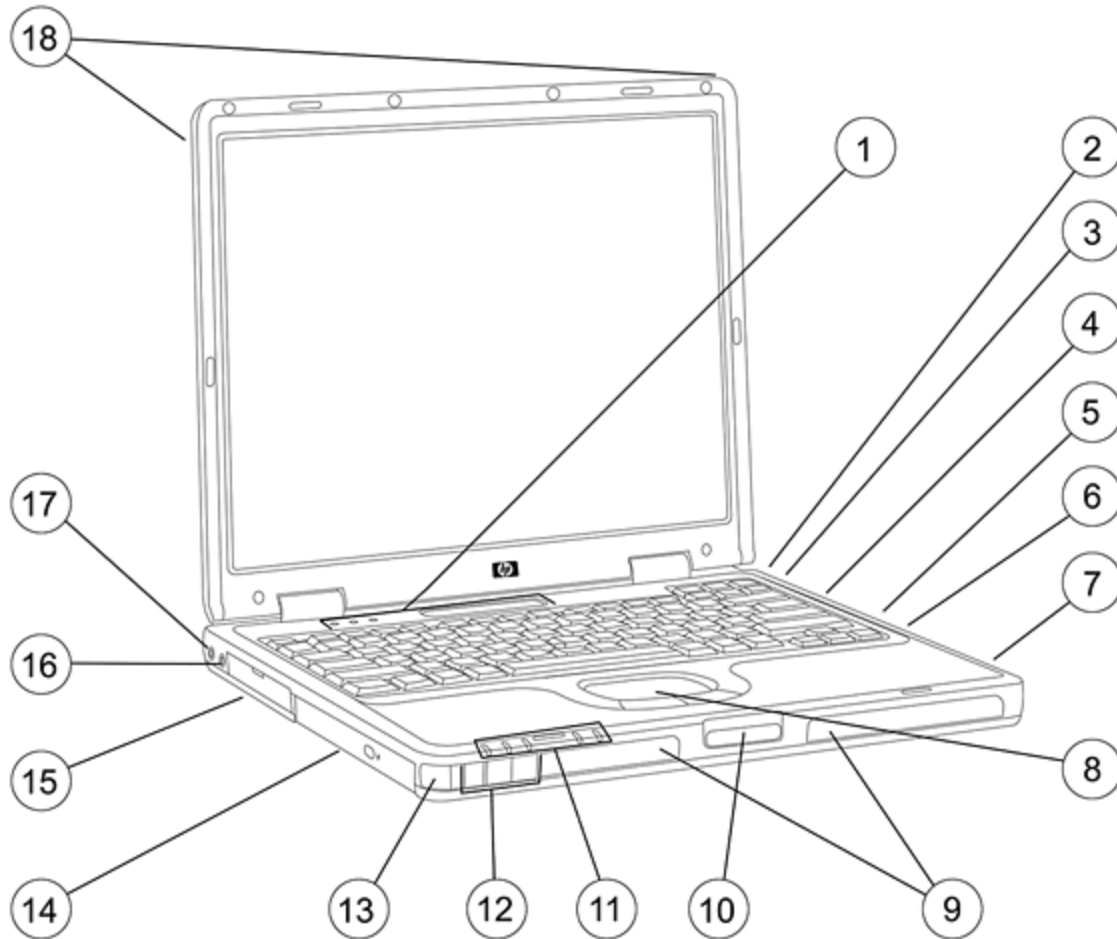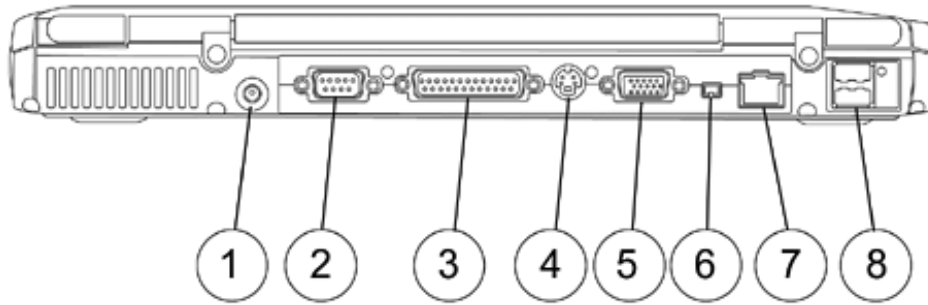# QuickSpecs

Overview

1. 3 Quick Launch Buttons (Quicklock, Wireless On/Off, Presentation), Power Button, LEDs (Num Lk, Caps Lk, Scroll Lk)
2. Security Lock
3. Bluetooth
4. RJ-11 Port
5. SD Slot
6. PC Card Slots
7. Battery
8. Touchpad
9. Speakers
10. Display Latch
11. Wireless, Power, Charge, Hard Drive, and MultiBay Drive Activity LEDs
12. Mute/Volume buttons
13. Infrared Port
14. MultiBay
15. Hard Drive
16. Microphone Jack
17. Headphone line-out
18. Dual-Band Display Antennas

