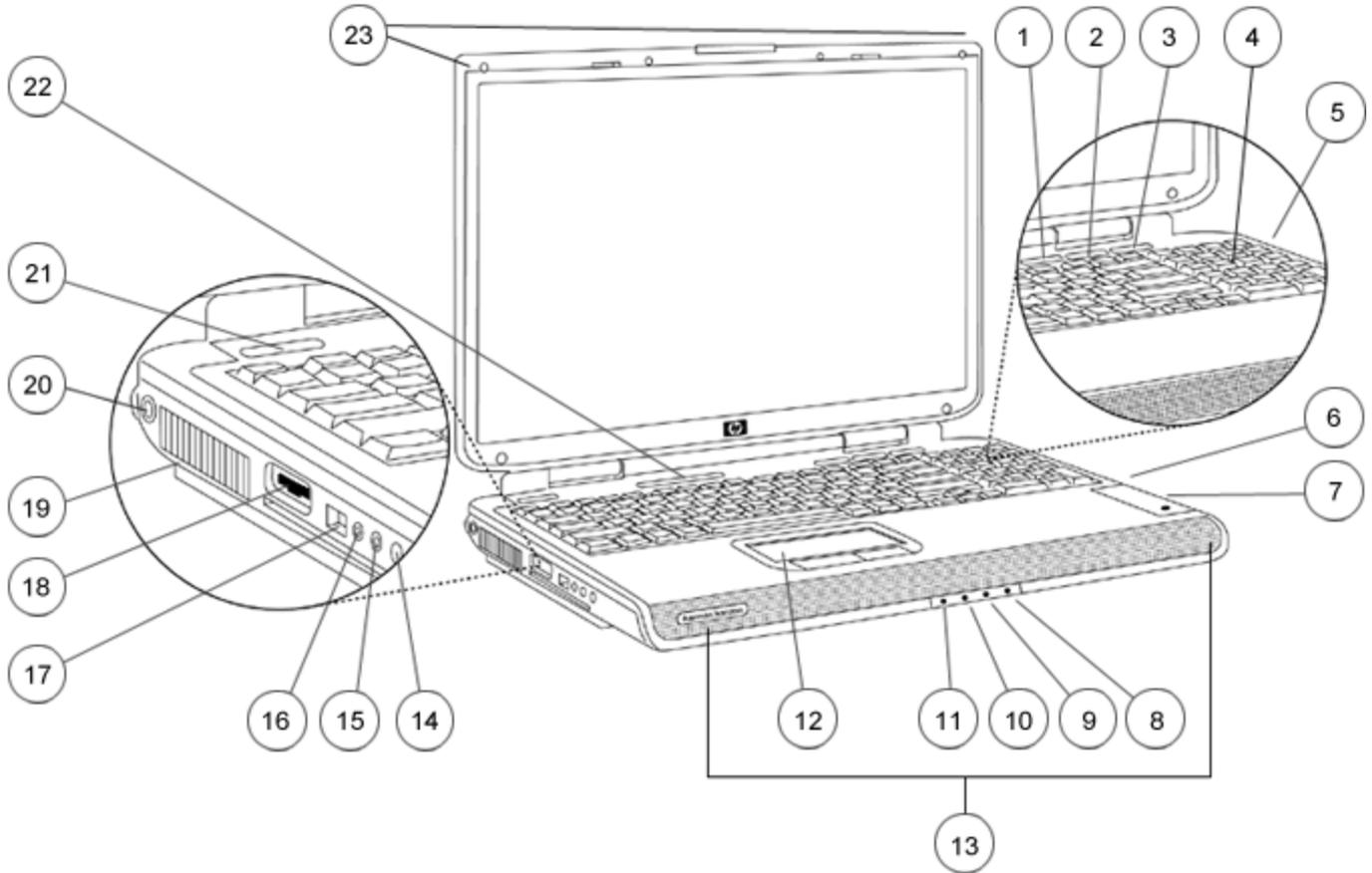
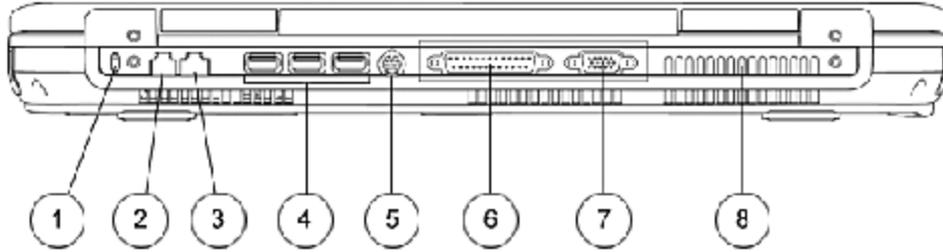


