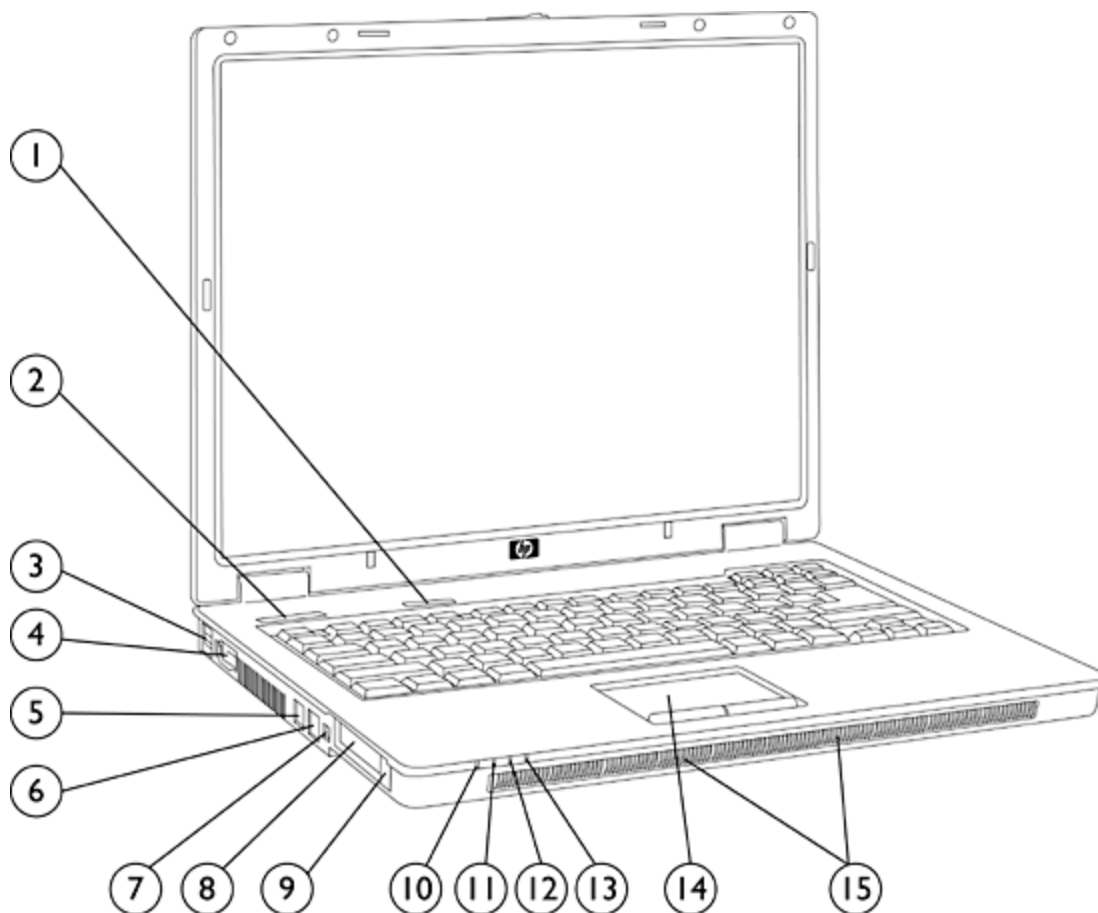
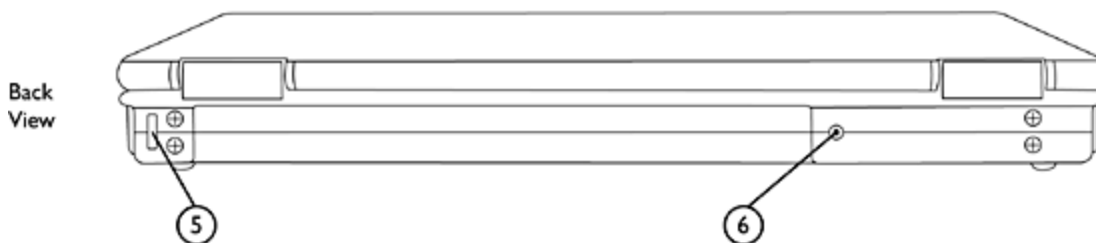
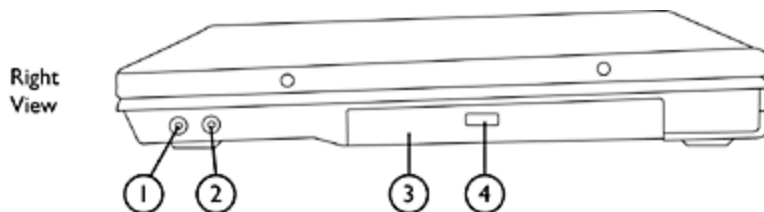


