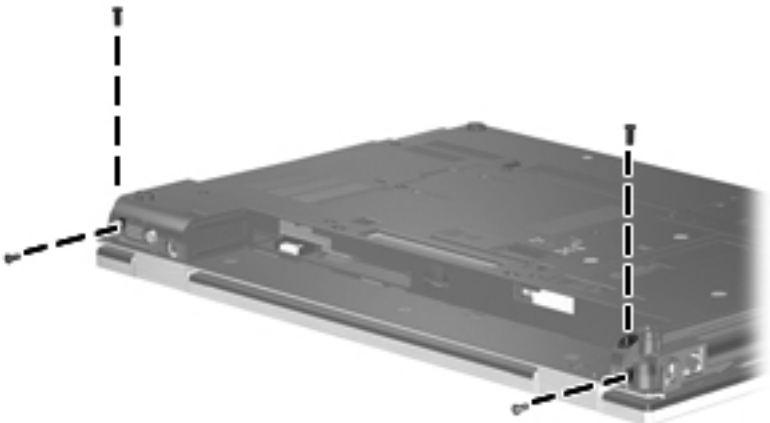
Where used: 4 screws that secure the hard drive bracket to the hard drive

Torx T8M2.5×8.0 screw

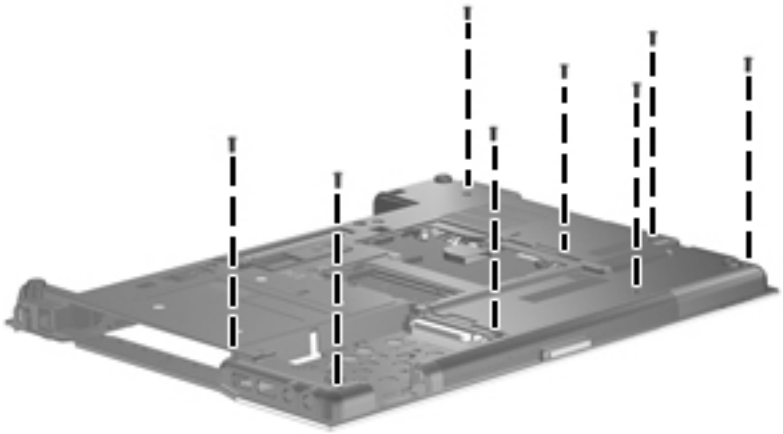


Color	Quantity	Length	Thread	Head diameter
Black	23	8.0 mm	2.5 mm	5.0 mm

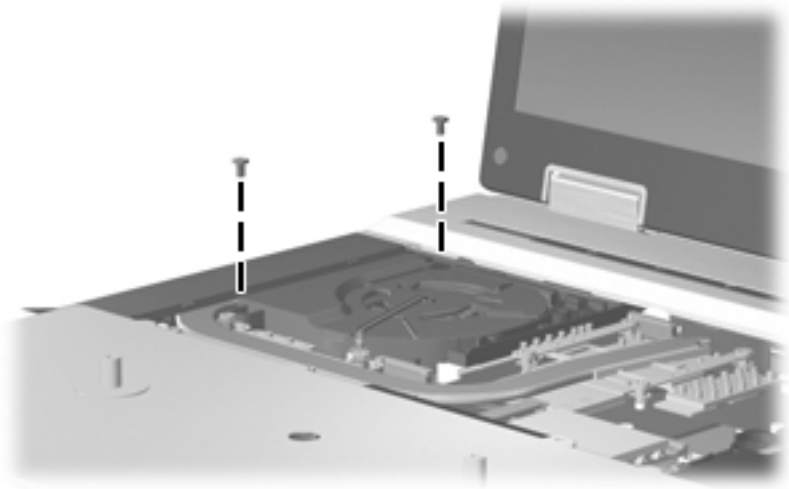
Where used: 2 screws that secure the display assembly to the computer



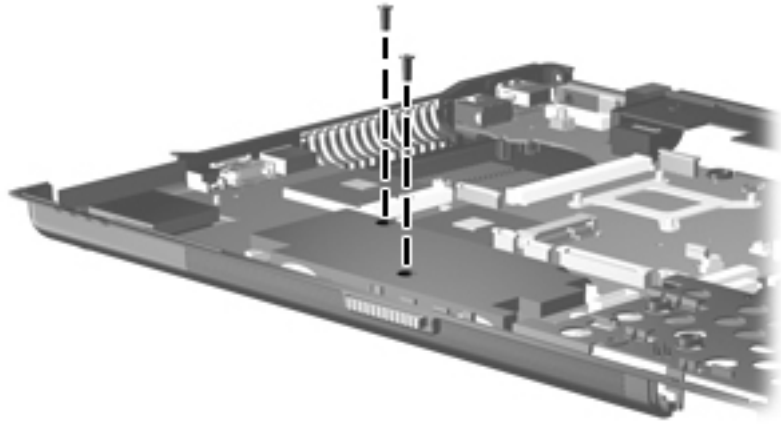
Where used: 4 screws that secure the display assembly to the computer



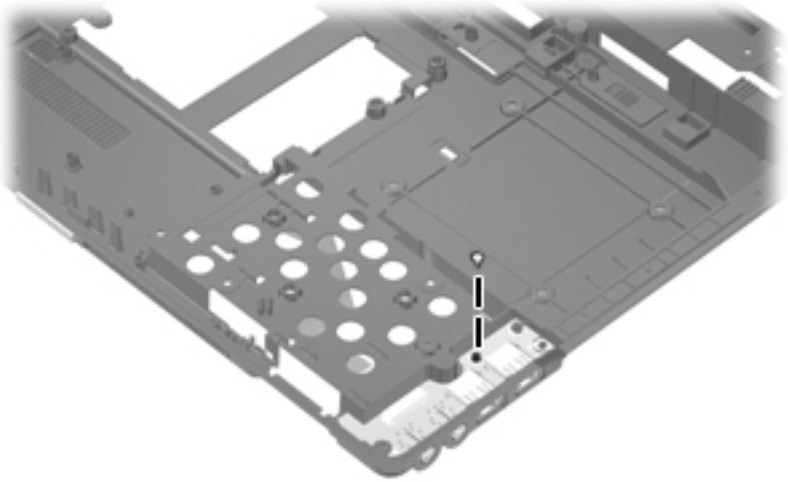
Where used: 8 screws that secure the top cover to the base enclosure



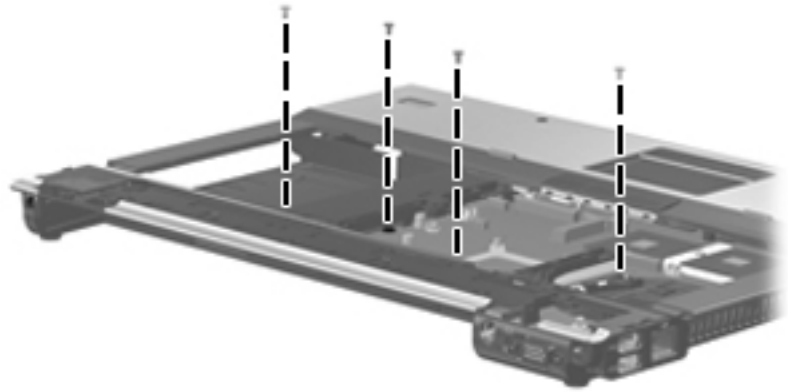
Where used: 2 screws that secure the fan to the base enclosure



