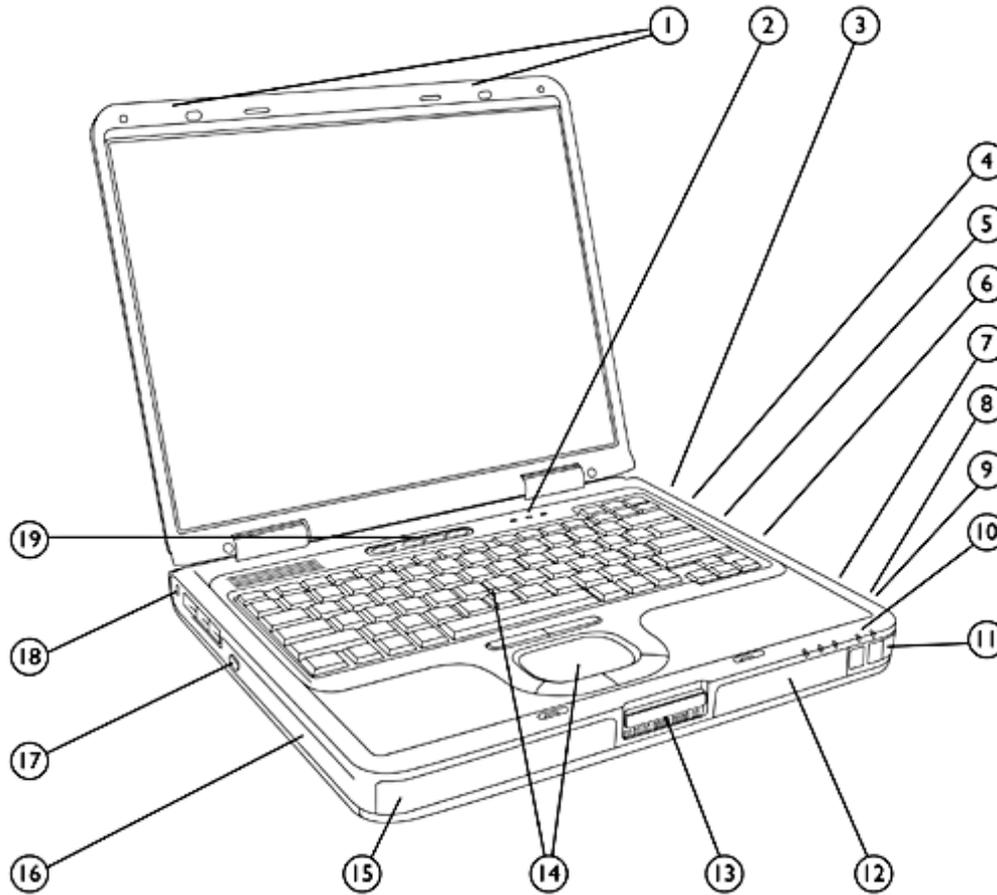
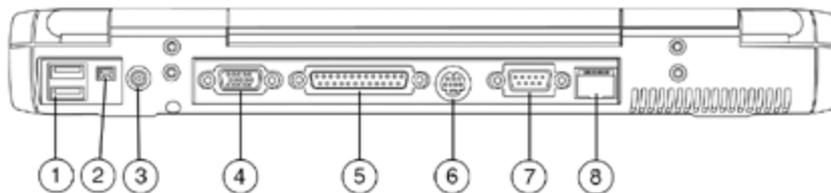


Overview



- | | |
|--------------------------------------------------------------------------|---------------------------------------------|
| 1. Wireless LAN Antennas | 11. Volume Down/Up/Mute |
| 2. Num Lock, Caps Lock, Scroll Lock LEDs | 12. Speaker |
| 3. Line In/Out | 13. Display Latch |
| 4. PC Card Slots (2) | 14. Dual Pointing Devices |
| 5. SD Slot | 15. Speaker |
| 6. MultiBay | 16. Primary Battery |
| 7. IR | 17. Fixed Optical |
| 8. Bluetooth Access Door | 18. Lock Slot |
| 9. Modem | 19. Power Button and 3 quick launch buttons |
| 10. Wireless on/off, Power, Charge, HDD activity, MultiBay Activity LEDs | |



- | | |
|----------------------|-------------|
| 1. USB Ports (2) | 5. Parallel |
| 2. 1394 Port (4 pin) | 6. S-Video |
| 3. DC In | 7. Serial |
| 4. VGA | 8. LAN |

Overview

At A Glance

- Intel® Pentium® M Processors
 - Intel 855PM chipset with 400-MHz front side bus
- Microsoft Windows XP Professional
- 512-MB 333-MHz DDR SDRAM upgradeable to 2048-MB
- Up to 80-GB 5400 rpm or 60-GB 7200 rpm, user-removable hard drives.
- ATI Mobility Fire GL T2 graphics controller with 128 MB of Video RAM and hardware accelerated OpenGL graphics
- Gigabit Ethernet NIC
- Optional integrated 802.11b, 802.11 b/g and 802.11 a/b/g wireless LAN modules
- Optional integrated Bluetooth
- Support for a fixed optical drive as well as a MultiBay device
- Integrated Secure Digital (SD) flash media slot
- USB 2.0 and IEEE 1394
- Dual pointing devices
- Magnesium alloy display enclosure
- Protected by a three-year, On-site warranty in the U.S. and Canada – certain restrictions and exclusions apply. Consult the HP Customer Support Center for details.

What's Special

- Support for a fixed optical drive as well as a MultiBay device
- Support for Common Port Replicator and Advanced Port Replicator docking solutions with Gigabit NIC pass-through.
- HP Mobile Printing driver makes on-the-go printing quick and easy
- Dual display-mounted antennas

Standard Features

Processors

Intel Pentium M processor 755* – 2.0GHz, 2MB L2 cache, 400MHz Front Side Bus (FSB)
Intel Pentium M processor 745 – 1.8GHz, 2MB L2 cache, 400MHz Front Side Bus (FSB)
Intel Pentium M processor 735 – 1.7GHz, 2MB L2 cache, 400MHz Front Side Bus (FSB)
Intel Pentium M processor 725 – 1.6GHz, 2MB L2 cache, 400MHz Front Side Bus (FSB)
Intel Pentium M processor 715 – 1.5GHz, 2MB L2 cache, 400MHz Front Side Bus (FSB)
Intel 855PM Chipset

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

Operating System

Microsoft Windows XP Professional

Chipset

Intel 855PM Chipset with 400-MHz front side bus and enhanced SpeedStep Technology

NOTE: Intel Pentium-M Processors support enhanced Intel SpeedStep™ technology. Processor speed denotes maximum performance mode; processors will run at approximately 600 MHz in battery optimization mode.

