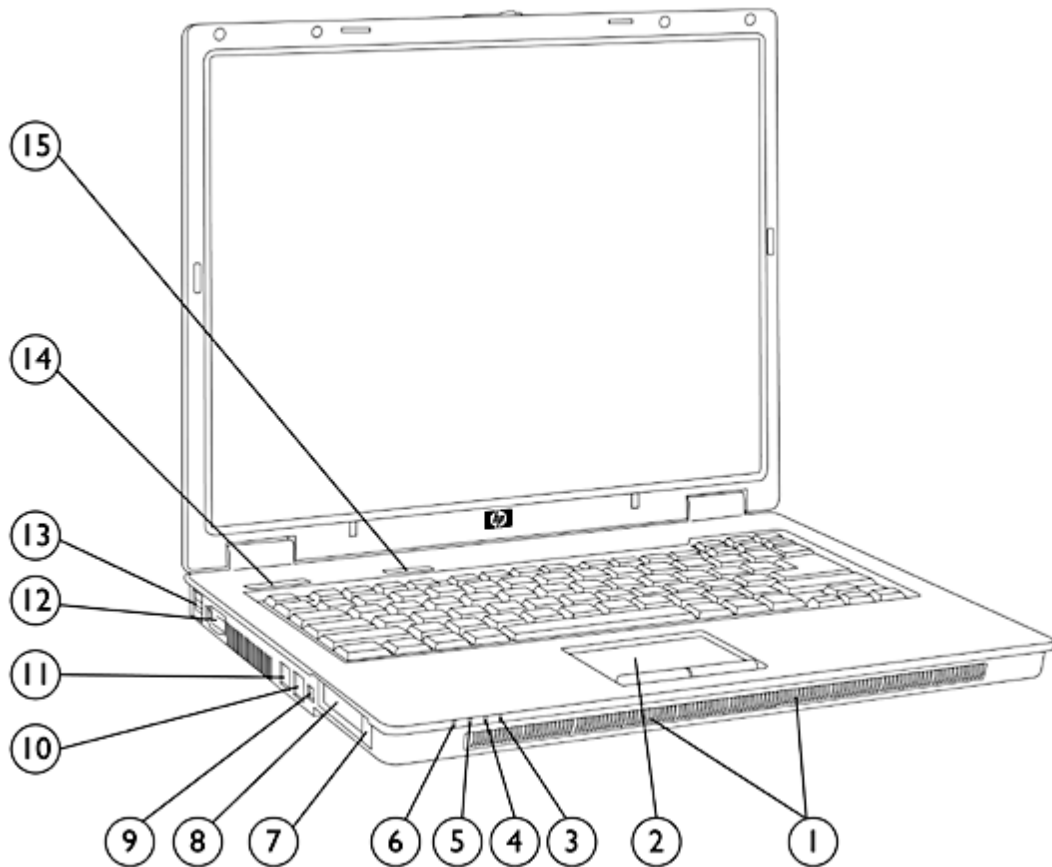
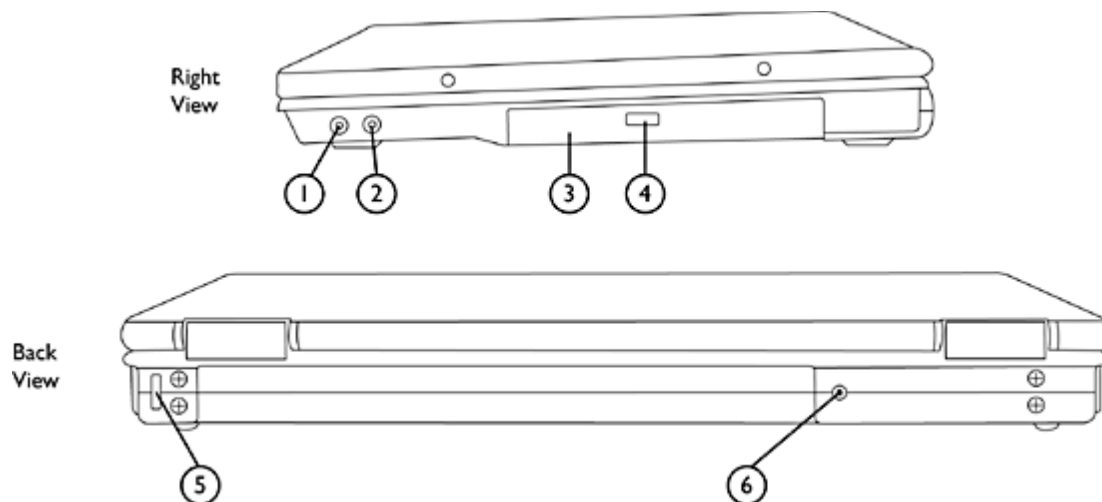


## Overview



- |                              |                                     |
|------------------------------|-------------------------------------|
| 1. Stereo Speakers           | 9. IEEE 1394 Port                   |
| 2. Touchpad with Scroll Zone | 10. RJ-45 Port (NIC)                |
| 3. Hard Drive Activity LED   | 11. RJ-11 Port (Modem)              |
| 4. Battery Charging LED      | 12. VGA/External Monitor Connector  |
| 5. Power/Standby LED         | 13. 2 USB 2.0 Ports                 |
| 6. Wireless On/Off LED       | 14. Power Button with LED           |
| 7. PC Card Eject Button      | 15. Wireless On/Off Button with LED |
| 8. PC Card Slot              |                                     |

