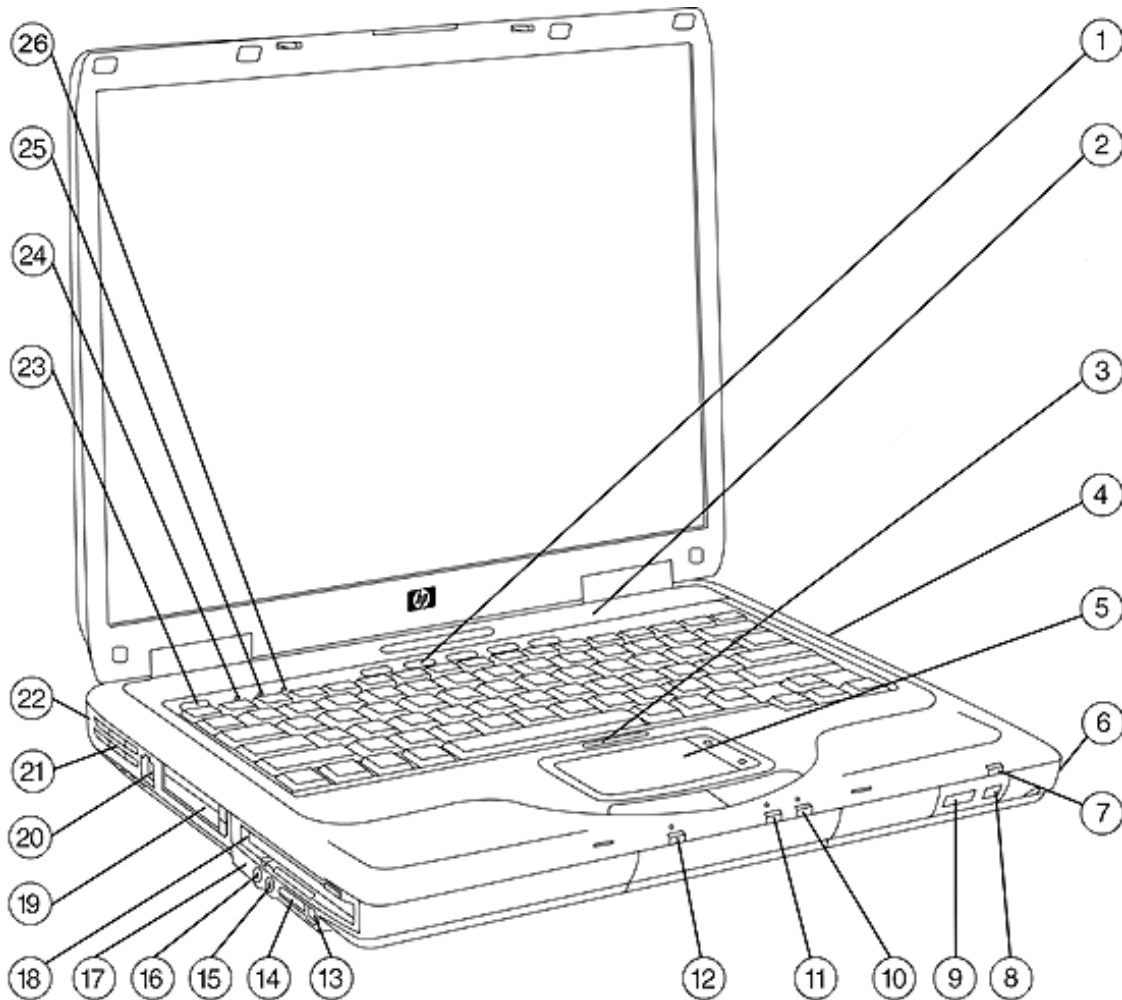
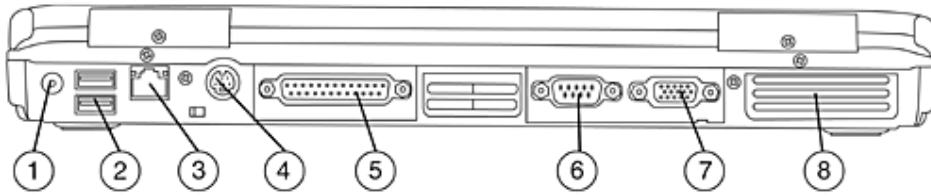


