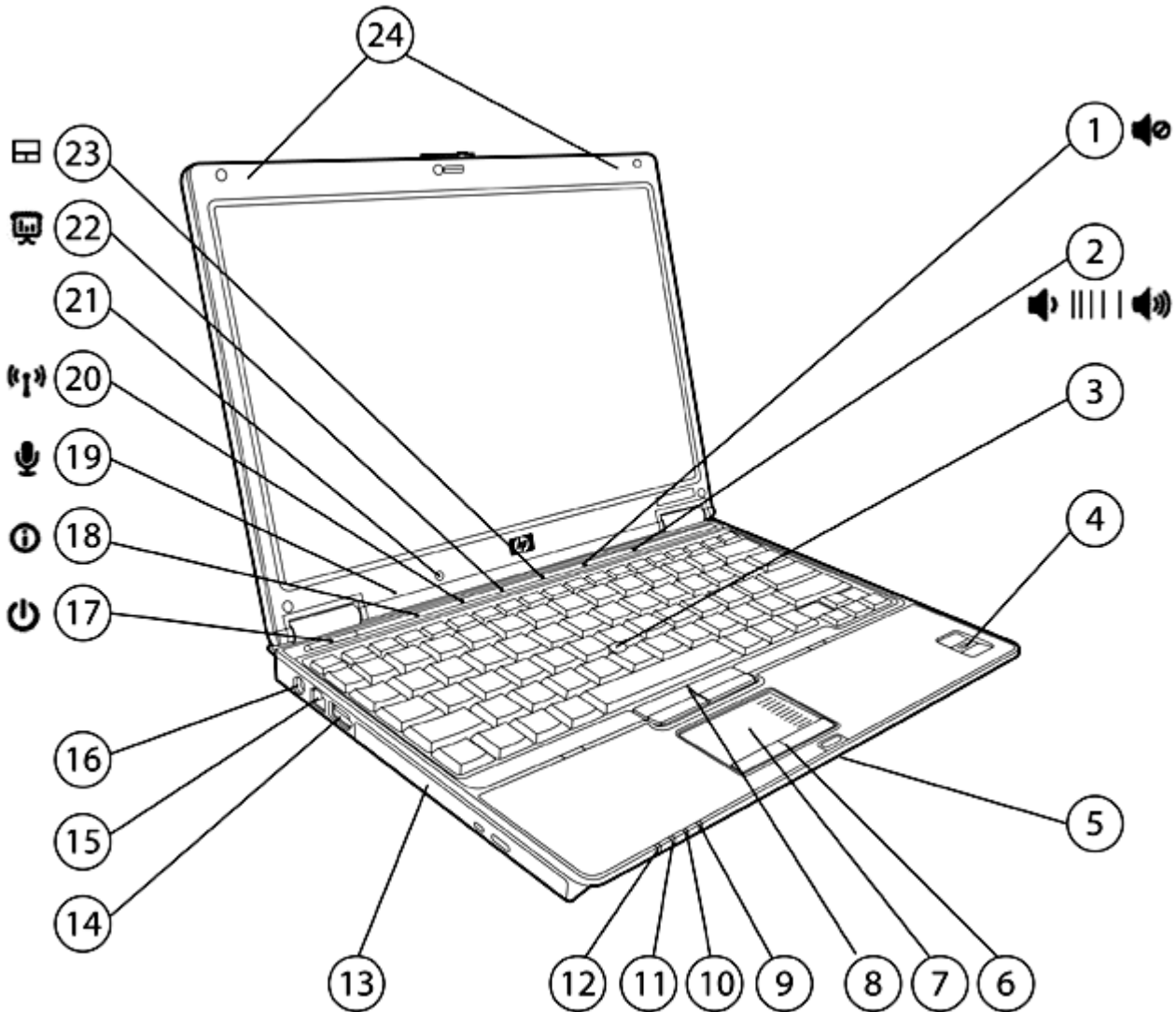


### Overview

**HP recommends  
Windows Vista® Business**

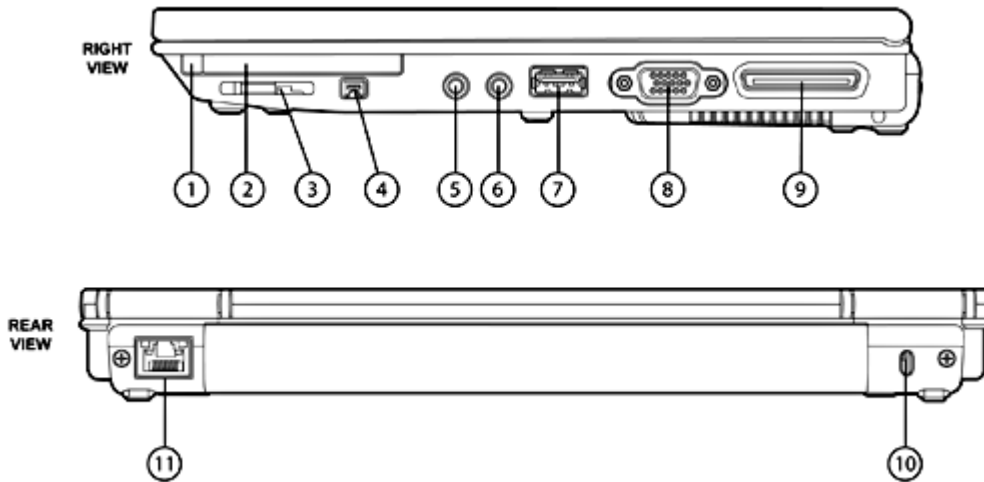


- |   |  |
|---|--|
| 1. Volume mute button with LED indicator                      | 13. Optical drive (select models)                    |
| 2. Volume scroll zone with up/down LED indicators             | 14. USB 2.0 Port (powered on select models)          |
| 3. Pointstick   | 15. RJ-11/modem port                                 |
| 4. HP Fingerprint Sensor                                      | 16. Power connector                                  |
| 5. Speaker  | 17. Power button with LED                            |
| 6. Touchpad buttons   | 18. HP Info / HP QuickLook button with LED indicator |
| 7. Touchpad with scroll zone                                  | 19. Integrated microphone                            |
| 8. Pointstick buttons   | 20. Wireless on/off button with LED indicator        |
| 9. Hard drive / optical drive activity / HP 3D DriveGuard LED | 21. Ambient Light Sensor                             |
| 10. Battery charging LED                                      | 22. HP Presentation button with LED indicator        |
| 11. Power/standby LED   | 23. Touchpad on/off button                           |

### Overview

12. Wireless on/off LED

24. Two WLAN/WWAN combo antennas



1. PC Card eject button
2. PC Card slot (or smart card reader on select models)
3. Secure Digital (SD) slot
4. IEEE 1394 port
5. Stereo headphone/line out

6. Stereo microphone in
7. USB 2.0 port
8. VGA/external monitor connector
9. Docking connector
10. Kensington Lock slot
11. RJ-45/Ethernet port

### At A Glance

- Genuine Windows Vista Business\*, Genuine Windows Vista Home Basic, Genuine Windows XP Professional, or FreeDOS
- Starting at 2.8 lb and less than 1 inch thin
- Integrated optical drive support on select models
- Flexible wireless connectivity options:
  - Integrated HP ev2210 1xEVDO-A or HP hs2300 HSDPA Broadband Wireless module
  - Integrated 802.11 a/b/g/draft-n or a/b/g wireless LAN module
  - Bluetooth®
- 12.1-inch Illumi-LiteWXGA display with Ambient Light Sensor and HP Privacy Filter support
- 3-, 6-, and 9-cell battery options (3-cell battery only available with ULV processors)
- Intel® Centrino® with vPro™ processor capable, with Intel Core™2 Duo ULV processors
- Full magnesium alloy enclosure, magnesium alloy support structure, and HP DuraFinish
- Enhanced security features including HP Fingerprint Sensor, TPM 1.2, optional Smart Card Reader, and Drive Encryption for HP ProtectTools
- HP QuickLook on Windows Vista models for instant access to email, calendar, and contact information
- Up to 120-GB 5400 rpm, user-removable hard drive protected by HP 3D DriveGuard or 64-GB Solid State Drive
- Up to 4 GB of 667-MHz DDR2 SDRAM (runs at 533-MHz); one memory slot
- Full-size keyboard with HP DuraKeys
- Touch-sensitive controls
- Dual pointing devices (touchpad with scroll zone and pointstick)
- Connector for HP 2400/2500 Ultra-Light Docking Station
- Integrated Intel Gigabit Network Connection (10/100/1000 NIC)

### Overview

- Secure Digital (SD) slot

\* At initial boot, either 32- or 64-bit can be selected. This is a one time selection and the other version will be deleted.

### Standard Features

**Processors** Intel Core 2 Duo ULV Processor U7600 (1.20 GHz, 2 MB L2 cache, 533 MHz FSB)  
Intel Core 2 Duo ULV Processor U7700 (1.33 GHz, 2 MB L2 cache, 533 MHz FSB)

**Operating System**

<b>Preinstalled</b>	Genuine Windows Vista Business <sup>†*</sup> Genuine Windows Vista Home Basic* Genuine Windows XP Professional FreeDOS
<b>Supported</b>	Genuine Windows Vista Enterprise* Genuine Windows 2000
<b>Certified</b>	SuSE Linux Enterprise Desktop 10

<sup>†</sup> At initial boot, either 32- or 64-bit can be selected. This is a one time selection and the other version will be deleted.  
\* 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>.

**Chipset** Mobile Intel GM965

**Intel Centrino with vPro technology capable** Intel Centrino with vPro technology is a selectable feature that is available on units configured with an Intel Wireless WiFi Link 4965AGN or 4965AG. It provides advances in remote manageability, security, energy efficient performance, and wireless connectivity. Intel Active Management Technology (AMT) offers built-in manageability and proactive security for networked notebook PCs, even when they are powered off\* or when the operating system is inoperable. It can help identify threats before they reach the operating system, isolate infected systems, and update PCs regardless of their power state.

\*Requires a Windows operating system, network hardware and software, connection with a power source, and a direct (non-VPN) corporate network connection which is either cable or wireless LAN.

**NOTE:** Some functionality of Intel Centrino Pro and vPro technology, such as Intel Active Management technology and Intel Virtualization technology, requires additional 3rd party software in order to run. Availability of future "virtual appliances" applications for Centrino Pro and vPro technology is dependant on 3rd party software providers. Compatibility with future "virtual appliances" and Microsoft Windows Vista operating system is yet to be determined.

**Graphics** Mobile Intel GMA X3100, up to 384 MB of shared system memory  
Microsoft DirectX9 capable

### Standard Features

<b>Display</b>	<b>Internal</b>	12.1-inch diagonal Illumi-Lite WXGA anti-glare (1280 × 800 resolution) Ambient light sensor HP Privacy Filter support
	<b>External</b>	Up to 32-bit per pixel color depth <b>VGA</b> port supports resolutions up to 2048 x 1536 at 75 Hz, and lower resolutions at up to 100 Hz <b>NOTE:</b> Resolutions are dependent upon monitor capability, and resolution and color depth settings.

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<b>Memory</b>	<b>Standard</b>	1024-MB, 2048-MB, or 4096 667-MHz* DDR2 SDRAM; one SODIMM slot
		* Operates at a maximum of 533-MHz with 667-MHz memory. <b>NOTE:</b> 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. Availability of 4 GB or more of memory requires Windows Vista Business 64-bit or Linux. With Windows 32-bit operating systems, memory above 3 GB may not all be available due to system resource requirements.

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<b>Communications</b>	Integrated Intel Gigabit Network Connection (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.

