Overview
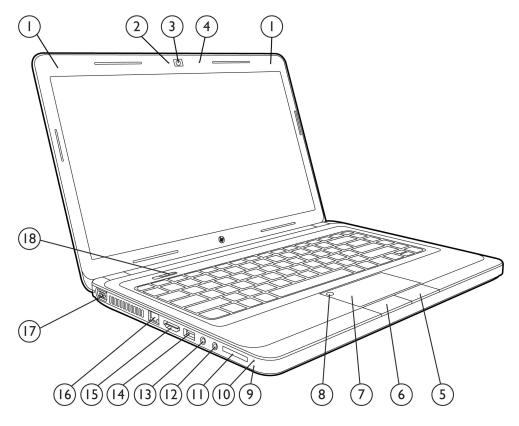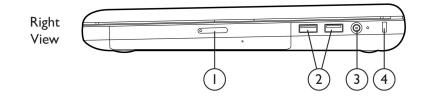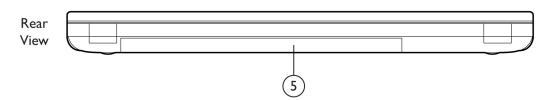

1. Two antennas
2. Webcam light
3. Webcam
4. Internal microphone
5. Right touchpad button
6. Left touchpad button
7. Touchpad with scroll zone
8. Touchpad light
9. Drive light
10. Power light
11. Digital Media slot
12. Audio-out (headphone) jack / Audio-in (microphone) jack
13. Audio-in (microphone) jack
14. USB port
15. HDMI port
16. RJ-45 network jack
17. External monitor port
18. Power button

QuickSpecs
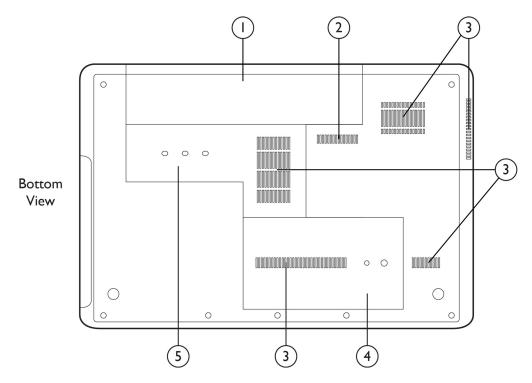
Overview

Right View

Rear View

1. Optical drive
2. USB ports
3. Power connector

4. Security cable slot
5. Battery bay

Bottom View

1. Battery bay
2. Battery release latches
3. Vents

4. Hard Drive Bay
5. Memory module compartment

Overview

At A Glance

- Genuine Windows 7 versions, SUSE Linux*
- Intel® HD Graphics family with shared memory
- Durable, sophisticated design with smooth surface pewter color.
- Full-sized keyboard with action keys enabling functions directly
- HDMI port for connecting to high-resolution displays
- Integrated VGA webcam, integrated microphone
- Integrated 802.11 b/g/n wireless LAN module**
- Bluetooth™ 2.1 or Bluetooth 3.0 + High Speed (HS)**
- Widescreen 15.6-inch diagonal LED-backlit HD display with 16:9 aspect ratio

* Operating system options vary by country.
** Select models only (BT3.0 HS supports under Windows 7 OS only, BT2.1 supports under Linux)

Standard Features (availability may vary by country)

Processors		Intel® Pentium® Processor B960 (2.20 GHz, 2 MB L3 Cache) 2nd generation Intel Core i3-2350M processor (2.3 GHz, 3 MB L3 Cache) Intel Core i3-380M processor (2.53 GHz, 3 MB Intel® Smart Cache) **NOTE:** Processor speed denotes maximum performance mode; processors will run at lower speeds in battery optimization mode.
Operating System	**Preinstalled**	Genuine Windows 7 Starter 32* Genuine Windows 7 Professional 64* Genuine Windows 7 Home Premium 64* Genuine Windows 7 Home Basic 64* SUSE Linux Enterprise Desktop 11 * Operating system options vary by country.
	Certified	SUSE Linux Enterprise Desktop 11
Chipset		Mobile Intel® GM45 Express Chipset with ICH9M Mobile Intel® HM55 Express Chipset Mobile Intel® HM65 Express Chipset