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

Display

Internal

15-inch TFT XGA with (1024 x 768) resolution (16M colors)
15-inch TFT SXGA+ with (1400 x 1050) resolution and Wide-Viewing Angle (16M colors)
15-inch TFT UXGA with (1600 x 1200) resolution and Wide-Viewing Angle (16M 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, 1600 x 1200, or 2048 x 1536 resolutions up to 100-Hz refresh rate, dependent upon monitor capability, and resolution and color depth settings

Memory

Standard

512-MB 333-MHz SDRAM DDR SDRAM (512-MB SODIMM in slot 1)

Maximum

2048-MB 333-MHz SDRAM DDR SDRAM (1024-MB SODIMMs 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

Communications

10/100/1000 NIC

High speed 56K Modem with digital line guard

NOTE: Designed only to allow faster downloads from compliant sources. Maximum achievable download transmission rates currently do not reach 56 KB/s, and will vary with line conditions.

NOTE: Modem availability is subject to country regulatory approval.

Keyboard

The 101/102-key compatible keyboard features an industry standard, full-width layout with desktop keyboard features, such as the isolated inverted-T cursor control keys, 3x2 editing keys, both left and right control and alt keys, and 11 function keys. The US layout has 84 keys and the International layout 85 keys. Other features include an integrated numeric keypad, hotkeys for instant access to power conservation, volume, brightness, and other features, 19.05 mm x 19.05 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.

Quick Launch Buttons

The HP Compaq Mobile Workstation nw8000 has three Quick Launch buttons designed to provide one-touch access to commonly used features including QuickLock, Wireless on/off, and presentation mode.

Pointing Device

Dual pointing devices (both Pointstick and Touchpad)

Standard Features

PC Card Slots Two Type II/One Type III PC Card Slot which support both 32-bit CardBus and 16-bit PC Cards

Flash Media Slots One integrated Secure Digital (SD) slot

Storage

Diskette Drives	Optional MultiBay Diskette Drive
Primary Hard Drives	60-GB 7200 rpm SMART 80-GB 5400 rpm SMART 60-GB 5400 rpm SMART 40-GB 5400 rpm SMART
MultiBay Hard Drives	80-GB 5400 rpm SMART 60-GB 5400 rpm SMART 40-GB 5400 rpm SMART

NOTE: The HP nw8000 hard drives are customer removable and will withstand multiple insertion/removal cycles.

Optical Drives	Integrated Drive Bay	DVD+RW 24x/24x/24x/8x DVD/CD-RW 24x CD-RW 8x DVD 24x CD
	MultiBay	DVD+RW 24x/10x/24x/8x DVD/CD-RW 8x DVD 24x CD
Flash Media Storage	One integrated Secure Digital (SD) slot	

Multimedia

- Premier Sound™ audio
- Integrated 16-bit Sound Blaster Pro-compatible audio
- Two integrated stereo speakers and microphone
- External volume and mute controls
- Stereo Headphone-out
- Microphone in
- Software MPEG1 support
- DVD-ROM Drive
- DVD+RW Drive
- 24X DVD/CD-RW Combo Drive
- 8X DVD-ROM Drive
- 24X CD-ROM Drive

Standard Features

Interfaces	PC Card Slot	Two Type II or 1 Type III
	External Monitor	1
	Microphone in	1
	DC Power	1
	RJ-11 (modem)	1
	RJ-45 (NIC)	1
	Infrared Port	1 (4 Mb/s support) (IrDA 4-MB compliant. IR performance will vary depending on performance of IR peripherals and application used.)
	Enhanced Parallel EPP/ECP	1
	Serial Port	1
	S-video out connector	1 (Support for NTSC/PAL)
	USB version 2.0 Port	2
	4 Pin IEEE 1394 Port	1
	Docking Connector	1
	LED Status Indicators	9

Graphics	ATI MOBILITY Fire GL T2 graphics controller with 128-MB DDR SDRAM 4X AGP Hardware accelerated OpenGL graphics Hardware support for DirectX 9.0 ATI Powerplay Technology
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Audio	HP Premier Sound 16-bit sound 2 Stereo Speakers Headphone out and microphone jacks
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Software	Preloaded Software	Adobe Acrobat Reader* HP Quick Launch Button Software HP Mobile Printing Driver HP Help and Support (XP Only) Synaptics Touchpad Driver InterVideo WinDVD Player* (for optional DVD, DVD/CDRW and DVD+RW drives)
	Software on CD	InterVideo WinDVD Creator DVD Authoring (for optional DVD+RW drives) Roxio Easy CD Creator Basic (for optional DVD, DVD/CDRW and DVD+RW drives)
	Additional software available from the Web	HP Client Manager Software HP ProtectTools Embedded Security Manager HP ProtectTools Smart Card Security Manager

***NOTE:** Software is loaded on the hard drive and must be installed by running the Software Setup utility.

System Recovery	Each unit is shipped with a recovery CD kit containing Operating System Recovery and Driver/Application Recovery CDs. These CDs allow users to either recover or repair the notebook operating system and select drivers without losing personal data. The Operating System CD also provides the option of reinstalling the operating system software provided with the notebook
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Standard Features

Client Management Solution

In December 2003, Insight Manager was replaced by HP Systems Insight Manager Software (SIM). HP SIM will use WMI to retrieve client system information. A HP SIM connector will be available for the HP Client Manager Software beginning in 2Q/2004. For more information and to download HP Client Manager Software, please refer to the HP website at <http://www.hp.com/go/easydeploy>.

Security

The HP nw8000 supports a range of standard as well as optional security features including the optional Embedded Security chip and optional integrated Smart Card reader

Standard Security Features Configuration Control Hardware
Memory Change Alert
Ownership Tag
Setup Password
Power-On Password
DriveLock
Enabled for PC SmartCard options
Kensington Lock Slot

Optional Security Features

Embedded Security Chip

Designed to the Trusted Computing Group (TCG) standard
Microsoft Crypto API and PKCS#11 software interface support
RSA Secured Partner program certification

Integrated Smart Card reader

Compatible with ISO 7816 compliant Smart Cards
EMV level 1 certification
PC/SC interface support

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

Power Supply

External 65 watt AC adapter, 6-foot (1.8-meter) power cord included.
Total length including External AC adapter is 12 feet (3.66 meters).

