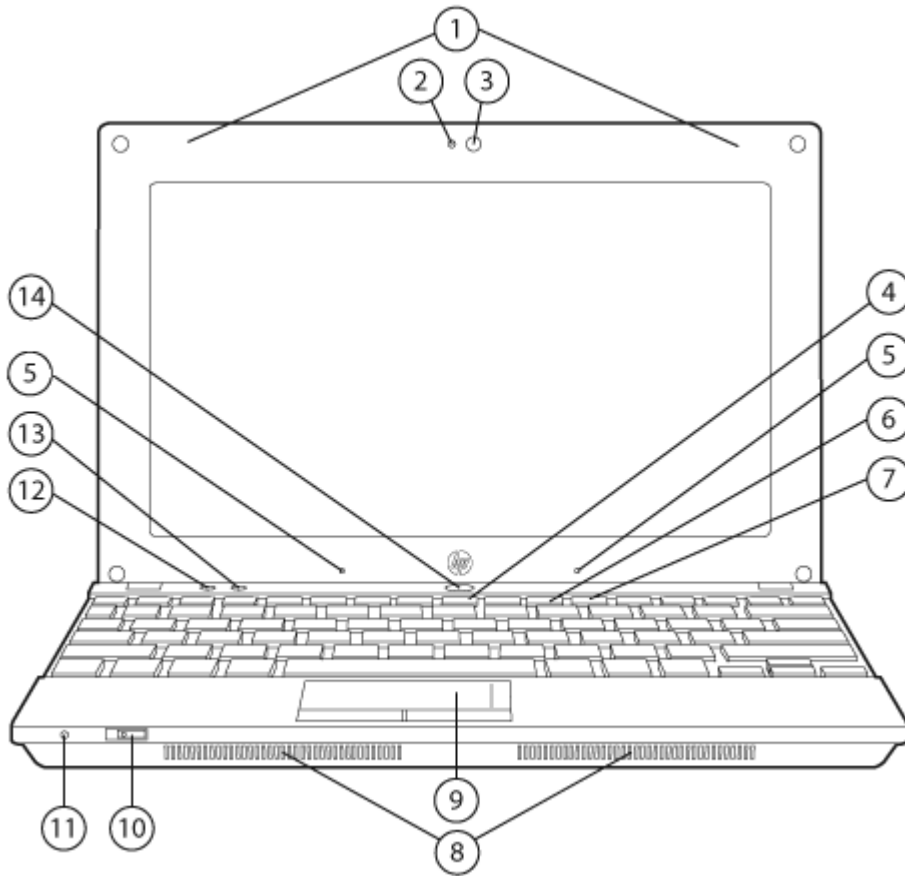
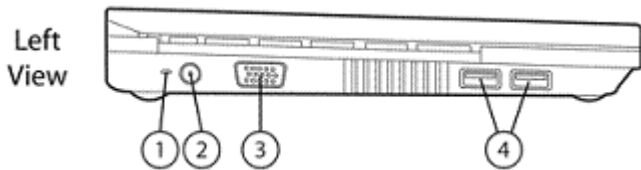


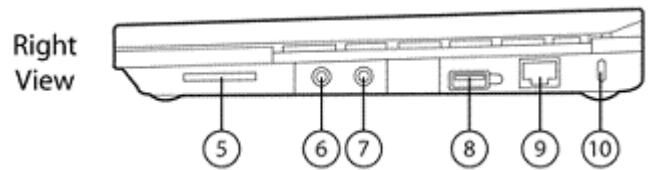
Overview



- | | |
|---|---|
| 1. WLAN and WWAN antennas (select models) | 8. Stereo speakers |
| 2. Webcam LED | 9. Touchpad with scroll zone |
| 3. 2 MP Webcam | 10. Wireless on/off button with LED indicator |
| 4. Volume mute function key | 11. Internal storage activity LED indicator |
| 5. Integrated stereo microphones | 12. QuickWeb button |
| 6. Volume down function key | 13. QuickLook 3 button |
| 7. Volume up function key | 14. Power button with LED indicator |

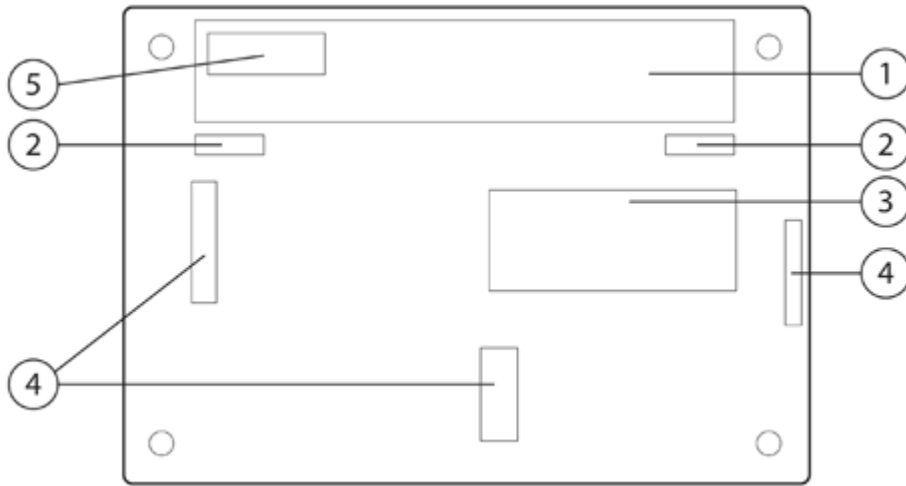


- | |
|-----------------------------------|
| 1. Battery charging LED indicator |
| 2. Power connector |
| 3. VGA/external monitor |
| 4. (2) USB 2.0 ports |
| 5. Secure Digital (SD)/MMC slot |



