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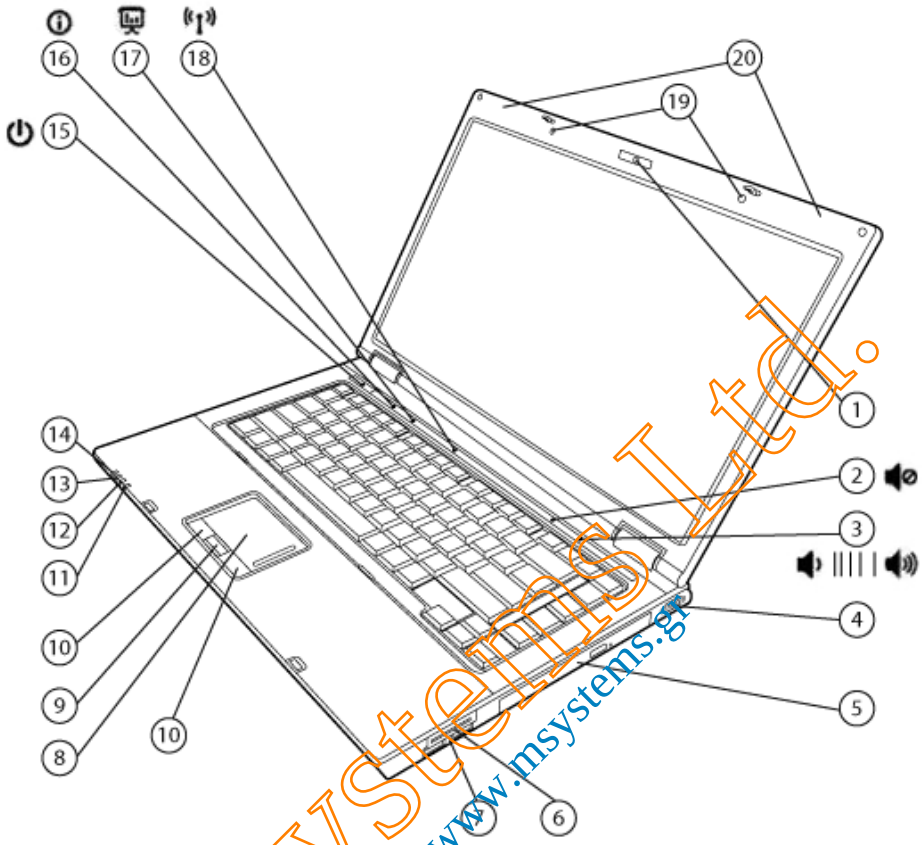
Overview

HP Compaq 6730b Notebook PC

HP recommends Windows Vista® Business



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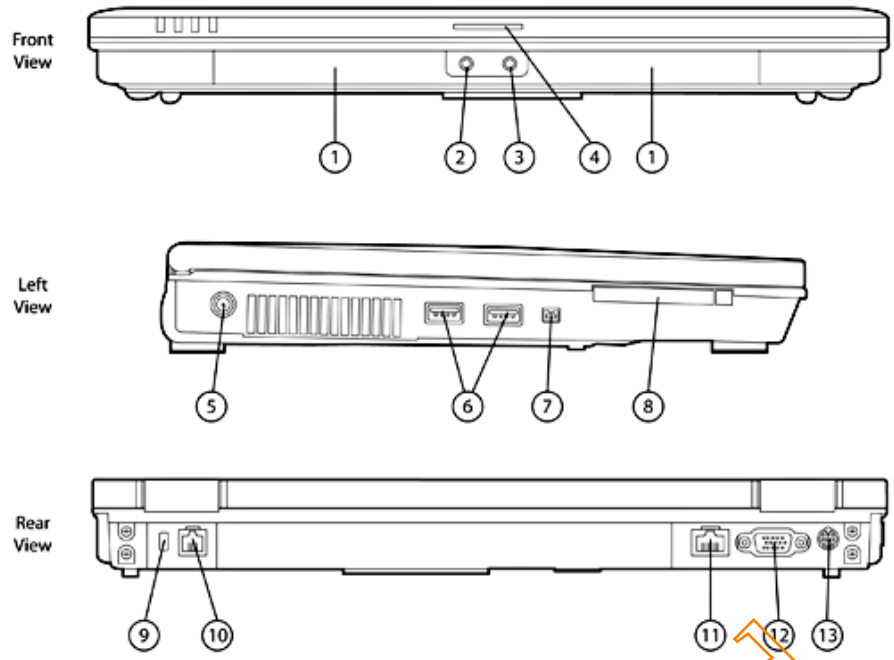
1. Optional VGA webcam
2. Volume mute button with LED indicator
3. Volume scroll zone with up/down LED indicators
4. Serial port
5. Optical drive/Upgrade Bay
6. Media Card Reader
7. (2) USB 2.0 ports
8. Touchpad with scroll zone
9. Optional HP Fingerprint Sensor
10. Touchpad buttons
11. Hard drive activity / HP 3D DriveGuard LED indicator
12. Battery charging LED indicator
13. Power/standby LED indicator
14. Wireless on/off LED indicator
15. Power button with LED indicator
16. HP Info Center/ HP QuickLook 2 button with LED indicator
17. HP Presentation button with LED indicator
18. Wireless on/off button with LED indicator
19. Integrated microphone (dual-microphone array with webcam)
20. WLAN and WWAN antennas (select models)



1. Stereo speakers
2. Stereo headphone/line out
3. Stereo microphone in
4. Display release latch
5. Power connector
6. (2) USB 2.0 ports
7. 1394a port
8. ExpressCard/54 slot or optional Smart Card Reader
9. Kensington Lock slot
10. RJ-11/modem port
11. RJ-45/Ethernet port
12. VGA/external monitor connector
13. S-Video TV out

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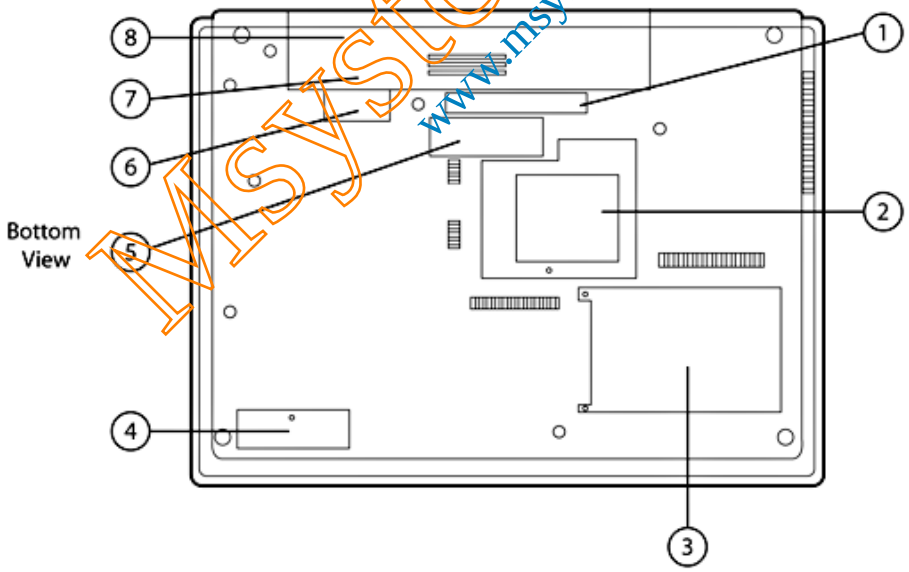

1. Docking connector
2. WLAN module compartment (select models)
3. Hard drive bay
4. Bluetooth module compartment
5. Secondary battery connector
6. SIM slot for WWAN (select models) – inside battery bay
7. Battery release latch
8. Battery bay

At A Glance

- Genuine Windows Vista Business 32, Genuine Windows Vista Home Basic 32, Genuine Windows Vista Business with downgrade to Windows XP Professional custom installed, or FreeDOS

- Widescreen 15.4-inch diagonal display with wide-viewing angle, optional BrightView and HP Privacy Filter support
- Intel® Core™2 Duo processor
- Thin, lightweight design starting at 5.93 lb/2.69 kg and 1.32-inch/33.6 mm thin at front
- Upgrade Bay for easy optical drive upgrade or optional second hard drive
- Flexible wireless connectivity options:
  - Integrated HP un2400 EV-DO/HSPA Mobile Broadband Module provides worldwide Gobi mobile Internet technology
  - Integrated 802.11 a/b/g/n draft 2.0 or b/g wireless LAN module
  - Bluetooth® 2.0
- Enhanced security features including HP ProtectTools, HP SpareKey, TPM 1.2;* optional Smart Card Reader and HP Fingerprint Sensor
- Optional integrated VGA webcam with dual-microphone array
- HP QuickLook 2 for instant access to e-mail, calendar, and contact information
- Up to 250 GB 5400 rpm or 160 GB 7200 rpm user-removable hard drive with HP 3D DriveGuard protection
- Enhanced reliability with magnesium alloy support structure and HP DuraFinish
- Touch-sensitive controls for HP Info Center/HP QuickLook 2, HP Presentation button, wireless on/off, mute, and volume up, volume down
- Media Card Reader
- Up to 8 GB of 800 MHz DDR2 SDRAM supported, dual-channel memory support
- Mobile Intel Graphics Media Accelerator 4500MHD
- Broadcom NetLink Gigabit Ethernet Controller (10/100/1000 NIC)
- Touchpad with scroll zone

* TPM module disabled where not permitted by law (for example, Russia and China).