Graphics		Models with Mobile Intel GM45 Express Chipset with ICH9M
		  Integrated: Intel Graphics Media Accelerator 4500MHD
		Models with Intel® HM55 Express Chipset
		  Integrated: Intel® HD Graphics
		Models with Intel® HM65 Express Chipset
		  Integrated: Intel® HD Graphics
		  Integrated: Intel® HD Graphics 3000
		Support for BD and/or HD-DVD playback with HD Decode ,and DX10(for Integrated)/DX11 (for Discrete) Support

Display	**Internal**	15.6-inch diagonal LED-backlit HD 16:9 widescreen Anti-Glare (1366 x 768 resolution)
	External	Up to 32-bit per pixel color depth **VGA** port supports resolutions up to 2048 x 1536 external resolution @75 Hz **HDMI** 1.3 port supports up to 1080p, 1920x1080 at 60Hz and 1920x1200 @ 60Hz DVI Mode **NOTE:** Resolutions are dependent upon monitor capability, and resolution and color depth settings.

Standard Features (availability may vary by country)

Memory	**Standard**	DDR3 SDRAM (800MHz/1066 MHz/1333 MHz)* Two SODIMM slots supporting dual-channel memory 2048 MB and 4096 MB SODIMMs
	Maximum	Upgradeable to 8192 MB with optional 4096 MB SODIMMs in slots 1 and 2
	Dual-channel	Maximized dual-channel performance requires SODIMMs of the same size and speed in both memory slots.

* Maximum memory speed supported by the system may be 800MHz, 1066 MHz or 1333MHz
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. With Windows Starter 32-bit operating systems, the amount of usable memory is dependent upon your configuration, so that above 3 GB all memory may not be available due to system resource requirements.

Communications	Realtek Ethernet Integrated Controller (10/100 or 10/100/1000 NIC)*

* 10/100 NIC supports Models with Mobile Intel GM45 Express Chipset with ICH9M
* 10/100/1000 NIC support in rest models

Wireless Devices		Support for a broad range of secure, integrated wireless LAN options featuring support for the latest industry standards. Integrated Bluetooth is also available (factory configurable only) and can be combined with any of the supported wireless LAN options.
	All 802.11 integrated wireless LAN options	Wi-Fi certified 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
	HP Integrated Module with Bluetooth Wireless Technology	Bluetooth Specification v3.0 compliant** Works with a wide range of Bluetooth devices

* In countries where 802.11n is not allowed, this capability is not enabled.
** BT3.0 is supported in Windows 7 OS only, BT2.1 is supported in Linux

Keyboard	The 100% compatible keyboard features a, industry standard, full-pitch key layout with features such as the isolated inverted-T cursor control keys, editing keys, both left and right control and alt keys, and 12 function keys. International key layouts are available. Other features include hotkeys for instant access to, brightness, etc. 19-mm x 19-mm key pitch (center-to-center spacing), 2.2-mm stroke, comfort-dished keycaps, and bright key legends for improved visibility in low light conditions.

Pointing device	Touchpad with 2-piece pick button with left and right click functions Multi-touch gestures supported On/off button

Standard Features (availability may vary by country)

Expansion card slots	**Digital Media slot**	Supports SD (Secure Digital), and MultiMediaCard Supports mini versions with adapter

Storage	**Hard drives**	250 GB 7200 rpm SMART SATA II 250/320/500 GB 5400 rpm SMART SATA II
	NOTE: Up to 19 GB is reserved for the system recovery software.	
	DriveGuard	The hard drive is mounted directly to the notebook frame, reducing the transmission of shock to the hard drive.
	Fixed optical drives	Optional DVD+/- RW Supermulti DL Drive

Interfaces	**VGA**	One
	HDMI	One
	Stereo Microphone in	One
	Stereo Headphone/line out	One
	Power connector	One
	RJ-45/Ethernet	One
	USB 2.0	Three
	LED status indicators	Nine

Audio/Visual	High Definition Audio support Integrated microphone Integrated stereo speaker (Altec Lansing) Headphone/line out Microphone in Integrated VGA webcam

- Supports videoconferencing and still image capture
- Improved quality for video streaming and still image capture (640x480 resolution)
- Up to 24 frames/sec
- Fixed focus lens

