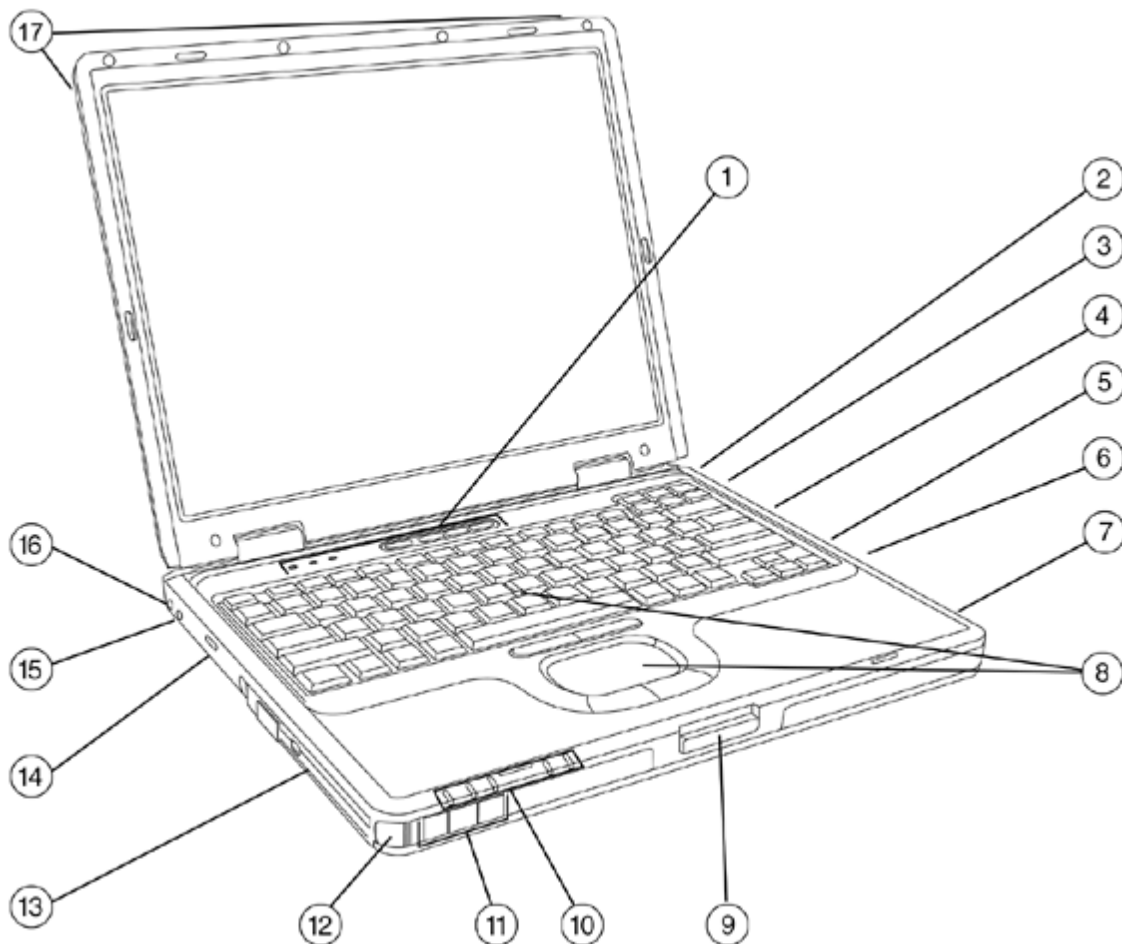
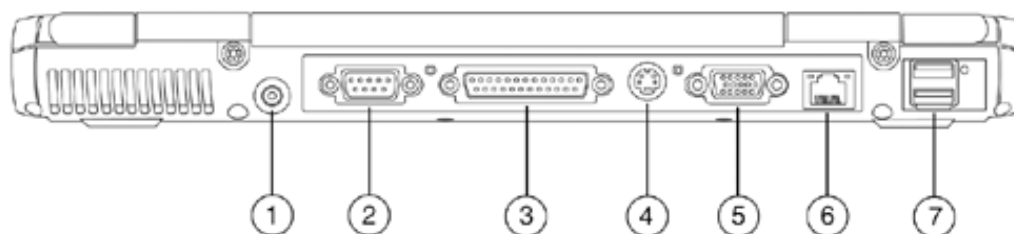


