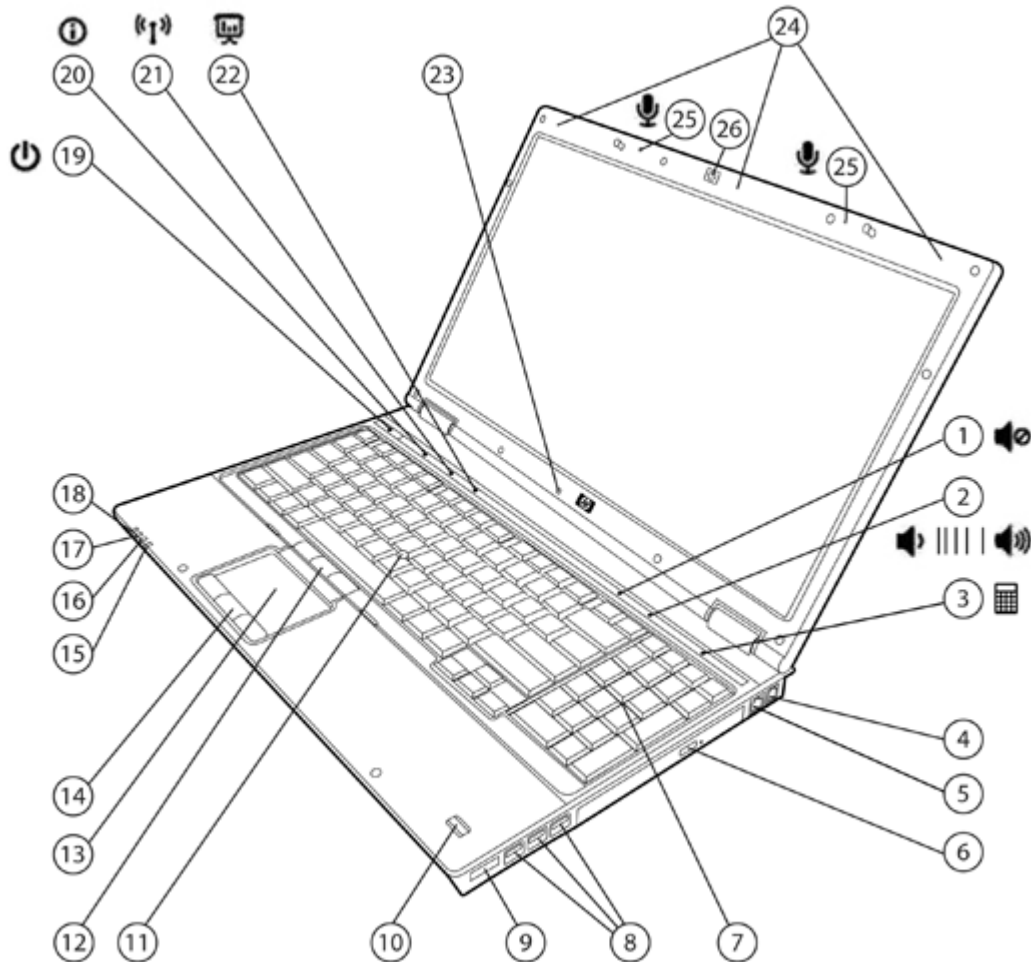
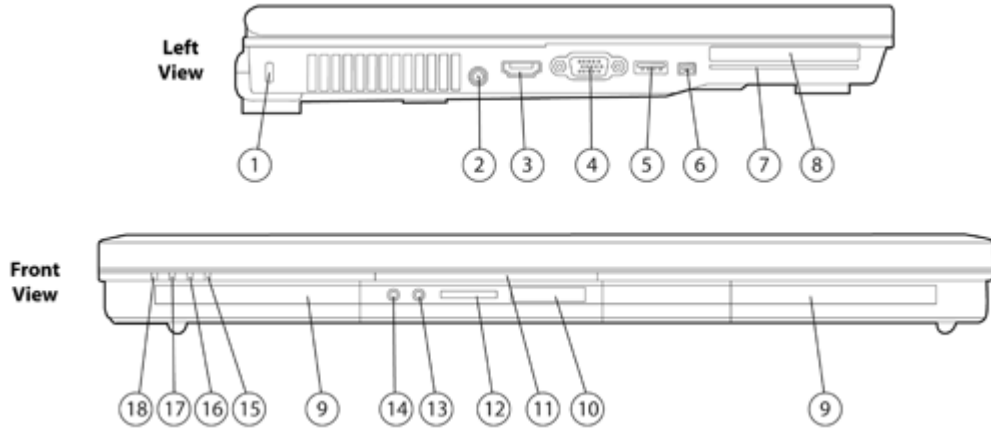


