

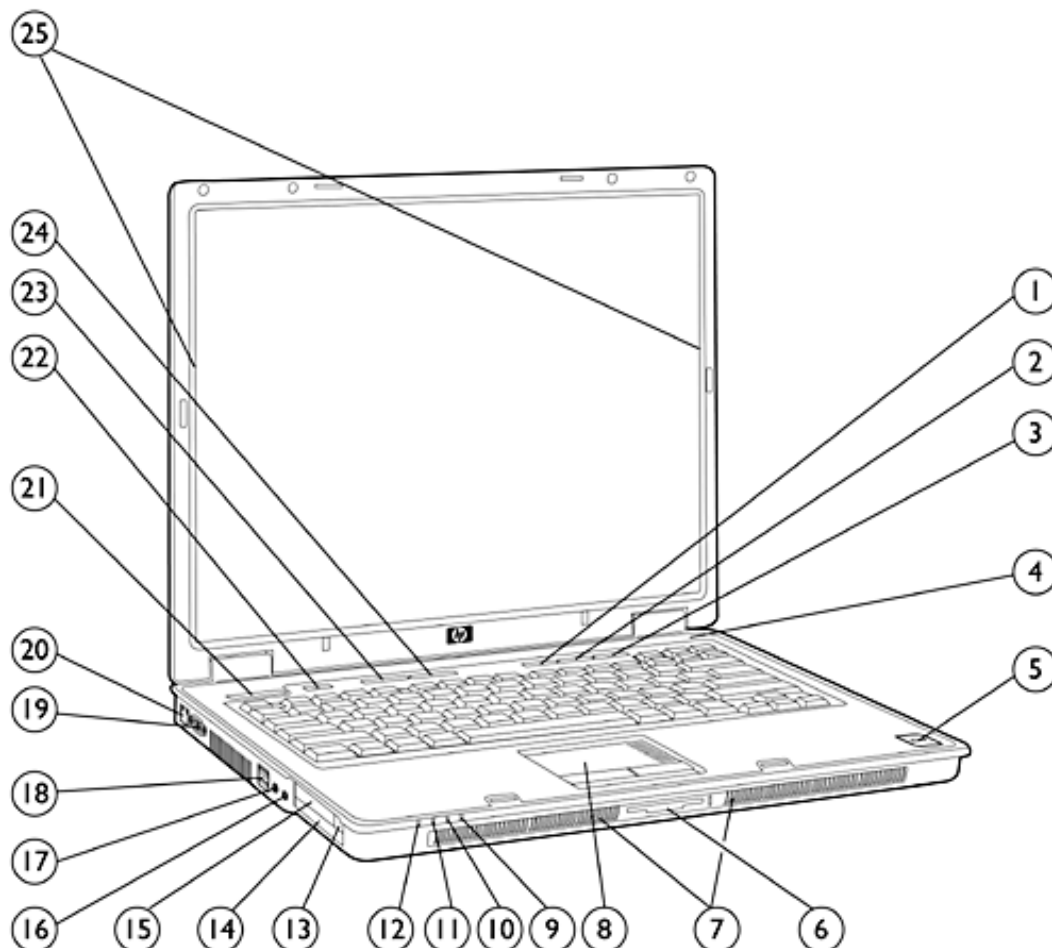
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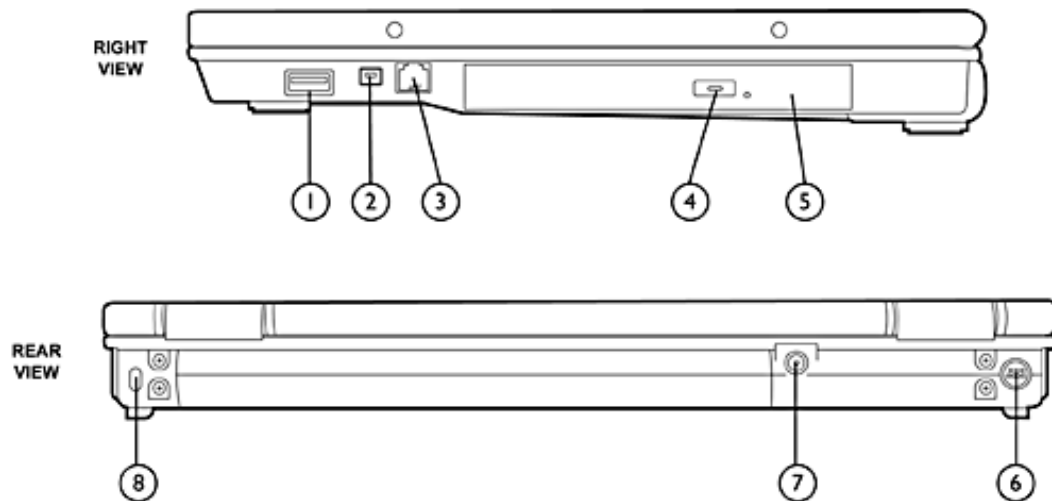
Overview

HP Compaq nx6325 Notebook PC

HP recommends Windows Professional



- | | |
|------------------------------------|--|
| 1. Volume Mute Button with LED | 14. ExpressCard Slot |
| 2. Volume Down Button | 15. PC Card Slot (or optional Smart Card Reader) |
| 3. Volume Up Button | 16. Microphone Jack |
| 4. Integrated Microphone | 17. Headphone Jack |
| 5. HP Biometric Fingerprint Sensor | 18. 2 USB 2.0 Ports |
| 6. 7-in-1 Media Reader | 19. VGA/External Monitor Connector |
| 7. Stereo Speakers | 20. RJ-45 Port (NIC) |
| 8. Touchpad with Scroll Zone | 21. Power Button with LED |
| 9. Hard Drive Activity LED | 22. HP Info Center Button |
| 10. Battery Charging LED | 23. Wireless On/Off Button with LED |
| 11. Power/Standby LED | 24. Presentation Mode Button |
| 12. Wireless On/Off LED | 25. Dual-band Wireless LAN Antennas |
| 13. PC Card Eject Button | |



- | | |
|-------------------------|-------------------------|
| 1. 1 USB 2.0 Port | 5. Optical Drive |
| 2. IEEE 1394a Port | 6. S-Video TV Out |
| 3. RJ-11 Port (Modem) | 7. DC Power Connector |
| 4. Optical Drive Button | 8. Kensington Lock Slot |

At A Glance

- Genuine Windows XP Professional, Genuine Windows XP Home Edition, or FreeDOS
- AMD Turion™ 64 X2 Mobile Technology or Mobile AMD Sempron™ processor
- Sleek industrial design starting at 5.7 lb/2.6 kg and 1.2-inch/30.3 mm thin at front
- ATI RADEON XPRESS 1150 Chipset
- Up to 4GB* of 667-MHz DDR2 SDRAM, dual channel memory support
- Up to 100-GB 5400 rpm, user-removable hard drive
- Optional integrated 802.11 a/b/g or 802.11 b/g wireless LAN module
- Bluetooth® with 3-3-0 warranty only
- 7-in-1 Media Reader
- TPM 1.2
- HP Biometric Fingerprint Sensor
- Broadcom NetLink Gigabit Ethernet PCI Controller
- Touchpad with scroll zone
- Protected by one year or three-year standard parts and labor warranty (depending on model)- certain restr exclusions apply

* Above 3-GB, all memory may not be available due to system resource requirements.