- | |
|------------------------------|
| 6. Stereo headphone/line out |
| 7. Stereo microphone in |
| 8. USB 2.0 port (powered) |
| 9. RJ-45/ethernet |
| 10. Kensington lock slot |

Overview



1. Battery bay
2. Battery/memory module release latches
3. Memory module compartment
4. Vent
5. WWAN SIM module access (under battery)

At A Glance

- Genuine Windows 7 versions, Genuine Windows XP Home, SUSE Linux Enterprise 11, or FreeDOS
- 10.1-inch diagonal LED-backlit display available in WSVGA (1024 x 600) or 16:9 HD (1366 x 768) resolution; optional capacitive multi-touch screen
- Corel Home Office productivity suite of software included for word processing, spreadsheets and presentations
- Ultra-portable light-weight design starting at 2.64 lb (1.2 kg) and 0.91 in (23.2 mm) thin at front
- All metal case with magnesium alloy support structure and metal alloy hinges
- Choice of onyx, ruby or sapphire colour; optional handle
- 95% full-size, spill-resistant QWERTY keyboard with HP DuraKeys; touchpad with scroll zone; touch-sensitive controls
- Flexible wireless connectivity options:
 - Integrated HP un2420 EV-DO/HSDPA Mobile Broadband Module provides worldwide Gobi mobile Internet technology with GPS
 - Integrated 802.11 a/b/g/n or b/g/n wireless LAN module
 - Bluetooth® v2.1
- Flexible battery solutions: 4-cell for lightest weight or 6-cell for longer battery life; HP Fast Charge
- HP QuickSync for synchronization; HP QuickLook 3 and HP QuickWeb
- Intel® NM10 Express chipset and Intel Atom™ processor
- Up to 320 GB 7200 rpm hard drive with HP 3D DriveGuard protection, or 80/128 GB Solid State Drive
- Optional Broadcom Crystal HD Enhanced Video Accelerator enables 720p and 1080p HD video playback
- Integrated 2 MP Webcam
- Face Recognition for easy, secure login by simply looking into your notebook's camera
- Optional HP USB 2.0 Docking Station and HP External USB 2.0 CD/DVD R/RW Drive

Standard Features

Processors	Intel Atom N450 Processor (1.66 GHz, 512 KB L2 cache, 667 MHz FSB) NOTE: Intel's numbering is not a measurement of higher performance. Processor speed denotes maximum performance mode; processor will run at lower speeds in battery optimization mode.	
Operating System	Preinstalled	Genuine Windows 7 Starter* Genuine Windows XP Home SUSE Linux Enterprise 11 FreeDOS Contact your reseller or HP sales representative for additional operating system choices and domain join support * System may require upgraded and/or separately purchased hardware and/or a DVD drive to install the Windows 7 software and take full advantage of Windows 7 functionality. See: http://www.microsoft.com/windows/windows-7/ for details.
Chipset	Intel NM10 Express Chipset	
Graphics	Intel Graphics Media Accelerator 3150 Optional Broadcom Crystal HD Enhanced Video Accelerator* * Can only be installed when HP un2420 EV-DO/HSPA Mobile Broadband Module is not installed.	
Display	Internal	10.1-inch diagonal LED-backlit WSVGA widescreen display with 1024 x 600 resolution 10.1-inch diagonal LED-backlit HD 16:9 widescreen display with 1366 x 768 resolution Optional capacitive multi-touch screen feature
	External	Up to 32-bit per pixel color depth VGA port supports resolutions up to 1680 x 1050 at 60 Hz, and lower resolutions at up to 100 Hz NOTE: Resolutions are dependent upon monitor capability, and resolution and color depth settings.
Memory	Standard	1 GB or 2 GB DDR2 800 MHz SDRAM SODIMM* one SODIMM slot
	Maximum	Supports up to 2 GB maximum** * All memory modules operate at the maximum system supported speed of 667 MHz. ** Maximum memory is 1 GB with some configurations. NOTE: Due to the non-industry standard nature of some third-party memory modules, we recommend HP branded memory to ensure compatibility.
Communications	Integrated Marvell Ethernet (10/100/1000 NIC)	

Standard Features

Wireless Devices

Support for secure, integrated wireless LAN and wireless WAN options featuring support for the latest industry standards. Mobile Broadband (WWAN) requires a Windows operating system and is available in select countries as a factory configurable feature only. Integrated Bluetooth is also available (factory configurable only) and can be combined with any of the supported wireless LAN options.

HP un2420 EV-DO/HSPA Mobile Broadband Module (Windows models only; can only be installed when ProtectTools. Integrated mobile broadband module with Gobi global mobile Internet technology that provides connectivity to both CDMA (EVDO) and UMTS (HSPA) networks. It also provides GPS functionality for various mapping applications and security applications such as Computrace LoJack Pro for HP

Broadcom Crystal HD Enhanced Video Accelerator is not installed) **NOTE: Separately purchased mobile network operator service is required.** Two 850/900/1575/1800/1900/2100 MHz antennas integrated in the top of the display panel support current and future WWAN technologies.

