Overview

HP Compaq tc4200 Tablet PC

**HP recommends Microsoft
Windows® XP Professional**

1. Pen Tether Mount
2. Pen Eject Button
3. Pen Slot
4. Kensington Lock Slot
5. Wireless On/Off Button
6. USB 2.0 Port
7. HP Info Center Button
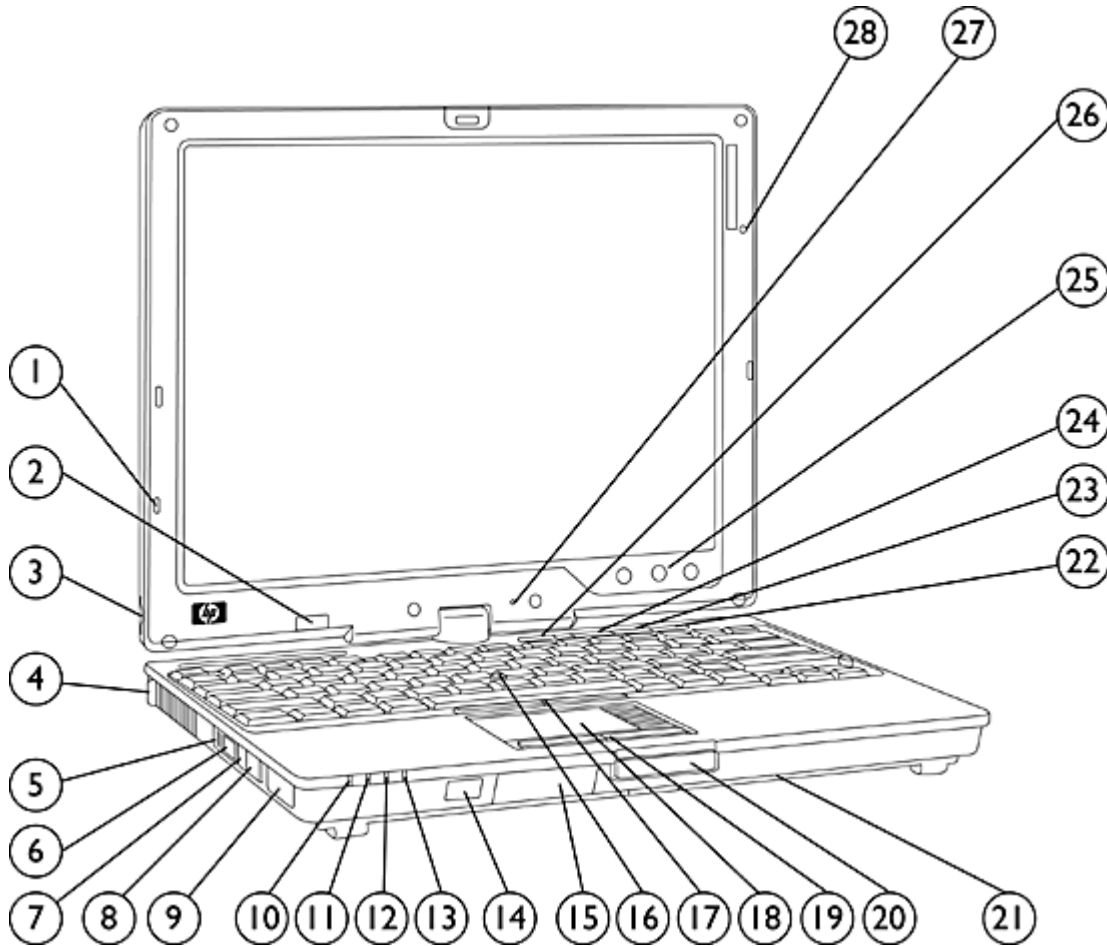
8. Power Switch with LED
9. Speaker
10. Wireless On/Off LED
11. Power/Standby LED
12. Battery Charging LED
13. Hard Drive Activity LED
14. Fast Infrared Port

15. Bluetooth® Module (optional)
16. Pointstick
17. Left/Right Pointstick Buttons
18. Touchpad with Scroll Zone
19. Left/Right Touchpad Buttons
20. Display Release Button
21. Battery Fuel Gauge LEDs (battery compartment not shown)
22. Volume Up Button
23. Volume Down Button
24. Volume Mute Button with LED
25. Pen Activated Programmable Buttons (see Back View)
26. Presentation Mode Button
27. Microphone
28. Ambient Light Sensor
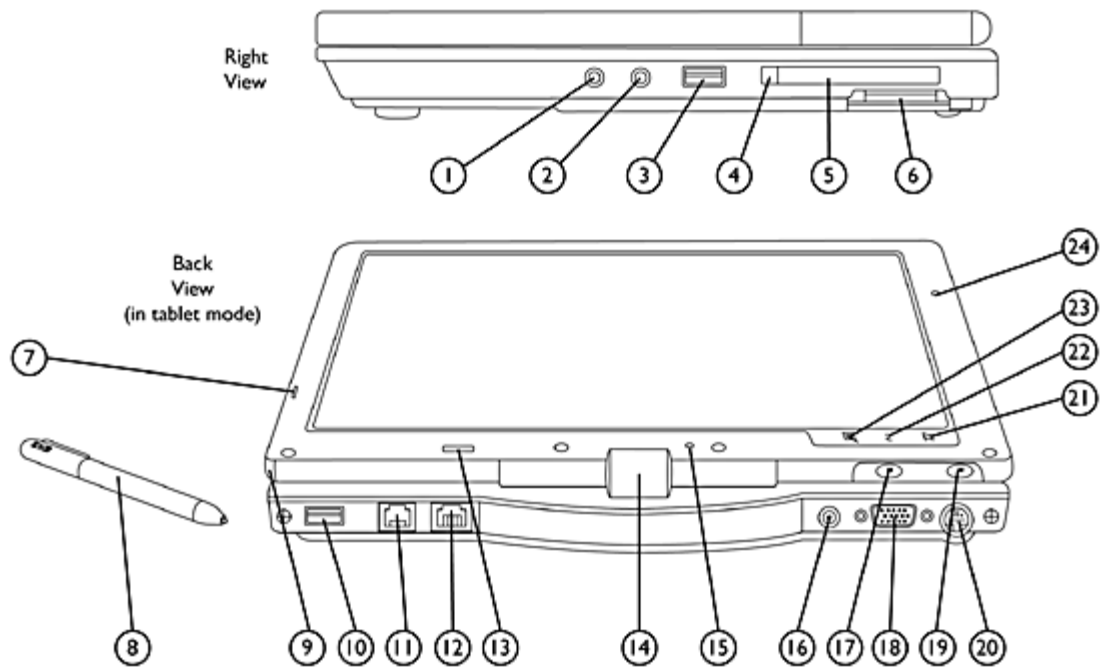
1. Headphone Jack
2. Microphone Jack
3. Powered USB 2.0 Port (supports HP External MultiBay II)
4. PC Card Eject Button
5. PC Card Slot
6. Integrated Secure Digital Slot
7. Pen Tether Mount
8. Digital Eraser Pen
9. Pen Slot
10. USB 2.0 Port
11. RJ-11 Port (Modem)
12. RJ-45 Port (NIC)
13. Pen Ejector Button
14. Rotate Hinge