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Standard Features

Processors

AMD Turion 64 X2 Dual-Core Mobile Processor TL-60 (2.0-GHz, 2 x 512-KB L2 cache)
 AMD Turion 64 X2 Dual-Core Mobile Processor TL-56 (1.8-GHz, 2 x 512-KB L2 cache)
 AMD Turion 64 X2 Dual-Core Mobile Processor TL-52 (1.6-GHz, 2 x 512-KB L2 cache)
 AMD Turion 64 X2 Dual-Core Mobile Processor TL-50 (1.6-GHz, 2 x 256-KB L2 cache)
 Mobile AMD Sempron Processor 3500+ (1.8-GHz, 512-KB L2 cache)
 Mobile AMD Sempron Processor 3400+ (1.8-GHz, 256-KB L2 cache)
 Mobile AMD Sempron Processor 3200+ (1.6-GHz, 512-KB L2 cache)

NOTE: Processor speed denotes maximum performance mode; processors will run at speeds in battery optimization mode.

Operating System

Preinstalled

Genuine Windows XP Professional SP2

	Genuine Windows XP Home Edition SP2 FreeDOS
Supported	Genuine Windows XP Professional x64 Edition Genuine Windows 2000 (drivers downloadable from http://www.hp.com/go/drivers)
Certified	SuSE Linux Enterprise Desktop 10 Novell Linux Desktop 9
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 experiences of Windows Vista, such as innovations in organizing information, security, and reliability. Some features available in premium editions of Windows Vista -- like the new Windows user interface -- require advanced or additional hardware. Check http://www.windowsvista.com/getready for details.

Chipset	ATI Radeon Xpress 1150 Chipset	
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Graphics	ATI Radeon Xpress 1150, up to 128-MB shared system memory	
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Display	Internal	15.0-inch XGA (1024 x 768 resolution and 16 M colors) 15.0-inch XGA BrightView (1024 x 768 resolution and 16 M colors) 15.0-inch SXGA+ wide viewing angle (1400 x 1050 resolution and 16 M colors)
	External	Up to 32-bit per pixel color depth VGA port supports resolutions up to 2048 x 1536 at 75 Hz, and resolutions at up to 100 Hz NOTE: Resolutions are dependent upon monitor capability, resolution and color depth settings.

Memory	Standard	512-MB, 1024-MB or 2048-MB 667-MHz DDR2 SDRAM; two slots supporting dual channel memory
	Maximum	Upgradeable to 4096-MB maximum (2048-MB SODIMM in slot 2)
	Dual-channel	Maximized dual-channel performance requires SODIMMs of the same size and speed in both memory slots.

NOTE: 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. Above 3-GB, all memory may not be available due to system resource requirements.

Communications	Integrated Broadcom NetLink Gigabit Ethernet PCI Controller (10/100/1000 NIC)* 56K V.92 modem** with digital line guard * The term "10/100/1000" or "Gigabit" Ethernet indicates compliance with IEEE standard 802.3 for Gigabit Ethernet, and does not connote actual operating speed of 1 Gb/s. For high-speed transmission, connection to a Gigabit Ethernet server and network infrastructure is required. ** Designed for downloads from 56K modem compliant sources. Maximum achievable transmission rates currently do not reach 56 KB/s, and will vary with line conditions. Modem availability is subject to country regulatory approval.	
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Wireless Devices	Support for a broad range of secure, integrated wireless LAN options featuring support for the latest industry standards. Integrated Bluetooth is also an option (factory configurable or can be combined with any of the supported wireless LAN options).	
	All integrated wireless LAN options	Wi-Fi certified Cisco Compatible Extensions support (Version 3.0) Wired Equivalent Privacy (WEP) support up to 128-bit keys Wi-Fi Protected Access (WPA) and WPA2 support 802.1x authentication support, including EAP-TLS, EAP-TTL, EAP-GTC, PEAP-MSCHAPv2, and LEAP Advanced Encryption Standard (AES) support

	WiFi certified for WPA2, WMM Dual antennas integrated in the display enclosure
Broadcom 4311AG WiFi Adapter	Integrated support for 802.11a, b and g Up to 54-mbps data rate
Broadcom 4311BG WiFi Adapter	Integrated support for 802.11 b and g Up to 54-mbps data rate
HP Integrated Module with Bluetooth 2.0 Wireless Technology (only available with 3-3-0 warranty)	Bluetooth Specification v2.0 compliant Works with a wide range of Bluetooth devices

Keyboard	The 101/102-key compatible keyboard features an industry standard, full-pitch key layout. The keyboard features desktop keyboard features, such as the isolated inverted-T cursor control keys, editing left and right control and alt keys, and 12 function keys. US and International key layout 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-spacing), 2.5-mm stroke, comfort-dished keycaps, and bright key legends for improved low light conditions.
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One-Touch Productivity Buttons	Provide one-touch access to the following features: HP Info Center, Wireless On/Off, F Mode, Volume Up, Volume Down, and Volume Mute
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Pointing Device	Touchpad with scroll zone, two soft-touch buttons
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Expansion Card Slots	One Type I/II PC Card slot or Optional Integrated Smart Card Reader Express Card slot	Supports 32-bit CardBus and 16-bit PC Cards Compatible with ISO 7816 compliant Smart Cards PC/SC interface support Express Card/34 or ExpressCard/54
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Media Slots	7-in-1 Media Reader	Supports SD (Secure Digital), MMC (MultiMedia Card), Memory Stick Pro, Memory Stick Duo*, Smart Media, xD-Pic
		*NOTE: Memory Stick Duo Adapters are required and sold separately. Inserting a Memory Stick Duo Card directly into your notebook could damage the memory card and/or notebook.

Storage	Hard Drives	40-, 60-, 80-, 100-GB 5400 rpm SMART SATA
	NOTE: These hard drives are customer removable and will withstand multiple insertion cycles. Up to 8GB is reserved for the system recovery software.	
	HP Mobile Data Protection System	Hard drive is mounted directly to the notebook frame, reducing transmission of shock to the hard drive and protecting it during use from shock and vibration.
	Fixed Optical Drives	DVD/CD-RW Combo DVD+/-RW SuperMulti with Double Layer LightScribe DVD+/-RW SuperMulti with Double Layer

Interfaces	PC Card Slot	One Type I/II or optional Smart Card Reader
	Express Card Slot	Express Card/34 or ExpressCard/54
	External Monitor	One – VGA
	IEEE 1394a Port	One
	External Microphone	One
	Headphone/Line out	One
	Power Connector	One
	RJ-11 (Modem)	One
	RJ-45 (NIC)	One

S-Video TV Out	One (Support for NTSC/PAL)
USB 2.0	Three
Docking Connector	One
Accessory Battery Connector	One
LED Status Indicators	Twelve

