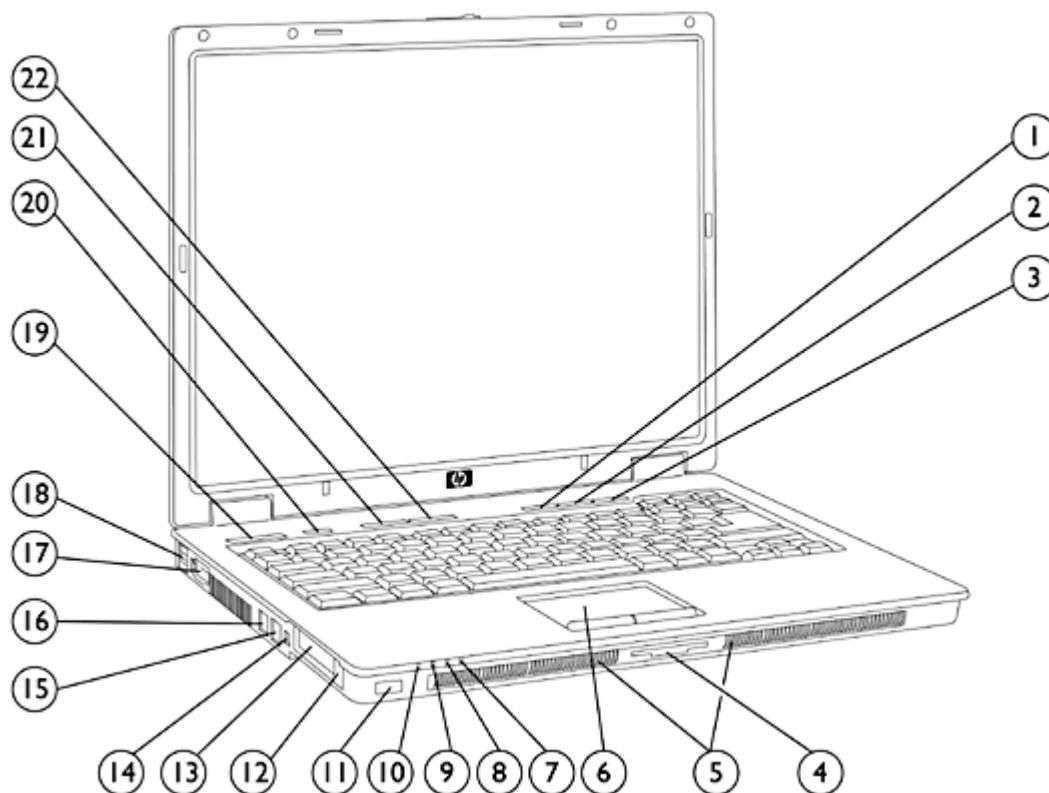
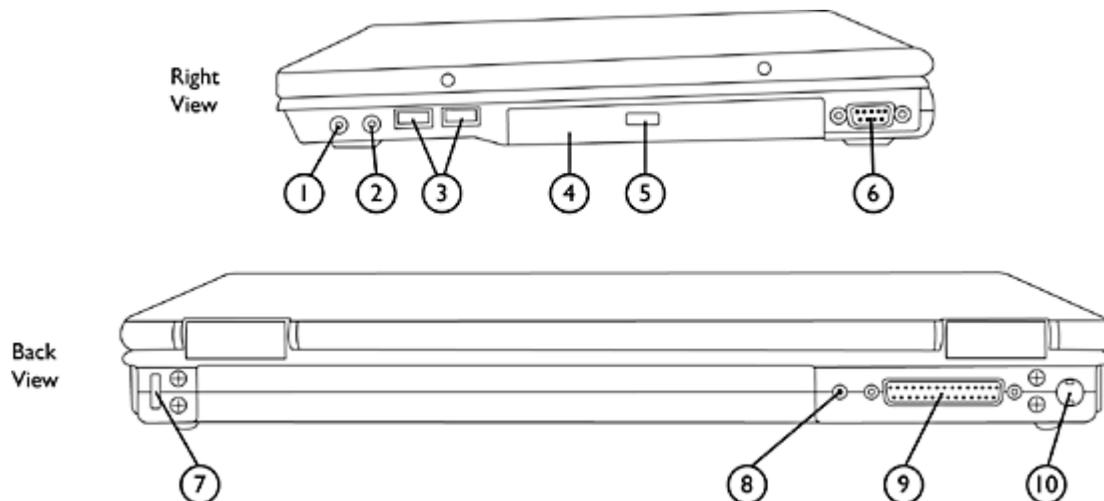


Overview



- | | |
|---|--|
| 1. Volume Mute Button with LED | 12. PC Card Eject Button |
| 2. Volume Down Button | 13. PC Card Slots (and optional Smart Card Reader) |
| 3. Volume Up Button | 14. IEEE 1394 Port |
| 4. 6-in-1 Media Reader | 15. RJ-45 Port (NIC) |
| 5. Stereo Speakers | 16. RJ-11 Port (Modem) |
| 6. Touchpad with Scroll Zone
(or Pointstick, not pictured) | 17. VGA/External Monitor Connector |
| 7. Hard Drive Activity LED | 18. 2 USB 2.0 Ports |
| 8. Battery Charging LED | 19. Power Button with LED |
| 9. Power/Standby LED | 20. HP Info Center Button |
| 10. Wireless On/Off LED | 21. Wireless On/Off Button with LED |
| 11. Fast Infrared Port | 22. Presentation Mode Button |