Overview

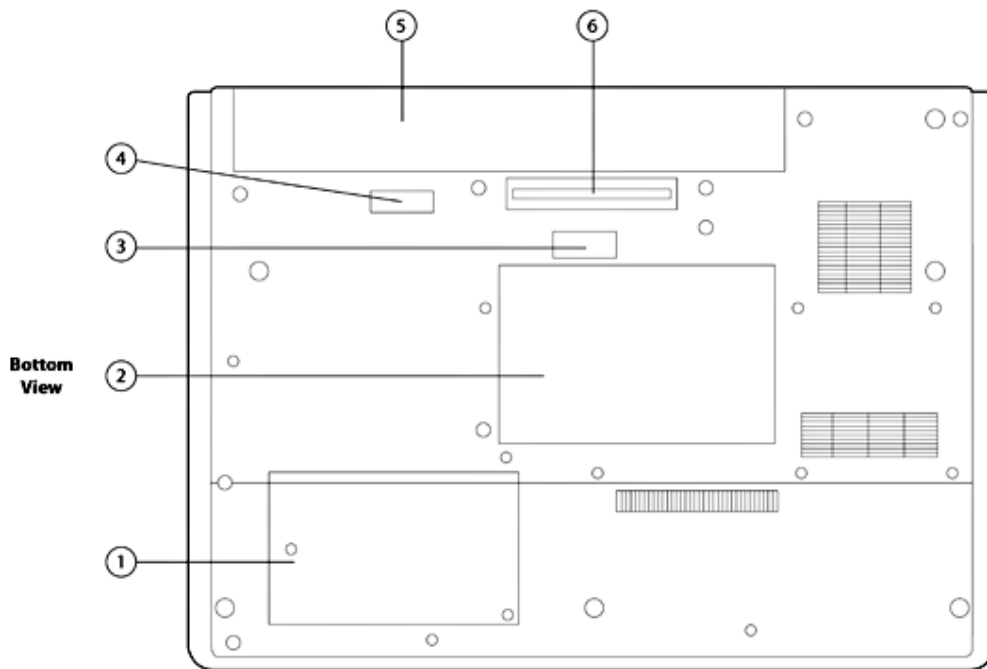


1. Volume mute button with LED indicator
2. Volume scroll zone with up/down LED indicators
3. Calculator button
4. RJ-11/modem port
5. RJ-45/Ethernet port
6. Upgrade Bay (optical drive or second hard drive)
7. Full numeric keypad
8. (3) USB 2.0 ports
9. eSATA connector
10. HP Fingerprint Sensor
11. Pointstick
12. Pointstick buttons, three
13. Touchpad with scroll zone
14. Touchpad buttons, three
15. Hard drive / optical drive activity / HP 3D DriveGuard LED
16. Battery charging LED
17. Power/standby LED
18. Wireless on/off LED
19. Power button with LED
20. HP Info / HP QuickLook button with LED indicator
21. Wireless on/off button with LED indicator
22. HP Presentation button with LED indicator
23. Ambient Light Sensor
24. Three WLAN antennas (with WLAN option)
25. Dual-microphone array
26. Optional 2 MP Webcam with LED

Overview



- | | |
|-----------------------------------|--|
| 1. Kensington Lock slot | 10. Display release latch |
| 2. Power connector | 11. Business Card slot |
| 3. HDMI port | 12. Media Card Reader |
| 4. VGA/external monitor connector | 13. Stereo microphone in |
| 5. USB 2.0 port | 14. Stereo headphone/line out |
| 6. 1394a port | 15. Hard drive activity / HP 3D DriveGuard LED |
| 7. Integrated Smart Card Reader | 16. Battery charging LED |
| 8. ExpressCard/54 slot | 17. Power/standby LED |
| 9. Integrated stereo speakers | 18. Wireless on/off LED |