15. Microphone
16. DC Power Connector
17. Jog Dial (scroll up/down, Enter)
18. VGA/External Monitor Connector
19. Windows Security Button (Ctrl-Alt-Del)
20. S-Video TV Out

Pen Activated Buttons:
21. Q Menu
22. Rotate
23. Tablet PC Input Launch

24. Ambient Light Sensor

At A Glance

- Microsoft Windows XP Tablet PC Edition 2005
- Certified for Novell Linux Desktop 9
- Intel® Pentium® M processors 730 to 770* or Intel Celeron® M processor 370*
- Professional-grade design starting at 4.6 lb/2.08 kg
- 12.1-inch XGA Wide Viewing Angle Display with Digitizer and protective sparkle-free glass
- Optional Outdoor Viewable Display for 67% more contrast in bright sunlight with no loss of battery life
- Mobile Intel 915GM Express Chipset
- 256-MB DDR2 SDRAM, upgradeable to 2048-MB maximum
- Up to 80-GB 5400 rpm, user-removable hard drive
- Intel Graphics Media Accelerator 900
- Optional integrated 802.11 a/b/g or 802.11 b/g wireless LAN modules
- Support for optional Intel Centrino™ mobile technology
- Optional integrated Bluetooth
- Integrated Secure Digital (SD) slot
- Security features include optional integrated Smart Card Reader and optional Trusted Platform Module (TPM) Embedded Security Chip
- NetXtreme Gigabit PCI Express Ethernet Controller
- Dual pointing devices (Touchpad with Scroll Zone and Pointstick)
- Pressure sensitive digital eraser pen with tether and clip (application must support pressure sensitivity)
- Protected by a three-year standard parts and labor warranty - certain restrictions and exclusions apply.

What's Special

- Power-packed ultraportable that adapts to the way you work
- Latest PCI Express technology and DDR2 400-MHz & 533-MHz memory support
- Enhanced security features:
  - HP ProtectTools
  - Optional Integrated Smart Card Reader
  - Optional Embedded Security features
- Ease of use features:
  - Handwriting capability
  - Pen activated programmable buttons
  - Enhanced outdoor-viewable display (on select models)
  - Ambient light sensor
  - HP Fast Charge technology
  - HP Wireless Assistant
  - HP power down NIC technology
  - Up to 5.5 hours of system battery life
  - Battery fuel gauge LEDs
  - Self-powered optional HP External MultiBay II
  - Full-sized keyboard
  - HP Mobile Print Driver for on-the-go printing
- Integrated reliability features:
  - HP Mobile Data Protection System
  - HP Panel Protection System
  - Scratch-resistant keyboard deck using In-mold Lamination
  - Full magnesium-alloy enclosure
  - HP spill-resistant keyboard with Mylar film
- Support for new HP docking solutions and HP Travel Battery

contents

Standard Features

Processors	Intel Pentium M processor 760* (2.00-GHz, 533-MHz FSB, 2-MB L2 cache)	
	Intel Pentium M processor 750* (1.86-GHz, 533-MHz FSB, 2-MB L2 cache)	
	Intel Pentium M processor 740* (1.73-GHz, 533-MHz FSB, 2-MB L2 cache)	
	* Intel's numbering is not a measurement of higher performance.	
	NOTE: Intel Pentium M processors support enhanced Intel SpeedStep™ technology. Proc speed denotes maximum performance mode; processors will run at approximately 800 MH battery optimization mode.	
Operating System	**Preinstalled**	Microsoft Windows XP Tablet PC Edition 2005
	Supported	Microsoft Windows 2000 (drivers downloadable from http://www.hp.com)
	Certified	Novell Linux Desktop 9
Chipset	Mobile Intel 915GM Express Chipset	
Graphics	Intel Graphics Media Accelerator 900, with up to 128 MB of shared system memory	
Display	**Internal**	12.1-inch XGA Wide Viewing Angle Display with Digitizer (102 resolution and 16 M colors)

| | | Optional Outdoor Viewable Display*
Ambient light sensor |
| | **External** | Up to 32-bit per pixel color depth
VGA port supports resolutions up to 2048 x 1536 at 75 Hz, and
lower resolutions at up to 100 Hz
DVI port in optional HP Docking Station (sold separately) supp
resolutions up to 1600 x 1200 at both full and reduced blanking
and 1920 x 1200 at reduced blanking
NOTE: Resolutions are dependent upon monitor capability, an
resolution and color depth settings. |

* The optional Outdoor Viewable Display is a standard 12.1-inch XGA Wide Viewing Angle
Display with Digitizer that provides enhanced viewable improvements like:

- 12% increase in front of screen display brightness with no loss of battery life
- Up to 235% increase in contrast, resulting in better viewability, at wide viewing angl
- 25% less specular reflections in bright light
- 91% less diffuse reflections in bright light
- 67% more contrast in bright sunlight

NOTE: This data is based on typical measurements by the display manufacturer. Actual
measurements may vary from panel to panel.

Memory	**Standard**	256-MB, 512-MB, or 1024-MB 400-MHz or 533-MHz DDR2 SDR two SODIMM slots
	Maximum	Upgradeable to 2048-MB maximum (1024-MB SODIMM in slots 2)
	Dual-channel	Maximized dual-channel performance requires SODIMMs of the 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 s
will perform at the lower memory speed.

| **Communications** | NetXtreme Gigabit PCI Express Ethernet Controller (10/100/1000 NIC)* with HP power dov
technology |
| | 56K modem** with digital line guard |

* The term "10/100/1000" or "Gigabit" Ethernet indicates compliance with IEEE standard 8(
for Gigabit Ethernet, and does not connote actual operating speed of 1 Gb/s. For high-spee
transmission, connection to a Gigabit Ethernet server and network infrastructure is require

** Designed for downloads from 56K modem compliant sources. Maximum achievable dow
transmission rates currently do not reach 56 KB/s, and will vary with line conditions. Moder
availability is subject to country regulatory approval.