All 802.11 integrated wireless LAN options Wi-Fi certified
Cisco Compatible Extensions support
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, PEAP-GTC, PEAP-MSCHAPv2, and LEAP
Advanced Encryption Standard (AES) support
Dual antennas integrated in the display enclosure

Intel WiFi Link 1000 Integrated support for 802.11 b, g, and n
Up to 300 mbps data rate

Broadcom 4322G 802.11 a/b/g/n Wi-Fi Adapter Integrated support for 802.11 a, b, g, and n
Up to 300 mbps data rate

HP Integrated Module with Bluetooth Wireless Technology Bluetooth Specification v2.1 compliant
Works with a wide range of Bluetooth devices

Keyboard

Spill-resistant keyboard is 95% of full size, 101/102-key compatible with isolated inverted-T cursor control keys, both left and right control and alt keys, 12 function keys, and hotkey combinations for audio volume, power conservation, brightness, and other features. US and international key layouts are available.

Pointing Device

Touchpad with scroll zone and two soft-touch buttons
Optional capacitive multi-touch screen

Expansion Card Slots

Secure Digital slot Supports SD (Secure Digital), and MMC (MultiMedia Card)

Standard Features

Internal Storage	Hard Drive	160/250*/320* GB 7200 rpm SATA
	HP 3D DriveGuard (Windows models only)	The hard drive is mounted directly to the notebook frame, reducing the transmission of shock to the hard drive. Uses three-axis digital motion detection with intelligent sensitivity to help protect the hard drive during normal use from shock and vibration. The digital accelerometer temporarily halts all data transfer and parks the hard drive when abrupt motion is detected.
	Solid State	80/128 GB Solid State Drive*

* Not available with some configurations.
NOTE: Up to 15 GB is reserved for the system recovery software.

Interfaces	External Monitor	One - VGA
	External Microphone	One
	Headphone/Line out	One
	Power Connector	One
	RJ-45/Ethernet	One
	USB 2.0	Three
	LED Status Indicators	Seven

Audio/Visual	IDT 92HD75B High Definition audio Integrated stereo speakers Integrated stereo microphones Stereo headphone/line out Stereo microphone in Integrated 2 MP webcam
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Software	Software with Windows Operating Systems	HP Support Assistant (Windows 7 only) HP QuickLook 3 HP QuickWeb HP QuickSync HP Connection Manager Corel Home Office Microsoft Office Ready with 60-day Office Professional 2007 Trial Edition (select models) Microsoft Office Professional 2007 (Japan only) Microsoft Office Personal 2007 (Japan only) McAfee Total Protection* Adobe Flash Player PDF Complete Skype WinZip
	Software with SuSE Linux Enterprise Desktop	OpenOffice Suite Evolution Email Evince Document Viewer OpenOffice Draw F-Spot Photo Browser

Standard Features

Gnome CD/DVD Creator
Helix Banshee Music Player
Real Player 10 Media Player
Firefox Web Browser
Gaim Instant Messenger
Gnome FTP File Transfer
Liferea Feed Reader
Mutt Mail Client

* 60 day trial period for McAfee Total Protection for Small Business software. Internet access required to receive updates. First update included. Subscription required for updates thereafter.

Security

Standard Features

HP ProtectTools Security Manager
HP Disk Sanitizer
Setup Password
Power-On Password
Kensington Lock Slot
Support for Computrace* LoJack Pro for HP ProtectTools
Face Recognition for HP ProtectTools

* The Computrace agent is shipped turned off, and must be activated by customers when they purchase a subscription with terms ranging from one to five years.

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

HP ProtectTools Security Manager

HP ProtectTools Security Manager is the security platform for business notebooks and desktops. The HP ProtectTools Security Manager is an extensible client security console that delivers enhanced security capabilities through add-on software modules. The following modules are available on the hard drive (also downloadable from the web) and can be configured in Software Setup:

- Credential Manager for HP ProtectTools
- Face Recognition for HP ProtectTools
- Drive Encryption for HP ProtectTools
- LoJack Pro for HP ProtectTools

Power Supply

External 40-watt Smart AC adapter, 3.3-foot (1 meter) power cord included.
Total length including external AC adapter is 8.55 feet (2.59 meter).
HP Fast Charge*

* HP Fast Charge recharges 4-cell battery up to 90% within 90 minutes when the system is off.

Battery

Primary Battery

4-cell (29 Wh) high capacity Li-Ion
6-cell (66 Wh) high capacity Li-Ion

Standard Features

Battery Life

6-cell Primary Battery and Hard Drive Up to 10 hours

4-cell Primary Battery and Hard Drive Up to 4 hours and 30 minutes

NOTE: The listed battery life measurements were taken on models running Microsoft Windows XP. Battery life will vary depending on the product configuration, product model, applications loaded on the product, power management settings of the product, and the product features used by the customer. As with all batteries, the maximum capacity of this battery will decrease with time and usage.

System Standby Time

Up to 1 week

Power Conservation

Standby
ACPI compliance

Service and Support

HP Services includes a one-year standard parts and labor warranty, pick-up or carry-in, and toll-free 7 x 24 hardware technical phone support (depending on model). On-site service and warranty upgrades are also available (depending on model). HP Care Pack Services extend service contracts beyond the standard warranties. To choose the right level of service for your HP product, use the HP Care Pack Services Lookup Tool at: <http://www.hp.com/go/lookuptool>. Additional HP Care Pack Services information by product is available at: <http://www.hp.com/hps/carepack>.