### Overview



- |  |                            |
|--|----------------------------|
| 1. Media Button                        | 13. Harman/Kardon Speakers |
| 2. Picture Button                      | 14. Headphones line-out    |
| 3. Wireless On/Off Button              | 15. Microphone jack        |
| 4. Full Numeric Keypad                 | 16. 1394 Port              |
| 5. PC Card Slot (1)                    | 17. USB Port (1)           |
| 6. Fixed Optical Drive                 | 18. Docking Connector      |
| 7. Five-in-One Media Slot and FIR port | 19. Vent                   |
| 8. Hard Drive LED                      | 20. Power Connector        |
| 9. Power Connector LED                 | 21. Power Button           |
| 10. Battery Charge LED                 | 22. Volume/Mute buttons    |
| 11. System Power LED                   | 23. Antenna                |
| 12. Touch Pad                          |                            |

### Overview



- |                    |                  |
|--------------------|------------------|
| 1. Kensington Lock | 5. S-Video       |
| 2. RJ-11 (modem)   | 6. Parallel Port |
| 3. RJ-45 (NIC)     | 7. VGA Video     |
| 4. USB Ports (3)   | 8. Air Vent      |

### At A Glance

- Intel® Pentium® 4 processor with Hyper-Threading Technology
- Microsoft Windows XP Professional
- 17-inch WXGA+ panel with 140-degree wide viewing angle and 16:10 aspect ratio
- NVIDIA GeForce Fx Go5700 high-end discrete graphics solution with 64 MB or 128 MB dedicated video memory
- 333-MHz DDR SDRAM, two SODIMM slots, upgradeable to 2048 MB
- 100GB, 4200 rpm or 80GB, 5400 rpm SMART
- Integrated 802.11g wireless LAN module
- Integrated five-in-one digital media reader
- Integrated IEEE-1394
- Full size keyboard with separate numeric keypad
- 10/100 Ethernet NIC
- 12-cell standard Li-Ion battery
- Touchpad with right/left button and vertical scroll bar
- Three Easy Access buttons provide one-touch access to commonly-used features
- Protected by a one-year, worldwide limited warranty - certain restrictions and exclusions apply. Consult the HP Customer Support Center for details.

### Standard Features

<b>Processor</b>	3.4-GHz Intel Pentium 4 processor with 800-MHz Front Side Bus, Intel Hyper-Threading Technology, and 512KB L2 cache 3.2-GHz Intel Pentium 4 processor with 800-MHz Front Side Bus, Intel Hyper-Threading Technology, and 512 KB L2 cache <b>Disclaimer:</b> Speeds listed for Intel processors are maximum performance levels on AC power. The processor speed is reduced to approximately 75% on battery power to optimize battery life. Please go to <a href="http://www.hp.com">http://www.hp.com</a> for more details on battery life conservation.
<b>Operating System</b>	Microsoft Windows XP Professional
<b>Chipset</b>	Intel 865PE + ICH5 chipset with 800-MHz Front Side Bus
<b>Display</b>	17.0-inch WXGA+ resolution (1440 x 900), 16:10 aspect ratio, 140-degree viewing angle, 16M colors. Features include integrated LVDS, Palette-DAC, and NTSC/PAL TV encoder <b>NOTE:</b> Durable PC-ABS plastic display enclosure. <b>External</b> 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. Up to 32-bit per pixel color depth.
<b>Memory</b>	<b>Standard</b> 333-MHz DDR SDRAM, two SODIMM slots Configurable from 512 MB to 1024 MB (SODIMM in slot 1) <b>Maximum</b> Upgradeable to 2048 MB (1024-MB SODIMMs in slots 1 and 2) <b>NOTE:</b> Due to the non-industry standard nature of some third-party memory modules, we recommend HP branded memory to ensure compatibility.
<b>Integrated communications</b>	10/100 Ethernet NIC 802.11g 56-K high speed modem with digital line guard <b>NOTE:</b> 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.
<b>Easy Access Buttons</b>	The HP Compaq nx9500 Business Notebook has three Easy Access buttons designed to provide one-touch access to commonly used features including Media, Picture and Wireless on/off buttons.
<b>Pointing Device</b>	Touchpad with right/left button and vertical scroll bar
<b>PC Card Slots</b>	One Type I/II/III PC Card Slot which supports both 32-bit CardBus and 16-bit PC Cards
<b>Flash Media Slots</b>	Five-in-one digital media slot – SD, MMC, Memory Stick, Memory Stick Pro, Smart Media <b>CAUTION:</b> This notebook PC does not support Memory Stick Duo Cards or Memory Stick Duo Adapters. Inserting one of these cards or adapters into your notebook PC can damage the memory card or adapter and/or the notebook PC.