## Overview



- |                    |                                 |
|--------------------|---------------------------------|
| 1. Headphone Jack  | 4. Optical Drive Release Button |
| 2. Microphone Jack | 5. Kensington Lock Slot         |
| 3. Optical Drive   | 6. DC Power Connector           |

## At A Glance

- Microsoft Windows XP Professional, Microsoft Windows XP Home Edition (select countries), or FreeDOS
- Intel® Pentium® M processors 730 to 770\* or Intel Celeron® M processors 360J to 370\*
- Sleek, industrial design starting at 6.06 lb/2.75 kg and 1.2-inch/30.3-mm thin at front
- Mobile Intel 915GM or 910GML Express Chipset
- 256-MB DDR SDRAM, upgradeable to 2048-MB maximum
- Up to 80-GB 5400 rpm user-removable hard drive
- Intel Graphics Media Accelerator 900
- Optional Integrated 802.11a/b/g or 802.11b/g wireless LAN modules
- Support for optional Intel Centrino™ mobile technology
- Optional integrated Bluetooth®
- NetXtreme 10/100 Ethernet Controller
- Touchpad with scroll zone
- Protected by one-year standard parts and labor warranty - certain restrictions and exclusions apply

\*Intel's numbering system is not a measurement of performance.

## What's Special

- Security features:
  - HP ProtectTools
  - HP Drivelock
  - Kensington lock slot
- Ease of use features
  - HP Mobile Print Driver for on-the-go printing
  - HP Wireless Assistant
  - HP Info Center
  - HP Fast Charge technology
  - Up to 4 hours of battery life
- Integrated reliability features:
  - HP Mobile Data Protection System
  - HP Panel Protection System

### Standard Features

<b>Processors</b>	Intel Pentium M processor 770* (2.13-GHz, 533-MHz FSB, 2-MB L2 cache) Intel Pentium M processor 760* (2.0-GHz, 533-MHz FSB, 2-MB L2 cache) Intel Pentium M processor 750* (1.86-GHz, 533-MHz FSB, 2-MB L2 cache) Intel Pentium M processor 740* (1.73-GHz, 533-MHz FSB, 2-MB L2 cache) Intel Pentium M processor 730* (1.6-GHz, 533-MHz FSB, 2-MB L2 cache) Intel Celeron M processor 370* (1.5-GHz, 400-MHz FSB, 1-MB L2 cache) Intel Celeron M processor 360J* (1.4-GHz, 400-MHz FSB, 1-MB L2 cache)  * Intel's numbering is not a measurement of higher performance. <b>NOTE:</b> Intel Pentium M processors support enhanced Intel SpeedStep™ technology. Processor speed denotes maximum performance mode; Intel Pentium M processors will run at approximately 800 MHz in battery optimization mode.
<b>Operating System</b>	Microsoft Windows XP Professional SP2 Microsoft Windows XP Home Edition SP2 (select countries only) FreeDOS  <b>NOTE:</b> Microsoft Windows 2000 Professional is not available pre-installed, but drivers for it are downloadable from <a href="http://www.hp.com">http://www.hp.com</a> .
<b>Chipset</b>	Mobile Intel 910GML Express Chipset Mobile Intel 915GM Express Chipset
<b>Graphics</b>	Intel Graphics Media Accelerator 900 with up to 128-MB shared system memory
<b>Display</b>	<b>Internal</b> 15.0-inch TFT XGA (1024 x 768 resolution and 16 M colors) 15.0-inch TFT SXGA+ (1400 x 1050 resolution and 16 M colors) <b>External</b> Up to 32-bit per pixel color depth Supports 640 x 480, 800 x 600, 1024 x 768, 1280 x 768, 1280 x 1024, or 1600 x 1200 resolutions up to 100-Hz refresh rate, dependent upon monitor capability, and resolution and color depth settings
<b>Memory</b>	<b>Standard</b> 256-MB, 512-MB, or 1024-MB 333-MHz DDR SDRAM; two SODIMM slots <b>Maximum</b> Upgradeable to 2048-MB maximum (1024-MB SODIMM in slots 1 and 2) <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.
<b>Communications</b>	NetXtreme 10/100 Ethernet Controller 56K modem* with digital line guard  * 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.

## Standard Features

### Wireless Devices

Support for a broad range of secure, integrated wireless LAN options. Integrated Bluetooth is also an option (factory configurable only) and can be combined with any one of the supported wireless LAN options.

<b>All integrated wireless LAN options</b>	<ul style="list-style-type: none"> <li>Wi-Fi certified</li> <li>Cisco Compatible Extensions support (Version 3.0)</li> <li>Wired Equivalent Privacy (WEP) support up to 128-bit keys</li> <li>Wi-Fi Protected Access (WPA) and WPA2 support</li> <li>802.1x authentication support, including EAP-TLS, EAP-TTLS, PEAP-GTC, PEAP-MSCHAPv2, and LEAP</li> <li>Advanced Encryption Standard (AES) support</li> <li>WiFi certified for WPA2, WMM</li> <li>Dual antennas integrated in the display enclosure</li> </ul>
<b>Broadcom 802.11 b/g WLAN</b>	<ul style="list-style-type: none"> <li>Integrated support for 802.11 b and g</li> <li>Up to 54-mbps data rate</li> </ul>
<b>Broadcom 802.11 a/b/g WLAN</b>	<ul style="list-style-type: none"> <li>Integrated support for 802.11 a, b and g</li> <li>Up to 54-mbps data rate</li> </ul>
<b>Intel PRO/Wireless 2200BG 802.11 b/g WLAN</b>	<ul style="list-style-type: none"> <li>Intel Centrino mobile technology</li> <li>Integrated support for 802.11 b and g</li> <li>Up to 54-mbps data rate</li> </ul>
<b>Intel PRO/Wireless 2915ABG 802.11 a/b/g WLAN</b>	<ul style="list-style-type: none"> <li>Intel Centrino mobile technology</li> <li>Integrated support for 802.11 a, b and g</li> <li>Up to 54-mbps data rate</li> </ul>
<b>Integrated Bluetooth</b>	<ul style="list-style-type: none"> <li>Bluetooth Specification v1.2 compliant</li> <li>Works with a wide range of Bluetooth devices</li> </ul>