Overview



- | | |
|-------------------------|-------------------------|
| 1. Headphone Jack | 6. Serial Port |
| 2. Microphone Jack | 7. Kensington Lock Slot |
| 3. 2 USB 2.0 Ports | 8. DC Power Connector |
| 4. Optical Drive | 9. Parallel Port |
| 5. Optical Drive Button | 10. S-Video TV Out |

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 Express Chipset
- 256-MB DDR SDRAM, upgradeable to 2048-MB maximum
- Up to 80-GB 5400 rpm hard drive
- Intel Graphics Media Accelerator 900
- Optional Integrated 802.11a/b/g or 802.11b/g wireless LAN module
- Support for optional Intel Centrino™ mobile technology
- Optional integrated Bluetooth®
- 6-in-1 Media Reader
- NetXtreme Gigabit Ethernet Controller
- Choice of Touchpad with scroll zone or Pointstick
- Protected by three-year standard parts and labor warranty - certain restrictions and exclusions apply

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

Overview

What's Special

- Security features:
 - HP ProtectTools
 - HP Drivelock
 - Smart Card Reader (optional)
 - 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
 - Scratch-resistant keyboard using In-mold Lamination
- Support for new HP docking solutions and HP Travel Battery.

Standard Features

Processors

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.

NOTE: 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.

Operating System

Microsoft Windows XP Professional SP2
Microsoft Windows XP Home Edition SP2 (select countries only)
FreeDOS

NOTE: Microsoft Windows 2000 Professional is not available pre-installed, but drivers for it are downloadable from <http://www.hp.com>.

Chipset

Mobile Intel 915GM Express Chipset

Graphics

Intel Graphics Media Accelerator 900 with up to 128-MB shared system memory

Display

Internal 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)
External 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

Memory

Standard 256-MB, 512-MB, or 1024-MB 333-MHz DDR SDRAM; two SODIMM slots
Maximum Upgradeable to 2048-MB maximum (1024-MB SODIMM in slots 1 and 2)

NOTE: Due to the non-industry standard nature of some third-party memory modules, we recommend HP branded memory to ensure compatibility. If you mix memory speeds, the system will perform at the lower memory speed.

Standard Features

Communications NetXtreme Gigabit Ethernet Controller (10/100/1000 NIC)*
56K modem** with digital line guard

* The term "10/100/1000" or "Gigabit" Ethernet indicates compliance with IEEE standard 802.3ab for Gigabit Ethernet, and does not connote actual operating speed of 1 Gb/s. For high-speed transmission, connection to a Gigabit Ethernet server and network infrastructure is required.

** Designed for downloads from 56K modem compliant sources. Maximum achievable download transmission rates currently do not reach 56 KB/s, and will vary with line conditions. Modem availability is subject to country regulatory approval.

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

All integrated wireless LAN options	Wi-Fi certified Cisco Compatible Extensions support (Version 3.0) 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 Dual antennas integrated in the display enclosure
Broadcom 802.11b/g WLAN	Integrated support for 802.11 b and g Up to 54-mbps data rate
Broadcom 802.11a/b/g WLAN	Integrated support for 802.11 a, b and g Up to 54-mbps data rate
Intel PRO/Wireless 2200BG 802.11 b/g WLAN	Intel Centrino mobile technology Integrated support for 802.11 b and g Up to 54-mbps data rate
Intel PRO/Wireless 2915ABG 802.11 a/b/g WLAN	Intel Centrino mobile technology Integrated support for 802.11 a, b and g Up to 54-mbps data rate
Integrated Bluetooth	Bluetooth Specification v1.2 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), 2.5-mm stroke, comfort-dished keycaps, and bright key legends for improved visibility in low light conditions.

One-Touch Productivity Buttons Provide one-touch access to the following features: HP Info Center, Wireless On/Off, Presentation Mode, Volume Up, Volume Down, and Volume Mute

Standard Features

Pointing Device	Touchpad with scroll zone, two soft-touch buttons or Pointstick, two soft-touch buttons	
Expansion Card Slots	Two Type I/II PC Card slots or One Type III PC Card slot or One Type I/II PC Card slot and Optional Integrated Smart Card Reader	PC Card slots support 32-bit CardBus and 16-bit PC Cards Compatible with ISO 7816 compliant Smart Cards PC/SC interface support
Media Slots	6-in-1 Media Reader	Supports SD (Secure Digital), MMC (MultiMediaCard), Memory Stick, Memory Stick Pro, Smart Media, xD-Picture card CAUTION: This notebook PC does not support Memory Stick Duo Cards or Memory Stick Duo Adapters. Inserting one of these cards or adapters into your notebook can damage the memory card or adapter and/or the notebook PC.
Storage	Hard Drives Optical Drives	40-, 60-, 80-GB 5400 rpm SMART NOTE: These hard drives are customer removable and will withstand multiple insertion/removal cycles. Integrated (12.7-mm) DVD-ROM DVD/CD-RW Combo DVD+/-RW
Interfaces	PC Card Slot(s) and/or Optional Integrated Smart Card Reader External Monitor IEEE 1394 Port External Microphone Headphone/Line out Power Connector RJ-11 (Modem) RJ-45 (NIC) Fast Infrared Port Serial Port S-Video TV Out Parallel Port USB 2.0	Two Type I/II or One Type III or One Type I/II with Smart Card Reader One – VGA One One One One One One One One (4-Mb/s support) IrDA 4-MB compliant; IR performance will vary depending on performance of IR peripherals and application used. One One (Support for NTSC/PAL) One Four

