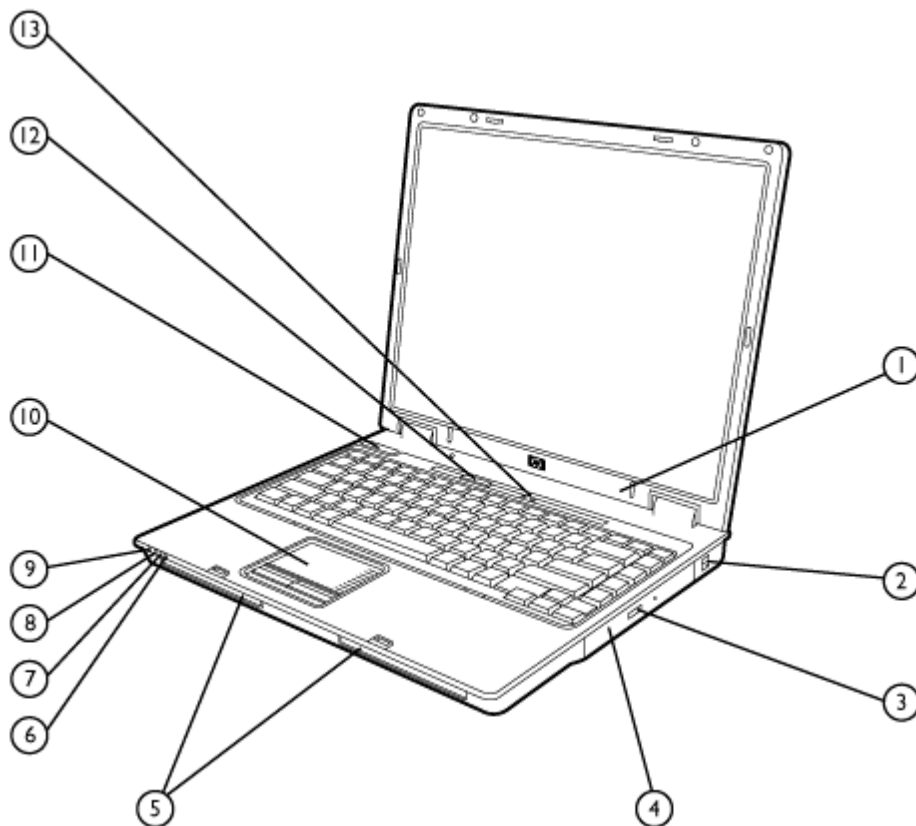


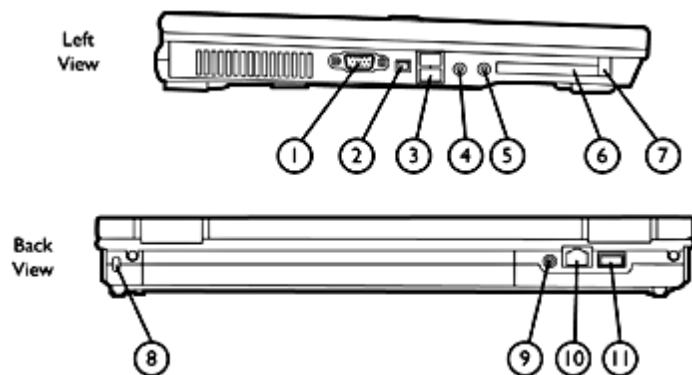
HP recommends  
Windows Vista™ Business



1. Internal Microphone
2. RJ-11 Port (Modem)
3. Optical Drive Button
4. Optical Drive
5. Stereo Speakers
6. Hard Drive Activity LED

7. Battery Charging LED
8. Power/Standby LED
9. Wireless On/Off LED
10. Touchpad with Scroll Zone
11. Power/Standby Button with LED
12. Wireless On/Off Button with LED
13. Caps Lock LED and Num Lock LED

## Overview



- |                              |                                  |
|------------------------------|----------------------------------|
| 1. VGA/External Monitor Port | 6. PC Card Slot                  |
| 2. IEEE 1394 Port            | 7. PC Card Eject Button          |
| 3. 2 USB 2.0 Ports           | 8. Kensington Lock Slot          |
| 4. Microphone Jack           | 9. DC Power Connector            |
| 5. Headphone Jack            | 10. RJ-45 Port (NIC) with 2 LEDs |
|                              | 11. USB 2.0 Port                 |