Where used: 2 screws that secure the speaker assembly to the base enclosure

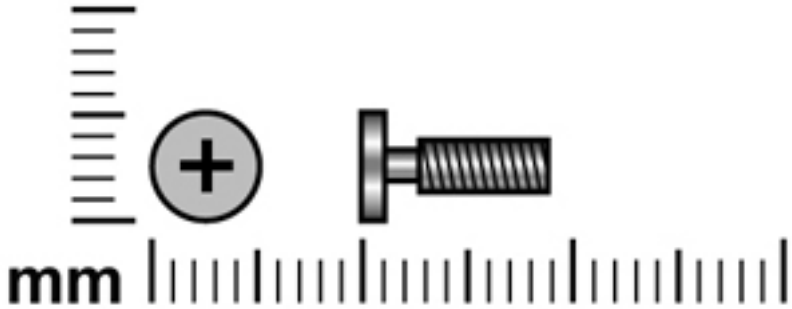


Where used: 1 screw that secures the USB/audio board to the base enclosure

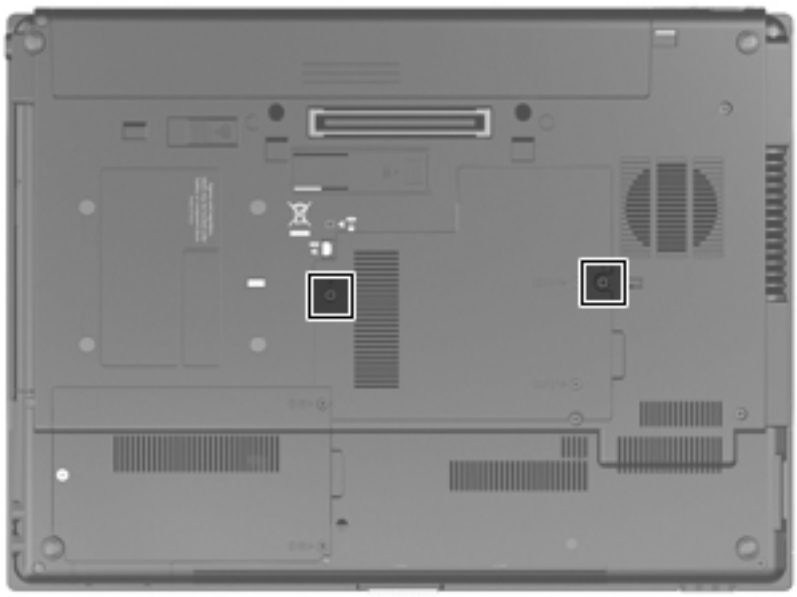


Where used: 4 screws that secure the top cover to the top of the computer

Phillips PM2.5×9.0 captive screw

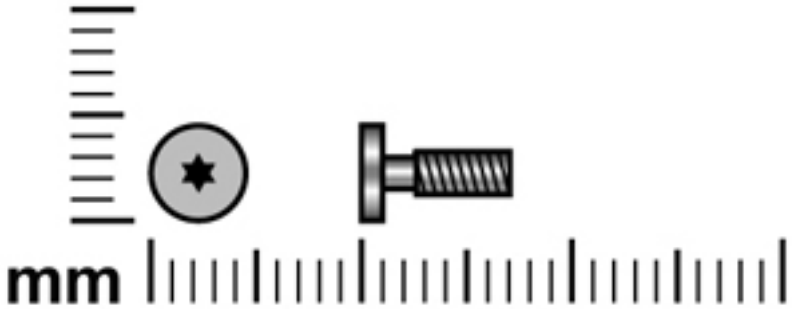


Color	Quantity	Length	Thread	Head diameter
Black	2	9.0 mm	2.5 mm	5.0 mm

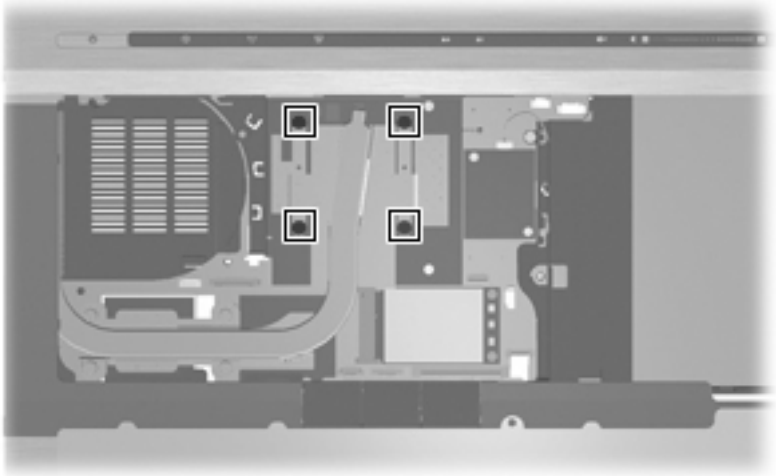


Where used: 2 captive screws that secure the keyboard to the computer

Black Torx 8M2.0×7.0 captive screw

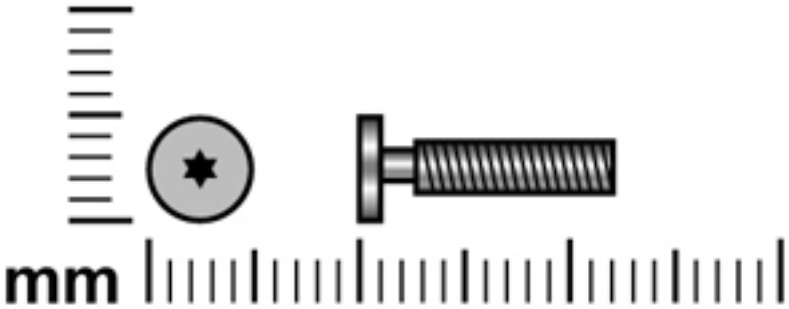


Color	Quantity	Length	Thread	Head diameter
Black	4	7.0 mm	2.0 mm	4.5 mm