Battery

The HP Compaq Business Notebook nw8000 8-cell internal main Lithium-Ion battery provides up to 4h 59m of battery life

Battery Re-Charge Time **System in OFF mode or Standby** 3 hours

System ON (depending on system power consumption) 3-5 hours

NOTE: Actual results may vary with product model, configuration, and individual usage. Hewlett-Packard testing of a HP Compaq nw8000 with an Intel Pentium M Processor 735 1.7 GHz CPU, Windows XP Professional, 15.0-inch UXGA LCD, 512-MB RAM, 60-GB HDD, Lithium-Ion battery, and NIC/modem, achieved an overall Business Winstone 2002 BatteryMark score of 4h 59m Business Winstone® 2002 BatteryMark™ Version 1.0 units. Winstone® is a registered trademark and BatteryMark™ is a trademark of Ziff Davis Publishing Holdings Inc. in the U.S. and other countries. Copyright 2002 Ziff Davis Media Inc. All Rights Reserved. System parameters followed test recommendations: panel brightness 50%, power management scheme – Laptop/Portable, hard drive, standby and video timers set to never, all wireless turned off.

Power Conservation

Supports enhanced Intel SpeedStep Technology (which allows Battery Optimized Mode, Maximum Performance Mode, or Automatic mode)

Hibernation
ATI PowerPlay technology
Instant-on via standby
Pop-ups with three presets
ACPI compliance

Standard Features

MultiBay Devices

MultiBay devices may be swapped with the system powered on (hot) under Microsoft Windows XP Professional or Windows 2000 (except MultiBay Zip drive or MultiBay secondary hard drive).

Wireless Devices

The HP nw8000 notebook supports a broad range of secure, integrated wireless LAN options featuring support for the latest industry standards. Integrated Bluetooth is also an option 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 128bit keys
Wi-Fi Protected Access (WPA) support
802.1x standards support including EAP-TLS, Protected EAP (PEAP) and Cisco-EAP (LEAP)
Dual antennas integrated in the display enclosure

HP W500 802.11a/b/g

Integrated support for 802.11a, b and g
Up to 54mbps throughput performance
Advanced Encryption Standard (AES) support

HP W400 802.11b/g

Integrated support for 802.11b and g
Up to 54mbps throughput performance
Advanced Encryption Standard (AES) support

Intel PRO/Wireless 2100 802.11b wireless LAN

Intel® Centrino™ mobile technology
Integrated support for 802.11b
Up to 11mbps throughput performance

Intel PRO/Wireless 2200BG 802.11b/g wireless LAN

Intel PRO/Wireless 2200BG network connection supports data transfer rate of up to 54 Mbps and backward compatible with the 802.11b standard

Integrated Bluetooth

Designed to the Bluetooth v1.1 specification

Docking

Port Replicator and Advanced Port Replicator. HP's common port replicator and advanced port replicator provide simple and convenient port management. Features include Gigabit NIC pass through, DVI, USB, and 1394 ports. These docking solutions are Compatible across multiple Business Notebook platforms enabling a lower total cost of ownership.

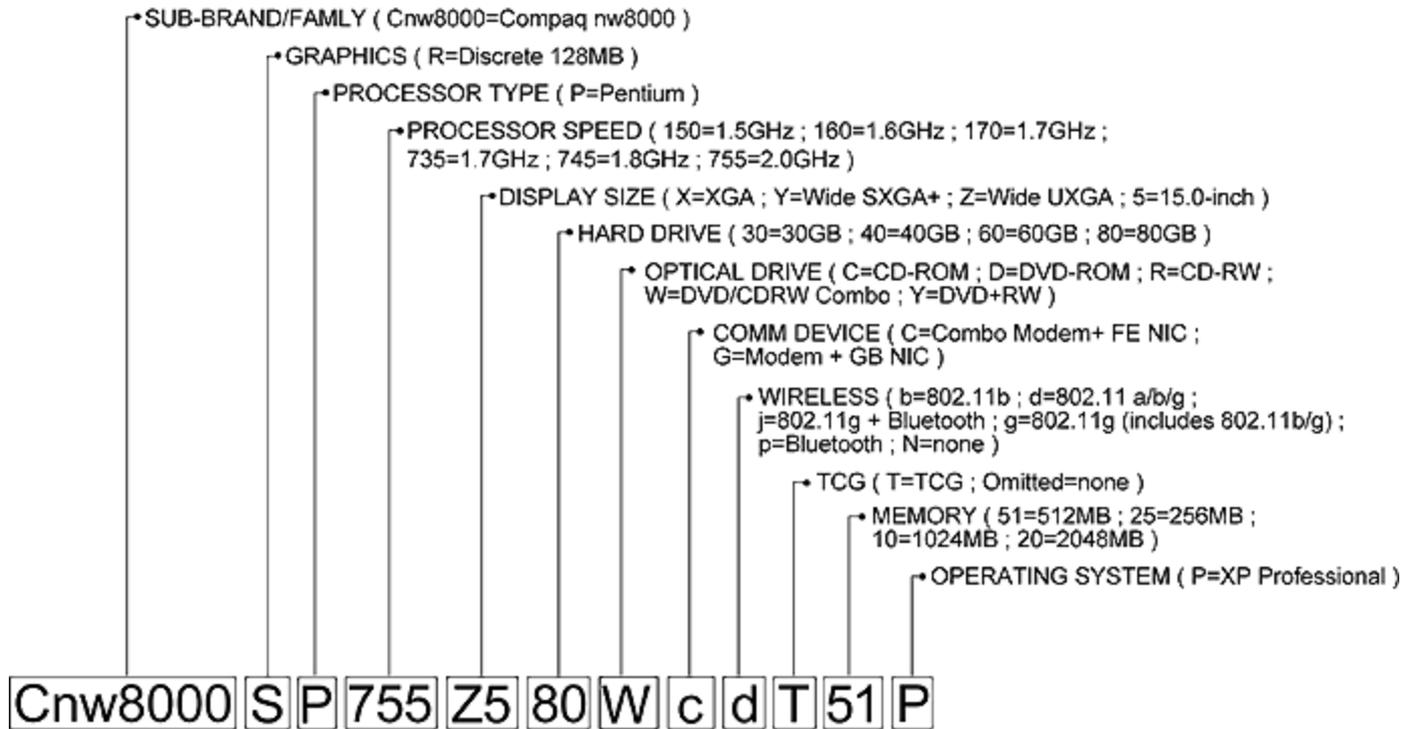
Service and Support

HP Services includes a Three-year, on-site Warranty in the U.S. and Canada, pick-up or carry-in and toll-free 7 x 24 hardware technical phone support. On-site service or a one-year warranty are also available.