### 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, comfort-dished keycaps, and bright key legends for improved visibility in low light conditions.

### Wireless On/Off Button

Provides one-touch on/off control of the integrated wireless device(s).

### Pointing Device

Touchpad with scroll zone, two soft-touch buttons

### Expansion Card Slots

**One Type I/II/III PC Card** Supports 32-bit CardBus and 16-bit PC Cards

### Storage

<b>Hard Drives</b>	40-, 60-, 80-GB 5400 rpm SMART
<b>NOTE:</b> These hard drives are customer removable and will withstand multiple insertion/removal cycles.	
<b>Optical Drives</b>	<ul style="list-style-type: none"> <li>Integrated (12.7-mm) DVD-ROM</li> <li>DVD/CD-RW Combo</li> <li>DVD+/-RW</li> </ul>

### Standard Features

Interfaces	PC Card Slot	One – Type I/II/III
	External Monitor	One – VGA
	IEEE 1394 Port	One
	External Microphone	One
	Headphone/Line out	One
	Power Connector	One
	RJ-11 (Modem)	One
	RJ-45 (NIC)	One
	USB 2.0	Two
	Travel Battery Connector	One
LED Status Indicators	Eleven	
<hr/>		
Audio	ADI AC '97 CODEC Integrated 16-bit Sound Blaster Pro compatible audio Integrated stereo speakers Stereo headphone/line out Stereo microphone in	
<hr/>		
Software	<b>Preloaded Software for Microsoft Windows XP</b> Adobe Acrobat Reader HP Local Recovery provided by Altiris* HP One-Touch Button Software HP Mobile Print Driver Synaptics Touchpad Driver HP Help and Support HP ProtectTools Security Manager: BIOS Configuration for HP ProtectTools Credential Manager for HP ProtectTools HP Wireless Assistant Sonic RecordNow! (for optional DVD+/-RW and DVD/CDRW drives)* Symantec Norton Antivirus with complimentary 60-day live update Intervideo WinDVD – DVD Player (for optional DVD+/-RW, DVD/CDRW and DVD drives)*	
	<b>Software on CD</b> Intervideo WinDVD Creator - DVD Authoring (for optional DVD+/-RW drives)	
	<b>Additional software available from the Web</b> HP Client Manager Software HP ProtectTools Security Manager: Smart Card Security for HP ProtectTools	
	* Software is loaded on the hard drive and must be installed by running the Software Setup utility	
<hr/>		
System Recovery for Microsoft Windows XP systems only	Each unit is shipped with a recovery kit containing Operating System Recovery and Driver/Application Recovery discs. These discs allow users to either recover or repair the notebook operating system and select drivers without losing personal data. The Operating System disc also provides the option of reinstalling the operating system software provided with the notebook.	
<hr/>		

### Standard Features

<b>Client Management Software</b>	HP Client Manager Software (CMS) provides asset tracking, alerting, diagnostics, and SoftPaq distribution for HP business desktops, notebooks, and workstations. HP CMS is the foundation for HP Client Management Solutions. For more information and to download HP Client Manager Software, please refer to the HP website at <a href="http://www.hp.com/go/easydeploy">http://www.hp.com/go/easydeploy</a> .	
<b>HP Local Recovery Provided by Altiris</b>	Provides data and system file protection for HP business PCs to enable fast recovery of information that is accidentally deleted or if the system becomes corrupted. Designed for disconnected or seldom-connected users, Local Recovery protects your HP computer's data and system state by taking scheduled snapshots, which are then stored in a protected area on the local hard disk. System backup and disaster recovery is now simple and fast for all users, regardless of connectivity. For more information and to download, please refer to the HP website at <a href="http://www.hp.com/go/easydeploy">http://www.hp.com/go/easydeploy</a> .	
<b>HP ProtectTools Security Manager</b>	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: <ul style="list-style-type: none"><li>- Smart Card Security for HP ProtectTools</li><li>- BIOS Configuration for HP ProtectTools</li><li>- Credential Manager for HP ProtectTools</li></ul>	
<b>Security</b>	<b>Standard Features</b>	Configuration Control Hardware Memory Change Alert Ownership Tag Setup Password Power-On Password Drivelock Enabled for PC Smart Card options Kensington Lock Slot  For more information on HP security solutions refer to <a href="http://www.hp.com/go/security">http://www.hp.com/go/security</a> .
<b>Power Supply</b>	External 65-watt slim 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 technology	
<b>Battery</b>	<b>Primary Battery</b>	6-cell high capacity Lithium-Ion (42Wh)
	<b>Optional Travel Battery</b>	8-cell high capacity Lithium-Ion (52Wh)
<b>Battery Life</b>	<b>Primary Battery</b>	Up to 4 hours and 30 minutes
	<b>Primary Battery and optional HP Travel Battery</b>	Up to 10 hours
	<b>NOTE:</b> 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.	
<b>System Standby Time</b>	Up to 1 week	