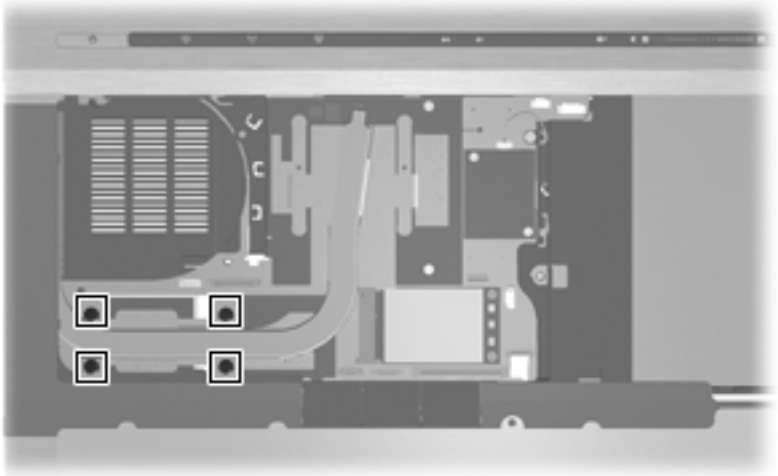


Where used: 4 screws that secure the heat sink to the base enclosure

Silver Torx 8M2.5×12.0 captive screw

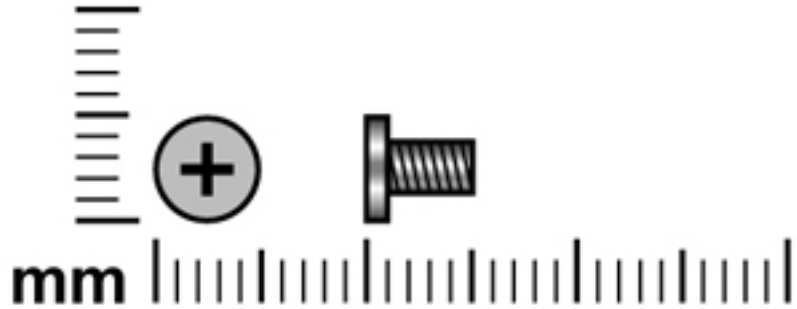


Color	Quantity	Length	Thread	Head diameter
Silver	4	12.0 mm	2.5 mm	4.5 mm

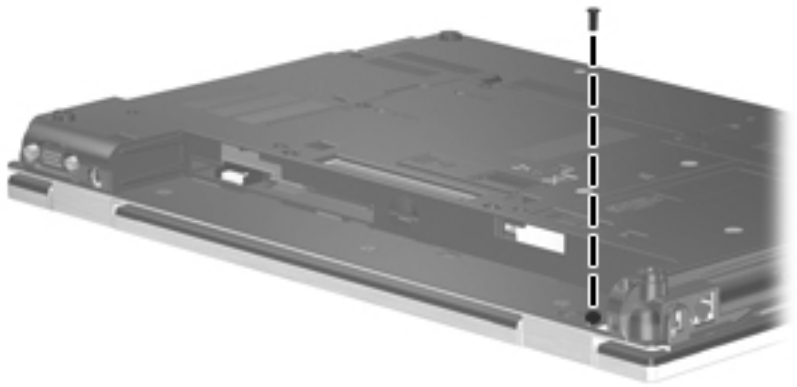


Where used: 4 screws that secure the heat sink to the base enclosure

Phillips PM2.5×5.0 screw

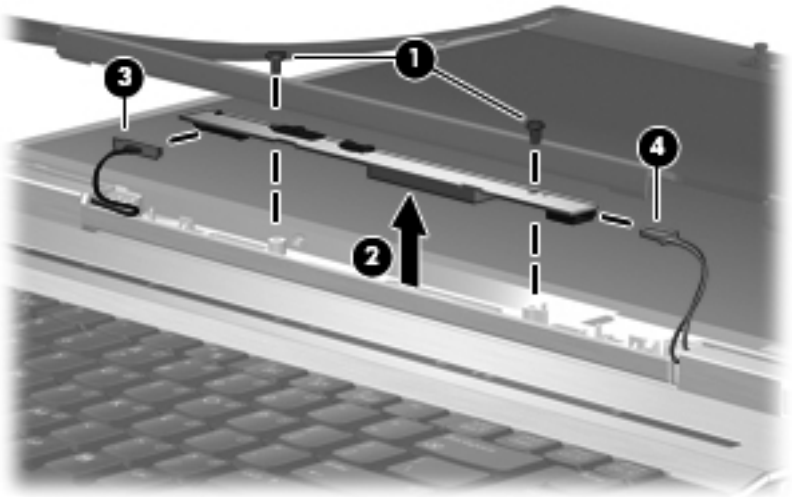


Color	Quantity	Length	Thread	Head diameter
Black	7	5.0 mm	2.5 mm	5.0 mm

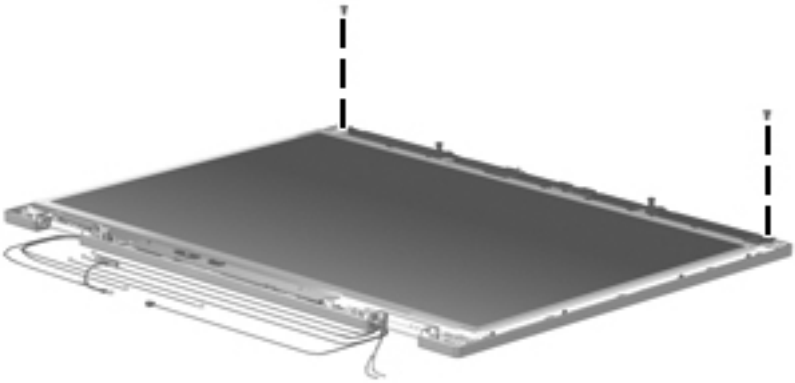


Where used: 2 screws that secure the display assembly to the display enclosure

Where used: 1 screw that secures each display hinge bracket to the display assembly