Standard Features

Docking Connector	One
Travel Battery Connector	One
LED Status Indicators	Twelve

Audio	ADI AC '97 CODEC Integrated 16-bit Sound Blaster Pro compatible audio Integrated stereo speakers External volume up, volume down, and mute buttons Stereo headphone/line out Stereo microphone in
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Software	Preloaded Software for Microsoft Windows XP 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)*
	Software on CD Intervideo WinDVD Creator – DVD Authoring (for optional DVD+/-RW drives)
	Additional software available from the Web 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

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.
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Client Management Software	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 http://www.hp.com/go/easydeploy .
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SMBIOS Version 2.3.4	System Management BIOS, previously known as DMI BIOS, is used to store system management information.
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Standard Features

HP Local Recovery Provided by Altiris

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 <http://www.hp.com/go/easydeploy>.

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:

- Smart Card Security for HP ProtectTools
- BIOS Configuration for HP ProtectTools
- Credential Manager for HP ProtectTools

Security

Standard Features

Configuration Control Hardware
Memory Change Alert
Ownership Tag
Setup Password
Power-On Password
Drivelock
Enabled for PC Smart Card options
Kensington Lock Slot

Optional Features

Smart Card Reader (replaces Type I/II PC Card slot)	Compatible with ISO 7816 compliant Smart Cards PC/SC interface support
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For more information on HP security solutions refer to <http://www.hp.com/go/security>.

Power Supply

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

Battery

Primary Battery

6-cell high capacity Lithium-Ion (52Wh) – one-year warranty

Optional Travel Battery

8-cell high capacity Lithium-Ion (52Wh)

Battery Life

Primary Battery

Up to 4 hours and 30 minutes

Primary Battery and optional HP Travel Battery

Up to 10 hours

NOTE: 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

Power Conservation 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

Docking HP Docking Station
 HP Advanced Docking Station
 HP Adjustable Notebook Stand

HP's shared docking solutions provide simple and convenient port replication and cable management. Features include Gigabit NIC pass through, modem pass through, legacy parallel and serial ports, S-video TV out, USB 2.0 ports, integrated security mechanism*, integrated MultiBay II and ExpressCard** slots. These docking solutions are compatible across multiple Business Notebook platforms enabling a lower total cost of ownership.

* HP/Kensington Cable Lock required (purchased separately)
 ** HP Advanced Docking Station only

Service and Support HP Services includes a three-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.

NOTE: Certain restrictions and exclusions apply. Consult the HP Customer Support Center for details.
<http://h20000.www2.hp.com/bizsupport/TechSupport/ProductRoot.jsp>.

Select Model(s)

nc6120 PT596AA#ABA	Processor	Intel Pentium M processor 750* (1.86-GHz, 533-MHz FSB, 2-MB L2 cache)
	Operating System	Microsoft Windows XP Professional
	System Memory	512-MB 333-MHz DDR SDRAM (512-MB SODIMM in slot 1)
	Hard Drive	60-GB 5400 rpm
	Display	15.0-inch TFT SXGA+ with 1400 x 1050 resolution (up to 16.7 M colors internal)
	Graphics	Intel Graphics Media Accelerator 900
	Video Memory	Up to 128 MB of shared system memory
	Audio	ADI AC '97 CODEC, Line out/headphone and microphone jacks
	Optical Drive	24X DVD/CDRW Combo
	Communications	56K Fax/Modem, Integrated NetXtreme Gigabit Ethernet Controller (10/100/1000 NIC)
	Integrated Wireless	Intel Pro Wireless 2200BG 802.11b/g WAN Bluetooth
	Pointing Device	Touchpad with scroll zone
	Battery	6-cell high capacity Lithium-Ion (52Wh)
	Power	External 65W adapter
	Warranty**	3/3/0