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Standard Features

Processors		Intel Core 2 Duo Processor T9600 (2.80 GHz, 6 MB L2 cache, 1066 MHz FSB)* Intel Core 2 Duo Processor T9400 (2.53 GHz, 6 MB L2 cache, 1066 MHz FSB)* Intel Core 2 Duo Processor P8600 (2.40 GHz, 3 MB L2 cache, 1066 MHz FSB)* Intel Core 2 Duo Processor P8400 (2.26 GHz, 3 MB L2 cache, 1066 MHz FSB)* Intel Celeron Processor 575 (2.0 GHz, 1 MB L2 cache, 667 MHz FSB)* * Intel's numbering is not a measurement of higher performance. **NOTE:** Processor speed denotes maximum performance mode; processors will run at lower speeds in battery optimization mode.
Operating System	**Preinstalled**	Genuine Windows Vista Business 32* Genuine Windows Vista Home Basic 32* Genuine Windows Vista Business with downgrade to Genuine Windows XP Professional custom installed*† FreeDOS
	Supported	Genuine Windows Vista Business 64* Genuine Windows Vista Enterprise*
	Certified	SuSE Linux Enterprise Desktop 10
		* Certain Windows Vista product features require advanced or additional hardware. See: http://www.microsoft.com/windowsvista/getready/hardwarereqs.mspx and: http://www.microsoft.com/windowsvista/getready/capable.mspx for details. Windows Vista Upgrade Advisor can help you determine which features of Windows Vista will run on your computer. To download the tool, visit: http://www.windowsvista.com/upgradeadvisor. † Windows Vista Business may be included for future upgrade if desired. To qualify for this downgrade an end user must be a business (including governmental or educational institutions) and is expected to order annually at least 25 customer systems with the same custom image.
Chipset		Mobile Intel GE45 Express Chipset ICH9M-Enhanced **NOTE:** This chipset is equivalent to the Intel GM45 Express Chipset, with the addition of support for S-Video.
Graphics		Mobile Intel Graphics Media Accelerator 4500MHD Microsoft DirectX 10 capable
Display	**Internal**	15.4-inch diagonal WXGA anti-glare (1280 x 800 resolution) 15.4-inch diagonal WXGA BrightView (1280 x 800 resolution)

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		15.4-inch diagonal WSXGA+ WVA anti-glare (1680 x 1050 resolution) HP Privacy Filter support
	External	Up to 32-bit per pixel color depth **VGA** port supports resolutions up to 2048 x 1536 at 75 Hz, and lower resolutions at up to 100 Hz **DVI-D** (single link) video signal available through DVI port in optional HP Docking Station (sold separately) supports resolutions up to 1600 x 1200 at both full and reduced blanking, and 1920 x 1200 at reduced blanking **NOTE:** Resolutions are dependent upon monitor capability, and resolution and color depth settings.
Memory	**Standard**	800 MHz DDR2 SDRAM; two slots supporting dual-channel memory 1024 MB, 2048 MB, or 4096 MB
	Maximum	Upgradeable to 8192 MB with 4096 MB SODIMMs in slots 1 and 2
	Dual-channel	Maximized dual-channel performance requires SODIMMs of the same size and speed in both memory slots.
	NOTE: Due to the non-industry standard nature of some third-party memory modules, we recommend HP branded memory to ensure compatibility. If you mix memory speeds, the system will perform at the lower memory speed. Full availability of 4 GB or more of memory requires Windows Vista Business 64-bit or Linux. With Windows 32-bit operating systems, the amount of usable memory is dependent upon your configuration, so that above 3 GB all memory may not be available due to system resource requirements.	
Communications	Integrated Broadcom NetLink Gigabit Ethernet Controller (10/100/1000 NIC)* 56K V.92 modem** * The term "10/100/1000" or "Gigabit" Ethernet indicates compliance with IEEE standard 802.3ab for Gigabit Ethernet, and does not connote actual operating speed of 1 Gb/s. For high-speed transmission, connection to a Gigabit Ethernet server and network infrastructure is required. ** Designed for downloads from 56K modem compliant sources. Maximum achievable download transmission rates currently do not reach 56 KB/s, and will vary with line conditions. Modem availability is subject to country regulatory approval.	
Wireless Devices	Support for a broad range of secure, integrated wireless LAN and wireless WAN options featuring support for the latest industry standards. Wireless LAN is factory configurable or available as an option to be added later. Broadband Wireless (WWAN) requires Windows Vista Business or Windows XP Professional and is available in select countries as a standard, factory configurable feature only. Integrated Bluetooth is also available (factory configurable only) and can be combined with any of the supported wireless LAN and wireless WAN options.	
	HP un2400 EV-DO/HSPA Mobile Broadband Module	Integrated WWAN module with Gobi global mobile Internet technology that provides worldwide connection to both CDMA (EVDO) and UMTS (HSPA) wireless networks. **NOTE:** Separately purchased mobile network operator service is required. Two 850/900/1800/1900/2100 MHz antennas integrated in the top of the display panel support current and future WWAN technologies.
	All 802.11 integrated wireless LAN options	Wi-Fi Certified* Cisco Compatible Extensions support Wired Equivalent Privacy (WEP) support up to 128-bit keys Wi-Fi Protected Access (WPA) and WPA2 support 802.1x authentication support, including EAP-TLS, EAP-TTLS, PEAP-GTC, PEAP-MSCHAPv2, and LEAP Advanced Encryption Standard (AES) support Dual antennas integrated in the display enclosure
	Intel WiFi Link 5100	Integrated support for 802.11 a, b g, and n draft 2.0* Up to 300 mbps data rate
	Broadcom 4322AGN 802.11a/b/g/draft-n Wi-Fi Adapter	Integrated support for 802.11a, b, g, and n draft 2.0* Up to 300 mbps data rate
	Broadcom 4312G 802.11b/g WiFi Adapter	Integrated support for 802.11 b and g Up to 54 mbps data rate
	HP Integrated Module with Bluetooth Wireless Technology	Bluetooth Specification v2.0 compliant Works with a wide range of Bluetooth devices
	* The specifications for 802.11n draft 2.0 are draft specifications and are not final. If the final specifications differ from the draft specifications, it may affect the ability of the notebook to communicate with other 802.11n WLAN devices. In countries where n draft 2.0 is not allowed, this capability is not enabled (Intel 802.11a/b/g only).	

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Keyboard	The 101/102-key compatible keyboard features an industry standard, full-pitch key layout with desktop keyboard features, such as the isolated inverted-T cursor control keys, editing keys, both left and right control and alt keys, and 12 function keys. U.S. and International key layouts are available. Other features include an integrated numeric keypad, hotkeys for instant access to power conservation, brightness, and other features, 19 mm x 19 mm key pitch (center-to-center spacing), 2.5 mm stroke, and comfort-dished keycaps.		
Touch-sensitive controls	Touch-sensitive controls provide easy access to the following features: HP Info Center, HP QuickLook 2, HP Presentation button, wireless on/off, mute, and volume up, volume down.		
Pointing device	Touchpad with scroll zone, two pick buttons		
Expansion card slots	**ExpressCard/54 slot**	Supports ExpressCard/54 and ExpressCard/34	
	or		
	Optional Integrated Smart Card Reader (replaces ExpressCard/54 slot)	Compatible with ISO 7816 compliant Smart Cards PC/SC interface support	
	Media Card Reader	Supports SD (Secure Digital), HC-SD (High Capacity Secure Digital, MMC (MultiMedia Card), HS-MMC (MultiMedia Card Plus), Sony Memory Stick, Sony Memory Stick Pro, Memory Stick Duo*, xD-Picture card Additionally, the following cards are supported via passive adapters (sold separately): Mini-Secure Digital (Mini-SD), Transflash (Micro-SD), Reduced size Multimedia card (RS-MMC), Reduced size Dual voltage Multimedia card, MMC Mobile Cards, MMC Micro Cards, Memory Stick Duo (MS Duo)*, Memory Stick Duo Pro (MS Duo Pro)*, Memory Stick M2 Micro	
	* Memory Stick Duo Adapters are required and sold separately. Inserting a Memory Stick Duo Card directly into your notebook could damage the memory card and/or notebook.		
Storage	**Hard drives**	120/160/250 GB 5400 rpm SMART SATA II 160 GB 7200 rpm SMART SATA II	
	NOTE: These hard drives are customer removable and will withstand multiple insertion/removal cycles. Up to 10 GB is reserved for the system recovery software.		
	HP 3D DriveGuard	The hard drive is mounted directly to the notebook frame, reducing the transmission of shock to the hard drive. Uses three-axis digital motion detection with intelligent sensitivity to help protect the hard drive during normal use from shock and vibration. The digital accelerometer temporarily halts all data transfer and parks the hard drive when abrupt motion is detected.	
	Upgrade Bay	Fixed 12.7 mm SATA optical drive	DVD+/-RW SuperMulti DL LightScribe Drive DVD/CD-RW Combo Drive DVD-ROM Drive
		or	
		Second hard drive	250 GB 5400 rpm SMART SATA II Hard Drive
Interfaces	**ExpressCard/54 slot**	One (or optional Smart Card Reader)	
	External monitor	One (VGA)	
	1394a	One	
	Stereo headphone/line out	One	
	Power connector	One	
	RJ-11/modem	One	
	RJ-45/Ethernet	One	
	S-video TV out	One (Support for NTSC/PAL)	
	USB 2.0	Four	
	Serial port	One	
	Docking connector	One	
	Secondary battery connector	One	