NOTE: Certain restrictions and exclusions apply. Consult the HP Customer Support Center for details.
http://www1.pro.hp.com/support/warranty_upgrades/product_specific_warranty.asp.

Standard Features

The Etymology of a Model name:



Standard Features

Models

Cnw8000SP180U560YGm10P
PG402UA#ABA

Processor	Intel Pentium M processor 745 - 1.8GHz, 400MHz Front Side Bus (FSB)
Operating System	Microsoft Windows XP Professional
Cache	2048 KB L2 cache
System Memory	Standard 1024-MB 333-MHz DDR SDRAM (512-MB SODIMM in slot 1 and slot 2) Maximum 2-GB 333-MHz DDR SDRAM (1-GB SODIMM in slots 1 and 2)
Hard Drive	60GB 7200 RPM
Display	15-inch color TFT UXGA with 1600x1200 resolution (up to 16.7M colors internal) and Wide-Viewing Angle
Graphics	ATI MOBILITY Fire GL T2 graphics controller Hardware accelerated OpenGL graphics, Hardware support for DirectX 9.0, and ATI Powerplay Technology 4X AGP
Video Memory	128-MB DDR SDRAM
Audio	HP Premier Sound 16-bit sound, Line out/headphone and microphone jacks
Fixed Optical Drive	DVD+RW
MultiBay	Weight Saver
Communications	56K modem, integrated 10/100/1000 NIC, HP W500 802.11a/b/g wireless LAN and Bluetooth
Pointing Device	Dual pointing devices (both Point stick and Touchpad)
Battery	8-cell Lithium-Ion battery
Power	External 65W adapter
Warranty	3/3/3

Cnw8000SP200C560YGm10P
PR016UA#ABA

Processor	Intel Pentium M processor 755 - 2.0GHz, 400MHz Front Side Bus (FSB)
Operating System	Microsoft Windows XP Professional
Cache	2048 KB L2 cache
System Memory	Standard 1024-MB 333-MHz DDR SDRAM (512-MB SODIMM in slot 1 and slot 2) Maximum 2-GB 333-MHz DDR SDRAM (1-GB SODIMM in slots 1 and 2)
Hard Drive	60GB 7200 RPM
Display	15-inch color TFT UXGA with 1600x1200 resolution (up to 16.7M colors internal) and Wide-Viewing Angle
Graphics	ATI MOBILITY Fire GL T2 graphics controller Hardware accelerated OpenGL graphics, Hardware support for DirectX 9.0, and ATI Powerplay Technology 4X AGP
Video Memory	128-MB DDR SDRAM
Audio	HP Premier Sound 16-bit sound, Line out/headphone and microphone jacks
Fixed Optical Drive	DVD+RW
MultiBay	Weight Saver
Communications	56K modem, integrated 10/100/1000 NIC, HP W500 802.11a/b/g wireless LAN and Bluetooth
Pointing Device	Dual pointing devices (both Point stick and Touchpad)
Battery	8-cell Lithium-Ion battery
Power	External 65W adapter
Warranty	3/3/3

Options

		HP PN
Memory	1024-MB 333-MHz DDR Memory Upgrade	DC890B
	512-MB 333-MHz DDR Memory Upgrade	DC390B
	256-MB 333-MHz DDR Memory Upgrade	DC389B
MultiBay Hard Drives	80-GB 5400 rpm SMART Hard Drive	DC920A
	60-GB 5400 rpm SMART Hard Drive	DC894A
Other Storage Devices	External MultiBay	DC373B#ABA
	HP USB Digital Drive	DL702A
	40GB External USB 2.0 Hard Drive	DQ549A
	USB Diskette Drive	DC361B
Expansion Bases	Port Replicator	DC367B#ABA
	Advanced Port Replicator	DC366B#ABA
	4-Port USB HubExternal MultiBay	DG954A
	Monitor Stand	DC377A
Power	8 Cell Primary Battery	DG105A
	MultiBay Battery	DC889A
Common Power Solutions	Common Battery Charger (Single)	DF933A#ABA
	Common Battery Charger (Multiple)	DF932A#ABA
	AC Adapter 65W	DC359A#ABA
	Auto Power Adapter/Charger	DC303B
	Aircraft Power Cables	DC899A
	AC Line Cord (10 ft/3.1 m)	DC851B#ABA
Input Devices	External Enhanced III Keyboard (carbon) USB/PS2 Keyboard	DC852A#ABA
	HP 2 Button Mouse (carbon) USB/PS2 Keyboard 2-button scroll	DC369A
Security	Kensington Security Lock	PC766A
	HP Smart Card PC Card Reader	DC350A
Carrying Cases	HP Entry Value Carrying Case	DL617A
	HP Top Load Nylon Case	DC915A
	HP Roller Case	PE842A
	HP Top Load Leather	DC917A
	HP Executive Nylon Case	DC916A
	HP Sport Backpack	DG102A

Memory

HP Compaq nw8000 Business Notebook

Standard Memory Plus Optional Memory

Support for up to 2048 MB of 333-MHz DDR SDRAM memory is available with the installation of optional DDR SDRAM Memory Kits

- 0-MB of memory on system board
- 2 Slots total
- 1-512-MB DIMM installed in Slot 1
- 1-Additional open Memory Slot

Memory	Slot 1	Slot 2
	512 MB	Empty

Standard Memory with Optional Memory Upgrades

Support for up to 2048-MB of SDRAM is available with the installation of optional SDRAM Memory Upgrades.

Up to	Slot 1	Slot 2
512 MB	512 MB	Empty
1024 MB	512 MB	512 MB
1536 MB	1024 MB	512 MB
2048 MB	1024 MB	1024 MB

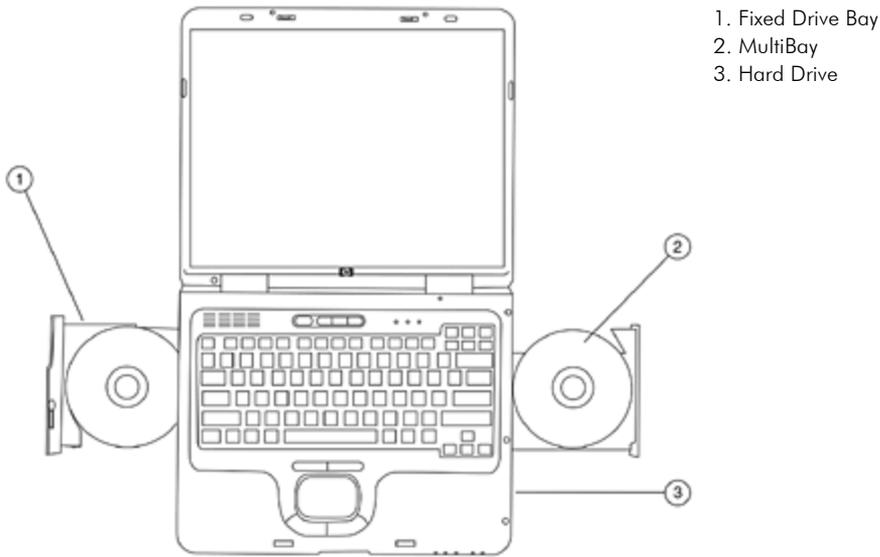
NOTE: This chart does not represent all possible memory configurations. Due to the non industry standard nature of some third-party memory modules, we strongly recommend using only HP branded memory modules to ensure compatibility.