Standard Features

nc6120 PR125UA#ABA Smart Buy	Processor	Intel Pentium M processor 730* (1.6-GHz, 533-MHz FSB, 2-MB L2 cache)
	Operating System	Microsoft Windows XP Professional
	System Memory	512-MB 333-MHz DDR SDRAM (512-MB SODIMM in slot 1)
	Hard Drive	40-GB 5400 rpm
	Display	15.0-inch TFT XGA with 1024 x 768 resolution (up to 16.7 M colors internal)
	Graphics	Intel Graphics Media Accelerator 900
	Video Memory	Up to 128 MB of shared system memory
	Audio	ADI AC '97 CODEC, Line out/headphone and microphone jacks
	Optical Drive	24X DVD/CDRW Combo
	Communications	56K Fax/Modem, Integrated NetXtreme Gigabit Ethernet Controller (10/100/1000 NIC)
	Integrated Wireless	Intel PRO/Wireless 2200BG 802.11b/g WLAN
	Pointing Device	Touchpad with scroll zone
	Battery	6-cell high capacity Lithium-Ion (52Wh)
	Power	External 65W adapter
	Warranty**	3/3/0

nc6120 PT598AA#ABA	Processor	Intel Pentium M processor 740* (1.73-GHz, 533-MHz FSB, 2-MB L2 cache)
	Operating System	Microsoft Windows XP Professional
	System Memory	256-MB 333-MHz DDR SDRAM (256-MB SODIMM in slot 1)
	Hard Drive	40-GB 5400 rpm
	Display	15.0-inch TFT XGA with 1024 x 768 resolution (up to 16.7 M colors internal)
	Graphics	Intel Graphics Media Accelerator 900
	Video Memory	Up to 128 MB of shared system memory
	Audio	ADI AC '97 CODEC, Line out/headphone and microphone jacks
	Optical Drive	DVD-ROM Drive
	Communications	56K Fax/Modem, Integrated NetXtreme Gigabit Ethernet Controller (10/100/1000 NIC)
	Integrated Wireless	None
	Pointing Device	Touchpad with scroll zone
	Battery	6-cell high capacity Lithium-Ion (52Wh)
	Power	External 65W adapter
	Warranty**	3/3/0

Standard Features

nc6120 PR126UA#ABA Smart Buy	Processor	Intel Pentium M processor 750* (1.86-GHz, 533-MHz FSB, 2-MB L2 cache)
	Operating System	Microsoft Windows XP Professional
	System Memory	512-MB 333-MHz DDR SDRAM (512-MB SODIMM in slot 1)
	Hard Drive	60-GB 5400 rpm
	Display	15.0-inch TFT XGA with 1024 x 768 resolution (up to 16.7 M colors internal)
	Graphics	Intel Graphics Media Accelerator 900
	Video Memory	Up to 128 MB of shared system memory
	Audio	ADI AC '97 CODEC, Line out/headphone and microphone jacks
	Optical Drive	24X DVD/CDRW Combo
	Communications	56K Fax/Modem, Integrated NetXtreme Gigabit Ethernet Controller (10/100/1000 NIC)
	Integrated Wireless	Intel PRO/Wireless 2200BG 802.11b/g WLAN
	Pointing Device	Touchpad with scroll zone
	Battery	6-cell high capacity Lithium-Ion (52Wh)
	Power	External 65W adapter
Warranty**	3/3/0	

nc6120 PR127UA#ABA	Processor	Intel Pentium M processor 760* (2.0-GHz, 533-MHz FSB, 2-MB L2 cache)
	Operating System	Microsoft Windows XP Professional
	System Memory	512-MB 333-MHz DDR SDRAM (512-MB SODIMM in slot 1)
	Hard Drive	60-GB 5400 rpm
	Display	15.0-inch TFT XGA with 1024 x 768 resolution (up to 16.7 M colors internal)
	Graphics	Intel Graphics Media Accelerator 900
	Video Memory	Up to 128 MB of shared system memory
	Audio	ADI AC '97 CODEC, Line out/headphone and microphone jacks
	Optical Drive	DVD+/-RW
	Communications	56K Fax/Modem, Integrated NetXtreme Gigabit Ethernet Controller (10/100/1000 NIC)
	Integrated Wireless	Intel PRO/Wireless 2915ABG 802.11a/b/g WLAN
	Pointing Device	Touchpad with scroll zone
	Battery	6-cell high capacity Lithium-Ion (52Wh)
	Power	External 65W adapter
Warranty**	3/3/0	

Standard Features

nc6120 PZ512UA#ABA	Processor	Intel Pentium M processor 740* (1.7-GHz, 533-MHz FSB, 2-MB L2 cache)
	Operating System	Microsoft Windows XP Professional
	System Memory	256-MB 333-MHz DDR SDRAM (256-MB SODIMM in slot 1)
	Hard Drive	40-GB 5400 rpm
	Display	15.0-inch TFT XGA with 1024 x 768 resolution (up to 16.7 M colors internal)
	Graphics	Intel Graphics Media Accelerator 900
	Video Memory	Up to 128 MB of shared system memory
	Audio	ADI AC '97 CODEC, Line out/headphone and microphone jacks
	Optical Drive	DVD
	Communications	56K Fax/Modem, Integrated NetXtreme Gigabit Ethernet Controller (10/100/1000 NIC)
	Integrated Wireless	Intel PRO/Wireless 2915ABG 802.11a/b/g WLAN
	Pointing Device	Touchpad with scroll zone
	Battery	6-cell high capacity Lithium-Ion (52Wh)
	Power	External 65W adapter
Warranty**	3/3/0	