Overview

1. Power Connector
2. Serial
3. Parallel
4. S-Video

5. VGA
6. IEEE-1394
7. RJ-45
8. USB 2.0 (2)

At A Glance

- Intel® Pentium® M Processors up to 2.0 GHz
  - Intel Celeron™ M up to 1.4-GHz
  - Intel 855GM chipset with 400-MHz front side bus
- Microsoft® Windows® XP Professional,
  Microsoft XP Home Edition
- FreeDOS™ and SUSE® Linux HP Edition 9.1 preinstalled
- Support for 14.1-inch and 15.0-inch display
- 266-MHz DDR SDRAM 2 SODIMM slots available – upgradeable to 2048 MB
- Up to 60-GB 4200 or 5400 rpm, user-removable hard drives.
- 10/100 Ethernet NIC
- Touchpad with right/left button
- Support for MultiBay devices
- Support for Basic Port Replicator and Advanced Port Replicator
- Protected by a One- or Three-Year, Worldwide Limited Warranty – certain restrictions and exclusions apply. Consult the HP Customer Support Center for details.

What's Special

- Sleek industrial design with weight starting at 5.44 lb (travel weight) and 1.38-inch thin
- Integrated Intel Extreme Graphics 2 with up to 64 MB of dynamically allocated shared system memory for graphics
- Up to 9 hours battery life with 8-cell standard Li-Ion battery and Multibay battery.
- Supports 14.1" XGA, 15" XGA & 15" SXGA+wva
- Flexibility with choice of Multibay Optical drives & accessories
- Broad range of connectivity support including integrated IEEE-1394, optional integrated 802.11b, 802.11 b/g, and 802.11 a/b/g wireless LAN modules, and Bluetooth
- Integrated Secure Digital (SD) flash media slot
- Preinstalled HP Mobile Printing driver makes on-the-go printing quick and easy

QuickSpecs

Standard Features

Processors	Intel Pentium M Processor 755* – 2.0 GHz, 2-MB L2 cache, 400-MHz Front Side Bus
	Intel Pentium M Processor 745 – 1.8 GHz, 2-MB L2 cache, 400-MHz Front Side Bus
	Intel Pentium M Processor 735 – 1.7 GHz, 2-MB L2 cache, 400-MHz Front Side Bus
	Intel Pentium M processor 725 – 1.6 GHz, 2M L2 cache, 400MHz Front Side Bus (FSB)
	Intel Pentium M processor 715 – 1.5 GHz, 2M L2 cache, 400MHz Front Side Bus (FSB)
	Intel Pentium M Processor 1.7 GHz with 1-MB L2 cache, 400-MHz Front Side Bus
	Intel Pentium M Processor 1.6 GHz with 1-MB L2 cache, 400-MHz Front Side Bus
	Intel Pentium M Processor 1.5 GHz with 1-MB L2 cache, 400-MHz Front Side Bus
	Intel Pentium M Processor 1.4 GHz with 1-MB L2 cache, 400-MHz Front Side Bus
	Intel Celeron M processor 310 – 1.2 GHz, 512-KB L2 cache, 400-MHz Front Side Bus (FSB)
	Intel Celeron M processor 320 – 1.3 GHz, 512-KB L2 cache, 400-MHz Front Side Bus (FSB)
	Intel Celeron M processor 330 – 1.4 GHz, 512-KB L2 cache, 400-MHz Front Side Bus (FSB)

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

Operating System *One of the following*	Microsoft Windows XP Professional
	Microsoft Windows XP Home Edition
	FreeDOS
	SUSE Linux HP Edition 9.1 preinstalled

Chipset	Intel 855GM chipset with 400-MHz front side bus and enhanced SpeedStep technology

Displays	Internal	14.1-inch TFT XGA with (1024x768) resolution (16M colors) 15.0-inch TFT XGA with (1024x768) resolution (16M colors) 15.0-inch TFT SXGA+ wide viewing angle with (1400x1050) resolution (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, or 1600 x 1200 resolutions up to 100-Hz refresh rate, dependent upon monitor capability, and resolution and color depth settings

NOTE: Durable PC-ABS plastic display enclosure.

Memory	Standard	Configurable from 128 to 512-MB 266-MHz DDR SDRAM (SODIMM in slot 1)
	Maximum	2048-MB 266-MHz DDR SDRAM (1024-MB SODIMMs in slots 1 and 2)

NOTE: Uses PC 2700 DDR 333-MHz memory module but system will only run at 266 MHz.
Due to the non-industry standard nature of some third-party memory modules, we recommend HP branded memory to ensure compatibility.