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<b>Wireless Devices</b>	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 or as an option to be added later. Integrated Bluetooth is also available (factory configurable only) and can be combined with any of the supported wireless LAN and wireless WAN options.
<b>HP ev2210 1xEVDO-A Broadband Wireless Module</b>	Integrated WWAN module connects to the Sprint Mobile Broadband or Verizon Wireless BroadbandAccess and NationalAccess networks (U.S. only) Supports CDMA 1xEVDO-A, 1xRTT connections at 800 and 1900 MHz. <b>NOTE:</b> Separately purchased Sprint Mobile Broadband or Verizon Wireless service is required. For details, go to <a href="http://www.hp.com/go/broadbandwireless">http://www.hp.com/go/broadbandwireless</a> . Upgradeable design and two 850/900/1800/1900/2100-MHz antennas (one inside the top of the display panel and one extendable) support current and future WWAN technologies.
<b>HP hs2300 HSDPA Broadband Wireless Module</b>	Integrated WWAN module that provides connection to GSM, GPRS, EDGE, UMTS, and HSDPA mobile networks in many countries. Currently supported networks are the Cingular network in the U.S., Vodafone networks in select countries, and roaming on Cingular and Vodafone partner networks in more

### Standard Features

	than 100 countries. <b>NOTE:</b> Separately purchased mobile network operator service is required. Upgradeable design and two 850/900/1800/1900/2100-MHz antennas integrated in the top of the display panel support current and future WWAN technologies.
<b>All 802.11a/b/g integrated wireless LAN options</b>	Wi-Fi certified Cisco Compatible Extensions support (Version 4.0) with Microsoft Windows XP 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 WiFi certified for WPA2, WMM Three antennas integrated in the display enclosure
<b>Intel Wireless WiFi Link 4965ABGN</b>	Integrated support for 802.11a, b, g, and draft-n Up to 300-mbps data rate
<b>Intel Wireless WiFi Link 4965ABG</b>	Integrated support for 802.11 a, b and g Up to 54-mbps data rate
<b>Broadcom 4311AG 802.11a/b/g WiFi Adapter</b>	Integrated support for 802.11 a, b and g Up to 54-mbps data rate
<b>HP Integrated Module with Bluetooth Wireless Technology</b>	Bluetooth Specification v2.0 compliant Works with a wide range of Bluetooth devices

### 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. US 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), 2.0-mm stroke, and comfort-dished keycaps.

HP DuraKeys is a clear coating applied over the notebook keyboard that helps protect the finish and the printed characters on the keys.

HP DuraFinish helps protect the finish on the keyboard deck, graphics, and icons from normal wear and tear.

### Touch-sensitive controls

Touch-sensitive controls provide easy access to the following features: HP Info Center, HP QuickLook, wireless on/off, HP Presentation button, touchpad on/off, volume up, volume down, and mute

### Pointing device

Enhanced dual pointing devices:  
Touchpad with scroll zone, two pick buttons  
and  
Pointstick, two pick buttons

### Standard Features

<b>Expansion card slots</b>	<b>1 Type I/II PC Card slot</b>	Supports 32-bit CardBus and 16-bit PC Cards
	<b>or</b>	
	<b>Optional Integrated Smart Card Reader</b> (replaces PC Card slot)	Compatible with ISO 7816 compliant Smart Cards PC/SC interface support
	<b>Secure Digital slot</b>	Supports SD (Secure Digital), MultiMediaCard

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<b>Storage</b>	<b>Internal Storage Device</b>	120-GB 5400 rpm 1.8" PATA Hard Drive 80/100/120-GB 4200 rpm 1.8" PATA Hard Drive 64-GB Solid State Drive
		<b>NOTE:</b> Hard drives are customer removable and will withstand multiple insertion/removal cycles. Up to 10 GB is reserved for the system recovery software.
	<b>HP 3D DriveGuard</b>	The hard drive is mounted to the notebook frame, reducing the transmission of shock away from 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.
	<b>Optical drives</b> (9.5mm PATA)	DVD/CD-RW Combo Drive DVD+/-RW SuperMulti DL Drive

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<b>Interfaces</b>	<b>PC Card slot</b>	One Type I/II PC Card slot
	<b>Smart Card Reader</b>	Optional (replaces PC Card slot)
	<b>External monitor</b>	One – VGA
	<b>1394a</b>	One
	<b>Stereo microphone in</b>	One
	<b>Stereo headphone/line out</b>	One
	<b>Power connector</b>	One
	<b>RJ-11/modem</b>	One
	<b>RJ-45/Ethernet</b>	One
	<b>USB 2.0</b>	Two (including one powered USB 2.0 port to support HP External MultiBay II on units without an integrated optical drive)
	<b>Docking connector</b>	For HP 2400/2500 Ultra-Light Docking Station
	<b>LED status indicators</b>	Seventeen

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<b>Audio</b>	High Definition Audio support w/24-bit DAC Integrated mono speaker Integrated microphone Touch-sensitive controls for volume up, volume down, and mute Stereo headphone/line out Stereo microphone in
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### Standard Features

#### Software

#### Preinstalled software with Windows Vista or Windows XP

PDF Complete  
HP Backup and Recovery Manager  
HP Help and Support Center  
HP QuickLook (Windows Vista only)  
HP OpenView Radia Management Agent  
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)  
Roxio Creator 9 (for optional DVD+/-RW and DVD/CDRW drives)  
Symantec Norton Internet Security with complimentary 60-day live update  
Intervideo WinDVD – DVD Player

#### Additional software available from the web

HP Client Manager  
Java Card Security for HP ProtectTools

#### HP Backup and Recovery Manager

Each unit is shipped with HP Backup and Recovery Manager. HP Backup and Recovery Manager can provide data and system file protection for HP business PCs to enable fast recovery if the system becomes corrupted or if important information is accidentally deleted. HP Backup and Recovery Manager can perform scheduled or manual backups of the entire drive or individual files and folders. Up to 10 GB of the hard drive is reserved for the system recovery software. HP Backup and Recovery Manager can also create software recovery CDs or DVDs (requires optional CD-RW or DVD+/-RW hardware).

#### 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
- Embedded Security for HP ProtectTools
- Java Card Security for HP ProtectTools



### Standard Features

#### Security

##### Standard Features

HP ProtectTools Security Manager  
HP Fingerprint Sensor  
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  
HP 3D DriveGuard  
Kensington Lock Slot  
Support for Computrace / LoJack for Laptops (must be purchased separately)

##### Optional Features

**Smart Card Reader** Compatible with ISO 7816 compliant Smart Cards (replaces Type I/II PC Card PC/SC interface support slot)

**HP Privacy Filter** Narrows viewing area so that screen data is visible only to persons directly in front of the monitor

For more information on HP security solutions refer to <http://www.hp.com/go/security>.

#### Power Supply

External 65-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. Fast Charge Technology does not apply to 9 cell primary batteries.

#### Battery

##### Primary Battery

3-cell (28 WHr) high capacity Lithium-Ion (only available with ULV processors)  
6-cell (55 WHr) high capacity Lithium-Ion  
9-cell (83 WHr) high capacity Lithium-Ion

##### Battery Fuel Gauge LEDs

6-cell high capacity and 9-cell high capacity

#### Battery Life

**3-cell Primary Battery** (only available with ULV processors)

Up to 4 hours

**6-cell Primary Battery**

Up to 8 hours

**9-cell Primary Battery**

Up to 12 hours

**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 1 week

### Standard Features

<b>Power Conservation</b>	Supports enhanced Intel SpeedStep technology with Intel Core 2 Duo ULV processors (allows Battery Optimized Mode, Maximum Performance Mode, or Automatic mode) Intel Display Power Saving technology Hibernation Standby ACPI compliance
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<b>Docking (optional)</b>	HP 2400/2500 Ultra-Light Docking Station
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<b>Service and Support</b>	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. For HP Care Pack services see <a href="http://www.hp.com/go/lookuptool">http://www.hp.com/go/lookuptool</a> . <b>NOTE:</b> Certain restrictions and exclusions apply. Consult the HP Customer Support Center for details. <a href="http://h20000.www2.hp.com/bizsupport/TechSupport/ProductRoot.jsp">http://h20000.www2.hp.com/bizsupport/TechSupport/ProductRoot.jsp</a> .
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### Select Model(s)

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<b>2510p</b> RM245UT#ABA Smart Buy	<b>Processor</b>	Intel Core 2 Duo Processor U7500 (1.06 GHz, 533 MHz, 2 MB L2 cache)
	<b>Operating System</b>	Genuine Windows Vista Business* Office Ready
	<b>System Memory</b>	1024-MB 667MHz DDR2 SDRAM (1 DIMM)
	<b>Hard Drive</b>	80-GB 4200 rpm PATA Hard Drive
	<b>Display</b>	12.1-inch diagonal Illumi-Lite, WXGA, anti-glare (1280 × 800)
	<b>Graphics</b>	Mobile Intel Graphics Media Accelerator X3100, up to 384 MB of shared memory
	<b>Audio</b>	High Definition Audio w/24-bit DAC line out/headphone and microphone jacks integrated microphone
	<b>Communications</b>	56K Modem Integrated Intel Gigabit Network Connection (10/100/1000 NIC)
	<b>Integrated Wireless</b>	Intel PRO/Wireless 4965ABG Network Connection HP Integrated Module with Bluetooth Wireless Technology
	<b>Broadband Wireless</b>	HP hs2300 HSDPA Broadband Wireless Module (requires AT&T Wireless Service)
	<b>Centrino Pro</b>	Intel Centrino with vPro technology
	<b>Accessories</b>	HP Ultra-Light Docking Station
	<b>Integrated Security</b>	TPM 1.2 Embedded Security Chip HP Fingerprint Sensor
	<b>Pointing Device</b>	Touchpad with scroll zone and Pointstick, both with two pick buttons
	<b>Optical Drive</b>	DVD+/-RW SuperMulti DL Drive
	<b>Battery</b>	6-cell (55 WHr) Lithium-Ion battery
	<b>Power</b>	External 65-watt Smart AC adapter
	<b>Warranty</b>	Limited, 3-year standard parts and labor warranty

### Standard Features

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<b>2510p</b> RM246UT#ABA Smart Buy	<b>Processor</b>	Intel Core 2 Duo Processor U7600 (1.20 GHz, 533 MHz, 2 MB L2 cache)
	<b>Operating System</b>	Genuine Windows Vista Business* Office Ready
	<b>System Memory</b>	2048-MB 667MHz DDR2 SDRAM (1 DIMM)
	<b>Hard Drive</b>	100-GB 4200 rpm PATA Hard Drive
	<b>Display</b>	12.1-inch diagonal Illumi-Lite, WXGA, anti-glare (1280 × 800)
	<b>Graphics</b>	Mobile Intel Graphics Media Accelerator X3100, up to 384 MB of shared memory
	<b>Audio</b>	High Definition Audio w/24-bit DAC line out/headphone and microphone jacks integrated microphone
	<b>Communications</b>	56K Modem Integrated Intel Gigabit Network Connection (10/100/1000 NIC)
	<b>Integrated Wireless</b>	Intel PRO/Wireless 4965ABG Network Connection HP Integrated Module with Bluetooth Wireless Technology
	<b>Centrino Pro</b>	Intel Centrino with vPro technology
	<b>Integrated Security</b>	TPM 1.2 Embedded Security Chip HP Fingerprint Sensor
	<b>Pointing Device</b>	Touchpad with scroll zone and Pointstick, both with two pick buttons
	<b>Optical Drive</b>	DVD+/-RW SuperMulti DL Drive
	<b>Battery</b>	6-cell (55 WHr) Lithium-Ion battery
	<b>Power</b>	External 65-watt Smart AC adapter
	<b>Warranty</b>	Limited, 3-year standard parts and labor warranty
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<b>2510p</b> RM247UA#ABA	<b>Processor</b>	Intel Core 2 Duo ULV Processor U7600 (1.20-GHz, 533-MHz, 2-MB L2 cache)
	<b>Operating System</b>	Genuine Windows Vista Business*
	<b>System Memory</b>	2048-MB 667MHz DDR2 SDRAM (1 DIMM)
	<b>Hard Drive</b>	80-GB 4200 rpm PATA Hard Drive
	<b>Display</b>	12.1-inch diagonal Illumi-Lite, WXGA, anti-glare (1280 × 800)
	<b>Graphics</b>	Mobile Intel Graphics Media Accelerator X3100, up to 384 MB of shared memory
	<b>Audio</b>	High Definition Audio w/24-bit DAC line out/headphone and microphone jacks integrated microphone
	<b>Communications</b>	56K Modem Integrated Intel Gigabit Network Connection (10/100/1000 NIC)
	<b>Integrated Wireless</b>	Intel PRO/Wireless 4965ABG Network Connection HP Integrated Module with Bluetooth Wireless Technology
	<b>Integrated Security</b>	TPM 1.2 Embedded Security Chip HP Fingerprint Sensor
	<b>Pointing Device</b>	Touchpad with scroll zone and Pointstick, both with two pick buttons
	<b>Optical Drive</b>	DVD+/-RW SuperMulti DL Drive
	<b>Battery</b>	6-cell (55 WHr) Lithium-Ion battery
	<b>Power</b>	External 65-watt Smart AC adapter
	<b>Warranty</b>	Limited, 3-year standard parts and labor warranty