Standard Features (availability may vary by country)

Software	Preinstalled Software with Windows Operating System	HP Recovery Manager HP Support Assistant* Microsoft Office 2010 preloaded (purchase of a Product Key required to activate a full Office 2010 suite)** HP Wireless Assistant* Cyberlink Power DVD *** Cyberlink YouCam BE**** Symantec Norton™ Internet Security 2011 (60-day trial)

* Please note this is not available in all regions.
** Microsoft Office 2010 Preloaded includes reduced functionality versions of Word and Excel. Purchase of Product Key required to activate full Office 2010 suite available at participating resellers/retailers and http://www.office.com.
*** Please note this is available on select models and not available in all regions.
**** Available on select models.

HP Recovery Manager	HP Recovery Manager enables fast recovery of the factory preinstalled image if the system becomes corrupted or if important system files are accidentally deleted. Up to 19 GB of the hard drive is reserved for the system recovery software. * Support in Windows Operating System only

---

Security	Standard Features	Setup Password Kensington Lock LoJack for Laptops (must be purchased separately)

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

Power Supply	External 65-watt smart pin design AC adapter 1.0meter power cord included Total length including External AC adapter is 12 feet (3.66 meter). Fast Charge**

*65 watt AC adapter for UMA model/90 watt AC adapter for discrete model
** Fast Charge recharges your battery up to 90% within 90 minutes when the system is off. HP Fast Charge Only for 6 cell/47 WHr battery pack.

Battery	HP 6-cell (47 WHr) Li-Ion battery

Battery Life	Primary 6-cell (47 WHr) battery	Up to 5 hours

NOTE: Battery life will vary depending on the product model, configuration, loaded applications, features, use, wireless functionality and power management settings. The maximum capacity of the battery will naturally decrease with time and usage. See MobileMark07 battery benchmark http://www.bapco.com/products/mobilemark2007 for additional details.

System Standby Time	1 week*	* For models with Intel® HM55 Express Chipset standby time can only last 5 days

---

Standard Features (availability may vary by country)

Power Conservation	Hibernation*
	Standby*
	ACPI compliance*
	* Only OS W7 & Linux will feature power conservation

Service and Support	HP Services offers limited 1-year warranty options depending on country; 1-year limited warranty on primary battery. On-site service and warranty upgrades are also available. 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 (availability may vary by country)

NOTE: Options/capabilities listed in the QuickSpecs represent those capabilities available through Base Units or Build to Order configurations. The various product features and capabilities will vary in terms of configurable vs. aftermarket options (AMOs). There may be options and capabilities available through CTO that are not available as AMOs.

Other Storage	HP 250 GB USB Pocket Media Hard Drive	XQ543AA
	HP Mobile USB DVD	XQ543AA
	HP Mobile USB DVDRW	BU516AA
	HP Mobile Blu-ray USB DVDRW	XQ546AA
Expansion	HP USB 2.0 Docking Station	AY052AA#xxx
	HP Essential USB 2.0 Port Replicator	AQ731AA#xxx
	Compaq LAN and USB Travel Hub	BM868AA#xxx
	HP Adjustable Dual Monitor Stand	AW664AA#xxx
	HP Adjustable Display Stand	AW663AA#xxx
	HP Display and Notebook Stand	AW662AA#xxx
	HP Dual Hinge Notebook Stand	AW661AA#xxx
	HP Basic Adjustable Notebook Stand	AL549AA
Power	65W Slim Adapter	AX727AA#XXX
	65W Smart AC Adapter	ED494AA#xxx
	AC Long Power Cord 3-wire (10ft - 3m)	DC851B#xxx
	Primary 6-cell Battery pack	TBD
Carrying Cases	HP Basic Carrying Case	AJ078AA
	HP Basic Backpack	AM863AA
	HP Basic Messenger	AP355AA
	HP Deluxe Roller Case	GD405AA
	HP Deluxe 4 wheel Roller Case	XW576AA
	HP Business Nylon Backpack	BP849AA
	HP Business Nylon Case	BP848AA
	HP Executive Leather Case	RR316AA
	Compaq Top Load Carrying Case	AX338AA
	HP Elite Leather Top Load Case	AX675AA
	HP Elite Leather Messenger	AX676AA
	HP Elite Slim Top Load Case	AX680AA
	HP Professional Slim Top Load Case	AY530AA
	HP Student Edition Youth Backpack w/ rainhood	AY532AA
	HP Professional Series Carrying Case	AT886AA
	HP Professional Series Backpack	AT887AA
	HP Professional Series Messenger	AT888AA