Audio	<p>PremierSound audio/speaker subsystem ADI1981HD High Definition CODEC Integrated 16-bit Sound Blaster Pro compatible audio 24-bit DAC Integrated stereo speakers Integrated microphone External volume up, volume down, and mute buttons Stereo headphone/line out Stereo microphone in</p>
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Software	<p>Preinstalled Software</p> <p>Microsoft Windows XP</p> <ul style="list-style-type: none"> Adobe Acrobat Reader HP Backup and Recovery Manager HP Help and Support Center HP Mobile Print Driver HP ProtectTools Security Manager: <ul style="list-style-type: none"> BIOS Configuration for HP ProtectTools Embedded Security for HP ProtectTools Credential Manager for HP ProtectTools HP Quick Launch Buttons HP Wireless Assistant Sonic Digital Media Plus: <ul style="list-style-type: none"> RecordNow! (for optional DVD+/-RW and DVD/CDRW driv MyDVD (DVD Authoring for optional DVD+/-RW drives) Synaptics Touchpad Driver Symantec Norton Internet Security with complimentary 60-d: update Intervideo WinDVD – DVD Player (for optional DVD+/-RW, I and DVD drives) <p>Additional software available from the Web</p> <ul style="list-style-type: none"> Smart Card Security for HP ProtectTools Device Access Manager for HP ProtectTools
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HP Backup and Recovery Manager	<p>Each unit is shipped with HP Backup and Recovery Manager. HP Backup and Recove can provide data and system file protection for HP business PCs to enable fast recover system becomes corrupted or if important information is accidentally deleted. HP Back Recovery Manager can perform scheduled or manual backups of the entire drive or inc and folders. Up to 8GB of the hard drive is reserved for the system recovery software. and Recovery Manager can also create software recovery CDs or DVDs (requires opti hardware).</p>
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SMBIOS Version 2.4	<p>System Management BIOS, previously known as DMI BIOS, is used to store system m information.</p>
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HP ProtectTools Security Manager	<p>HP ProtectTools Security Manager is the security platform for business notebooks and The HP ProtectTools Security Manager is an extensible client security console that del enhanced security capabilities through add-on software modules. Modules currently av</p> <ul style="list-style-type: none"> - Smart Card Security for HP ProtectTools - BIOS Configuration for HP ProtectTools - Credential Manager for HP ProtectTools - Device Access Manager for HP ProtectTools
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Security	Standard Features	<ul style="list-style-type: none"> HP ProtectTools Security Manager HP Biometric Fingerprint Sensor
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Configuration Control Hardware
 Memory Change Alert
 Ownership Tag
 Setup Password
 Power-On Password
 DriveLock
 TPM Enhanced DriveLock
 HP Disk Sanitizer
 Enabled for PC Smart Card options
 TPM 1.2 Embedded Security Chip
 Kensington Lock Slot
 Support for Computrace / LoJack for Laptops (must be purchased separately)

Optional Features

Smart Card Reader
 (replaces Type I/II PC
 Card slot)

Compatible with ISO 7816 compliant
 Cards
 PC/SC interface support

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

Power Supply

External 65-watt Smart 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*

*Fast Charge Technology recharges your battery up to 90% within 90 minutes when the system is off. Fast Charge Technology does not apply to 12-cell Ultra-Capacity batteries.

Battery

Primary Battery	55Wh 6-cell high capacity Lithium-Ion
Optional HP 8-Cell Extended Life Battery	52Wh 8-cell high capacity Lithium-Ion
Optional HP 12-Cell Ultra-Capacity Battery	95Wh 12-cell high capacity Lithium-Ion

Battery Life

Primary Battery	55Wh: Up to 4 hours
Primary Battery and optional HP 8-Cell Extended Life Battery	55Wh: Up to 8 hours and 15 minutes
Primary Battery and optional HP 12-Cell Ultra-Capacity Battery	55Wh: Up to 11 hours and 15 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 over time and usage.

System Standby Time

Up to 1 week

Power Conservation

ATI PowerPlay technology
 Hibernation
 Standby
 ACPI compliance

Docking

HP Docking Station
 HP Advanced Docking Station
 HP Adjustable Notebook Stand

HP's shared docking solutions provide simple and convenient port replication and cable management. Features include Gigabit NIC pass through, modem pass through, legacy and serial ports, S-video TV out, USB 2.0 ports, integrated security mechanism*, integrated MultiBay II and ExpressCard** slots. These docking solutions are compatible across most Business Notebook platforms enabling a lower total cost of ownership.

* HP/Kensington Cable Lock required (purchased separately)

** HP Advanced Docking Station only

Service and Support HP Services includes a one-year or three-year standard parts and labor warranty (depending on model), pick-up or carry-in, and toll-free 7 x 24 hardware technical phone support. On-site and warranty upgrades are also available.

NOTE: Certain restrictions and exclusions apply. Consult the HP Customer Support Center details.

<http://h20000.www2.hp.com/bizsupport/TechSupport/ProductRoot.jsp>.

Select Model(s)

nx6325 EN188UT#ABA Smart Buy	Processor Operating System System Memory Hard Drive Display Graphics Audio Communications Integrated Wireless Integrated Security Pointing Device Optical Drive Battery Power Warranty	AMD Turion 64 X2 Mobile Processor TL-52 (1.6GHz) Genuine Windows XP Professional 512 MB 667-MHz DDR2 (1 DIMM) 60-GB 5400 rpm SATA 15.0-inch XGA BrightView ATI Radeon Xpress 1150, up to 128-MB shared system memory PremierSound High Definition Audio w/24-bit DAC line out/headphone and microphone jacks integrated microphone 56K V.92 modem Integrated Broadcom NetLink Gigabit Ethernet PCI Controller (10/100/1000 NIC) Broadcom 4311AG 802.11a/b/g Bluetooth 2.0 TPM 1.2 Embedded Security Chip HP Biometric Fingerprint Sensor Touchpad with scroll zone DVD/CD-RW Combo Drive 6-cell (55 WHr) Lithium-Ion External 65W adapter 3/3/0
nx6325 EN189UA#ABA	Processor Operating System System Memory Hard Drive Display Graphics Audio Communications Integrated Wireless Integrated Security Pointing Device Optical Drive Battery Power Warranty	AMD Turion 64 X2 Mobile Processor TL-52 (1.6GHz) Genuine Windows XP Professional 1024 MB 667-MHz DDR2 (2 DIMM) 80-GB 5400 rpm SATA 15.0-inch XGA ATI Radeon Xpress 1150, up to 128-MB shared system memory PremierSound High Definition Audio w/24-bit DAC line out/headphone and microphone jacks integrated microphone 56K V.92 modem Integrated Broadcom NetLink Gigabit Ethernet PCI Controller (10/100/1000 NIC) Broadcom 4311AG 802.11a/b/g Bluetooth 2.0 TPM 1.2 Embedded Security Chip HP Biometric Fingerprint Sensor Touchpad with scroll zone DVD+-RW with Double Layer 6-cell (55 WHr) Lithium-Ion External 65W adapter 3/3/0
nx6325 EN190UT#ABA Smart Buy	Processor Operating System System Memory Hard Drive Display	AMD Turion 64 X2 Mobile Processor TL-56 (1.8GHz) Genuine Windows XP Professional 1024 MB 667-MHz DDR2 (2 DIMM) 80-GB 5400 rpm SATA 15.0-inch SXGA+ wide viewing angle