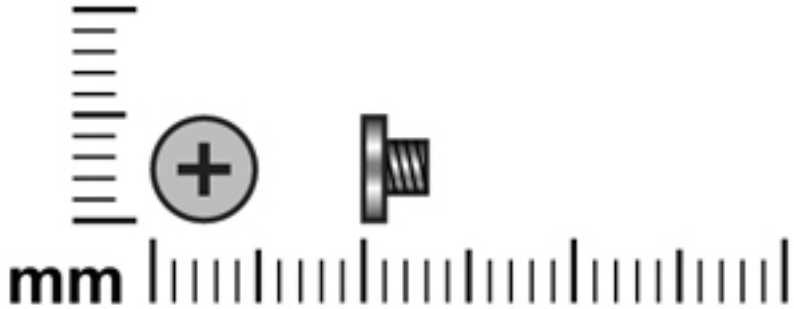


Where used: 2 screws that secure the display inverter to the display assembly

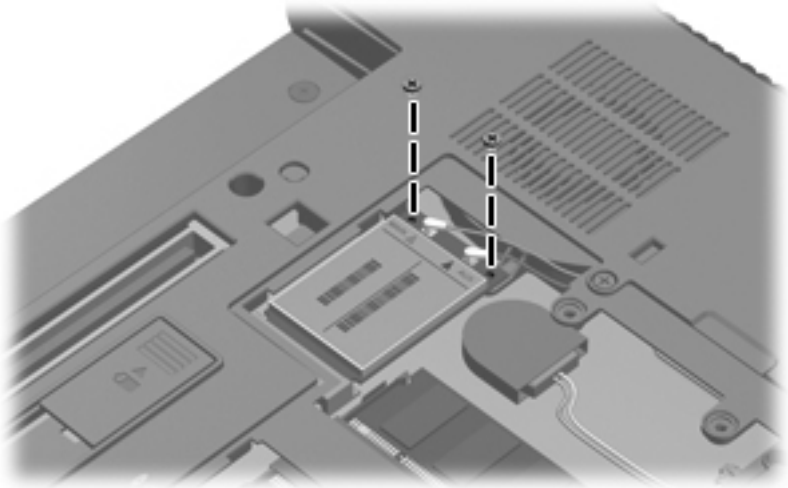


Where used: 2 screws that secure the display panel to the display enclosure

Phillips PM2.5×3.0 screw

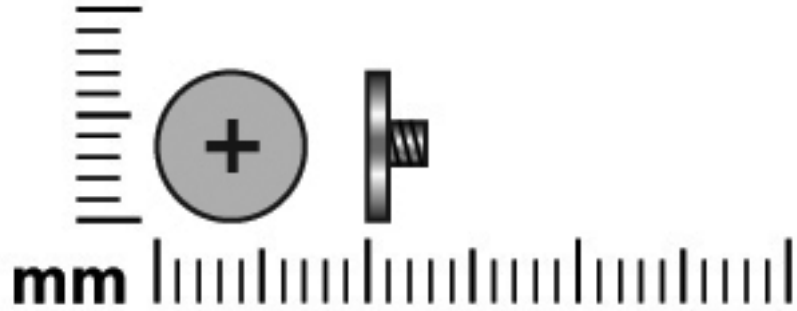


Color	Quantity	Length	Thread	Head diameter
Black	2	3.0 mm	2.5	4.5 mm

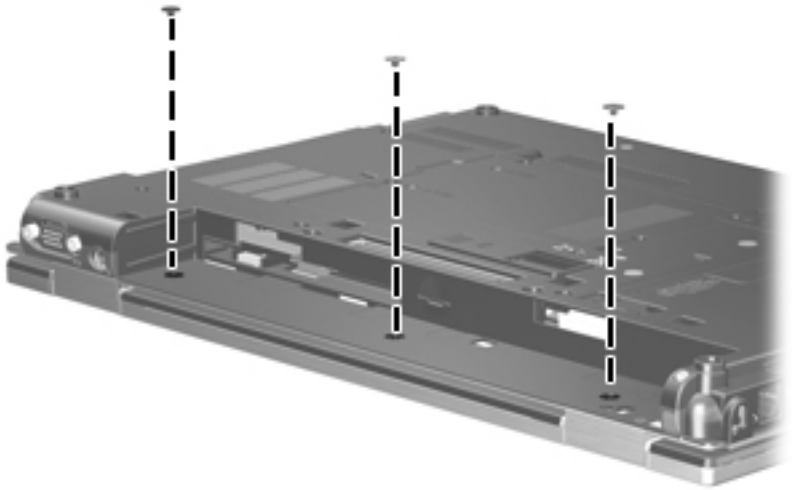


Where used: 2 screws that secure the WWAN module to the computer

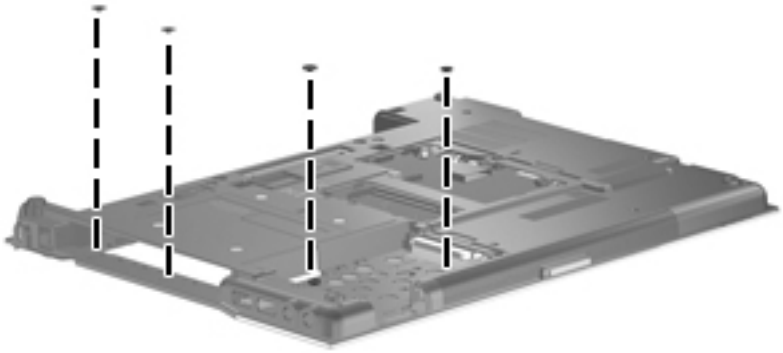
Phillips PM2.0×3.0 broadhead screw



Color	Quantity	Length	Thread	Head diameter
Black	7	3.0 mm	2.0 mm	4.5 mm



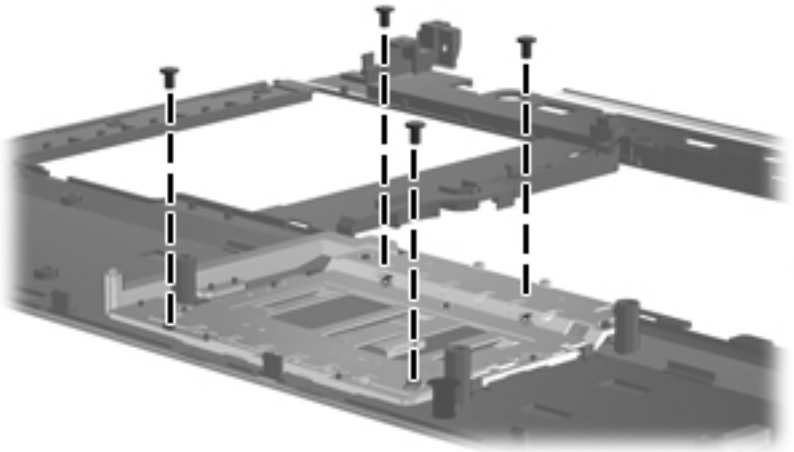
Where used: 3 screws that secure the switch cover to the computer



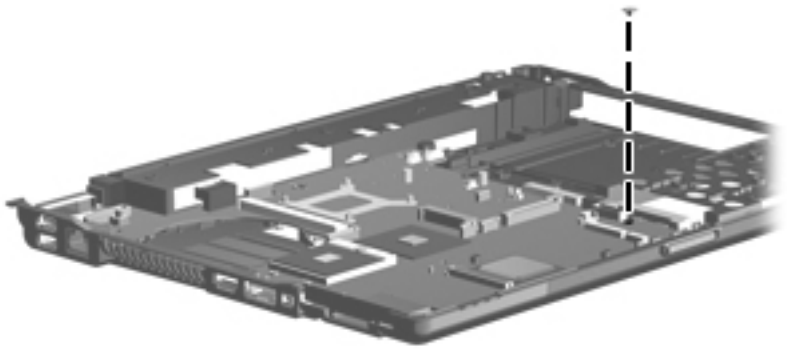
Where used: 4 screws that secure the top cover to the base enclosure

Black Phillips PM2.0×3.0 screw

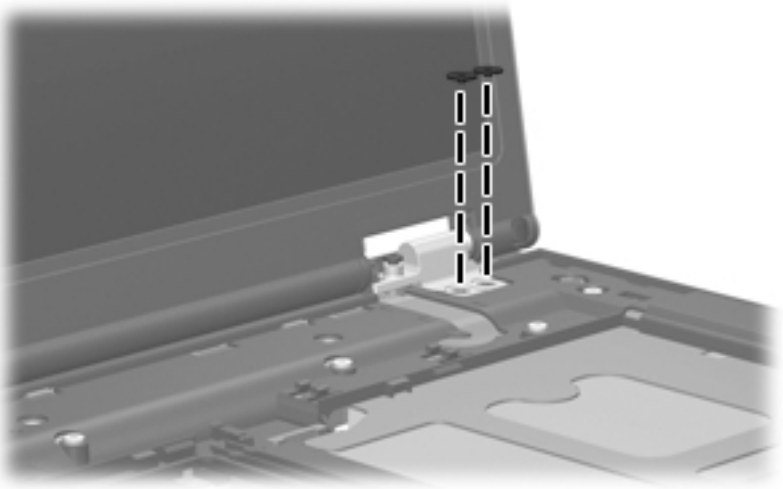
Color	Quantity	Length	Thread	Head diameter
Black	9	3.0 mm	2.0 mm	4.5 mm