Overview



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



- | | |
|--------------------|----------------|
| 1. Power Connector | 5. VGA |
| 2. Serial | 6. RJ-45 |
| 3. Parallel | 7. USB 2.0 (2) |

Overview

4. S-Video

At A Glance

- Microsoft Windows XP Professional
- Intel® Pentium® M Processors
 - Intel 855PM chipset with 400MHz processor side bus
- From 256-MB DDR SDRAM to 2048 MB
- Up to 80-GB (5400 rpm), user-removable hard drives
- Gigabit Ethernet NIC
- Dual pointing devices
- Support for swappable MultiBay devices
- Magnesium alloy display enclosure
- Common Port Replicator and Advanced Port Replicator with Gigabit NIC pass-through
- Protected by a three-year, Worldwide Limited Warranty – certain restrictions and exclusions apply. Consult the HP Customer Support Center for details.

What's New

- Microsoft Windows XP Professional
- Sleek new industrial design weighing 4.96 lb (travel weight) and 1.27-inch thin
- ATI MOBILITY RADEON 9600 graphics controller with 32 or 64MB of Video RAM
- Optional integrated 802.11b, 802.11 b/g, and 802.11 a/b/g wireless LAN modules
- Support for Intel® Centrino™ technology (model dependent)
- Optional integrated Bluetooth
- Integrated Secure Digital (SD) flash media slot
- Security features include optional integrated Smart Card reader or optional HP Protect Tools Embedded Security

What's Special

- Flexible wireless LAN solutions
- Choice of optional integrated Smart Card reader or Embedded Security features
- Integrated Secure Digital (SD) flash media slot
- Up to 5 hours battery life with 6-cell (standard via BTO) Li-Ion battery, 8-cell battery also available for increased productivity
- HP Mobile Printing driver makes on-the-go printing quick and easy
- Support for Common Port Replicator and Advanced Port Replicator docking solutions with Gigabit NIC pass-through

Standard Features

Processors	Intel Pentium M processor 755* – 2.0GHz, 2MB L2 cache, 400 MHz 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 855PM Chipset NOTE: Intel Pentium M Processors support enhanced Intel SpeedStep™ technology. Processor speed denotes maximum performance mode; processors will run at approximately 600Mhz in battery optimization mode. * Intel's numbering is not a measurement of higher performance.
Operating System	Microsoft Windows XP Professional Microsoft Windows XP Home (model dependent)
Chipset	Intel 855PM Chipset with 400MHz processor side bus and enhanced SpeedStep technology
Display	Internal 14.1-inch TFT XGA with (1024x768) resolution (16M colors) 14.1-inch TFT SXGA+ 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
Memory	Standard 256-MB or 512-MB (333-MHz) DDR SDRAM (SODIMM in slot 1) Maximum 2048-MB (333-MHz) 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 high speed 56K modem 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.

Standard Features

Quick Launch Buttons The HP Compaq Business Notebook nc6000 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)

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
30-GB (4200 rpm) SMART
40-GB (5400 rpm) SMART
60-GB (5400 rpm) SMART
60-GB (7200 rpm) SMART
80-GB (5400 rpm) SMART

NOTE: The HP nc6000 hard drives are customer removable and will withstand multiple insertion/removal cycles.

Optical Drives MultiBay 4X DVD+RW
24x/24x/24x/8x DVD/CD-RW
8x DVD-ROM
24X CD-ROM

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 movie playback software
DVD+RW Drive
24X DVD/CD-RW Combo Drive
8X DVD-ROM Drive
24X CD-ROM Drive
DVD+/-RW 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
	Docking Connector	1
	LED Status Indicators	8

Graphics	ATI MOBILITY RADEON 9600 graphics controller with 32 or 64-MB DDR SDRAM 4X AGP Hardware support for DirectX 9.0 ATI Powerplay Technology
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Audio	Premier Sound 16-bit sound 2 Stereo Speakers Headphone out and microphone jacks
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Software	Preloaded Software for Microsoft Windows XP	Adobe Acrobat Reader HP Quick Launch Button Software HP Mobile Printing Driver HP Help and Support (XP Only) Synaptics Touchpad Driver Intervideo WinDVD - DVD Player (for optional DVD+RW, DVD+/-RW, DVD/CDRW and DVD drives)*
	Software on CD	Intervideo WinDVD Creator - DVD Authoring (for optional DVD+RW and DVD+/-RW drives) Roxio Easy CD Creator (for optional DVD+RW, DVD+/-RW, DVD/CDRW and CD-RW drives)
	Additional software available from the Web	HP Client Manager Software HP ProtectTools Embedded Security Manager HP ProtectTools Smart Card Security Manager HP Setup Utility

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

Standard Features

System Recovery for Microsoft Windows XP systems only 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.