Wireless Devices		Support for a broad range of secure, integrated wireless LAN options featuring support for latest industry standards. Integrated Bluetooth is also an option (factory configurable only) can be combined with any one 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-TTLS, P GTC, PEAP-MSCHAPv2, and LEAP Advanced Encryption Standard (AES) support WiFi certified for WPA2, WMM Dual antennas integrated in the display enclosure
	Intel PRO/Wireless 2200BG 802.11 b/g	Integrated support for 802.11b and g Up to 54-mbps data rate

	WLAN	
	Intel PRO/Wireless 2915ABG 802.11 a/b/g WLAN	Integrated support for 802.11a, b and g Up to 54-mbps data rate
	Integrated Bluetooth	Bluetooth Specification v1.2 compliant Works with a wide range of Bluetooth devices

Keyboard — The 101/102-key compatible keyboard features an industry standard, full-pitch key layout w desktop keyboard features, such as the isolated inverted-T cursor control keys, editing key left and right control and alt keys, and 12 function keys. US and International key layouts a available. Other features include an integrated numeric keypad, hotkeys for instant access power conservation, brightness, and other features, 19-mm x 19-mm key pitch (center-to-c spacing), 2.5-mm stroke, comfort-dished keycaps, and bright key legends for improved visi low light conditions.

One-Touch Productivity Buttons — Provide one-touch access to the following features: HP Info Center, Wireless On/Off, Prese Mode, Volume Up, Volume Down, and Volume Mute.

Command Control Buttons — 3 pen activated programmable buttons:

- Q Menu
- Rotate
- Tablet PC Input Launch

2 additional specific function buttons:

- Jog Dial (scroll up/down, Enter)
- Windows Security Button (Ctrl-Alt-Del)

Pointing Devices — Dual Pointing devices – Touchpad with scroll zone and Pointstick
Both devices have two soft-touch buttons.
Digital Eraser Pen with tether and clip – one-year warranty

Expansion Card Slots	**One Type I/II PC Card slot**	Supports 32-bit CardBus and 16-bit PC Cards

Media Slots	**One integrated Secure Digital slot**	Supports SD (Secure Digital) and MMC (MultiMedia Card) medi

Storage	**Hard Drives**	40-, 60-, 80-GB 5400 rpm SMART	
	NOTE: These hard drives are customer removable and will withstand multiple insertion/rem cycles.		
	Optical Drives	Optional HP External MultiBay II (9.5-mm) or HP Advanced Docking Station	DVD-ROM MultiBay II Drive DVD/CD-RW Combo MultiBay II Drive DVD+/-RW MultiBay II Drive
	Second Hard Drive	Optional HP External MultiBay II (9.5-mm) or HP Advanced Docking Station	80-GB 5400 rpm MultiBay II Hard Driv

Interfaces	**PC Card Slot**	One – Type I/II

	Smart Card Reader	Optional (replaces PC card slot)
	External Monitor	One – VGA
	External Microphone	One
	Headphone/Line out	One
	Power Connector	One
	RJ-11 (Modem)	One
	RJ-45 (NIC)	One
	Ambient Light Sensor	One
	Fast Infrared Port	One (4-Mb/s support) IrDA 4-MB compliant; IR performance will vary depending on performance of IR peripherals and application used.
	S-Video TV Out	One (support for NTSC/PAL)
	USB 2.0	Three (including one powered USB 2.0 port to support HP Exter MultiBay II)
	Docking Connector	One
	Travel Battery Connector	One
	LED Status Indicators	Ten

Audio	ADI AC '97 CODEC Integrated 16-bit Sound Blaster Pro compatible audio Integrated speaker External volume up, volume down, and mute buttons Stereo headphone/line out Stereo microphone in

Software	**Preloaded Software for Microsoft Windows XP**	Adobe Acrobat Reader
		HP One-Touch Button Software
		HP Local Recovery provided by Altiris*
		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 Qmenu Software
		HP Tablet PC Tour
		HP Wireless Assistant
		Microsoft Reader for Tablet PC
		Sonic RecordNow! (for optional DVD+/-RW and DVD/CDRW dri
		Symantec Norton Antivirus with complimentary 60-day live upda
		Intervideo WinDVD - DVD Player (for optional DVD+/-RW, DVD/ and DVD drives)*

	Recommended Software and Services**	Alias Sketchbook Pro (15-day trial period) Corel Grafigo (promotional free download) FranklinCovey TabletPlanner (30-day trial period) MindJet MindManager 2002 for Tablet PC (21-day trial CD) MS Reader eBooks ScanSoft Omniform Filler 5.1 and Dragon Naturally Speaking Standard Edition 7.1 (available as a special configuration) Zinio (see Digital Magazine icon on Tablet PC desktop for more information)
	Software on CD	Intervideo WinDVD Creator – DVD Authoring (for optional DVD+ drives)
	Additional software available from the Web	HP Client Manager Software HP ProtectTools Security Manager:

Embedded Security for HP ProtectTools
Smart Card Security for HP ProtectTools

System Recovery for Microsoft Windows XP systems only	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 disc also provides the option of reinstalling the operating system software provided with the notebook.
Client Management Software	HP Client Manager Software (CMS) provides asset tracking, alerting, diagnostics, and Soft distribution for HP business desktops, notebooks, and workstations. HP CMS is the founda HP Client Management Solutions. For more information and to download HP Client Manag Software, please refer to the HP website at http://www.hp.com/go/easydeploy.
SMBIOS Version 2.3.4	System Management BIOS, previously known as DMI BIOS, is used to store system mana information.
HP Local Recovery Provided by Altiris	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 da system state by taking scheduled snapshots, which are then stored in a protected area on 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 w at http://www.hp.com/go/easydeploy.
HP ProtectTools Security Manager	HP ProtectTools Security Manager is the security platform for business notebooks and des The HP ProtectTools Security Manager is an extensible client security console that delivers enhanced security capabilities through add-on software modules. Modules currently availal planned are: - Smart Card Security for HP ProtectTools - BIOS Configuration for HP ProtectTools - Embedded Security for HP ProtectTools - Credential Manager for HP ProtectTools