Where used: 4 screws that secure the TouchPad bracket to the top cover

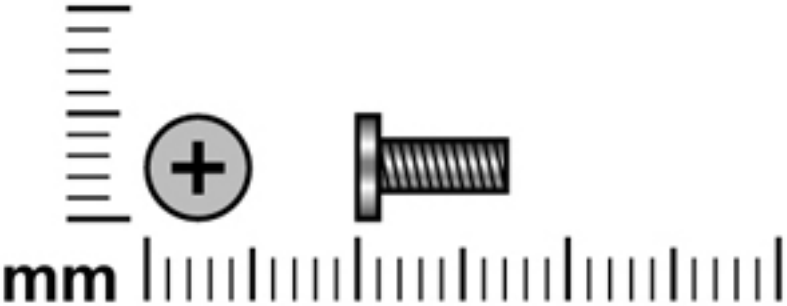


Where used: 1 screw that secures the system board to the base enclosure

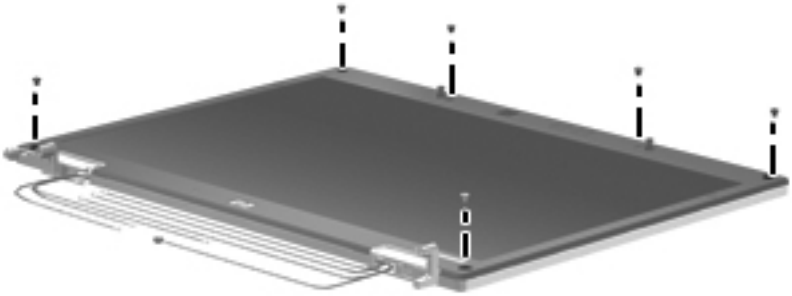


Where used: 2 screws that secure each display hinge to the computer

Black Phillips PM2.5×7.0 screw

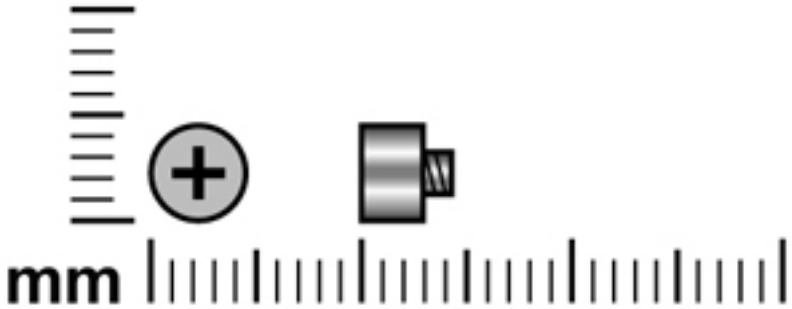


Color	Quantity	Length	Thread	Head diameter
Black	6	7.0 mm	2.5 mm	5.0 mm

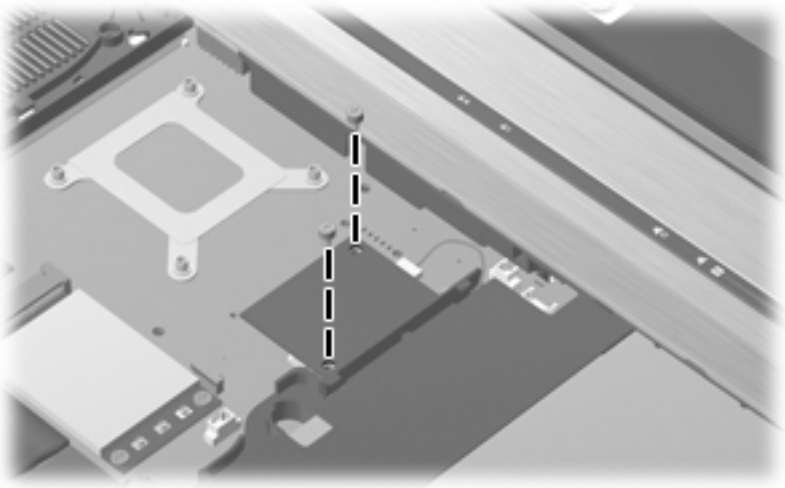


Where used: 6 screws that secure the display bezel to the display assembly

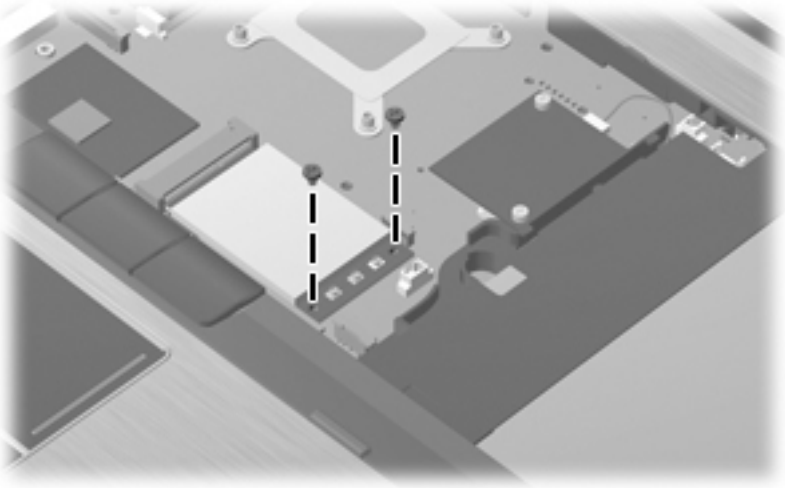
Black Phillips PM2.0×4.0 barrel screw



Color	Quantity	Length	Thread	Head diameter
Black	4	4.0	2.0	4.5

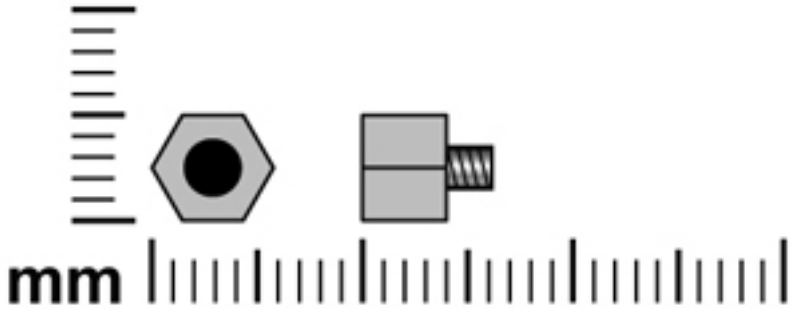


Where used: 2 screws that secure the modem module to the system board



Where used: 2 screws that secure the WLAN module to the system board

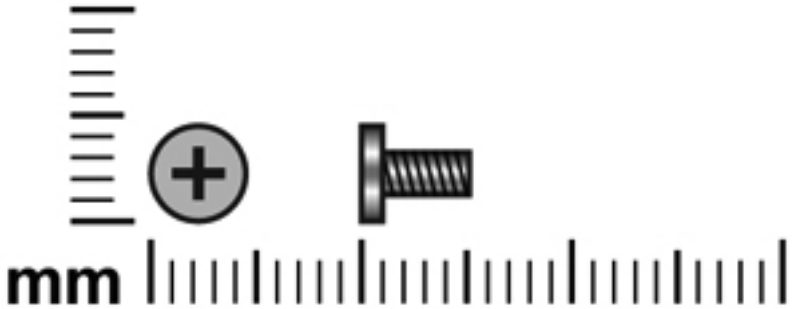
Silver HM2.5×6.0 hex screw locks



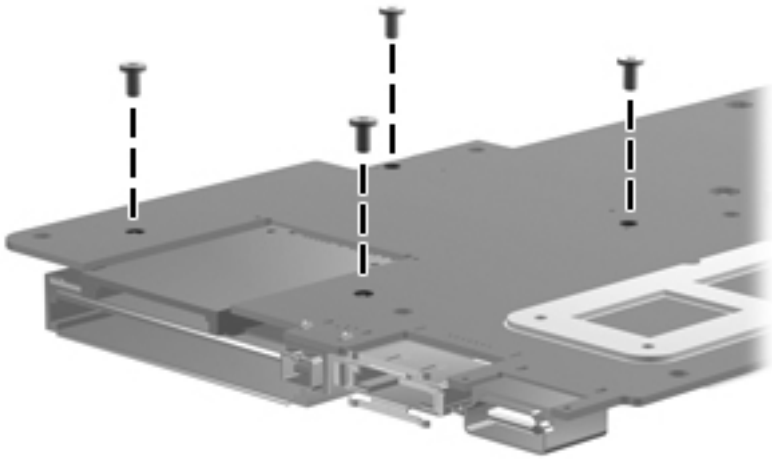
Color	Quantity	Length	Thread	Head diameter
Silver	2	6.0 mm	2.5 mm	6.0 mm