### Standard Features

<b>2510p</b> RM248UA#ABA	<b>Processor</b> <b>Operating System</b> <b>System Memory</b> <b>Hard Drive</b> <b>Display</b> <b>Graphics</b>  <b>Audio</b>  <b>Communications</b>  <b>Integrated Wireless</b>  <b>Broadband Wireless</b>  <b>Centrino Pro</b> <b>Accessories</b> <b>Integrated Security</b>  <b>Pointing Device</b> <b>Optical Drive</b> <b>Battery</b> <b>Power</b> <b>Warranty</b>	Intel Core 2 Duo Processor U7600 (1.20 GHz, 533 MHz, 2 MB L2 cache) Genuine Windows Vista Business* 2048-MB 667MHz DDR2 SDRAM (1 DIMM) 80-GB 4200 rpm PATA Hard Drive 12.1-inch diagonal Illumi-Lite, WXGA, anti-glare (1280 × 800) Mobile Intel Graphics Media Accelerator X3100, up to 384 MB of shared memory High Definition Audio w/24-bit DAC line out/headphone and microphone jacks integrated microphone 56K Modem Integrated Intel Gigabit Network Connection (10/100/1000 NIC) Intel PRO/Wireless 4965ABG Network Connection HP Integrated Module with Bluetooth Wireless Technology HP ev2200 1xEV-DO Broadband Wireless Module (requires Verizon Wireless Service) Intel Centrino with vPro technology HP Ultra-Light Docking Station TPM 1.2 Embedded Security Chip HP Fingerprint Sensor Touchpad with scroll zone and Pointstick, both with two pick buttons DVD+/-RW SuperMulti DL Drive 9-cell (83 WHr) Lithium-Ion battery External 65-watt Smart AC adapter Limited, 3-year standard parts and labor warranty
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<b>2510p</b> RM249UA#ABA	<b>Processor</b> <b>Operating System</b> <b>System Memory</b> <b>Hard Drive</b> <b>Display</b> <b>Graphics</b>  <b>Audio</b>  <b>Communications</b>  <b>Integrated Wireless</b>  <b>Broadband Wireless</b>  <b>Centrino Pro</b> <b>Accessories</b>	Intel Core 2 Duo Processor U7600 (1.20 GHz, 533 MHz, 2 MB L2 cache) Genuine Windows Vista Business* 2048-MB 667MHz DDR2 SDRAM (1 DIMM) 80-GB 4200 rpm PATA Hard Drive 12.1-inch diagonal Illumi-Lite, WXGA, anti-glare (1280 × 800) Mobile Intel Graphics Media Accelerator X3100, up to 384 MB of shared memory High Definition Audio w/24-bit DAC line out/headphone and microphone jacks integrated microphone 56K Modem Integrated Intel Gigabit Network Connection (10/100/1000 NIC) Intel PRO/Wireless 4965ABG Network Connection HP Integrated Module with Bluetooth Wireless Technology HP hs2300 HSDPA Broadband Wireless Module (requires AT&T Wireless Service) Intel Centrino with vPro technology HP Ultra-Light Docking Station
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### Standard Features

<b>Integrated Security</b>	TPM 1.2 Embedded Security Chip HP Fingerprint Sensor
<b>Pointing Device</b>	Touchpad with scroll zone and Pointstick, both with two pick buttons
<b>Optical Drive</b>	DVD+/-RW SuperMulti DL Drive
<b>Battery</b>	9-cell (83 WHr) Lithium-Ion battery
<b>Power</b>	External 65-watt Smart AC adapter
<b>Warranty</b>	Limited, 3-year standard parts and labor warranty

### 2510p GM651AW#ABA

<b>Processor</b>	Intel Core 2 Duo Processor U7600 (1.20 GHz, 533 MHz, 2 MB L2 cache)
<b>Operating System</b>	Genuine Windows Vista Business*
<b>System Memory</b>	1024-MB 667MHz DDR2 SDRAM (1 DIMM)
<b>Hard Drive</b>	80-GB 4200 rpm PATA Hard Drive
<b>Display</b>	12.1-inch diagonal Illumi-Lite, WXGA, anti-glare (1280 × 800)
<b>Graphics</b>	Mobile Intel Graphics Media Accelerator X3100, up to 384 MB of shared memory
<b>Audio</b>	High Definition Audio w/24-bit DAC line out/headphone and microphone jacks integrated microphone
<b>Communications</b>	56K Modem Integrated Intel Gigabit Network Connection (10/100/1000 NIC)
<b>Integrated Wireless</b>	Intel PRO/Wireless 4965ABG Network Connection HP Integrated Module with Bluetooth Wireless Technology
<b>Centrino Pro</b>	Intel Centrino Pro processor technology
<b>Integrated Security</b>	TPM 1.2 Embedded Security Chip HP Fingerprint Sensor
<b>Pointing Device</b>	Touchpad with scroll zone and Pointstick, both with two pick buttons
<b>Optical Drive</b>	DVD+/-RW SuperMulti DL Drive
<b>Battery</b>	6-cell (55 WHr) Lithium-Ion battery
<b>Power</b>	External 65-watt Smart AC adapter
<b>Warranty</b>	Limited, 3-year standard parts and labor warranty

\* At initial boot, either 32- or 64-bit can be selected. This is a one time selection and the other version will be deleted.

### Standard Features

<b>2510p</b> RM288UA#ABA	<b>Processor</b>	Intel Core 2 Duo Processor U7600 (1.20 GHz, 533 MHz, 2 MB L2 cache)
	<b>Operating System</b>	Genuine Windows Vista® Downgrade to Windows XP Professional
	<b>System Memory</b>	2048-MB 667MHz DDR2 SDRAM (1 DIMM)
	<b>Hard Drive</b>	100-GB 4200rpm PATA Hard Drive
	<b>Display</b>	12.1 inch diagonal Illumi-Lite, WXGA, anti-glare (1280 × 800)
	<b>Graphics</b>	Mobile Intel Graphics Media Accelerator X3100, up to 384 MB of shared memory
	<b>Audio</b>	High Definition Audio w/24-bit DAC line out/headphone and microphone jacks integrated microphone
	<b>Communications</b>	56K Modem Integrated Intel Gigabit Network Connection (10/100/1000 NIC)
	<b>Integrated Wireless</b>	Intel PRO/Wireless 4965ABG Network Connection HP Integrated Module with Bluetooth Wireless Technology
	<b>Centrino Pro</b>	Intel Centrino Pro processor technology
	<b>Integrated Security</b>	TPM 1.2 Embedded Security Chip HP Fingerprint Sensor
	<b>Pointing Device</b>	Touchpad with scroll zone and Pointstick, both with two pick buttons
	<b>Optical Drive</b>	DVD+/-RW SuperMulti DL Drive
	<b>Battery</b>	6-cell (55 WHr) Lithium-Ion battery
	<b>Power</b>	External 65-watt Smart AC adapter
	<b>Warranty</b>	Limited, 3-year standard parts and labor warranty

<b>2510p</b> RM318UT#ABA Smart Buy	<b>Processor</b>	Intel Core 2 Duo Processor U7600 (1.20 GHz, 533 MHz, 2 MB L2 cache)
	<b>Operating System</b>	Genuine Windows® XP Professional
	<b>System Memory</b>	2048-MB 667MHz DDR2 SDRAM (1 DIMM)
	<b>Hard Drive</b>	100-GB 4200rpm PATA Hard Drive
	<b>Display</b>	12.1 inch diagonal Illumi-Lite, WXGA, anti-glare (1280 × 800)
	<b>Graphics</b>	Mobile Intel Graphics Media Accelerator X3100, up to 384 MB of shared memory
	<b>Audio</b>	High Definition Audio w/24-bit DAC line out/headphone and microphone jacks integrated microphone
	<b>Communications</b>	56K Modem Integrated Intel Gigabit Network Connection (10/100/1000 NIC)
	<b>Integrated Wireless</b>	Intel PRO/Wireless 4965ABG Network Connection HP Integrated Module with Bluetooth Wireless Technology
	<b>Centrino Pro</b>	Intel Centrino Pro processor technology
	<b>Accessories</b>	HP Bluetooth Mouse
	<b>Integrated Security</b>	TPM 1.2 Embedded Security Chip HP Fingerprint Sensor
	<b>Pointing Device</b>	Touchpad with scroll zone and Pointstick, both with two pick buttons
	<b>Optical Drive</b>	DVD+/-RW SuperMulti DL Drive
	<b>Battery</b>	6-cell (55 WHr) Lithium-Ion battery
	<b>Power</b>	External 65-watt Smart AC adapter

### Standard Features

**Warranty** Limited, 3-year standard parts and labor warranty

<b>2510p</b> RM366UA#ABA	<b>Processor</b>	Intel Core 2 Duo Processor U7600 (1.20 GHz, 533 MHz, 2 MB L2 cache)
	<b>Operating System</b>	Genuine Windows Vista® Downgrade to Windows XP Professional
	<b>System Memory</b>	2048-MB 667MHz DDR2 SDRAM (1 DIMM)
	<b>Hard Drive</b>	80-GB 4200rpm PATA Hard Drive
	<b>Display</b>	12.1 inch diagonal Illumi-Lite, WXGA, anti-glare (1280 × 800)
	<b>Graphics</b>	Mobile Intel Graphics Media Accelerator X3100, up to 384 MB of shared memory
	<b>Audio</b>	High Definition Audio w/24-bit DAC line out/headphone and microphone jacks integrated microphone
	<b>Communications</b>	56K Modem Integrated Intel Gigabit Network Connection (10/100/1000 NIC)
	<b>Integrated Wireless</b>	Intel PRO/Wireless 4965ABG Network Connection HP Integrated Module with Bluetooth Wireless Technology
	<b>Broadband Wireless</b>	HP ev2210 1xEV-DO Broadband Wireless Module (requires Sprint Wireless Service)
	<b>Centrino Pro</b>	Intel Centrino Pro processor technology
	<b>Accessories</b>	HP Ultra-Light Docking Station
	<b>Integrated Security</b>	TPM 1.2 Embedded Security Chip HP Fingerprint Sensor
	<b>Pointing Device</b>	Touchpad with scroll zone and Pointstick, both with two pick buttons
<b>Optical Drive</b>	DVD+/-RW SuperMulti DL Drive	
<b>Battery</b>	9-cell (83 WHr) Lithium-Ion battery	
<b>Power</b>	External 65-watt Smart AC adapter	
<b>Warranty</b>	Limited, 3-year standard parts and labor warranty	

<b>2510p</b> KR905UT#ABA Smart Buy	<b>Processor</b>	Intel Core 2 Duo Processor U7600 (1.20 GHz, 533 MHz, 2 MB L2 cache)
	<b>Operating System</b>	Genuine Windows Vista® Downgrade to Windows XP Professional
	<b>System Memory</b>	2048-MB 667MHz DDR2 SDRAM (1 DIMM)
	<b>Hard Drive</b>	80-GB 4200rpm PATA Hard Drive
	<b>Display</b>	12.1 inch diagonal Illumi-Lite, WXGA, anti-glare (1280 × 800)
	<b>Graphics</b>	Mobile Intel Graphics Media Accelerator X3100, up to 384 MB of shared memory
	<b>Audio</b>	High Definition Audio w/24-bit DAC line out/headphone and microphone jacks integrated microphone
	<b>Communications</b>	56K Modem Integrated Intel Gigabit Network Connection (10/100/1000 NIC)
	<b>Integrated Wireless</b>	Intel PRO/Wireless 4965ABG Network Connection HP Integrated Module with Bluetooth Wireless Technology
	<b>Centrino Pro</b>	Intel Centrino Pro processor technology
	<b>Integrated Security</b>	TPM 1.2 Embedded Security Chip HP Fingerprint Sensor