nc6120 PZ513UA#ABA	Processor	Intel Pentium M processor 750* (1.86-GHz, 533-MHz FSB, 2-MB L2 cache)
	Operating System	Microsoft Windows XP Professional
	System Memory	512-MB 333-MHz DDR SDRAM (512-MB SODIMM in slot 1)
	Hard Drive	60-GB 5400 rpm
	Display	15.0-inch TFT SXGA+ with 1400 x 1050 resolution (up to 16.7 M colors internal)
	Graphics	Intel Graphics Media Accelerator 900
	Video Memory	Up to 128 MB of shared system memory
	Audio	ADI AC '97 CODEC, Line out/headphone and microphone jacks
	Optical Drive	24X DVD/CDRW Combo
	Communications	56K Fax/Modem, Integrated NetXtreme Gigabit Ethernet Controller (10/100/1000 NIC)
	Integrated Wireless	Intel PRO/Wireless 2915ABG 802.11a/b/g WLAN Bluetooth
	Pointing Device	Touchpad with scroll zone
	Battery	6-cell high capacity Lithium-Ion (52Wh)
	Power	External 65W adapter
Warranty**	3/3/0	

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

** Certain restrictions and exclusions apply.

Options

Memory	256-MB 333-MHz DDR SDRAM	DC389B
	512-MB 333-MHz DDR SDRAM	DC390B
	1024-MB 333-MHz DDR SDRAM	DC890B
Storage	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
MultiBay II Storage (9.5-mm) <i>NOTE: Requires HP Docking Station or HP Advanced Docking Station</i>	8X DVD-ROM MultiBay II Drive	PA849A
	24X Combo DVD/CD-RW MultiBay II Drive	PA850A
	2X DVD+/-RW Dual Format MultiBay II Drive	PA851A
	80-GB 5400 rpm MultiBay II Hard Drive	PH357A
Communications	Intel PRO/Wireless 2200BG 802.11 b/g WLAN option kit	PF952AA#ABA
Expansion Solutions	HP Docking Station	PA286A#ABA
	HP Advanced Docking Station	PA287A#ABA
	HP Monitor Stand	PA507A
	HP Adjustable Notebook Stand	PA508A
	HP 4-port USB 2.0 Hub	DG954A
Power	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	
Carrying Cases	HP Entry Value Case	DL617A
	HP Top Load Nylon	DC915A
	HP Executive Leather case	PA847A
	HP Sport Backpack	DG102A

Options

Security	PC Card Smart Card Reader	DC350B
	HP/Kensington Cable Lock	PC766A
Input/Output Devices	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

	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

Hard Drive Support

	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

System Unit	Dimensions (HxWxD)	1.2 (at front) x 12.9 x 10.5 in (30.3 (at front) x 328.6 x 267 mm)
	Weight	nc6120 with 15.0-inch display 6.06 lb (2.75 kg)
	NOTE: Height varies depending upon where on the notebook the measurement is made. Weight varies by configuration and components. Weight includes 6-cell battery, 30-GB hard drive, 256-MB memory, and CD-ROM drive. Weight varies by configuration and components.	
	Stand-Alone Power Requirements	Nominal Operating Voltage 18.5 V Average Operating Power 21 W Max Operating Power < 65W
	Temperature	Operating 32° to 95° F (0° to 35° C) (not writing optical) 41° to 95° F (5° to 35° C) (writing optical) Non-operating -4° to 140° F (-20° to 60° C)
	Relative Humidity	Operating 10% to 90%, non-condensing Non-operating 5% to 95%, 101.6° F (38.7° C) maximum wet bulb temperature
	Shock	Operating 125 G, 2 ms, half-sine Non-operating 200 G, 2 ms, half-sine
	Random Vibration	Operating 0.75 grms Non-operating 1.50 grms
	Altitude (unpressurized)	Operating -50 to 10,000 ft (-15.24 to 3,048 m) Non-operating -50 to 40,000 ft (-15.24 to 12,192 m)
	Industry Standard Certifications	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

65W External AC Adapter	Weight	0.62 lb (0.28 kg) (adapter) 0.29 lb (0.13 kg) (power cord)	
	Dimensions	4.17 x 1.85 x 1.1 in (10.6 x 4.7 x 2.8 cm)	
	Input	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
	Output	Efficiency	83% minimum at 115 VAC
		Output Power	65 W
		DC Output Current	18.5 V
	Environmental	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%
	EMI and Safety Certifications	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	
MTBF	Over 200,000 hours at 25°C ambient condition		

52Wh Primary Lithium-Ion Battery Pack	Dimensions (H x W x L)	0.8 x 2.1 x 8.0 in (2.0 x 5.3 x 20.3cm)		
	Weight	0.681 lb (0.315 kg)		
	Cells/Type	6-cell Lithium-Ion		
	Energy	Voltage	10.8 V	
		Amp-hour Capacity	4.8Ah	
		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	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			

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)			

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	

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	

Removable Storage Drives – Fixed Bay

Technical Specifications

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

DVD/CD-RW Combo Drive	Access Times	Random	<110 ms CD <130 ms DVD
	Max Data Transfer Rate	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
	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	
	Max Media Capacity (read)	4.7 GB	
	Max Media Capacity (write)	700 MB	
	Transport	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