Where used: 2 hex screw locks that secure the top cover to the base enclosure

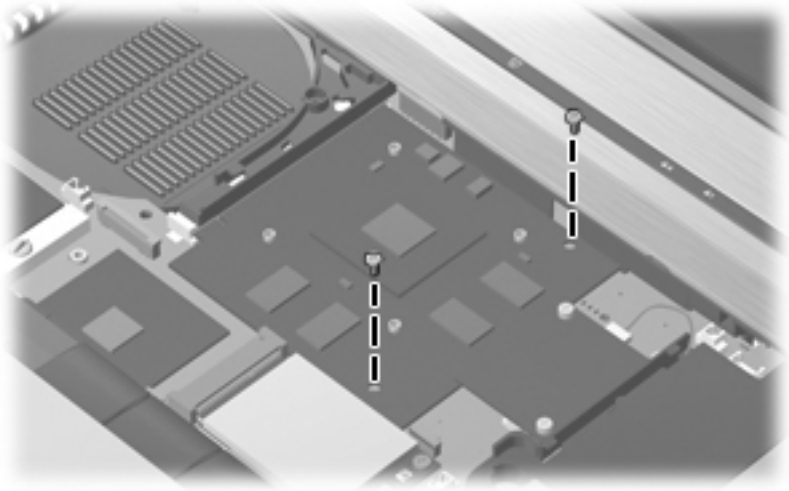
Black Phillips PM2.0×5.0 screw



Color	Quantity	Length	Thread	Head diameter
Black	6	5.0 mm	2.0 mm	4.5 mm



Where used: 4 screws that secure the ExpressCard assembly to the system board



Where used: 2 screws that secure the graphics card to the system board

8 Backup and recovery

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

Backing up your information

NOTE: You can recover only the files that you have previously backed up. HP recommends that you use the Windows backup utility to create a hard drive backup as soon as you set up your computer.

With the Windows backup utility, you can perform the following tasks:

- Backing up your information regularly to protect your important system files
- Creating system recovery points that allow you to reverse undesirable changes to your computer by restoring the computer to an earlier state
- Scheduling backups at specific intervals or events

NOTE: The Windows backup utility backs up only data files. The operating system, drivers, and programs are located on the operating system disc and *System Recovery* disc that are included with the computer.

When to back up

- On a regularly scheduled basis

  NOTE: Set reminders to back up your information periodically.

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

Backup suggestions

- Connect the computer to external power before performing backup and recovery procedures.
- Create system recovery points.
- Store personal files in the My Documents folder and back up these folders 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.

Backing up individual files or folders

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

NOTE: This process will take several minutes, depending on the file size and the speed of the computer.

To back up individual files or folders:

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

   The Backup or Restore Wizard page opens.

2. Click **Next**.

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

4. Follow the on-screen instructions.

Backing up all files and folders

When you back up all files and folders, you are saving all personal files and folders, all system files, and configuration settings at one time.

NOTE: When you back up all files and folders, this does not include the operating system or programs.

NOTE: This process may take over an hour, depending on your computer speed and the amount of data being stored.

NOTE: A copy of the backup files can be stored on an optional external hard drive or on a network drive.

To back up all files and folders:

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

   The Backup or Restore Wizard page opens.

2. Click **Next**.

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

4. Click **All information on this computer**, and then click **Next**.

5. Follow the on-screen instructions.

Creating recovery points

When you back up system modifications since your last backup, you are creating system recovery points. This allows you to save a snapshot of your hard drive at a specific point in time. You can then recover back to that point if you want to reverse subsequent changes made to your system.

NOTE: The first system recovery point, a snapshot of the entire image, is automatically created the first time you perform a backup. Subsequent recovery points make copies of changes made after that time.

HP recommends that you create recovery points at the following times:

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

NOTE: Recovering to an earlier recovery point does not affect data files or e-mails created since that recovery point.

To create a system recovery point:

1. Select **Start > All Programs > Accessories > System Tools > System Restore**.

   The System Restore window opens.

2. Click **Create a new restore point**, and then click **Next**.
3. Type a short description of the restore point. This will be used as the name of the restore point.
4. Click **Create**.
5. Follow the on-screen instructions.

Scheduling backups

You can schedule backups for the entire system, for recovery points, or for specific files and folders. Backups can be scheduled at specific intervals (daily, weekly, or monthly) or at specific events, such as at system restart or when you log on.

To schedule backups:

1. Select **Start > All Programs > Accessories > System Tools > Schedule Tasks**.

   The Schedule Tasks window opens.

2. Double-click **Add Scheduled Task**, and then click **Next**.
3. Select **Backup** in the **Application** list, and then click **Next**.
4. Type a name for the backup, select when you want the backup to be performed, and then click **Next**.
5. Enter your user name, password, and password again to confirm. Click **Next**, and then click **Finish**.

Performing a recovery

The Windows backup utility helps you recover important files that you have previously backed up in case of system failure.

NOTE: To recover the operating system and programs, use the operating system disc and *System Restore* disc that are included with the computer.

Initiating a recovery in Windows

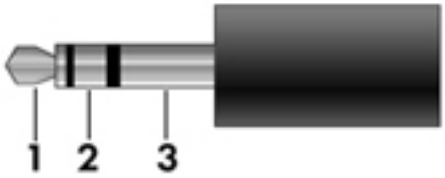
To initiate a recovery in Windows, follow these steps:

1. If possible, back up all personal files.
2. Select **Start > All Programs > Accessories > System Tools > Backup**.

   The Backup or Restore Wizard page opens.
3. Click **Restore files and settings**, and the click **Next**.
4. Follow the on-screen instructions.

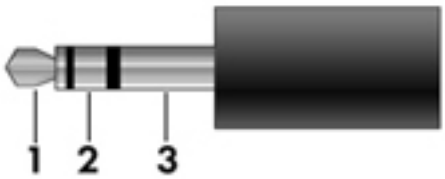
9 Connector pin assignments

Audio-out (headphone)



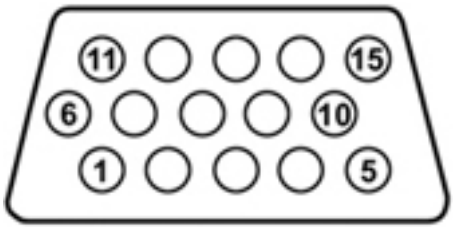
Pin	Signal
1	Audio out, left channel
2	Audio out, right channel
3	Ground

Audio-in (microphone)



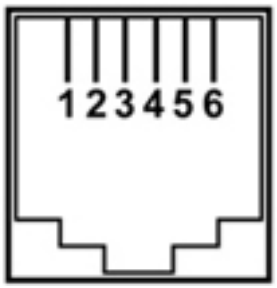
Pin	Signal
1	Audio signal in
2	Audio signal in
3	Ground

External monitor



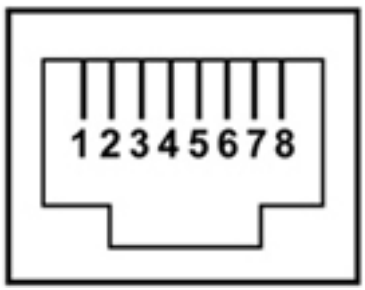
Pin	Signal
1	Red analog
2	Green analog
3	Blue analog
4	Not connected
5	Ground
6	Ground analog
7	Ground analog
8	Ground analog
9	+5 VDC
10	Ground
11	Monitor detect
12	DDC 2B data
13	Horizontal sync
14	Vertical sync
15	DDC 2B clock

RJ-11 (modem)



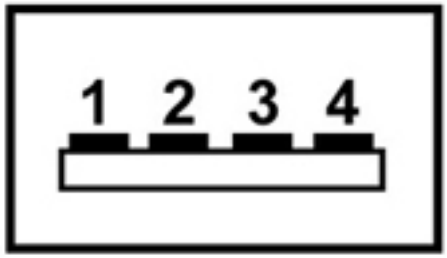
Pin	Signal
1	Unused
2	Tip
3	Ring
4	Unused
5	Unused
6	Unused

RJ-45 (network)