### Standard Features

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<b>Storage</b>	<b>Hard Drives</b>	80-GB 5400 rpm SMART 100-GB 4200 rpm SMART
	<b>Fixed Optical Drives</b>	DVD/CD-RW combination DVD+RW
	<b>Flash Media Storage</b>	Five-in-one digital media reader supporting SD, MMC, Memory Stick, Memory Stick Pro, and Smart Media

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<b>Multimedia</b>	Premier Sound audio Integrated SoundMAX with Pure Audio, 16-bit Sound Blaster Pro-compatible audio Integrated Harman/Kardon® 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 DVD/CD-RW combination drive <b>NOTE:</b> No internal microphone.
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<b>Interfaces</b>	<b>PC Card</b>	One – Type I/II/III slot
	<b>External monitor</b>	One – VGA
	<b>External microphone</b>	One
	<b>Headphone/line out</b>	One
	<b>RJ-11</b>	One – modem
	<b>RJ-45</b>	One – NIC
	<b>Infrared</b>	One – 4 Mb/s port <b>NOTE:</b> IrDA 4-MB compliant. IR performance varies depending on the performance of IR peripherals and application used.
	<b>Enhanced Parallel EPP/ECP</b>	One
	<b>S-video out</b>	One, with support for NTSC/PAL
	<b>USB 2.0</b>	Four
	<b>IEEE-1394</b>	One – four-pin
	<b>LED status indicator</b>	Seven
	<b>Docking connector</b>	One
	<b>DC power</b>	One

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<b>Graphics</b>	NVIDIA GeForce Fx Go5700 high-end discrete graphics solution with either 64 MB or 128 MB of dedicated memory
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<b>Audio</b>	HP Premier Sound 16-bit audio SoundMAX audio with Pure Audio noise reduction Two Harman/Kardon-branded stereo speakers Headphone out and microphone jacks
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### Standard Features

<b>Software</b>	<b>Preinstalled Software</b>	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 and DVD/CD-RW combination drives)* Norton Antivirus 2004 software with complimentary 60-day Live Update Sonic RecordNow 6.5 (for optional DVD+RW and DVD/CD-RW combination drives)
	<b>Software Provided on CD</b>	WinDVD Creator 2.0 – DVD Authoring (for optional DVD+RW drives)
		* Software is loaded on the HDD and must be installed by running the Setup Compaq Software 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.

<b>Security</b>	<b>Standard Features</b>	Configuration control through F10 set-up utility Memory change alert Ownership tag Setup password Power-on password DriveLock Kensington Lock Slot
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**Power Supply** External AC adapter, 6-foot (1.8-meter) power cord included  
3.0-GHz processor – 120 W  
3.2-GHz processor – 135 W  
Total length (including external AC adapter) is 12 feet (3.66 m)

**Battery** 12-cell Lithium-Ion (95 Wh)

<b>Battery Re-Charge Time</b>	<b>System in OFF mode or Standby</b>	2 hours 45 minutes
	<b>System ON</b>	Depends on system loading

**Power Conservation** Hibernation  
Instant-on via standby  
ACPI compliance

**Wireless Devices** Broadcom integrated 802.11b/g wireless LAN solution  
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

### Standard Features

#### Docking

HP Notebook Expansion Base design provides simple and convenient port management. Features include 10/100 NIC pass through, legacy parallel and serial ports, 6 USB ports and an IEEE-1394 port. This docking solution is designed for expansion and meets a wide range of needs.