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

Options

Memory	HP 1 GB (DDR2 800 MHz) SODIMM*	KT292AA
	HP 2 GB (DDR2 800 MHz) SODIMM*	KT293AA
	* Runs at maximum system supported speed of 667 MHz.	
Storage	HP USB Diskette Drive	DC361B
	HP External USB 2.0 CD/DVD R/RW Drive	FS943AA
	HP 250 GB Pocket Media Drive	FE477AA
Expansion	HP USB 2.0 Docking Station	FQ834AA
	HP Essential USB 2.0 Port Replicator	AQ731AA
Power	65W Smart AC Adapter	ED494AA
	6-cell Primary Battery	AT901AA
	90W Smart AC/Auto/Air Combo Adapter	AJ652AA
Carrying Cases	HP Ultra-portable Carrying Case	AL539AA
	HP Basic Carrying Case	AJ078AA
	HP Value Nylon Case	DL617A
	HP Professional 10.1 Slip Case	AW209AA
	HP Professional Series Backpack	AT887AA
	HP Deluxe Nylon Backpack	RR317AA
	HP Elite 10.1 Slip Case	AX681AA
	HP Basic Messenger Carrying Case	AP355AA
HP Basic Backpack	AM863AA	
Security	HP/Kensington MicroSaver Security Lock	PC766A
Input/Output Devices	HP USB Keyboard & Mouse Bundle	RC465AA
	HP USB/PS2 Optical 2-Button Scroll Mouse	DC369A
	HP USB Optical Travel Mouse	RH304AA
	HP Mobile USB 2.0 Speakers	FS944AA
	HP Bluetooth Stereo Headphones	AR085AA
	HP Wireless Optical Mouse	AR084AA

Storage

Internal Storage Device

Hard Drives (2.5-inch SMART SATA)

160 GB 7200 rpm

250 GB 7200 rpm

320 GB 7200 rpm

Solid State (2.5-inch)

80 GB Solid State Drive

128 GB Solid State Drive

Quantity Supported

One

One

One

One

One

Drive Bay

Dedicated hard drive bay

Dedicated hard drive bay

Dedicated hard drive bay

Dedicated hard drive bay

Dedicated hard drive bay

Technical Specifications

System Unit

	Non-touch screen	Touch screen
Dimensions (HxWxD)	0.91 (at front) x 10.30 x 7.09 in 23.2 (at front) x 262 x 180 mm	0.98 (at front) x 10.30 x 7.09 in 24.8 (at front) x 262 x 180 mm
Weight	Starting at 2.64 lb (1.2 kg)	Starting at 2.86 lb (1.3 kg)
NOTE: Height varies depending upon where on the notebook the measurement is made. Weight includes 1 GB memory, 160 GB hard drive. Weight varies by configuration and components.		
Stand-Alone Power Requirements	Normal Operating Voltage	18.5 V
	Average Operating Power	10.5 W
	Max Operating Power	< 40 W
Temperature	Operating	32° to 95° F (0° to 35° C)
	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) maximum wet 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®	Yes*
	EPEAT	TBD (Gold target)**
	ICES	Yes
	Australia / NZ C-Tick Compliance	Yes
	CCC	Yes
	Japan VCCI Compliance	Yes
	MIC / KCC	Yes
	BSMI	Yes
	CE Marking Compliance	Yes
	BNCL or BELUS	Yes
	CIT	Yes
	GOST	Yes
	Saudi Arabian Compliance (ICCP)	Yes
	SABS	Yes
	UKRSERTCOMPUTER	Yes

Technical Specifications

* Configurations of the HP Mini 5102 that are ENERGY STAR qualified are identified as HP Mini 5102 ENERGY STAR on HP websites and on www.energystar.gov.

** EPEAT registration varies by country. See www.epeat.net for registration status by country. EPEAT status listed above applies to U.S.

HP 40W AC Adapter	Dimensions	3.66 x 1.57 x 1.14 in (9.3 x 4.0 x 2.9 cm)		
	Weight	0.35 lb (160 g)		
	Input	100 to 240 VAC		
		Input Efficiency	83% min at 115 VAC	
		Input frequency range	47 to 63 Hz	
	Output	Input AC current	1.1 A at 90 VAC, 0.55 A at 180 VAC	
		Output power	40W	
		DC output	19.5V	
		Hold-up time	5 msec at 115 VAC input	
		Output current limit	<5.0A, Over voltage protection- 29V max automatic shutdown	
	Connector	2 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; Worldwide safety standards - IEC60950, EN60950, UL60950, Class1, SELV; Agency approvals - C-UL-US, NORDICS, DENAN, EN55022 Class B, FCC Class B, CISPR22 Class B, CCC, NOM-1 NYCE; MTBF - over 200,000 hours at 25°C ambient condition.			

6-Cell (66 Wh) Lithium-ion battery	Dimensions (HxWxL)	1.61 x 1.65 x 8.27 in (4.1 x 4.2 x 21 cm)		
	Weight	0.77 lb (0.35 kg)		
	Cells/Type	6-cell Lithium-Ion		
	Energy	Watt-hour Capacity	66Wh	
	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 power consumption)		

Technical Specifications

4-Cell (29 Wh) Lithium-ion battery	Dimensions (HxWxL)	0.6 x 2.1 x 8.1 in (1.4 x 5.2 x 20.6 cm)		
	Weight	0.44 lb (0.199 kg)		
	Cells/Type	4-cell Lithium-Ion		
	Energy	Watt-hour Capacity	29 WHr	
	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 power consumption)	
		HP Fast Charge Technology	Charges the battery up to 90% within 90 minutes when system is OFF	