Internal Speakers	Power Rating	2 Watts
	Impedance	4 Ohms

Communications

Integrated NetXtreme Gigabit Ethernet Controller (10/100/1000 NIC)	Ethernet Features	10 Mbit/s operation (10BASE-T; IEEE 802.3i; IEEE 802.3 clauses 13-14) 100 Mbit/s operation (100BASE-TX; IEEE 802.3u; IEEE 802.3 clauses 21-30) 1000 Mbit/s operation (1000BASE-T; IEEE 802.3z and 802.3ab; IEEE 802.3 clauses 34-42) Auto-Negotiation (Automatic Speed Selection) Full Duplex Operation at all Speeds, Half Duplex operation at 10 and 100 Mbit/s IEEE 802.1p QoS (Quality of Service) Support IEEE 802.3x Flow Control (IEEE 802.3 clauses 31-32; configurable)
	Power Management	ACPI 1.1a compliant -- multiple power modes Situation-sensitive features reduce power consumption NIC Battery Saving Mode (enabled by default)
	Performance Features	TCP/IP/UDP Checksum Offload (configurable) Microsoft Large Send Offload (configurable) TCP Segmentation Offload CPU Task Offload Adaptive Interrupts
	Manageability	Wake-on-LAN from all Power-Managed States (configurable; Magic Packet and Microsoft Wake-Up Frame) PXE 2.0 Remote Boot Statistics Gathering (SNMP MIB II, Ethernet-like MIB, Ethernet MIB (802.3x, clause 30)) Comprehensive diagnostic and configuration software suite Cable Analyzer
	NIC Device Driver Name	Broadcom NetXtreme Gigabit Ethernet
	Drivers Available	Microsoft Windows XP Microsoft Windows 2000

Technical Specifications

Agere Systems AC'97 Modem	Form Factor	MDC Daughtercard
	Power Management Support	APM Revision 1.2, ACPI
	Approvals/Certifications	UL, CSA, NEMKO, CCIB, Industry Canada, FCC Part 68, CTR21, FCC Part 15 Class B, Canadian ICES-003 Class B, C.I.S.P.R.22, Australian ACA, CE Mark, Other Countries
	Data Mode Capabilities	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) Optional symbol rates: 2800, 3429 Asymmetric Symbol rates Synchronous primary channel data signaling rates: 3600, 31200 Automatic rate re-negotiation V.32bis V.32 V.23 V.22bis V.22 V.21 Bell 212A Bell 103J
	Fax Mode Capabilities	TIA/EIA-578-B (Class 1) T.30, T.4 (Group 3) V.17 V.29 V.27ter V.21 Channel 2
	Command Set	V.250 (Partial) TIA-602 Identification: +GMI, +GMM, +GMR Port control: +IPR, +ICF, +IFC, +ILRR Modulation: +MS, +MR, +MA Error control: +ES, +ER, +EB, +ESR, +ETBM Data compression: +DS, +DR V.251

Broadcom 802.11b/g WLAN	Wireless LAN Standards	IEEE 802.11b IEEE 802.11g
	Interoperability	Wi-Fi certified Cisco Compatible Extensions Program compliant (details at http://www.hp.com/go/notebooks/WLAN)
	Frequency Band	2.4 GHz
	Data Rates	802.11b: 1, 2, 5.5, 11 Mbps 802.11g: 6, 9, 12, 18, 24, 36, 48, 54 Mbps

Technical Specifications

Modulation	Direct Sequence Spread Spectrum DBPSK, DQPSK, CCK, OFDM	
Security¹	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).	
Sub-channels	Multinational support with frequency bands and channels compliant to local regulations.	
Media Access Protocol	CSMA/CA (Collision Avoidance) with ACK	
Network Architecture Models	Ad-hoc (Peer to Peer) Infrastructure (Access Point Required)	
Roaming	IEEE 802.11 compliant roaming between access points.	
Output Power (for CCK)²	17.5 dBm +/- 1.5 dB	
Output Power (for OFDM; power varies by data rate)²	13.5 dBm +/- 1.5 dB	
Power Consumption	Transmit: 2.0 W (max) Receive: 1.5 W (max) Idle mode: 248 mW (nominal) Sleep mode: 20 mW (max)	
Power Management	ACPI compliant power management 802.11 Compliant Power Saving Mode	
Receiver Sensitivity³	54 Mbps: -72 dBm, 1 Mbps: -94 dBm	
Antenna type	High efficiency dual band antenna with polarization diversity, mounted in the display enclosure	
Range	802.11 b – Typical (@1 Mbps)	1200 feet – Outdoor Open Area 300 feet – Indoor, Office environment
	802.11 g – Typical (@1 Mbps)	1200 feet – Outdoor Open Area 300 feet – Indoor, Office environment
Form Factor	MiniPCI Type IIIB	
Weight	0.026 lb (12 g)	
Dimensions	0.20 x 1.75 x 2.34 in (4.9 x 44.6 x 59.8 mm)	
Operating Voltage	3.3v	
Temperature	Operating	32° to 122° F (0° to 50° C)
	Non-operating	-14° to 158° F (-10° to 70° C)
Humidity	Operating	10% to 90% (non-condensing)
	Non-operating	5% to 95% (non-condensing)
Altitude	Operating	0 to 15,000 ft (4,572 m)
	Non-operating	0 to 40,000 ft (12,192 m)

Technical Specifications

Configuration Utility⁴

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.