#### Service and Support

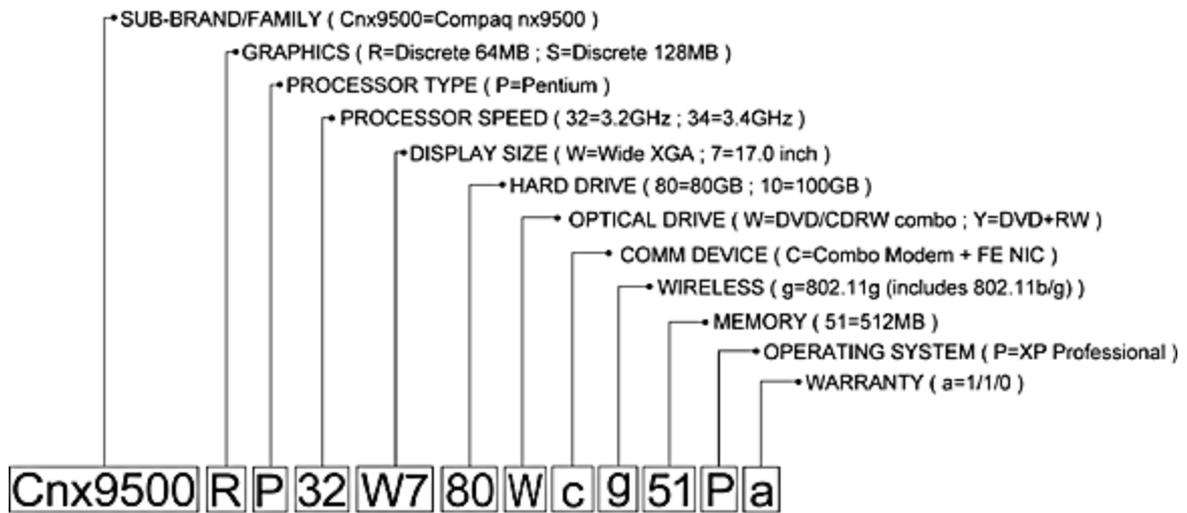
HP Services includes a one-year, worldwide limited warranty, pick-up or carry-in and toll-free 7 x 24 hardware technical phone support. On-site service\* is also available.

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

\*Available through HP Care Pack Services for US only.

#### Naming Convention

The Etymology of a Model name:



#### Models

Cnx9500RP320W780WGg51P

P/N PR039UA#ABA

<b>Processor</b>	3.2 GHz Intel Pentium
<b>Operating System</b>	Microsoft Windows XP Professional
<b>Display</b>	17-inch color TFT WXGA+ Wide Viewing Angle (1440x900) resolution
<b>Cache Memory</b>	512 KB, L2 Cache
<b>Standard Memory</b>	512 MB (1 DIMM) 333 MHz DDR
<b>Maximum Memory</b>	2048 MB (333 MHz) DDR
<b>Hard Drive</b>	80 GB (5400 rpm)
<b>Optical Drive</b>	DVD/CD-RW ROM Drive
<b>Communications</b>	56K high speed modem, integrated 10/100 NIC Integrated 802.11g Wireless LAN
<b>Graphics</b>	NVIDIA GeForce Fx Go5700 64MB discrete video memory
<b>Audio</b>	16-bit stereo sound Two Harman/Kardon stereo speakers
<b>Warranty</b>	One Year

### Standard Features

Cnx9500RP340W710Ygg10P  
P/N PR040UA#ABA

<b>Processor</b>	3.4 GHz Intel Pentium 4
<b>Operating System</b>	Microsoft Windows XP Professional
<b>Display</b>	17-inch color TFT WXGA+ Wide Viewing Angle (1440x900) resolution
<b>Cache Memory</b>	512 KB, L2 Cache
<b>Standard Memory</b>	1024 MB (2 DIMM) 333 MHz DDR
<b>Maximum Memory</b>	2048 MB (333 MHz) DDR
<b>Hard Drive</b>	100 GB (4200 rpm)
<b>Optical Drive</b>	DVD+RW ROM Drive
<b>Communications</b>	56K high speed modem, integrated 10/100 NIC Integrated 802.11g Wireless LAN
<b>Graphics</b>	NVIDIA GeForce Fx Go5700 128MB discrete video memory
<b>Audio</b>	16-bit stereo sound Two Harman/Kardon stereo speakers
<b>Warranty</b>	One Year

### Options

<b>Memory</b>	1024-MB 333-MHz DDR memory upgrade	DC890B
	512-MB 333-MHz DDR memory upgrade	DC390B
	256-MB 333-MHz DDR memory upgrade	DC389B
<b>Other Storage Devices</b>	USB 2.0 External 40 GB HD	DQ549A
	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
<b>Expansion Base</b>	HP Notebook Expansion Base with wireless keyboard and mouse	DN936A#ABA
	HP 4-port USB 2.0 Hub	DG954A
<b>Power</b>	135 W AC Adapter	DR910A#ABA
	12-cell Battery	DM841A
<b>Input Devices</b>	USB Travel Mouse (optical scroll mouse)	F2100A
	USB/PS2 Mouse, optical, 2 button scroll	DC369A
	USB/PS2 Keyboard	DC852A
	HP Wireless Mouse & Keyboard	DL989A#ABA
	Belkin Dongle-free 1394 PC card	DD797A
<b>Security</b>	Kensington Security Cable Lock	DC368A
	HP Smart Card PCMCIA – Reader w/SW and Card	DC350B
<b>Carrying Cases</b>	HP Sport Backpack	DG102A
	Universal Rolling Case	DQ791A