Client Management Software 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 nc6000 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 PC/SC interface support

For more information on HP security solutions refer to <http://www.hp.com/go/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 meter).

Battery

Primary Batteries
6-cell Lithium-Ion (4.4Ah) – standard
8-cell Lithium-Ion (4.4Ah) – optional

Secondary Battery (MultiBay)
8-cell Lithium-Ion (3.6Ah) – optional

Standard Features

Battery Life

The HP Compaq Business Notebook nc6000 6-cell primary Lithium-Ion battery provides up to 5 hours of battery life.

The HP Compaq Business Notebook nc6000 8-cell optional primary high capacity Lithium-Ion battery provides up to 6.5 hours of battery life.

NOTE: Actual results may vary with product model, configuration, and individual usage. Hewlett-Packard testing of a HP Compaq nc6000 with an Intel Pentium M processor 735 1.7 GHz CPU, Windows XP Pro, 14.1-inch XGA LCD, 512-MB RAM, 40-GB HDD, 6-cell Lithium-Ion battery, and NIC/modem, achieved an overall Business Winstone® 2002 BatteryMark score of 5h 12m 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, not external devices connected and all wireless turned off.

NOTE: Actual results may vary with product model, configuration, and individual usage. Hewlett-Packard testing of a HP Compaq nc6000 with an Intel Pentium M processor 735 1.7 GHz CPU, Windows XP Pro, 14.1-inch XGA LCD, 512-MB RAM, 40-GB HDD, 8-cell Lithium-Ion battery, and NIC/modem, achieved an overall Business Winstone® 2002 BatteryMark score of 6h 53m 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, not external devices connected and all wireless turned off.

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 ATI PowerPlay technology Instant-on via standby ACPI compliance
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MultiBay Devices	MultiBay devices may be swapped with the system powered on (hot) under Microsoft Windows XP Professional or Windows 2000 (except MultiBay secondary hard drive).
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Standard Features

Wireless Devices

The HP nc6000 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 128-bit 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
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 2200 802.11 b/g wireless LAN	Intel® Centrino™ mobile technology Integrated support for 802.11b and g Up to 11mbps throughput performance
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 designs provide simple and convenient port management. Features include Gigabit NIC pass through, legacy parallel and serial ports, DVI, USB 2.0, and a 1394* port. These docking solutions are compatible across multiple Business Notebook platforms enabling a lower total cost of ownership.

NOTE:* The HP Compaq Business Notebook nc6000 does not support 1394 when docked.