## At A Glance

- Genuine Windows XP Professional
- AMD Turion™ 64 Mobile Technology processor
- Sleek, industrial design starting at 5.99 lb/2.72 kg and 1.22-inch/ 31.0 mm thin at front
- ATI RADEON XPRESS 200M Chipset
- 512-MB DDR SDRAM, upgradeable to 2048-MB maximum
- Up to 60-GB 4200 rpm user-removable hard drive
- Choice of optical drive: DVD/CD-RW Combo or DVD+/-RW with Double Layer Technology
- Integrated ATI MOBILITY RADEON X300 with up to 128-MB allocated system memory
- Integrated 802.11b/g wireless LAN modules
- NetXtreme 10/100 Ethernet Controller
- Touchpad with scroll zone
- Protected by one-year standard parts and labor warranty – certain restrictions and exclusions apply

## What's Special

- Security features:
  - HP ProtectTools
  - HP Drivelock
  - Kensington lock slot
- Ease of use features:
  - HP Mobile Print Driver for on-the-go printing
  - HP Fast Charge technology
- Integrated reliability features:
  - HP Panel Protection System
  - HP spill-resistant keyboard with Mylar film

### Standard Features

<b>Processors*</b>	AMD Turion 64 Mobile Technology ML-30 (1.6-GHz, 1-MB L2 cache) <b>*NOTE:</b> Speeds listed for AMD Turion™ 64 Mobile Technology processors are maximum performance levels on AC power. The processor speed is reduced up to approximately 80% on battery power to optimize battery life. Please go to <a href="http://www.hp.com">www.hp.com</a> for more details on battery life conservation.	
<b>Operating System</b>	Genuine Windows XP Professional SP2 Windows Vista Capable - Not all Windows Vista features are available for use on all Windows Vista Capable PCs. All Windows Vista Capable PCs will run the core experiences of Windows Vista, such as innovations in organizing and finding information, security, and reliability. Some features available in premium editions of Windows Vista -- like the new Windows Aero™ user interface -- require advanced or additional hardware. Check <a href="http://www.windowsvista.com/getready">http://www.windowsvista.com/getready</a> for details. <b>NOTE:</b> Genuine Microsoft Windows 2000 Professional is not available pre-installed, but drivers for it are downloadable from <a href="http://www.hp.com">http://www.hp.com</a> .	
<b>Chipset</b>	ATI RADEON XPRESS 200M Chipset	
<b>Graphics</b>	Integrated ATI MOBILITY RADEON X300 with up to 128-MB allocated system memory	
<b>Display</b>	<b>Internal</b>	15.0-inch TFT XGA (1024 x 768 resolution)
	<b>External</b>	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
<b>Memory</b>	<b>Standard</b>	512-MB 333-MHz DDR SDRAM; one SODIMM slot
	<b>Maximum</b>	Upgradeable to 2048-MB maximum (1024-MB SODIMM 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. If you mix memory speeds, the system will perform at the lower memory speed.
<b>Communications</b>	NetXtreme 10/100 Ethernet Controller 56K modem* with digital line guard <b>* Designed for downloads from 56K modem compliant sources. Maximum achievable download transmission rates currently do not reach 56 KB/s, and will vary with line conditions. Modem availability is subject to country regulatory approval.</b>	

## Standard Features

<b>Wireless Devices</b>	Support for a broad range of secure, integrated wireless LAN options.	
<b>All integrated wireless LAN options</b>	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 authentication support, including EAP-TLS, EAP-TTLS, PEAP-GTC, PEAP-MSCHAPv2, and LEAP	
	Dual antennas integrated in the display enclosure	
<b>Broadcom 802.11 b/g WLAN</b>	Integrated support for 802.11 b and g	Up to 54-mbps data rate
	Advanced Encryption Standard (AES) support	
<hr/>		
<b>Keyboard</b>	The 101/102-key compatible keyboard features an industry standard, full-pitch key layout with desktop keyboard features, such as the isolated inverted-T cursor control keys, editing keys, both left and right control and alt keys, and 12 function keys. U.S. and International key layouts are available. Other features include an integrated numeric keypad, hotkeys for instant access to power conservation, brightness, and other features, 19-mm x 19-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.	
<hr/>		
<b>Wireless On/Off Button</b>	Provides one-touch on/off control of the integrated wireless device(s).	
<hr/>		
<b>Pointing Device</b>	Touchpad with scroll zone	
<hr/>		
<b>Expansion Card Slots</b>	<b>One Type I/II PC Card Slot</b>	Supports 32-bit CardBus and 16-bit PC Cards
<hr/>		
<b>Storage</b>	<b>Hard Drives</b>	40-, 60-GB 4200 rpm SMART
	<b>NOTE:</b> These hard drives are customer removable and will withstand multiple insertion/removal cycles.	
	<b>Optical Drives</b>	Integrated (12.7-mm) DVD/CD-RW Combo DVD+/-RW with Double Layer Technology
<hr/>		
<b>Interfaces</b>	<b>PC Card Slot</b>	One – Type I/II
	<b>External Monitor</b>	One – VGA
	<b>IEEE 1394 Port</b>	One
	<b>External Microphone</b>	One
	<b>Headphone/Line out</b>	One
	<b>Power Connector</b>	One
	<b>RJ-11 (Modem)</b>	One
	<b>RJ-45 (NIC)</b>	One
	<b>USB 2.0</b>	Three
	<b>Travel Battery Connector</b>	One
	<b>LED Status Indicators</b>	Ten