### Overview



- |                             |                       |
|-----------------------------|-----------------------|
| 1. Easy Access Buttons (5)  | 14. Volume Controls   |
| 2. Stereo Speakers          | 15. Headphone         |
| 3. Touch Pad On/Off Button  | 16. Audio In          |
| 4. Fixed Optical Drive      | 17. 1394 Port         |
| 5. Touch Pad                | 18. Diskette Drive    |
| 6. Primary Battery          | 19. PC Card Slots (2) |
| 7. Wireless LED             | 20. RJ-11 (Modem)     |
| 8. Wireless On/Off Button   | 21. Air Vent          |
| 9. Infrared Port            | 22. Kensington Lock   |
| 10. Battery Charging LED    | 23. Power Button      |
| 11. Hard Drive Activity LED | 24. Caps Lock LED     |
| 12. System Power LED        | 25. Num Lock LED      |
| 13. Mute Lock LED           | 26. Keypad LED        |

### Overview



- |                  |                  |
|------------------|------------------|
| 1. DC In         | 5. Parallel Port |
| 2. USB Ports (2) | 6. Serial Port   |
| 3. RJ-45         | 7. VGA Video     |
| 4. S-Video       | 8. Vent          |

### At A Glance

- Microsoft® Windows® XP Professional, Microsoft XP Home
- Intel® Pentium® M processors with Intel Centrino™, and Intel Celeron® M processors
- Intel 855GM with 400-MHz Front Side Bus
- Support for 14.1-inch or 15.0-inch display
- Two 266-MHz DDR memory slots with support for up to 2048 MB (configurations offered up to 1 MB)
- 9.5-mm ATA100 4200-rpm hard drive at 30 GB, 40 GB, or 60 GB
- Integrated optical drive support for 24x CD-ROM, 8x DVD-ROM, 24x DVD/CD-RW combination and DVD+RW
- Optional integrated 1.44-MB floppy disk drive
- Integrated 10/100 Ethernet NIC
- Support for 802.11b or 802.11b/g solution
- Integrated 56-K data/fax modem
- Support for a wide range of peripheral devices
- Protected by a one-year, worldwide limited warranty (certain restrictions and exclusions apply). Consult the HP Customer Support Center for details.
- 3/3/0 Flexi-warranty available

### What's Special

- Centrino branding with innovative mobile technologies
- Range of connectivity solutions
- Support for legacy devices
- Range of integrated graphics solutions

### Standard Features

#### Processors

Intel Pentium M Processor 745\* (1.8 GHz, 2MB L2 cache, 400 MHz FSB)  
 Intel Pentium M Processor 735 (1.7 GHz, 2MB L2 cache, 400 MHz FSB)  
 Intel Pentium M Processor 725 (1.6 GHz, 2MB L2 cache, 400 MHz FSB)  
 Intel Pentium M Processor 715 (1.5 GHz, 2MB L2 cache, 400 MHz FSB)  
 Intel Pentium M Processor 705 (1.5 GHz, 1MB L2 cache, 400 MHz FSB)  
 Intel Celeron M Processor 340 (1.5 GHz, 512K cache, 400 MHz FSB)  
 Intel Celeron M Processor 330 (1.4 GHz, 512K cache, 400 MHz FSB)  
 Intel Celeron M Processor 320 (1.3 GHz, 512K cache, 400 MHz FSB)

**NOTE:** Intel Pentium M Processors support enhanced Intel SpeedStep™ technology.

Processor speed denotes maximum performance mode; processors run at approximately 600 MHz in battery optimization mode.

\* Intel's numbering is not a measurement of higher performance. All other product names mentioned herein may be trademarks of their respective companies.

#### Operating System

One of the following

Microsoft Windows XP Professional  
 Microsoft Windows XP Home Edition

#### Chipset

Intel 855GM Chipset with 400MHz Front Side Bus

#### Displays

Internal 14.1-inch XGA display with 1024 x 768 resolution and 16 M colors  
 15.0-inch XGA display with 1024 x 768 resolution and 16 M colors  
 External Up to 32-bit per pixel color depth  
 Supports 640 x 480, 800 x 600, 1024 x 768, 1280 x 768, 1280 x 1024, or 1600 x 1200 resolutions up to 100-Hz refresh rate, dependent upon monitor capability, and resolution and color depth settings

**NOTE:** Durable PC-ABS plastic display enclosure.

#### Memory

Standard Configurable from 128 to 1024 MB 266-MHz DDR  
 Maximum 2048-MB 266-MHz DDR SDRAM\*

**NOTE:** Uses PC 2700 DDR 333MHz memory module but system runs at 266MHz.

Due to the non-industry standard nature of some third-party memory modules, we recommend HP branded memory to ensure compatibility.

\* Configuration offered only up to 1024 MB.