### Standard Features

<b>Pointing Device</b>	Touchpad with scroll zone and Pointstick, both with two pick buttons
<b>Optical Drive</b>	DVD+/-RW SuperMulti DL Drive
<b>Battery</b>	6-cell (55 WHr) Lithium-Ion battery
<b>Power</b>	External 65-watt Smart AC adapter
<b>Warranty</b>	Limited, 3-year standard parts and labor warranty

**2510p**  
KR906UT#ABA  
Smart Buy

<b>Processor</b>	Intel Core 2 Duo Processor U7600 (1.20 GHz, 533 MHz, 2 MB L2 cache)
<b>Operating System</b>	Genuine Windows Vista® Downgrade to Windows XP Professional (note) w/MS Office (Trial)
<b>System Memory</b>	1024-MB 667MHz DDR2 SDRAM (1 DIMM)
<b>Hard Drive</b>	80-GB 4200rpm PATA Hard Drive
<b>Display</b>	12.1 inch diagonal Illumi-Lite, WXGA, anti-glare (1280 × 800)
<b>Graphics</b>	Mobile Intel Graphics Media Accelerator X3100, up to 384 MB of shared memory
<b>Audio</b>	High Definition Audio w/24-bit DAC line out/headphone and microphone jacks integrated microphone
<b>Communications</b>	56K Modem Integrated Intel Gigabit Network Connection (10/100/1000 NIC)
<b>Integrated Wireless</b>	Intel PRO/Wireless 4965ABG Network Connection HP Integrated Module with Bluetooth Wireless Technology
<b>Broadband Wireless</b>	HP ev2210 1xEV-DO Broadband Wireless Module (requires Verizon Wireless Service)
<b>Centrino Pro</b>	Intel Centrino Pro processor technology
<b>Docking</b>	HP Ultra-Light Docking Station
<b>Integrated Security</b>	TPM 1.2 Embedded Security Chip HP Fingerprint Sensor
<b>Pointing Device</b>	Touchpad with scroll zone and Pointstick, both with two pick buttons
<b>Optical Drive</b>	DVD+/-RW SuperMulti DL Drive
<b>Battery</b>	6-cell (55 WHr) Lithium-Ion battery
<b>Power</b>	External 65-watt Smart AC adapter
<b>Warranty</b>	Limited, 3-year standard parts and labor warranty



### Standard Features

<b>2510p</b> KR907UT#ABA Smart Buy	<b>Processor</b>	Intel Core 2 Duo Processor U7600 (1.20 GHz, 533 MHz, 2 MB L2 cache)
	<b>Operating System</b>	Genuine Windows Vista® Downgrade to Windows XP Professional (note) w/MS Office (Trial)
	<b>System Memory</b>	1024-MB 667MHz DDR2 SDRAM (1 DIMM)
	<b>Hard Drive</b>	80-GB 4200rpm PATA Hard Drive
	<b>Display</b>	12.1 inch diagonal Illumi-Lite, WXGA, anti-glare (1280 × 800)
	<b>Graphics</b>	Mobile Intel Graphics Media Accelerator X3100, up to 384 MB of shared memory
	<b>Audio</b>	High Definition Audio w/24-bit DAC line out/headphone and microphone jacks integrated microphone
	<b>Communications</b>	56K Modem Integrated Intel Gigabit Network Connection (10/100/1000 NIC)
	<b>Integrated Wireless</b>	Intel PRO/Wireless 4965ABG Network Connection HP Integrated Module with Bluetooth Wireless Technology
	<b>Broadband Wireless</b>	HP hs2300 HSDPA Broadband Wireless Module (requires AT&T Wireless Service)
	<b>Centrino Pro</b>	Intel Centrino Pro processor technology
	<b>Docking</b>	HP Ultra-Light Docking Station
	<b>Integrated Security</b>	TPM 1.2 Embedded Security Chip HP Fingerprint Sensor
	<b>Pointing Device</b>	Touchpad with scroll zone and Pointstick, both with two pick buttons
	<b>Optical Drive</b>	DVD+/-RW SuperMulti DL Drive
<b>Battery</b>	6-cell (55 WHr) Lithium-Ion battery	
<b>Power</b>	External 65-watt Smart AC adapter	
<b>Warranty</b>	Limited, 3-year standard parts and labor warranty	

<b>2510p</b> KR908UT#ABA Smart Buy	<b>Processor</b>	Intel Core 2 Duo Processor U7600 (1.20 GHz, 533 MHz, 2 MB L2 cache)
	<b>Operating System</b>	Genuine Windows Vista® Downgrade to Windows XP Professional (note) w/MS Office (Trial)
	<b>System Memory</b>	1024-MB 667MHz DDR2 SDRAM (1 DIMM)
	<b>Hard Drive</b>	80-GB 4200rpm PATA Hard Drive
	<b>Display</b>	12.1 inch diagonal Illumi-Lite, WXGA, anti-glare (1280 × 800)
	<b>Graphics</b>	Mobile Intel Graphics Media Accelerator X3100, up to 384 MB of shared memory
	<b>Audio</b>	High Definition Audio w/24-bit DAC line out/headphone and microphone jacks integrated microphone
	<b>Communications</b>	56K Modem Integrated Intel Gigabit Network Connection (10/100/1000 NIC)
	<b>Integrated Wireless</b>	Intel PRO/Wireless 4965ABG Network Connection HP Integrated Module with Bluetooth Wireless Technology
	<b>Broadband Wireless</b>	HP ev2210 1xEV-DO Broadband Wireless Module (requires Sprint Wireless Service)
	<b>Centrino Pro</b>	Intel Centrino Pro processor technology
	<b>Docking</b>	HP Ultra-Light Docking Station

### Standard Features

<b>Integrated Security</b>	TPM 1.2 Embedded Security Chip HP Fingerprint Sensor
<b>Pointing Device</b>	Touchpad with scroll zone and Pointstick, both with two pick buttons
<b>Optical Drive</b>	DVD+/-RW SuperMulti DL Drive
<b>Battery</b>	6-cell (55 WHr) Lithium-Ion battery
<b>Power</b>	External 65-watt Smart AC adapter
<b>Warranty</b>	Limited, 3-year standard parts and labor warranty

**2510p**  
KR918UT#ABA  
Smart Buy

<b>Processor</b>	Intel Core 2 Duo Processor U7600 (1.20 GHz, 533 MHz, 2 MB L2 cache)
<b>Operating System</b>	Genuine Windows Vista® Downgrade to Windows XP Professional (note) w/MS Office (Trial)
<b>System Memory</b>	1024-MB 667MHz DDR2 SDRAM (1 DIMM)
<b>Hard Drive</b>	80-GB 4200rpm PATA Hard Drive
<b>Display</b>	12.1 inch diagonal Illumi-Lite, WXGA, anti-glare (1280 × 800)
<b>Graphics</b>	Mobile Intel Graphics Media Accelerator X3100, up to 384 MB of shared memory
<b>Audio</b>	High Definition Audio w/24-bit DAC line out/headphone and microphone jacks integrated microphone
<b>Communications</b>	56K Modem Integrated Intel Gigabit Network Connection (10/100/1000 NIC)
<b>Integrated Wireless</b>	Intel PRO/Wireless 4965ABG Network Connection HP Integrated Module with Bluetooth Wireless Technology
<b>Integrated Security</b>	TPM 1.2 Embedded Security Chip HP Fingerprint Sensor
<b>Pointing Device</b>	Touchpad with scroll zone and Pointstick, both with two pick buttons
<b>Optical Drive</b>	DVD+/-RW SuperMulti DL Drive
<b>Battery</b>	3-cell (28 WHr) Lithium-Ion battery
<b>Power</b>	External 65-watt Smart AC adapter
<b>Warranty</b>	Limited, 3-year standard parts and labor warranty

### Standard Features

<b>2510p</b> KR921UT#ABA Smart Buy	<b>Processor</b>	Intel Core 2 Duo Processor U7700 (1.33 GHz, 533 MHz, 2 MB L2 cache)
	<b>Operating System</b>	Genuine Windows Vista® Downgrade to Windows XP Professional (note) w/MS Office (Trial)
	<b>System Memory</b>	2048-MB 667MHz DDR2 SDRAM (1 DIMM)
	<b>Hard Drive</b>	64-GB Solid State Hard Drive
	<b>Display</b>	12.1 inch diagonal Illumi-Lite, WXGA, anti-glare (1280 × 800)
	<b>Graphics</b>	Mobile Intel Graphics Media Accelerator X3100, up to 384 MB of shared memory
	<b>Audio</b>	High Definition Audio w/24-bit DAC line out/headphone and microphone jacks integrated microphone
	<b>Communications</b>	56K Modem Integrated Intel Gigabit Network Connection (10/100/1000 NIC)
	<b>Integrated Wireless</b>	Intel PRO/Wireless 4965ABGN Network Connection HP Integrated Module with Bluetooth Wireless Technology
	<b>Centrino Pro</b>	Intel Centrino Pro processor technology
	<b>Integrated Security</b>	TPM 1.2 Embedded Security Chip HP Fingerprint Sensor
	<b>Pointing Device</b>	Touchpad with scroll zone and Pointstick, both with two pick buttons
	<b>Optical Drive</b>	DVD+/-RW SuperMulti DL Drive
	<b>Battery</b>	6-cell (55 WHr) Lithium-Ion battery
	<b>Power</b>	External 65-watt Smart AC adapter
	<b>Warranty</b>	Limited, 3-year standard parts and labor warranty

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<b>2510p</b> KV634AW#ABA	<b>Processor</b>	Intel Core 2 Duo Processor U7700 (1.33 GHz, 533 MHz, 2 MB L2 cache)
	<b>Operating System</b>	Genuine Windows Vista® Downgrade to Windows XP Professional (note) w/MS Office (Trial)
	<b>System Memory</b>	2048-MB 667MHz DDR2 SDRAM (1 DIMM)
	<b>Hard Drive</b>	120-GB 4200rpm PATA Hard Drive
	<b>Display</b>	12.1 inch diagonal Illumi-Lite, WXGA, anti-glare (1280 × 800)
	<b>Graphics</b>	Mobile Intel Graphics Media Accelerator X3100, up to 384 MB of shared memory
	<b>Audio</b>	High Definition Audio w/24-bit DAC line out/headphone and microphone jacks integrated microphone
	<b>Communications</b>	56K Modem Integrated Intel Gigabit Network Connection (10/100/1000 NIC)
	<b>Integrated Wireless</b>	Intel PRO/Wireless 4965ABG Network Connection HP Integrated Module with Bluetooth Wireless Technology
	<b>Centrino Pro</b>	Intel Centrino Pro processor technology
	<b>Integrated Security</b>	TPM 1.2 Embedded Security Chip HP Fingerprint Sensor
	<b>Pointing Device</b>	Touchpad with scroll zone and Pointstick, both with two pick buttons
	<b>Optical Drive</b>	DVD+/-RW SuperMulti DL Drive
	<b>Battery</b>	6-cell (55 WHr) Lithium-Ion battery

### Standard Features

<b>Power</b>	External 65-watt Smart AC adapter
<b>Warranty</b>	Limited, 3-year standard parts and labor warranty

<b>2510p</b> KR936UT#ABA Smart Buy	<b>Processor</b>	Intel® Core™2 Duo Processor U7700 (1.33 GHz, 533 MHz, 2 MB L2 cache)
	<b>Operating System</b>	Genuine Windows Vista® Downgrade to Windows XP Professional (note) w/MS Office (Trial)
	<b>System Memory</b>	2048MB 667MHz DDR2 SDRAM (1 DIMM)
	<b>Hard Drive</b>	120GB 5400rpm PATA Hard Drive
	<b>Display</b>	12.1 inch diagonal Illumi-Lite, WXGA, anti-glare (1280 × 800)
	<b>Graphics</b>	Mobile Intel® Graphics Media Accelerator X3100, up to 384 MB of shared memory
	<b>Audio</b>	High Definition Audio w/24-bit DAC line out/headphone and microphone jacks integrated microphone
	<b>Communications</b>	56K Modem Integrated Intel Gigabit Network Connection (10/100/1000 NIC)
	<b>Integrated Wireless</b>	Intel PRO/Wireless 4965ABGN Network Connection HP Integrated Module with Bluetooth® Wireless Technology
	<b>Centrino Pro</b>	Intel Centrino Pro processor technology
	<b>Accessories</b>	HP Bluetooth Mouse
	<b>Integrated Security</b>	TPM 1.2 Embedded Security Chip HP Fingerprint Sensor
	<b>Pointing Device</b>	Touchpad with scroll zone and Pointstick, both with two pick buttons
	<b>Optical Drive</b>	DVD+/-RW SuperMulti DL Drive
<b>Battery</b>	6-cell (55 WHr) Lithium-Ion battery	
<b>Power</b>	External 65-watt Smart AC adapter	
<b>Warranty</b>	Limited 3 year standard parts and labor warranty	