### Memory

#### HP Compaq nx9500 Business Notebook

Up to 2048 MB of 266-MHz DDR SDRAM memory  
Two DIMM slots (user accessible under the keyboard deck)  
DIMM sizes supported: 128 MB, 256 MB, 512 MB, or 1024 MB

#### Standard Memory

- 512 MB (512 MB x 1 or 256 MB x 2)
- 1024 MB (512 MB x 2)

#### Optional Memory Upgrades

Support for up to 2048 MB of memory is available (with the installation of optional DDR SDRAM memory upgrade kits)

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

**NOTE:** This chart does not represent all possible memory configurations.

**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.

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

### Storage

#### Removable Media Drive Support

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System Drive Support	Quantity Supported	Drive Bay Supported
DVD+RW	Up to one	Fixed bay
DVD/CD-RW combination drive	Up to one	Fixed bay

#### Hard Drive Support

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System Drive Support	Quantity Supported	Drive Bay Supported
80-GB 5400 rpm SMART hard drive	Up to one	Dedicated hard drive bay
100-GB 4200 rpm SMART hard drive	Up to one	Dedicated hard drive bay

### Technical Specifications

<b>System Unit</b>	<b>Dimensions (HxWxD)</b>	10.94 (11.34 with hinge) x 15.67 x 1.67 (front)/1.85 (rear) [inches] 27.79 (28.50 with hinge) x 39.80 x 4.24 (front)/4.70 (rear) [centimeters]	
	<b>Weight</b>	9.5 lb (4.3 kg)	
	<b>NOTE:</b> Height varies depending upon where on the notebook the measurement is made. Weight varies by configuration and components.		
	<b>Stand-Alone Power Requirements</b>	<b>Nominal Operating Voltage</b>	14.8V (on 12-cell battery) 18.5V (on AC power)
		<b>Average Operating Power</b>	10.5 W (on battery) 16 W (on AC power)
		<b>Peak Operating Power</b>	120 W or 125W (depending on CPU speed)
		<b>Power in suspend mode</b>	< 1 W
		<b>Power in hibernation mode</b>	< 50 mW
	<b>Temperature</b>	<b>Operating</b>	50° to 95° F (10° to 35° C)
		<b>Non-operating</b>	14° to 140° F (-10° to 60° C)
<b>Relative Humidity</b>	<b>Operating</b>	10% to 90% relative humidity, non-condensing	
	<b>Non-operating</b>	5% to 90% relative humidity, 101.6° F (38.7° C) Maximum wetbulb temperature	
<b>Shock</b>	<b>Operating</b>	40 G, 2 ms, half-sine	
	<b>Non-operating</b>	240 G, 2 ms, half-sine	
<b>Vibration</b>	<b>Operating</b>	0.5 G, 10 to 500 Hz, 0.5 Oct/Min sweep rate	
	<b>Non-operating</b>	1.0 G, 10 to 500 Hz, 0.5 Oct/Min sweep rate	
<b>Maximum Altitude (unpressurized)</b>	<b>Operating</b>	0 to 10,000 ft (3,048 m) (14.7 to 10.1 psia)	
	<b>Non-operating</b>	0 to 30,000 ft (9,144 m) (14.7 to 4.4 psia)	
<b>Industry Standard</b>	<b>Blue Angel</b>	No	
<b>Certifications</b>	<b>UL</b>	Yes	
	<b>Energy Star</b>	No	
	<b>Canadian Safety</b>	Yes	
	<b>CSA (Canada)</b>	No	

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<b>Keyboard</b>	<b>Keys</b>	102 including separate numeric keypad
	<b>Dimensions (L x W x H)</b>	14.42 x 4.69 x 0.24 in (36.63 x 11.91 x 0.61 cm)

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### Technical Specifications