Display

10.1-inch LED WSVGA (1024 x 600)	Dimensions (W x H)	8.77 x 4.93 in (22.27 x 12.52 cm)		
	Diagonal Size	10.06 in (25.55 cm)		
	Surface Treatment	Anti-glare		
	Contrast Ratio	400:1 (typical)		
	Refresh Rate	60 Hz		
	Brightness	200 nit (typical)		
	Pixel Resolution	Pitch	0.2715(H)/0.2088(V) mm	
		Format	1024 x 600	
		Configuration	RGB Vertical Stripe	
	Backlight	LED		
PPI	117(H)/122(V)			
Viewing Angle	±30° Horizontal, ±10° Vertical (typical)			

Technical Specifications

10.1-inch 16:9 LED HD (1366 x 768)	Dimensions (W x H)	8.77 x 4.93 in (22.27 x 12.52 cm)	
	Diagonal Size	10.06 in (25.55 cm)	
	Surface Treatment	Anti-glare	
	Contrast Ratio	400:1 (typical)	
	Refresh Rate	60 Hz	
	Brightness	200 nit (typical)	
	Pixel Resolution	Pitch	0.1630 mm
		Format	1366 x 768
		Configuration	RGB Vertical Stripe
	Backlight	LED	
PPI	156		
Viewing Angle	±30° Horizontal, ±10° Vertical (typical)		

Internal Storage

320 GB 7200 rpm SATA Hard Drive	Drive Weight	0.25 lbs (115 g)	
	Capacity	320 GB	
	Height	0.37 in (9.5 mm)	
	Width	2.75 in (70 mm)	
	Interface	ATA-8, SATA 2.6, 3.0 Gb/s, NCQ	
	Transfer Rate	Synchronous (maximum)	100 MB/s (Drive Capability)
	Seek Time (typical reads, including settling)	Single Track	1.5 ms
		Average	11 ms
		Maximum	22 ms
	Rotational Speed	7200 rpm	
Logical Blocks	625,142,448		
Operating Temperature	32° to 140° F (0° to 60° C) [case temp]		
Features	ATA Security		

Technical Specifications

250 GB 7200 rpm SATA Hard Drive	Drive Weight	0.25 lbs (115g)	
	Capacity	250 GB	
	Height	0.37 in (9.5 mm)	
	Width	2.75 in (70 mm)	
	Interface	ATA-8, SATA 2.6, 3.0 Gb/s, NCQ	
	Transfer Rate	Synchronous (maximum)	100 MB/s (Drive Capability)
	Seek Time (typical reads, including settling)	Single Track	1.5 ms
		Average	11 ms
		Maximum	22 ms
	Rotational Speed	7200 rpm	
	Logical Blocks	488,397,168	
	Operating Temperature	32° to 140° F (0° to 60° C) [case temp]	
Features	ATA Security		

160 GB 7200 rpm SATA Hard Drive	Drive Weight	0.25 lb (115 g)	
	Capacity	160 GB	
	Height	0.37 in (9.5 mm)	
	Width	2.75 in (70 mm)	
	Interface	ATA-8, SATA 2.6, 3.0 Gb/s, NCQ	
	Transfer Rate	Synchronous (maximum)	100 MB/s (Drive Capability)
	Seek Time (typical reads, including settling)	Single Track	1.5 ms
		Average	11 ms
		Maximum	22 ms
	Rotational Speed	7200 rpm	
	Logical Blocks	312,581,808	
	Operating Temperature	32° to 140° F (0° to 60° C) [case temp]	
Features	ATA Security		

128 GB 2.5-inch SATA Solid State Drive	Weight	0.19 lbs (86 g)		
	Capacity	128 GB		
	Height	0.37 in (9.5 mm)		
	Width	2.75 in (70 mm)		
	Interface	SATA		
	Performance	Maximum Sequential Read	220 MB/s	Maximum Sequential Write
				70 MB/s
	Logical Blocks	250,069,680		
	Operating Temperature	32° to 158°F (0° to 70°C) [case temp]		
Features	ATA Security; ATA-7 ;SATA 2.6; DIPM			

Technical Specifications

80 GB	Weight	0.19 lbs (86 g)	
2.5-inch SATA Solid State Drive	Capacity	80 GB	
	Height	0.37 in (9.5 mm)	
	Width	2.75 in (70 mm)	
	Interface	SATA	
	Performance	Maximum Sequential Read	Maximum Sequential Write
		250 MB/s	70 MB/s
	Logical Blocks	156,301,488	
	Operating Temperature	32° to 158°F (0° to 70°C) [case temp]	
	Features	ATA Security; ATA-7 ;SATA 2.6; DIPM	

Audio

Hardware	Implementation	IDT 92HD75B High Definition audio
	Function Key Volume Controls	Volume up, volume down, and mute
	Full Duplex	Yes
	Microphone In	Stereo
	Headphone/Line Out	Stereo
	Integrated Stereo Microphones	Yes

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 - 48kHz
	DAC	16, 20 or 24-bit
	ADC	16 or 20-bit