### Standard Features

<b>Audio</b>	Conexant AC '97 CODEC Integrated 16-bit Sound Blaster Pro compatible audio Integrated microphone Integrated stereo speakers Stereo headphone/line out Stereo microphone in
<b>Software</b>	<b>Preloaded Software for Microsoft Windows XP</b> Adobe Acrobat Reader HP Local Recovery provided by Altiris* HP One-Touch Button Software HP Mobile Print Driver Synaptics Touchpad Driver HP Help and Support HP ProtectTools Security Manager: BIOS Configuration for HP ProtectTools Credential Manager for HP ProtectTools HP Wireless Assistant Sonic RecordNow! (for optional DVD+/-RW and DVD/CDRW drives)* Symantec Norton Antivirus with complimentary 60-day live update Intervideo WinDVD – DVD Player (for optional DVD+/-RW, DVD/CDRW and DVD drives)* <b>Software on CD</b> Intervideo WinDVD Creator – DVD Authoring (for optional DVD+/-RW drives) <b>Additional software available from the Web</b> HP ProtectTools Security Manager: Smart Card Security for HP ProtectTools
	* Software is loaded on the hard drive and must be installed by running the Software Setup utility.
<b>System Recovery for Microsoft Windows XP systems only</b>	Each unit is shipped with a recovery kit containing Operating System Recovery and Driver/Application Recovery discs. These discs allow users to either recover or repair the notebook operating system and select drivers without losing personal data. The Operating System disc also provides the option of reinstalling the operating system software provided with the notebook.
<b>SMBIOS Version 2.3.4</b>	System Management BIOS, previously known as DMI BIOS, is used to store system management information.
<b>HP Local Recovery Provided by Altiris</b>	Provides data and system file protection for HP business PCs to enable fast recovery of information that is accidentally deleted or if the system becomes corrupted. Designed for disconnected or seldom-connected users, Local Recovery protects your HP computer's data and system state by taking scheduled snapshots, which are then stored in a protected area on the local hard disk. System backup and disaster recovery is now simple and fast for all users, regardless of connectivity. For more information and to download, please refer to the HP website at <a href="http://www.hp.com/go/easydeploy">http://www.hp.com/go/easydeploy</a> .

### Standard Features

**HP ProtectTools Security Manager** HP ProtectTools Security Manager is the security platform for business notebooks and desktops. The HP ProtectTools Security Manager is an extensible client security console that delivers enhanced security capabilities through add-on software modules. Modules currently available are:

- Smart Card Security for HP ProtectTools
- BIOS Configuration for HP ProtectTools
- Credential Manager for HP ProtectTools

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<b>Security</b>	<b>Standard Features</b>	Configuration Control Hardware Memory Change Alert Ownership Tag Setup Password Power-On Password HP Drivelock Kensington Lock Slot
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For more information on HP security solutions refer to <http://www.hp.com/go/security>.

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<b>Power Supply</b>	External 65-watt slim AC adapter, 6-foot (1.8-meter) power cord included. Total length including External AC adapter is 12 feet (3.66 meter). HP Fast Charge technology
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<b>Battery</b>	<b>Primary Battery</b>	6-cell high capacity Lithium-Ion (42Wh)
	<b>Optional Travel Battery</b>	8-cell high capacity Lithium-Ion (52Wh)

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<b>Battery Life</b>	Primary Battery	Up to 3 hours 45 minutes
	Primary Battery and optional HP Travel Battery	Up to 7 hours 30 minutes

**NOTE:** Battery life will vary depending on the product configuration, product model, applications loaded on the product, power management settings of the product, and the product features used by the customer. As with all batteries, the maximum capacity of this battery will decrease with time and usage.