Graphics	ATI Radeon Xpress 1150, up to 128-MB shared system men
Audio	PremierSound High Definition Audio w/24-bit DAC line out/headphone and microphone jacks integrated microphone
Communications	56K V.92 modem Integrated Broadcom NetLink Gigabit Ethernet PCI Controlle (10/100/1000 NIC)
Integrated Wireless	Broadcom 4311AG 802.11a/b/g Bluetooth 2.0
Integrated Security	TPM 1.2 Embedded Security Chip HP Biometric Fingerprint Sensor
Pointing Device	Touchpad with scroll zone
Optical Drive	DVD+/-RW with Double Layer
Battery	6-cell (55 WHr) Lithium-Ion
Power	External 65W adapter
Warranty	3/3/0

nx6325
EN191UA#ABA

Processor	AMD Turion 64 X2 Mobile Processor TL-60 (2.0 GHz)
Operating System	Genuine Windows XP Professional
System Memory	1024 MB 667-MHz DDR2 (2 DIMM)
Hard Drive	100-GB 5400 rpm SATA
Display	15.0-inch SXGA+ wide viewing angle
Graphics	ATI Radeon Xpress 1150, up to 128-MB shared system men
Audio	PremierSound High Definition Audio w/24-bit DAC line out/headphone and microphone jacks integrated microphone
Communications	56K V.92 modem Integrated Broadcom NetLink Gigabit Ethernet PCI Controlle (10/100/1000 NIC)
Integrated Wireless	Broadcom 4311AG 802.11a/b/g Bluetooth 2.0
Integrated Security	TPM 1.2 Embedded Security Chip HP Biometric Fingerprint Sensor
Pointing Device	Touchpad with scroll zone
Optical Drive	DVD+/-RW with Double Layer
Battery	6-cell (55 WHr) Lithium-Ion
Power	External 65W adapter
Warranty	3/3/0

nx6325
RB544UT#ABA
Smart Buy

Processor	Mobile AMD Sempron 3200+ (1.6GHz)
Operating System	Genuine Windows XP Professional
System Memory	512 MB 667-MHz DDR2 (1 DIMM)
Hard Drive	40-GB 5400 rpm SATA
Display	15.0-inch XGA
Graphics	ATI Radeon Xpress 1150, up to 128-MB shared system men
Audio	PremierSound High Definition Audio w/24-bit DAC line out/headphone and microphone jacks integrated microphone
Communications	56K V.92 modem Integrated Broadcom NetLink Gigabit Ethernet PCI Controlle (10/100/1000 NIC)
Integrated Wireless	Broadcom 4311BG 802.11b/g
Integrated Security	TPM 1.2 Embedded Security Chip HP Biometric Fingerprint Sensor
Pointing Device	Touchpad with scroll zone
Optical Drive	DVD/CD-RW Combo Drive
Battery	6-cell (55 WHr) Lithium-Ion
Power	External 65W adapter
Warranty	1/1/0

nx6325 RB545UT#ABA Smart Buy	Processor	AMD Turion 64 X2 Mobile Processor TL-50 (1.6GHz)
	Operating System	Genuine Windows XP Professional
	System Memory	512 MB 667-MHz DDR2 (1 DIMM)
	Hard Drive	60-GB 5400 rpm SATA
	Display	15.0-inch XGA + BrightView
	Graphics	ATI Radeon Xpress 1150, up to 128-MB shared system men
	Audio	PremierSound High Definition Audio w/24-bit DAC line out/headphone and microphone jacks integrated microphone
	Communications	56K V.92 modem Integrated Broadcom NetLink Gigabit Ethernet PCI Controlle (10/100/1000 NIC)
	Integrated Wireless	Broadcom 4311AG 802.11a/b/g
	Integrated Security	TPM 1.2 Embedded Security Chip HP Biometric Fingerprint Sensor
	Pointing Device	Touchpad with scroll zone
	Optical Drive	DVD/CD-RW Combo Drive
	Battery	6-cell (55 WHr) Lithium-Ion
	Power	External 65W adapter
Warranty	1/1/0	

nx6325 RB546UA#ABA	Processor	AMD Turion 64 X2 Mobile Processor TL-50 (1.6GHz)
	Operating System	Genuine Windows XP Professional
	System Memory	1024 MB 667-MHz DDR2 (2 DIMM)
	Hard Drive	60-GB 5400 rpm SATA
	Display	15.0-inch XGA
	Graphics	ATI Radeon Xpress 1150, up to 128-MB shared system men
	Audio	PremierSound High Definition Audio w/24-bit DAC line out/headphone and microphone jacks integrated microphone
	Communications	56K V.92 modem Integrated Broadcom NetLink Gigabit Ethernet PCI Controlle (10/100/1000 NIC)
	Integrated Wireless	Broadcom 4311AG 802.11a/b/g
	Integrated Security	TPM 1.2 Embedded Security Chip HP Biometric Fingerprint Sensor
	Pointing Device	Touchpad with scroll zone
	Optical Drive	DVD/CD-RW Combo Drive
	Battery	6-cell (55 WHr) Lithium-Ion
	Power	External 65W adapter
Warranty	1/1/0	

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Options

Memory	HP 512-MB (DDR2 533 MHz) SODIMM
	HP 1-GB (DDR2 533 MHz) SODIMM
	HP 512-MB (DDR2 667 MHz) SODIMM
	HP 1-GB (DDR2 667 MHz) SODIMM
	HP 2-GB (DDR2 667 MHz) SODIMM

MultiBay II Storage (9.5-mm) NOTE: Requires HP Advanced Docking Station or HP External	HP MultiBay II DVD-ROM Drive
	HP MultiBay II DVD/CD-RW Combo Drive
	HP MultiBay II DVD+/-RW Drive
	HP 80-GB 5400rpm MultiBay II Hard Drive

MultiBay II

Other Storage	HP 80-GB 5400rpm SATA Hard Drive HP 12.7mm DVD+/-RW LightScribe Drive HP USB Digital Drive + 128-MB SD Memory HP USB Diskette Drive	
Expansion Solutions	HP Docking Station with Smart Adapter HP Advanced Docking Station with Smart Adapter HP 3-in1 NAS Docking Station HP Standard Monitor Stand HP Adjustable Notebook Stand HP 9.5mm External MultiBay II Cradle HP 4-port USB 2.0 Hub	EN4 EN4 EM5 PA
Power	HP (WW) 2-Bay Battery Charging Station HP (NA) 10-Bay Battery Charging Station HP (4200/6100/6200/8200) Battery Adapter Kit HP 65W Smart AC Adapter HP 90W Smart AC Adapter HP 90W Smart Auto Adapter HP 65W Air/Auto/AC Combo Adapter HP (6100/6200 series) 6-Cell Li-Ion Primary Battery HP 8-cell Extended Life Battery HP 12-cell Ultra-Capacity Battery	D1 D1 ED4 ED4 ED9
Carrying Cases	HP Value Carrying Case HP Top Load Nylon Carrying Case HP Executive Nylon/Leather Case HP Sport Backpack	
Security	HP Smart Card Reader with Java Card Java Card Bulk Pack (1-100) HP/Kensington MicroSaver Security Lock	
Input/Output Devices	HP USB/PS2 Keyboard HP USB/PS2 Optical 2-Button Scroll Mouse HP USB Optical Travel Mouse	DC

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Memory

Support for up to 4096 MB* of 667-MHz DDR2 SDRAM
Two DIMM slots
DIMM sizes supported: 512 MB, 1024 MB, and 2048 MB

- Standard Memory**
- 512 MB (512 MB x 1)
 - 1024 MB (1024 MB x 1 or 512 MB x 2)
 - 2048 MB (1024 MB x 2)

Optional Memory Upgrades

Support for up to 4096 MB* of memory is available (with the installation of optional DDF memory kits). Both memory slots are user accessible. Please refer to the Hardware and Guide for installation procedures. Maximized dual-channel performance requires SODIMM same size and speed in both memory slots.

Up to	Slot 1	Slot 2
512 MB	512 MB	Empty
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
4096 MB*	2048 MB	2048 MB

NOTE: This chart does not represent all possible memory configurations. Due to the non-standard nature of some third-party memory modules, we strongly recommend using only branded memory modules to ensure compatibility. If you mix memory speeds, the system will perform at the lower memory speed.

Memory Upgrades	HP 512-MB (DDR2 667 MHz) SODIMM
	HP 1-GB (DDR2 667 MHz) SODIMM
	HP 2-GB (DDR2 667 MHz) SODIMM

* Above 3-GB, all memory may not be available due to system resource requirements.