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Audio/Visual		High Definition Audio support w/24-bit DAC Integrated stereo speakers Integrated microphone (dual-microphone array when equipped with optional VGA webcam) Touch-sensitive controls for volume up, volume down, and mute Stereo headphone/line out Stereo microphone in Optional VGA webcam
Software	**Preinstalled software with Windows Vista or Windows XP**	HP Recovery Manager (Vista only) HP Help and Support Center HP QuickLook 2 HP Universal Print Driver HP ProtectTools Security Manager: BIOS Configuration for HP ProtectTools Credential Manager for HP ProtectTools Device Access Manager for HP ProtectTools Drive Encryption for HP ProtectTools Embedded Security for HP ProtectTools HP Quick Launch Buttons HP Wireless Assistant Microsoft Office Ready with 60-day Office Professional 2007 Trial Edition (select models) PDF Complete SE Intervideo WinDVD – DVD Player Roxio Creator Business (for optional DVD+/-RW and DVD/CDRW drives) McAfee Total Protection* Synaptics Touchpad Driver Microsoft Windows Live Messenger (select models) HP Webcam Software (with optional VGA webcam)
	Additional software available from the web	HP SoftPaq Download Manager HP Client Manager Software HP Client Management Solutions Java Card Security for HP ProtectTools
	* 60 day trial period for McAfee Total Protection for Small Business software. Internet access required to receive updates. First update included. Subscription required for updates thereafter.	
HP Recovery Manager (Vista only)		Each unit is shipped with HP Recovery Manager. HP Recovery Manager enables fast recovery of the factory preinstalled image if the system becomes corrupted or if important system files are accidentally deleted. Up to 10 GB of the hard drive is reserved for the system recovery software.
SMBIOS Version 2.4		System Management BIOS, previously known as DMI BIOS, is used to store system management information.
HP ProtectTools Security Manager		HP ProtectTools Security Manager is the security platform for business notebooks and desktops. The HP ProtectTools Security Manager is an extensible client security console that delivers enhanced security capabilities through add-on software modules. Modules currently available are: • BIOS Configuration for HP ProtectTools • Credential Manager for HP ProtectTools • Device Access Manager for HP ProtectTools • Drive Encryption for HP ProtectTools • File Sanitizer for HP ProtectTools • Set-up Wizard for HP ProtectTools • Privacy Manager for HP ProtectTools (Chat & Sign) • Embedded Security for HP ProtectTools • Java Card Security for HP ProtectTools
Security	**Standard Features**	HP ProtectTools Security Manager Enhanced Pre-Boot Security HP SpareKey One-Step Logon Configuration Control Hardware Memory Change Alert Ownership Tag Setup Password Power-On Password TPM 1.2 Embedded Security Chip* TPM Enhanced DriveLock* HP Disk Sanitizer

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		HP 3D DriveGuard Kensington Lock slot Support for Computrace / LoJack for Laptops (must be purchased separately)	
	Optional Features	**Smart Card Reader** (replaces ExpressCard/54 slot)	Compatible with ISO 7816 compliant Smart Cards PC/SC interface support
		HP Fingerprint Sensor	Enhanced sensor scans the fingerprint to uniquely identify and authenticate a person
		HP Privacy Filter	Narrows viewing area so that screen data is visible only to persons directly in front of the monitor

* TPM module disabled where use is restricted by law; for example, Russia and China.
NOTE: For more information on HP security solutions refer to: http://www.hp.com/go/security.

Power Supply	External 90-watt Smart AC adapter, 6-foot (1.8 meter) power cord included. Total length including external AC adapter is 12 feet (3.66 meter). HP Fast Charge*

* HP Fast Charge recharges your battery up to 90% within 90 minutes when the system is off. HP Fast Charge does not apply to 12-cell Ultra-Capacity batteries.

Battery	**Primary battery**	6-cell (55 WHr) Li-Ion battery 6-cell (47 WHr) Li-Ion battery
	Optional HP Extended Life Battery	8-cell (52 WHr) high capacity Li-Ion battery
	Optional HP Ultra-Capacity Battery	12-cell (95 WHr) high capacity Li-Ion battery

Battery Life		**6-cell (55 WHr) Primary**	**6-cell (47 WHr) Primary**
	Primary battery	Up to 6 hours	Up to 4 hours and 45 minutes
	Primary battery and optional HP Extended Life Battery	Up to 12 hours	TBD
	Primary battery and optional HP Ultra-Capacity Battery	Up to 15 hours and 30 minutes	TBD

NOTE: The listed battery life measurements were taken on models running Microsoft Windows XP Professional. Battery life will vary depending on the product configuration, product model, applications loaded on the product, power management settings of the product, and the product features used by the customer. As with all batteries, the maximum capacity of this battery will decrease with time and usage.

System Standby Time	Up to TBD week

Power Conservation	Supports enhanced Intel SpeedStep technology with Intel Core 2 Duo processors (allows Battery Optimized Mode, Maximum Performance Mode, or Automatic mode) Intel Display Power Saving technology Hibernation Standby ACPI compliance

Docking and Stands	HP 2008 120W Docking Station HP 2008 150W Docking Station HP 2008 150W Advanced Docking Station HP 2008 180W Advanced Docking Station HP Mobile Port Replicator HP Monitor Stand HP Adjustable Notebook Stand HP Dual Monitor Stand HP's shared docking solutions provide simple and convenient port replication and cable management. Features include Gigabit NIC pass through, modem pass through, legacy parallel and serial ports, S-video TV out, USB 2.0 ports, integrated security mechanism*, integrated MultiBay II and ExpressCard** slots. These docking solutions are compatible across multiple Business Notebook platforms enabling a lower total cost of ownership. * HP/Kensington Cable Lock required (purchased separately) ** HP Advanced Docking Station only

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Service and Support	HP Services offers limited 3-year, 1-year and 90-day warranty options depending on country; 1-year limited warranty on primary battery. On-site service and warranty upgrades are also available. HP Care Pack Services extend service contracts beyond the standard warranties. To choose the right level of service for your HP product, use the HP Care Pack Services Lookup Tool at: http://www.hp.com/go/lookuptool. Additional HP Care Pack Services information by product is available at: http://www.hp.com/hps/carepack. **NOTE:** Certain restrictions and exclusions apply. Consult the HP Customer Support Center for details. http://h20000.www2.hp.com/bizsupport/TechSupport/ProductRoot.jsp
Select Model(s)	HP's Global Product Offer includes Global Series Preconfigured (GS-P) and Configurable (GS-C) products. GPO delivers globally consistent products, services, and solutions with End-of-Life (EOL) transition management. These products reduce IT complexity, lower management costs, increase productivity, and simplify product transitions.

6930p FH005AW#xxx (for North America and Taiwan) FH006AW#xxx (for EMEA and APJ excluding Taiwan) FH007AW#xxx (for Latin America) **NOTE:** Components may vary based on local regulatory requirements	
Processor	Intel Core 2 Duo Processor P8600 (2.40 GHz, 3 MB L2 cache, 1066 MHz FSB)
Operating System	Genuine Windows Vista Business 32 with Office Ready
System Memory	2048 MB 800 MHz DDR2 (1 DIMM)
Hard Drive	160 GB 5400 rpm SMART SATA II
Upgrade Bay	DVD+/-RW SuperMulti DL LightScribe Drive
Display	15.4-inch diagonal WXGA anti-glare
Graphics	Mobile Intel GMA 4500MHD
Webcam	No
Audio	ADI High Definition CODEC Stereo headphone/line out and microphone in Integrated microphone
Communications	Integrated Intel Gigabit Network Connection (10/100/1000 NIC) 56K V.92 modem
Integrated Wireless	Intel WiFi Link 5100 (802.11 a/b/g/n draft 2.0) HP Integrated Module with Bluetooth Wireless Technology
Integrated Security	Drive Encryption for HP ProtectTools HP Fingerprint Sensor TPM 1.2*
Pointing Device	Touchpad
Battery	6-cell (55 WHr) Li-Ion
Power	External 90W adapter
Miscellaneous	Media DRDVD Win XP 6730/6530 & Media OSCD Win XP Pro
Warranty	3/3/0

* TPM module disabled where use is restricted by law; for example, Russia and China.