Security	**Standard Features**	Configuration Control Hardware Memory Change Alert Ownership Tag Setup Password Power-On Password DriveLock Enabled for PC Smart Card options Kensington Lock Slot	
	Optional Features	**Smart Card Reader** (replaces PC card slot)	Compatible with ISO 7816 compliant S Cards PC/SC interface support
		TPM Embedded Security Chip	Designed to the Trusted Computing G (TCG) standard Microsoft Crypto API and PKCS#11 so interface support RSA Secured Partner program certific **NOTE:** Full functionality of the TPM Embedded Security Chip is available (

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

Power Supply	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

Battery	**Primary Battery**	6-cell high capacity Lithium-Ion (52Wh) – one-year warranty
	Optional Travel Battery	8-cell high capacity Lithium-Ion (52Wh)
	Battery Fuel Gauge LEDs	

Battery Life	**Primary Battery**	Up to 5 hours and 45 minutes
	Primary Battery and optional HP Travel Battery	Up to 10 hours and 45 minutes
	NOTE: Battery life will vary depending on the product configuration, product model, applica loaded on the product, power management settings of the product, and the product feature by the customer. As with all batteries, the maximum capacity of this battery will decrease w and usage.	
System Standby Time	Up to 1 week	

Power Conservation	Supports enhanced Intel SpeedStep technology with Intel Pentium M processors (allows B Optimized Mode, Maximum Performance Mode, or Automatic mode)
	Intel Display Power Saving technology
	HP power down NIC technology
	Hibernation
	Standby
	ACPI compliance

MultiBay II Devices	MultiBay II devices used in the optional HP External MultiBay II or the optional HP Advance Docking Station may be swapped with the system powered on (hot) under Microsoft Windc Tablet PC Edition 2005.

Docking	HP Docking Station HP Advanced Docking Station HP's shared docking solutions provide simple and convenient port replication and cable management. Features include Gigabit NIC pass through, modem pass through, legacy pa and serial ports, DVI, S-video TV out, USB 2.0 ports, integrated security mechanism*, integ MultiBay II and ExpressCard** slots. These docking solutions are compatible across multip 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 three-year standard parts and labor warranty, pick-up or carry-in, a free 7 x 24 hardware technical phone support (battery and digital pen carry a one-year warr On-site service 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)

tc4200 PV984AW#ABA	Processor	Intel Pentium M processor 750* (1.86-GHz, 533-MHz FSB, 2-MB cache)
	Operating System	Microsoft Windows XP Tablet PC Edition 2005
	System Memory	512-MB 400-MHz DDR2 SDRAM (512-MB SODIMM in slot 1)
	Hard Drive	60-GB 5400 rpm
	Display	12.1-inch color TFT XGA wide viewing angle with digitizer with (768) resolution (up to 16.7 M colors internal)
	Graphics	Intel Graphics Media Accelerator 900 with up to 128 MB of shared system memory
	Audio	ADI AC '97 CODEC, Line out/headphone and microphone jacks
	Communications	56K Fax/Modem, Integrated NetXtreme Gigabit PCI Express Ethernet Controller (10/100/1000 NIC)
	Integrated Wireless	Intel PRO/Wireless 2200BG 802.11b/g WLAN Bluetooth
	TPM Embedded Security Chip	Yes
	Pointing Device	Dual pointing devices (both Pointstick and Touchpad) Digital Eraser Pen with tether and clip
	Battery	6-cell high capacity Lithium-Ion (52Wh)
	Power	External 65W adapter
	Warranty	3/3/0 (Battery and digital pen carry a one-year warranty)
tc4200 PV985AA#ABA	Processor	Intel Pentium M processor 740* (1.73-GHz, 533-MHz FSB, 2-MB cache)
	Operating System	Microsoft Windows XP Tablet PC Edition 2005
	System Memory	512-MB 400-MHz DDR2 SDRAM (512-MB SODIMM in slot 1)
	Hard Drive	40-GB 5400 rpm
	Display	12.1-inch color TFT XGA wide viewing angle with digitizer with (768) resolution (up to 16.7 M colors internal)
	Graphics	Intel Graphics Media Accelerator 900 with up to 128 MB of shared system memory
	Audio	ADI AC '97 CODEC, Line out/headphone and microphone jacks
	Communications	56K Fax/Modem, Integrated NetXtreme Gigabit PCI Express Ethernet Controller (10/100/1000 NIC)
	Integrated Wireless	Intel PRO/Wireless 2200BG 802.11b/g WLAN
	Pointing Device	Dual pointing devices (both Pointstick and Touchpad) Digital Eraser Pen with tether and clip
	Battery	6-cell high capacity Lithium-Ion (52Wh)
	Power	External 65W adapter
	Warranty	3/3/0 (Battery and digital pen carry a one-year warranty)
tc4200 EK743AW#ABA	Processor	Intel Pentium M processor 760* (2.0-GHz, 533-MHz FSB, 2-MB cache)
	Operating System	Microsoft Windows XP Tablet PC Edition 2005
	System Memory	512-MB 533-MHz DDR2 SDRAM (512-MB SODIMM in slot 1)
	Hard Drive	60-GB 5400 rpm
	Display	12.1-inch color TFT XGA wide viewing angle with digitizer with (768) resolution (up to 16.7 M colors internal)
	Graphics	Intel Graphics Media Accelerator 900 with up to 128 MB of shared