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<b>System Standby Time</b>	Up to 1 week
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<b>Power Conservation</b>	Hibernation Standby ACPI compliance
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<b>Service and Support</b>	HP Services includes a one-year standard parts and labor warranty, pick-up or carry-in, and toll-free 7 x 24 hardware technical phone support. On-site service and warranty upgrades are also available.
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**NOTE:** Certain restrictions and exclusions apply. Consult the HP Customer Support Center for details. <http://h20000.www2.hp.com/bizsupport/TechSupport/ProductRoot.jsp>.

### Standard Features

#### Select Model(s)

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nx6115 PZ885UA#ABA  Smart Buy	<b>Processor</b>	AMD Turion 64 ML-30 (1.6-GHz, 1MB L2 cache)
	<b>Operating System</b>	Microsoft Windows XP Professional
	<b>System Memory</b>	512-MB 333-MHz DDR SDRAM (512-MB SODIMM in slot)
	<b>Hard Drive</b>	40-GB 4200 rpm
	<b>Display</b>	15.0-inch TFT XGA with 1024 x 768 resolution
	<b>Graphics</b>	ATI Mobility Radeon X300
	<b>Video Memory</b>	Up to 128 MB of shared video memory
	<b>Audio</b>	Conexant AC '97 CODEC, Line out/headphone and microphone jacks
	<b>Optical Drive</b>	24X DVD/CDRW Combo
	<b>Communications</b>	56K Fax/Modem, Integrated NetXtreme Ethernet Controller (10/100 NIC)
	<b>Integrated Wireless</b>	Broadcom 802.11b/g WLAN
	<b>Pointing Device</b>	Touchpad with scroll zone
	<b>Battery</b>	6-cell high capacity Lithium-Ion
	<b>Power</b>	External 65W adapter
	<b>Warranty**</b>	1/1/0

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nx6115 PZ886UA#ABA  Smart Buy	<b>Processor</b>	AMD Turion 64 ML-30 (1.6-GHz, 1MB L2 cache)
	<b>Operating System</b>	Microsoft Windows XP Professional
	<b>System Memory</b>	512-MB 333-MHz DDR SDRAM (512-MB SODIMM in slot)
	<b>Hard Drive</b>	60-GB 4200 rpm
	<b>Display</b>	15.0-inch TFT XGA with 1024 x 768 resolution
	<b>Graphics</b>	ATI Mobility Radeon X300
	<b>Video Memory</b>	Up to 128 MB of shared video memory
	<b>Audio</b>	Conexant AC '97 CODEC, Line out/headphone and microphone jacks
	<b>Optical Drive</b>	DVD+/-RW with double layer
	<b>Communications</b>	56K Fax/Modem, Integrated NetXtreme Ethernet Controller (10/100 NIC)
	<b>Integrated Wireless</b>	Broadcom 802.11b/g WLAN
	<b>Pointing Device</b>	Touchpad with scroll zone
	<b>Battery</b>	6-cell high capacity Lithium-Ion
	<b>Power</b>	External 65W adapter
	<b>Warranty**</b>	1/1/0

\*\* Certain restrictions and exclusions apply.

### Options

Memory	256-MB 333-MHz DDR SDRAM	DC389B
	512-MB 333-MHz DDR SDRAM	PA525A
	1024-MB 333-MHz DDR SDRAM	DC890B
Storage	USB Diskette Drive	DC361B
	HP USB Digital Drive + 128-MB Secure Digital Card	DL702A
	HP 40-GB Mobile USB Hard Drive	DQ549A
Expansion Solutions	HP 4-port USB 2.0 Hub	DG954A
Power	65W AC Adapter	DC359A#ABA
	90W AC Adapter	DC895B#ABA
	90W Auto Adapter	DC303B
	90W Air/Auto/AC Combo Adapter	DV574A#ABA
	90W Aircraft Cables	DC899A
	Primary 6-cell Battery Pack	PB994A
	HP Travel Battery	PB993A
Carrying Cases	HP Entry Value Case	DL617A
	HP Top Load Nylon	DC915A
	HP Executive Leather case	PA847A
	HP Sport Backpack	DG102A
Security	PC Card Smart Card Reader	DC350B
	HP/Kensington Cable Lock	PC766A
Input/Output Devices	USB/PS2 Keyboard	DC852A#ABA
	USB/PS2 Optical Mouse	DC369A
	HP USB Optical Travel Mouse	F2100A