#### Communications

LAN Integrated 10/100 NIC  
 Wireless Mini PCI 802.11 b/g  
 Intel PRO/Wireless 2100 802.11b Mini PCI  
 Intel PRO/Wireless 2200BG 802.11b/g Mini PCI  
 Broadcom 54g Maxperformance 802.11g WLAN  
 Modem 56 KB data/fax modem

**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.

### 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** Five Quick Launch buttons designed to provide one-touch access to commonly used features including Internet access, Wireless on/off, and Presentation mode

**Status indicator** Seven LEDs: System power, battery charging, disk activity, Caps Lock, Num Lock, keypad, and wireless

**Pointing Device** Touchpad with two-way scroll device

**PC Card Slots** Two Type I/II PC Card slots; 16-bit PCMCIA and 32-bit CardBus

**Storage**

<b>Diskette Drives</b>	Optional integrated 1.4 MB floppy diskette drive
<b>Hard Drives</b>	9.5 mm, ATA 100 30 GB, 4200 rpm 40 GB, 4200 rpm 60 GB, 4200 rpm
<b>Optical Drives</b>	<b>Fixed Bay</b> 24x CD-ROM 8x DVD-ROM 24x DVD/CD-RW combination DVD+RW

**Multimedia**

- AC Link audio
- Speakers
- External volume control
- Ports for headphone and external microphone
- Microphone in
- Intervideo WinDVD enables MPEG2 playback (CD only – SKUs don't get this software)
- Windows Media Player enables MPEG1 playback (Part of Windows XP)
- Optical drives: 24x CD-ROM, 8x DVD-ROM, 24x DVD/CD-RW combination and DVD+RW

**NOTE:** No internal microphone.

### Standard Features

<b>Interfaces</b>	PC Card	Two Type I/II slots
	External Monitor	One port
	16-bit PCMCIA and 32-bit CardBus	One port
	Microphone	One port
	Headphone	One port
	DC power	Auto/Air adapter support External 65 W three-wire AC adapter
	RJ-11	One port – modem
	RJ-45	One port – NIC
	Infrared	One port 4 Mb/s support IrDA 4-MB compliant <b>NOTE:</b> IR performance varies depending on performance of IR peripherals and application used.
	Parallel	One port
	Serial	One port
	S-video out	One port Support for NTSC/PAL
	USB 2.0	Two ports
	IEEE-1394	One four-pin port

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<b>Graphics</b>	Integrated Intel Extreme Graphics 2 with up to 64MB of shared system memory for graphics
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<b>Audio</b>	AC Link audio Speakers Microphone and headphone jacks Volume control
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<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, DVD/CDRW combo and DVD drives)* Symantec Antivirus software <b>NOTE:</b> Symantec Norton Antivirus 2003 (Complimentary 60 days Live Update). Sonic RecordNow 6.5 (for optional DVD+RW & DVD/CDRW combo drives)
	<b>Software Available on Internet</b>	Microsoft Windows 2000 drivers
	<b>Software Provided on CD</b>	WinDVD Creator 2.0 – DVD Authoring (for optional DVD+RW drives) <b>NOTE:</b> *Software is loaded on the HDD and must be installed by running the Setup Compaq Software utility.

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

**Security**

- Configuration control through F10 set-up
- Memory change alert
- Ownership tag
- Set-up password
- Power-on password
- DriveLock
- Kensington Lock Slot

**Power Supply**

- External 65 watt AC adapter with 6-foot (1.8-meter) power cord
- Total length including external AC adapter is 12 feet (3.66 m)

**Battery**                      Six-cell Lithium-Ion (2.2Ah)

#### Notebook Battery Life benchmark results

HP Compaq nx9030		
Processor/RAM	Pentium M 1.6 GHz	1 GB
Operating System	XP Pro, SP1a	
HDD/Mfr.	40GB	
Video Driver	Intel 855GME	
Resolution/colors	15.0" XGA	
CD-ROM	DVD RW	
BIOS release	Phoenix NB 4.0 rel 6.0	
Battery chemistry	Li-Ion	
Nominal rating	11.1V, 4.4AH, 48 Wh, 6-cell	

Business Winstone BatteryMark 2004	Run Date	COMMENTS
6-cell, Wireless off	3h 42m	

Power Management Settings	
Scheme	Portable/Laptop
Turn off monitor	Never
Turn off hard disks	Never
System Standby	Never
Hibernation	Off
LCD Brightness	Half brightness under DC power (5/10 clicks)
Volume control	Half
Wireless (802.11 & Bluetooth)	Off

#### Quick Specs disclaimer:

**NOTE:** Actual results may vary with product model, configuration, and individual usage. Hewlett-Packard testing of a HP Compaq nx9030 with an Intel Celeron M 1.5GHz CPU, Windows XP Pro, 14.1-inch XGA LCD, 256-MB RAM, 40-GB HDD, 11.1V Lithium-Ion battery, and NIC/modem, achieved an overall Business Winstone 2004 BatteryMark score of **3h 42m** Business Winstone® 2004 BatteryMark™ Version 1.1 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 2003 Ziff Davis Media Inc. All Rights Reserved.