Following are memory options available from HP:

Memory Upgrades	HP PN
1024-MB 333-MHz DDR Memory Upgrade	DC890B
512-MB 333-MHz DDR Memory Upgrade	DC390B
256-MB 333-MHz DDR Memory Upgrade	DC389B

NOTE: 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.

Storage



- 1. Fixed Drive Bay
- 2. MultiBay
- 3. Hard Drive

Removable Media

System Drive Support	Quantity Supported	Drive Bay Supported
1.44-MB Diskette Drive	Up to 1	MultiBay
DVD+RW	Up to 1	MultiBay
DVD/CD-RW Combo Drive	Up to 1	MultiBay
DVD-ROM Drive	Up to 1	MultiBay
CD-ROM Drive	Up to 1	MultiBay

NOTE: MultiBay support includes the integrated MultiBay, the External MultiBay, and the Advanced Port Replicator MultiBay unless otherwise noted.

Removable Media

System Drive Support	Quantity Supported	Drive Bay Supported
DVD+RW	Up to 1	Fixed Drive Bay
DVD/CD-RW Combo Drive	Up to 1	Fixed Drive Bay
DVD-ROM Drive	Up to 1	Fixed Drive Bay
CD-ROM Drive	Up to 1	Fixed Drive Bay

Storage

Drive Support

System Drive Support

Primary Hard Drives	Quantity Supported	Drive Bay Supported
80-GB 5400 rpm SMART Hard Drive	Up to 2	Dedicated hard drive bay and/or MultiBay
60-GB 7200 rpm SMART Hard Drive	Up to 2	Dedicated hard drive bay and/or MultiBay
60-GB 5400 rpm SMART Hard Drive	Up to 2	Dedicated hard drive bay and/or MultiBay
40-GB 5400 rpm SMART Hard Drive	Up to 2	Dedicated hard drive bay and/or MultiBay

Technical Specifications

System Unit	Dimensions (HxWxD)	15-inch TFT panel display	1.6 x 12.8 x 10.8 in (4.1 x 32.6 x 27.5 cm)
	Weight	System with main battery and MultiBay weight saver	6.5 lb (2.96 kg)
NOTE: * Height varies depending upon where on the notebook the measurement is made. Weight varies by configuration and components.			
Stand-Alone Power Requirements	Nominal Operating Voltage (Li-Ion)		14.4 VDC
	Max Operating Power		60W
	Peak Operating Power		65W
Temperature	Operating		50° to 95° F (10° to 35° C)
	Non-operating		-4° to 140° F (-20° to 60° C)
Relative Humidity	Operating		10% to 90% relative humidity, non-condensing
	Non-operating		5% to 90% relative humidity, 101.6° F (38.7° C) Maximum wetbulb temperature
Shock	Operating		40 G, 2 ms, half-sine
	Non-operating		240 G, 2 ms, half-sine
Vibration	Operating		0.5 G, 10 to 500 Hz, 0.5 Oct/Min sweep rate
	Non-operating		1.0 G, 10 to 500 Hz, 0.5 Oct/Min sweep rate
Maximum Altitude (unpressurized)	Operating		0 to 10,000 ft (3,048 m) (14.7 to 10.1 psia)
	Non-operating		0 to 30,000 ft (9,144 m) (14.7 to 4.4 psia)
Industry Standard Certifications	Blue Angel		No
	UL		Yes
	Canadian Safety		Yes
	TUV GS		Yes
	Nordic Safety		Yes
	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	

External AC Adapter	Weight	0.65 lb (0.29 kg) (adapter)	
		0.29 lb (0.13 kg) (power cord)	
Power Supply (Input)	Operating Voltage		90 to 264 VAC RMS
	Operating Current		1.6 A RMS
	Operating Frequency Range		47 to 63 Hz AC
	Maximum Transient		4/50 kV
	Maximum Operating Power		65 Watts

Technical Specifications

Primary Lithium-Ion Battery Pack	Dimensions (H x W x L)	0.75 x 3.0 x 5.8 in (1.9 x 7.6 x 14.7 cm)		
	Weight	0.92 lb (0.42 kg)		
	Cells/Type	8-cell Lithium-Ion		
	Energy	Voltage	14.4 V	
		Amp-hour capacity	4.4 Ah	
		Watt-hour capacity	63Wh	
	Temperature	Operating	41° to 113° F (5° to 45° C)	
		Non-operating	32° to 140° F (0° to 60° C)	
	Battery Re-Charge Time	System in OFF mode or Standby	3 hours	
		System ON (depending on system power consumption)	3-5 hours	

Optional MultiBay Battery Pack	Dimensions (H x W x L)	0.5 x 5.2 x 5.45 in (1.3 x 13.2 x 13.9 cm)		
	Weight (includes caddy)	0.86 lb (0.39 kg)		
	Cells/Type	8-cell Lithium-Ion		
	Energy	Voltage	14.8 V	
		Amp-hour capacity	3.6 Ah	
		Watt-hour capacity	53Wh	
	Temperature	Operating	41° to 113° F (5° to 45° C)	
		Non-operating	32° to 140° F (0° to 60° C)	
	Battery Re-Charge Time	System in OFF mode or Standby	2-3 hours	
		System ON (depending on system power consumption)	3-5 hours	