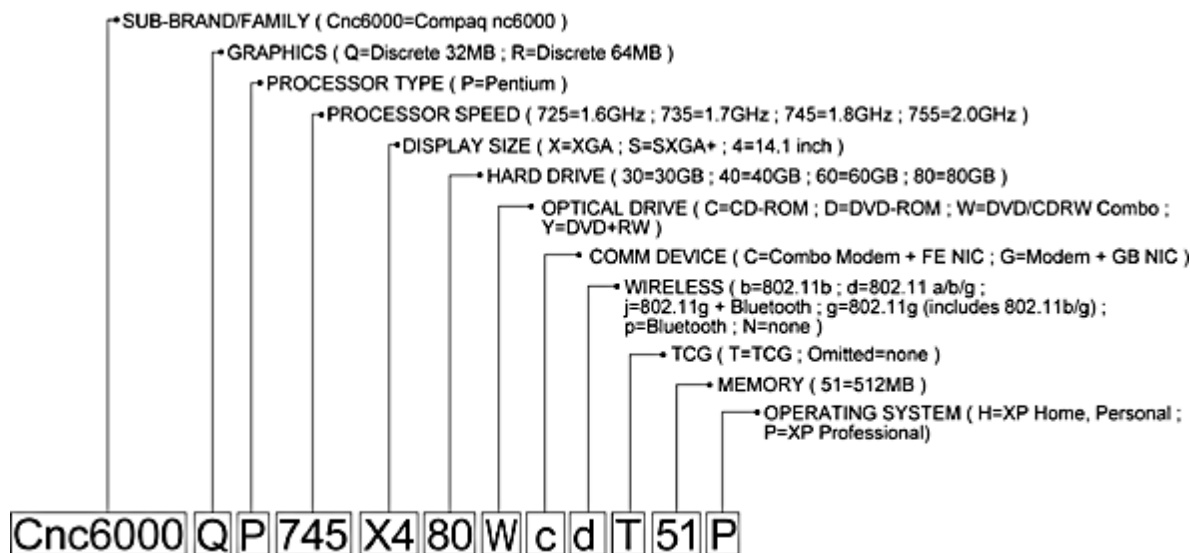
Service and Support

HP Services includes a three-year, Worldwide Limited Warranty, 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://h20000.www2.hp.com/bizsupport/TechSupport/ProductRoot.jsp>.

The Etymology of a Model name:

Standard Features



Models

Cnc6000QP745X460WCd51Pe
PG401UA#ABA

Processor	Intel Pentium M processor 745 1.8GHz, 2MB L2 cache, 400MHz Front Side Bus (FSB)
Operating System	Microsoft Windows XP Professional
Cache	2048 KB L2 cache
System Memory	Standard 512-MB (333-MHz) DDR SDRAM (512-MB SODIMM in slot 1) Maximum 2-GB (333-MHz) DDR SDRAM (1-GB SODIMM in slots 1 and 2)
Hard Drive	60GB (5400 RPM)
Display	14-inch color TFT XGA with (1024x768) resolution (up to 16.7M colors internal)
Graphics	ATI MOBILITY RADEON 9600 graphics controller Hardware support for DirectX 9.0
Video Memory	32MB
Audio	Premier Sound 16-bit sound, Line out/headphone and microphone jacks
Optical Drive	DVD/CD-RW Combo
Communications	High speed 56K modem, Integrated 10/100/1000 NIC
Integrated Wireless	802.11 a/b/g + Bluetooth
Embedded Security Chip	Yes
Integrated Smart Card Reader	NA
Pointing Device	Dual pointing devices (both Pointstick and Touchpad)
Battery	6-cell Lithium-Ion battery
Power	External 65W adapter

Standard Features

Warranty 3/3/0

Cnc6000QP170X440WGjT51Pe
PD468AA#ABA

Processor	Intel Pentium M processor 735 1.7GHz, 2MB L2 cache, 400MHz Front Side Bus (FSB)
Operating System	Microsoft Windows XP Professional
Cache	2048 KB L2 cache
System Memory	Standard 512-MB (333-MHz) DDR SDRAM (512-MB SODIMM in slot 1) Maximum 2-GB (333-MHz) DDR SDRAM (1-GB SODIMM in slots 1 and 2)
Hard Drive	40GB (5400 RPM)
Display	14-inch color TFT XGA with (1024x768) resolution (up to 16.7M colors internal)
Graphics	ATI MOBILITY RADEON 9600 graphics controller Hardware support for DirectX 9.0 4X AGP
Video Memory	32MB
Audio	Premier Sound 16-bit sound, Line out/headphone and microphone jacks
Optical Drive	DVD/CD-RW Combo
Communications	High speed 56K modem, Integrated 10/100/1000 NIC
Integrated Wireless	Intel Pro/Wireless 2200BG – 2.11b/g WLAN Bluetooth
Embedded Security Chip	Yes
Integrated Smart Card Reader	NA
Pointing Device	Dual pointing devices (both Point stick and Touchpad)
Battery	6-cell Lithium-Ion battery
Power	External 65W adapter
Warranty	3/3/0

Standard Features

Cnc6000QP160X440WGn25Pe
PD469AA#ABA

Processor	Intel Pentium M processor 725 1.6GHz, 2MB L2 cache, 400MHz Front Side Bus (FSB)
Operating System	Microsoft Windows XP Professional
Cache	1024 KB L2 cache
System Memory	Standard 256-MB (333-MHz) DDR SDRAM (256-MB SODIMM in slot 1) Maximum 2-GB (333-MHz) DDR SDRAM (1-GB SODIMM in slots 1 and 2)
Hard Drive	40GB (5400 RPM)
Display	14-inch color TFT XGA with (1024x768) resolution (up to 16.7M colors internal)
Graphics	ATI MOBILITY RADEON 9600 graphics controller Hardware support for DirectX 9.0 4X AGP
Video Memory	32MB
Audio	Premier Sound 16-bit sound, Line out/headphone and microphone jacks
Optical Drive	DVD
Communications	High speed 56K modem, Integrated 10/100/1000 NIC
Integrated Wireless	NA – available as an option
Embedded Security Chip	NA
Integrated Smart Card Reader	NA
Pointing Device	Dual pointing devices (both Point stick and Touchpad)
Battery	6-cell Lithium-Ion battery
Power	External 65W adapter
Warranty	3/3/0