QuickSpecs

Options (availability may vary by country)

HP Professional Series Designer Tote	AT889AA
HP Merlot Carrying Case	AU095AA#AC3
HP Professional Series Slip Case	AT890AA
HP Elite Series Designer Tote	AT891AA
HP 16.1 Slip Case with Integrated Fan	AY463AA
HP Professional Series Quick Case	AT892AA

Security

HP Compaq Notebook Combo Lock	AY475AA
HP Keyed Cable Lock	BV411AA
HP/Kensington MicroSaver Security Cable Lock	PC766A

Input/Output Devices

HP USB Keyboard & Mouse Bundle	RC465AA#xxx
HP USB-P/S2 Optical Mouse	DC369A
HP USB Optical Travel mouse	RH304AA

Technical Specifications

System Unit	**Dimensions** (HxWxD)	14.80 x 9.72 x 1.25~1.41 (in) 376 x 247 x 31.8~ 35.8 (mm)
	Weight	Starting at 5.5 lb/2.50 kg

NOTE: Height varies depending upon where on the notebook the measurement is made. Weight varies by configuration and components. Weight includes 6-cell battery, hard drive,
1 GB memory, and optical drive. Weight varies by configuration and components.

Stand-Alone Power Requirements (AC Power)	Nominal Operating Voltage	18.5 V
	Average Operating Power	Integrated graphics: 14.58 W* Integrated graphics: 16.10 W**
		Integrated graphics: 12.88 W***
		* Support models with Intel® GM45 Chipset ** Support Models with Intel® HM55 Express Chipset *** Support models with Intel® HM65 Express Chipset
	Max Operating Power	< 65 W
Temperature	Operating	32° to 95° F (0° to 35° C) (not writing optical)
		41° to 95° F (5° to 35° C) (writing optical)
	Non-operating	-4° to 140° F (-20° to 60° C)
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	40 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®	Select models*
	EPEAT	Registered Silver in United States**
	ICES	Yes
	Australia / NZ C-Tick Compliance	Yes
	CCC	Yes
	Japan VCCI Compliance	Yes
	KC	Yes
	BSMI	Yes
	CE Marking Compliance	Yes

Technical Specifications

BNCI or BELUS	Yes
CIT	Yes
GOST	Yes
Saudi Arabian Compliance (ICCP)	Yes
SABS	Yes
UKRSERTCOMPUTER	Yes

* Configurations of the HP 630 that are ENERGY STAR qualified are identified as HP 630 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.

For accessibility information on HP products, please visit: http://www.hp.com/accessibility.

HP 65W AC Adapter	**Dimensions**	4.21 x 1.85 x 1.18 in (10.7 x 4.7 x 3.0 cm)	
	Weight	0.62 lb (280 g)	
	Input	100 to 240 VAC	
		Input Efficiency	87% min at 115 VAC
		Input frequency range	47 to 63 Hz
		Input AC current	1.7 A at 90 VAC
	Output	Output power	65W
		DC output	18.5V
		Hold-up time	5 msec at 115 VAC input
		Output current limit	<11A, Over voltage protection- 29V max automatic shutdown
	Connector	3 pin/grounded, mates with interchangeable cords	
	Environmental Design	Operating temperature	41° to 95° F (5° to 35° C)
		Non-operating (storage) temperature	-4° to 185° F (-20° to 85° C)
		Altitude	0 to 5,000 ft (0 to 1,524 m)
		Humidity	20% to 95%
		Storage Humidity	10% to 95%
	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.	