		system memory
	Audio	ADI AC '97 CODEC, Line out/headphone and microphone jacks
	Communications	56K Fax/Modem, Integrated NetXtreme Gigabit PCI Express Ethernet Controller (10/100/1000 NIC)
	Integrated Wireless	Intel PRO/Wireless 2200BG 802.11b/g WLAN Bluetooth
	TPM Embedded Security Chip	Yes
	Pointing Device	Dual pointing devices (both Pointstick and Touchpad) Digital Eraser Pen with tether and clip
	Battery	6-cell high capacity Lithium-Ion (52Wh)
	Power	External 65W adapter
	Warranty	3/3/0 (Battery and digital pen carry a one-year warranty)
tc4200 PZ876UA#ABA	**Processor**	Intel Pentium M processor 750* (1.86-GHz, 533-MHz FSB, 2-MB cache)
	Operating System	Microsoft Windows XP Tablet PC Edition 2005 with Microsoft Or
	System Memory	1024-MB 533-MHz DDR2 SDRAM (512-MB SODIMM in slot 1 a
	Hard Drive	60-GB 5400 rpm
	Display	Enhanced outdoor-viewable 12.1-inch color TFT XGA wide view angle with digitizer with (1024 x 768) resolution (up to 16.7 M co internal)
	Graphics	Intel Graphics Media Accelerator 900 with up to 128 MB of share system memory
	Audio	ADI AC '97 CODEC, Line out/headphone and microphone jacks
	Communications	56K Fax/Modem, Integrated NetXtreme Gigabit PCI Express Ethernet Controller (10/100/1000 NIC)
	Integrated Wireless	Intel PRO/Wireless 2200BG 802.11b/g WLAN Bluetooth
	Pointing Device	Dual pointing devices (both Pointstick and Touchpad) Digital Eraser Pen with tether and clip
	Battery	6-cell high capacity Lithium-Ion (52Wh)
	Power	External 65W adapter
	Warranty	3/3/0 (Battery and digital pen carry a one-year warranty)
tc4200 PZ882UA#ABA	**Processor**	Intel Pentium M processor 750* (1.86-GHz, 533-MHz FSB, 2-MB cache)
	Operating System	Microsoft Windows XP Tablet PC Edition 2005 with Microsoft Or
	System Memory	512-MB 533-MHz DDR2 SDRAM (512-MB SODIMM in slot 1)
	Hard Drive	40-GB 5400 rpm
	Display	Enhanced outdoor-viewable 12.1-inch color TFT XGA wide view angle with digitizer with (1024 x 768) resolution (up to 16.7 M co internal)
	Graphics	Intel Graphics Media Accelerator 900 with up to 128 MB of share system memory
	Audio	ADI AC '97 CODEC, Line out/headphone and microphone jacks
	Communications	56K Fax/Modem, Integrated NetXtreme Gigabit PCI Express Ethernet Controller (10/100/1000 NIC)
	Integrated Wireless	Intel PRO/Wireless 2200BG 802.11b/g WLAN
	Pointing Device	Dual pointing devices (both Pointstick and Touchpad)

		Digital Eraser Pen with tether and clip
	Battery	6-cell high capacity Lithium-Ion (52Wh)
	Power	External 65W adapter
	Warranty	3/3/0 (Battery and digital pen carry a one-year warranty)
tc4200 PZ890UA#ABA	**Processor**	Intel Pentium M processor 750* (1.86-GHz, 533-MHz FSB, 2-ME cache)
	Operating System	Microsoft Windows XP Tablet PC Edition 2005 with Microsoft Or
	System Memory	512-MB 533-MHz DDR2 SDRAM (512-MB SODIMM in slot 1)
	Hard Drive	60-GB 5400 rpm
	Display	12.1-inch color TFT XGA wide viewing angle with digitizer with (768) resolution (up to 16.7 M colors internal)
	Graphics	Intel Graphics Media Accelerator 900 with up to 128 MB of share system memory
	Audio	ADI AC '97 CODEC, Line out/headphone and microphone jacks
	Communications	56K Fax/Modem, Integrated NetXtreme Gigabit PCI Express Ethernet Controller (10/100/1000 NIC)
	Integrated Wireless	Intel PRO/Wireless 2915ABG 802.11a/b/g WLAN Bluetooth
	Pointing Device	Dual pointing devices (both Pointstick and Touchpad) Digital Eraser Pen with tether and clip
	Battery	6-cell high capacity Lithium-Ion (52Wh)
	Power	External 65W adapter
	Warranty	3/3/0 (Battery and digital pen carry a one-year warranty)

*Intel's numbering system is not a measurement of higher performance.

Options

Memory	256-MB 533-MHz DDR2 SDRAM	I
	512-MB 533-MHz DDR2 SDRAM	I
	1024-MB 533-MHz DDR2 SDRAM	I
MultiBay II Storage (9.5-mm)	8X DVD-ROM MultiBay II Drive	I
	24X Combo DVD/CD-RW MultiBay II Drive	I
	2X DVD+/-RW Dual Format MultiBay II Drive	I
	80-GB 5400 rpm MultiBay II Hard Drive	F
Other Storage	60-GB 5400 rpm Primary Hard Drive	I
	HP 40-GB Mobile USB Hard Drive	D
	HP USB Digital Drive + 256MB Secure Digital Card	I
	HP USB Diskette Drive	D
Communications	Intel PRO/Wireless 2200BG 802.11 b/g WLAN option kit	PF952A
Expansion Solutions	HP Docking Station	PA286

	HP Advanced Docking Station	PA287
	HP Monitor Stand	
	HP Adjustable Notebook Stand	
	HP External MultiBay II (9.5-mm)	PA509
	HP 4-port USB 2.0 Hub	D
Power	HP 2-bay Battery Charging Station	DT53:
	HP 10-bay Battery Charging Station	DT534
	Battery Adapter kit #1	
	65W AC Adapter	DC359
	90W AC Adapter	DC895
	90W Auto Adapter	D
	90W Air/Auto/AC Combo Adapter	DV574
	90W Aircraft Cables	D
	Primary 6-cell Battery Pack	
	HP Travel Battery	
Carrying Cases	HP Entry Value Case	
	HP Executive Leather Case	
	HP Ultra-Portable Leather Case	
	HP Sport Backpack	D
Security	PC Card Smart Card Reader	D
	HP/Kensington Cable Lock	F
Input/Output Devices	Digital Eraser Pen	
	USB/PS2 Keyboard	DC852
	USB/PS2 Optical Mouse	D
	HP USB Optical Travel Mouse	
HP Care Pack Services (3/3/0 models)	9x5 Pickup & Return Service - 4 Years	
	9x5 Pickup & Return Service - 5 Years	
	9x5 Next-Business-Day On-Site Coverage - 3 Years	
	9x5 Next-Business-Day On-Site Coverage - 4 Years	
	9x5 Next-Business-Day On-Site Coverage - 5 Years	
	9X5 Post Warranty Next-Business-Day On-Site - 1 Year	U4
	9x5 Post Warranty Pickup & Return Service - 1 Year	U4
	9x5 Pick-up and Return Coverage for Tablet PC with Accidental Damage Protection Service - 3 Years	
	9x5 Next Business Day On-Site Coverage for Tablet PC with Off-Site Accidental Damage Protection Service - 3 Years	365:

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Memory

Up to 2048 MB of 400-MHz or 533-MHz DDR2 SDRAM

Two DIMM slots
DIMM sizes supported: 256 MB, 512 MB, or 1024 MB
Maximized dual-channel performance requires SODIMMs of the same size and speed in both memory slots.