Internal Speakers	Power Rating	2.0 Watts
	Impedance	4 Ohms

Communications

Technical Specifications

Integrated Marvell 10/100/1000 NIC	Ethernet Features	<p>10 Mbit/s operation (10BASE-T; IEEE 802.3i; IEEE 802.3 clauses 13-14)</p> <p>100 Mbit/s operation (100BASE-TX; IEEE 802.3u; IEEE 802.3 clauses 21-30)</p> <p>1000 Mbit/s operation (1000BASE-T; IEEE 802.3z and 802.3ab; IEEE 802.3 clauses 34-42)</p> <p>Auto-Negotiation (Automatic Speed Selection)</p> <p>Full Duplex Operation at all Speeds, Half Duplex operation at 10 and 100 Mbit/s</p> <p>IEEE 802.1p QoS (Quality of Service) Support</p> <p>IEEE 802.3x Flow Control (IEEE 802.3 clauses 31-32; configurable)</p>
	Power Management	<p>ACPI compliant - multiple power modes</p> <p>Situation-sensitive features reduce power consumption</p>
	Performance Features	<p>TCP/IP/UDP Checksum Offload (configurable)</p>
	Manageability	<p>Wake-on-LAN from standby and hibernation (Magic Packet and Microsoft Wake-Up Frame); Wake-on-LAN from off (Magic Packet only)</p> <p>PXE 2.1 Remote Boot</p> <p>Statistics Gathering (SNMP MIB II, Ethernet-like MIB, Ethernet MIB (802.3x, clause 30))</p> <p>Comprehensive diagnostic and configuration software suite</p>
	Interface	<p>PCI Express x1</p>
	NIC Device Driver Name	<p>Marvell Yukon 88E8072 PCI-E Gigabit Ethernet Controller</p>

HP un2420 EV-DO/HSPA Mobile Broadband Module	Technology/Operating Bands	<p>GSM/GPRS/EDGE: 850MHz(Cell), 900MHz(EGSM), 1800MHz(DCS), 1900MHz (PCS)</p> <p>UMTS/WCDMA with receive diversity: 2100MHz (UTRA FDD Band I), 1900MHz (UTRA FDD Band II), 900MHz (UTRA FDD Band VIII), 850MHz (UTRA FDD Band V)</p> <p>1xEVDO/1xRTT with receive diversity: 850MHz (Band Class0-Cell), 1900MHz (Band Class1-PCS)</p>
	Wireless Protocol Standards	<p>GSM/GPRS/EDGE: Class B, Multi-slot operation, coding schemes CS1 - CS4 and MSC1 - MSC9.</p> <p>UMTS/WCDMA: Release 99 and Release 6</p> <p>CDMA: 1xEVDO Release 0 and Release A, IS-95A, IS-95B, IS-2000</p>
	Wireless Parametric Standards	<p>Meets or exceeds TIA/EIA IS-98-D</p>
	Maximum Data Rates	<p>UMTS (HSPA) - 7.2 Mbps (Download), 2.0 Mbps (Upload)</p> <p>CDMA (EVDO Release A) - 3.1 Mbps (Download), 1.8 Mbps (Upload)</p>
	GPS	<p>Standalone GPS enabled</p>
	GPS Bands	<p>L1 - 1575.42 MHz</p>
	Maximum Output Power	<p>GSM/GPRS/EDGE: 32dBm (+/-1)</p> <p>WCDMA: 24dBm (+/-1)</p> <p>CDMA: 24dBm (+/-1)</p>
	Maximum Power Consumption	<p>2500mA (peak); 1000mA (average)</p>
	Power Consumption, Sleep Mode	<p>5 mA</p>

Technical Specifications

Power Management	USB selective suspend Integrated notebook wireless button
Antenna Type	Dual high efficiency 5 band antennae with spatial diversity, mounted in the display enclosure
Form Factor	PCI-Express MiniCard, USB 2.0 interface
Weight	11.5 g
Dimensions (Length x Width x Thickness)	2.01 x 1.18 x 0.18 in (51 x 30 x 5 mm)
Voltage, Operating	3.3v +/- 10%
Temperature, Operating (from TIA/EIA/IS-98-D)	-22° to 140° F (-30° to 60° C) (full RF performance) -22° to 167° F (-30° to 75° C) (reduced RF performance)
Temperature, Non-operating, 96 hours (from MIL-STD 202 Method 108)	-40° to 185° F (-40° to 85° C)
Humidity, Non-operating	85% relative humidity for 48 hours @ 185° F (85° C) (non-condensing)
Configuration Utilities	HP Connection Manager
LED Activity	LED Off - Radio Off; Solid LED On - Radio On

Intel WiFi Link 1000

Wireless LAN Standards	IEEE 802.11b IEEE 802.11g IEEE 802.11n* <i>* In countries where n draft 2.0 is not allowed, this capability is not enabled.</i>
Interoperability	Wi-Fi certified Cisco Compatible Extensions Program compliant with Microsoft Windows Vista and XP (details at: http://www.hp.com/go/notebooks/WLAN)
Frequency Band	2.4 GHz
Antenna Structure	1 transmit; 2 receive (1x2)
Data Rates	802.11b: 1, 2, 5.5, 11 Mbps 802.11g: 6, 9, 12, 18, 24, 36, 48, 54 Mbps 802.11n (draft): many possible data rates, ranging from 6 Mbps to 300 Mbps, depending on the combination of Bandwidth, Modulation Coding Scheme, and Guard Interval used, as defined in IEEE 802.11n (draft) specification
Modulation	Direct Sequence Spread Spectrum DBPSK, DQPSK, CCK, OFDM, BPSK, QPSK, 16-QAM, 64-QAM
Security¹	Authentication: WPA and WPA2, 802.1x (EAP_TLS, TTLS, PEAP, LEAP, EAP-FAST) Authentication Protocols: PAP, CHAP, TLS, GTC, MS-CHAP, MS-CHAPv2 Encryption: 64 and 128-bit WEP, AES-CCMP, CKIP, TKIP Support for Cisco Security Features (proven compatibility with Cisco Aironet infrastructure products through the Cisco Compatible Extensions Program)