15.0-Inch Color TFT XGA Display	Dimensions (H x W)	12.0 x 9.0 in (30.4 x 22.8 cm)		
	Diagonal Size	15.0 in (38.0 cm)		
	Mounting	Internal		
	Number of Colors	16 M		
	Contrast Ratio	250:1 typical		
	Refresh Rate	60 Hz		
	Brightness	180 nit typical		
	Pixel Resolution	Pitch	0.297 x 0.297 mm	
		Format	1024 x 768	
		Configuration	RGB Stripe	
	Backlight	CCFT		
	Character Display	80 x 25		
	Total Power Consumption	4 W		
Viewing Angle	±45° Horizontal, +15°/-35° Vertical (typical)			

Technical Specifications

15.0-Inch Color TFT SXGA+ Display	Dimensions (H x W)	12.0 x 9.0 in (30.4 x 22.8 cm)		
	Diagonal Size	15.0 in (38.0 cm)		
	Mounting	Internal		
	Number of Colors	16 M		
	Contrast Ratio	300:1 typical		
	Refresh Rate	60 Hz		
	Brightness	180 nit typical		
	Pixel Resolution	Pitch	0.217 x 0.217 mm	
		Format	1400 x 1050	
		Configuration	RGB Stripe	
	Backlight	CCFT		
	Character Display	80 x 25		
	Total Power Consumption	4 W		
	Viewing Angle	±60° Horizontal, +40°/-45° Vertical (typical)		

15.0-Inch Color TFT UXGA Display	Dimensions (H x W)	12.0 x 9.0 in (30.4 x 22.8 cm)		
	Diagonal Size	15.0 in (38.0 cm)		
	Mounting	Internal		
	Number of Colors	16 M		
	Contrast Ratio	300:1 typical		
	Refresh Rate	60 Hz		
	Brightness	180 nit typical		
	Pixel Resolution	Pitch	0.190 x 0.190 mm	
		Format	1600 x 1200	
		Configuration	RGB Stripe	
	Backlight	CCFT		
	Character Display	80 x 25		
	Total Power Consumption	4 W		
	Viewing Angle	±60° Horizontal, +40°/-45° Vertical (typical)		

Technical Specifications

Hard Drives

80-GB 5400 rpm	MultiBay Drive Adapter	Dimensions (H x W x D)	0.5 x 5.21 x 4.97 in (1.27 x 13.25 x 12.61 cm)
		Weight	0.15 lb (70 g)
	Drive Weight	0.22 lb (102 g)	
	Capacity	80 GB	
	Height	0.74 in (9.5 mm)	
	Width	2.75 in (70 mm)	
	Interface	ATA-5, ATA security	
	Transfer Rate	Synchronous (maximum)	100 MB/s
	Seek Time	Single Track	2.5 ms
	(typical reads, including settling)	Average	12 ms
		Maximum	23 ms
	Rotational Speed	5400 rpm	
	Logical Blocks	156,301,488	
	Operating Temperature	41° to 131° F (5° to 55° C)	

60-GB 7200 rpm	MultiBay Drive Adapter	Dimensions (H x W x D)	1.27 x 13.25 x 12.61 cm (0.5 x 5.21 x 4.97 in)
		Weight	0.15 lb (70 g)
	Drive Weight	0.25 lb (115 g)	
	Capacity	60 GB	
	Height	0.74 in (9.5 mm)	
	Width	2.75 in (70 mm)	
	Interface	ATA-6, ATA security	
	Transfer Rate	Synchronous (maximum)	100 MB/s (Drive Capability)
	Seek Time	Single Track	3 ms
	(typical reads, including settling)	Average	10 ms
		Maximum	22 ms
	Rotational Speed	7200 rpm	
	Logical Blocks	117,210,240	
	Operating Temperature	41° to 131° F (5° to 55° C)	

Technical Specifications

60-GB 5400 rpm	MultiBay Drive Adapter	Dimensions (H x W x D)	1.27 x 13.25 x 12.61 cm (0.5 x 5.21 x 4.97 in)
		Weight	0.15 lb (70 g)
	Drive Weight	0.22 lb (102 g)	
	Capacity	60 GB	
	Height	0.74 in (9.5 mm)	
	Width	2.75 in (70 mm)	
	Interface	ATA-5, ATA security	
	Transfer Rate	Synchronous (maximum)	100 MB/s (Drive Capability)
	Seek Time	Single Track	3 ms
	(typical reads, including settling)	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)		

40-GB 5400 rpm	MultiBay Drive Adapter	Dimensions (H x W x D)	1.27 x 13.25 x 12.61 cm (0.5 x 5.21 x 4.97 in)
		Weight	0.15 lb (70 g)
	Drive Weight	0.22 lb (102 g)	
	Capacity	40 GB	
	Height	0.74 in (9.5 mm)	
	Width	2.75 in (70 mm)	
	Interface	ATA-5, ATA security	
	Transfer Rate	Synchronous (maximum)	100 MB/s (Drive Capability)
	Seek Time	Single Track	3 ms
	(typical reads, including settling)	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)		

CD-ROM Drive	Dimensions	0.5 x 5.22 x 5.46 in (1.35 x 13.28 x 13.88 cm)		
	Weight	0.496 lb (225 g)		
	Access Times	Random	<110 ms CD	
		Full Stroke	<220 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		
	Media Capacity	650MB		
Transport	Tray Loading			

Technical Specifications

DVD-ROM Drive	Dimensions	0.5 x 5.22 x 5.46 in (1.35 x 13.28 x 13.88 cm)	
	Weight	0.518 lb (235 g)	
	Access Times	Random	<110 ms CD
			<125 ms DVD
		Full Stroke	<175 ms CD
			<225 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, DVD-RAM	
	Supported Media (write)	None	
	Media Capacity	4.7 GB	
Transport	Tray Loading		

DVD/CD-RW Drive	Dimensions	0.5 x 5.22 x 5.46 in (1.35 x 13.28 x 13.88 cm)	
	Weight	0.551 lb (250 g)	
	Access Times	Random	<110 ms CD
			<130 ms DVD
		Full Stroke	<210 ms CD
			<225 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, DVD-RAM	
Supported Media (write)	CD-R, CD-RW		
Media Capacity	4.7 GB		
Transport	Tray Loading		

Technical Specifications

DVD+RW Drive	Dimensions	0.5 x 5.22 x 5.46 in (1.35 x 13.28 x 13.88 cm)		
	Weight	0.551 lb (250 g)		
	Access Times	Random	<175 ms	CD
			<230 ms	DVD
		Full Stroke	<285 ms	CD
			<335 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	
		8X CD-RW	1,200 KB/s	
		2X DVD+R	2,700 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			
Media Capacity	4.7 GB			
Transport	Tray Loading			