Communications	10/100 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.

QuickSpecs

Standard Features

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, brightness, display selection, 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 Business Notebook nx5000 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	Touchpad with right/left button
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	
Hard Drives	60-GB 5400 rpm SMART	
	40-GB 5400 rpm SMART	
	60-GB 4200 rpm SMART	
	40-GB 4200rpm SMART	
	30-GB 4200 rpm SMART	
Optical Drives	**MultiBay**	DVD+RW
		24X DVD/CD-RW
		8X DVD
		24X CD-ROM
Flash Media Storage	One integrated Secure Digital (SD) slot	

Multimedia

HP Premier Sound™ audio
Integrated SoundMAX with Pure Audio,16-bit Sound Blaster Pro-compatible audio
Two integrated JBL Pro branded stereo speakers
External volume and mute controls
Stereo Headphone/Line out
Stereo Microphone in
Software MPEG1 support
DVD movie playback software
DVD+RW Drive
24X DVD/CD-RW Combo Drive
8X DVD-ROM Drive
24X CD-ROM Drive

NOTE: HP Compaq nx5000 does not have internal microphone.

QuickSpecs

Standard Features

Interfaces	PC Card Slot	Two Type I/II or 1 Type III
	External Monitor	1
	Microphone in	1
	Headphone/Line out	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
	Docking Connector	1
	LED Status Indicators	10 (including 2 LEDs on the RJ45 plug)
	IEEE-1394	1 (4-pins)

Graphics	Integrated Intel Extreme Graphics 2 with up to 64 MB of shared system memory for graphics

Audio	HP Premier Sound 16 bit sound
	SoundMAX with Pure Audio
	2 JBL Pro branded Stereo Speakers
	Headphone out and microphone jacks
	Stereo Headphone/Line out and microphone jack

Software	Preinstalled Software	Adobe Acrobat Reader 6.0 HP Quick Launch Button Software HP Mobile Printing Driver HP Help and Support (XP Only) Synaptics Touchpad Driver WinDVD 4.0 – DVD Player (for optional DVD+RW, DVD/CDRW combo and DVD drives) (Software is loaded on the hard drive and must be installed by running the Setup Compaq Software utility.) Symantec Antivirus software 2003 (complimentary 60-day live update). Sonic RecordNow 6.5 (for optional DVD+RW and DVD/CDRW combo drives)
	Software Provided on CD	WinDVD Creator 2.0 – DVD Authoring (for optional DVD+RW drives)
	Additional Software Available from the Web Microsoft Windows 2000 drivers	

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.

QuickSpecs

Standard Features

Security	The HP nx5000 supports a range of standard security features including
	Configuration Control through F10 set-up
	Memory Change Alert
	Ownership Tag
	Setup Password
	Power-On Password
	DriveLock
	Kensington Lock Slot

Power Supply	External 65-watt AC adapter, 6-foot (1.8-meter) power cord included
	Total length including External AC adapter is 12 ft (3.66 m)

Battery	**Primary Batteries**	6-cell Lithium-Ion (4.4Ah) – standard
		8-cell Lithium-Ion (4.4Ah) – optional
	Secondary Battery (MutliBay)	8-cell Lithium-Ion (3.6Ah) – optional

QuickSpecs

Standard Features

Notebook Battery Life benchmark results		
Machine	HP Compaq nx5000	HP Compaq nx5000
Processor Speed	Celeron M - 1.3 GHz	Pentium M - 1.4 GHz
Memory size	512 MB	256 MB
Memory config	DDR	DDR
Graphics adapter/card	Intel 855GM	Intel 855GM
Graphics Memory	Auto	Auto
Resolution and color depth	XGA, 1024x768	XGA, 1024x768
LCD	**TFT 14.1"**	**TFT 14.1"**
Hard Drive	30 GB	30 GB
BIOS	F.03	F.03
OS	XP Pro, sp 1	XP Pro, sp 1
Battery	Li-Ion, 14.4V, 4.4Ah, 8-cell, 63Wh	Li-Ion, 14.4V, 4.4Ah, 8-cell, 63Wh
Dimensions in inches (test unit)	12.9" x 10.8" x 1.4"	12.9" x 10.8" x 1.4"
Weight in pounds (w/CD-RW)	5.8 (6-cell), 5.9 (8-cell)	5.8 (6-cell), 5.9 (8-cell)
Business Winstone 2004 v.1.0	13.4	10.7
SYSmark 2002	140	142
Internet content creation	157	165
Office productivity	125	122
3DMark2001SE	1776	1884
PCMark2002		
CPU Score	4293	4556
Memory Score	3485	4011
Hard Drive Score	531	492
MobileMark 2002 (8-cell)	4:33	4:53
With MultiBay & 8-cell batteries		
With 6-cell battery	3:20	3:53
Wireless on (802.11 & BT)	3:37	4:45
DVD/full brightness battery test		3:14
Jeita Battery Life test (8-cell)		4:28
Performance (under battery power)	158	148
Business Winstone 2004 Battery Mark 1.0 (hh:mm)		DNF
LCD max. brightness (Av of 5 readings) **in nits**	155	155
Comments	nx5000's tested are MV level Higher numbers = better performance. **MultiBay battery**, Li-ion, 14.8V, 3.6Ah, 8-cell 53 Wh **6-cell battery** Li-Ion, 10.8V, 4.4Ah, 48Wh Battery Test Settings: LCD brightness set to 7/10 clicks for MobileMark; power management scheme - laptop/portable, timers=never	