Broadcom 802.11a/b/g WLAN	Wireless LAN Standards	IEEE 802.11a IEEE 802.11b IEEE 802.11g
	Interoperability	Wi-Fi certified Cisco Compatible Extensions Program compliant (details at http://www.hp.com/go/notebooks/WLAN)
	Frequency Band	2.4 GHz and 5 GHz
	Data Rates	802.11b: 1, 2, 5.5, 11 Mbps 802.11a/g: 6, 9, 12, 18, 24, 36, 48, 54 Mbps
	Modulation	Direct Sequence Spread Spectrum DBPSK, DQPSK, CCK, OFDM
	Security¹	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).
	Sub-channels	Multinational support with frequency bands and channels compliant to local regulations.
	Media Access Protocol	CSMA/CA (Collision Avoidance) with ACK
	Network Architecture Models	Ad-hoc (Peer to Peer) Infrastructure (Access Point Required)
	Roaming	IEEE 802.11 compliant roaming between access points
	Output Power (for CKK)²	17.5 dBm +/- 1.5 dB
	Output Power (for OFDM; power varies by data rate)²	13.5 dBm +/- 1.5 dB
	Power Consumption	Transmit: 2.0 W (max) Receive: 1.5 W (max) Idle mode: 248 mW (nominal) Sleep mode: 20 mW (max)
	Power Management	ACPI compliant power management 802.11 compliant power saving mode
	Receiver Sensitivity³	802.11a - 54 Mbps: -70 dBm; 802.11g - 54 Mbps: -72 dBm, 1 Mbps: -94 dBm
	Antenna type	High efficiency dual band antenna with polarization diversity, mounted in the display enclosure

Technical Specifications

Range	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
Form Factor	MiniPCI Type IIIA	
Weight	0.035 lb (16 g)	
Dimensions	0.19 x 2.00 x 2.35 in (4.8 x 50.95 x 59.75 mm)	
Operating Voltage	3.3v	
Temperature	Operating	32° to 122° F (0° to 50° C)
	Non-operating	-14° to 158° F (-10° to 70° C)
Humidity	Operating	10% to 90% (non-condensing)
	Non-operating	5% to 95% (non-condensing)
Altitude	Operating	0 to 15,000 ft (4,572 m)
	Non-operating	0 to 40,000 ft (12,192 m)
Configuration Utility⁴	Choice of Configuration Utility:	
	<ul style="list-style-type: none"> • Microsoft Windows XP Wireless Network Connection Manager • Broadcom Wireless Configuration Utility (required for Cisco Compatible Extensions support) 	
	<ol style="list-style-type: none"> 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. 	

Intel PRO/Wireless 2200BG 802.11b/g WLAN

Wireless LAN Standards	IEEE 802.11b IEEE 802.11g
Interoperability	Wi-Fi certified Cisco Compatible Extensions Program compliant (details at http://www.hp.com/go/notebooks/wlan)
Frequency Band	2.4 GHz
Data Rates	802.11b: 1, 2, 5.5, 11 Mbps 802.11g: 6, 9, 12, 18, 24, 36, 48, 54 Mbps
Modulation	Direct Sequence Spread Spectrum DBPSK, DQPSK, CCK, OFDM
Security¹	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).
Sub-channels	Multinational support with frequency bands and channels compliant to local regulations.
Media Access Protocol	CSMA/CA (Collision Avoidance) with ACK

Technical Specifications

Network Architecture	Ad-hoc (Peer to Peer)	
Models	Infrastructure (Access Point Required)	
Roaming	IEEE 802.11 compliant roaming between access points.	
Output Power (for CKK) ²	16 dBm +/- 2 dB	
Output Power (for OFDM; power varies by data rate) ²	15 dBm +2/-5 dB	
Power Consumption	Transmit: 1.8 Watts (max) Receive: 1.4 Watts (max) Idle mode: 75 mW (nominal) Sleep mode: 60 mW	
Power Management	ACPI compliant power management 802.11 Compliant Power Saving Mode	
Receiver Sensitivity ³	54 Mbps: -72 dBm, 11 Mbps: -88 dBm , 1 Mbps: -97 dBm	
Antenna type	High efficiency dual band antenna with polarization diversity, mounted in the display enclosure	
Range	802.11 b – Typical (@1 Mbps)	1200 feet – Outdoor Open Area 300 feet – Indoor, Office environment
	802.11 g – Typical (@1 Mbps)	1200 feet – Outdoor Open Area 300 feet – Indoor, Office environment
Form Factor	MiniPCI Type IIIB	
Weight	0.026 lb (11.75 g) (max)	
Dimensions	0.20 x 1.75 x 2.34 in (4.9 x 44.6 x 59.8 mm)	
Operating Voltage	3.3v	
Temperature	Operating	32° to 158° F (0° to 70° C)
	Non-operating	-40° to 176° F (-40° to 80° C)
Humidity	Operating	10% to 90% (non-condensing)
	Non-operating	5% to 95% (non-condensing)
Altitude	Operating	0 to 10,000 ft (3,048 m)
	Non-operating	0 to 50,000 ft (15,240 m)
Configuration Utility ⁴	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 supplicants.