6930p FH008AW#xxx (for North America and Taiwan) FH009AW#xxx (for EMEA and APJ excluding Taiwan) FH010AW#xxx (for Latin America) **NOTE:** Components may vary based on local regulatory requirements	
Processor	Intel Core 2 Duo Processor T9400 (2.53 GHz, 6 MB L2 cache, 1066 MHz FSB)
Operating System	Genuine Windows Vista Business 32 with Office Ready
System Memory	2048 MB 800 MHz DDR2 (1 DIMM)
Hard Drive	160 GB 5400 rpm SMART SATA II
Upgrade Bay	DVD+/-RW SuperMulti DL LightScribe Drive
Display	15.4-inch diagonal WSXGA+ WVA anti-glare
Graphics	Mobile Intel GMA 4500MHD
Webcam	No
Audio	ADI High Definition CODEC Stereo headphone/line out and microphone in Integrated microphone
Communications	Integrated Intel Gigabit Network Connection (10/100/1000 NIC) 56K V.92 modem
Integrated Wireless	Intel WiFi Link 5100 (802.11 a/b/g/n draft 2.0) HP Integrated Module with Bluetooth Wireless Technology
Integrated Security	Drive Encryption for HP ProtectTools HP Fingerprint Sensor TPM 1.2*
Pointing Device	Touchpad
Battery	6-cell (55 WHr) Li-Ion

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	Power	External 90W adapter
	Miscellaneous	Media DRDVD Win XP 6730/6530 & Media OSCD Win XP Pro
	Warranty	3/3/0

* TPM module disabled where use is restricted by law; for example, Russia and China.

6930p FQ230AW#xxx (for North America and Taiwan) FQ231AW#xxx (for EMEA and APJ excluding Taiwan) FQ232AW#xxx (for Latin America) **NOTE:** Components may vary based on local regulatory requirements	**Processor**	Intel Core 2 Duo Processor P8400 (2.26 GHz, 3 MB L2 cache, 1066 MHz FSB)
	Operating System	Genuine Windows Vista Business 32 with Office Ready
	System Memory	2048 MB 800 MHz DDR2 (1 DIMM)
	Hard Drive	120 GB 5400 rpm SMART SATA II
	Upgrade Bay	DVD+/-RW SuperMulti DL LightScribe Drive
	Display	15.4-inch diagonal WXGA anti-glare
	Graphics	Mobile Intel GMA 4500MHD
	Webcam	No
	Audio	ADI High Definition CODEC Stereo headphone/line out and microphone in Integrated microphone
	Communications	Integrated Intel Gigabit Network Connection (10/100/1000 NIC) 56K V.92 modem
	Integrated Wireless	Intel WiFi Link 5100 (802.11 a/b/g/n draft 2.0) HP Integrated Module with Bluetooth Wireless Technology
	Integrated Security	Drive Encryption for HP ProtectTools HP Fingerprint Sensor TPM 1.2*
	Pointing Device	Touchpad
	Battery	6-cell (55 WHr) Li-Ion
	Power	External 90W adapter
	Miscellaneous	Media DRDVD Win XP 6730/6530 & Media OSCD Win XP Pro
	Warranty	3/3/0

* TPM module disabled where use is restricted by law; for example, Russia and China.

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Options

Memory	HP 1 GB (DDR2 800 MHz) SODIMM	KT292AA
	HP 2 GB (DDR2 800 MHz) SODIMM	KT293AA
	HP 4 GB (DDR2 800 MHz) SODIMM	KT294AA
Storage	HP Notebooks USB Diskette Drive	DC361B
	HP Primary SATA 120 GB 7200 rpm Hard Drive	AH920AA
	HP Primary SATA 250 GB 5400 rpm Hard Drive	AK072AA
	HP Upgrade Bay SATA 250 GB 5400 rpm Hard Drive	AK868AA
	HP Upgrade Bay SATA DVD+/-RW SuperMulti DL LightScribe Drive	AK869AA
	HP Primary SATA 120 GB 5400 rpm Hard Drive	RT080AA
MultiBay II Storage (9.5-mm) **NOTE:** Requires HP Advanced Docking Station or HP External MultiBay II	HP MultiBay II DVD-ROM Drive	PA849A
	HP MultiBay II DVD+/-RW SuperMulti DL Drive	PA851A
Expansion Solutions	HP 2008 120W Docking Station	KP080AA#xxx
	HP 2008 150W Docking Station	KQ751AA#xxx
	HP 2008 150W Advanced Docking Station	KP081AA#xxx
	HP 2008 180W Advanced Docking Station	KQ752AA#xxx
	HP Mobile Port Replicator	AK155AA
	HP Monitor Stand	PA507A
	HP Adjustable Notebook Stand	PA508A

	HP Dual-Monitor Stand	AK084AA
	HP External MultiBay II	PA509A#xxx
Communications	Intel® WiFi Link 5300	KM591AA#xxx
Power	HP 1-Bay Battery Charging Station	RW635AA#xxx
	HP 5-Bay Battery Charging Station	RW636AA#ABA
	HP Battery Adapter Kit	KV829AA
	HP 90W Smart AC Adapter	ED495AA#xxx
	HP 90W Smart Combo Adapter	AJ652AA#xxx
	HP 6-Cell Li-Ion Primary Battery	KU531AA
	HP 8-Cell Extended Life Battery	PB993A
	HP 12-Cell Ultra-Capacity Battery	EJ092AA
	HP Extended Life Battery	AJ359AA
	HP 90W Smart Auto Adapter	ED493AA
	HP 65W AC/Auto/Air Combo Smart Adapter	ED993AA#xxx
Carrying Cases	HP Basic Carrying Case	AJ078AA
	HP Value Nylon Case	RR314AA
	HP Universal Nylon Case	RR315AA
	HP Executive Leather Case	RR316AA
	HP Deluxe Nylon Backpack	RR317AA
	HP Deluxe Roller Case	GD405AA
Security	HP ExpressCard Smart Card Reader with Java Card	AJ451AA
	HP ProtectTools Java Card - 10 units	EL348AA
	HP/Kensington MicroSaver Security Lock	PC766A
	HP 15.4" Display Privacy Filter	AJ358AA
Input/Output Devices	HP PS/2 Keyboard & Mouse Bundle	RC464AA#xxx
	HP USB Keyboard & Mouse Bundle	RC465AA#xxx
	HP USB/PS2 Optical 2-Button Scroll Mouse	DC369A
	HP USB Optical Travel Mouse	RH304AA

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Memory

800 MHz DDR2 SDRAM
Two SODIMM slots supporting dual-channel memory
SODIMM sizes supported: 1024 MB, 2048 MB, and 4096 MB

Standard Memory

- 1024 MB (1024 MB x 1)
- 2048 MB (2048 MB x 1 or 1024 MB x 2)
- 3072 MB (2048 MB + 1024 MB)
- 4096 MB (2048 MB x 2)

Optional Memory Upgrades

Support for up to 8192 MB of memory with the installation of optional DDR2 SDRAM memory kits. Both memory slots are user-accessible. Please refer to the Hardware and Software Guide for installation procedures. Maximized dual-channel performance requires SODIMMs of the same size and speed in both memory slots.

Up to	Slot 1	Slot 2
1024 MB	1024 MB	Empty
2048 MB	2048 MB	Empty
2048 MB	1024 MB	1024 MB
3072 MB	2048 MB	1024 MB
4096 MB	2048 MB	2048 MB

8192 MB	4096 MB	4096 MB

NOTE: This chart does not represent all possible memory configurations. Due to the non-industry standard nature of some third-party memory modules, we strongly recommend using only HP- branded memory modules to ensure compatibility. If you mix memory speeds, the system will perform at the lower memory speed. Full availability of 4 GB or more of memory requires Windows Vista Business 64-bit or Linux. With Windows 32-bit operating systems, the amount of usable memory is dependent upon your configuration, so that above 3 GB all memory may not be available due to system resource requirements.

Memory Upgrades	HP 1 GB (DDR2 800 MHz) SODIMM	KT292AA
	HP 2 GB (DDR2 800 MHz) SODIMM	KT293AA
	HP 4 GB (DDR2 800 MHz) SODIMM	KT294AA

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Storage

Upgrade Bay Drive Support

	Quantity Supported	Drive Bay
DVD+/-RW SuperMulti DL LightScribe Drive	One	Upgrade Bay
DVD/CD-RW Combo Drive	One	Upgrade Bay
DVD-ROM Drive	One	Upgrade Bay
250 GB 5400 rpm SMART SATA II Hard Drive	One	Upgrade Bay

Internal Storage Device

	Quantity Supported	Drive Bay
Hard Drives		
250 GB 5400 rpm SMART SATA II Hard Drive	One	Dedicated hard drive bay
160 GB 5400 rpm SMART SATA II Hard Drive	One	Dedicated hard drive bay
120 GB 5400 rpm SMART SATA II Hard Drive	One	Dedicated hard drive bay
160 GB 7200 rpm SMART SATA II Hard Drive	One	Dedicated hard drive bay

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Technical Specifications

System Unit	**Dimensions** (HxWxD)	1.32 in (at front) x 14.02 in x 10.46 in 33.6 mm (at front) x 356.0 mm x 265.4 mm	
	Weight	Starting at 5.93 lb (2.69 kg)	
	NOTE: Height varies depending upon where on the notebook the measurement is made. Weight varies by configuration and components. Weight includes 6-cell battery, hard drive, and optical drive. Weight varies by configuration and components.		
	Stand-Alone Power Requirements (AC Power)	Nominal Operating Voltage	18.5 V
		Average Operating Power	TBD
		Max Operating Power	< 90 W
	Temperature	Operating	32° to 95° F (0° to 35° C) (not writing optical)

		41° to 95° F (5° to 35° C) (writing optical)
	Non-operating	–4° to 140° F (–20° to 60° C)
Relative Humidity	Operating	10% to 90%, non-condensing
	Non-operating	5% to 95%, 101.6° F (38.7° C) maximum wet bulb temperature
Shock	Operating	125 G, 2 ms, half-sine
	Non-operating	200 G, 2 ms, half-sine
Random Vibration	Operating	0.75 grms
	Non-operating	1.50 grms
Altitude (unpressurized)	Operating	–50 to 10,000 ft (–15.24 to 3,048 m)
	Non-operating	–50 to 40,000 ft (–15.24 to 12,192 m)
Industry Standard Certifications	UL	Yes
	CSA	Yes
	FCC Compliance	Yes
	ENERGY STAR®	Yes, with Intel Core 2 Duo processor
	EPEAT	TBD
	ICES	Yes
	GS	TBD
	Australia / NZ A-Tick Compliance	Yes
	CCC	Yes
	Japan VCCI Compliance	Yes
	MIC	Yes
	BSMI	Yes
	CE Marking Compliance	Yes
	BNCI or BELUS	Yes
	CIT	Yes
	GOST	Yes
	Saudi Arabian Compliance (ICCP)	Yes
	SABS	Yes
	UKRSERTCOMPUTER	Yes

NOTE: For accessibility information on HP products, please visit: http://www.hp.com/accessibility.