MultiBay Diskette Drive	Dimensions (H x W x D)	0.5 x 5.22 x 5.46 in (1.35 x 13.28 x 13.88 cm)		
	Weight	0.51 lb (230 g)		
	Diskette Size	3.5 in		
	Height	12.7 mm		
	Bytes per Sector	512		
	Sectors per track	High density	18	(1.44 MB)/15 (1.2 MB)
		Low density	9	
	Tracks per side	High density	80	(1.44 MB)/80 (1.2 MB)
		Low density	80	
	Read/Write heads	2		
	Access Times	Track-to track (high/low)	3 ms/6 ms	
		Average (high/low)	94 ms/174 ms	
Settling time		15 ms		
Latency average		100 ms		

Audio

Hardware	Implementation	AC97 CODEC
	Audio Signal Link to CPU	Audio CODEC (AC) link
	Full Duplex	Yes
	Stereo Inputs	Line In – 20K Impedance (with Port Replicator only)
	Mono Inputs	Microphone – 20K Impedance
	Stereo Outputs	Headphone jack, S/PDIF from Port Replicator only

Technical Specifications

Audio Output Quality	Frequency Response	20 Hz - 20 kHz	
	Signal to Noise Ratio	>94dB	
	Total Harmonic Distortion	0.01%	
	Noise Floor	-120dB	
	Play/Record Sampling Rate(s)	7 kHz - 48 kHz	
	AD/DA Resolution	16 bit	
	<hr/>		
Mono Speaker	Amplifier Power	2-Watts RMS	
	Speaker Impedance	4-Ohms	
<hr/>			
Integrated 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	Windows XP Windows 2000 Linux kernel versions 2.2 and 2.4	
	<hr/>		

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
	Modem Device Driver Name	Agere Systems AC'97 Modem
	Data Mode Capabilities	High speed 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

Technical Specifications

Agency Approvals

Details at: <http://www.hp.com/go/notebooks/wlan>

*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)

HP W500 802.11a/b/g WLAN	Wireless LAN Standards	IEEE 802 Part 11a (802.11a) IEEE 802. Part 11b (802.11b) IEEE 802. Part 11g (802.11g)	
	Interoperability	Wi-Fi certified (details available at http://www.hp.com/go/notebooks/wlan)	
	Frequency Band	2.4 and 5 GHz	
	Data Rates	802.11a: 6, 9, 12, 18, 24, 36, 48, 54 Mbps 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	64- and 128-bit WEP encryption Support for WiFi Protected Access (WPA) including TKIP, MIC Hardware-accelerated support for the Advanced Encryption Standard (AES; 256-bit encryption) Support for 802.1x authentication types: EAP-TLS, LEAP (Cisco), PEAP (Microsoft implementation); more details available at http://www.hp.com/go/notebooks/wlan . 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 802.11a and 802.11b/g access points	
	Output Power	802.11b: 17 dBm (typical) 802.11g: 15 dBm (typical)	
	Power Consumption	Transmit: 2.0 W (max) Receive: 1.5 W (max) Sleep mode: 20 mW (max)	
	Power Management	ACPI compliant power management 802.11 Compliant Power Saving Mode Power Saving Mode selectable through the configuration utility	
	Receiver Sensitivity*	54 Mbps: -70 dBm to 1 Mbps: -90 dbm	
	Antenna type	High efficiency dual band antenna with polarization diversity, mounted in the display enclosure	
	Range	802.11a – Typical	500 feet – Outdoors Open Area 150 feet – Indoor, Office-environment
		802.11 b – Typical	1200 feet – Outdoor Open Area 300 feet – Indoor, Office environment
		802.11 g – Typical	1000 feet – Outdoor Open Area 200 feet – Indoor, Office environment
	Form Factor	MiniPCI Type IIIA	
	Weight	0.036 lb (16.5 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 (-25.5° to 70° C)	
Humidity	Operating	10% to 90%	
	Non-operating	5% to 95%	
Altitude	Operating	0 to 15,000 ft (4,572 m)	
	Non-operating	0 to 40,000 ft (12,192 m)	

Technical Specifications

Configuration Utility

Choice of Configuration Utility:

- Atheros Client Utility for Microsoft Windows 2000 or XP (required for Cisco Compatible Extensions support)
- Microsoft Windows XP Wireless Zero Configuration Utility

NOTE: May also be compatible with certain third party software supplicants.

LED Activity

LED Off - Radio OFF; Solid LED - Radio ON

Agency Approvals

Details at: <http://www.hp.com/go/notebooks/wlan>

*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)

Technical Specifications

<p>Intel PRO/Wireless 2100 802.11b WLAN</p>	<p>Wireless LAN Standards</p> <p>Interoperability</p> <p>Frequency Band</p> <p>Data Rates</p> <p>Modulation</p> <p>Security</p> <p>Sub-channels</p> <p>Media Access Protocol</p> <p>Network Architecture Models</p> <p>Roaming</p> <p>Output Power</p> <p>Power Consumption</p> <p>Power Management</p> <p>Receiver Sensitivity*</p> <p>Antenna type</p>	<p>IEEE 802. Part 11b (802.11b)</p> <p>Wi-Fi certified (details available at http://www.hp.com/go/notebooks/wlan)</p> <p>2.4 GHz</p> <p>802.11b: 1, 2, 5.5, 11 Mbps</p> <p>Direct Sequence Spread Spectrum DBPSK, DQPSK, CCK</p> <p>64- and 128-bit WEP encryption Support for WiFi Protected Access (WPA) including TKIP, MIC Hardware-accelerated support for the Advanced Encryption Standard (AES; 256-bit encryption) Support for 802.1x authentication types: EAP-TLS, LEAP (Cisco), PEAP (Microsoft implementation); more details available at http://www.hp.com/go/notebooks/wlan. Support for Cisco Security Features (proven compatibility with Cisco Aironet infrastructure products through the Cisco Compatible Extensions Program).</p> <p>Multinational support with frequency bands and channels compliant to local regulations.</p> <p>CSMA/CA (Collision Avoidance) with ACK</p> <p>Ad-hoc (Peer to Peer) Infrastructure (Access Point Required)</p> <p>IEEE 802.11 compliant roaming between 802.11b access points</p> <p>16 dBm (typical)</p> <p>Transmit: 2.0 W (max) Receive: 1.75 W (max) Sleep mode: 200 mW (max)</p> <p>ACPI compliant power management 802.11 Compliant Power Saving Mode</p> <p>11 Mbps: -82 dBm to 1 Mbps: -89 dBm</p> <p>High efficiency dual band antenna with polarization diversity, mounted in the display enclosure</p> <p>802.11 b – Typical</p>
		<p>1200 feet – Outdoor Open Area 300 feet – Indoor, Office environment</p>
<p>Form Factor</p> <p>Weight</p> <p>Dimensions</p> <p>Operating Voltage</p> <p>Temperature</p> <p>Humidity</p> <p>Altitude</p> <p>Configuration Utility</p>	<p>MiniPCI Type IIIA</p> <p>0.026 lb (11.75 g)</p> <p>0.20 x 1.75 x 2.34 in (4.9 x 44.6 x 59.8 mm)</p> <p>3.3v</p> <p>Operating 32° to 158° F (0° to 70° C) Non-operating -40° to 176° F (-40° to 80° C)</p> <p>Operating 10% to 90% Non-operating 5% to 95%</p> <p>Operating 0 to 10,000 ft (3,048 m) Non-operating 0 to 50,000 ft (15,240 m)</p> <p>Choice of Configuration Utility:</p> <ul style="list-style-type: none"> ● Intel ProSet for Microsoft Windows 2000 or XP (required for Cisco Compatible Extensions support) ● Microsoft Windows XP Wireless Zero Configuration Utility 	
<p>LED Activity</p> <p>Agency Approvals</p>	<p>LED Off - Radio OFF; Solid LED - Radio ON</p> <p>Details at: http://www.hp.com/go/notebooks/wlan</p>	