Standard Memory	• 256 MB (256 MB x 1)
	• 512 MB (512 MB x 1 or 256 MB x 2)
	• 1024 MB (1024 MB x 1 or 512 MB x 2)

Optional Memory Upgrades

Support for up to 2048 MB of memory is available (with the installation of optional DDR2 SD memory kits). Both memory slots are user accessible. Please refer to the Hardware and So 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-in standard nature of some third-party memory modules, we strongly recommend using only H branded memory modules to ensure compatibility. If you mix memory speeds, the system v perform at the lower memory speed.

Memory Upgrades	1024-MB 533-MHz DDR2 SDRAM	
	512-MB 533-MHz DDR2 SDRAM	
	256-MB 533-MHz DDR2 SDRAM	

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Storage

Removable Media Drive Support

	Quantity Supported	Drive Bay
DVD+/-RW MultiBay II Drive	One	Optional HP External MultiBay II or HP Advanced Docki Station
DVD/CD-RW Combo MultiBay II Drive	One	Optional HP External MultiBay II or HP Advanced Docki Station
DVD-ROM MultiBay II Drive	One	Optional HP External MultiBay II or HP Advanced Docki Station

Hard Drive Support

	Quantity Supported	Drive Bay
80-GB 5400 rpm SMART Hard Drive	Up to two	Dedicated hard drive bay and/or optional HP External M II or HP Advanced Docking Station
60-GB 5400 rpm SMART Hard	One	Dedicated hard drive bay

Drive

40-GB 5400 rpm SMART Hard Drive	One	Dedicated hard drive bay

Technical Specifications

System Unit	**Dimensions** (HxWxD)	1.35 (at front) x 11.22 x 9.25 in (34.3 (at front) x 285 x 235 mm)
	Weight	4.6 lb (2.08 kg)

NOTE: Height varies depending upon where on the notebook the measurement is made. W includes 6-cell battery, 40-GB hard drive, 256-MB memory, 12.1-inch XGA wide viewing an display with digitizer, no WLAN module, no TPM Embedded Security Chip, and no pen. We varies by configuration and components.

	Stand-Alone Power Requirements	Nominal Operating Voltage (Lithium-Ion)	18.5 V
		Average Operating Power	16.5 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 opti
		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) maxim 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	Blue Angel	No
		Energy Star Compliant	Yes
		UL	Yes
		UL GS	Yes
		CSA	Yes
		ICES	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

65W External AC	**Weight**	0.62 lb (0.28 kg) (adapter)

Adapter		0.29 lb (0.13 kg) (power cord)	
	Dimensions	4.17 x 1.85 x 1.1 in (10.6 x 4.7 x 2.8 cm)	
	Input	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
		Efficiency	83% minimum at 115 VAC
	Output	Output Power	65 W
		DC Output Current	18.5 V
	Environmental	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 Worldwide safety standards: IEC950, EN60950, UL1950, Class2 Agency approvals: C-UL-US, NORDICS, DENAN, EN55022 Clas FCC Class B, CISPR22 Class B, CCIB, NOM-1 NYCE	
	MTBF	Over 200,000 hours at 25°C ambient condition	

52Wh Primary Lithium-Ion Battery Pack	**Dimensions** (H x W x L)	0.8 x 2.75 x 4.75 in (2.0 x 7.0 x 12.0 cm)	
	Weight	0.719 lb (0.362 kg)	
	Cells/Type	6-cell Lithium-Ion	
	Energy	Voltage	10.8 V
		Amp-hour Capacity	4.8Ah
		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	2.5 hours
		System ON	3 to 5 hours (depending on system po consumption)
		HP Fast Charge Technology	Charges the battery up to 90% within hours when system is OFF
	Fuel Gauge	When pressed, LEDs light indicating level of charge remaining or battery	

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 po consumption)
	Fuel Gauge	When pressed, LEDs light indicating level of charge remaining o battery	

Digital Eraser Pen	**Dimensions** (length)	4.63 in (117.5 mm)	
	Weight	0.0273 lb (12.4 g)	

12.1-inch Color TFT XGA Wide Viewing Angle Display with Digitizer	**Active Area** (W x H)	10.5 x 7.8 in (26.8 x 19.8 cm)	
	Diagonal Size	12.1 in (30.7 cm)	
	Surface Treatment	Anti-glare	
	Number of Colors	Up to 16 M	
	Contrast Ratio	125:1	
	Refresh Rate	60 Hz	
	Brightness	180 nit (typical)	
	Pixel Resolution	Pitch	0.24 mm
		Format	1024 x 768
		Configuration	RGB Stripe
	Backlight	CCFL	
	PPI	106	
	Character Display	80 x 25	
	Total Power Consumption	3.7 W	
	Viewing Angle	±80° Horizontal, ±80° Vertical (typical)	

Hard Drives

80-GB 5400 rpm	**Drive Weight**	0.22 lb (99 g)	
	Capacity	80 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	5400 rpm	
	Logical Blocks	156,301,488	
	Operating Temperature	41° to 131° F (5° to 55° C)	
	Features	ATA Security	

60-GB 5400 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	Single Track	3 ms
		Average	13 ms

	settling)	Maximum	24 ms
	Rotational Speed	5400 rpm	
	Logical Blocks	117,210,240	
	Operating Temperature	41° to 131° F (5° to 55° C)	
	Features	ATA Security	

40-GB 5400 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	5400 rpm	
	Logical Blocks	78,140,160	
	Operating Temperature	41° to 131° F (5° to 55° C)	
	Features	ATA Security	

Removable Storage Drives – MultiBay II (supported in optional HP External MultiBay II or HP Advanced Docking St

DVD-ROM MultiBay II Drive	**Dimensions**	0.37 x 5.51 x 5.04 in (0.95 x 14.0 x 12.8 cm)	
	Weight	0.34 lb (155 g)	
	Access Times	Random	<120 ms CD
			<170 ms DVD
	Max Data Transfer Rate	24X-CD-ROM	3,600 KB/s
		8X-DVD	10,800 KB/s
	Transfer Mode	Multiword DMA Mode 2	
	Interface	EIDE	
	Supported Media (read)	CD-DA, CD+(E)G, CD-MIDI, CD-TEXT, CD-ROM, CD-ROM XA, MODE CD, CD-I, CD-I Bridge (Photo-CD, Video CD), Multisessi (Photo-CD, CD-EXTRA, Portfolio, CD-R, CD-RW), CD-R, CD-RV DVD-ROM (DVD-5, DVD-9, DVD-10, DVD-18), DVD-R, DVD-RV DVD+R, DVD+RW	
	Supported Media (write)	None	
	Max Media Capacity (read)	4.7 GB	
	Transport	Tray Loading	