## Memory

Up to 2048 MB of 333-MHz DDR SDRAM  
Two DIMM slots  
DIMM sizes supported: 256 MB, 512 MB, or 1024 MB

**Standard Memory** • 512 MB (512 MB x 1)

**Optional Memory Upgrades** Support for up to 2048 MB of memory is available (with the installation of optional DDR SDRAM memory kits). Both memory slots are user accessible. Please refer to the Hardware and Software Guide for installation procedures.

Up to	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. 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. If you mix memory speeds, the system will perform at the lower memory speed.

<b>Memory Upgrades</b>	1024-MB 333-MHz DDR SDRAM	DC890B
	512-MB 333-MHz DDR SDRAM	DC390B
	256-MB 333-MHz DDR SDRAM	DC389B

## Storage

### Removable Media Drive Support

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	Quantity Supported	Drive Bay
DVD+/-RW Drive with Double Layer Technology	One	Fixed optical drive bay
DVD/CD-RW Combo Drive	One	Fixed optical drive bay

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### Hard Drive Support

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	Quantity Supported	Drive Bay
60-GB 4200 rpm SMART Hard Drive	One	Dedicated hard drive bay
40-GB 4200 rpm SMART Hard Drive	One	Dedicated hard drive bay

## Technical Specifications

<b>System Unit</b>	<b>Dimensions (HxWxD)</b>	1.22 (at front) x 12.9 x 10.5 in (31 (at front) x 328 x 267 mm)
	<b>Weight</b>	5.99 lb (2.72 kg)
	<b>NOTE:</b> Height varies depending upon where on the notebook the measurement is made. Weight varies by configuration and components. Weight includes 6-cell battery, 40-GB hard drive, 256-MB memory, and CD-ROM drive. Weight varies by configuration and components.	
	<b>Stand-Alone Power Requirements</b>	Nominal Operating Voltage 18.5 V Average Operating Power 20 W Max Operating Power < 65 W
	<b>Temperature</b>	Operating 32° to 95° F (0° to 35° C) (not writing optical) 41° to 95° F (5° to 35° C) (writing optical) Non-operating -4° to 140° F (-20° to 60° C)
	<b>Relative Humidity</b>	Operating 10% to 90%, non-condensing Non-operating 5% to 95%, 101.6° F (38.7° C) maximum wet bulb temperature
	<b>Shock</b>	Operating 125 G, 2 ms, half-sine Non-operating 200 G, 2 ms, half-sine
	<b>Random Vibration</b>	Operating 0.75 grms Non-operating 1.50 grms
	<b>Altitude (unpressurized)</b>	Operating -50 to 10,000 ft (-15.24 to 3,048 m) Non-operating -50 to 40,000 ft (-15.24 to 12,192 m)
	<b>Industry Standard Certifications</b>	Blue Angel No UL Yes Energy Star Yes Canadian Safety Yes CSA (Canada) Yes ICES Yes TUV GS No Nordic Safety No Mexican Safety Yes Poland Compliance Yes Australia / NZ Compliance Yes CCC Yes Japan Compliance Yes MIC Yes BSMI Yes CE Marking Compliance Yes KONCAR Yes GOST Yes SASO Yes SABS Yes UKRSERTCOMPUTER Yes

## Technical Specifications

<b>65W External AC Adapter</b>	<b>Weight</b>	0.62 lb (0.28 kg) (adapter) 0.29 lb (0.13 kg) (power cord)	
	<b>Dimensions</b>	4.17 x 1.85 x 1.1 in (10.6 x 4.7 x 2.8 cm)	
	<b>Input</b>	Operating Input Voltage	100 to 240 VAC
		Operating Input Current	1.7A at 90 VAC 0.85A at 180 VAC
		Operating Frequency Range	47 to 63 Hz AC
	<b>Output</b>	Efficiency	83% minimum at 115 VAC
		Output Power	65 W
		DC Output Current	18.5 V
	<b>Environmental</b>	Operating Temperature	32° to 104° F (0° to 40° C)
		Non-operating (storage) Temperature	-4° to 149° F (-20° to 65° C)
		Altitude	0 to 10,000 ft (0 to 3,048 m)
		Humidity	20% to 80%
	<b>EMI and Safety Certifications</b>	Storage Humidity	10% to 90%
		CE Mark: full compliance with LVD and EMC directives	
		Worldwide safety standards: IEC950, EN60950, UL1950, Class2, SELV Agency approvals: C-UL-US, NORDICS, DENAN, EN55022 Class B, FCC Class B, CISPR22 Class B, CCIB, NOM-1 NYCE	
<b>MTBF</b>	Over 200,000 hours at 25°C ambient condition		