HP 90W Smart AC Adapter	**Dimensions**	5.00 x 1.97 x 1.1 in (12.7 x 5.0 x 2.9 cm)	
	Weight	0.82 lb (370 g)	
	Input	100 to 240 VAC	
		Input Efficiency	83% min at 115 VAC
		Input frequency range	47 to 63 Hz
		Input AC current	1.5 A at 90 VAC, 0.75 A at 180 VAC PFC Version
			2.4 A at 90 VAC, 1.2 A at 180 VAC NON PFC Version
	Output	Output power 65W	90W
		DC output	19.0V
		Hold-up time	5 msec at 115 VAC input
		Output current limit	<11A, Over voltage protection- 29V max automatic shutdown
	Connector	3 pin/grounded, mates with interchangeable cords	
	Environmental Design	Operating temperature	32° to 104° F (0° to 40° C)
		Non-operating (storage) temperature	–4° to 149° F (–20° to 65° C)
		Altitude	0 to 10,000 ft (0 to 3,048 m)
		Humidity	20% to 80%
		Storage Humidity	10% to 90%
	EMI and Safety Certifications	CE Mark – full compliance with LVD and EMC directives; Worldwide safety standards – IEC60950, EN60950, UL60950, Class1, SELV; Agency approvals – C-UL-US, NORDICS, DENAN, EN55022 Class B, FCC Class B, CISPR22 Class B, CCC, NOM-1 NYCE; MTBF– over 200,000 hours at 25°C ambient condition.	

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Optional HP Ultra-Capacity Battery	**Dimensions** (H x W x L)	1.3 x 6.0 x 10.6 in (3.33 x 15.25 x 26.88 cm)	
	Weight	1.77 lb (0.803 kg)	
	Cells/Type	12-cell Li-Ion	
	Energy	Watt-hour Capacity	95 WHr
	Temperature	Operating (Charging)	32° to 113° F (0° to 45° C)
		Operating (Discharging)	14° to 140° F (–10° to 60° C)
		Non-operating	–4° to 140° F (–20° to 60° C)
	Battery Re-Charge Time	Smart Adapter	3 to 4 hours
		System ON	4 to 5 hours (depending on system power consumption)
	Fuel Gauge	When pressed, LEDs light indicating level of charge remaining on battery	
Optional HP Extended Life Battery	**Dimensions** (H x W x L)	1.0 x 3.9 x 8.7 in (2.5 x 10.0 x 22.0 cm)	
	Weight	1.00 lb (0.455 kg)	
	Cells/Type	8-cell Li-Ion	
	Energy	Watt-hour Capacity	52 WHr
	Temperature	Operating (Charging)	32° to 113° F (0° to 45° C)
		Operating (Discharging)	14° to 140° F (–10° to 60° C)
		Non-operating	–4° to 140° F (–20° to 60° C)
	Battery Re-Charge Time	System in OFF mode or Standby	3 hours
		System ON	3 to 5 hours (depending on system power consumption)
		HP Fast Charge Technology	Charges the battery up to 90% within 90 minutes when system is OFF
	Fuel Gauge	When pressed, LEDs light indicating level of charge remaining on battery	
6-Cell (55 WHr) Li-Ion battery	**Dimensions** (H x W x L)	0.8 x 2.1 x 8.0 in (2.0 x 5.3 x 20.3 cm)	
	Weight	0.737 lb (0.335 kg)	
	Cells/Type	6-cell Li-Ion	
	Energy	Watt-hour Capacity	55 WHr
	Temperature	Operating (Charging)	32° to 113° F (0° to 45° C)
		Operating (Discharging)	14° to 140° F (–10° to 60° C)
		Non-operating	–4° to 140° F (–20° to 60° C)
	Battery Re-Charge Time	System in OFF mode or Standby	2.5 hours
		System ON	3 to 5 hours (depending on system power consumption)
		HP Fast Charge Technology	Charges the battery up to 90% within 90 minutes when system is OFF
6-Cell (47 WHr) Li-Ion battery	**Dimensions** (H x W x L)	0.8 x 2.1 x 8.0 in (2.0 x 5.3 x 20.3 cm)	
	Weight	0.715 lb (0.325 kg)	
	Cells/Type	6-cell Li-Ion	
	Energy	Watt-hour Capacity	47 WHr
	Temperature	Operating (Charging)	32° to 113° F (0° to 45° C)
		Operating (Discharging)	14° to 140° F (–10° to 60° C)
		Non-operating	–4° to 140° F (–20° to 60° C)
	Battery Re-Charge Time	System in OFF mode or Standby	2.5 hours
		System ON	3 to 5 hours (depending on system power consumption)
		HP Fast Charge Technology	Charges the battery up to 90% within 90 minutes when system is OFF
Displays			
15.4-inch WSXGA+ wide-viewing angle,	**Dimensions** (W x H)	13.0 x 8.1 in (33.1 x 20.7 cm)	
	Diagonal Size	15.4 in (39.1 cm)	

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anti-glare	**Surface Treatment**	Anti-glare	
	Number of Colors	Up to 16M	
	Contrast Ratio	300:1 (typical)	
	Refresh Rate	60 Hz	
	Brightness	200 nit (typical)	
	Pixel Resolution	**Pitch**	0.197 mm
		Format	1680 x 1050
		Configuration	RGB stripe
	Backlight	CCFL	
	PPI	129	
	Viewing Angle	±60° Horizontal, ± 50° Vertical (minimum) or ±70° Horizontal, ±60° Vertical (typical)	
15.4-inch WXGA anti-glare	**Active Area** (W x H)	13.0 x 8.1 in (33.1 x 20.7 cm)	
	Diagonal Size	15.4 in (39.1 cm)	
	Surface Treatment	Anti-glare	
	Number of Colors	Up to 16M	
	Contrast Ratio	300:1 (typical)	
	Refresh Rate	60 Hz	
	Brightness	200 nit (typical)	
	Pixel Resolution	**Pitch**	0.259 mm
		Format	1280 x 800
		Configuration	RGB stripe
	Backlight	CCFL	
	PPI	98	
	Viewing Angle	±30° Horizontal, ±10° Vertical (minimum) 30/30/20/10 (Left/Right/Down/Up) (minimum) or 45/45/35/25 (Left/Right/Down/Up) (typical)	
15.4-inch WXGA BrightView	**Active Area** (W x H)	13.0 x 8.1 in (33.1 x 20.7 cm)	
	Diagonal Size	15.4 in (39.1 cm)	
	Surface Treatment	BrightView	
	Number of Colors	Up to 16M	
	Contrast Ratio	300:1 (typical)	
	Refresh Rate	60 Hz	
	Brightness	200 nit (typical)	
	Pixel Resolution	**Pitch**	0.259 mm
		Format	1280 x 800
		Configuration	RGB stripe
	Backlight	CCFL	
	PPI	98	
	Viewing Angle	±30° Horizontal, ±10° Vertical (minimum) 30/30/20/10 (Left/Right/Down/Up) (minimum) or 45/45/35/25 (Left/Right/Down/Up) (typical)	

Hard Drives

160 GB 7200 rpm SATA Hard Drive	**Drive Weight**	0.25 lb (115 g)	
	Capacity	160 GB	
	Height	0.37 in (9.5 mm)	
	Width	2.75 in (70 mm)	
	Interface	ATA-8, SATA 2.6, 3.0 Gb/s, NCQ	
	Transfer Rate	**Synchronous** (maximum)	100 MB/s (Drive Capability)
	Seek Time (typical reads, including settling)	**Single Track**	1.5 ms
		Average	11 ms
		Maximum	22 ms
	Rotational Speed	7200 rpm	
	Logical Blocks	312,581,808	

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	Operating Temperature	32° to 140° F (0° to 60° C) [case temp]	
	Features	ATA Security	