<b>2510p</b> KR937UA#ABA	<b>Processor</b>	Intel® Core™2 Duo Processor U7700 (1.33 GHz, 533 MHz, 2 MB L2 cache)
	<b>Operating System</b>	Genuine Windows Vista® Downgrade to Windows XP Professional (note)
	<b>System Memory</b>	2048MB 667MHz DDR2 SDRAM (1 DIMM)
	<b>Hard Drive</b>	100GB 4200rpm PATA Hard Drive
	<b>Display</b>	12.1 inch diagonal Illumi-Lite, WXGA, anti-glare (1280 × 800)
	<b>Graphics</b>	Mobile Intel® Graphics Media Accelerator X3100, up to 384 MB of shared memory
	<b>Audio</b>	High Definition Audio w/24-bit DAC line out/headphone and microphone jacks integrated microphone
	<b>Communications</b>	56K Modem Integrated Intel Gigabit Network Connection (10/100/1000 NIC)
	<b>Integrated Wireless</b>	Intel PRO/Wireless 4965ABGN Network Connection HP Integrated Module with Bluetooth® Wireless Technology
	<b>Centrino Pro</b>	Intel Centrino Pro processor technology
	<b>Integrated Security</b>	TPM 1.2 Embedded Security Chip HP Fingerprint Sensor

### Standard Features

**Pointing Device**

Touchpad with scroll zone and Pointstick, both with two pick buttons

**Optical Drive**

DVD+/-RW SuperMulti DL Drive

**Battery**

6-cell (55 WHr) Lithium-Ion battery

**Power**

External 65-watt Smart AC adapter

**Warranty**

Limited 3 year standard parts and labor warranty

### Options

<b>Memory</b>	HP 512-MB (DDR2 667 MHz) SODIMM	EM993AA
	HP 1-GB (DDR2 667 MHz) SODIMM	EM994AA
	HP 2-GB (DDR2 667 MHz) SODIMM	EM995AA
	HP 4-GB (DDR2 667 MHz) SODIMM	KX034AV
<b>MultiBay II Storage</b> (9.5-mm) <b>NOTE:</b> Requires HP External MultiBay II	HP MultiBay II DVD-ROM Drive	PA849A
	HP MultiBay II DVD/CD-RW Combo Drive	PA850A
	HP MultiBay II DVD+/-RW SuperMulti DL Drive	PA851A
	HP 80-GB 5400rpm MultiBay II Hard Drive	PH357A
<b>Other Storage</b>	HP Notebooks USB Diskette Drive	DC361B
<b>Communications</b>	Intel Wireless WiFi Link 4965AGN option kit	RT081AA#ABA
	HP ev2210 1xEVDO-A Broadband Wireless Module (Verizon)	GM763AA#ABA
	HP ev2210 1xEVDO-A Broadband Wireless Module (Sprint)	GM764AA#ABA
	HP hs2300 HSDPA Broadband Wireless Module (AT&T)	GG589AA#ABA
<b>Expansion Solutions</b>	HP 2400/2500 Ultra-Light Docking Station	EQ773AA#ABA
	HP Standard Monitor Stand	PA507A
	HP Adjustable Notebook Stand	PA508A
	HP External MultiBay II	PA509A#ABA
<b>Power</b>	HP 2-Bay Battery Charging Station (North America only)	DT533A#ABA
	HP 2-Bay Battery Charging Station (rest of world)	EW424AA#ABA
	HP 10-Bay Battery Charging Station (North America only)	DT534A#ABA
	HP HP 2400/2500 Battery Adapter Kit	EH769AA
	HP 65W Smart AC Adapter	ED494AA#ABA
	HP 90W Smart Auto Adapter	ED493AA
	HP 65W AC/Auto/Air Combo Smart Adapter	ED993AA#ABA
	HP 6-Cell Li-Ion Primary Battery	EH767AA
HP 9-Cell Li-Ion Primary Battery	EH768AA	

### Options

<b>Carrying Cases</b>	HP Value Nylon Case	RR314AA
	HP Universal Nylon Case	RR315AA
	HP Executive Leather Case	RR316AA
	HP Deluxe Nylon Backpack	RR317AA
	HP Universal Messenger Bag	GD404AA
	HP Deluxe Roller Case	GD405AA
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<b>Security</b>	HP PC Card Smart Card Reader with Java Card	EL347AA
	HP ProtectTools Java Card – 10 units	EL348AA
	HP/Kensington MicroSaver Security Lock	PC766A
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<b>Input/Output Devices</b>	HP USB Keyboard & Mouse Bundle	RC465AA#ABA
	HP USB/PS2 Optical 2-Button Scroll Mouse	DC369A
	HP USB Optical Travel Mouse	RH304AA
	HP USB Optical Travel Mouse	RJ316AA

### Memory

667-MHz\* DDR2 SDRAM

One DIMM slot

DIMM sizes supported: 512 MB, 1024 MB, 2048, 4096 MB

- Standard Memory**
- 1024 MB (1024 MB x 1)
  - 2048 MB (2048 MB x 1)

### Optional Memory Upgrades

Support for up to 4096 MB of memory with the installation of optional DDR2 SDRAM memory kits. Please refer to the Hardware and Software Guide for installation procedures. Memory slot is user-accessible.

HP 512-MB (DDR2 667 MHz) SODIMM\* EM993AA

HP 1024-MB (DDR2 667 MHz) SODIMM\* EM994AA

HP 2048-MB (DDR2 667 MHz) SODIMM\* EM995AA

HP 4096-MB (DDR2 667 MHz) SODIMM\* KX034AV

\* System runs at a maximum of 533-MHz.

**NOTE:** Availability of 4 GB or more of memory requires Windows Vista Business 64-bit or Linux. With Windows 32-bit operating systems, memory above 3 GB may not all be available due to system resource requirements.



### Storage

#### Optical Drive Support

##### Fixed optical drives (95mm PATA)

DVD/CD-RW Combo Drive

DVD+/-RW SuperMulti DL Drive

##### Quantity Supported

One

One

##### Drive Bay

Fixed optical drive bay

Fixed optical drive bay

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#### Internal Storage Device

##### Hard Drives (1.8" SMART PATA)

80-GB 4200 rpm

100-GB 4200 rpm

120-GB 4200 rpm

120-GB 5400 rpm

##### Solid State Drive

64-GB Solid State Drive

##### Quantity Supported

One

One

One

One

One

##### Drive Bay

Dedicated hard drive bay

Dedicated hard drive bay

Dedicated hard drive bay

Dedicated hard drive bay

Dedicated hard drive bay

### Technical Specifications

<b>System Unit</b>	<b>Dimensions (HxWxD)</b>	0.97 in (at front) x 11.11 in x 8.38 in 24.7 mm (at front) x 282.3 mm x 212.8 mm
	<b>Weight</b>	Starting from 2.8 lb (1.29 kg)
	<b>NOTE:</b> Height varies depending upon where on the notebook the measurement is made. Starting weight includes 3-cell battery, hard drive, 512-MB memory, 802.11 wireless communications module. Weight varies by configuration and components.	
	<b>Stand-Alone Power Requirements (AC Power)</b>	Nominal Operating Voltage 18.5 V Average Operating Power 12.5 W Max Operating Power < 65 W
	<b>Temperature</b>	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)
	<b>Relative Humidity</b>	Operating 10% to 90%, non-condensing Non-operating 5% to 95%, 101.6° F (38.7° C) maximum wet bulb temperature
	<b>Shock</b>	Operating 125 G, 2 ms, half-sine Non-operating 200 G, 2 ms, half-sine
	<b>Random Vibration</b>	Operating 0.75 grms Non-operating 1.50 grms
	<b>Altitude (unpressurized)</b>	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)
	<b>Industry Standard Certifications</b>	UL Yes CSA Yes FCC Compliance Yes ENERGY STAR® 4.0 Yes ICES Yes GS Yes Australia / NZ A-Tick Compliance Yes CCC Yes Japan VCCI Compliance Yes MIC Yes BSMI Yes CE Marking Compliance Yes BNCI or BELLIS Yes CIT Yes GOST Yes Saudi Arabian Compliance (ICCP) Yes SABS Yes UKRSERTCOMPUTER Yes

### Technical Specifications

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

<b>HP 65W Smart AC Adapter</b>	<b>Dimensions</b>	4.17 x 1.85 x 1.1 in (10.6 x 4.7 x 2.8 cm)		
	<b>Weight</b>	0.62 lb (280 g)		
	<b>Input</b>	100 to 240 VAC		
		Input Efficiency	83% min at 115 VAC	
		Input frequency range	47 to 63 Hz	
	<b>Output</b>	Input AC current	1.7 A at 90 VAC, 0.85 A at 180 VAC	
		Output power 65W	65W	
		DC output	18.5V	
		Hold-up time	5 msec at 115 VAC input	
		Output current limit	<11A, Over voltage protection- 29V max automatic shutdown	
	<b>Connector</b>	3 pin/grounded, mates with interchangeable cords		
	<b>Environmental Design</b>	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%	
<b>EMI and Safety Certifications</b>	Storage Humidity	10% to 90%		
	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.			

<b>9-Cell (83Whr) Lithium-Ion battery</b>	<b>Dimensions (H x W x L)</b>	1.6 x 2.3 x 8.1 in (4.1 x 5.9 x 20.6 cm)		
	<b>Weight</b>	1.07 lb (0.488 kg)		
	<b>Cells/Type</b>	9-cell Lithium-Ion		
	<b>Energy</b>	Watt-hour Capacity	83Wh	
		<b>Temperature</b>	Operating (Charging)	32° to 113° F (0° to 45° C)
	<b>Battery Re-Charge Time</b>	Operating (Discharging)	14° to 140° F (-10° to 60° C)	
		Non-operating	-4° to 140° F (-20° to 60° C)	
		System in OFF mode or Standby	3 to 4 hours	
	<b>Fuel Gauge</b>	System ON	4 to 5 hours (depending on system power consumption)	
		When pressed, LEDs light indicating level of charge remaining on battery		

### Technical Specifications

<b>6-Cell (55Whr) Lithium-Ion battery</b>	<b>Dimensions (H x W x L)</b>	0.8 x 2.3 x 8.1 in (2.1 x 5.9 x 20.6 cm)	
	<b>Weight</b>	0.73 lb (0.332 kg)	
	<b>Cells/Type</b>	6-cell Lithium-Ion	
	<b>Energy</b>	Watt-hour Capacity	55Wh
	<b>Temperature</b>	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)
	<b>Battery Re-Charge Time</b>	System in OFF Mode or Standby	2.5 hours
		System ON	3 to 5 hours (depending on system power consumption)
		HP Fast Charge	Charges the battery up to 90% within 90 minutes when system is OFF
<b>Fuel Gauge</b>	When pressed, LEDs light indicating level of charge remaining on battery		

<b>3-Cell (28Whr) Lithium-ion battery</b> (only available with ULV processors)	<b>Dimensions (H x W x L)</b>	0.8 x 1.5 x 8.1 in (2.1 x 3.9 x 20.6 cm)	
	<b>Weight</b>	0.39 lb (0.176 kg)	
	<b>Cells/Type</b>	3-cell Lithium-Ion	
	<b>Energy</b>	Watt-hour Capacity	28.8Wh
	<b>Temperature</b>	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)
	<b>Battery Re-Charge Time</b>	System in OFF Mode or Standby	2.5 hours
		System ON	3 to 5 hours (depending on system power consumption)
		HP Fast Charge	Charges the battery up to 90% within 90 minutes when system is OFF