### Standard Features

<b>Power Conservation</b>	Supports enhanced Intel SpeedStep technology with Intel Pentium M 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>Service and Support</b>	HP Services includes a one-year standard parts and labor warranty, pick-up or carry-in, and toll-free 7 x 24 hardware technical phone support. On-site service and warranty upgrades are also available. <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)

<b>nx6110</b> PR124UA#ABA	<b>Processor</b>	Intel Celeron M processor 360J* (1.4-GHz, 400-MHz FSB, 1-MB L2 cache)
	<b>Operating System</b>	Microsoft Windows XP Home
	<b>System Memory</b>	256-MB 333-MHz DDR SDRAM (256-MB SODIMM in slot 1)
	<b>Hard Drive</b>	40-GB 5400 rpm
	<b>Display</b>	15.0-inch TFT XGA with 1024 x 768 resolution (up to 16.7 M colors internal)
	<b>Graphics</b>	Intel Graphics Media Accelerator 900
	<b>Video Memory</b>	Up to 128 MB of shared system memory
	<b>Audio</b>	ADI AC '97 CODEC, Line out/headphone and microphone jacks
	<b>Optical Drive</b>	24X DVD/CDRW Combo
	<b>Communications</b>	56K Fax/Modem, Integrated NetXtreme Ethernet Controller (10/100 NIC)
	<b>Integrated Wireless</b>	Broadcom 802.11b/g WLAN
	<b>Pointing Device</b>	Touchpad with scroll zone
	<b>Battery</b>	6-cell high capacity Lithium-Ion (42Wh)
	<b>Power</b>	External 65W adapter
	<b>Warranty**</b>	1/1/0

### Standard Features

nx6110 PT602AA#ABA	<b>Processor</b>	Intel Celeron M processor 360J* (1.4-GHz, 400-MHz FSB, 1-MB L2 cache)
	<b>Operating System</b>	Microsoft Windows XP Professional
	<b>System Memory</b>	512-MB 333-MHz DDR SDRAM (256-MB SODIMM in slot 1 and 2)
	<b>Hard Drive</b>	60-GB 5400 rpm
	<b>Display</b>	15.0-inch TFT XGA with 1024 x 768 resolution (up to 16.7 M colors internal)
	<b>Graphics</b>	Intel Graphics Media Accelerator 900
	<b>Video Memory</b>	Up to 128 MB of shared system memory
	<b>Audio</b>	ADI AC '97 CODEC, Line out/headphone and microphone jacks
	<b>Optical Drive</b>	24X DVD/CDRW Combo
	<b>Communications</b>	56K Fax/Modem, Integrated NetXtreme Ethernet Controller (10/100 NIC)
	<b>Integrated Wireless</b>	Broadcom 802.11b/g WLAN
	<b>Pointing Device</b>	Touchpad with scroll zone
	<b>Battery</b>	6-cell high capacity Lithium-Ion (42Wh)
	<b>Power</b>	External 65W adapter
<b>Warranty**</b>	1/1/0	

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nx6110 PT603AA#ABA	<b>Processor</b>	Intel Pentium M processor 730* (1.6-GHz, 533-MHz FSB, 2-MB L2 cache)
	<b>Operating System</b>	Microsoft Windows XP Professional
	<b>System Memory</b>	512-MB 333-MHz DDR SDRAM (256-MB SODIMM in slot 1 and slot 2)
	<b>Hard Drive</b>	40-GB 5400 rpm
	<b>Display</b>	15.0-inch TFT XGA with 1024 x 768 resolution (up to 16.7 M colors internal)
	<b>Graphics</b>	Intel Graphics Media Accelerator 900
	<b>Video Memory</b>	Up to 128 MB of shared system memory
	<b>Audio</b>	ADI AC '97 CODEC, Line out/headphone and microphone jacks
	<b>Optical Drive</b>	24X DVD/CDRW Combo
	<b>Communications</b>	56K Fax/Modem, Integrated NetXtreme Ethernet Controller (10/100 NIC)
	<b>Integrated Wireless</b>	Intel PRO/Wireless 2200BG 802.11b/g WLAN
	<b>Pointing Device</b>	Touchpad with scroll zone
	<b>Battery</b>	6-cell high capacity Lithium-Ion (42Wh)
	<b>Power</b>	External 65W adapter
<b>Warranty**</b>	1/1/0	

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### Standard Features

nx6110 PT604AA#ABA	<b>Processor</b>	Intel Pentium M processor 740* (1.73-GHz, 533-MHz FSB, 2-MB L2 cache)
	<b>Operating System</b>	Microsoft Windows XP Professional
	<b>System Memory</b>	512-MB 333-MHz DDR SDRAM (256-MB SODIMM in slot 1 and slot 2)
	<b>Hard Drive</b>	60-GB 5400 rpm
	<b>Display</b>	15.0-inch TFT XGA with 1024 x 768 resolution (up to 16.7 M colors internal)
	<b>Graphics</b>	Intel Graphics Media Accelerator 900
	<b>Video Memory</b>	Up to 128 MB of shared system memory
	<b>Audio</b>	ADI AC '97 CODEC, Line out/headphone and microphone jacks
	<b>Optical Drive</b>	DVD+/-RW
	<b>Communications</b>	56K Fax/Modem, Integrated NetXtreme Ethernet Controller (10/100 NIC)
	<b>Integrated Wireless</b>	Intel PRO/Wireless 2200BG 802.11b/g WLAN
	<b>Pointing Device</b>	Touchpad with scroll zone
	<b>Battery</b>	6-cell high capacity Lithium-Ion (42Wh)
	<b>Power</b>	External 65W adapter
<b>Warranty**</b>	1/1/0	

\* Intel's numbering is not a measurement of higher performance.