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Storage

Removable Media Drive Support

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

Hard Drive Support

	Quantity Supported	Drive Bay
Primary Hard Drives		
100-GB 5400 rpm SMART SATA Hard Drive	One	Dedicated hard drive bay
80-GB 5400 rpm SMART SATA Hard Drive	One	Dedicated hard drive bay
60-GB 5400 rpm SMART SATA Hard Drive	One	Dedicated hard drive bay
40-GB 5400 rpm SMART SATA Hard Drive	One	Dedicated hard drive bay

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Technical Specifications

System Unit	Dimensions (HxWxD)	1.2 (at front) x 12.9 x 10.5 in (30.3 (at front) x 328.6 x 266.7 r		
	Weight	5.7 lb (2.6 kg)		
	NOTE: Height varies depending upon where on the notebook the measurement is made, varies by configuration and components. Weight includes 6-cell battery, 60-GB hard drive, memory, and CD-ROM drive. Weight varies by configuration and components.			
Stand-Alone Power Requirements	Normal Operating Voltage	18.5 V		
	Average Operating Power	12.5 W		
	Max Operating Power	< 65 W		
Temperature	Operating	32° to 95° F (0° to 35° C) (not writing) 41° to 95° F (5° to 35° C) (writing)		
	Non-operating	-4° to 140° F (-20° to 60° C)		
Relative Humidity	Operating	10% to 90%, non-condensing		
	Non-operating	5% to 95%, 101.6° F (38.7° C) max bulb temperature		
Shock	Operating	125 G, 2 ms, half-sine		
	Non-operating	200 G, 2 ms, half-sine		
Random Vibration	Operating	0.75 grms		
	Non-operating	1.50 grms		
Altitude (unpressurized)	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)		
Industry Standard Certifications	UL	Yes		
	CSA	Yes		
	FCC Compliance	Yes		
	Energy Star Compliant	Yes		
	ICES	Yes		
	GS	Yes		
	Australia / NZ A-Tick Compliance	Yes		
	CCC	Yes		
	Japan VCCI Compliance	Yes		
	MIC	Yes		
	BSMI	Yes		
	CE Marking Compliance	Yes		
	BNCI or BELUS	Yes		
	CIT	Yes		
	GOST	Yes		
	Saudi Arabian Compliance (ICCP)	Yes		
SABS	Yes			
UKRSERTCOMPUTER	Yes			
HP 65W Smart AC Adapter	Dimensions	4.17 x 1.85 x 1.1 in (10.6 x 4.7 x 2.8 cm)		
	Weight	0.62 lb (280 g)		
	Input	100 to 240 VAC		
		Input Efficiency	83% min at 115 VAC	
		Input frequency range	47 to 63 Hz	
	Output	Input AC current	1.7 A at 90 VAC, 0.85 A at 180 VAC	
		Output power 65W	65W	
		DC output	18.5V	
		Hold-up time	5 msec at 115 VAC input	

		Output current limit	<11A, Over voltage protection- 29 automatic shutdown	
Connector		3 pin/grounded, mates with interchangeable cords		
Environmental Design	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%		
	Storage Humidity	10% to 90%		
EMI and Safety Certifications		CE Mark – full compliance with LVD and EMC directives; Wc safety standards – IEC60950, EN60950, UL60950, Class1, § Agency approvals – C-UL-US, NORDICS, DENAN, EN5502; FCC Class B, CISPR22 Class B, CCC, NOM-1 NYCE; MTBF 200,000 hours at 25°C ambient condition.		
Option Kit Contents		65W AC Adapter, power cable, warranty booklet		
<hr/>				
Optional HP 12-Cell Ultra-Capacity Battery	Dimensions (H x W x L)	1.3 x 6.0 x 10.6 in (3.33 x 15.25 x 26.88 cm)		
	Weight	1.77 lb (0.803 kg)		
	Cells/Type	12-cell Lithium-Ion		
	Energy	Voltage	14.8V	
		Watt-hour Capacity	95Wh	
		Amp-hour Capacity	6.45Ah	
	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	Smart Adapter	3 to 4 hours	
		System ON	4 to 5 hours (depending on system consumption)	
Fuel Gauge	When pressed, LEDs light indicating level of charge remainir battery			
<hr/>				
Optional HP 8-Cell Extended Life 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	14.4V	
		Watt-hour Capacity	52Wh	
		Amp-hour Capacity	3.6Ah	
	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 consumption)	
Fuel Gauge	HP Fast Charge Technology	Charges the battery up to 90% wit minutes when system is OFF		
		When pressed, LEDs light indicating level of charge remainir battery		
<hr/>				
55Wh Primary 6-Cell Battery	Dimensions (H x W x L)	0.8 x 2.1 x 8.0 in (2.0 x 5.3 x 20.3 cm)		
	Weight	0.737 lb (0.335 kg)		
	Cells/Type	6-cell Lithium-Ion		
	Energy	Voltage	10.8V	
Watt-hour Capacity		55Wh		

Temperature	Amp-hour Capacity	5.1Ah
	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	2.5 hours
	System ON	3 to 5 hours (depending on system consumption)
	HP Fast Charge Technology	Charges the battery up to 90% within minutes when system is OFF

15.0-Inch Color TFT SXGA+ Wide Viewing Angle 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		
	Number of Colors	Up to 16M		
	Contrast Ratio	300:1 (typical)		
	Refresh Rate	60 Hz		
	Brightness	170 nit (typical)		
	Pixel Resolution	Pitch	0.217 mm	
		Format	1400 x 1050	
		Configuration	RGB Stripe	
	Backlight	CCFL		
PPI	117			
Viewing Angle	±60° Horizontal, +40°/-45° Vertical (typical)			

15.0-Inch Color TFT XGA BrightView 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	BrightView		
	Number of Colors	Up to 16M		
	Contrast Ratio	300:1 (typical)		
	Refresh Rate	60 Hz		
	Brightness	150 nit (typical)		
	Pixel Resolution	Pitch	0.296 mm	
		Format	1024 x 768	
		Configuration	RGB Stripe	
	Backlight	CCFL		
PPI	86			
Viewing Angle	±45° Horizontal, ±25° Vertical (typical)			

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		
	Number of Colors	Up to 16M		
	Contrast Ratio	300:1 (typical)		
	Refresh Rate	60 Hz		
	Brightness	150 nit (typical)		
	Pixel Resolution	Pitch	0.296 mm	
		Format	1024 x 768	
		Configuration	RGB Stripe	
	Backlight	CCFL		
PPI	86			
Viewing Angle	±45° Horizontal, ±25° Vertical (typical)			

Hard Drives

100-GB 5400 rpm SATA	Drive Weight	0.22 lb (101 g)
	Capacity	100 GB
	Height	0.37 in (9.5 mm)
	Width	2.75 in (70 mm)
	Interface	ATA-7 / SATA 1.0a
	Transfer Rate	Synchronous (maximum) 100 MB/s (Drive Capability)
	Seek Time	Single Track 3 ms
	(typical reads, including settling)	Average 13 ms
		Maximum 24 ms
	Rotational Speed	5400 rpm
	Logical Blocks	195,371,568
	Operating Temperature	41° to 140° F (5° to 60° C) [case temp]
	Features	ATA Security