Standard Features

| Battery Re-Charge Time | **System in OFF mode or Standby** | 3 hours |
| | **System ON** (depending on system power consumption) | 3-5 hours |

Power Conservation

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

Hibernation

Instant-on via standby

ACPI compliance

NOTE: Enhanced Intel SpeedStep™ technology support is only on Intel Pentium-M processors.

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 nx5000 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
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
Intel PRO/Wireless 2100 802.11b wireless LAN	Intel Centrino mobile technology
	Integrated support for 802.11b
	Up to 11mbps throughput performance
HP W500 802.11a/b/g	Integrated support for 802.11a, b and g
	Up to 54 mbps throughput performance
	Advanced Encryption Standard (AES) support

NOTE: Wireless access point required and is not included. Availability of public wireless access points limited. Wireless Internet use requires separately purchased Internet service contract.

| **Integrated Bluetooth** | Designed to the Bluetooth v1.1 specification |

Standard Features

Docking

Basic Port Replicator and Advanced Port Replicator. HP's basic port replicator and advanced port replicator designs provide simple and convenient port management. Features include 10/100 NIC pass through, legacy parallel and serial ports, DVI, USB 2.0, and an IEEE-1394 port. These docking solutions are designed for expansion and meet a wide range of needs.

NOTE: nx5000 does not support 10/100/1000 gigabit NIC. Therefore, there is not support for 10/100/1000 gigabit LAN on the docking solutions.
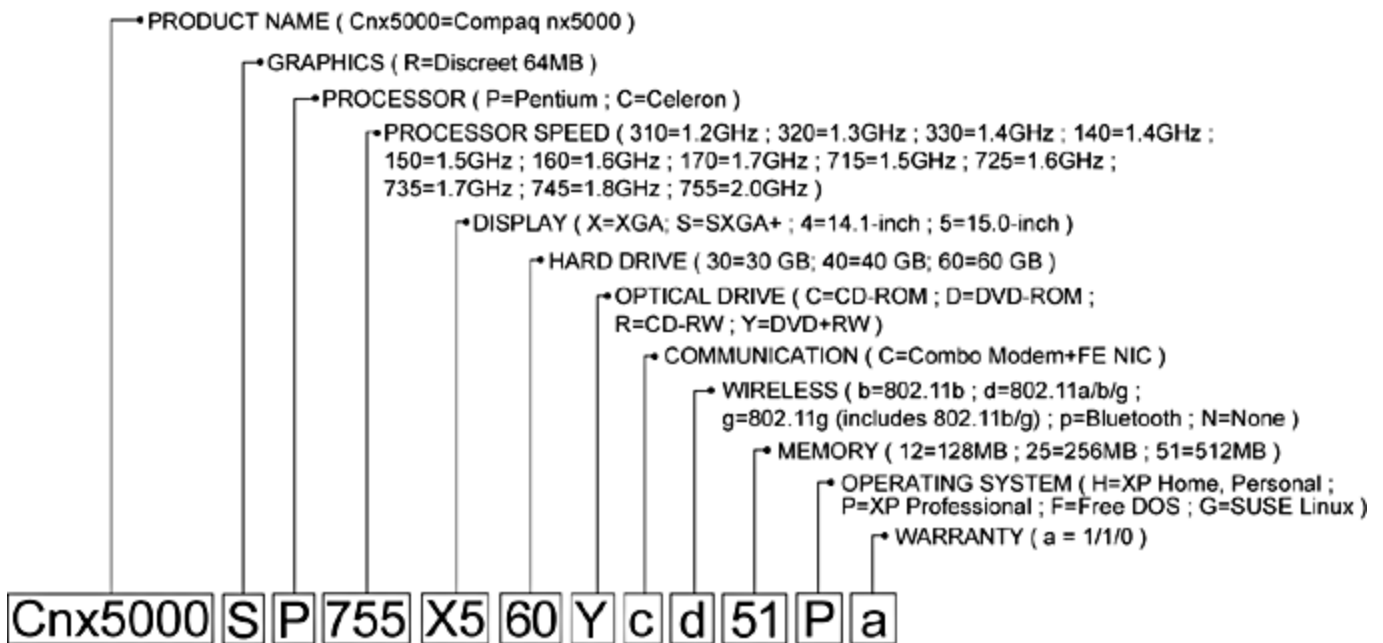
Service and Support

HP Services includes a one- or three-year, Worldwide Limited Warranty, pick-up or carry-in and toll-free 7 x 24 hardware technical phone support. On-site service is also available through HP Care Pack Services for the U.S. only.