### Technical Specifications

<b>12.1-inch Illumi-Lite WXGA anti-glare</b>	<b>Active Area (W x H)</b>	10.3 x 6.4 in (26.1 x 16.3 cm)		
	<b>Diagonal Size</b>	12.1 in (30.7 cm)		
	<b>Surface Treatment</b>	Anti-glare		
	<b>Contrast Ratio</b>	300:1 (typical)		
	<b>Refresh Rate</b>	60 Hz		
	<b>Brightness</b>	200 nit (typical)		
	<b>Pixel Resolution</b>	<b>Pitch</b>	0.204 mm	
		<b>Format</b>	1280 x 800	
		<b>Configuration</b>	RGB Stripe	
	<b>Backlight</b>	LED		
<b>PPI</b>	125			
<b>Viewing Angle</b>	±30° Horizontal, ±10° Vertical (minimum)			

### Hard Drives

<b>120-GB 5400 rpm 1.8" PATA</b>	<b>Drive Weight</b>	0.13 lb (59 g)		
	<b>Capacity</b>	120 GB		
	<b>Height</b>	0.31 in (8 mm)		
	<b>Width</b>	2.12 in (54 mm)		
	<b>Interface</b>	ATA-6		
	<b>Transfer Rate</b>	<b>Synchronous (maximum)</b>	100 MB/s (Drive Capability)	
	<b>Seek Time</b> (typical reads, including settling)	<b>Single Track</b>	3 ms	
		<b>Average</b>	15 ms	
		<b>Maximum</b>	26 ms	
	<b>Rotational Speed</b>	5400 rpm		
<b>Logical Blocks</b>	234,441,648			
<b>Operating Temperature</b>	41° to 140° F (5° to 60° C) [case temp]			
<b>Features</b>	ATA Security			

### Technical Specifications

**120-GB 4200 rpm  
1.8" PATA**

<b>Drive Weight</b>	0.13 lb (59 g)
<b>Capacity</b>	120 GB
<b>Height</b>	0.31 in (8 mm)
<b>Width</b>	2.12 in (54 mm)
<b>Interface</b>	ATA-6
<b>Transfer Rate</b>	<b>Synchronous</b> (maximum) 100 MB/s (Drive Capability)
<b>Seek Time</b> (typical reads, including settling)	<b>Single Track</b> 3 ms
	<b>Average</b> 15 ms
	<b>Maximum</b> 26 ms
<b>Rotational Speed</b>	4200 rpm
<b>Logical Blocks</b>	234,441,648
<b>Operating Temperature</b>	41° to 140° F (5° to 60° C) [case temp]
<b>Features</b>	ATA Security

**100-GB 4200 rpm  
1.8" PATA**

<b>Drive Weight</b>	0.13 lb (59 g)
<b>Capacity</b>	100 GB
<b>Height</b>	0.31 in (8 mm)
<b>Width</b>	2.12 in (54 mm)
<b>Interface</b>	ATA-6
<b>Transfer Rate</b>	<b>Synchronous</b> (maximum) 100 MB/s (Drive Capability)
<b>Seek Time</b> (typical reads, including settling)	<b>Single Track</b> 3 ms
	<b>Average</b> 15 ms
	<b>Maximum</b> 26 ms
<b>Rotational Speed</b>	4200 rpm
<b>Logical Blocks</b>	195,371,568
<b>Operating Temperature</b>	41° to 140° F (5° to 60° C) [case temp]
<b>Features</b>	ATA Security

### Technical Specifications

#### 80-GB 4200 rpm 1.8" PATA

<b>Drive Weight</b>	0.13 lb (59 g)
<b>Capacity</b>	80 GB
<b>Height</b>	0.31 in (8 mm)
<b>Width</b>	2.12 in (54 mm)
<b>Interface</b>	ATA-6
<b>Transfer Rate</b>	<b>Synchronous</b> (maximum) 100 MB/s (Drive Capability)
<b>Seek Time</b>	<b>Single Track</b> 3 ms
(typical reads, including settling)	<b>Average</b> 15 ms
	<b>Maximum</b> 26 ms
<b>Rotational Speed</b>	4200 rpm
<b>Logical Blocks</b>	156,301,488
<b>Operating Temperature</b>	41° to 140° F (5° to 60° C) [case temp]
<b>Features</b>	ATA Security

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#### Solid State Drive

#### 64-GB 1.8" PATA

<b>Drive Weight</b>	0.13 lb (59 g)
<b>Capacity</b>	64 GB
<b>Height</b>	0.31 in (8 mm)
<b>Width</b>	2.12 in (54 mm)
<b>Interface</b>	ATA-5
<b>Transfer Rate</b>	<b>Synchronous</b> (maximum) 66 MB/s (Drive Capability)
<b>Access Time</b>	0.11 ms
<b>Logical Blocks</b>	125,045,424
<b>Operating Temperature</b>	0° to 158° F (0° to 70° C) [case temp]
<b>Features</b>	ATA Security

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#### Optical Drives – Fixed

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### Technical Specifications

<b>DVD/CD-RW Combo Drive</b>	<b>Dimensions</b>	0.37 x 5.51 x 5.04 in (0.95 x 14.0 x 12.8 cm)		
	<b>Weight</b>	0.45 lb (205 g)		
	<b>Access Times</b>	Random	<120 ms CD	
			<155 ms DVD	
	<b>Max Data Transfer Rate</b>	24X CD-ROM	3,600 KB/s	
		8X DVD	10,800 KB/s	
		24X CD-R	3,600 KB/s	
		24X CD-RW	3,600 KB/s	
	<b>Transfer Mode</b>	Multiword DMA Mode 2		
	<b>Interface</b>	EIDE		
	<b>Supported Media (read)</b>	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		
	<b>Supported Media (write)</b>	CD-R, CD-RW		
	<b>Max Media Capacity (read)</b>	8.5 GB		
	<b>Max Media Capacity (write)</b>	700 MB		
<b>Transport</b>	Tray loading			

<b>DVD+/-RW SuperMulti DL Drive</b>	<b>Dimensions</b>	0.37 x 5.51 x 5.04 in (0.95 x 14.0 x 12.8 cm)		
	<b>Weight</b>	0.45 lb (205 g)		
	<b>Access Times</b>	Random	<150 ms CD	
			<125 ms DVD	
	<b>Max Data Transfer Rate</b>	24X CD-ROM	3,600 KB/s	
		8X DVD	10,800 KB/s	
		24X CD-R	3,600 KB/s	
		10X CD-RW	1,500 KB/s	
		4X DVD+R	5,400 KB/s	
		2.4X DVD+RW	3,240 KB/s	
		4X DVD-R	5,400 KB/s	
		2X DVD-RW	2,700 KB/s	
		2X DVD-RAM	2,700 KB/s	
	<b>Transfer Mode</b>	Multiword DMA Mode 2		
<b>Interface</b>	EIDE			
<b>Supported Media (read)</b>	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			
<b>Supported Media (write)</b>	CD-R, CD-RW, DVD+R, DVD+RW, DVD-R, DVD-RW, DVD-RAM			
<b>Max Media Capacity (read)</b>	8.5 GB			



### Technical Specifications

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<b>Max Media Capacity</b> (write)	8.5 GB
<b>Transport</b>	Tray Loading

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### Security

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<b>HP Fingerprint Sensor</b>	<b>Mobile Voltage Operation</b>	3.0V–3.6V Single Supply
	<b>Operating Temperature</b>	32° – 158°F (0° – 70°C)
	<b>Current Consumption @ 3.3V</b>	Less than 70 mA peak imaging and scrolling Less than 25 mA hardware finger detection Advanced Power Management
	<b>High-Rate Image Capture</b>	Up to 240 image frames /sec
	<b>ESD Resistance</b>	IEC 61000-4-2 Level 4 (±15KV)
	<b>Detection Matrix</b>	192 x 16 Pixels 9.7 mm x 0.81 mm 500 ppi High-Resolution Images

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### Audio

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<b>Hardware</b>	<b>Implementation</b>	ADI1981HD High Definition CODEC
	<b>Touch-Sensitive Volume Controls</b>	Volume up, volume down, and mute
	<b>Full Duplex</b>	Yes
	<b>Sound Blaster Pro compatible</b>	Yes
	<b>Microphone In</b>	Stereo
	<b>Headphone/Line Out</b>	Stereo

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<b>Integrated Mono Speaker</b>	<b>Power Rating</b>	2 Watts
	<b>Impedance</b>	4 Ohms

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### Communications

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### Technical Specifications

<b>Integrated Intel Gigabit Network Connection</b> (10/100/1000 NIC)	<b>Ethernet Features</b>	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)
	<b>Power Management</b>	ACPI compliant -- multiple power modes Situation-sensitive features reduce power consumption
	<b>Performance Features</b>	TCP/IP/UDP Checksum Offload (configurable)
	<b>Manageability</b>	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 Intel Advanced Management Technology (iAMT)
	<b>Interface</b>	PCI Express x1
	<b>NIC Device Driver Name</b>	Intel 82566MM Gigabit Network Connection
	<b>Drivers Available</b>	Microsoft Windows Vista Microsoft Windows XP

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<b>V.92 56K Data/Fax Modem Form Factor</b>	MDC 1.5 Daughtercard
<b>Power Management Support</b>	APM Revision 1.2, ACPI
<b>Approvals/Certifications</b>	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
<b>Data Mode Capabilities</b>	V.92 data V.8bis V.80 V44, V.42bis, MNP5 (Compression) V.42 (LAPM, MNP2-4) (Error Correction) <b>Optional symbol rates:</b> 2800, 3429 Asymmetric Symbol rates <b>Synchronous primary channel data signaling rates:</b> 3600, 31200 Automatic rate re-negotiation V.34 V.32bis V.32 V.23 V.22bis

### Technical Specifications

	V.22
	V.21
	Bell 212A
	Bell 103J
<b>Fax Mode Capabilities</b>	TIA/EIA-578-B (Class 1)
	T.30, T.4 (Group 3)
	V.17
	V.29
	V.27ter
	V.21 Channel 2
<b>Command Set</b>	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

<b>HP ev2210 1xEVDO-A Broadband Wireless Module</b>	<b>Band and Power Class</b>	0 (North American Cellular) – Class III; 1 (North American PCS) – Class II
	<b>Wireless Protocol Standards</b>	CDMA 1x Release A; IS-95A, IS-95B, IS-2000
	<b>Wireless Parametric Standards</b>	Meets or exceeds TIA/EIA IS-98-D
	<b>Interoperability</b>	CDG 22 (TIA/EIA/IS-95-A) CDG 53(TIA/EIA/IS-95-B) C.S0031 (TIA/EIA/IS-2000) CDG 64 (TIA/EIA/IS-2000) C.S0032 (TIA/EIA/IS-866)
	<b>Frequency Band</b>	Dual Band: 800 MHz (Cellular) and 1900 MHz (PCS)
	<b>Data Rates (Packet Mode)</b>	IS-856 rates up to 3.1 Mbps IS-2000 data rates up to 1.8 Mbps
	<b>Maximum Output Power</b>	24dBm (+/-1)
	<b>Power Consumption (maximum)</b>	500mA
	<b>Power Consumption, Sleep Mode</b>	1.7mA – 3.5mA
	<b>Power Management</b>	USB selective suspend CDMA slotted mode sleep and dormant modes
	<b>Antenna Type</b>	High efficiency dual band antennae with spatial diversity, mounted in the display enclosure
	<b>Form Factor</b>	PCI-Express MiniCard
	<b>Weight</b>	0.35 oz (10 g)
	<b>Dimensions (Length x Width x Thickness)</b>	2.01 x 1.18 x 0.18 in (51 x 30 x 4.5 mm)

### Technical Specifications

<b>Voltage, Operating</b>	3.3v +/- 10%
<b>Temperature, Operating</b> (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)
<b>Temperature, Non-operating, 96 hours</b> (from MIL-STD 202 Method 108)	-40° to 185° F (-40° to 85° C)
<b>Humidity, Non-operating</b>	85% relative humidity for 48 hours @ 185° F (85° C) (non-condensing)
<b>Configuration Utilities</b>	Sprint Mobile Broadband Software or Verizon Wireless VZAccess Manager
<b>LED Activity</b>	LED Off – Radio Off; Solid LED On – Radio On