DVD/CD-RW Combo MultiBay II Drive	**Dimensions**	0.37 x 5.51 x 5.04 in (0.95 x 14.0 x 12.8 cm)	
	Weight	0.45 lb (205 g)	
	Access Times	Random	<120 ms CD
			<155 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 XA, MODE CD, CD-I, CD-I Bridge (Photo-CD, Video CD), Multisessi⊂ (Photo-CD, CD-EXTRA, Portfolio, CD-R, CD-RW), CD-R, CD-RV DVD-ROM (DVD-5, DVD-9, DVD-10, DVD-18), DVD-R, DVD-RV DVD+R, DVD+RW	
	Supported Media (write)	CD-R, CD-RW	
	Max Media Capacity (read)	4.7 GB	
	Max Media Capacity (write)	700 MB	
	Transport	Tray loading	

DVD+/-RW MultiBay II Drive	**Dimensions**	0.37 x 5.51 x 5.04 in (0.95 x 14.0 x 12.8 cm)	
	Weight	0.45 lb (205 g)	
	Access Times	Random	<150 ms CD
			<125 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
		10X CD-RW	1,500 KB/s
		2.4X DVD+R	3,240 KB/s
		2.4X DVD+RW	3,240 KB/s
		2X DVD-R	2,700 KB/s
		2X DVD-RW	2,700 KB/s
	Transfer Mode	Multiword DMA Mode 2	
	Interface	EIDE	
	Supported Media (read)	CD-DA, CD+(E)G, CD-MIDI, CD-TEXT, CD-ROM, CD-ROM XA, MODE CD, CD-I, CD-I Bridge (Photo-CD, Video CD), Multisessi⊂ (Photo-CD, CD-EXTRA, Portfolio, CD-R, CD-RW), CD-R, CD-RV DVD-ROM (DVD-5, DVD-9, DVD-10, DVD-18), DVD-R, DVD-RV DVD+R, DVD+RW	
	Supported Media (write)	CD-R, CD-RW, DVD+R, DVD+RW, DVD-R, DVD-RW	
	Max Media Capacity (read)	4.7 GB	
	Max Media Capacity (write)	4.7 GB	
	Transport	Tray Loading	

80-GB 5400 rpm MultiBay II Hard Drive	**MultiBay II Drive Adapter**	Dimensions (H x W x D)	0.37 x 5.51 x 5.04 in (0.95 x 14.0 x 12
		Weight	0.16 lb (72 g)
	Drive Weight	0.22 lb (99 g)	
	Capacity	80 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	5400 rpm	

	Logical Blocks	156,301,488
	Operating Temperature	41° to 131° F (5° to 55° C)
	Features	ATA Security

Audio

Hardware	Implementation	ADI AC '97 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)	7 kHz - 48 kHz
	AD/DA Resolution	16 bit

Internal Speaker	Power Rating	2 Watts
	Impedance	4 Ohms

Communications

Integrated Broadcom NetXtreme Gigabit PCI Express Ethernet Controller (10/100/1000 NIC)	Ethernet Features	10 Mbit/s operation (10BASE-T; IEEE 802.3i; IEEE 802.3 clause 14) 100 Mbit/s operation (100BASE-TX; IEEE 802.3u; IEEE 802.3 cl 21-30) 1000 Mbit/s operation (1000BASE-T; IEEE 802.3z and 802.3ab; 802.3 clauses 34-42) Auto-Negotiation (Automatic Speed Selection) Full Duplex Operation at all Speeds, Half Duplex operation at 10 100 Mbit/s IEEE 802.1p QoS (Quality of Service) Support IEEE 802.3x Flow Control (IEEE 802.3 clauses 31-32; configura
	Power Management	ACPI 1.1a compliant -- multiple power modes Situation-sensitive features reduce power consumption NIC Battery Saving Mode (enabled by default)
	Performance Features	TCP/IP/UDP Checksum Offload (configurable) Microsoft Large Send Offload (configurable) TCP Segmentation Offload CPU Task Offload Adaptive Interrupts
	Manageability	Wake-on-LAN from all Power-Managed States (configurable; Ma Packet and Microsoft Wake-Up Frame) PXE 2.0 Remote Boot Statistics Gathering (SNMP MIB II, Ethernet-like MIB, Ethernet N (802.3x, clause 30))

		Comprehensive diagnostic and configuration software suite Cable Analyzer
	NIC Device Driver Name	Broadcom NetXtreme Gigabit Ethernet
	Drivers Available	Microsoft Windows XP Microsoft Windows 2000

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, CTR2 Part 15 Class B, Canadian ICES-003 Class B, C.I.S.P.R.22, Aus 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)
		Optional symbol rates: 2800, 3429 Asymmetric Symbol rates
		Synchronous primary channel data signaling rates: 3600, 31200 Automatic rate re-negotiation V.32bis V.32 V.23 V.22bis V.22 V.21 Bell 212A Bell 103J
	Fax Mode Capabilities	TIA/EIA-578-B (Class 1) T.30, T.4 (Group 3) V.17 V.29 V.27ter V.21 Channel 2
	Command Set	V.250 (Partial) TIA-602 Identification: +GMI, +GMM, +GMR Port control: +IPR, +ICF, +IFC, +ILRR Modulation: +MS, +MR, +MA Error control: +ES, +ER, +EB, +ESR, +ETBM Data compression: +DS, +DR V.251

Intel PRO/Wireless 2200BG 802.11b/g WLAN	**Wireless LAN Standards**	IEEE 802.11b IEEE 802.11g
	Interoperability	Wi-Fi certified Cisco Compatible Exensions Program compliant (details at http://www.hp.com/go/notebooks/wlan)
	Frequency Band	2.4 GHz
	Data Rates	802.11b: 1, 2, 5.5, 11 Mbps 802.11g: 6, 9, 12, 18, 24, 36, 48, 54 Mbps
	Modulation	Direct Sequence Spread Spectrum