### Standard Features

**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.

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**Wireless Devices**

<b>Intel PRO/Wireless 2200BG 802.11b/g wireless LAN</b>	Up to 54 Mbps at 2.4 GHz Wi-Fi certified
<b>Intel PRO/Wireless 2100 802.11b wireless LAN</b>	Up to 11 Mbps at 2.4 GHz
<b>Broadcom 54g Maxperformance 802.11g WLAN</b>	Integrated support for 802.11 b and g Up to 54mbps throughput performance

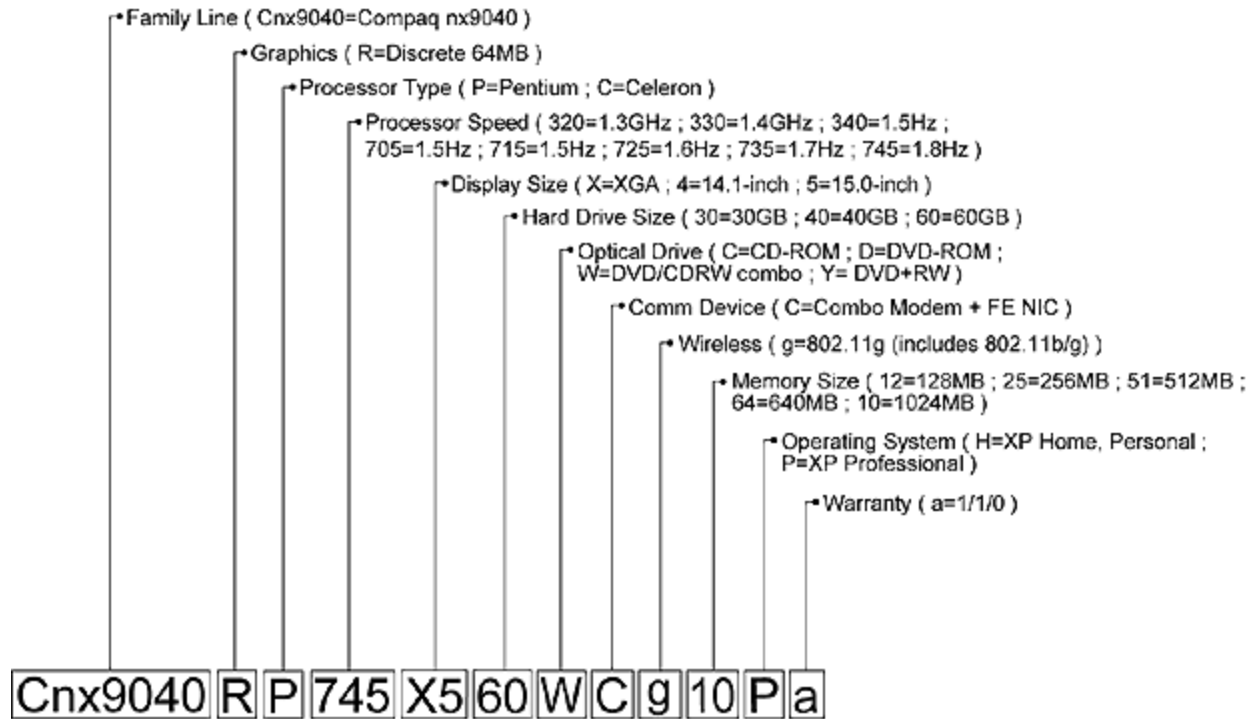
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**Service and Support** HP Services include a one-year Worldwide Limited Warranty, which covers mail-in, pick-up-and-return (PUR), or carry-in support and defective parts replacement for the first year of ownership.  
**NOTE:** Warranty terms may vary by geographic region. For detailed warranty information, refer to the warranty statement included with the product or to the HP website  
<http://h20000.www2.hp.com/bizsupport/TechSupport/ProductRoot.jsp>

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### Standard Features

Naming Convention      The Etymology of a Model name:





### Options

<b>Memory</b>	512-MB 333-MHz DDR Memory Upgrade	DC390B
	256-MB 333-MHz DDR Memory Upgrade	DC389B
<b>NOTE: System runs at a maximum of 266 MHz with 333 MHz memory modules installed.</b>		
<b>Storage Devices</b>	MultiBay DVD+RW	DG189A
	MultiBay 24x DVD/CD-RW combination	DC364A
	MultiBay 8x DVD-ROM	DC352A
	MultiBay CD-ROM	DC351A
	USB MultiBay Cradle	DC373A#B14
<b>Other Storage Devices</b>	USB Diskette Drive	DC361A
	HP USB Digital Drive	DL702B
	HP USB Digital Drive with 128MB SD memory	DL702A
<b>Power</b>	Li-Ion Standard replacement	F4809A
<b>Common Power Solutions</b>	External Battery Charger	DF933A#xxx
	65W AC Adapter	DC359A#xxx
	AC Adapter 90W	DC895B#xxx
	Auto Power Adapter/Charger (90W)	DC303B
	Aircraft Power Cables (90W)	DC899A
	Combo 90W Power supply (Air/Auto/AC) available September	DV574A#xxx
<b>Input Devices</b>	USB Travel Mouse (optical scroll mouse)	F2100A
	USB/PS2 Mouse	DC369A
	External 10-Key Numeric Keypad (PS/2)	DG954
	4-Port USB 2.0 Hub	DC852A
	Wireless Mouse & Keyboard	DL989A#xxx
<b>Security</b>	Security Cable Lock	DC368A
	PC Card Smart Card Reader	DC350B
<b>Carrying Cases</b>	HP Entry Value Carrying case	DL617A
	HP Value Nylon Case	DC915A
	HP Top Load Leather Case	DC917A
	HP Leather/Nylon Case (October)	PA847A
	HP Sport Backpack	DG102A