250 GB 5400 rpm SATA Hard Drive	**Drive Weight**	0.22 lb (101 g)	
	Capacity	250 GB	
	Height	0.37 in (9.5 mm)	
	Width	2.75 in (70 mm)	
	Interface	ATA-8, SATA 2.6, 3.0 Gb/s, NCQ	
	Transfer Rate	**Synchronous** (maximum)	100 MB/s (Drive Capability)
	Seek Time (typical reads, including settling)	**Single Track**	3 ms
		Average	13 ms
		Maximum	24 ms
	Rotational Speed	5400 rpm	
	Logical Blocks	488,397,168	
	Operating Temperature	32° to 140° F (0° to 60° C) [case temp]	
	Features	ATA Security	

160 GB 5400 rpm SATA Hard Drive	**Drive Weight**	0.22 lb (101 g)	
	Capacity	160 GB	
	Height	0.37 in (9.5 mm)	
	Width	2.75 in (70 mm)	
	Interface	ATA-8, SATA 2.6, 3.0 Gb/s, NCQ	
	Transfer Rate	**Synchronous** (maximum)	100 MB/s (Drive Capability)
	Seek Time (typical reads, including settling)	**Single Track**	3 ms
		Average	13 ms
		Maximum	24 ms
	Rotational Speed	5400 rpm	
	Logical Blocks	312,581,808	
	Operating Temperature	32° to 140° F (0° to 60° C) [case temp]	
	Features	ATA Security	

120 GB 5400 rpm SATA Hard Drive	**Drive Weight**	0.22 lb (101 g)	
	Capacity	120 GB	
	Height	0.37 in (9.5 mm)	
	Width	2.75 in (70 mm)	
	Interface	ATA-8, SATA 2.6, 3.0 Gb/s, NCQ	
	Transfer Rate	**Synchronous** (maximum)	100 MB/s (Drive Capability)
	Seek Time (typical reads, including settling)	**Single Track**	3 ms
		Average	13 ms
		Maximum	24 ms
	Rotational Speed	5400 rpm	
	Logical Blocks	234,441,648	
	Operating Temperature	32° to 140° F (0° to 60° C) [case temp]	
	Features	ATA Security	

Removable Storage Drives

DVD-ROM Drive	**Access Times**	Random	<116 ms CD (typical)
			<125 ms DVD (typical)
	Max Data Transfer Rate	24X CD-ROM	Up to 3,600 KB/s
		8X-DVD	Up to 10,800 KB/s
	Transfer Mode	UDMA Mode 5	
	Interface	Gen 1 SATA	
	Supported Media (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,	

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		DVD-ROM (DVD-5, DVD-9, DVD-10, DVD-18), DVD-R, DVD-RW, DVD+R, DVD+RW, DVD-RAM	
	Supported Media (write)	None	
	Max Media Capacity (read)	4.7 GB	
	Transport	Tray Loading	
DVD/CD-RW Combo Drive	**Access Times**	Random	<110 ms CD (typical)
			<130 ms DVD (typical)
	Max Data Transfer Rate	24X CD-ROM	Up to 3,600 KB/s
		8X DVD	Up to 10,800 KB/s
		24X CD-R	Up to 3,600 KB/s
		24X CD-RW	Up to 3,600 KB/s
	Transfer Mode	UDMA Mode 5	
	Interface	Gen 1 SATA	
	Supported Media (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	
	Supported Media (write)	CD-R, CD-RW	
	Max Media Capacity (read)	8.5 GB	
	Max Media Capacity (write)	700 MB	
	Transport	Tray loading	
DVD+/-RW SuperMulti DL LightScribe Drive	**Access Times**	Random	<175 ms CD (typical)
			<230 ms DVD (typical)
	Max Data Transfer Rate	24X CD-ROM	Up to 3,600 KB/s
		8X DVD	Up to 10,800 KB/s
		24X CD-R	Up to 3,600 KB/s
		16X CD-RW	Up to 2,400 KB/s
		8X DVD+R	Up to 10,800 KB/s
		4X DVD+RW	Up to 5,400 KB/s
		8X DVD-R	Up to 10,800 KB/s
		4X DVD-RW	Up to 5,400 KB/s
		2.4X DVD+R(9)	Up to 2,700 KB/s
		5X DVD-RAM	Up to 6,750 KB/s
	Transfer Mode	UDMA Mode 5	
	Interface	Gen 1 SATA	
	Supported Media (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	
	Supported Media (write)	CD-R, CD-RW, DVD+R, DVD+RW, DVD-R, DVD-RW, DVD-RAM, LightScribe	
	Max Media Capacity (read)	8.5 GB	
	Max Media Capacity (write)	8.5 GB	
	Transport	Tray Loading	
Security			
HP Fingerprint Sensor (optional)	**Mobile Voltage Operation**	3.0V–3.6V Single Supply	
	Operating Temperature	32° – 158°F (0° – 70°C)	
	Current Consumption @ 3.3V	Less than 70 mA peak imaging and scrolling Less than 25 mA hardware finger detection Advanced Power Management	

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	High-Rate Image Capture	Up to 240 image frames /sec
	ESD Resistance	IEC 61000-4-2 Level 4 (±15KV)
	Detection Matrix	192 x 16 Pixels 9.7 mm x 0.81 mm 500 ppi High-Resolution Images
Audio		
Hardware	**Implementation**	ADI1981HD High Definition CODEC
	Touch-Sensitive Volume Controls	Volume up, volume down, and mute
	Full Duplex	Yes
	Microphone In	Stereo
	Headphone/Line Out	Stereo
	Integrated Microphone	Yes, dual-microphone array when equipped with optional webcam
Audio Output Quality	**Frequency Response**	20 Hz – 20 kHz
	Signal to Noise Ratio	>85 dB
	Total Harmonic Distortion	0.01%
	Noise Floor	-110 dB
	Play/Record Sampling Rate(s)	8 kHz – 48kHz
	DAC	16, 20 or 24-bit
	ADC	16 or 20-bit
Integrated Stereo Speakers	**Power Rating**	2 Watts
	Impedance	4 Ohms
Integrated Broadcom NetLink Gigabit Ethernet (10/100/1000 NIC) BCM5787M	**Ethernet Features**	10 Mbit/s operation (10BASE-T; IEEE 802.3i; IEEE 802.3 clauses 13-14) 100 Mbit/s operation (100BASE-TX; IEEE 802.3u; IEEE 802.3 clauses 21-30) 1000 Mbit/s operation (1000BASE-T; IEEE 802.3z and 802.3ab; IEEE 802.3 clauses 34-42) Auto-Negotiation (Automatic Speed Selection) Full Duplex Operation at all Speeds, Half Duplex operation at 10 and 100 Mbit/s IEEE 802.1p QoS (Quality of Service) Support IEEE 802.3x Flow Control (IEEE 802.3 clauses 31-32; configurable)
	Power Management	ACPI compliant -- multiple power modes Situation-sensitive features reduce power consumption
	Performance Features	TCP/IP/UDP Checksum Offload (configurable)
	Manageability	Wake-on-LAN from standby and hibernation (Magic Packet and Microsoft Wake-Up Frame); Wake-on-LAN from off (Magic Packet only) PXE 2.1 Remote Boot Statistics Gathering (SNMP MIB II, Ethernet-like MIB, Ethernet MIB (802.3x, clause 30)) Comprehensive diagnostic and configuration software suite
	Interface	PCI Express x1
	NIC Device Driver Name	Broadcom NetLink Gigabit Ethernet
Communications		
V.92 56K Data/Fax Modem	**Form Factor**	MDC 1.5 Daughtercard
	Power Management Support	APM Revision 1.2, ACPI
	Approvals/ Certifications	UL, CSA, NEMKO, CCIB, Industry Canada, FCC Part 68, CTR21, FCC Part 15 Class B, Canadian ICES-003 Class B, C.I.S.P.R.22, Australian ACA, CE Mark, Other Countries
	Data Mode Capabilities	V.92 data V.8bis

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		V.80 V44, V.42bis, MNP5 (Compression) V.42 (LAPM, MNP2-4) (Error Correction) **Optional symbol rates:** 2800, 3429 Asymmetric Symbol rates **Synchronous primary channel data signaling rates:** 3600, 31200 Automatic rate re-negotiation V.34 V.32bis V.32 V.23 V.22bis V.22 V.21 Bell 212A Bell 103J
	Fax Mode Capabilities	TIA/EIA-578-B (Class 1) T.30, T.4 (Group 3) V.17 V.29 V.27ter V.21 Channel 2
	Command Set	V.250 (Partial) TIA-602 Identification: +GMI, +GMM, +GMR Port control: +IPR, +ICF, +IFC, +ILRR Modulation: +MS, +MR, +MA Error control: +ES, +ER, +EB, +ESR, +ETBM Data compression: +DS, +DR V.251
HP un2400 EV-DO/HSPA Mobile Broadband Module	**Technology/Operating Bands**	GSM/GPRS/EDGE: 850MHz(Cell), 900MHz(EGSM), 1800MHz(DCS), 1900MHz (PCS) UMTS/WCDMA with receive diversity: 2100MHz (UTRA FDD Band I), 1900MHz (UTRA FDD Band II), 850MHz (UTRA FDD Band V) 1xEVDO/1xRTT with receive diversity: 850MHz (Band Class0-Cell), 1900MHz (Band Class1-PCS)
	Wireless Protocol Standards	GSM/GPRS/EDGE: Class B, Multi-slot operation, coding schemes CS1 – CS4 and MSC1 – MSC9. UMTS/WCDMA: Release 99 and Release 5 CDMA: 1xEVDO Release 0 and Release A, IS-95A, IS-95B, IS-2000
	Wireless Parametric Standards	Meets or exceeds TIA/EIA IS-98-D
	Maximum Data Rates	UMTS (HSPA) – 7.2 Mbps (Download), 2.0Mbps (Upload) CDMA (EVDO Release A) – 3.1 Mbps (Download), 1.8Mbps (Upload)
	Maximum Output Power	GSM/GPRS/EDGE: 32dBm (+/-1) WCDMA: 24dBm (+/-1) CDMA: 24dBm (+/-1)
	Maximum Power Consumption	2500mA (peak); 1000mA (average)
	Power Consumption, Sleep Mode	5 mA
	Power Management	USB selective suspend Integrated notebook wireless button
	Antenna Type	Dual high efficiency 5 band antennae with spatial diversity, mounted in the display enclosure
	Form Factor	PCI-Express MiniCard
	Weight	11.5 g
	Dimensions (Length x Width x Thickness)	2.01 x 1.18 x 0.18 in (51 x 30 x 4.5 mm)
	Voltage, Operating	3.3v +/- 10%
	Temperature, Operating (from TIA/EIA/IS-98-D)	–22° to 140° F (–30° to 60° C) (full RF performance) –22° to 167° F (–30° to 75° C) (reduced RF performance)
	Temperature, Non-operating, 96 hours (from MIL-STD 202 Method 108)	–40° to 185° F (–40° to 85° C)