<b>External AC Adapter</b> (PFC or non-PFC)	<b>Dimensions</b>	6.65 X 2.56 X 1.50 in (16.9 x 6.5 x 3.8 cm)	
	<b>Weight</b>	1.54 lb (700 g) 120W	
		1.65 lb (750 g) 135W	
	<b>Input</b>	100 to 240 VAC	
		<b>Input Efficiency</b>	83% min at 115 VAC
	<b>Output</b>	<b>Input frequency range</b>	47 to 63 Hz
		<b>Input AC current</b>	2.2 A at 90 VAC, 1.1 A at 180 VAC.
		<b>Output power</b>	120 W (3.0-GHz processor) 135 W (3.2- or 3.4-GHz processor)
		<b>DC output</b>	18.50V +3.75%/-2.70%
		<b>Hold-up time</b>	5 msec at 115 VAC input
		<b>Output current limit</b>	<8A, Over voltage protection- 29V max automatic shutdown
		<b>Connector</b>	3 pin/grounded, mates with interchangeable cords
		<b>Environmental Design</b>	<b>Operating temperature</b>
	<b>Non-operating (storage) temperature</b>		-4° to 149° F (-20° to 65° C)
	<b>Altitude</b>		0 to 10,000 ft (0 to 3,048 m)
<b>Humidity</b>	20% to 80%		
<b>Storage Humidity</b>	10% to 90%		

<b>Lithium-Ion Battery Pack</b> 12 cell	<b>Dimensions (H x W x L)</b>	6.0 x 4.63 x .81 in (12.24 x 11.76 x 2.06 cm)	
	<b>Weight</b>	1.298 lb (0.59 kg)	
	<b>Cells/Type</b>	12-cell Lithium-Ion	
	<b>Energy</b>	<b>Voltage</b>	14.8V
		<b>Amp-hour capacity</b>	6.6 Ah
		<b>Watt-hour capacity</b>	96Wh
	<b>Temperature</b>	<b>Operating</b>	41° to 113° F (5° to 45° C)
		<b>Non-operating</b>	32° to 140° F (0° to 60° C)
	<b>Battery Re-Charge Time</b>	<b>System in OFF mode or Standby</b>	2 hours 45 minutes
		<b>System ON</b> (depending on system power consumption)	3.5 – 8 hours
	<b>Battery Run Time</b>	<p>HP tested an HP Compaq nx9500 Business Notebook running Windows XP Professional Edition, equipped with an Intel Pentium 4 3.2 GHz processor, 17-inch WXGA LCD, 1 GB RAM, 80-GB HDD, Lithium-Ion battery, NIC, and modem. This configuration achieved a MobileMark 2002 score of 1 hour 47 minutes. Test settings:</p> <ul style="list-style-type: none"> <li>● LCD brightness set to half, but no less than 60 nits</li> <li>● Power management scheme: Laptop/Portable</li> <li>● Hard drive timer set to three minutes</li> <li>● Standby and video timers set to Never.</li> <li>● Wireless (802.11) turned off.</li> </ul>	

**NOTE:** Actual results may vary with product model, configuration, and individual usage.

### Technical Specifications

17.0-Inch Color TFT WXGA+ Wide Viewing Angle 16:10 Display	<b>Dimensions (H x W x L)</b>	15.0 x 9.6 in (382.2 x 244.5 mm)		
	<b>Diagonal Size</b>	17.0 in (431.8 mm)		
	<b>Mounting</b>	Side Mount		
	<b>Number of Colors</b>	262144		
	<b>Contrast Ratio</b>	250:1 typical		
	<b>Refresh Rate</b>	60 Hz		
	<b>Brightness</b>	160 nit typical		
	<b>Pixel Resolution</b>	<b>Pitch</b>	0.255 x 0.255 mm	
		<b>Format</b>	1440x 900	
		<b>Configuration</b>	RGB Stripe	
	<b>Backlight</b>	CCFT		
	<b>Character Display</b>	80 x 25		
	<b>Total Power Consumption</b>	6.28 W (typ.)		
<b>Viewing Angle</b>	±60° degrees Horizontal, +45°/-55° Vertical (typical)			

### Hard Drives

100-GB 4200 rpm	<b>Drive Weight</b>	0.22 lb (99 g)		
	<b>Capacity</b>	100 GB		
	<b>Height</b>	0.37 in (9.5 mm)		
	<b>Width</b>	2.75 in (70 mm)		
	<b>Interface</b>	ATA-6		
	<b>Transfer Rate</b>	<b>Synchronous (maximum)</b>	100 MB/s (Drive Capability)	
		<b>Security</b>	ATA Security	
	<b>Seek Time</b> (typical reads, including settling)	<b>Single Track</b>	3 ms	
		<b>Average</b>	13 ms	
		<b>Maximum</b>	24 ms	
	<b>Rotational Speed</b>	4200 rpm		
	<b>Logical Blocks</b>	195,371,568		
	<b>Operating Temperature</b>	41° to 131°F (5° to 55°C)		
<b>Features</b>	<b>Security</b>	ATA Security		