### Memory

#### HP Compaq nx9040 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

- 128 MB (128 MB x 1)
- 256 MB (256 MB x 1)
- 512 MB (512 MB x 1 or 256 MB x 2)
- 1024 MB (512 MB x 2)

\*Configuration offered only up to 1024 MB

#### Optional Memory Upgrades

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

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.

**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.

#### Memory Upgrades

1024 MB 333 MHz

DC890B

512 MB 333 MHz

DC390B

256 MB 333 MHz

DC389B

**NOTE:** System runs at a maximum of 266 MHz with 333 MHz memory modules installed

## Storage

### Removable Media Drive Support

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System Drive Support	Quantity Supported
DVD+RW	Up to one
DVD/CD-RW combination	Up to one
DVD-ROM	Up to one
CD-ROM	Up to one
1.44-MB diskette	Up to one

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### Hard Drive Support

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System Drive Support	Drive Bay Supported
60-GB 4200 rpm SMART Hard Drive	Dedicated hard drive bay
40-GB 4200 rpm SMART Hard Drive	Dedicated hard drive bay
30-GB 4200 rpm SMART Hard Drive	Dedicated hard drive bay

### Technical Specifications

<b>System Unit</b>	<b>Dimensions (HxWxD)</b>	14.1-inch and 15.0-inch TFT panel display support	12.96 x 10.72 x 1.53 in for 14-inch LCD; 12.96 x 10.72 x 1.65 in for 15-inch LCD (32.92 x 27.23 x 3.87 cm for 14-inch LCD; 32.92 x 27.23 x 4.19 cm for 15-inch LCD)
	<b>Weight</b>	With 6-cell std battery  With 8-cell std battery (option)	6.39 lb (2.9 kg) with 14.1-inch display 6.78 lb (3.08 kg) with 15.0-inch display 6.70 lb (3.04 kg) with 14.1-inch display 6.99 lb (3.17 kg) with 15.0-inch display
<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>	Nominal Operating Voltage		11.1V (on 6-cell battery) 14.8V (on 8-cell battery) 18.5V (on AC power)
	Average Operating Power		9.76W (on battery) (with portable/laptop) 19.41W (on AC power)
	Peak Operating Power		65W
	Power in suspend mode		< 200 mW
	Power in hibernation mode		< 50 mW
	<b>Temperature</b>	Operating Non-operating	
<b>Relative Humidity</b>	Operating Non-operating		10% to 90% relative humidity, non-condensing 5% to 90% relative humidity, 101.6° F (38.7° C) maximum wet bulb temperature
	<b>Shock</b>	Operating Non-operating	50 G, 2 ms, half-sine 175 G, 2 ms, half-sine
<b>Random Vibration</b>	Operating Non-operating		0.75 grms 1.50 grms
	<b>Vibration</b>	Operating Non-operating	
<b>Altitude</b>		Operating Non-operating	
	<b>Maximum Altitude (unpressurized)</b>	Operating Non-operating	
<b>Industry Standard Certifications</b>		Blue Angel	
	UL		Yes
	Energy Star		Yes
	Canadian Safety		Yes
	CSA (Canada)		Yes
	TUV GS		No
	Nordic Safety		No
	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	
KONCAR		Yes	

### Technical Specifications

GOST	Yes
SASO	Yes
SABS	Yes
UKRSERTCOMPUTER	Yes

<b>External AC Adapter</b>	<b>Weight</b>	0.535 lb (0.24 kg) (adapter) 0.29 lb (0.13 kg) (power cord)	
	<b>Power Supply (Input)</b>	Operating Voltage	100 to 240 VAC RMS
		Operating Current	1.7 A RMS
		Operating Frequency Range	47 to 63 Hz AC
		Maximum Transient	4/50 kV