\*\* Certain restrictions and exclusions apply.

## Options

<b>Memory</b>	256-MB 333-MHz DDR SDRAM	DC389B
	512-MB 333-MHz DDR SDRAM	DC390B
	1024-MB 333-MHz DDR SDRAM	DC890B
<b>Storage</b>	60-GB 5400 rpm Primary Hard Drive	PA852A
	USB Diskette Drive	DC361B
	HP USB Digital Drive + 128-MB Secure Digital Card	DL702A
	HP 40-GB Mobile USB Hard Drive	DQ549A
<b>Communications</b>	Intel PRO/Wireless 2200BG 802.11b/g WLAN option kit	PF952AA#ABA
<b>Expansion Solutions</b>	HP 4-port USB 2.0 Hub	DG954A
<b>Power</b>	HP 2-bay Battery Charging Station	DT533A#ABA
	HP 10-bay Battery Charging Station	DT534A#ABA
	Battery Adapter kit #1	PK402A
	65W AC Adapter	DC359A#ABA
	90W AC Adapter	DC895B#ABA
	90W Auto Adapter	DC303B
	90W Air/Auto/AC Combo Adapter	DV574A#ABA
	90W Aircraft Cables	DC899A
	Primary 6-cell Battery Pack	PB994A
HP Travel Battery	PB993A	
<b>Carrying Cases</b>	HP Entry Value Case	DL617A
	HP Top Load Nylon	DC915A
	HP Executive Leather case	PA847A
	HP Sport Backpack	DG102A
<b>Security</b>	PC Card Smart Card Reader	DC350B
	HP/Kensington Cable Lock	PC766A
<b>Input/Output Devices</b>	USB/PS2 Keyboard	DC852A#ABA
	USB/PS2 Optical Mouse	DC369A
	HP USB Optical Travel Mouse	F2100A
	Rechargeable Wireless Mouse	DU960A

## Memory

Up to 2048 MB of 333-MHz DDR SDRAM

Two DIMM slots (user accessible - one under keyboard deck, one via panel on bottom of unit)

DIMM sizes supported: 256 MB, 512 MB, or 1024 MB

### Standard Memory

- 256 MB (256 MB x 1)
- 512 MB (512 MB x 1 or 256 MB x 2)
- 1024 MB (1024 MB x 1 or 512 MB x 2)

### Optional Memory Upgrades

Support for up to 2048 MB of memory is available (with the installation of optional DDR SDRAM memory kits). Both memory slots are user accessible. Please refer to the Hardware and Software Guide for installation procedures.

Up to	Slot 1	Slot 2
768 MB	512 MB	256 MB
1024 MB	1024 MB	Empty
1024 MB	512 MB	512 MB
1280 MB	1024 MB	256 MB
1536 MB	1024 MB	512 MB
2048 MB	1024 MB	1024 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.

### Memory Upgrades

1024-MB 333-MHz DDR SDRAM

DC890B

512-MB 333-MHz DDR SDRAM

DC390B

256-MB 333-MHz DDR SDRAM

DC389B

## Storage

### Removable Media Drive Support

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	Quantity Supported	Drive Bay
DVD+/-RW Drive	One	Fixed optical drive bay
DVD/CD-RW Combo Drive	One	Fixed optical drive bay
DVD-ROM Drive	One	Fixed optical drive bay

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### Hard Drive Support

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	Quantity Supported	Drive Bay
80-GB 5400 rpm SMART Hard Drive	One	Dedicated hard drive bay
60-GB 5400 rpm SMART Hard Drive	One	Dedicated hard drive bay
40-GB 5400 rpm SMART Hard Drive	One	Dedicated hard drive bay

### Technical Specifications

<b>System Unit</b>	<b>Dimensions (HxWxD)</b>	1.2 (at front) x 12.9 x 10.5 in (30.3 (at front) x 328.6 x 267 mm)
	<b>Weight</b>	nx6110 with 15.0-inch display 6.06 lb (2.75 kg)
	<b>NOTE:</b> Height varies depending upon where on the notebook the measurement is made. Weight varies by configuration and components. Weight includes 6-cell battery, 30-GB hard drive, 256-MB memory, and CD-ROM drive. Weight varies by configuration and components.	
	<b>Stand-Alone Power Requirements</b>	Nominal Operating Voltage 18.5 V Average Operating Power 20 W Max Operating Power < 65W
	<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% relative humidity, 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>	Blue Angel No UL Yes Energy Star Yes Canadian Safety Yes CSA (Canada) Yes ICES Yes TUV GS No Nordic Safety No Mexican Safety Yes Poland Compliance Yes Australia / NZ Compliance Yes CCC Yes Japan Compliance Yes MIC Yes BSMI Yes CE Marking Compliance Yes KONCAR Yes GOST Yes SASO Yes SABS Yes UKRSERTCOMPUTER Yes