<b>42Wh Primary Lithium-Ion Battery Pack</b>	<b>Dimensions (H x W x L)</b>	0.8 x 2.1 x 8.0 in (2.0 x 5.3 x 20.3 cm)		
	<b>Weight</b>	0.715 lb (0.325 kg)		
	<b>Cells/Type</b>	6-cell Lithium-Ion		
	<b>Energy</b>	Voltage	10.8 V	
		Amp-hour Capacity	4.0Ah	
		Watt-hour Capacity	42Wh	
	<b>Temperature</b>	Operating (Charging)	32° to 113° F (0° to 45° C)	
		Operating (Discharging)	14° to 140° F (-10° to 60° C)	
		Non-operating	-4° to 140° F (-20° to 60° C)	
	<b>Battery Re-Charge Time</b>	System in OFF mode or Standby	2.5 hours	
		System ON	3 to 5 hours (depending on system power consumption)	
HP Fast Charge Technology		Charges the battery up to 90% within 1.5 hours when system is OFF		

### Technical Specifications

Optional 52Wh Travel Battery	Dimensions (H x W x L)	1.0 x 3.9 x 8.7 in (2.5 x 10.0 x 22.0 cm)		
	Weight	1.00 lb (0.455 kg)		
	Cells/Type	8-cell Lithium-Ion		
	Energy	Voltage	14.4 V	
		Amp-hour Capacity	3.6Ah	
		Watt-hour Capacity	52Wh	
	Temperature	Operating (Charging)	32° to 113° F (0° to 45° C)	
		Operating (Discharging)	14° to 140° F (-10° to 60° C)	
		Non-operating	-4° to 140° F (-20° to 60° C)	
	Battery Re-Charge Time	System in OFF mode or Standby	3 hours	
System ON		3 to 5 hours (depending on system power consumption)		
Fuel Gauge	When pressed, LEDs light indicating level of charge remaining on battery			

15.0-Inch Color TFT XGA Display	Active Area (W x H)	12.0 x 9.0 in (30.4 x 22.8 cm)		
	Diagonal Size	15.0 in (38.0 cm)		
	Surface Treatment	Anti-glare		
	Contrast Ratio	250:1 (typical)		
	Refresh Rate	60 Hz		
	Brightness	150 nit (typical)		
	Pixel Resolution	Pitch	0.297 mm	
		Format	1024 x 768	
		Configuration	RGB Stripe	
	Backlight	CCFL		
	PPI	85		
	Character Display	80 x 25		
	Total Power Consumption	5.7 W		
Viewing Angle	±45° Horizontal, +15°/-35° Vertical (typical)			

### Hard Drives

## Technical Specifications

60-GB 4200 rpm	Drive Weight	0.22 lb (99 g)	
	Capacity	60 GB	
	Height	0.37 in (9.5 mm)	
	Width	2.75 in (70 mm)	
	Interface	ATA-6	
	Transfer Rate	Synchronous (maximum)	100 MB/s (Drive Capability)
	Seek Time (typical reads, including settling)	Single Track	3 ms
		Average	13 ms
		Maximum	24 ms
	Rotational Speed	4200 rpm	
	Logical Blocks	117,210,240	
	Operating Temperature	41° to 131° F (5° to 55° C)	
	Features	ATA Security	

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40-GB 4200 rpm	Drive Weight	0.22 lb (99 g)	
	Capacity	40 GB	
	Height	0.37 in (9.5 mm)	
	Width	2.75 in (70 mm)	
	Interface	ATA-6	
	Transfer Rate	Synchronous (maximum)	100 MB/s (Drive Capability)
	Seek Time (typical reads, including settling)	Single Track	3 ms
		Average	13 ms
		Maximum	24 ms
	Rotational Speed	4200 rpm	
	Logical Blocks	78,140,160	
	Operating Temperature	41° to 131° F (5° to 55° C)	
	Features	ATA Security	