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	Humidity, Non-operating	85% relative humidity for 48 hours @ 185° F (85° C) (non-condensing)
	Configuration Utilities	HP Connection Manager
	LED Activity	LED Off – Radio Off; Solid LED On – Radio On

Intel WiFi Link 5100	**Wireless LAN Standards**	IEEE 802.11a IEEE 802.11b IEEE 802.11g IEEE 802.11n (draft 2.0)* * The specifications for 802.11n draft 2.0 are draft specifications and are not final. If the final specifications differ from the draft specifications, it may affect the ability of the notebook to communicate with other 802.11n WLAN devices. In countries where n draft 2.0 is not allowed, this capability is not enabled.
	Interoperability	Wi-Fi certified (802.11abg only) Cisco Compatible Extensions Program compliant (802.11abg only) with Microsoft Windows Vista and XP (details at: http://www.hp.com/go/notebooks/WLAN) Tested with wireless access points from several major manufacturers (details at: http://www.hp.com/go/notebooks/WLAN/draft-n)
	Frequency Band	2.4 GHz and 5 GHz
	Antenna Structure	1 transmit; 2 receive (1x2)
	Data Rates	802.11b: 1, 2, 5.5, 11 Mbps 802.11a/g: 6, 9, 12, 18, 24, 36, 48, 54 Mbps 802.11n (draft): 66 possible data rates, ranging from 6 Mbps to 300 Mbps, depending on the combination of Bandwidth, Modulation Coding Scheme, and Guard Interval used, as defined in IEEE 802.11n (draft) specification
	Modulation	Direct Sequence Spread Spectrum DBPSK, DQPSK, CCK, OFDM, BPSK, QPSK, 16-QAM, 64-QAM
	Security[1]	Supports 64- and 128-bit WEP, WPA, WPA2, hardware-accelerated AES (support for key sizes of 128, 192, and 256 bits), 802.1x authentication types EAP-TLS, EAP-TTLS, PEAP-GTC, PEAP-MSCHAPv2, LEAP, EAP-FAST. Support for Cisco Security Features (proven compatibility with Cisco Aironet infrastructure products through the Cisco Compatible Extensions Program Version 4) with Microsoft Windows Vista and XP only.
	Sub-channels	Multinational support with frequency bands and channels compliant to local regulations.
	Media Access Protocol	CSMA/CA (Collision Avoidance) with ACK
	Network Architecture Models	Ad-hoc (Peer to Peer) Infrastructure (Access Point Required)
	Roaming	IEEE 802.11 compliant roaming between access points
	Output Power (for CCK)[2]	15 dBm
	Output Power (for OFDM; power varies by data rate)[2]	15 dBm
	Power Consumption	Transmit: 2.3 Watts (average, with one spatial streams) Receive: 1.9 Watts (average with two receive chains) Idle mode[3]: 30 mW (average) Radio off: 20 mW (max)
	Power Management	ACPI compliant power management 802.11 compliant power saving mode
	Receiver Sensitivity[4]	300 Mbps: -68 dBm, 54 Mbps: -74 dBm, 6 Mbps: -90 dBm
	Antenna Connections	3 U.FL type connectors, 50 ohm nominal impedance
	Range	802.11 a – Typical (@6 Mbps): 600 feet – Outdoor Open Area; 150 feet – Indoor, Office environment 802.11 b – Typical (@1 Mbps): 1200 feet – Outdoor Open Area; 300 feet – Indoor, Office environment 802.11 g – Typical (@1 Mbps): 1200 feet – Outdoor Open Area; 300 feet – Indoor, Office environment
	Form Factor	PCI-Express MiniCard
	Weight	0.013 lb (6 g)

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Dimensions	0.19 x 1.2 x 2.0 in (4.75 x 29.85 x 50.8 mm)	
Operating Voltage	3.3V +/- 9%, 1.5V +/- 5%	
Temperature	Operating Non-operating	32° to 176° F (0° to 80° C) –40° to 176° F (–40° to 80° C)
Humidity	Operating Non-operating	10% to 90% (non-condensing) 5% to 90% (non-condensing)
Altitude	Operating Non-operating	0 to 10,000 ft (3,048 m) 0 to 50,000 ft (15,240 m)
Configuration Utility[5]	Microsoft Windows XP Choice of Configuration Utility: • Microsoft Windows XP Wireless Network Connection Manager • Intel PROSet for Microsoft Windows XP (required for Cisco Compatible Extensions support) Microsoft Windows Vista • Microsoft Windows Vista Wireless Network Connection Manager. • Intel IHV extensions for Windows Vista available to support Cisco Compatible Extensions.	
LED Activity	LED Off – Radio OFF; Solid LED On – Radio ON	

1. Check latest software/driver release for updates on supported security features.
2. Maximum output power may vary by country according to local regulations.
3. In Power Save Polling mode and on battery power.
4. Receiver sensitivity is measured at a packet error rate of 8% for 802.11b (CCK modulation) and a packet error rate of 10% for 802.11a/g (OFDM modulation).
5. WLAN supplier's client utility is required for Cisco Compatible Extensions support with Microsoft Windows XP. WLAN may also be compatible with certain third-party software supplicants. WLAN supplier IHV extensions required for Cisco Compatible Extensions support for Microsoft Windows Vista.

Broadcom 4312G 802.11b/g WiFi Adapter	**Wireless LAN Standards**	IEEE 802.11b IEEE 802.11g
	Interoperability	Wi-Fi certified (802.11abg only) Cisco Compatible Extensions Program compliant (802.11abg only) with Microsoft Windows Vista and XP (details at: http://www.hp.com/go/notebooks/WLAN) Tested with wireless access points from several major manufacturers (details at: http://www.hp.com/go/notebooks/WLAN/draft-n)
	Frequency Band	2.4 GHz
	Data Rates	802.11b: 1, 2, 5.5, 11 Mbps 802.11g: 6, 9, 12, 18, 24, 36, 48, 54 Mbps
	Modulation	Direct Sequence Spread Spectrum DBPSK, DQPSK, CCK, OFDM
	Security[1]	Supports 64- and 128-bit WEP, WPA, WPA2, hardware-accelerated AES, 802.1x authentication types EAP-TLS, EAP-TTLS, PEAP-GTC, PEAP-MSCHAPv2, LEAP, EAP-FAST. Support for Cisco Security Features (proven compatibility with Cisco Aironet infrastructure products through the Cisco Compatible Extensions Program Version 4) with Microsoft Windows Vista and XP only.
	Sub-channels	Multinational support with frequency bands and channels compliant to local regulations.
	Media Access Protocol	CSMA/CA (Collision Avoidance) with ACK
	Network Architecture Models	Ad-hoc (Peer to Peer) Infrastructure (Access Point Required)
	Roaming	IEEE 802.11 compliant roaming between access points
	Output Power (for CCK)[2]	17 dBm
	Output Power (for OFDM; power varies by data rate)[2]	15 dBm
	Power Consumption	Idle associated: 250 mW Idle unassociated: 150 mW Transmit: 2.0 W (max) Receive: 2.0 W (max)
	Power Management	ACPI compliant power management