### Technical Specifications

<b>65W External AC Adapter</b>	<b>Weight</b>	0.62 lb (0.28 kg) (adapter) 0.29 lb (0.13 kg) (power cord)	
	<b>Dimensions</b>	4.17 x 1.85 x 1.1 in (10.6 x 4.7 x 2.8 cm)	
	<b>Input</b>	Operating Input Voltage	100 to 240 VAC
		Operating Input Current	1.7A at 90 VAC 0.85A at 180 VAC
		Operating Frequency Range	47 to 63 Hz AC
	<b>Output</b>	Efficiency	83% minimum at 115 VAC
		Output Power	65 W
		DC Output Current	18.5 V
	<b>Environmental</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: IEC950, EN60950, UL1950, Class2, SELV Agency approvals: C-UL-US, NORDICS, DENAN, EN55022 Class B, FCC Class B, CISPR22 Class B, CCIB, NOM-1 NYCE	
<b>MTBF</b>	Over 200,000 hours at 25°C ambient condition		

<b>42Wh Primary Lithium-Ion Battery Pack</b>	<b>Dimensions (H x W x L)</b>	0.8 x 2.1 x 8.0 in (2.0 x 5.3 x 20.3 cm)		
	<b>Weight</b>	0.715 lb (0.325 kg)		
	<b>Cells/Type</b>	6-cell Lithium-Ion		
	<b>Energy</b>	Voltage	10.8 V	
		Amp-hour capacity	4.0Ah	
		Watt-hour capacity	42Wh	
	<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 Technology		Charges the battery up to 90% within 1.5 hours when system is OFF		

### Technical Specifications

Optional 52Wh Travel 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 Lithium-Ion		
	Energy	Voltage	14.4 V	
		Amp-hour Capacity	3.6Ah	
		Watt-hour Capacity	52Wh	
	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)		
Fuel Gauge	When pressed, LEDs light indicating level of charge remaining on battery			

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15.0-Inch Color TFT XGA Display	Active Area (W x H)	12.0 x 9.0 in (30.4 x 22.8 cm)		
	Diagonal Size	15.0 in (38.0 cm)		
	Surface Treatment	Anti-glare		
	Number of Colors	Up to 16 M		
	Contrast Ratio	250:1 (typical)		
	Refresh Rate	60 Hz		
	Brightness	150 nit (typical)		
	Pixel Resolution	Pitch	0.297 mm	
		Format	1024 x 768	
		Configuration	RGB Stripe	
	Backlight	CCFL		
	PPI	85		
	Character Display	80 x 25		
	Total Power Consumption	5.7 W		
Viewing Angle	±45° Horizontal, +15°/-35° Vertical (typical)			

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### Technical Specifications

15.0-Inch Color TFT SXGA+ Display	Active Area (W x H)	12.0 x 9.0 in (30.4 x 22.8 cm)		
	Diagonal Size	15.0 in (38.0 cm)		
	Surface Treatment	Anti-glare		
	Number of Colors	Up to 16 M		
	Contrast Ratio	300:1 (typical)		
	Refresh Rate	60 Hz		
	Brightness	180 nit (typical)		
	Pixel Resolution	Pitch	0.217 mm	
		Format	1400 x 1050	
		Configuration	RGB Stripe	
	Backlight	CCFL		
	PPI	116		
	Character Display	80 x 25		
	Total Power Consumption	5.8 W		
Viewing Angle	±45° Horizontal, +15°/-35° Vertical (typical)			

### Hard Drives

80-GB 5400 rpm	Drive Weight	0.22 lb (99 g)		
	Capacity	80 GB		
	Height	0.37 in (9.5 mm)		
	Width	2.75 in (70 mm)		
	Interface	ATA-6		
	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	156,301,488		
	Operating Temperature	41° to 131° F (5° to 55° C)		
Features	ATA Security			



### Technical Specifications

60-GB 5400 rpm	Drive Weight	0.22 lb (99 g)	
	Capacity	60 GB	
	Height	0.37 in (9.5 mm)	
	Width	2.75 in (70 mm)	
	Interface	ATA-6	
	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	117,210,240	
	Operating Temperature	41° to 131° F (5° to 55° C)	
	Features	ATA Security	

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40-GB 5400 rpm	Drive Weight	0.22 lb (99 g)	
	Capacity	40 GB	
	Height	0.37 in (9.5 mm)	
	Width	2.75 in (70 mm)	
	Interface	ATA-6	
	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	78,140,160	
	Operating Temperature	41° to 131° F (5° to 55° C)	
	Features	ATA Security	

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### Removable Storage Drives – Fixed Bay

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## Technical Specifications

<b>DVD-ROM Drive</b>	<b>Access Times</b>	Random	<100 ms CD <125 ms DVD
	<b>Max Data Transfer Rate</b>	24X-CD-ROM 8X-DVD	3,600 KB/s 10,800 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>	None	
	<b>Max Media Capacity (read)</b>	4.7 GB	
	<b>Transport</b>	Tray Loading	

<b>DVD/CD-RW Combo Drive</b>	<b>Access Times</b>	Random	<110 ms CD <130 ms DVD
	<b>Max Data Transfer Rate</b>	24X CD-ROM 8X DVD 24X CD-R 24X CD-RW	3,600 KB/s 10,800 KB/s 3,600 KB/s 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>	4.7 GB	
	<b>Max Media Capacity (write)</b>	700 MB	
	<b>Transport</b>	Tray loading	