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	Version 4) with Microsoft Windows Vista and XP only.
Sub-channels	Multinational support with frequency bands and channels compliant to 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 2.4GHz band Access Points
Output Power (for CCK and OFDM)²	15 dBm typical
Power Consumption	Transmit: 1.4 Watts (average, with one spatial streams) Receive: 1.3 Watts (average with two receive chains) Idle mode ³ : 30 mW (average) Radio off: 20 mW (max)
Power Management	ACPI compliant power management 802.11 compliant power saving mode
Receiver Sensitivity⁴	54 Mbps: -74 dBm, 6 Mbps: -91 dBm
Antenna Connections	2 U.FL type connectors, 50 ohm nominal impedance
Form Factor	PCI-Express Half-MiniCard
Weight	0.0075 lb (3.4 g)
Dimensions	0.12 x 1.06 x 1.18 in (3.1 x 26.8 x 30.0 mm)
Operating Voltage	3.3V +/- 9%
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 90% (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: Microsoft Windows XP <ul style="list-style-type: none">● Microsoft Windows XP Wireless Network Connection Manager● Intel PROSet for Microsoft Windows XP (required for Cisco Compatible Extensions support) Microsoft Windows Vista <ul style="list-style-type: none">● Microsoft Windows Vista Wireless Network Connection Manager.● Intel IHV extensions for Windows Vista available to support Cisco Compatible Extensions.
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 and on battery power.4. Receiver sensitivity is measured at a packet error rate of 8% for 802.11b (CCK modulation) 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 with Microsoft Windows XP. WLAN may also be compatible with certain third-party software supplicants. WLAN

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supplier IHV extensions required for Cisco Compatible Extensions support for Microsoft Windows Vista.

<p>Broadcom 4322AGN 802.11a/b/g/n WiFi Adapter</p>	<p>Wireless LAN Standards</p>	<p>IEEE 802.11a IEEE 802.11b IEEE 802.11g IEEE 802.11n</p>
	<p>Interoperability</p>	<p>Wi-Fi certified (802.11abg only) Cisco Compatible Extensions Program compliant (802.11abg only) with Microsoft Windows XP</p>
	<p>Frequency Band</p>	<p>2.4 GHz and 5 GHz</p>
	<p>Data Rates</p>	<p>802.11b: 1, 2, 5.5, 11 Mbps 802.11a/g: 6, 9, 12, 18, 24, 36, 48, 54 Mbps 802.11n (draft): 6, 6.5, 9, 12, 13, 13.5, 18, 19.5, 24, 26, 27, 36, 39, 40.5, 48, 52, 54, 58.5, 65, 78, 81, 104, 108, 117, 121.5, 130, 135, 162, 216, 243, 270, 300 Mbps</p>
	<p>Frequency Support</p>	<p>20 MHz: 2.4 GHz and 5 GHz bands 40 MHz: 2.4 GHz and 5 GHz bands</p>
	<p>Modulation</p>	<p>Direct Sequence Spread Spectrum DBPSK, DQPSK, CCK, OFDM, BPSK, QPSK, 16-QAM, 64-QAM</p>
	<p>Security¹</p>	<p>Supports 64- and 128-bit WEP, WPA, WPA2, hardware-accelerated AES, 802.1x authentication types EAP-TLS, EAP-TTLS, PEAP-GTC, PEAP-MSCHAPv2, LEAP, EAP-FAST.</p> <p>Support for Cisco Security Features (proven compatibility with Cisco Aironet infrastructure products through the Cisco Compatible Extensions Program Version 4) with Microsoft Windows XP.</p>
	<p>Sub-channels</p>	<p>Multinational support with frequency bands and channels compliant to local regulations.</p>
	<p>Media Access Protocol</p>	<p>CSMA/CA (Collision Avoidance) with ACK</p>
	<p>Network Architecture Models</p>	<p>Ad-hoc (Peer to Peer) Infrastructure (Access Point Required)</p>
	<p>Roaming</p>	<p>IEEE 802.11 compliant roaming between access points</p>
	<p>Output Power (for CCK)²</p>	<p>17 dBm</p>
	<p>Output Power (for OFDM; power varies by data rate)²</p>	<p>15 dBm</p>
	<p>Power Consumption</p>	<p>Idle associated: 250 mW Idle unassociated: 150 mW Transmit/Receive 20 MHz channel: 2.0 W (max) Transmit/Receive 40 MHz channel: 2.0 W (max)</p>
	<p>Power Management</p>	<p>ACPI compliant power management 802.11 compliant power saving mode</p>
	<p>Receiver Sensitivity³</p>	<p>270 Mbps: -61dBm, , 54 Mbps: -72 dBm, 11 Mbps: -85 dBm , 1 Mbps: -92 dBm</p>
	<p>Antenna type</p>	<p>High efficiency dual band antenna with spatial diversity, mounted in the display enclosure</p>

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Form Factor	PCI-Express Half-MiniCard	
Weight	0.013 lb (6 g)	
Dimensions	0.19 x 1.06 x 1.18 in (4.75 x 26.8 x 30 mm)	
Operating Voltage	3.3v +/- 10%	
Temperature	Operating	14° to 149° F (-10° to 65° 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 Utility⁴	Microsoft Windows XP Choice of Configuration Utility: <ul style="list-style-type: none">● Microsoft Windows XP Wireless Network Connection Manager● Broadcom Wireless Configuration Utility (required for Cisco 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. Receiver sensitivity is measured at a packet error rate of 8% for 802.11b (CCK modulation) and a packet error rate of 10% for 802.11a/g (OFDM modulation).4. WLAN supplier's client utility is required for Cisco Compatible Extensions support with Microsoft Windows XP. WLAN may also be compatible with certain third-party software supplicants.	