QuickSpecs

Technical Specifications

6-Cell (47 WHr) Lithium-Ion battery	**Dimensions** (HxWxL)	0.85 x 2.06 x 8.07 in (2.17 x 5.23 x 20.5 cm)	
	Weight	0.7 lb (0.327 kg)	
	Cells/Type	6-cell Lithium-Ion	
	Energy	Watt-hour Capacity	47 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

Displays

15.6-inch LED HD (1366 x 768) anti-glare	**Dimensions** (W x H)	13.54 x 7.59 in (34.4 x 19.4 cm)	
	Diagonal Size	15.6 in (39.6cm)	
	Surface Treatment	Anti-glare	
	Contrast Ratio	400:1 (min)	
	Refresh Rate	60 Hz	
	Brightness	210 nit (typical)	
	Pixel Resolution	Pitch	0.252 mm
		Format	1366 x 768
		Configuration	RGB Stripe
	Backlight	LED	
	PPI	101 ppi	
	Viewing Angle	±40° Horizontal, ±10°/-30°° Vertical (minimum) 40/40/30/10 (Left/Right/Down/Up)	

Internal Storage

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) or on some models 0.28 in (7 mm)		
Width	2.75 in (70 mm)		
Interface	ATA-8, SATA 2.6, 3.0 Gb/s, NCQ		
Transfer Rate	**Synchronous** (maximum)	300 MB/s (Drive Capability)	
Seek Time (typical reads, including settling)	**Single Track**	1.5ms	
	Average	11ms	
	Maximum	22ms	
Rotational Speed	7200 rpm		
Logical Blocks	488,397,168		
Operating Temperature	32° to 140° F (0° to 60° C) [case temp]		
Features	ATA Security		

500 GB 5400 rpm SATA Hard Drive			
Drive Weight	0.22 lb (101 g)		
Capacity	500 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)	150 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	976,773,168		
Operating Temperature	32° to 140° F (0° to 60° C) [case temp]		
Features	ATA Security		

Technical Specifications

320 GB 5400 rpm SATA Hard Drive			
Drive Weight	0.22 lb (101 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)	150 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	625,142,448		
Operating Temperature	32° to 140° F (0° to 60° C) [case temp]		
Features	ATA Security		

Optical Drives

DVD+/-RW SuperMulti DL Drive		
Access Times	Random	<140ms CD (typical)
		< 160 ms DVD (typical)
Max Data Transfer Rate	24X CD-ROM	
	8X DVD	
	24X CD-R	
	24X CD-RW	
	8X DVD+R	
	8X DVD+RW	
	8X DVD-R	
	6X DVD-RW	
	5X DVD-RAM	
Transfer Mode	UDMA Mode 5	
Interface	Gen 1 SATA	
Supported Media (read)	CD-DA, CD-TEXT, CD-ROM, CD-ROM XA, MIXED MODE CD, CD-I, CD-I Bridge (Photo-CD, Video CD), Multisession CD (Photo-CD, CD-EXTRA, Portfolio, CD-R, CD-RW), CD-R, CD-RW, DVD-ROM (DVD-5, DVD-9, DVD-10, DVD-18), DVD-R, DVD-RW, DVD+R, DVD+RW, DVD-RAM	
Supported Media (write)	CD-R, CD-RW, DVD+R, DVD+RW, DVD-R, DVD-RW, DVD-RAM, DVD+R DL, DVD-R DL	
Max Media Capacity (read)	8.5 GB	
Max Media Capacity (write)	8.5 GB	
Transport	Tray Loading	

Technical Specifications

Audio

Hardware	Implementation	Realtek ALC270A-GR High Definition audio
	Volume Controls	Up, down, and mute function keys
	Full Duplex	Yes
	Microphone In	Stereo
	Headphone/Line Out	Stereo
	Integrated Microphone	Yes

Audio Output Quality	Frequency Response	10 Hz ~ 30 KHz
	Signal to Noise Ratio	>95 db
	Total Harmonic Distortion	>83 dBr
	Noise Floor	-110 dB
	Play/Record Sampling Rate(s)	Up to 192 KHz
	DAC	24 bits
	ADC	24 bits