#### HP hs2300 HSDPA Broadband Wireless Module

<b>Frequency Bands and Power Class</b>	850/1900/2100MHz WCDMA Power class 3 (+24dBm) 850MHz GSM/GPRS/EDGE 900MHz GSM/GPRS/EDGE, 1800MHz GSM/GPRS/EDGE 1900MHz GSM/GPRS/EDGE EDGE E2 power GPRS/EDGE Multislot Class 12 GPRS PCS/DCS power class 1 GSM power class 4
<b>Wireless Protocol Standards</b>	GPRS/EDGE: 3GPP R99 GERAN P1 WCDMA Release 5 (R5) High-Speed Downlink Packet Access (HSDPA) 3.6Mbps GSM Phase 2+
<b>Wireless Parametric Standards</b>	Complies with 3GPP specifications
<b>Additional Standards Compliance</b>	FCC parts 15/22/24, CE, Microsoft WHQL, R&TTE directive 1999/5/EC (health, safety, EMC, spectrum), GCF-CC (Module), European Union Directive 2002/95/EC (restrictions of the use of certain Hazardous Substances (RoHS) in electronic equipment), Infrastructure Interoperability Testing (IOT)
<b>Data Rates</b> (Packet Mode)	Designed maximum data rate: EDGE 118 kbps UL / 236 kbps DL UMTS 384 kbps UL / 384 kbps DL HSDPA 384 kbps UL / 3.6 Mbps DL
<b>Chipset and Module</b>	Qualcomm MSM6280 chipset; Sierra Wireless MC8775 module
<b>Maximum Output Power</b>	32 dBm (+/-2) GSM/EDGE GMSK mode
<b>Power Consumption</b> (maximum)	800mA
<b>Power Consumption, Sleep Mode</b>	4 – 8mA
<b>Power Management</b>	USB Selective Suspend sleep and standby mode
<b>Antenna Type</b>	High efficiency 5- band antennae, mounted in the display enclosure
<b>Form Factor</b>	PCI-Express MiniCard

### Technical Specifications

<b>Weight</b>	0.35 oz (10 g)
<b>Dimensions</b> (Length x Width x Thickness)	2.01 x 1.18 x 0.18 in (51 x 30 x 4.5 mm)
<b>Voltage, Operating</b>	3.3v +/- 10%
<b>Temperature, Operating</b>	-22° to 140° F (-30° to 60° C) (full RF performance) -22° to 167° F (-30° to 75° C) (reduced RF performance)
<b>Temperature, Non-operating, 96 hours</b> (from MIL-STD 202 Method 108)	-40° to 185° F (-40° to 85° C)
<b>Humidity, Non-operating</b>	85% relative humidity for 48 hours @ 185° F (85° C) (non-condensing)
<b>LED Activity</b>	LED Off – Radio Off; Solid LED On – Radio On
<b>Configuration Utilities</b>	Varies per country and mobile network operator

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<b>Intel Wireless WiFi Link 4965AG</b>	<b>Wireless LAN Standards</b>	IEEE 802.11a IEEE 802.11b IEEE 802.11g
	<b>Interoperability</b>	Wi-Fi certified Cisco Compatible Extensions Program compliant with Microsoft Windows 2000 and XP (details at <a href="http://www.hp.com/go/notebooks/WLAN">http://www.hp.com/go/notebooks/WLAN</a> )
	<b>Frequency Band</b>	2.4 GHz and 5 GHz
	<b>Data Rates</b>	802.11b: 1, 2, 5.5, 11 Mbps 802.11a/g: 6, 9, 12, 18, 24, 36, 48, 54 Mbps
	<b>Modulation</b>	Direct Sequence Spread Spectrum DBPSK, DQPSK, CCK, OFDM
	<b>Security<sup>1</sup></b>	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 2000 and XP only.
	<b>Sub-channels</b>	Multinational support with frequency bands and channels compliant to local regulations.
	<b>Media Access Protocol</b>	CSMA/CA (Collision Avoidance) with ACK
	<b>Network Architecture Models</b>	Ad-hoc (Peer to Peer) Infrastructure (Access Point Required)
	<b>Roaming</b>	IEEE 802.11 compliant roaming between access points
	<b>Output Power</b> (for CCK) <sup>2</sup>	15 dBm
	<b>Output Power</b> (for OFDM; power varies by data rate) <sup>2</sup>	15 dBm

### Technical Specifications

<b>Power Consumption</b>	Transmit: 1.6 Watts (average) Receive: 1.1 Watts (average) Idle mode <sup>3</sup> : 30 mW (average) Radio off: 20 mW (max)						
<b>Power Management</b>	ACPI compliant power management 802.11 compliant power saving mode						
<b>Receiver Sensitivity<sup>4</sup></b>	54 Mbps: -74 dBm, 6 Mbps: -90 dBm						
<b>Antenna Connections</b>	2 U.FL type connectors, 50 ohm nominal impedance						
<b>Range</b>	<table><tr><td>802.11 a – Typical (@6 Mbps)</td><td>600 feet – Outdoor Open Area 150 feet – Indoor, Office environment</td></tr><tr><td>802.11 b – Typical (@1 Mbps)</td><td>1200 feet – Outdoor Open Area 300 feet – Indoor, Office environment</td></tr><tr><td>802.11 g – Typical (@1 Mbps)</td><td>1200 feet – Outdoor Open Area 300 feet – Indoor, Office environment</td></tr></table>	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
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						
<b>Form Factor</b>	PCI-Express MiniCard						
<b>Weight</b>	0.013 lb (6 g)						
<b>Dimensions</b>	0.19 x 1.2 x 2.0 in (4.75 x 29.85 x 50.8 mm)						
<b>Operating Voltage</b>	3.3V +/- 9%, 1.5V +/- 5%						
<b>Temperature</b>	<table><tr><td>Operating</td><td>32° to 176° F (0° to 80° C)</td></tr><tr><td>Non-operating</td><td>-40° to 176° F (-40° to 80° C)</td></tr></table>	Operating	32° to 176° F (0° to 80° C)	Non-operating	-40° to 176° F (-40° to 80° C)		
Operating	32° to 176° F (0° to 80° C)						
Non-operating	-40° to 176° F (-40° to 80° C)						
<b>Humidity</b>	<table><tr><td>Operating</td><td>10% to 90% (non-condensing)</td></tr><tr><td>Non-operating</td><td>5% to 90% (non-condensing)</td></tr></table>	Operating	10% to 90% (non-condensing)	Non-operating	5% to 90% (non-condensing)		
Operating	10% to 90% (non-condensing)						
Non-operating	5% to 90% (non-condensing)						
<b>Altitude</b>	<table><tr><td>Operating</td><td>0 to 10,000 ft (3,048 m)</td></tr><tr><td>Non-operating</td><td>0 to 50,000 ft (15,240 m)</td></tr></table>	Operating	0 to 10,000 ft (3,048 m)	Non-operating	0 to 50,000 ft (15,240 m)		
Operating	0 to 10,000 ft (3,048 m)						
Non-operating	0 to 50,000 ft (15,240 m)						
<b>Configuration Utility<sup>5</sup></b>	Microsoft Windows 2000 or XP Choice of Configuration Utility: <ul style="list-style-type: none"><li>• Microsoft Windows XP Wireless Network Connection Manager</li><li>• Intel PROSet for Microsoft Windows 2000 or XP (required for Cisco Compatible Extensions support)</li></ul> Microsoft Windows Vista <ul style="list-style-type: none"><li>• Microsoft Windows Vista Wireless Network Connection Manager</li></ul>						
<b>LED Activity</b>	LED Off – Radio OFF; Solid LED On – Radio ON <ol style="list-style-type: none"><li>1. Check latest software/driver release for updates on supported security features.</li><li>2. Maximum output power may vary by country according to local regulations.</li><li>3. In Power Save Polling mode and on battery power.</li><li>4. Receiver sensitivity is measured at a packet error rate of 8% for 802.11b (CKK modulation) and a packet error rate of 10% for 802.11a/g (OFDM modulation).</li><li>5. WLAN supplier's client utility is required for Cisco Compatible Extensions support with Microsoft Windows 2000 or XP. WLAN may also be compatible with certain third-party software supplicants.</li></ol>						

Intel Wireless WiFi Link  
4965AGN

**Wireless LAN Standards** IEEE 802.11a  
IEEE 802.11b  
IEEE 802.11g



### Technical Specifications

	IEEE 802.11n (draft 1.02)									
<b>Interoperability</b>	<p>Wi-Fi certified (802.11abg only)</p> <p>Cisco Compatible Extensions Program compliant (802.11abg only) with Microsoft Windows 2000 and XP (details at <a href="http://www.hp.com/go/notebooks/WLAN">http://www.hp.com/go/notebooks/WLAN</a>)</p> <p>Tested with wireless access points from several major manufacturers (details at <a href="http://www.hp.com/go/notebooks/WLAN/draft-n">http://www.hp.com/go/notebooks/WLAN/draft-n</a>)</p>									
<b>Frequency Band</b>	2.4 GHz and 5 GHz									
<b>Data Rates</b>	<p>802.11b: 1, 2, 5.5, 11 Mbps</p> <p>802.11a/g: 6, 9, 12, 18, 24, 36, 48, 54 Mbps</p> <p>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</p>									
<b>Modulation</b>	<p>Direct Sequence Spread Spectrum</p> <p>DBPSK, DQPSK, CCK, OFDM, BPSK, QPSK, 16-QAM, 64-QAM</p>									
<b>Security<sup>1</sup></b>	<p>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.</p> <p>Support for Cisco Security Features (proven compatibility with Cisco Aironet infrastructure products through the Cisco Compatible Extensions Program Version 4) with Microsoft Windows 2000 and XP only.</p>									
<b>Sub-channels</b>	Multinational support with frequency bands and channels compliant to local regulations.									
<b>Media Access Protocol</b>	CSMA/CA (Collision Avoidance) with ACK									
<b>Network Architecture Models</b>	<p>Ad-hoc (Peer to Peer)</p> <p>Infrastructure (Access Point Required)</p>									
<b>Roaming</b>	IEEE 802.11 compliant roaming between access points									
<b>Output Power (for CCK)<sup>2</sup></b>	15 dBm									
<b>Output Power (for OFDM; power varies by data rate)<sup>2</sup></b>	15 dBm									
<b>Power Consumption</b>	<p>Transmit: 2.3 Watts (average, with two spatial streams)</p> <p>Receive: 1.9 Watts (average with three receive chains)</p> <p>Idle mode<sup>3</sup>: 30 mW (average)</p> <p>Radio off: 20 mW (max)</p>									
<b>Power Management</b>	<p>ACPI compliant power management</p> <p>802.11 compliant power saving mode</p>									
<b>Receiver Sensitivity<sup>4</sup></b>	300 Mbps: -68 dBm, 54 Mbps: -74 dBm, 6 Mbps: -90 dBm									
<b>Antenna Connections</b>	3 U.FL type connectors, 50 ohm nominal impedance									
<b>Range</b>	<table border="0"> <tr> <td>802.11 a – Typical (@6 Mbps)</td> <td>600 feet – Outdoor Open Area</td> <td>150 feet – Indoor, Office environment</td> </tr> <tr> <td>802.11 b – Typical (@1 Mbps)</td> <td>1200 feet – Outdoor Open Area</td> <td>300 feet – Indoor, Office environment</td> </tr> <tr> <td>802.11 g – Typical (@1 Mbps)</td> <td>1200 feet – Outdoor Open Area</td> <td>300 feet – Indoor, Office environment</td> </tr> </table>	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
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								
<b>Form Factor</b>	PCI-Express MiniCard									



### Technical Specifications

<b>Weight</b>	0.013 lb (6 g)
<b>Dimensions</b>	0.19 x 1.2 x 2.0 in (4.75 x 29.85 x 50.8 mm)
<b>Operating Voltage</b>	3.3V +/- 9%, 1.5V +/- 5%
<b>Temperature</b>	Operating 32° to 176° F (0° to 80° C) Non-operating -40° to 176° F (-40° to 80° C)
<b>Humidity</b>	Operating 10% to 90% (non-condensing) Non-operating 5% to 90% (non-condensing)
<b>Altitude</b>	Operating 0 to 10,000 ft (3,048 m) Non-operating 0 to 50,000 ft (15,240 m)
<b>Configuration Utility<sup>5</sup></b>	Microsoft Windows 2000 or XP Choice of Configuration Utility: <ul style="list-style-type: none"><li>• Microsoft Windows XP Wireless Network Connection Manager</li><li>• Intel PROSet for Microsoft Windows 2000 or XP (required for Cisco Compatible Extensions support)</li></ul> Microsoft Windows Vista <ul style="list-style-type: none"><li>• Microsoft Windows Vista Wireless Network Connection Manager</li></ul>
<b>LED Activity</b>	LED Off – Radio OFF; Solid LED On – Radio ON <ol style="list-style-type: none"><li>1. Check latest software/driver release for updates on supported security features.</li><li>2. Maximum output power may vary by country according to local regulations.</li><li>3. In Power Save Polling mode and on battery power.</li><li>4. Receiver sensitivity is measured at a packet error rate of 8% for 802.11b (CKK modulation) and a packet error rate of 10% for 802.11a/g (OFDM modulation).</li><li>5. WLAN supplier's client utility is required for Cisco Compatible Extensions support with Microsoft Windows 2000 or XP. WLAN may also be compatible with certain third-party software supplicants.</li></ol>

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<b>Broadcom 4311AG 802.11a/b/g WiFi Adapter</b>	<b>Wireless LAN Standards</b>	IEEE 802.11a IEEE 802.11b IEEE 802.11g
	<b>Interoperability</b>	Wi-Fi certified Cisco Compatible Extensions Program compliant with Microsoft Windows 2000 and XP (details at <a href="http://www.hp.com/go/notebooks/WLAN">http://www.hp.com/go/notebooks/WLAN</a> )
	<b>Frequency Band</b>	2.4 GHz and 5 GHz
	<b>Data Rates</b>	802.11b: 1, 2, 5.5, 11 Mbps 802.11a/g: 6, 9, 12, 18, 24, 36, 48, 54 Mbps
	<b>Modulation</b>	Direct Sequence Spread Spectrum DBPSK, DQPSK, CCK, OFDM
	<b>Security<sup>1</sup></b>	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).