Cnc6000QP160X440WGn51Pe
PD467AA#ABA

Processor	Intel Pentium M processor 725 1.6GHz, 2MB L2 cache, 400MHz Front Side Bus (FSB)
Operating System	Microsoft Windows XP Professional
Cache	1024 KB L2 cache
System Memory	Standard 512-MB (333-MHz) DDR SDRAM (512-MB SODIMM in slot 1) Maximum 2-GB (333-MHz) DDR SDRAM (1-GB SODIMM in slots 1 and 2)
Hard Drive	40GB (5400 RPM)
Display	14-inch color TFT XGA with (1024x768) resolution (up to 16.7M colors internal)
Graphics	ATI MOBILITY RADEON 9600 graphics controller Hardware support for DirectX 9.0 4X AGP
Video Memory	32MB
Audio	Premier Sound 16-bit sound, Line out/headphone and microphone jacks
Optical Drive	DVD/CD-RW Combo

Standard Features

Cnc6000QP160X440WGg51Pe
PL639UA#ABA

Communications	High speed 56K modem, Integrated 10/100/1000 NIC
Integrated Wireless	NA – available as an option
Embedded Security Chip	NA
Integrated Smart Card Reader	NA
Pointing Device	Dual pointing devices (both Point stick and Touchpad)
Battery	6-cell Lithium-Ion battery
Power	External 65W adapter
Warranty	3/3/0
Processor	Intel Pentium M processor 725 1.6GHz, 2MB L2 cache, 400MHz Front Side Bus (FSB)
Operating System	Microsoft Windows XP Professional
Cache	1024 KB L2 cache
System Memory	Standard 512-MB (333-MHz) DDR SDRAM (256-MB SODIMMs in slots 1 & 2) Maximum 2-GB (333-MHz) DDR SDRAM (1-GB SODIMM in slots 1 and 2)
Hard Drive	40GB (5400 RPM)
Display	14-inch color TFT XGA with (1024x768) resolution (up to 16.7M colors internal)
Graphics	ATI MOBILITY RADEON 9600 graphics controller Hardware support for DirectX 9.0 4X AGP
Video Memory	32MB
Audio	Premier Sound 16-bit sound, Line out/headphone and microphone jacks
Optical Drive	DVD
Communications	High speed 56K modem, Integrated 10/100/1000 NIC
Integrated Wireless	Intel PRO/Wireless 2200BG 802.11b/g WLAN
Embedded Security Chip	NA
Integrated Smart Card Reader	NA
Pointing Device	Dual pointing devices (both Point stick and Touchpad)
Battery	6-cell Lithium-Ion battery
Power	External 65W adapter
Warranty	3/3/0

Standard Features

Cnc6000QP755X460WGkT51Pe
PL644UA#ABA

Processor	Intel Pentium M processor 755 2.0GHz, 2MB L2 cache, 400MHz Front Side Bus (FSB)
Operating System	Microsoft Windows XP Professional
Cache	1024 KB L2 cache
System Memory	Standard 512-MB (333-MHz) DDR SDRAM (512-MB SODIMM in slot 1) Maximum 2-GB (333-MHz) DDR SDRAM (1-GB SODIMM in slots 1 and 2)
Hard Drive	60GB (5400 RPM)
Display	14-inch color TFT XGA with (1024x768) resolution (up to 16.7M colors internal)
Graphics	ATI MOBILITY RADEON 9600 graphics controller Hardware support for DirectX 9.0 4X AGP
Video Memory	32MB
Audio	Premier Sound 16-bit sound, Line out/headphone and microphone jacks
Optical Drive	DVD/CD-RW Combo
Communications	High speed 56K modem, Integrated 10/100/1000 NIC
Integrated Wireless	Intel PRO/Wireless 2200BG 802.11b/g WLAN + Bluetooth
Embedded Security Chip	Yes
Integrated Smart Card Reader	NA
Pointing Device	Dual pointing devices (both Point stick and Touchpad)
Battery	6-cell Lithium-Ion battery
Power	External 65W adapter
Warranty	3/3/0