	DBPSK, DQPSK, CCK, OFDM
Security[1]	Supports 64- and 128-bit WEP, WPA, WPA2, hardware-accelera AES, 802.1x authentication types EAP-TLS, EAP-TTLS, PEAP-(PEAP-MSCHAPv2, LEAP, EAP-FAST.
	Support for Cisco Security Features (proven compatibility with Ci Aironet infrastructure products through the Cisco Compatible Extensions Program).
Sub-channels	Multinational support with frequency bands and channels compli: local regulations.
Media Access Protocol	CSMA/CA (Collision Avoidance) with ACK
Network Architecture Models	Ad-hoc (Peer to Peer) Infrastructure (Access Point Required)
Roaming	IEEE 802.11 compliant roaming between access points.
Output Power (for CKK) 2	16 dBm +/- 2 dB
Output Power (for OFDM; power varies by data rate)[2]	15 dBm +2/-5 dB
Power Consumption	Transmit: 1.8 Watts (max) Receive: 1.4 Watts (max) Idle mode: 75 mW (nominal) Sleep mode: 60 mW
Power Management	ACPI compliant power management 802.11 Compliant Power Saving Mode
Receiver Sensitivity[3]	54 Mbps: -72 dBm, 11 Mbps: -88 dBm , 1 Mbps: -97 dBm
Antenna type	High efficiency dual band antenna with polarization diversity, mo in the display enclosure
Range	802.11 b – Typical (@1 Mbps) — 1200 feet – Outdoor Open Area / 300 feet – Indoor, Office environment
	802.11 g – Typical (@1 Mbps) — 1200 feet – Outdoor Open Area / 300 feet – Indoor, Office environment
Form Factor	MiniPCI Type IIIB
Weight	0.026 lb (11.75 g) (max)
Dimensions	0.20 x 1.75 x 2.34 in (4.9 x 44.6 x 59.8 mm)
Operating Voltage	3.3v
Temperature	Operating — 32° to 158° F (0° to 70° C) Non-operating — -40° to 176° F (-40° to 80° C)
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[4]	Choice of Configuration Utility:
	• Intel PROSet for Microsoft Windows 2000 or XP (required Cisco Compatible Extensions support) • Microsoft Windows XP Wireless Network Connection Mar

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 modu 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. W may also be compatible with certain third-party software supplicants.

Intel PRO/Wireless 2915ABG 802.11a/b/g WLAN	Wireless LAN Standards	IEEE 802.11a IEEE 802.11b IEEE 802.11g	
	Interoperability	Wi-Fi certified Cisco Compatible Exensions Program compliant (details at http://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-accelera AES, 802.1x authentication types EAP-TLS, EAP-TTLS, PEAP-C PEAP-MSCHAPv2, LEAP, EAP-FAST. Support for Cisco Security Features (proven compatibility with Ci Aironet infrastructure products through the Cisco Compatible Extensions Program).	
	Sub-channels	Multinational support with frequency bands and channels compli local regulations.	
	Media Access Protocol	CSMA/CA (Collision Avoidance) with ACK	
	Network Architecture Models	Ad-hoc (Peer to Peer) Infrastructure (Access Point Required)	
	Roaming	IEEE 802.11 compliant roaming between access points	
	Output Power (for CKK)[2]	16 dBm +/- 2 dB	
	Output Power (for OFDM; power varies by data rate)[2]	15 dBm +2/-5 dB	
	Power Consumption	Transmit: 1.8 Watts (max) Receive: 1.4 Watts (max) Idle mode: 100 mW (nominal) Sleep mode: 60 mW (max)	
	Power Management	ACPI compliant power management 802.11 Compliant Power Saving Mode	
	Receiver Sensitivity[3]	54 Mbps: -72 dBm, 11 Mbps: -89 dBm , 1 Mbps: -97 dBm	
	Antenna type	High efficiency dual band antenna with polarization diversity, mo in the display enclosure	
	Range	802.11 a – Typical (@6 Mbps)	600 feet – Outdoor Open Area 150 feet – Indoor, Office environment
		802.11 b – Typical (@1 Mbps)	1200 feet – Outdoor Open Area 300 feet – Indoor, Office environment
		802.11 g – Typical (@1 Mbps)	1200 feet – Outdoor Open Area 300 feet – Indoor, Office environment
	Form Factor	MiniPCI Type IIIB	
	Weight	0.026 lb (11.75 gm) (max)	
	Dimensions	0.20 x 1.75 x 2.34 in (4.9 x 44.6 x 59.8 mm)	
	Operating Voltage	3.3v +/- 10%	
	Temperature	Operating Non-operating	32° to 176° F (0° to 80° C) -40° to 176° F (-40° to 80° C)
	Humidity	Operating Non-operating	10% to 90% (non-condensing) 5% to 95% (non-condensing)
	Altitude	Operating Non-operating	0 to 10,000 ft (3,048 m) 0 to 50,000 ft (15,240 m)

	Configuration Utility[4]	Choice of Configuration Utility:

- Intel PROSet for Microsoft Windows 2000 or XP (required Cisco Compatible Extensions support)
- Microsoft Windows XP Wireless Network Connection Man

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 mod 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. W may also be compatible with certain third-party software supplicants.

Bluetooth by HP	Name	HP Integrated module with Bluetooth wireless technology
	Bluetooth Specification	1.2 Compliant
	Dimensions	1.02 x 0.55 x 0.22 in (26 x 14 x 5.7 mm)
	Frequency Band	2402 to 2480 MHz
	Number of available channels	79 (1 MHz) available channels
	Data Rates and throughput	1 Mbps data rate; throughput up to 720 Kbps
		Synchronous Connection Oriented links up to 3, 64 kbps, voice channels
		Asynchronous Connection Less links 723.2 kbps/57.6 kbps asymmetric or 433.9 kbps symmetric
	Transmit Power	-6 dBm to 4 dBm (Bluetooth Class II)
	Receiver Sensitivity	Better than -80 dBM at 0.1 % raw bit error rate
	Power Consumption	Peak (Tx) 264 mW
		Peak (Rx) 231 mW
		Sleep <1 mW
	Antenna	Internally integrated within module
	Range	Up 33 ft (10 m)
	Electrical Interface	USB 1.1 compliant
		Microsoft Windows Plug and Play compliant
	OS Support	Microsoft Windows XP Professional and Home
		Microsoft Windows 2000
	Bluetooth Software Supported	Widcomm Bluetooth for Windows
		Microsoft Windows XP Bluetooth Software
	Link Topology	Point to Point, Multipoint Pico Nets up to 7 slaves
	Security	Full support of Bluetooth Security Provisions
	Power Management	Microsoft Windows ACPI, and USB Bus Support
		Self configurable to optimize power conservation in all operating modes, including Standby, Hold, Park, and Sniff
	Certifications	All necessary regulatory approvals for supported countries, incl
		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

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