### Technical Specifications

80-GB 5400 rpm	<b>Drive Weight</b>	0.22 lb (99 g)		
	<b>Capacity</b>	80 GB		
	<b>Height</b>	0.37 in (9.5 mm)		
	<b>Width</b>	2.75 in (70 mm)		
	<b>Interface</b>	ATA-6		
	<b>Transfer Rate</b>	<b>Synchronous</b> (maximum)	100 MB/s (Drive Capability)	
		<b>Security</b>	ATA Security	
	<b>Seek Time</b> (typical reads, including settling)	<b>Single Track</b>	3 ms	
		<b>Average</b>	13 ms	
		<b>Maximum</b>	24 ms	
	<b>Rotational Speed</b>	5400 rpm		
	<b>Logical Blocks</b>	156,301,488		
	<b>Operating Temperature</b>	41° to 131° F (5° to 55° C)		
	<b>Features</b>	<b>Security</b>	ATA Security	

### Removable Storage Drives – Fixed Bay

DVD+RW Drive	<b>Dimensions</b>	0.5 x 5.21 x 4.97 in (1.27 x 13.25 x 12.61 cm)		
	<b>Weight</b>	0.551 lb (250 g)		
	<b>Access Times</b>	<b>Random</b>	<175 ms CD	
			<230 ms DVD	
		<b>Full Stroke</b>	<285 ms CD	
			<335 ms DVD	
	<b>Max data transfer rate</b>	<b>24x CD-ROM</b>	3,600 KB/s	
		<b>8x DVD</b>	10,800 KB/s	
		<b>16x CD-R</b>	2,400 KB/s	
		<b>8x CD-RW</b>	1,200 KB/s	
		<b>2x DVD+R</b>	2,700 KB/s	
		<b>2x DVD+RW</b>	2,700 KB/s	
	<b>Transfer Mode</b>	Multiword DMA Mode 2		
	<b>Interface</b>	EIDE		
<b>Supported Media</b> (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			
<b>Supported Media</b> (write)	CD-R, CD-RW, DVD+R, DVD+RW			
<b>Max Media Capacity</b> (read)	4.7GB			
<b>Max Media Capacity</b> (write)	4.7GB			
<b>Transport</b>	Tray Loading			

### Technical Specifications

DVD/CD-RW Combination Drive	<b>Dimensions</b>	0.5 x 5.21 x 4.97 in (1.27 x 13.25 x 12.61 cm)		
	<b>Weight</b>	0.551 lb (250 g)		
	<b>Access Times</b>	<b>Random</b>	<110 ms CD	
			<130 ms DVD	
		<b>Full Stroke</b>	<210 ms CD	
			<225 ms DVD	
	<b>Max data transfer rate</b>	<b>24X CD-ROM</b>	3,600 KB/s	
		<b>24X CD-R</b>	3,600 KB/s	
		<b>10X CD-RW</b>	1,500 KB/s	
		<b>8X DVD-ROM</b>	10,800 KB/s	
	<b>Transfer Mode</b>	Multiword DMA Mode 2		
	<b>Interface</b>	EIDE		
	<b>Supported Media (read)</b>	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		
<b>Supported Media (write)</b>	CD-R, CD-RW			
<b>Max Media Capacity (read)</b>	4.7GB			
<b>Max Media Capacity (write)</b>	700MB			
<b>Transport</b>	Tray Loading			

Audio	<b>Hardware</b>	<b>Implementation</b>	AC97 CODEC		
		<b>Audio Signal Link to CPU</b>	Audio CODEC (AC) link		
		<b>Full Duplex</b>	Yes		
		<b>Stereo Inputs</b>	Line In – 20K Impedance (with Port Replicator only)		
			Microphone – 20K Impedance		
		<b>Audio Output Quality</b>	<b>Stereo Outputs</b>	Headphone jack, S/PDIF from Port Replicator only	
			<b>Frequency Response</b>	20 Hz – 20 kHz	
			<b>Signal to Noise Ratio</b>	>90dB	
			<b>Total Harmonic Distortion</b>	0.01%	
			<b>Noise Floor</b>	-120dB	
	<b>Audio Output Quality</b>	<b>Play/Record Sampling Rate(s)</b>	7 kHz – 48 kHz		
		<b>AD/DA Resolution</b>	16 bit		