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
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	263472-B25
MultiBay Storage Devices	DVD+RW Drive	DG189A
	24X Combo DVD/CD-RW Drive	DC364A
	8X DVD Drive	DC352A
	24X Max CD-ROM Drive	DC351A
	Diskette Drive	DC362A
Other Storage Devices	USB Digital Drive with 128MB SDRAM	DL702A
	USB Diskette Drive	230330-B25/ DC361B
Expansion Bases	Port Replicator	DC367B#ABA
	Advanced Port Replicator	DC366B#ABA
	External MultiBay	DC373A#ABA
	Monitor Stand	DC377A
Power	8-Cell Primary High Capacity Lithium-ion Primary Battery	DG105A
	MultiBay Battery	DC889A
Common Power Solutions	External Battery Charger	DF933A#ABA
	AC Adapter 65W	DC359A#ABA
	Auto Power Adapter/Charger	DC303B
	Aircraft Power Adapter	DC899A
	AC Line Cord (10 ft/3.1 m)	DC851B#ABA
Input Devices	Wireless Keyboard & Mouse	DL989A#ABA
	Keyboard & Mouse budle USB/PS2	DM687A#ABA
	External Keyboard (carbon) USB/PS2	DC852A#ABA
	2 Button Mouse (carbon) USB/PS2	DC369A

Options

Security	Security Cable Lock	DC368A
	HP Smart Card PC Card Reader	DC350B
<hr/>		
Carrying Cases	Top Load Nylon	DC915A
	Top Load Leather	DC917A
	Executive Nylon	DC916A
	HP Backpack	DG102A

Memory

Standard Memory Plus Optional Memory

Support for up to 2048 MB (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
- 1-256 MB or 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. MultiBay
2. Hard Drive

Removable Media

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

Hard Drive Support

System Drive Support	Quantity Supported	Drive Bay Supported
Primary Hard Drives		
30-GB (4200 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 (5400 rpm) SMART Hard Drive	Up to 2	Dedicated hard drive bay and/or MultiBay
80-GB (5400 rpm) SMART Hard Drive	Up to 2	Dedicated hard drive bay and/or MultiBay

Technical Specifications

System Unit	Dimensions (HxWxD)	14.1-inch TFT panel display	1.27/1.34 x 12.51 x 10.31 in (32.3/34.1 x 317.6 x 262.0 mm)
	Weight	With 6-cell std battery & MultiBay weight saver	4.962 lb (2.250 kg)
		With 6-cell std battery & MultiBay DVD-ROM drive	5.423 lb (2.460 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		10.8V (6-cell) 14.4 V (8-cell)
	Average Operating Power		10.5 W
	Peak Operating Power		65 W
	Power in suspended mode		<400 mW
	Power in hibernation mode		<50mW
	Temperature	Operating	
	Non-operating		-4° to 140° F (-20° to 60° C)
Relative Humidity	Operating		10% to 90%
	Non-operating		5% to 90%
Shock	Operating		50g, 2ms, half-sine
	Non-operating		175g, 2ms, half-sine
Random Vibration	Operating		0.75 grms
	Non-operating		1.50 grms
Maximum Altitude (unpressurized)	Operating		-50 to 10, 000 ft
	Non-operating		-50 to 40, 000 ft
Industry Standard Certifications	Blue Angel		No
	UL		Yes
	Energy Star		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	

Technical Specifications

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 Lithium-Ion		
	Energy	Voltage	11.1 V	
		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 (-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	

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 (includes caddy)	0.94 lb (0.43 kg)		
	Cells/Type	8-cell Lithium-Ion		
	Energy	Voltage	14.4 V	
		Amp-hour capacity	4.4Ah	
		Watt-hour capacity	63Wh	
	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	

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 x L)	11.2 x 8.4 in (28.6 x 21.4 cm)	
	Diagonal Size	14.1 in (35.7 cm)	
	Mounting	Internal	
	Number of Colors	16 M	
	Contrast Ratio	250:1 typical	
	Refresh Rate	60 Hz	
	Brightness	160 nit typical	
		NOTE: Brightness is listed as an average measurement and may vary among panels.	
	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	4 W		
Viewing Angle	±45° Horizontal, +15°/-35° Vertical (typical)		