<b>Primary Lithium-Ion Battery Pack</b>	<b>Dimensions (H x W x L)</b>	2.1 x 9.505 x 13.4.68 cm		
	<b>Weight</b>	0.75 lb (0.34 kg)		
	<b>Cells/Type</b>	6-cell Lithium-Ion	3S2P	
	<b>Energy</b>	Voltage	11.1V	
		Amp-hour capacity	4.4 Ahr	
		Watt-hour capacity	50 Whr	
	<b>Temperature</b>	Operating	Discharge	32° to 158° F (0° to 70° C)
			Charge	32° to 140° F (0° to 60° C)
		Non-operating	For 1 month	-4° to 140° F (-20° to 60° C)
			For 3 months	-4° to 113° F (-20° to 45° C)
<b>Battery Re-Charge Time</b>	System in OFF mode or Standby	For 6 months	-4° to 86° F (-20° to 30° C)	
		~2.3 hours		
	System ON (depending on system power consumption)	Depend on system loading		

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

### Technical Specifications

<b>15.0-Inch Color TFT XGA Display</b>	<b>Dimensions (H x W x L)</b>	11.8 x 9.0 in (30.4 x 22.8 cm)		
	<b>Diagonal Size</b>	15.0 in (38.0 cm)		
	<b>Mounting</b>	Internal		
	<b>Number of Colors</b>	16 M		
	<b>Contrast Ratio</b>	250:1 typical		
	<b>Refresh Rate</b>	60 Hz		
	<b>Brightness</b>	150 nit typical		
	<b>Pixel Resolution</b>	<b>Pitch</b>	0.297 x 0.297 mm	
		<b>Format</b>	1024x 768	
		<b>Configuration</b>	RGB Stripe	
	<b>Backlight</b>	CCFT		
	<b>Character Display</b>	80 x 25		
	<b>Total Power Consumption</b>	5.5 W		
<b>Viewing Angle</b>	±40° degrees Horizontal, +20°/-40° Vertical (typical)			

### Hard Drives

<b>60-GB 4200 rpm</b>	<b>Drive Weight</b>	0.22 lb (102 g)		
	<b>Capacity</b>	60 GB		
	<b>Height</b>	0.37 in (9.5 mm)		
	<b>Width</b>	2.75 in (70 mm)		
	<b>Interface</b>	ATA-5		
	<b>Transfer Rate</b>	<b>Synchronous (maximum)</b>	100 MB/s (Drive Capability)	
		<b>Seek Time</b> (typical reads)	<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>	117,210,240			
<b>Operating Temperature</b>	41° to 131° F (5° to 55° C)			
<b>Features</b>	ATA security			

<b>40-GB 4200 rpm</b>	<b>Drive Weight</b>	0.22 lb (102 g)		
	<b>Capacity</b>	40 GB		
	<b>Height</b>	0.374 in (9.5 mm)		
	<b>Width</b>	2.75 in (70 mm)		
	<b>Interface</b>	ATA-5		
	<b>Transfer Rate</b>	<b>Synchronous (maximum)</b>	100 MB/s (Drive Capability)	
		<b>Seek Time</b> (typical reads, including settling)	<b>Single Track</b>	3.0 ms
			<b>Average</b>	13 ms
		<b>Maximum</b>	24 ms	
	<b>Rotational Speed</b>	4200 rpm		
<b>Logical Blocks</b>	78,140,160			
<b>Operating Temperature</b>	41° to 131° F (5° to 55° C)			
<b>Features</b>	ATA security			

### Technical Specifications

<b>30-GB 4200 rpm</b>	<b>Drive Weight</b>	0.22 lb (102 g)	
	<b>Capacity</b>	30 GB	
	<b>Height</b>	0.374 in (9.5 mm)	
	<b>Width</b>	2.75 in (70 mm)	
	<b>Interface</b>	ATA-5	
	<b>Transfer Rate</b>	Synchronous (maximum)	100 MB/s (Drive Capability)
	<b>Seek Time</b> (typical reads, including settling)	Single Track	2.5 ms
		Average	12 ms
		Maximum	23 ms
	<b>Rotational Speed</b>	4200 rpm	
	<b>Logical Blocks</b>	58,605,120	
	<b>Operating Temperature</b>	41° to 131° F (5° to 55° C)	
<b>Features</b>	ATA security		

<b>DVD+RW Drive</b>	<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>	Random	<175 ms CD	<230 ms DVD	
		Full Stroke	<285 ms CD	<335 ms DVD	
		<b>Max data transfer rate</b>	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		
	<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-5, DVD-9, DVD-10, DVD-18), DVD-R, DVD-RW, DVD+R, DVD+RW			
	<b>Supported Media (write)</b>	CD-R, CD-RW, DVD+R, DVD+RW			
	<b>Max Media Capacity (read)</b>	4.7GB			
<b>Max Media Capacity (write)</b>	4.7GB				
<b>Transport</b>	Tray Loading				