### Technical Specifications

<b>Sub-channels</b>	Multinational support with frequency bands and channels compliant to local regulations.	
<b>Media Access Protocol</b>	CSMA/CA (Collision Avoidance) with ACK	
<b>Network Architecture Models</b>	Ad-hoc (Peer to Peer) Infrastructure (Access Point Required)	
<b>Roaming</b>	IEEE 802.11 compliant roaming between access points	
<b>Output Power</b> (for CKK) <sup>2</sup>	17.5 dBm	
<b>Output Power</b> (for OFDM; power varies by data rate) <sup>2</sup>	15 dBm	
<b>Power Consumption</b>	Transmit: 2.0 W (max) Receive: 1.5 W (max) Idle mode <sup>3</sup> : 390 mW (nominal) Sleep mode: 20 mW (max)	
<b>Power Management</b>	ACPI compliant power management 802.11 compliant power saving mode	
<b>Receiver Sensitivity</b> <sup>4</sup>	54 Mbps: -72 dBm, 11 Mbps: -88 dBm , 1 Mbps: -97 dBm	
<b>Antenna type</b>	High efficiency dual band antenna with spatial diversity, mounted in the display enclosure	
<b>Range</b>	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
<b>Form Factor</b>	PCI-Express MiniCard	
<b>Weight</b>	0.026 lb (12 g)	
<b>Dimensions</b>	0.19 x 1.2 x 2.0 in (4.75 x 29.85 x 50.8 mm)	
<b>Operating Voltage</b>	3.3v +/- 10%	
<b>Temperature</b>	Operating	32° to 176° F (0° to 80° C)
	Non-operating	-40° to 176° F (-40° to 80° C)
<b>Humidity</b>	Operating	10% to 90% (non-condensing)
	Non-operating	5% to 95% (non-condensing)
<b>Altitude</b>	Operating	0 to 10,000 ft (3,048 m)
	Non-operating	0 to 50,000 ft (15,240 m)
<b>Configuration Utility</b> <sup>5</sup>	Microsoft Windows 2000 or XP Choice of Configuration Utility: <ul style="list-style-type: none"> <li>● Microsoft Windows XP Wireless Network Connection Manager</li> <li>● Broadcom Wireless Configuration Utility (required for Cisco Compatible Extensions support)</li> </ul> <p>Microsoft Windows Vista</p> <ul style="list-style-type: none"> <li>● Microsoft Windows Vista Wireless Network Connection Manager</li> </ul>	
<b>LED Activity</b>	LED Off – Radio OFF; Solid LED On – Radio ON	

### Technical Specifications

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.
4. Receiver sensitivity is measured at a packet error rate of 8% for 802.11b (CKK 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 2000 or XP. WLAN may also be compatible with certain third-party software suppliers.

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<b>HP Integrated Module with Bluetooth Wireless Technology</b>	<b>Bluetooth Specification</b>	2.0 Compliant
	<b>Dimensions</b>	1.02 x 0.55 x 0.22 in (26 x 14 x 5.7 mm)
	<b>Frequency Band</b>	2402 to 2480 MHz
	<b>Number of Available Channels</b>	79 (1 MHz) available channels
	<b>Data Rates and Throughput</b>	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
	<b>Transmit Power</b>	-6 dBm to 4 dBm (Bluetooth Class II)
	<b>Receiver Sensitivity</b>	Better than -80 dBm at 0.1 % raw bit error rate
	<b>Power Consumption</b>	Peak (Tx) 264 mW Peak (Rx) 231 mW Sleep <1 mW
	<b>Antenna</b>	Internally integrated within module
	<b>Range</b>	Up 33 ft (10 m)
	<b>Electrical Interface</b>	USB 2.0 compliant Microsoft Windows Plug and Play compliant
	<b>OS Support</b>	Genuine Windows Vista Genuine Windows XP Genuine Windows 2000
	<b>Bluetooth Software Supported</b>	Broadcom Bluetooth for Windows Microsoft Windows XP Bluetooth Software
	<b>Link Topology</b>	Point to Point, Multipoint Pico Nets up to 7 slaves
	<b>Security</b>	Full support of Bluetooth Security Provisions
	<b>Power Management</b>	Microsoft Windows ACPI, and USB Bus Support Self configurable to optimize power conservation in all operating modes, including Standby, Hold, Park, and Sniff
	<b>Certifications</b>	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

### Technical Specifications

<b>Temperature</b>	Operating	-4° to 158° F (-20° to 70° C)
	Non-operating	-40° to 176° F (-40° to 80° C)
<b>Humidity</b>	Operating	10% to 90%
	Non-operating	5% to 95%
<b>Altitude</b>	Operating	15,000 ft (4,572 m)
	Non-operating	40,000 ft (12,192 m)
<b>Bluetooth Profiles Supported</b>	(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

### Environmental 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:

- ENERGY STAR 4.0
- US Federal Energy Management Program (FEMP)
- Taiwan Green Mark
- China Energy Conservation Program (CECP)
- ECO declaration
- Korean Eco Label
- EPEAT Silver Rating

### System Configuration

The configuration used for the Energy Consumption and Declared Noise Emissions data is based on a "Typically Configured Notebook"

<b>Energy Consumption</b>	<b>115 VAC</b>	<b>230 VAC</b>	<b>100 VAC</b>
Normal Operation	8.8 W	8.7 W	9.4 W
Sleep (Energy Star low power mode)	1.1 W	0.67 W	1 W
Off	1 W	0.56 W	1 W
<b>Heat Dissipation*</b>	<b>115 VAC</b>	<b>230 VAC</b>	<b>100 VAC</b>
Normal Operation	30.025 BTU/hr	29.684 BTU/hr	32.072 BTU/hr

### Technical Specifications

Sleep	3.753 BTU/hr	2.286 BTU/hr	3.412 BTU/hr
Off	3.412 BTU/hr	1.91 BTU/hr	3.412 BTU/hr

\* Heat dissipation is calculated based on the measured watts, assuming the service level is attained for one hour.

This product is in compliance with US executive order 13221, WOL (wake on LAN) disabled.

<b>Declared Noise Emissions</b> (in accordance with ISO 7779 and ISO 9296)	<b>Sound Power</b> (LWAd, bels)	<b>Sound Pressure</b> (LpAm, decibels)
Idle	2.43	17.8
Operating mode (HDD)	2.96	22.4

#### Batteries

This product complies with ISO standards:

- EU Directive 91/ 157/ EEC
- EU Directive 93/ 86/ EEC
- EU Directive 98/ 101/ EEC

Batteries used in the product do not contain:

- Mercury greater the 5ppm by weight
- Cadmium greater than 10ppm by weight
- Lead greater than 4000 ppm by weight.

The battery type and chemistry used in the product is:  
CR2032 (coin cell), Lithium  
3, 6, or 9 cell rechargeable Lithium-Ion battery

#### Additional information:

This product is in compliance with the EU Restrictions of Hazardous Substances (RoHS) Directive – 2002/95/EC.

This HP product is designed to comply with the Waste Electrical and Electronic Equipment (WEEE) Directive – 2002/96/EC.

Keyboard complies with ISO standard: ISO 9995, EN 29241-4, and ISO/IEC 15412

Input devices of this product comply with ISO 9241, part 9.

Plastics parts weighing over 25 grams used in the product are marked per ISO 11469 and ISO1043.

This product contains 0% recycled materials (by wt.)

This product is greater than 92% recyclable when properly disposed of at end of life.

#### Packaging Materials

- External:
  - Corrugated / Paper – 1.0 lb (453 g)

### Technical Specifications

- Internal:
  - EPE Foam – 0.15 lb (70 g)
  - LDPE Bag – 0.01 lb (5 g)
- The corrugated paper packaging materials contains at least 40% recycled content.

HP follows these guidelines to decrease the environmental impact of product packaging:

- Eliminate the use of heavy metals such as lead, chromium, mercury and cadmium in packaging materials.
- Eliminate the use of ozone-depleting substances (ODS) in packaging materials.
- Design packaging materials for ease of disassembly.
- Maximize the use of post-consumer recycled content materials in packaging materials.
- Use readily recyclable packaging materials such as paper and corrugated materials.
- Reduce size and weight of packages to improve transportation fuel efficiency.
- Plastic packaging materials are marked according to ISO 11469 and DIN 6120 standards.

### Material Usage

This product does not contain any of the following substances in excess of regulatory limits (for reference of these limits please refer to the HP General Specification of the Environment

([http://www.hp.com/hpinfo/globalcitizenship/environment/supplychain/gen\\_specifications.html](http://www.hp.com/hpinfo/globalcitizenship/environment/supplychain/gen_specifications.html)):

- Asbestos
- Certain Azo Colorants
- Certain Brominated Flame Retardants – may not be used as flame retardants in plastics
- Cadmium
- Chlorinated Hydrocarbons
- Chlorinated Paraffins
- Formaldehyde
- Halogenated Diphenyl Methanes
- Lead carbonates and sulfates
- Lead and Lead compounds
- Mercuric Oxide Batteries
- Nickel – finishes must not be used on the external surface designed to be frequently handled or carried by the user.
- Ozone Depleting Substances
- Polybrominated Biphenyls (PBBs)
- Polybrominated Biphenyl Ethers (PBBEs)
- Polybrominated Biphenyl Oxides (PBBOs)
- Polychlorinated Biphenyl (PCB)
- Polychlorinated Terphenyls (PCT)
- Polyvinyl Chloride (PVC) – except for wires and cables, and certain retail packaging has been voluntarily removed from most applications.
- Radioactive Substances
- Tributyl Tin (TBT), Triphenyl Tin (TPT), Tributyl Tin Oxide (TBTO)

### Technical Specifications

**End-of-life Management and Recycling** HP offers our customers several other options for handling their aging computers while also minimizing the impact on the environment—including product trade-in and leasing services—in addition to recycling services.

Please go to: <http://www.hp.com/recycle> or contact your nearest HP sales office. Products returned to HP will be recycled, recovered or disposed of in a responsible manner.

**Hewlett-Packard  
Corporate Environmental  
Information**

For more information about HP's commitment to the environment:

Global Citizenship Report

<http://www.hp.com/hpinfo/globalcitizenship/gcreport/index.html>

Environment website

<http://www.hp.com/environment>

Eco-label certifications

<http://www.hp.com/hpinfo/globalcitizenship/environment/productdesign/ecolabels.html>

ISO 14001 certificates:

<http://www.hp.com/hpinfo/globalcitizenship/environment/operations/envmanagement.html>

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