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

Wireless LAN Standards	IEEE 802.11a IEEE 802.11b IEEE 802.11g
Interoperability	Wi-Fi certified Cisco Compatible Extensions Program compliant (details at http://www.hp.com/go/notebooks/WLAN)

Technical Specifications

Frequency Band	2.4 GHz and 5 GHz	
Data Rates	802.11b: 1, 2, 5.5, 11 Mbps 802.11a/g: 6, 9, 12, 18, 24, 36, 48, 54 Mbps	
Modulation	Direct Sequence Spread Spectrum DBPSK, DQPSK, CCK, OFDM	
Security¹	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).	
Sub-channels	Multinational support with frequency bands and channels compliant to local regulations.	
Media Access Protocol	CSMA/CA (Collision Avoidance) with ACK	
Network Architecture Models	Ad-hoc (Peer to Peer) Infrastructure (Access Point Required)	
Roaming	IEEE 802.11 compliant roaming between access points	
Output Power (for CCK)²	16 dBm +/- 2 dB	
Output Power (for OFDM; power varies by data rate)²	15 dBm +2/-5 dB	
Power Consumption	Transmit: 1.8 Watts (max) Receive: 1.4 Watts (max) Idle mode: 100 mW (nominal) Sleep mode: 60 mW (max)	
Power Management	ACPI compliant power management 802.11 Compliant Power Saving Mode	
Receiver Sensitivity³	54 Mbps: -72 dBm, 11 Mbps: -89 dBm , 1 Mbps: -97 dBm	
Antenna type	High efficiency dual band antenna with polarization diversity, mounted in the display enclosure	
Range	802.11 a – Typical (@6 Mbps)	600 feet – Outdoor Open Area 150 feet – Indoor, Office environment
	802.11 b – Typical (@1 Mbps)	1200 feet – Outdoor Open Area 300 feet – Indoor, Office environment
	802.11 g – Typical (@1 Mbps)	1200 feet – Outdoor Open Area 300 feet – Indoor, Office environment
Form Factor	MiniPCI Type IIIB	
Weight	0.026 lb (11.75 gm) (max)	
Dimensions	0.20 x 1.75 x 2.34 in (4.9 x 44.6 x 59.8 mm)	
Operating Voltage	3.3v +/- 10%	
Temperature	Operating	32° to 176° F (0° to 80° C)
	Non-operating	-40° to 176° F (-40° to 80° C)
Humidity	Operating	10% to 90% (non-condensing)
	Non-operating	5% to 95% (non-condensing)
Altitude	Operating	0 to 10,000 ft (3,048 m)
	Non-operating	0 to 50,000 ft (15,240 m)

Technical Specifications

Configuration Utility⁴

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

Name	HP Integrated module with Bluetooth wireless technology
Bluetooth Specification	1.2 Compliant
Dimensions	1.02 x 0.55 x 0.22 in (26 x 14 x 5.7 mm)
Frequency Band	2402 to 2480 MHz
Number of available channels	79 (1 MHz) available channels
Data Rates and throughput	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
Transmit Power	-6 dBm to 4 dBm (Bluetooth Class II)
Receiver Sensitivity	Better than -80 dBm at 0.1 % raw bit error rate
Power Consumption	Peak (Tx) 264 mW Peak (Rx) 231 mW Sleep <1 mW
Antenna	Internally integrated within module
Range	Up 33 ft (10 m)
Electrical Interface	USB 1.1 compliant Microsoft Windows Plug and Play compliant
OS Support	Microsoft Windows XP Professional and Home Microsoft Windows 2000
Bluetooth Software Supported	Widcomm Bluetooth for Windows Microsoft Windows XP Bluetooth Software
Link Topology	Point to Point, Multipoint Pico Nets up to 7 slaves
Security	Full support of Bluetooth Security Provisions
Power Management	Microsoft Windows ACPI, and USB Bus Support Self configurable to optimize power conservation in all operating modes, including Standby, Hold, Park, and Sniff
Certifications	All necessary regulatory approvals for supported countries, including: FCC (47 CFR) Part 15C, Section 15.247 & 15.249 ETS 300 328, ETS 300 826 Low Voltage Directive IEC950 UL, CSA, and CE Mark

Technical Specifications

Temperature	Operating	-4° to 158° F (-20° to 70° C)
	Non-operating	-40° to 176° F (-40° to 80° C)
Humidity	Operating	10% to 90%
	Non-operating	5% to 95%
Altitude	Operating	15,000 ft (4,572 m)
	Non-operating	40,000 ft (12,192 m)
Bluetooth Profiles Supported	(with Bluetooth for Windows 4.0 software)	
	Serial Port Profile (SPP)*	
	Dial-Up Networking (DUN)*	
	Generic Object Exchange Profile (GOEP)	
	Object Push Profile (OPP)*	
	File Transfer Profile (FTP)	
	Synchronization Profile (SYNC)	
	Hard Copy Cable Replacement (HCRP)*	
	Personal Area Networking Profile (PAN)*	
	Human Interface Device Profile (HID)*	
	FAX Profile (FAX)	
	Basic Imaging Profile (BIP)	

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

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