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

Universal Serial Bus



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

10 Power cord set requirements

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

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

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

Requirements for all countries and regions

The requirements listed below are applicable to all countries and regions:

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

Requirements for specific countries and regions

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

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

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

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

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

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

11 Recycling

Battery

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

Display

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

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

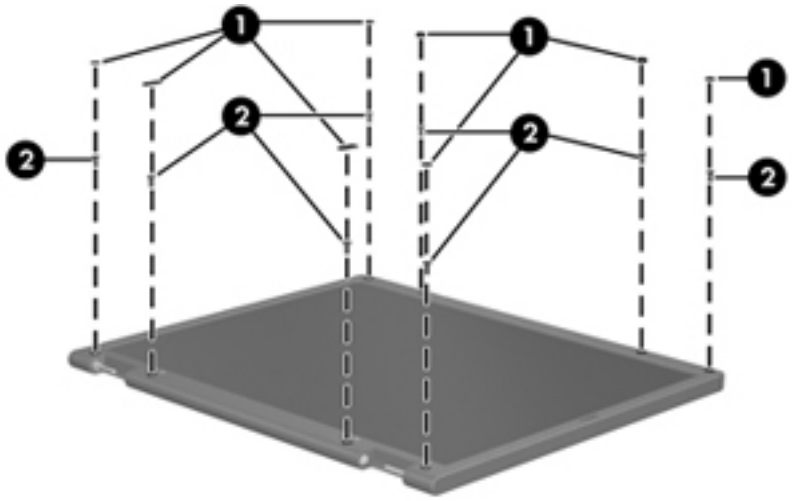
NOTE: **Materials Disposal**. This HP product contains mercury in the backlight in the display assembly that might require special handling at end-of-life. Disposal of mercury may be regulated because of environmental considerations. For disposal or recycling information, contact your local authorities,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

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

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

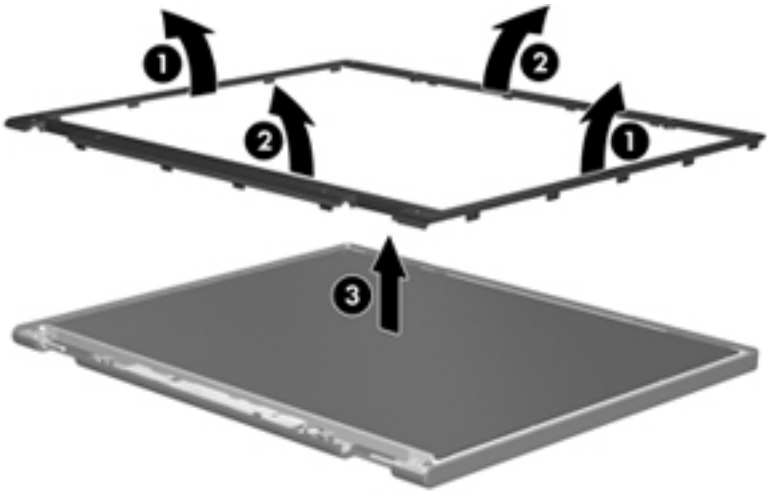
Perform the following steps to disassemble the display assembly:

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

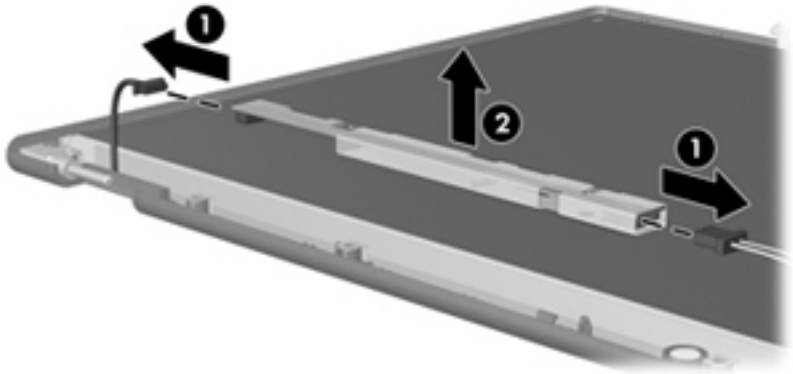


2. Lift up and out on the left and right inside edges **(1)** and the top and bottom inside edges **(2)** of the display bezel until the bezel disengages from the display assembly.

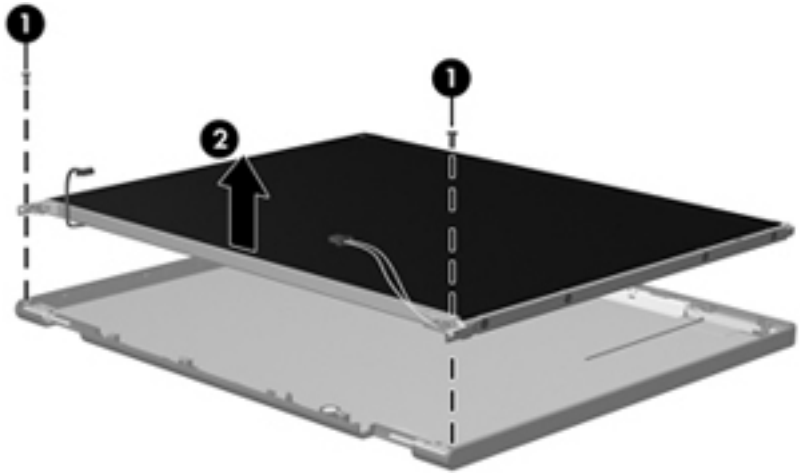
3. Remove the display bezel **(3)**.



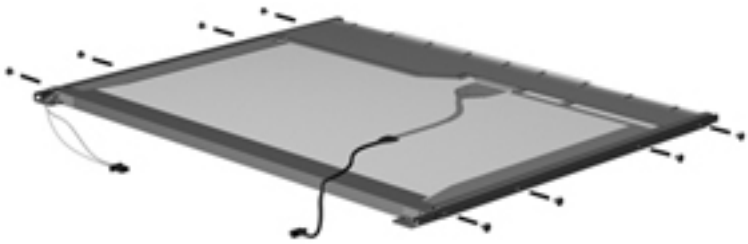
4. Disconnect all display panel cables **(1)** from the display inverter and remove the inverter **(2)**.



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

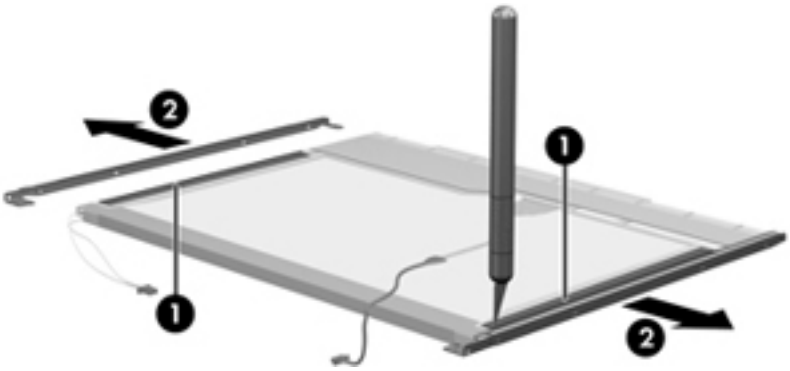


7. Turn the display panel assembly upside-down.
8. Remove all screws that secure the display panel frame to the display panel.