Overview



1. Wireless On/Off Button with LED
2. Power Button with LED
3. 2 USB 2.0 Ports
4. VGA/External Monitor Connector
5. RJ-11 Port (Modem)
6. RJ-45 Port (NIC)
7. IEEE 1394 Port
8. PC Card Slot

9. PC Card Eject Button
10. Wireless On/Off LED
11. Power/Standby LED
12. Battery Charging LED
13. Hard Drive Activity LED
14. Touchpad with Scroll Zone
15. Stereo Speakers



1. Headphone Jack
2. Microphone Jack

4. Optical Drive Release Button
5. Kensington Lock Slot

Overview

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 350J to 370*
- Sleek, industrial design starting at 5.82 lb/2.64 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 or three-year (depending on country and/or model) 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
 - HP spill-resistant keyboard with Mylar film

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 Celeron M processor 350J* (1.3-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 910GML Express Chipset
 Mobile Intel 915GM Express Chipset

Graphics

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

Display

Internal 14.1-inch or 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.

Communications

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.	
All integrated wireless LAN options		Wi-Fi certified Cisco Compatible Extensions support Wired Equivalent Privacy (WEP) support up to 128-bit keys Wi-Fi Protected Access (WPA) support 802.1x authentication support, including EAP-TLS, EAP-TTLS, PEAP-GTC, PEAP-MSCHAPv2, and LEAP Dual antennas integrated in the display enclosure	
Broadcom 802.11 b/g WLAN		Integrated support for 802.11 b and g Up to 54-mbps data rate Advanced Encryption Standard (AES) support	
Broadcom 802.11 a/b/g WLAN		Integrated support for 802.11 a, b and g Up to 54-mbps data rate Advanced Encryption Standard (AES) support	
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 Advanced Encryption Standard (AES) support WiFi certified for WPA2, WMM	
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 Advanced Encryption Standard (AES) support WiFi certified for WPA2, WMM	
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. 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	
Expansion Card Slots		One Type I/II/III PC Card	Supports 32-bit CardBus and 16-bit PC Cards
Storage		Hard Drives 30-, 40-, 60-, 80-GB 4200 rpm SMART 40-, 60-, 80-GB 5400 rpm SMART NOTE: These hard drives are customer removable and will withstand multiple insertion/removal cycles.	
		Optical Drives	Integrated (12.7-mm) CD-ROM DVD-ROM DVD/CD-RW Combo DVD+/-RW

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	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	
<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/>		
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 .	

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

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)
6-cell high capacity Lithium-Ion (42Wh) (available only on nx6110)

Optional Travel Battery

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

Battery Life

Up to 4 hours 15 minutes

Up to 4 additional hours can be achieved with the optional HP Travel Battery.

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

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

Standard Features

Service and Support

HP Services includes a one-year or three-year (depending on country and/or model) 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>.