80-GB 5400 rpm SATA	Drive Weight	0.22 lb (101 g)
	Capacity	80 GB
	Height	0.37 in (9.5 mm)
	Width	2.75 in (70 mm)
	Interface	ATA-7 / SATA 1.0a
	Transfer Rate	Synchronous (maximum) 100 MB/s (Drive Capability)
	Seek Time	Single Track 3 ms
	(typical reads, including settling)	Average 13 ms
		Maximum 24 ms
	Rotational Speed	5400 rpm
	Logical Blocks	156,301,488
	Operating Temperature	41° to 140° F (5° to 60° C) [case temp]
	Features	ATA Security

60-GB 5400 rpm SATA	Drive Weight	0.22 lb (101 g)
	Capacity	60 GB
	Height	0.37 in (9.5 mm)
	Width	2.75 in (70 mm)
	Interface	ATA-7 / SATA 1.0a
	Transfer Rate	Synchronous (maximum) 100 MB/s (Drive Capability)
	Seek Time	Single Track 3 ms
	(typical reads, including settling)	Average 13 ms
		Maximum 24 ms
	Rotational Speed	5400 rpm
	Logical Blocks	117,231,408
	Operating Temperature	41° to 140° F (5° to 60° C) [case temp]
	Features	ATA Security

40-GB 5400 rpm SATA	Drive Weight	0.22 lb (101 g)
	Capacity	40 GB
	Height	0.37 in (9.5 mm)
	Width	2.75 in (70 mm)
	Interface	ATA-7 / SATA 1.0a
	Transfer Rate	Synchronous (maximum) 100 MB/s (Drive Capability)

Seek Time (typical reads, including settling)	Single Track	3 ms
	Average	13 ms
	Maximum	24 ms
Rotational Speed	5400 rpm	
Logical Blocks	78,165,360	
Operating Temperature	41° to 140° F (5° to 60° C) [case temp]	
Features	ATA Security	

Removable Storage Drives – Fixed Bay

DVD/CD-RW Combo Drive	Access Times	Random	<110 ms CD <130 ms DVD
	Max Data Transfer Rate	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
	Transfer Mode	Multiword DMA Mode 2	
	Interface	EIDE	
	Supported Media (read)	CD-DA, CD+(E)G, CD-MIDI, CD-TEXT, CD-ROM, CD-ROM MODE CD, CD-I, CD-I Bridge (Photo-CD, Video CD), Multisession (Photo-CD, CD-EXTRA, Portfolio, CD-R, CD-RW), CD-R, CD-RW, DVD-ROM (DVD-5, DVD-9, DVD-10, DVD-18), DVD-R, DVD-RW, DVD+R, DVD+RW	
	Supported Media (write)	CD-R, CD-RW	
	Max Media Capacity (read)	8.5 GB	
	Max Media Capacity (write)	700 MB	
Transport	Tray loading		
LightScribe DVD+/-RW SuperMulti Drive with Double Layer	Access Times	Random	<175 ms CD <230 ms DVD
	Max Data Transfer Rate	24X CD-ROM	3,600 KB/s
		8X DVD	10,800 KB/s
		24X CD-R	3,600 KB/s
		16X CD-RW	2,400 KB/s
		8X DVD+R	10,800 KB/s
		4X DVD+RW	5,400 KB/s
		8X DVD-R	10,800 KB/s
		4X DVD-RW	5,400 KB/s
		2.4X DVD+R(9)	2,700 KB/s
	5X DVD-RAM	6,750 KB/s	
	Transfer Mode	Multiword DMA Mode	
	Interface	EIDE	
	Supported Media (read)	CD-DA, CD+(E)G, CD-MIDI, CD-TEXT, CD-ROM, CD-ROM MODE CD, CD-I, CD-I Bridge (Photo-CD, Video CD), Multisession (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, LightScribe	
	Supported Media (write)	CD-R, CD-RW, DVD+R, DVD+RW, DVD-R, DVD-RW, DVD-RAM	
Max Media Capacity (read)	8.5 GB		
Max Media Capacity (write)	8.5 GB		

	Transport	Tray Loading		
DVD+/-RW SuperMulti Drive with Double Layer	Access Times	Random	<175 ms CD <230 ms DVD	
	Max Data Transfer Rate	24X CD-ROM		3,600 KB/s
		8X DVD		10,800 KB/s
		24X CD-R		3,600 KB/s
		16X CD-RW		2,400 KB/s
		8X DVD+R		10,800 KB/s
		4X DVD+RW		5,400 KB/s
		8X DVD-R		10,800 KB/s
		4X DVD-RW		5,400 KB/s
		2.4X DVD+R(9)		2,700 KB/s
	5X DVD-RAM		6,750 KB/s	
Transfer Mode	Multiword DMA Mode			
Interface	EIDE			
Supported Media (read)	CD-DA, CD+(E)G, CD-MIDI, CD-TEXT, CD-ROM, CD-ROM MODE CD, CD-I, CD-I Bridge (Photo-CD, Video CD), Multisession (Photo-CD, CD-EXTRA, Portfolio, CD-R, CD-RW), CD-R, CDDVD-ROM (DVD-5, DVD-9, DVD-10, DVD-18), DVD-R, DVCDVD+R, DVD+RW. DVD-RAM			
Supported Media (write)	CD-R, CD-RW, DVD+R, DVD+RW, DVD-R, DVD-RW, DVD-			
Max Media Capacity (read)	8.5 GB			
Max Media Capacity (write)	8.5 GB			
Transport	Tray Loading			
HP Biometric Fingerprint Sensor	Mobile Voltage Operation	3.0V–3.6V Single Supply		
	Operating Temperature	32° – 158°F (0° – 70°C)		
	Current Consumption @ 3.3V	Less than 70 mA peak imaging and scrolling Less than 25 mA hardware finger detection Advanced Power Management		
	High-Rate Image Capture	Up to 240 image frames /sec		
	ESD Resistance	IEC 61000-4-2 Level 4 (±15KV)		
	Detection Matrix	192 x 16 Pixels 9.7mm x 0.81mm 500 ppi High-Resolution Images		
Audio				
Hardware	Implementation	ADI1981HD High Definition CODEC		
	Volume Controls	Up, down, and mute buttons		
	Full Duplex	Yes		
	Sound Blaster Pro compatible	Yes		
	Microphone Jack	Stereo or mono		
	Headphone/Line Out Jack	Stereo		
Audio Output Quality	Frequency Response	20 Hz – 20 kHz		
	Signal to Noise Ratio	>85 dB		

Total Harmonic Distortion	0.01%
Noise Floor	-110 dB
Play/Record Sampling Rate(s)	8 kHz – 48 kHz
DAC	16, 20 or 24-bit
ADC	16 or 20-bit

Internal Speakers	Power Rating	2 Watts
	Impedance	4 Ohms

Communications

Integrated Broadcom NetLink Gigabit Ethernet PCI Controller (BCM5788M)	Ethernet Features	10 Mbit/s operation (10BASE-T; IEEE 802.3i; IEEE 802.3 cl 14) 100 Mbit/s operation (100BASE-TX; IEEE 802.3u; IEEE 802.11-30) 1000 Mbit/s operation (1000BASE-T; IEEE 802.3z and 802.3 clauses 34-42) Auto-Negotiation (Automatic Speed Selection) Full Duplex Operation at all Speeds, Half Duplex operation at 100 Mbit/s IEEE 802.1p QoS (Quality of Service) Support IEEE 802.3x Flow Control (IEEE 802.3 clauses 31-32; configurable)
	Power Management	ACPI compliant -- multiple power modes Situation-sensitive features reduce power consumption NIC Battery Saving Mode (enabled by default)
	Performance Features	TCP/IP/UDP Checksum Offload (configurable)
	Manageability	Wake-on-LAN from standby and hibernation (Magic Packet ; Microsoft Wake-Up Frame); Wake-on-LAN from off (Magic F PXE 2.1 Remote Boot Statistics Gathering (SNMP MIB II, Ethernet-like MIB, Ethernet (802.3x, clause 30)) Comprehensive diagnostic and configuration software suite
	Interface	32-bit PCI, 33-MHz
	NIC Device Driver Name	Broadcom NetLink Gigabit Ethernet
	Drivers Available	Microsoft Windows XP Microsoft Windows 2000