*Receiver sensitivity is measured at a packet error rate of 8% for 802.11b (CCK modulation) and a packet error rate of 10% for 802.11a/g (OFDM modulation)

Technical Specifications

Intel PRO/Wireless 2200BG 802.11b/g WLAN	Wireless LAN Standards	IEEE 802.11b IEEE 802.11g
	Interoperability	Wi-Fi certified (details available at http://www.hp.com/go/notebooks/wlan)
	Frequency Band	2.402 - 2.494 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	64 and 128 bit WEP encryption Support for WiFi Protected Access (WPA) including TKIP, MIC Support for 802.1x authentication types: EAP-TLS, LEAP (Cisco), PEAP (Microsoft implementation); more details available at http://www.hp.com/go/notebooks/wlan 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	16 ± 2 dBm for CCK 11 +6/-1 dBm for OFDM (power varies by data rate) Maximum output power may vary by country according to local regulations
	Power Consumption	Transmit: 1.8 Watts (max) Receive: 1.0 Watts (max) Idle mode: 75mW, nominal
	Power Management	ACPI compliant power management 802.11 Compliant Power Saving Mode
	Receiver Sensitivity*	54 Mbps: -72 dBm, 11 Mbps: -84 dBm, 1 Mbps: -94 dBm
	Antenna type	High efficiency dual band antenna with polarization diversity, mounted in the display enclosure
	Range (typical)	Outdoor 1200 feet at 1 Mbps 250 feet at 54 Mbps Indoor 300 feet at 1 Mbps 50 feet at 54 Mbps
	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 0 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	Choice of Configuration Utility: <ul style="list-style-type: none"> ● Intel ProSet for Microsoft Windows 2000 or XP (required for Cisco Compatible Extensions support) ● Microsoft Windows XP Wireless Zero Configuration Utility

NOTE: May also be compatible with certain third party software supplicants.

Technical Specifications

LED Activity	LED Off – Radio OFF; Solid LED – Radio ON
Agency Approvals	Details at http://www.hp.com/go/notebooks/wlan
*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).	

Bluetooth by HP	Form Factor	Integrated USB module
	Bluetooth	1.1 Compliant
	Dimensions	1.02 x 0.55 x 0.22 in (26 x 14 x 5.7 mm)
	Temperature	Operating -4° to 158° F (-20° to 70° C) Non-operating -40° to 176° F (-40° to 80° C)
	Humidity	10% to 90% operating 5% to 95% non operating
	Altitude	Operating 15,000 ft (4,572 m) Non-operating 40,000 ft (12,192 m)
	Plug and Play	USB 1.1 compliant Microsoft Windows Plug and Play compliant
	Frequency Band	2402 to 2480 MHz
	Number of Available Channels	79 (1 MHz) available channels
	Data Rates and throughput	1 Mbps 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
	Antenna type	Internally integrated within module
	Range	33 ft (10 m)
	OS Support	Microsoft Windows XP Professional and Home Microsoft Windows 2000
	Software Stack Supported	User may choose: Microsoft User Interface (Profiles supported: HID, DUN, HCRP) Widcomm User Interface (see profile support below)
	Profile Support	General Access Profile Service Discovery Application Profile Serial Port Profile Generic Object Exchange Profile File Transfer Profile Synchronization Profile Dial-Up Networking Profile LAN Access Profile Object Push Profile Hard Copy Cable Replacement Profile Personal Area Networking Profile Human Interface Device Profile
	Usage Models	Service Discovery (determine what Bluetooth devices are within range and support authorization) Synchronization PDAs to PCs Portable to Desktop File Transfer File and directory browsing and navigation on another Bluetooth device. File copying Object manipulation – including add, delete, create new folders etc. Wireless link to Corporate LAN using several Bluetooth devices sharing the same Access Point Corporate email, network neighborhood, access to LAN applications, file transfer, ftp,

Technical Specifications

	Internet browsing, etc., using TCP/IP
	Wireless link to WAN thru cell phone
	Agnostic to WAN technology
	Send/receive SMS messages
	Wireless link to Printer
	Adhoc peer to peer networking (two computers) or Personal Area Networking (PAN) using NDIS (< 7 computers)
	Adhoc Bluetooth Pico-networking (point to multi-point)
	Object Push – Business card or appointment exchange
	Human Interface Devices
	Wirelessly interface to notebook with mouse, keyboard, etc
	Printing
	Wirelessly print to Bluetooth enabled printers
Transmit Power	-6dBm to 4 dBm (Bluetooth Class II)
Receive Sensitivity	Better than -80 dBm at 0.1 % raw bit error rate
Link Topology	Point to Point, Multipoint Pico Nets up to 7 slaves
Security	Full support of Bluetooth Security Provisions
Network Architecture Models	Ad-hoc (Peer to Peer) Infrastructure (Access Points Required)
Power Requirement	Peak < 270 mW
Power Management	Microsoft Windows ACPI, and USB Bus Support Wireless EAB On/Off Software On/Off control Self configurable to optimize power conservation in all operating modes, including Standby, Hold, Park, and Sniff
Protocols Supported	TCP/IP IPX/SPX UDP
LED Activity	Solid Blue LED – On LED Off – Power Off
Certifications	All necessary regulatory approvals for countries we support 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

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