Technical Specifications

14.1-Inch Color TFT SXGA+	Dimensions (H x W x L)	11.2 x 8.4 in (28.6 x 21.4 cm)		
	Diagonal Size	14.1 in (35.7 cm)		
	Mounting	Internal		
	Number of Colors	16 M		
	Contrast Ratio	250:1 typical		
	Refresh Rate	60 Hz		
	Brightness	180 nit typical		
		NOTE: Brightness is listed as an average measurement and may vary among panels.		
	Pixel Resolution	Pitch	0.204 x 0.204 mm	
		Format	1400 x 1050	
	Configuration	RGB Stripe		
Backlight	CCFT			
Character Display	80 x 25			
Total Power Consumption	4 W			
Viewing Angle	±40° Horizontal, +20°/-40° Vertical (typical)			

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 (Drive Capability)	
		Security	ATA Security	
	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)			

Technical Specifications

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	0.74 in (9.5 mm)	
	Width	2.75 in (70 mm)	
	Interface	ATA-5	
	Transfer Rate	Synchronous (maximum)	100 MB/s (Drive Capability)
		Security	ATA Security
	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	Security	ATA Security	

40-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	0.21 lb (99 g)	
	Capacity	40 GB	
	Height	0.74 in (9.5 mm)	
	Width	2.75 in (70 mm)	
	Interface	ATA-5	
	Transfer Rate	Synchronous (maximum)	100 MB/s (Drive Capability)
		Security	ATA Security
	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	Security	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		0.15 lb (99 g)
	Capacity		30 GB
	Height		0.74 in (9.5 mm)
	Width		2.75 in (70 mm)
	Interface		ATA-5
	Transfer Rate	Synchronous (maximum)	100 MB/s (Drive Capability)
		Security	ATA Security
	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)

Removable Storage Drives - MultiBay

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-R	3,600 KB/s	
		10X-CD-RW	1,500 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+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			

Technical Specifications

DVD/CD-RW	Dimensions	0.5 x 5.46 x 5.23 in (1.35 x 13.88 x 13.28 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	3600 KB/s	
		8X DVD	10,800 KB/s	
		24X CD-R	3600 KB/s	
		24X CD-RW	3600 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		
Max Media Capacity (read)	4.7GB			
Max Media Capacity (write)	700MB			
Transport	Tray loading			

Diskette Drive	MultiBay 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

Technical Specifications

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 Imped
	Stereo Outputs	Headphone jack, S/PDIF from Port Replicator only

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

Two Stereo Speakers	Amplifier Power	2-Watts RMS
	Speaker Impedance	4-Ohms

Communications

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

Technical Specifications

Drivers Available
 Microsoft Windows XP
 Microsoft Windows 2000
 Linux kernel versions 2.2 and 2.4

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/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

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>)



Technical Specifications

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	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 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 (-10° 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

*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)

Intel PRO/Wireless 2100 802.11b WLAN	Wireless LAN Standards	IEEE 802. Part 11b
	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
	Modulation	Direct Sequence Spread Spectrum DBPSK, DQPSK, CCK
	Security¹	Supports 64- and 128-bit WEP, WPA, 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 802.11b access points
	Output Power²	16 dBm
	Power Consumption	Transmit: 2.0 Watts (max) Receive: 1.7 Watts (max) Idle mode: 170 mW Sleep mode: 200mW (nominal)
	Power Management	ACPI compliant power management 802.11 Compliant Power Saving Mode
	Receiver Sensitivity³	11 Mbps: -82 dBm, 1 Mbps: -89 dBm
	Antenna type	High efficiency dual band antenna with polarization diversity, mounted in the display enclosure
		802.11 b – Typical 1200 feet – Outdoor Open Area (@1 Mbps) 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)

Technical Specifications

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 Utility⁴	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 Network Connection Manager 	
LED Activity	LED Off – Radio OFF; Solid LED – Radio ON	
	<ol style="list-style-type: none"> 1. Check latest software/driver release for updates on supported security features. 2. Maximum output power may vary by country according to local regulations. 3. Receiver sensitivity is measured at a packet error rate of 8% for 802.11b (CKK modulation) and a packet error rate of 10% for 802.11a/g (OFDM modulation). 4. WLAN supplier's client utility is required for Cisco Compatible Extensions support. WLAN may also be compatible with certain third party software supplicants. 	