## Technical Specifications

DVD+/-RW Drive	Access Times	Random	<175 ms CD <230 ms DVD
	Max Data Transfer Rate	24X CD-ROM	3,600 KB/s
		8X DVD	10,800 KB/s
		16X CD-R	2,400 KB/s
		10X CD-RW	1,500 KB/s
		4X DVD+R	5,400 KB/s
		4X DVD+RW	5,400 KB/s
		4X DVD-R	5,400 KB/s
		2X DVD-RW	2,700 KB/s
	Transfer Mode	Multiword DMA Mode 2	
	Interface	EIDE	
	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, DVD+R, DVD+RW, DVD-R, DVD-RW	
Max Media Capacity (read)	4.7 GB		
Max Media Capacity (write)	4.7 GB		
Transport	Tray Loading		

## Audio

Hardware	Implementation	ADI AC '97 CODEC
	Volume Controls	Up, down, and mute buttons
	Full Duplex	Yes
	Sound Blaster Pro compatible	Yes
	Microphone Jack	Stereo or mono
	Headphone/Line Out Jack	Stereo

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)	7 kHz - 48 kHz
	AD/DA Resolution	16 bit

### Technical Specifications

<b>Internal Speakers</b>	<b>Power Rating</b>	2 Watts
	<b>Impedance</b>	4 Ohms

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### Communications

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<b>Integrated NetXtreme 10/100 Ethernet Controller</b>	<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) Auto-Negotiation (Automatic Speed Selection) Full Duplex Operation at all Speeds, Half Duplex operation at 10 and 100 Mbit/s IEEE 802.3x Flow Control (IEEE 802.3 clauses 31-32; configurable)
	<b>Power Management</b>	ACPI 1.1a compliant -- multiple power modes Situation-sensitive features reduce power consumption
	<b>Manageability</b>	Wake-on-LAN from all Power-Managed States (configurable; Magic Packet and Microsoft Wake-Up Frame) PXE 2.0 Remote Boot Statistics Gathering (RMON, Ethernet-like MIB, Ethernet MIB (802.3x, clause 30)) Comprehensive diagnostic and configuration software suite
	<b>NIC Device Driver Name</b>	Broadcom 440X 10/100 Integrated Controller
	<b>Drivers Available</b>	Windows XP Windows 2000 DOS NDIS2 and ODI

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<b>Agere Systems AC'97 Modem</b>	<b>Form Factor</b>	MDC 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

## Technical Specifications

<b>Data Mode Capabilities</b>	56K modem (a-law, mu-law) V.8bis V.80 V44, V.42bis, MNP5 (Compression) V.42 (LAPM, MNP2-4) (Error Correction) V.34 (file date: 10/96) <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.32bis V.32 V.23 V.22bis 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

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

### Technical Specifications

<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.	
<b>Sub-channels</b>	Support for Cisco Security Features (proven compatibility with Cisco Aironet infrastructure products through the Cisco Compatible Extensions Program). 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 (for CKK)<sup>2</sup></b>	17.5 dBm +/- 1.5 dB	
<b>Output Power (for OFDM; power varies by data rate)<sup>2</sup></b>	13.5 dBm +/- 1.5 dB	
<b>Power Consumption</b>	Transmit: 2.0 W (max) Receive: 1.5 W (max) Idle mode: 248 mW (nominal) Sleep mode: 20 mW (max)	
<b>Power Management</b>	ACPI compliant power management 802.11 Compliant Power Saving Mode	
<b>Receiver Sensitivity<sup>3</sup></b>	54 Mbps: -72 dBm, 1 Mbps: -94 dBm	
<b>Antenna type</b>	High efficiency dual band antenna with polarization diversity, mounted in the display enclosure	
<b>Range</b>	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>	MiniPCI Type IIIB	
<b>Weight</b>	0.026 lb (12 g)	
<b>Dimensions</b>	0.20 x 1.75 x 2.34 in (4.9 x 44.6 x 59.8 mm)	
<b>Operating Voltage</b>	3.3v	
<b>Temperature</b>	Operating	32° to 122° F (0° to 50° C)
	Non-operating	-14° to 158° F (-10° to 70° C)
<b>Humidity</b>	Operating	10% to 90% (non-condensing)
	Non-operating	5% to 95% (non-condensing)
<b>Altitude</b>	Operating	0 to 15,000 ft (4,572 m)
	Non-operating	0 to 40,000 ft (12,192 m)

### Technical Specifications

#### Configuration Utility<sup>4</sup>

Choice of Configuration Utility:

- Microsoft Windows XP Wireless Network Connection Manager
- Broadcom Wireless Configuration Utility (required for Cisco Compatible Extensions support)

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 (CKK 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. WLAN may also be compatible with certain third-party software suppliers.

<b>Broadcom 802.11a/b/g WLAN</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 (details at <a href="http://www.hp.com/go/notebooks/WLAN">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).
	<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 (for CCK)<sup>2</sup></b>	17.5 dBm +/- 1.5 dB
	<b>Output Power (for OFDM; power varies by data rate)<sup>2</sup></b>	13.5 dBm +/- 1.5 dB
	<b>Power Consumption</b>	Transmit: 2.0 W (max) Receive: 1.5 W (max) Idle mode: 248 mW (nominal) Sleep mode: 20 mW (max)
	<b>Power Management</b>	ACPI compliant power management 802.11 compliant power saving mode
	<b>Receiver Sensitivity<sup>3</sup></b>	802.11a - 54 Mbps: -70 dBm; 802.11g - 54 Mbps: -72 dBm, 1 Mbps: -94 dBm
	<b>Antenna type</b>	High efficiency dual band antenna with polarization diversity, mounted in the display enclosure