### Technical Specifications

#### 24x 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>	Random	<110 ms CD	<130 ms DVD
	Full Stroke	<210 ms CD	<225 ms DVD
<b>Max data transfer rate</b>	24X CD-ROM	3,600 KB/s	
	24X CD-R	3,600 KB/s	
	24X CD-RW	3,600 KB/s	
	8X DVD-ROM	10,500 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		

#### 8x DVD-ROM 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>	0.518 lb (235 g)		
<b>Access Times</b>	Random	<100 ms CD	<125 ms DVD
	Full Stroke	<175 ms CD	<225 ms DVD
<b>Max data transfer rate</b>	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	
<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-5, DVD-9, DVD-10, DVD-18), DVD-R, DVD-RW, DVD+R, DVD+RW, DVD-RAM		
<b>Supported Media (write)</b>	None		
<b>Max Media Capacity (read)</b>	4.7 GB		
<b>Max Media Capacity (write)</b>	None		
<b>Transport</b>	Tray Loading		



### Technical Specifications

<b>CD-ROM Drive</b>	<b>Dimensions</b>	0.5 x 5.21 x 4.97 in (1.27 x 13.25 x 12.61 cm)		
	<b>Weight</b>	0.496 lb (225 g)		
	<b>Access Times</b>	Random	<110 ms CD	
		Full Stroke	<220 ms CD	
	<b>Max data transfer rate</b>	24X CD-ROM	3,600 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		
	<b>Supported Media (write)</b>	None		
	<b>Max Media Capacity (read)</b>	700MB		
	<b>Max Media Capacity (write)</b>	None		
	<b>Transport</b>	Tray Loading		

<b>Optional Integrated Floppy Drive</b>	<b>Dimensions</b>			
	<b>Weight</b>			
	<b>Access Times</b>	Random		
		Full Stroke		
	<b>Max data transfer rate</b>	24X CD-ROM		
	<b>Transfer Mode</b>			
	<b>Interface</b>			
	<b>Supported Media (read)</b>			
	<b>Supported Media (write)</b>			
	<b>Max Media Capacity (read)</b>			
	<b>Max Media Capacity (write)</b>			
<b>Transport</b>				

<b>Audio</b>	<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>Play/Record Sampling Rate(s)</b>	7 kHz - 48 kHz	
		<b>AD/DA Resolution</b>	16 bit	

## Technical Specifications

### Communications

<b>Intel PRO/Wireless 2100 802.11b WLAN</b>	<b>Wireless LAN Standards</b>	IEEE 802. Part 11b (802.11b)
	<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
	<b>Modulation</b>	Direct Sequence Spread Spectrum DBPSK, DQPSK, CCK
	<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 between 802.11b/g access points
	<b>Output Power</b>	16 dBm (typical)
	<b>Power Consumption</b>	Transmit: 2.0 W (max) Receive: 1.75 W (max) Sleep mode: 200 mW (max)
	<b>Power Management</b>	ACPI compliant power management 802.11 Compliant Power Saving Mode
	<b>Receiver Sensitivity*</b>	11 Mbps: -82 dBm to 1 Mbps: -89 dBm
	<b>Antenna type</b>	High efficiency dual band antenna with polarization diversity, mounted in the display enclosure
	<b>Range</b>	802.11 b – Typical 1200 feet – Outdoor Open Area 300 feet – Indoor, Office environment
	<b>Form Factor</b>	MiniPCI Type IIIA
	<b>Weight</b>	0.026 lb (11.75 g)
	<b>Dimensions</b>	0.20 x 1.75 x 2.34 in (4.9 x 44.6 x 59.8 mm)
	<b>Operating Voltage</b>	3.3v
	<b>Temperature</b>	Operating 32° to 158° F (0° to 70° C) Non-operating -40° to 176° F (-40° to 80° C)
	<b>Humidity</b>	Operating 10% to 90% Non-operating 5% to 95%
	<b>Altitude</b>	Operating 0 to 10,000 ft (3,048 m) Non-operating 0 to 50,000 ft (15,240 m)

### Technical Specifications

<b>Configuration Utility</b>	Choice of Configuration Utility: <ul style="list-style-type: none"> <li>● Intel ProSet for Microsoft Windows 2000 or XP (required for Cisco Compatible Extensions support)</li> <li>● Microsoft Windows XP Wireless Zero Configuration Utility</li> </ul> <p><b>NOTE:</b> May also be compatible with certain third party software suppliers.</p>
<b>LED Activity</b>	LED Off – Radio OFF; Solid LED – Radio ON
<b>Agency Approvals</b>	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).