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

Naming Convention

The Etymology of a Model name:

- PRODUCT NAME (Cnx5000=Compaq nx5000)
- GRAPHICS (R=Discreet 64MB)
- PROCESSOR (P=Pentium ; C=Celeron)
- PROCESSOR SPEED (310=1.2GHz ; 320=1.3GHz ; 330=1.4GHz ; 140=1.4GHz ; 150=1.5GHz ; 160=1.6GHz ; 170=1.7GHz ; 715=1.5GHz ; 725=1.6GHz ; 735=1.7GHz ; 745=1.8GHz ; 755=2.0GHz)
- DISPLAY (X=XGA; S=SXGA+ ; 4=14.1-inch ; 5=15.0-inch)
- HARD DRIVE (30=30 GB; 40=40 GB; 60=60 GB)
- OPTICAL DRIVE (C=CD-ROM ; D=DVD-ROM ; R=CD-RW ; Y=DVD+RW)
- COMMUNICATION (C=Combo Modem+FE NIC)
- WIRELESS (b=802.11b ; d=802.11a/b/g ; g=802.11g (includes 802.11b/g) ; p=Bluetooth ; N=None)
- MEMORY (12=128MB ; 25=256MB ; 51=512MB)
- OPERATING SYSTEM (H=XP Home, Personal ; P=XP Professional ; F=Free DOS ; G=SUSE Linux)
- WARRANTY (a = 1/1/0)

| Cnx5000 | S | P | 755 | X5 | 60 | Y | c | d | 51 | P | a |

QuickSpecs

Options

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
	NOTE: nx5000 notebook system will run at 266MHz max with DDR 333MHz memory module.	

MultiBay Hard Drives	80-GB 5400 rpm SMART Hard Drive	DC920A
	60-GB 5400 rpm SMART Hard Drive	DC894A
	40-GB 5400 rpm SMART Hard Drive	DC365A

MultiBay Storage Devices	DVD+RW	DG189A
	24X Combo DVD/CD-RW	DC364A
	24X CD-RW	DC921A
	8X DVD Drive	DC352A
	24X Max CD-ROM	DC351A
	Diskette Drive	DC362A

Communication	HP Integrated Module with Bluetooth® Wireless Technology	DQ883A

Other Storage Devices	HP 5GB PC Card	DF928A
	USB Diskette Drive	DC361A
	HP USB Digital Drive	DL702B
	HP USB Digital Drive with 128MB SD memory	DL702A
	128MB SD Card Memory	FA135A#AC3
	256MB SD Card Memory	FA136A#AC3
	512MB SD Card Memory	FA184A#AC3

Expansion Bases	Basic Port Replicator	DC367B#xxx
	Advanced Port Replicator	DC366B#xxx
	HP 4-port USB 2.0 Hub	DG954A
	External MultiBay	DC373A#B13
		DC373A#ABA

Power	8 Cell High Capacity Lithium-Ion Primary Battery	DG105A
	MultiBay Battery (8-cell)	DC889A

Common Power Solutions	External Battery Charger	DF933A#xxx
	5 Bay battery charger	DF932A#xxx
	AC Adapter 65W	DC359A#xxx
	Auto Power Adapter/Charger (90W)	DC303B
	Aircraft Power Cables (90W)	DC899A

QuickSpecs

Options

Input Devices	USB Travel Mouse (optical scroll mouse)	F2100A
	USB/PS2 Mouse	DC369A
	External 10-Key Numeric Keypad (PS/2)	DC854A
	USB/PS2 Keyboard	DC852A
	New Wireless Mouse & Keyboard	DL989A#ABA
	Belkin Dongle-free 1394 PC card	DD797A
Security	Biometric ID Device PC Card	DC859A
	Security Cable Lock	DC368A
	PC Card Smart Card Reader	DC350B
Carrying Cases	HP Entry Value Carrying case	DL617A
	HP Top Load Nylon Case	DC915A
	HP Top Load Leather Case	DC917A
	HP Executive Nylon Case	DC916A
	HP Sport Backpack	DG102A

QuickSpecs

Memory

HP Compaq nx5000 Business Notebook

Standard Memory Plus Optional Memory

Support for up to 2048 MB of 266-MHz DDR SDRAM memory is available with the installation of optional DDR SDRAM Memory Kits.