### Technical Specifications

<b>Range</b>	802.11 a – Typical (@6 Mbps)	1000 feet – Outdoor Open Area 300 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>	MiniPCI Type IIIA	
<b>Weight</b>	0.035 lb (16 g)	
<b>Dimensions</b>	0.19 x 2.00 x 2.35 in (4.8 x 50.95 x 59.75 mm)	
<b>Operating Voltage</b>	3.3v	
<b>Temperature</b>	Operating	32° to 122° F (0° to 50° C)
	Non-operating	-14° to 158° F (-10° to 70° C)
<b>Humidity</b>	Operating	10% to 90% (non-condensing)
	Non-operating	5% to 95% (non-condensing)
<b>Altitude</b>	Operating	0 to 15,000 ft (4,572 m)
	Non-operating	0 to 40,000 ft (12,192 m)
<b>Configuration Utility<sup>4</sup></b>	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>	
	<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. 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>4. WLAN supplier's client utility is required for Cisco Compatible Extensions support. WLAN may also be compatible with certain third-party software supplicants.</li> </ol>	

#### Intel PRO/Wireless 2200BG 802.11b/g WLAN

<b>Wireless LAN Standards</b>	IEEE 802.11b IEEE 802.11g
<b>Interoperability</b>	Wi-Fi certified Cisco Compatible Extensions Program compliant (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
<b>Data Rates</b>	802.11b: 1, 2, 5.5, 11 Mbps 802.11g: 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).
<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



## Technical Specifications

<b>Network Architecture</b>	Ad-hoc (Peer to Peer)	
<b>Models</b>	Infrastructure (Access Point Required)	
<b>Roaming</b>	IEEE 802.11 compliant roaming between access points.	
<b>Output Power</b> (for CKK) <sup>2</sup>	16 dBm +/- 2 dB	
<b>Output Power</b> (for OFDM; power varies by data rate) <sup>2</sup>	15 dBm +2/-5 dB	
<b>Power Consumption</b>	Transmit: 1.8 Watts (max) Receive: 1.4 Watts (max) Idle mode: 75 mW (nominal) Sleep mode: 60 mW	
<b>Power Management</b>	ACPI compliant power management 802.11 Compliant Power Saving Mode	
<b>Receiver Sensitivity</b> <sup>3</sup>	54 Mbps: -72 dBm, 11 Mbps: -88 dBm , 1 Mbps: -97 dBm	
<b>Antenna type</b>	High efficiency dual band antenna with polarization diversity, mounted in the display enclosure	
<b>Range</b>	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>	MiniPCI Type IIIB	
<b>Weight</b>	0.026 lb (11.75 g) (max)	
<b>Dimensions</b>	0.20 x 1.75 x 2.34 in (4.9 x 44.6 x 59.8 mm)	
<b>Operating Voltage</b>	3.3v	
<b>Temperature</b>	Operating	32° to 158° F (0° to 70° 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>4</sup>	Choice of Configuration Utility:	
	<ul style="list-style-type: none"> <li>• Intel PROSet for Microsoft Windows 2000 or XP (required for Cisco Compatible Extensions support)</li> <li>• Microsoft Windows XP Wireless Network Connection Manager</li> </ul>	
	<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. 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>4. WLAN supplier's client utility is required for Cisco Compatible Extensions support. WLAN may also be compatible with certain third-party software supplicants.</li> </ol>	

Intel PRO/Wireless  
2915ABG 802.11a/b/g  
WLAN

<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 (details at <a href="http://www.hp.com/go/notebooks/WLAN">www.hp.com/go/notebooks/WLAN</a> )

## Technical Specifications

<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).	
<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 (for CCK)<sup>2</sup></b>	16 dBm +/- 2 dB	
<b>Output Power (for OFDM; power varies by data rate)<sup>2</sup></b>	15 dBm +2/-5 dB	
<b>Power Consumption</b>	Transmit: 1.8 Watts (max) Receive: 1.4 Watts (max) Idle mode: 100 mW (nominal) Sleep mode: 60 mW (max)	
<b>Power Management</b>	ACPI compliant power management 802.11 Compliant Power Saving Mode	
<b>Receiver Sensitivity<sup>3</sup></b>	54 Mbps: -72 dBm, 11 Mbps: -89 dBm , 1 Mbps: -97 dBm	
<b>Antenna type</b>	High efficiency dual band antenna with polarization 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>	MiniPCI Type IIIB	
<b>Weight</b>	0.026 lb (11.75 gm) (max)	
<b>Dimensions</b>	0.20 x 1.75 x 2.34 in (4.9 x 44.6 x 59.8 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)

### Technical Specifications

#### Configuration Utility<sup>4</sup>

Choice of Configuration Utility:

- Intel PROSet for Microsoft Windows 2000 or XP (required for Cisco Compatible Extensions support)
- Microsoft Windows XP Wireless Network Connection Manager

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 (CKK 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. WLAN may also be compatible with certain third-party software suppliers.

#### Bluetooth by HP

<b>Name</b>	HP Integrated module with Bluetooth wireless technology
<b>Bluetooth Specification</b>	1.2 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>	1 Mbps data rate; throughput up to 720 Kbps Synchronous Connection Oriented links up to 3, 64 kbps, voice channels Asynchronous Connection Less links 723.2 kbps/57.6 kbps asymmetric or 433.9 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 1.1 compliant Microsoft Windows Plug and Play compliant
<b>OS Support</b>	Microsoft Windows XP Professional and Home Microsoft Windows 2000
<b>Bluetooth Software Supported</b>	Widcomm 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)	

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

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