Intel PRO/Wireless 2200BG 802.11b/g WLAN	Wireless LAN Standards	IEEE 802.11b IEEE 802.11g
	Interoperability	Wi-Fi certified Cisco Compatible Extensions Program compliant (details at http://www.hp.com/go/notebooks/wlan)
	Frequency Band	2.4 GHz
	Data Rates	802.11b: 1, 2, 5.5, 11 Mbps 802.11g: 6, 9, 12, 18, 24, 36, 48, 54 Mbps
	Modulation	Direct Sequence Spread Spectrum DBPSK, DQPSK, CCK, OFDM
	Security¹	Supports 64- and 128-bit WEP, WPA, WPA2, hardware-accelerated AES, 802.1x authentication types EAP-TLS, EAP-TTLS, PEAP-GTC, PEAP-MSCHAPv2, LEAP, EAP-FAST. Support for Cisco Security Features (proven compatibility with Cisco Aironet infrastructure products through the Cisco Compatible Extensions Program).
	Sub-channels	Multinational support with frequency bands and channels compliant to local regulations.
	Media Access Protocol	CSMA/CA (Collision Avoidance) with ACK
	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

Technical Specifications

Receiver Sensitivity³	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 III B	
Weight	0.026 lb (11.75 g) (max)	
Dimensions	0.20 x 1.75 x 2.34 in (4.9 x 44.6 x 59.8 mm)	
Operating Voltage	3.3v	
Temperature	Operating	32° to 158° F (0° to 70° C)
	Non-operating	-40° to 176° F (-40° to 80° C)
Humidity	Operating	10% to 90% (non-condensing)
	Non-operating	5% to 95% (non-condensing)
Altitude	Operating	0 to 10,000 ft (3,048 m)
	Non-operating	0 to 50,000 ft (15,240 m)
Configuration 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	1 Mbps data rate; throughput up to 720 Kbps Synchronous Connection Oriented links up to 3, 64 kbps, voice channels Asynchronous Connection Less links 723.2 kbps/57.6 kbps asymmetric or 433.9 kbps symmetric
Transmit Power	-6 dBm to 4 dBm (Bluetooth Class II)
Receiver Sensitivity	Better than -80 dBm at 0.1 % raw bit error rate
Power Consumption	Peak (Tx) 264 mW Peak (Rx) 231 mW Sleep <1 mW
Antenna	Internally integrated within module
Range	Up 33 ft (10 m)

Technical Specifications

Electrical Interface	USB 1.1 compliant Microsoft Windows Plug and Play compliant
OS Support	Microsoft Windows XP Professional and Home Microsoft Windows 2000
Bluetooth Software Supported	Widcomm Bluetooth for Windows Microsoft Windows XP Bluetooth Software
Link Topology	Point to Point, Multipoint Pico Nets up to 7 slaves
Security	Full support of Bluetooth Security Provisions
Power Management	Microsoft Windows ACPI, and USB Bus Support Self configurable to optimize power conservation in all operating modes, including Standby, Hold, Park, and Sniff
Certifications	All necessary regulatory approvals for supported countries, including: FCC (47 CFR) Part 15C, Section 15.247 & 15.249 ETS 300 328, ETS 300 826 Low Voltage Directive IEC950 UL, CSA, and CE Mark
Temperature	Operating -4° to 158° F (-20° to 70° C) Non-operating -40° to 176° F (-40° to 80° C)
Humidity	Operating 10% to 90% Non-operating 5% to 95%
Altitude	Operating 15,000 ft (4,572 m) Non-operating 40,000 ft (12,192 m)
Bluetooth Profiles Supported	(with Bluetooth for Windows 4.0 software) Serial Port Profile (SPP)* Dial-Up Networking (DUN)* Generic Object Exchange Profile (GOEP) Object Push Profile (OPP)* File Transfer Profile (FTP) Synchronization Profile (SYNC) Hard Copy Cable Replacement (HCRP)* Personal Area Networking Profile (PAN)* Human Interface Device Profile (HID)* FAX Profile (FAX) Basic Imaging Profile (BIP) Headset Profile (HSP) Hands Free Profile (HFP) Advanced Audio Distribution Profile (A2DP)

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

Technical Specifications

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