V.92 56K Data/Fax Modem	Form Factor	MDC 1.5 Daughtercard
	Power Management Support	APM Revision 1.2, ACPI
	Approvals/Certifications	UL, CSA, NEMKO, CCIB, Industry Canada, FCC Part 68, CE Part 15 Class B, Canadian ICES-003 Class B, C.I.S.P.R.22, ACA, CE Mark, Other Countries
	Data Mode Capabilities	V.92 data V.8bis V.80 V44, V.42bis, MNP5 (Compression) V.42 (LAPM, MNP2-4) (Error Correction) Optional symbol rates: 2800, 3429 Asymmetric Symbol rates Synchronous primary channel data signaling rates: 3600, 31200 Automatic rate re-negotiation V.34 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

Broadcom 4311BG 802.11b/g WiFi Adapter	Wireless LAN Standards	IEEE 802.11b IEEE 802.11g
	Interoperability	Wi-Fi certified Cisco Compatible Extensions Program compliant (details at www.hp.com/go/notebooks/WLAN)
	Frequency Band	2.4 GHz
	Data Rates	802.11b: 1, 2, 5.5, 11 Mbps 802.11g: 6, 9, 12, 18, 24, 36, 48, 54 Mbps
	Modulation	Direct Sequence Spread Spectrum DBPSK, DQPSK, CCK, OFDM
	Security¹	Supports 64- and 128-bit WEP, WPA, WPA2, hardware-acce AES, 802.1x authentication types EAP-TLS, EAP-TTLS, PE/ PEAP-MSCHAPv2, LEAP, EAP-FAST, EAP-SIM.
	Sub-channels	Support for Cisco Security Features (proven compatibility wit Aironet infrastructure products through the Cisco Compatible Extensions Program Version 4).
	Media Access Protocol	CSMA/CA (Collision Avoidance) with ACK
	Network Architecture Models	Ad-hoc (Peer to Peer) Infrastructure (Access Point Required)
	Roaming	IEEE 802.11 compliant roaming between access points
	Output Power (for CCK) ²	17.5 dBm
	Output Power (for OFDM; power varies by data rate)²	15 dBm
	Power Consumption	Transmit: 2.0 W (max) Receive: 1.5 W (max) Idle mode ³ : 390 mW (nominal) Sleep mode: 20 mW (max)
	Power Management	ACPI compliant power management 802.11 compliant power saving mode
	Receiver Sensitivity⁴	54 Mbps: -72 dBm, 11 Mbps: -88 dBm , 1 Mbps: -97 dBm
	Antenna type	High efficiency dual band antenna with spatial diversity, mou display enclosure
	Range	802.11 b – Typical 1200 feet – Outdoor Open Area

	(@1 Mbps)	300 feet – Indoor, Office environm
	802.11 g – Typical	1200 feet – Outdoor Open Area
	(@1 Mbps)	300 feet – Indoor, Office environm
Form Factor	PCI-Express MiniCard	
Weight	0.026 lb (12 g)	
Dimensions	0.19 x 1.2 x 2.0 in (4.75 x 29.85 x 50.8 mm)	
Operating Voltage	3.3v +/- 10%	
Temperature	Operating	32° to 176° F (0° to 80° C)
	Non-operating	-40° to 176° F (-40° to 80° C)
Humidity	Operating	10% to 90% (non-condensing)
	Non-operating	5% to 95% (non-condensing)
Altitude	Operating	0 to 10,000 ft (3,048 m)
	Non-operating	0 to 50,000 ft (15,240 m)
Configuration Utility ⁵	Choice of Configuration Utility:	
	<ul style="list-style-type: none"> • Microsoft Windows XP Wireless Network Connection • Broadcom Wireless Configuration Utility (required for Compatible Extensions support) 	
LED Activity	LED Off – Radio OFF; Solid LED On – Radio ON	
	<ol style="list-style-type: none"> 1. Check latest software/driver release for updates on supported security features. 2. Maximum output power may vary by country according to local regulations. 3. In Power Save Polling mode. 4. Receiver sensitivity is measured at a packet error rate of 8% for 802.11b (CKK r and a packet error rate of 10% for 802.11a/g (OFDM modulation). 5. WLAN supplier's client utility is required for Cisco Compatible Extensions support may also be compatible with certain third-party software supplicants. 	

Broadcom 4311AG 802.11a/b/g WiFi Adapter	Wireless LAN Standards	IEEE 802.11a IEEE 802.11b IEEE 802.11g
	Interoperability	Wi-Fi certified Cisco Compatible Extensions Program compliant (details at www.hp.com/go/notebooks/WLAN)
	Frequency Band	2.4 GHz and 5 GHz
	Data Rates	802.11b: 1, 2, 5.5, 11 Mbps 802.11a/g: 6, 9, 12, 18, 24, 36, 48, 54 Mbps
	Modulation	Direct Sequence Spread Spectrum DBPSK, DQPSK, CCK, OFDM
	Security ¹	Supports 64- and 128-bit WEP, WPA, WPA2, hardware-acce AES, 802.1x authentication types EAP-TLS, EAP-TTLS, PE/ PEAP-MSCHAPv2, LEAP, EAP-FAST, EAP-SIM.
		Support for Cisco Security Features (proven compatibility wit Aironet infrastructure products through the Cisco Compatible Extensions Program Version 4).
	Sub-channels	Multinational support with frequency bands and channels cor local regulations.
	Media Access Protocol Network Architecture Models	CSMA/CA (Collision Avoidance) with ACK Ad-hoc (Peer to Peer) Infrastructure (Access Point Required)
	Roaming	IEEE 802.11 compliant roaming between access points
	Output Power (for CKK) ²	17.5 dBm
	Output Power (for OFDM; power varies by data rate) ²	15 dBm
	Power Consumption	Transmit: 2.0 W (max) Receive: 1.5 W (max)

	Idle mode ³ : 390 mW (nominal) Sleep mode: 20 mW (max)
Power Management	ACPI compliant power management 802.11 compliant power saving mode
Receiver Sensitivity⁴	54 Mbps: -72 dBm, 11 Mbps: -88 dBm , 1 Mbps: -97 dBm
Antenna type	High efficiency dual band antenna with spatial diversity, mou display enclosure
Range	802.11 a – Typical 600 feet – Outdoor Open Area (@6 Mbps) 150 feet – Indoor, Office environm 802.11 b – Typical 1200 feet – Outdoor Open Area (@1 Mbps) 300 feet – Indoor, Office environm 802.11 g – Typical 1200 feet – Outdoor Open Area (@1 Mbps) 300 feet – Indoor, Office environm
Form Factor	PCI-Express MiniCard
Weight	0.026 lb (12 g)
Dimensions	0.19 x 1.2 x 2.0 in (4.75 x 29.85 x 50.8 mm)
Operating Voltage	3.3v +/- 10%
Temperature	Operating 32° to 176° F (0° to 80° C) Non-operating -40° to 176° F (-40° to 80° C)
Humidity	Operating 10% to 90% (non-condensing) Non-operating 5% to 95% (non-condensing)
Altitude	Operating 0 to 10,000 ft (3,048 m) Non-operating 0 to 50,000 ft (15,240 m)
Configuration Utility⁵	Choice of Configuration Utility: <ul style="list-style-type: none"> • Microsoft Windows XP Wireless Network Connection • Broadcom Wireless Configuration Utility (required for Compatible Extensions support)
LED Activity	LED Off – Radio OFF; Solid LED On – Radio ON
	<ol style="list-style-type: none"> 1. Check latest software/driver release for updates on supported security features. 2. Maximum output power may vary by country according to local regulations. 3. In Power Save Polling mode. 4. Receiver sensitivity is measured at a packet error rate of 8% for 802.11b (CKK r and a packet error rate of 10% for 802.11a/g (OFDM modulation). 5. WLAN supplier's client utility is required for Cisco Compatible Extensions support may also be compatible with certain third-party software supplicants.