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	802.11 compliant power saving mode	
Receiver Sensitivity[3]	54 Mbps: -71 dBm, 11 Mbps: -85 dBm , 1 Mbps: -95 dBm	
Antenna type	High efficiency dual band antenna with spatial diversity, mounted in the display enclosure	
Range	802.11 b – Typical (@1 Mbps)	1200 feet – Outdoor Open Area 300 feet – Indoor, Office environment
	802.11 g – Typical (@1 Mbps)	1200 feet – Outdoor Open Area 300 feet – Indoor, Office environment
Form Factor	PCI-Express MiniCard	
Weight	0.026 lb (12 g)	
Dimensions	0.19 x 1.2 x 2.0 in (4.75 x 29.85 x 50.8 mm)	
Operating Voltage	3.3v +/- 10%	
Temperature	Operating Non-operating	14° to 149° F (–10° to 65° C) –40° to 176° F (–40° to 80° C)
Humidity	Operating Non-operating	10% to 90% (non-condensing) 5% to 95% (non-condensing)
Altitude	Operating Non-operating	0 to 10,000 ft (3,048 m) 0 to 50,000 ft (15,240 m)
Configuration Utility[4]	Microsoft Windows XP Choice of Configuration Utility: • Microsoft Windows XP Wireless Network Connection Manager • Broadcom Wireless Configuration Utility (required for Cisco Compatible Extensions support) Microsoft Windows Vista • Microsoft Windows Vista Wireless Network Connection Manager • Broadcom IHV extensions for Windows Vista available to support Cisco Compatible Extensions.	
LED Activity	LED Off – Radio OFF; Solid LED On – Radio ON	

1. Check latest software/driver release for updates of supported security features.
2. Maximum output power may vary by country according to local regulations.
3. Receiver sensitivity is measured at a packet error rate of 8% for 802.11b (CCK modulation) and a packet error rate of 10% for 802.11a/g (OFDM modulation).
4. WLAN supplier's client utility is required for Cisco Compatible Extensions support with Microsoft Windows XP. WLAN may also be compatible with certain third-party software supplicants. WLAN supplier IHV extensions required for Cisco Compatible Extensions support for Microsoft Windows Vista.

Broadcom 4322AGN 802.11a/b/g/draft-n WiFi Adapter	**Wireless LAN Standards**	IEEE 802.11a IEEE 802.11b IEEE 802.11g IEEE 802.11n (draft 2.0)
	Interoperability	Wi-Fi certified (802.11abg only) Cisco Compatible Extensions Program compliant (802.11abg only) with Microsoft Windows Vista and XP (details at: http://www.hp.com/go/notebooks/WLAN) Tested with wireless access points from several major manufacturers (details at: http://www.hp.com/go/notebooks/WLAN/draft-n)
	Frequency Band	2.4 GHz and 5 GHz
	Data Rates	802.11b: 1, 2, 5.5, 11 Mbps 802.11a/g: 6, 9, 12, 18, 24, 36, 48, 54 Mbps 802.11n (draft): 6, 6.5, 9, 12, 13, 13.5, 18, 19.5, 24, 26, 27, 36, 39, 40.5, 48, 52, 54, 58.5, 65, 78, 81, 104, 108, 117, 121.5, 130, 135, 162, 216, 243, 270, 300 Mbps
	Frequency Support	20 MHz: 2.4 GHz and 5 GHz bands 40 MHz: 2.4 GHz and 5 GHz band
	Modulation	Direct Sequence Spread Spectrum DBPSK, DQPSK, CCK, OFDM, BPSK, QPSK, 16-QAM, 64-QAM
	Security[1]	Supports 64- and 128-bit WEP, WPA, WPA2, hardware-accelerated AES, 802.1x authentication types EAP-TLS, EAP-TTLS, PEAP-GTC, PEAP-MSCHAPv2, LEAP, EAP-FAST. Support for Cisco Security Features (proven compatibility with Cisco Aironet infrastructure products through the Cisco Compatible Extensions Program Version 4) with Microsoft Windows Vista and XP

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	only.
Sub-channels	Multinational support with frequency bands and channels compliant to local regulations.
Media Access Protocol	CSMA/CA (Collision Avoidance) with ACK
Network Architecture Models	Ad-hoc (Peer to Peer) Infrastructure (Access Point Required)
Roaming	IEEE 802.11 compliant roaming between access points
Output Power (for CCK)[2]	17 dBm
Output Power (for OFDM; power varies by data rate)[2]	15 dBm
Power Consumption	Idle associated: 250 mW Idle unassociated: 150 mW Transmit/Receive 20 MHz channel: 2.0 W (max) Transmit/Receive 40 MHz channel: 2.0 W (max)
Power Management	ACPI compliant power management 802.11 compliant power saving mode
Receiver Sensitivity[3]	270 Mbps: -66dBm, 162 Mbps: -72 dBm, 54 Mbps: -72 dBm, 11 Mbps: -85 dBm , 1 Mbps: -94 dBm
Antenna type	High efficiency dual band antenna with spatial diversity, mounted in the display enclosure
Range	802.11 a – Typical (@6 Mbps): 600 feet – Outdoor Open Area; 150 feet – Indoor, Office environment 802.11 b – Typical (@1 Mbps): 1200 feet – Outdoor Open Area; 300 feet – Indoor, Office environment 802.11 g – Typical (@1 Mbps): 1200 feet – Outdoor Open Area; 300 feet – Indoor, Office environment
Form Factor	PCI-Express MiniCard
Weight	0.026 lb (12 g)
Dimensions	0.19 x 1.2 x 2.0 in (4.75 x 29.85 x 50.8 mm)
Operating Voltage	3.3v +/- 10%
Temperature	Operating: 14° to 149° F (–10° to 65° C) Non-operating: –40° to 176° F (–40° to 80° C)
Humidity	Operating: 10% to 90% (non-condensing) Non-operating: 5% to 95% (non-condensing)
Altitude	Operating: 0 to 10,000 ft (3,048 m) Non-operating: 0 to 50,000 ft (15,240 m)
Configuration Utility[4]	Microsoft Windows XP Choice of Configuration Utility: • Microsoft Windows XP Wireless Network Connection Manager • Broadcom Wireless Configuration Utility (required for Cisco Compatible Extensions support) Microsoft Windows Vista • Microsoft Windows Vista Wireless Network Connection Manager • Broadcom IHV extensions for Windows Vista available to support Cisco Compatible Extensions.
LED Activity	LED Off – Radio OFF; Solid LED On – Radio ON

1. Check latest software/driver release for updates on supported security features.
2. Maximum output power may vary by country according to local regulations.
3. Receiver sensitivity is measured at a packet error rate of 8% for 802.11b (CCK modulation) and a packet error rate of 10% for 802.11a/g (OFDM modulation).
4. WLAN supplier's client utility is required for Cisco Compatible Extensions support with Microsoft Windows XP. WLAN may also be compatible with certain third-party software supplicants. WLAN supplier IHV extensions required for Cisco Compatible Extensions support for Microsoft Windows Vista.

HP Integrated Module with Bluetooth Wireless Technology	**Bluetooth Specification**	2.0 Compliant
	Dimensions	1.02 x 0.55 x 0.22 in (26 x 14 x 5.7 mm)
	Frequency Band	2402 to 2480 MHz
	Number of Available Channels	79 (1 MHz) available channels

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Data Rates and Throughput	3 Mbps data rate; throughput up to 2.17 Mbps Synchronous Connection Oriented links up to 3, 64 kbps, voice channels Asynchronous Connection Less links 2178.1 kbps/177.1 kbps asymmetric or 1306.9 kbps symmetric
Transmit Power	-6 dBm to 4 dBm (Bluetooth Class II)
Receiver Sensitivity	Better than -80 dBM at 0.1 % raw bit error rate
Power Consumption	Peak (Tx) 264 mW Peak (Rx) 231 mW Sleep <1 mW
Antenna	Internally integrated within module
Range	Up 33 ft (10 m)
Electrical Interface	USB 2.0 compliant Microsoft Windows Plug and Play compliant
OS Support	Microsoft Windows XP Professional and Home Microsoft Windows 2000
Bluetooth Software Supported	Broadcom Bluetooth for Windows Microsoft Windows XP Bluetooth Software
Link Topology	Point to Point, Multipoint Pico Nets up to 7 slaves
Security	Full support of Bluetooth Security Provisions
Power Management	Microsoft Windows ACPI, and USB Bus Support Self configurable to optimize power conservation in all operating modes, including Standby, Hold, Park, and Sniff
Certifications	All necessary regulatory approvals for supported countries, including: FCC (47 CFR) Part 15C, Section 15.247 & 15.249 ETS 300 328, ETS 300 826 Low Voltage Directive IEC950 UL, CSA, and CE Mark
Temperature	Operating –4° to 158° F (–20° to 70° C) Non-operating –40° to 176° F (–40° to 80° C)
Humidity	Operating 10% to 90% Non-operating 5% to 95%
Altitude	Operating 15,000 ft (4,572 m) Non-operating 40,000 ft (12,192 m)
Bluetooth Profiles Supported	(with Bluetooth for Windows 4.0 software) Serial Port Profile (SPP)* Dial-Up Networking (DUN)* Generic Object Exchange Profile (GOEP) Object Push Profile (OPP)* File Transfer Profile (FTP) Synchronization Profile (SYNC) Hard Copy Cable Replacement (HCRP)* Personal Area Networking Profile (PAN)* Human Interface Device Profile (HID)* FAX Profile (FAX) Basic Imaging Profile (BIP) Headset Profile (HSP) Hands Free Profile (HFP) Advanced Audio Distribution Profile (A2DP)

* indicates the profile is also supported by Microsoft Windows XP SP2

Eco Data	**Eco-Label Certifications**	This product has received or is in the process of being certified to the following approvals and may be labeled with one or more of these marks:
	System Configuration	The configuration used for the Energy Consumption and Declared Noise Emissions data is based on a "Typically Configured Notebook"

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