HP Integrated Module with Bluetooth 2.1 Wireless Technology

Bluetooth Specification	2.1 Compliant
Dimensions	1.18 x 0.26 x 0.13 in (30 x 6.5 x 3.25 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, voice channels Asynchronous Connection Less links 2178.1 kbps/177.1 kbps 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
Bluetooth Software Supported	Broadcom Bluetooth for Microsoft Windows Bluetooth Software

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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, including: 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	Serial Port Profile (SPP) ¹ Service Discovery Application Profile (SDAP) Dial-Up Networking (DUN) ^{1,2,3} Generic Object Exchange Profile (GOEP) ^{1,2,3} Object Push Profile (OPP) ^{1,2,3} File Transfer Profile (FTP) Synchronization Profile (SYNC) Hard Copy Cable Replacement (HCRP) ^{1,2,3} Personal Area Networking Profile (PAN) ^{1,2,3} Human Interface Device Profile (HID) ^{1,2,3} FAX Profile (FAX) Basic Imaging Profile (BIP) ^{2,3} Headset Profile (HSP) ³ Hands Free Profile (HFP) ³ Advanced Audio Distribution Profile (A2DP) ³

1. indicates the profile is supported by Microsoft Windows XP SP2
2. indicates the profile is part of Windows Vista
3. indicates the profile is part of Windows 7

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Environmental Data

Eco-Label Certifications

This product has received or is in the process of being certified to the following approvals and may be labeled with one or more of these marks:

- US Energy Star
- IT ECO declaration
- EPEAT - Gold where HP registers commercial desktop products. See <http://www.epeat.net> for registration status in your country.

System Configuration

The configuration used for the Energy Consumption and Declared Noise Emissions data for the Convertible Mini tower Desktop model is based on a "Typically Configured Notebook"

Energy Consumption	115 VAC	230 VAC	100 VAC
Normal Operation	7.04 W	7.05 W	6.91 W
Sleep (Energy Star low power mode)	0.85 W	0.81 W	0.83 W
Off	0.76 W	0.72 W	0.74 W
Heat Dissipation*	115 VAC	230 VAC	100 VAC
Normal Operation	24 BTU/hr	24 BTU/hr	24 BTU/hr
Sleep	3 BTU/hr	3 BTU/hr	3 BTU/hr
Off	3 BTU/hr	2 BTU/hr	3 BTU/hr

* Heat dissipation is calculated based on the measured watts, assuming the service level is attained for one hour.

Declared Noise Emissions (in accordance with ISO 7779 and ISO 9296)

System Fan Off	Sound Power (LWAd, bels)	Sound Pressure (LpAm, decibels)
Idle	3.2	28.7
Fixed Disk (random writes)	3.3	29.8

System fan is usually off except when charging the battery

Batteries

This battery(s) in this product comply with EU Directive 2006/66/EC

Batteries used in the product do not contain:

- Mercury greater than 5ppm by weight
- Cadmium greater than 10ppm by weight

The battery type and chemistry used in the product is:
CR2032 (coin cell), Li-ion
6-cell high capacity Lithium-Ion battery (optional 8 cell available)

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.

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This product is in compliance with California Proposition 65 (State of California; Safe Drinking Water and Toxic Enforcement Act of 1986).

This product is in compliance with the IEEE 1680 (EPEAT) standard at the Gold level, see:www.epeat.net

Plastics parts weighing over 25 grams used in the product are marked per ISO 11469 and ISO1043.

This product contains 0% post consumer recycled plastic (by wt.)

This product is greater than 95% recycle-able when properly disposed of at end of life.

Packaging Materials

- External:
 - CANON bags - several layers 15 g
 - Corrugated carton 415 g
 - Cardboard & misc 110 g
- Internal:
 - EPE-Expanded Polyethylene 30 g
- The CANON bags - several layers packaging material is made from 0% recycled content.
- The Corrugated carton packaging material is made from 75% recycled content.
- The Cardboard & misc packaging material is made from 75% recycled content.
- The EPE-Expanded Polyethylene packaging material is made from 0% recycled content.

HP follows these guidelines to decrease the environmental impact of product packaging:

- Eliminate the use of heavy metals such as lead, chromium, mercury 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 materials in packaging materials.
- Use readily recyclable packaging materials such as paper and corrugated materials.
- Reduce size and weight of packages to improve transportation fuel efficiency.
- Plastic packaging materials are marked according to ISO 11469 and DIN 6120 standards.

Material Usage

This product does not contain any of the following substances in excess of regulatory limits (for reference of these limits please refer to the HP General Specification of the Environment:

http://www.hp.com/hpinfo/globalcitizenship/environment/supplychain/gen_specifications.html):

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- Asbestos
- Certain Azo Colorants
- Certain Brominated Flame Retardants - may not be used as 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 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, and certain retail packaging has been voluntarily removed from most applications.
- Radioactive Substances
- Tributyl Tin (TBT), Triphenyl Tin (TPT), Tributyl Tin Oxide (TBTO)

End-of-life Management and Recycling

Hewlett-Packard offers end-of-life HP product return and recycling programs in many geographic areas. To recycle your product, please go to: <http://www.hp.com/go/reuse-recycle> or contact your nearest HP sales office. Products returned to HP will be recycled, recovered or disposed of in a responsible manner.

The EU WEEE directive (2002/95/EC) requires manufacturers to provide treatment information for each product type for use by treatment facilities. This information (product disassembly instructions) is posted on the Hewlett Packard web site at: <http://www.hp.com/go/recyclers>. These instructions may be used by recyclers and other WEEE treatment facilities as well as HP OEM customers who integrate and re-sell HP equipment.

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.html>
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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