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
Communications	Intel PRO/Wireless 2200BG 802.11b/g WLAN option kit	PF952AA#xxx
Expansion Solutions	HP 4-port USB 2.0 Hub	DG954A
Power	HP 2-bay Battery Charging Station	DT533A#xxx
	HP 10-bay Battery Charging Station	DT534A#ABA
	Battery Adapter kit #1	PK402A
	65W AC Adapter	DC359A#xxx
	90W AC Adapter	DC895B#xxx
	90W Auto Adapter	DC303B
	90W Air/Auto/AC Combo Adapter	DV574A#xxx
	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
Security	PC Card Smart Card Reader	DC350B
	HP/Kensington Cable Lock	PC766A
Input/Output Devices	USB/PS2 Keyboard	DC852A#xxx
	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)

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
CD-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
80-GB 4200 rpm SMART Hard Drive	One	Dedicated hard drive bay
60-GB 4200 rpm SMART Hard Drive	One	Dedicated hard drive bay
40-GB 4200 rpm SMART Hard Drive	One	Dedicated hard drive bay
30-GB 4200 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	nc6110/nx6110 with 14.1-inch display 5.82 lb (2.64 kg) nc6110/nx6110 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	20 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

42Wh Primary Lithium-Ion Battery Pack (nx6110 model only)	Dimensions (H x W x L)	0.8 x 2.1 x 8.0 in (2.0 x 5.3 x 20.3 cm)
	Weight	0.715 lb (0.325 kg)
	Cells/Type	6-cell Lithium-Ion
	Energy	Voltage 10.8 V
		Amp-hour capacity 4.0Ah
		Watt-hour capacity 42Wh
	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

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 20.3 cm)	
	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

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	

14.1-Inch Color TFT XGA Display	Active Area (W x H)	11.2 x 8.4 in (28.6 x 21.4 cm)	
	Diagonal Size	14.1 in (35.7 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)	
		NOTE: Brightness is listed as an average measurement and may vary among panels.	
	Pixel Resolution	Pitch	0.279 mm
		Format	1024 x 768
		Configuration	RGB Stripe
	Backlight	CCFL	
	PPI	91	
	Character Display	80 x 25	
	Total Power Consumption	5.3 W	
	Viewing Angle	±40° Horizontal, +10°/-30° Vertical (typical)	

Technical Specifications

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)	

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)	

Technical Specifications

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	

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	

Technical Specifications

80-GB 4200 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	4200 rpm	
	Logical Blocks	156,301,488	
	Operating Temperature	41° to 131° F (5° to 55° C)	
	Features	ATA Security	

60-GB 4200 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	4200 rpm	
	Logical Blocks	117,210,240	
	Operating Temperature	41° to 131° F (5° to 55° C)	
	Features	ATA Security	

40-GB 4200 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	4200 rpm	
	Logical Blocks	78,140,160	
	Operating Temperature	41° to 131° F (5° to 55° C)	
	Features	ATA Security	

Technical Specifications

30-GB 4200 rpm	Drive Weight	0.22 lb (99 g)	
	Capacity	30 GB	
	Height	0.74 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	4200 rpm	
	Logical Blocks	58,605,120	
	Operating Temperature	41° to 131° F (5° to 55° C)	
	Features	ATA Security	

Technical Specifications

Removable Storage Drives – Fixed Bay

CD-ROM Drive	Access Times	Random	<110 ms CD
	Max Data Transfer Rate	24X CD-ROM	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	
	Supported Media (write)	None	
	Max Media Capacity (read)	700 MB	
	Transport	Tray Loading	

DVD-ROM Drive	Access Times	Random	<100 ms CD
			<125 ms DVD
	Max Data Transfer Rate	24X-CD-ROM	3,600 KB/s
		8X-DVD	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	3,600 KB/s
		8X DVD	10,800 KB/s
		24X CD-R	3,600 KB/s
		24X CD-RW	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	