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## Removable Storage Drives – Fixed Bay

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## Technical Specifications

<b>DVD/CD-RW Combo Drive</b>	<b>Access Times</b>	Random	<110 ms CD <130 ms DVD
	<b>Max Data Transfer Rate</b>	24X CD-ROM	3,600 KB/s
		8X DVD	10,800 KB/s
		24X CD-R	3,600 KB/s
		24X CD-RW	3,600 KB/s
	<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	
	<b>Max Media Capacity (read)</b>	4.7 GB	
<b>Max Media Capacity (write)</b>	700 MB		
<b>Transport</b>	Tray loading		

<b>DVD+/-RW Drive with Double Layer Technology</b>	<b>Access Times</b>	Random	<175 ms CD <230 ms DVD
	<b>Max Data Transfer Rate</b>	24X CD-ROM	3,600 KB/s
		8X DVD	10,800 KB/s
		24X CD-R	3,600 KB/s
		10X CD-RW	1,500 KB/s
		8X DVD+R	10,800 KB/s
		4X DVD+RW	5,400 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, DVD-R, DVD-RW		
<b>Max Media Capacity (read)</b>	8.5 GB		
<b>Max Media Capacity (write)</b>	4.7 GB		
<b>Transport</b>	Tray Loading		

## Technical Specifications

### Audio

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<b>Hardware</b>	<b>Implementation</b>	Conexant AC '97 CODEC
	<b>Volume Controls</b>	Up, down, and mute buttons
	<b>Full Duplex</b>	Yes
	<b>Sound Blaster Pro compatible</b>	Yes
	<b>Microphone Jack</b>	Stereo or mono
	<b>Headphone/Line Out Jack</b>	Stereo

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<b>Audio Output Quality</b>	<b>Frequency Response</b>	20 Hz - 20 kHz
	<b>Signal to Noise Ratio</b>	>85 dB
	<b>Total Harmonic Distortion</b>	0.01%
	<b>Noise Floor</b>	-110 dB
	<b>Play/Record Sampling Rate(s)</b>	7 kHz - 48 kHz
	<b>AD/DA Resolution</b>	16 bit

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<b>Internal Speakers</b>	<b>Power Rating</b>	2 Watts
	<b>Impedance</b>	4 Ohms

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### Communications

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<b>Integrated NetXtreme 10/100 Ethernet Controller</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



### Technical Specifications

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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	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
	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

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Broadcom 802.11b/g WLAN	Wireless LAN Standards	IEEE 802.11b IEEE 802.11g
	Interoperability	Wi-Fi certified Cisco Compatible Extensions Program compliant (details at <a href="http://www.hp.com/go/notebooks/WLAN">http://www.hp.com/go/notebooks/WLAN</a> )
	Frequency Band	2.4 GHz

### Technical Specifications

<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<sup>1</sup></b>	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).	
<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 access points.	
<b>Output Power (for CCK)<sup>2</sup></b>	17.5 dBm +/- 1.5 dB	
<b>Output Power (for OFDM; power varies by data rate)<sup>2</sup></b>	13.5 dBm +/- 1.5 dB	
<b>Power Consumption</b>	Transmit: 2.0 W (max) Receive: 1.5 W (max) Idle mode: 248 mW (nominal) Sleep mode: 20 mW (max)	
<b>Power Management</b>	ACPI compliant power management 802.11 Compliant Power Saving Mode	
<b>Receiver Sensitivity<sup>3</sup></b>	54 Mbps: -72 dBm, 1 Mbps: -94 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 (@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
<b>Form Factor</b>	MiniPCI Type IIIB	
<b>Weight</b>	0.026 lb (12 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 122° F (0° to 50° C)
	Non-operating	-14° to 158° F (-10° to 70° C)
<b>Humidity</b>	Operating	10% to 90% (non-condensing)
	Non-operating	5% to 95% (non-condensing)
<b>Altitude</b>	Operating	0 to 15,000 ft (4,572 m)
	Non-operating	0 to 40,000 ft (12,192 m)

### Technical Specifications

#### Configuration Utility<sup>4</sup>

Choice of Configuration Utility:

- Microsoft Windows XP Wireless Network Connection Manager
- Broadcom Wireless Configuration Utility (required for Cisco Compatible Extensions support)

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 suppliers.

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