#### Intel PRO/Wireless 2200BG 802.11b/g Network Connection

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

### Technical Specifications

<p><b>Broadcom 54g Maxperformance 802.11g WLAN</b></p>	<p><b>Wireless LAN Standards</b></p> <p><b>Interoperability</b></p> <p><b>Frequency Band</b></p> <p><b>Data Rates</b></p> <p><b>Modulation</b></p> <p><b>Security</b></p> <p><b>Sub-channels</b></p> <p><b>Media Access Protocol</b></p> <p><b>Network Architecture Models</b></p> <p><b>Roaming</b></p> <p><b>Output Power</b></p> <p><b>Power Consumption</b></p> <p><b>Power Management</b></p> <p><b>Receiver Sensitivity*</b></p> <p><b>Antenna type</b></p> <p><b>Range</b></p> <p><b>Form Factor</b></p> <p><b>Weight</b></p> <p><b>Dimensions</b></p> <p><b>Operating Voltage</b></p> <p><b>Temperature</b></p> <p><b>Humidity</b></p> <p><b>Altitude</b></p>	<p>IEEE 802. Part 11b (802.11b) IEEE 802. Part 11g (802.11g)</p> <p>Wi-Fi certified (details available at <a href="http://www.hp.com/go/notebooks/wlan">http://www.hp.com/go/notebooks/wlan</a>)</p> <p>2.4 GHz</p> <p>802.11b: 1, 2, 5.5, 11 Mbps 802.11g: 6, 9, 12, 18, 24, 36, 48, 54 Mbps</p> <p>Direct Sequence Spread Spectrum DBPSK, DQPSK, CCK, OFDM</p> <p>64 and 128 bit WEP encryption Support for WiFi Protected Access (WPA) including TKIP, MIC Hardware-accelerated support for the Advanced Encryption Standard (AES; 256-bit encryption) Support for 802.1x authentication types: EAP-TLS, LEAP (Cisco), PEAP (Microsoft implementation); more details available at <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).</p> <p>Multinational support with frequency bands and channels compliant to local regulations.</p> <p>CSMA/CA (Collision Avoidance) with ACK</p> <p>Ad-hoc (Peer to Peer) Infrastructure (Access Point Required)</p> <p>IEEE 802.11 compliant roaming between 802.11b/g access points</p> <p>802.11b: 13.5 dBm (typical) 802.11g: 13.5 dBm (typical)</p> <p>Transmit: 1.1 W (max) Receive: 900 mW (max)</p> <p>ACPI compliant power management 802.11 Compliant Power Saving Mode Power Saving Mode selectable through the configuration utility</p> <p>54 Mbps: -65 dBm to 1 Mbps: -92 dBm</p> <p>High efficiency dual band antenna with polarization diversity, mounted in the display enclosure</p> <table border="0"> <tr> <td>802.11 b – Typical</td> <td>1200 feet – Outdoor Open Area 300 feet – Indoor, Office environment</td> </tr> <tr> <td>802.11 g – Typical</td> <td>1000 feet – Outdoor Open Area 200 feet – Indoor, Office environment</td> </tr> </table> <p>MiniPCI Type IIIA</p> <p>0.027 lb (12 g)</p> <p>0.19 x 2.00 x 2.35 in (4.8 x 50.95 x 59.75 mm)</p> <p>3.3v</p> <table border="0"> <tr> <td>Operating</td> <td>32° to 122° F (0° to 50° C)</td> </tr> <tr> <td>Non-operating</td> <td>-14° to 158° F (-10° to 70° C)</td> </tr> </table> <table border="0"> <tr> <td>Operating</td> <td>10% to 90%</td> </tr> <tr> <td>Non-operating</td> <td>5% to 95%</td> </tr> </table> <table border="0"> <tr> <td>Operating</td> <td>0 to 15,000 ft (4,572 m)</td> </tr> <tr> <td>Non-operating</td> <td>0 to 40,000 ft (12,192 m)</td> </tr> </table>	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	Operating	32° to 122° F (0° to 50° C)	Non-operating	-14° to 158° F (-10° to 70° C)	Operating	10% to 90%	Non-operating	5% to 95%	Operating	0 to 15,000 ft (4,572 m)	Non-operating	0 to 40,000 ft (12,192 m)
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																	
Operating	32° to 122° F (0° to 50° C)																	
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### Technical Specifications

<b>Configuration Utility</b>	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> <p><b>NOTE:</b> May also be compatible with certain third party software suppliers.</p>
<b>LED Activity</b>	LED Off – Radio OFF; Solid LED – Radio ON
<b>Agency Approvals</b>	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.

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<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 Windows 2000 DOS NDIS2 and ODI

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### Technical Specifications

<b>Conexant Modem</b>	<b>Form Factor</b>	Modem 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 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) <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 TIA-578-S (Class 1) T.30, T.4 (Group 3) V.17 V.29 V.27ter V.21 Channel 2
	<b>Fax Mode Capabilities</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
	<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

### *Technical Specifications*

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