0 MB of memory on system board
Two slots total
One 256-MB or 512-MB DIMM installed in Slot 1
One additional open Memory Slot

NOTE: Two slots user accessible-located underneath the keyboard deck.
NOTE: notebook system will run at 266 MHz maximum with DDR 333-MHz memory module.

Memory	Slot 1	Slot 2
256 MB	256 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.

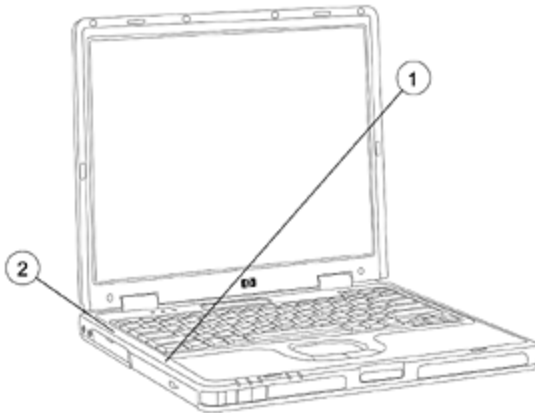| Memory	Slot 1	Slot 2
128 MB	128 MB	Empty
256 MB	256 MB	Empty
512 MB	256 MB	256 MB
512 MB	512 MB	Empty
768 MB	512 MB	256 MB
1024 MB	1024 MB	Empty
1024 MB	512 MB	512 MB
1280 MB	1024 MB	256 MB
1536 MB	1024 MB	512 MB
2048 MB	1024 MB	1024 MB

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.

Following are memory options available from HP:

- 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. MultiBay
2. Hard Drive

Removable Media Drive Support

System Drive Support	Quantity Supported	Drive Bay Supported
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
1.44-MB Diskette Drive	Up to 1	MultiBay

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

Hard Drive Support

System Drive Support	Quantity Supported	Drive Bay Supported
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
60-GB 4200 rpm SMART Hard Drive	Up to 2	Dedicated hard drive bay and/or MultiBay
40-GB 4200 rpm SMART Hard Drive	Up to 2	Dedicated hard drive bay and/or MultiBay
30-GB 4200 rpm SMART Hard Drive	Up to 2	Dedicated hard drive bay and/or MultiBay

QuickSpecs

Technical Specifications

System Unit	Dimensions (HxWxD)	14.1-inch and 15.0-inch TFT panel display support	1.38/1.44 x 12.83 x 10.83 in (35.2/36.7 x 326 x 275 mm)
	Weight	With 6-cell std battery & MultiBay weight saver	5.44 lb (2.51 kg) with 14.1-inch display
			5.75 lb (2.61 kg) with 15.0-inch display
		With 6-cell std battery & MultiBay DVD-ROM drive	6.00 lb (2.72 kg) with 14.1-inch display
			6.21 lb (2.82 kg) with 15.0-inch display
		With 8-cell primary battery & MultiBay DVD-ROM drive	6.19 lb (2.81 kg) with 14.1-inch display
			6.41 lb (2.91 kg) with 15.0-inch display

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	10.8V (on 6-cell battery)
			14.4V (on 8-cell battery)
			18.5V (on AC power)
		Average Operating Power	10.5W (on battery)
			16W (on AC power)
		Peak Operating Power	65W
		Power in suspend mode	< 400 mW
		Power in hibernation mode	< 50 mW
	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 wet bulb temperature
	Shock	Operating	50 G, 2 ms, half-sine
		Non-operating	175 G, 2 ms, half-sine
	Random Vibration	Operating	0.75 grms
		Non-operating	1.50 grms
	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
	Altitude	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)
	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
		Energy Star	Yes
		Canadian Safety	Yes
		CSA (Canada)	Yes
		TUV GS	Yes
		Nordic Safety	Yes
		Mexican Safety	Yes
		Poland Compliance	Yes
		Australia/NZ Compliance	Yes
		CCC	Yes
		Taiwan Greenmark	Yes
		Japan Compliance	Yes
		MIC	Yes
		BSMI	Yes
		CE Marking Compliance	Yes

Technical Specifications

		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

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	0.75 lb (0.34 kg)	
	Cells/Type	6-cell Lithiurn-Ion	
	Energy	Voltage	11.1V
		Amp-hour capacity	4.4 Ah
		Watt-hour capacity	48Wh
	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

Optional High Capacity 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	0.94 lb/0.43 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	2-3 hours
		System ON (depending on system power consumption)	3-5 hours

Technical Specifications

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 (–20° 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