Internal Stereo Speaker	Power Rating	1.5 W
	Impedance	4 ohms

Communications

Integrated Realtek RTL8165EH-CG 10/100 NIC Integrated Realtek RTL8111E 10/100/1000 NIC	Ethernet Features	10 Mbit/s operation (10BASE-T; IEEE 802.3i; IEEE 802.3 clauses 13-14) 100 Mbit/s operation (100BASE-TX; IEEE 802.3u; IEEE 802.3 clauses 21-30) 1000 Mbit/s operation (100BASE-T; IEEE 802.3ab; IEEE 802.3 clauses 21-30) (Support in RTL8111E only) Auto-Negotiation (Automatic Speed Selection) Full Duplex Operation at all Speeds, Half Duplex operation at 10 and 100 Mbit/s IEEE 802.1p QoS (Quality of Service) Support IEEE 802.1q VLAN 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 Advanced link down power saving for reducing link down power consumption
	Performance Features	TCP/IP/UDP Checksum Offload (configurable) Large send offload and Giant send offload Receiving Side Scaling
	Manageability	Wake-on-LAN from standby and hibernation (Magic Packet and Microsoft Wake-Up Frame); Wake-on-LAN from off (Magic Packet only)

Technical Specifications

		PXE 2.1 Remote Boot Statistics Gathering (SNMP MIB II, Ethernet-like MIB, Ethernet MIB (802.3x, clause 30)) Comprehensive diagnostic and configuration software suite Virtual Cable Doctor for Ethernet cable status
	Interface	PCI Express 1.1 x1 to fully support ASPM L0s/L1 and CLKREQ
	NIC Device Driver Name	Realtek PCIe FE Ethernet Family Controller

802.11b/g/n WiFi Adapter	**Wireless LAN Standards**	IEEE 802.11b IEEE 802.11g IEEE 802.11n
	Interoperability	Wi-Fi certified Cisco Compatible Extensions Program compliant with Microsoft Win7, (details at: http://www.hp.com/go/notebooks/WLAN)
	Frequency Band	2.402 - 2.482 GHz
	Data Rates	802.11b: 1, 2, 5.5, 11 Mbps 802.11g: 6, 9, 12, 18, 24, 36, 48, 54 Mbps 802.11n: card will support rates for NSS=1 for RX and TX for 20 MHz channels. Short and long guard intervals shall be supported
	Frequency Support	20 MHz: 2.4 GHz bands
	Modulation	Direct Sequence Spread Spectrum DBPSK, DQPSK, CCK, OFDM, BPSK, QPSK, 16-QAM, 64-QAM
	Security[1]	Supports 64- and 128-bit WEP, WPA, WPA2, hardware-accelerated AES, 802.1x authentication types EAP-TLS, EAP-TTLS, PEAP-GTC, PEAP-MSCHAPv2, LEAP, EAP-FAST. Support for Cisco Security Features (proven compatibility with Cisco Aironet infrastructure products through the Cisco Compatible Extensions Program Version 5) with Microsoft Windows7only.
	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 access points
	Output Power	13.5 dBm, minimum
	Power Consumption	Idle associated: 250 mW avg (CLKREQ enabled) Idle unassociated: 100 mW avg Transmit/Receive channel: 2.0 /1.6 W
	Power Management	ACPI compliant power management 802.11 compliant power saving mode
	Receiver Sensitivity[3]	72.2 Mbps: -71dBm
	Antenna type	High efficiency dual antenna with spatial diversity, usually mounted in the display enclosure
	Form Factor	PCI-Express Half-MiniCard

Technical Specifications

Weight	4 g	
Dimensions	3.3 x 26.65 x 29.85 mm	
Operating Voltage	3.3v +/- 9%	
Temperature	Operating	-10° to 70° C
	Non-operating	-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)
LED Activity	Amber LED on-Radio OFF; White LED on-Radio ON	

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. WLAN supplier IHV extensions required for Cisco Compatible Extensions support for Microsoft Windows Vista and Win7.

802.11b/g/n Bluetooth 3.0 Combo Card	**Wireless LAN Standards**	IEEE 802.11b IEEE 802.11g IEEE 802.11n
	Interoperability	Wi-Fi certified Cisco Compatible Extensions Program compliant with Microsoft Windows7 (details at: http://www.hp.com/go/notebooks/WLAN)
	Frequency Band	2.402 – 2.482 GHz
	Data Rates	802.11b: 1, 2, 5.5, 11 Mbps 802.11g: 6, 9, 12, 18, 24, 36, 48, 54 Mbps 802.11n: card will support rates for NSS=1 for RX and TX for 20 MHz channels. Short and long guard intervals shall be supported
	Modulation	Direct Sequence Spread Spectrum DBPSK, DQPSK, CCK, OFDM, BPSK, QPSK, 16-QAM, 64-QAM
	Security[1]	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. WAPI Support for Cisco Security Features (proven compatibility with Cisco Aironet infrastructure products through the Cisco Compatible Extensions Program Version 5) 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 access points