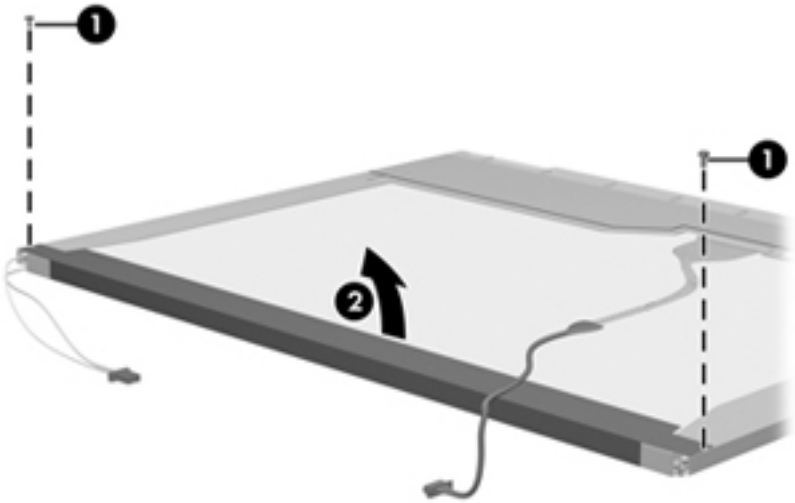


9. Use a sharp-edged tool to cut the tape **(1)** that secures the sides of the display panel to the display panel frame.

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

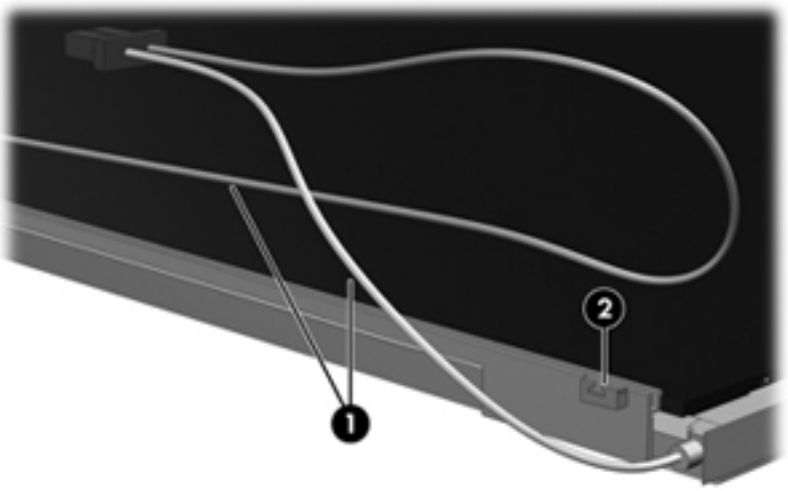


11. Remove the screws **(1)** that secure the backlight cover to the display panel.
12. Lift the top edge of the backlight cover **(2)** and swing it outward.



13. Remove the backlight cover.
14. Turn the display panel right-side up.

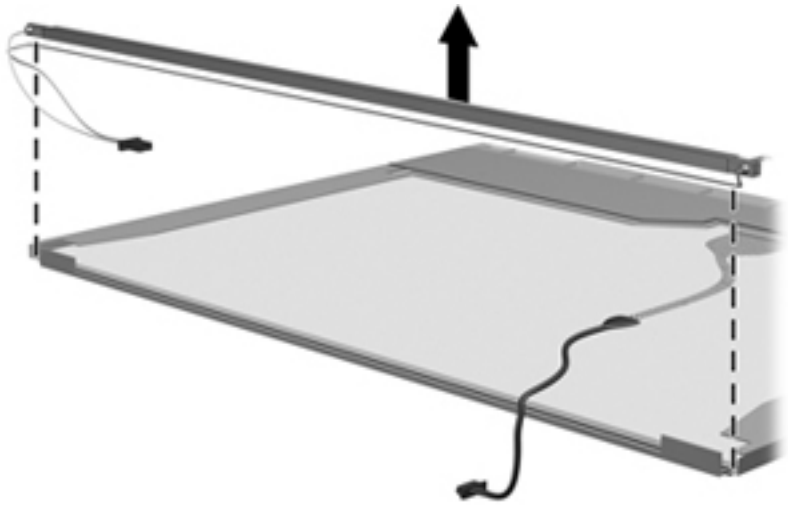
15. Remove the backlight cables **(1)** from the clip **(2)** in the display panel.



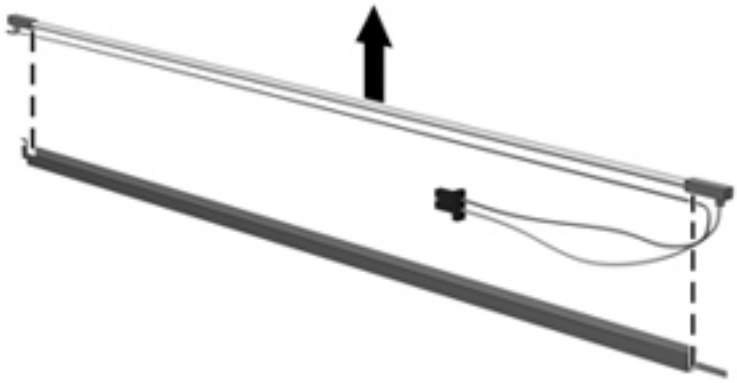
16. Turn the display panel upside-down.

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

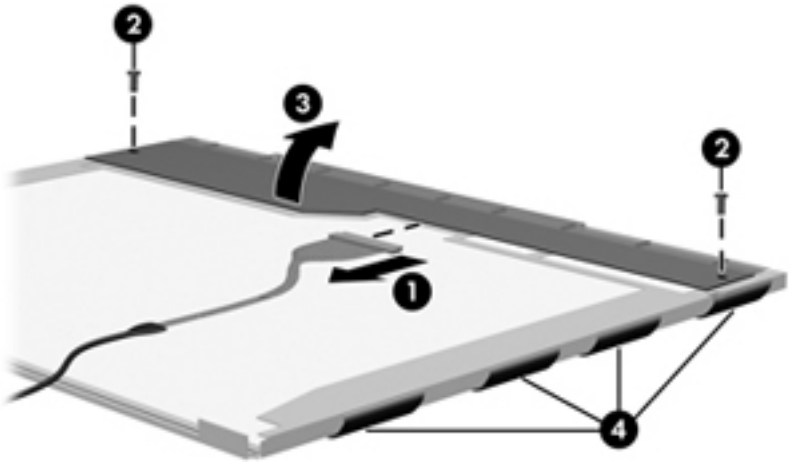
17. Remove the backlight frame from the display panel.



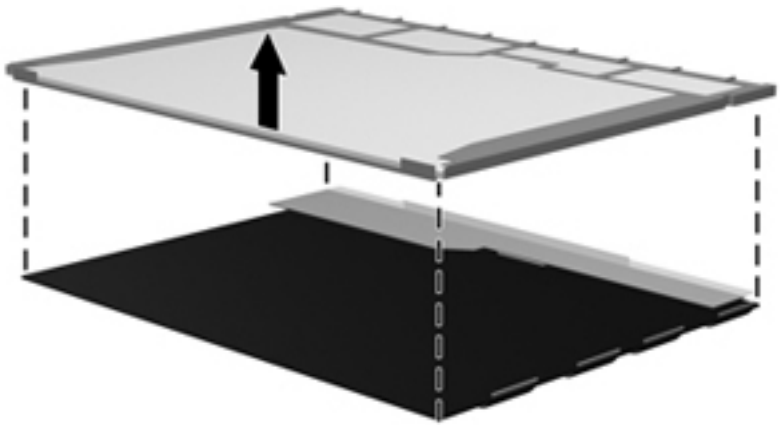
18. Remove the backlight from the backlight frame.



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



23. Remove the LCD panel.



24. Recycle the LCD panel and backlight.

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