14.1-Inch Color TFT XGA Display	Dimensions (H x W)	11.2 x 8.4 in (28.6 x 21.4 cm)	
	Diagonal Size	14.1 in (35.7 cm)	
	Mounting	Internal Panel Supports, Side Mounted	
	Number of Colors	16 M	
	Contrast Ratio	250:1 typical	
	Refresh Rate	60 Hz	
	Brightness	150 nit typical (min)	
	Pixel Resolution	Pitch	0.279 x 0.279 mm
		Format	1024 x 768
		Configuration	RGB stripe
	Backlight	CCFT	
	Character Display	80 x 25	
	Total Power Consumption	4W	
	Viewing Angle	±45° degrees Horizontal, +15°/-35° Vertical (typical)	

15.0-Inch Color TFT XGA Display	Dimensions (H x W x L)	11.8 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	150 nit typical	
	Pixel Resolution	Pitch	0.297 x 0.297 mm
		Format	1024x 768
		Configuration	RGB Stripe
	Backlight	CCFT	
	Character Display	80 x 25	
	Total Power Consumption	5.5 W	
	Viewing Angle	±40° degrees Horizontal, +20°/-40° Vertical (typical)	

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Technical Specifications

15.0-Inch Color TFT SXGA+ with wide viewing angle Display	**Dimensions** (H x W x L)	11.8 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	150 nit typical	
	Pixel Resolution	Pitch	0.204 x 0.204 mm
		Format	1400x 1050
		Configuration	RGB Stripe
	Backlight	CCFT	
	Character Display	80 x 25	
	Total Power Consumption	6 W	
	Viewing Angle	±60° degrees Horizontal, +40°/-60° Vertical (typical)	

Technical Specifications

Hard Drives

60-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	60 GB	
	Height	0.374 in (9.5 mm)	
	Width	2.75 in (70 mm)	
	Interface	ATA-5	
	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	MultiBay Drive Adapter	Dimensions (H x W x D)	0.5 x 5.21 x 4.97 in (.27 x 13.25 x 12.61 cm)
		Weight	0.15 lb (70 g)
	Drive Weight	0.22 lb (102 g)	
	Capacity	40 GB	
	Height	0.374 in (9.5 mm)	
	Width	2.75 in (70 mm)	
	Interface	ATA-5	
	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

60-GB 4200 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	60 GB	
	Height	0.37 in (9.5 mm)	
	Width	2.75 in (70 mm)	
	Interface	ATA-5	
	Transfer Rate	Synchronous (maximum)	100 MB/s (Drive Capability)
	Seek Time (typical reads)	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	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	40 GB	
	Height	0.374 in (9.5 mm)	
	Width	2.75 in (70 mm)	
	Interface	ATA-5	
	Transfer Rate	Synchronous (maximum)	100 MB/s (Drive Capability)
	Seek Time (typical reads, including settling)	Single Track	3.0 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	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	30 GB	
	Height	0.374 in (9.5 mm)	
	Width	2.75 in (70 mm)	
	Interface	ATA-5	
	Transfer Rate	Synchronous (maximum)	100 MB/s (Drive Capability)
	Seek Time (typical reads, including settling)	Single Track	2.5 ms
		Average	12 ms
		Maximum	23 ms
	Rotational Speed	4200 rpm	
	Logical Blocks	58,605,120	
	Operating Temperature	41° to 131° F (5° to 55° C)	
	Features	ATA security	

Removable Storage Drives – MultiBay

DVD+RW Drive	Dimensions	0.5 x 5.21 x 4.97 in (1.27 x 13.25 x 12.61 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
		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	
	Max Media Capacity (read)	4.7GB	
	Max Media Capacity (write)	4.7GB	
	Transport	Tray Loading	

QuickSpecs

Technical Specifications

DVD/CD-RW Combo Drive	Dimensions	0.5 x 5.21 x 4.97 in (1.27 x 13.25 x 12.61 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
		24X CD-R	3,600 KB/s
		24X CD-RW	3,600 KB/s
		8X DVD-ROM	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-R, DVD+R, DVD-RW, DVD+RW, DVD-RAM	
	Supported Media (write)	CD-R, CD-RW	
	Max Media Capacity (read)	4.7GB	
	Max Media Capacity (write)	700MB	
	Transport	Tray Loading	

DVD-ROM Drive	Dimensions	0.5 x 5.21 x 4.97 in (1.27 x 13.25 x 12.61 cm)	
	Weight	0.518 lb (235 g)	
	Access Times	Random	<100 ms CD
			<125 ms DVD
		Full Stroke	<175 ms CD
			<225 ms DVD
	Max data transfer rate	24X-CD-ROM	3,600 KB/s
		24X-CD-R	3,600 KB/s
		24X-CD-RW	3,600 KB/s
		8X-DVD-ROM	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	
	Max Media Capacity (read)	4.7 GB	
	Max Media Capacity (write)	None	
	Transport	Tray Loading	