HP Integrated Module with Bluetooth Wireless Technology (available with 3-3-0 warranty only)	Bluetooth Specification	2.0 Compliant
	Dimensions	1.02 x 0.55 x 0.22 in (26 x 14 x 5.7 mm)
	Frequency Band	2402 to 2480 MHz
	Number of Available Channels	79 (1 MHz) available channels
	Data Rates and Throughput	3 Mbps data rate; throughput up to 2.17 Mbps Synchronous Connection Oriented links up to 3, 64 kbps, vo channels Asynchronous Connection Less links 2178.1 kbps/177.1 kbp asymmetric or 1306.9 kbps symmetric
	Transmit Power	-6 dBm to 4 dBm (Bluetooth Class II)
	Receiver Sensitivity	Better than -80 dBm at 0.1 % raw bit error rate
	Power Consumption	Peak (Tx) 264 mW Peak (Rx) 231 mW Sleep <1 mW
	Antenna	Internally integrated within module
	Range	Up 33 ft (10 m)
Electrical Interface	USB 2.0 compliant Microsoft Windows Plug and Play compliant	

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

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

Environmental Data	Eco-Label Certifications	This product has received or is in the process of being certifi following approvals and may be labeled with one or more of marks:		
		<ul style="list-style-type: none"> ● US Energy Star ● US Federal Energy Management Program (FEMP) ● Taiwan Green Mark ● China Energy Conservation Program ● IT ECO declaration ● Korean Eco Label 		
	System Configuration	The configuration used for the Energy Consumption and De Noise Emissions data is based on a "Typically Configured N		
	Energy Consumption	115 VAC	230 VAC	100 V
	Normal Operation	25.8 W	25.0 W	25.1 W
	Sleep (Energy Star low power mode)	1.12 W	1.40 W	1.13 W
	Off	1.30 W	1.47 W	1.23 W

Heat Dissipation*	115 VAC	230 VAC	100 VAC
Normal Operation	88 BTU/hr	85 BTU/hr	87 BTU/hr
Sleep	3.8 BTU/hr	4.8 BTU/hr	3.9 BTU/hr
Off	4.4 BTU/hr	5.0 BTU/hr	4.3 BTU/hr

***NOTE:** Heat dissipation is calculated based on the measure assuming the service level is attained for one hour.

This product is in compliance with US executive order 13221 (wake on LAN) disabled.

Declared Noise Emissions (in accordance with ISO 7779 and ISO 9296)	Sound Power (LWAd, bels)	Sound Pressure (LpAm, decibels)
Idle	3.0	23
Fixed Disk (random writes)	3.9	24

Batteries

This product complies with ISO standards:

EU Directive 91/ 157/ EEC
EU Directive 93/ 86/ EEC
EU Directive 98/ 101/ EEC

Batteries used in the product do not contain:

Mercury greater than 5ppm by weight
Cadmium greater than 10ppm by weight
Lead greater than 4000 ppm by weight.

Battery type and chemistry used in the product:

Primary battery
6-cell high capacity Lithium-Ion battery pack

Real Time Clock battery
CR2032 (coin cell), Lithium

Additional Information

This product is in compliance with the Restrictions of Hazardous Substances (RoHS) directive – 2002/95/EC.

This HP product is designed to comply with the Waste Electrical and Electronic Equipment (WEEE) Directive – 2002/96/EC.

Keyboard complies with ISO standard: ISO 9995, EN 29241-1, ISO/IEC 15412

Input devices of this product comply with ISO 9241, part 9.

Plastics parts weighing over 0.055 pounds (25 grams) used in this product are marked per ISO 11469 and ISO1043.

This product contains 0% recycled materials (by wt.)

This product is greater than 85% recycle-able when properly disposed at end of life.

Packaging

Packaging Materials

- External:
 - Corrugated Paper – 2.03 lb (920 g)
- Internal:
 - EPE Foam – 0.19 lb (85 g)
 - LDPE Bag – 0.01 lb (5 g)

- Corrugated Paper – 1.84 lb (835 g)
- The corrugated paper packaging materials contains at recycled content.

HP follows these guidelines to decrease the environmental in product packaging:

- Eliminate the use of heavy metals such as lead, chromium and cadmium in packaging materials.
- Eliminate the use of ozone-depleting substances (ODS) in packaging materials.
- Design packaging materials for ease of disassembly.
- Maximize the use of post-consumer recycled content in packaging materials.
- Use readily recyclable packaging materials such as paper and corrugated materials.
- Reduce size and weight of packages to improve transport and fuel efficiency.
- Plastic packaging materials are marked according to ISO 14000 and DIN 6120 standards.

Material Usage

This product does not contain any of the following substances of regulatory limits (for reference of these limits please refer to the General Specification of the Environment (http://www.hp.com/hpinfo/globalcitizenship/environment/supplychain/gen_specifications.html):

- Asbestos
- Certain Azo Colorants
- Certain Brominated Flame Retardants – may not be used in flame retardants in plastics
- Cadmium
- Chlorinated Hydrocarbons
- Chlorinated Paraffins
- Formaldehyde
- Halogenated Diphenyl Methanes
- Lead carbonates and sulfates
- Lead and Lead compounds
- Mercuric Oxide Batteries
- Nickel – finishes must not be used on the external surface of products designed to be frequently handled or carried by the user
- Ozone Depleting Substances
- Polybrominated Biphenyls (PBBs)
- Polybrominated Biphenyl Ethers (PBBEs)
- Polybrominated Biphenyl Oxides (PBBOs)
- Polychlorinated Biphenyl (PCB)
- Polychlorinated Terphenyls (PCT)
- Polyvinyl Chloride (PVC) – except for wires and cables; certain retail packaging has been voluntarily removed for certain applications.
- Radioactive Substances
- Tributyl Tin (TBT), Triphenyl Tin (TPT), Tributyl Tin Oxide

End-of-life Management and Recycling

HP offers our customers several other options for handling their old computers while also minimizing the impact on the environment: product trade-in and leasing services-in addition to recycling services. Please go to: <http://www.hp.com/recycle> or contact your nearest sales office. Products returned to HP will be recycled, recovered and disposed of in a responsible manner.

Hewlett-Packard Corporate Environmental Information

For more information about HP's commitment to the environment

Global Citizenship Report
<http://www.hp.com/hpinfo/globalcitizenship/gcreport/index>
 Environment website
<http://www.hp.com/environment>
 Eco-label certifications
<http://www.hp.com/hpinfo/globalcitizenship/environment/>

[productdesign/ecolabels.html](#)

ISO 14001 certificates:

<http://www.hp.com/hpinfo/globalcitizenship/environment/operations/envmanagement.html>

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