Technical Specifications

Output Power (for CCK)[2]	13.5dBm , minimum
Power Consumption	Idle associated: 250 mW Idle unassociated: 150 mW Transmit: 2.0 W (max) Receive: 2.0 W (max)
Power Management	ACPI compliant power management 802.11 compliant power saving mode
Receiver Sensitivity[3]	54 Mbps: -62 dBm, 11 Mbps: -82 dBm , 1 Mbps: -89 dBm
Antenna type	High efficiency dual antenna with spatial diversity, mounted in the display enclosure
Form Factor	PCI-Express Half-MiniCard
Weight	6 g
Dimensions	3.3 x 26.65 x 29.85 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)
LED Activity	LED Off – Radio OFF; Solid LED On – RadioON

*BT 3.0 can only be supported in Windows 7 OS, BT2,1 will be supported in Linux

Bluetooth Specification	V3.0 High Speed, V2.1+EDR, backwards compatible with V1.1, 1.2 and 2.0
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) 330 mW Peak (Rx) 230 mW Sleep <17 mW
Antenna	Internally integrated within module
Range	Up to 33 ft (10 m)
Electrical Interface	USB 2.0 compliant Microsoft Windows Plug and Play compliant
Bluetooth Software Supported	Broadcom Bluetooth for Windows Microsoft Windows Bluetooth Software
Link Topology	Point to Point, Multipoint Pico Nets up to 7 slaves

Technical Specifications

	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
	Bluetooth Profiles Supported	Generic Access Profile (GAP) Service Discovery Application Profile (SDAP) Serial Port Profile (SPP) Dial_Up Networking Profile (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) Generic Audio/Video Distribution Profile (GAVDP) Advanced Audio/Video Distribution Profile (A2DP) FAX Profile (FAX) Basic Imaging Profile (BIP) Headset Profile (HSP) Hands Free Profile (HFP) Basic Printing Profile (BPP) VDP (Video Distribution Profile) AVRCP (Audio Video Remote Control Profile)

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 – Silver where HP registers commercial notebook products. See http://www.epeat.net for registration status in your country.
	System Configuration	The configurations used for the Energy Consumption and Declared Noise Emissions data for HP 630 Notebook PC are based on a "Typically Configured Notebook"

Technical Specifications

Energy Consumption	115 VAC	230 VAC	100 VAC
Normal Operation	11.28 W	11.61 W	11.30 W
Sleep (Energy Star low power mode)	1.07 W	1.24 W	1.09 W
Off	0.67 W	0.83 W	0.65 W

Heat Dissipation*	115 VAC	230 VAC	100 VAC
Normal Operation	38.5 BTU/hr	40 BTU/hr	39 BTU/hr
Sleep	4 BTU/hr	4.2 BTU/hr	4 BTU/hr
Off	2.2 BTU/hr	3 BTU/hr	2.2 BTU/hr

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

System Fan Off	Sound Power (LWAd, bels)	Sound Pressure (LpAm, decibels)
Idle	2.8	22
Fixed Disk (random writes)	4	33

The system fan will be on by power consumption

Batteries

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

Batteries used in the product do not contain:

- Mercury greater the 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.

This product is in compliance with the IEEE 1680 (EPEAT) standard at the Silver 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 96.1% recycle-able when properly disposed of at end of life.

Technical Specifications

Packaging Materials

- External:
    - Corrugated – 185 g
    - Corrugated Carton – 415 g
- Internal:
    - Polyethylene low density – 22 g
    - Molded pulp – 100 g
- The Corrugated carton packaging material is made from 80% recycled content.
- The Corrugated packaging material is made from 80% recycled content.
- The Polyethylene low density packaging material is made from 80% recycled content.
- The Molded Pulp packaging material is made from 80% 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):

- 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
- Ozone Depleting Substances

Technical Specifications

- 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)
- Nickel finishes that release greater than 0.5 µgrams/cm2/week, measured according to EN 1811:1998, are not used on any product surface designed to be frequently handled or touched by users.

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