Technical Specifications

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

Internal Speakers	Power Rating	2 Watts
	Impedance	4 Ohms

Technical Specifications

Communications

Integrated NetXtreme 10/100 Ethernet Controller	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) 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)
	Power Management	ACPI 1.1a compliant -- multiple power modes Situation-sensitive features reduce power consumption
	Manageability	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
	NIC Device Driver Name	Broadcom 440X 10/100 Integrated Controller
	Drivers Available	Windows XP Windows 2000 DOS NDIS2 and ODI

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 V.44, 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

Technical Specifications

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 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
	Security ¹	Supports 64- and 128-bit WEP, WPA, hardware-accelerated AES, 802.1x authentication types EAP-TLS, EAP-TTLS, PEAP-GTC, PEAP-MSCHAPv2, LEAP. 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 Sensitivity ³	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 supplicants.

Technical Specifications

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 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
	Security ¹	Supports 64- and 128-bit WEP, WPA, hardware-accelerated AES, 802.1x authentication types EAP-TLS, EAP-TTLS, PEAP-GTC, PEAP-MSCHAPv2, LEAP. 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 Sensitivity ³	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
	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)

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 supplicants.
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Technical Specifications

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
	Security ¹	Supports 64- and 128-bit WEP, WPA, WPA2, hardware-accelerated AES, 802.1x authentication types EAP-TLS, EAP-TTLS, PEAP-GTC, PEAP-MSCHAPv2, LEAP, EAP-FAST. Support for Cisco Security Features (proven compatibility with Cisco Aironet infrastructure products through the Cisco Compatible Extensions Program).
	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: 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)

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 supplicants.

Technical Specifications

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 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, 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 supplicants.

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	<p>1 Mbps data rate; throughput up to 720 Kbps</p> <p>Synchronous Connection Oriented links up to 3, 64 kbps, voice channels</p> <p>Asynchronous Connection Less links 723.2 kbps/57.6 kbps asymmetric or 433.9 kbps symmetric</p>	
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	<p>Peak (Tx) 264 mW</p> <p>Peak (Rx) 231 mW</p> <p>Sleep <1 mW</p>	
Antenna	Internally integrated within module	
Range	Up 33 ft (10 m)	
Electrical Interface	<p>USB 1.1 compliant</p> <p>Microsoft Windows Plug and Play compliant</p>	
OS Support	<p>Microsoft Windows XP Professional and Home</p> <p>Microsoft Windows 2000</p>	
Bluetooth Software Supported	<p>Widcomm Bluetooth for Windows</p> <p>Microsoft Windows XP Bluetooth Software</p>	
Link Topology	Point to Point, Multipoint Pico Nets up to 7 slaves	
Security	Full support of Bluetooth Security Provisions	
Power Management	<p>Microsoft Windows ACPI, and USB Bus Support</p> <p>Self configurable to optimize power conservation in all operating modes, including Standby, Hold, Park, and Sniff</p>	
Certifications	<p>All necessary regulatory approvals for supported countries, including:</p> <p>FCC (47 CFR) Part 15C, Section 15.247 & 15.249</p> <p>ETS 300 328, ETS 300 826</p> <p>Low Voltage Directive IEC950</p> <p>UL, CSA, and CE Mark</p>	
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)

Technical Specifications

Bluetooth Profiles Supported	Non-operating	40,000 ft (12,192 m)
	(with Bluetooth for Windows 4.0 software)	
	Serial Port Profile (SPP)*	
	Dial-Up Networking (DUN)*	
	Generic Object Exchange Profile (GOEP)	
	Object Push Profile (OPP)*	
	File Transfer Profile (FTP)	
	Synchronization Profile (SYNC)	
	Hard Copy Cable Replacement (HCRP)*	
	Personal Area Networking Profile (PAN)*	
	Human Interface Device Profile (HID)*	
	FAX Profile (FAX)	
	Basic Imaging Profile (BIP)	
	Headset Profile (HSP)	
	Hands Free Profile (HFP)	
	Advanced Audio Distribution Profile (A2DP)	

* indicates the profile is supported by Microsoft Windows XP SP2

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