### Technical Specifications

#### Communications

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

<b>Broadcom 54g Maxperformance 802.11g WLAN</b>	<b>Wireless LAN Standards</b>	IEEE 802. Part 11b (802.11b) IEEE 802. Part 11g (802.11g)
	<b>Interoperability</b>	Wi-Fi certified (details available at <a href="http://www.hp.com/go/notebooks/wlan">http://www.hp.com/go/notebooks/wlan</a> )
	<b>Frequency Band</b>	2.4 GHz
	<b>Data Rates</b>	802.11b: 1, 2, 5.5, 11 Mbps 802.11g: 6, 9, 12, 18, 24, 36, 48, 54 Mbps
	<b>Modulation</b>	Direct Sequence Spread Spectrum DBPSK, DQPSK, CCK, OFDM
	<b>Security</b>	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 <a href="http://www.hp.com/go/notebooks/wlan">http://www.hp.com/go/notebooks/wlan</a> . Support for Cisco Security Features (proven compatibility with Cisco Aironet infrastructure products through the Cisco Compatible Extensions Program).
	<b>Sub-channels</b>	Multinational support with frequency bands and channels compliant to local regulations.
	<b>Media Access Protocol</b>	CSMA/CA (Collision Avoidance) with ACK
	<b>Network Architecture Models</b>	Ad-hoc (Peer to Peer) Infrastructure (Access Point Required)
	<b>Roaming</b>	IEEE 802.11 compliant roaming between 802.11b/g access points
	<b>Output Power</b>	802.11b: 13.5 dBm (typical) 802.11g: 13.5 dBm (typical)
	<b>Power Consumption</b>	Transmit: 1.1 W (max) Receive: 900 mW (max)
	<b>Power Management</b>	ACPI compliant power management 802.11 Compliant Power Saving Mode Power Saving Mode selectable through the configuration utility
	<b>Receiver Sensitivity*</b>	54 Mbps: -65 dBm to 1 Mbps: -92 dBm
	<b>Antenna type</b>	High efficiency dual band antenna with polarization diversity, mounted in the display enclosure

### Technical Specifications

Range	<b>802.11 b – Typical</b>	1200 feet – Outdoor Open Area 300 feet – Indoor, Office environment
	<b>802.11 g – Typical</b>	1000 feet – Outdoor Open Area 200 feet – Indoor, Office environment
Form Factor	MiniPCI Type IIIA	
Weight	0.027 lb (12 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	<b>Operating</b>	32° to 122° F (0° to 50° C)
	<b>Non-operating</b>	-14° to 158° F (-10° to 70° C)
Humidity	<b>Operating</b>	10% to 90%
	<b>Non-operating</b>	5% to 95%
Altitude	<b>Operating</b>	0 to 15,000 ft (4,572 m)
	<b>Non-operating</b>	0 to 40,000 ft (12,192 m)
Configuration Utility	Choice of Configuration Utility: <ul style="list-style-type: none"><li>● Broadcom Client Utility for Microsoft Windows 2000 or XP (required for Cisco Compatible Extensions support)</li><li>● Microsoft Windows XP Wireless Zero Configuration Utility</li></ul>	
LED Activity	<b>NOTE:</b> May also be compatible with certain third party software supplicants. LED Off – Radio OFF; Solid LED – Radio ON	
Agency Approvals	Details at <a href="http://www.hp.com/go/notebooks/wlan">http://www.hp.com/go/notebooks/wlan</a> .	

\*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)  
\*\* End-user may not obtain typical ranges due to environmental factors such as RF interference, RF signal obstructions, RF absorbing materials, and other RF traffic

### Technical Specifications

<b>Integrated Conexant 56K ACLink Modem</b>	<b>Form Factor</b>	Integrated on motherboard
	<b>Power Management Support</b>	APM Revision 1.2, ACPI
	<b>Approvals/Certifications</b>	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
	<b>Data Mode Capabilities</b>	high speed (a-law, mu-law) K56flex (a-law, mu-law) V.8bis V.80 V44.bis, MNP5 (Compression) V42.bis, MNP5 (Compression) V.42 (LAPM, MNP2-4) (Error Correction) V.34 (file date: 10/96) <b>Optional symbol rates:</b> 2800, 3429 Asymmetric Symbol rates <b>Synchronous primary channel data signaling rates:</b> 3600, 31200 Automatic rate re-negotiation V.32bis V.32 V.23 V.22bis V.22 V.21 Bell 212A Bell 103J
	<b>Fax Mode Capabilities</b>	TIA-578-S (Class 1) T.30, T.4 (Group 3) V.17 V.29 V.27ter V.21 Channel 2
	<b>Command Set</b>	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

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