Technical Specifications

CD-ROM Drive	Dimensions	0.5 x 5.21 x 4.97 in (1.27 x 13.25 x 12.61 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	
	Max Media Capacity (read)	700MB	
	Max Media Capacity (write)	None	
	Transport	Tray Loading	

MultiBay Diskette Drive	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	0.551 lb (250 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)
			Microphone - 20K Impedance
		Stereo Outputs	Headphone jack, S/PDIF from Port Replicator only
	Audio Output Quality	Frequency Response	20 Hz – 20 kHz
		Signal to Noise Ratio	>90dB
		Total Harmonic Distortion	0.01%
		Noise Floor	-120dB
		Play/Record Sampling Rate(s)	7 kHz - 48 kHz
		AD/DA Resolution	16 bit
	2 JBL Pro Stereo Speakers	Amplifier Power	2-Watts RMS
		Speaker Impedance	4-Ohms

Technical Specifications

Communications

Integrated 10/100 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)
		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	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-578-S (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

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) 802.11a/g: 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 Non-operating	32° to 122° F (0° to 50° C) -14° to 158° F (-10° to 70° C)
	Humidity	Operating Non-operating	10% to 90% 5% to 95%
	Altitude	Operating Non-operating	0 to 15,000 ft (4,572 m) 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

Intel Pro/Wireless 2100 802.11b WLAN		
Wireless LAN Standards	IEEE 802. Part 11b (802.11b)	
Interoperability	Wi-Fi certified (details available at http://www.hp.com/go/notebooks/wlan)	
Frequency Band	2.4 GHz	
Data Rates	802.11b: 1, 2, 5.5, 11 Mbps	
Modulation	Direct Sequence Spread Spectrum DBPSK, DQPSK, CCK	
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 between 802.11b/g access points	
Output Power	16 dBM (typical)	
Power Consumption	Transmit: 2.0 W (max) Receive: 1.75 W (max) Sleep mode: 200 mW (max)	
Power Management	ACPI compliant power management 802.11 Compliant Power Saving Mode	
Receiver Sensitivity*	11 Mbps: -82 dBm to 1 Mbps: -89 dBm	
Antenna type	High efficiency dual band antenna with polarization diversity, mounted in the display enclosure	
Range	802.11 b – Typical	1200 feet – Outdoor Open Area 300 feet – Indoor, Office environment
Form Factor	MiniPCI Type IIIA	
Weight	0.026 lb (11.75 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 Non-operating	32° to 158° F (0° to 70° C) -40° to 176° F (-40° to 80° C)
Humidity	Operating Non-operating	10% to 90% 5% to 95%
Altitude	Operating Non-operating	0 to 10,000 ft (3,048 m) 0 to 50,000 ft (15,240 m)
Configuration Utility	Choice of Configuration Utility: • 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.	
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

Intel Pro/Wireless 2200BG 802.11b/g Network Connection	Form Factor	Mini PCI Type 3B (model WM3B2200BG)
	Dual Diversity Antenna	On-board dual diversity switching
	Frequency Band	2.4 to 2.497 GHz
	Modulation	CCK, DQPSK, DBPSK, OFDM
	Wireless Medium	2.4 GHz ISM: Direct Sequence Spread Spectrum (DSSS)
	Channels	Full 14 Channel Support. Multinational support with frequency bands and channels compliant to local regulations.
	Data Rates	802.11b: 1, 2, 5.5, 11Mbps 802.11g: 6, 9, 12, 18, 24, 36, 48, 54Mbps
	Indoor Range	100 ft (30 m) @ 11Mbps/300 ft (90 m) @ 1 Mbps
	Outdoor Range	400 ft (120 m) @ 11Mbps/1500 ft (460 m) @ 1 Mbps
	Transmit Output Power	18 dBm (typical) for 802.11b 15 dBm (typical) for 802.11g (varies with data rate)
	Operating Systems	Microsoft Windows XP Professional Microsoft Windows XP Home Edition Microsoft Windows 2000
	WECA	WiFi certification for 802.11b, 802.11g
	WHQL	Yes
	WLAN Standard	IEEE 802.11b, 802.11g
	Architecture	Infrastructure or ad hoc (peer-to-peer)
	Roaming	IEEE 802.11 compliant for seamless roaming between access points
	Security	LEAP, TKIP, 802.1x, EAP-TLS, 128-bit and 64-bit WEP

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 Edition 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	

Technical Specifications

		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, 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   NAP (Network Access Point), PANU (PAN User), PAN GN (Group Adhoc Network)

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

Technical Specifications