- | | |
|---------------------------------------|--------------------------|
| 1. Hard drive bay | 4. Battery release latch |
| 2. Memory module and WLAN compartment | 5. Battery bay |
| 3. Secondary battery connector | 6. Docking connector |

Overview

At A Glance

- Genuine Windows Vista Business 32, Genuine Windows Vista Business 64, Genuine Windows Vista Home Basic, Genuine Windows Vista Business with downgrade to Windows XP Professional custom installed, or FreeDOS
- NVIDIA Quadro FX 3700M graphics with up to 1 GB dedicated memory, NVIDIA Quadro FX 2700M graphics with up to 512 MB dedicated memory, or ATI Mobility FireGL V5725 graphics with up to 256 MB dedicated memory
- DirectX 10 support and Dual Link DVI (available through optional docking) provides faster rendering capabilities and support for ultra-high resolution monitors
- Intel® Centrino® 2 with vPro™ technology capable, with Intel Core™2 Extreme or Intel Core™2 Duo processors
- Business Rugged - designed to meet the military standard Mil-Std-810F for for shock, vibration, sand and dust, humidity, altitude, and high temperature operation *
- HP Performance Tuning Framework for optimal configuration, compatibility and performance
- HDMI high definition video/audio port
- eSATA connector for external optical drive, hard drive, or RAID array
- Upgrade Bay for easy optical drive upgrade or optional second hard drive for RAID 1 Mirroring or RAID 0 Striping
- Optional Blu-Ray DVD+/-RW SuperMulti DL Drive
- Designed to travel, with weight starting at 7.5 lb/3.40 kg and 1.3-inch/32 mm thin at front
- Widescreen 17.0-inch diagonal display with wide-viewing angle (select models), Ambient Light Sensor and HP Privacy Filter support
- Optional HP DreamColor panel is available with NVIDIA graphics for maximum color control
- Integrated Media Card Reader
- Full-sized keyboard with separate numeric keypad
- Flexible wireless connectivity options:
 - Integrated 802.11 a/b/g/draft-n, or a/b/g wireless LAN module
 - Bluetooth®
- Enhanced security features including integrated Smart Card Reader, HP ProtectTools, HP SpareKey, HP Fingerprint Sensor, TPM 1.2 Embedded Security Chip**
- Optional 2 MP Webcam with Business Card Reader Software
- HP QuickLook 2 for instant access to email, calendar, and contact information
- Enhanced reliability with HP DuraCase, HP DuraKeys and HP DuraFinish
- Up to 8 GB of 800 MHz DDR2 SDRAM supported, dual channel memory support
- Up to 500 GB 5400 rpm or 320 GB 7200 rpm SMART SATA II user-removable hard drive with HP 3D DriveGuard protection, or 80-GB Solid State Drive
- Integrated Intel Gigabit Network Connection (10/100/1000 NIC)
- Enhanced dual pointing devices (touchpad with scroll zone and pointstick)

* Testing was not intended to demonstrate fitness for DOD contracts requirements or for military use. Test results are not a guarantee of future performance under these test conditions.

** TPM module disabled where not permitted by law (for example, Russia and China).

Standard Features

Processors

Intel Core 2 Extreme Processor QX9300 (2.53 GHz, 12 MB L2 cache, 1066 MHz FSB)*

Intel Core 2 Extreme Processor X9100 (3.06 GHz, 6 MB L2 cache, 1066 MHz FSB)*

Intel Core 2 Quad Processor Q9100 (2.26 GHz, 12 MB L2 cache, 1066 MHz FSB)*

Intel Core 2 Quad Processor Q9000 (2.0 GHz, 6 MB L2 cache, 1066 MHz FSB)*

Intel Core 2 Duo Processor T9800 (2.93 GHz, 6 MB L2 cache, 1066 MHz FSB)*

Intel Core 2 Duo Processor T9600 (2.80 GHz, 6 MB L2 cache, 1066 MHz FSB)*

Intel Core 2 Duo Processor T9550 (2.66 GHz, 6 MB L2 cache, 1066 MHz FSB)*

Intel Core 2 Duo Processor T9400 (2.53 GHz, 6 MB L2 cache, 1066 MHz FSB)*

Intel Core 2 Duo Processor P8600 (2.40 GHz, 3 MB L2 cache, 1066 MHz FSB)*

Intel Core 2 Duo Processor P8400 (2.26 GHz, 3 MB L2 cache, 1066 MHz FSB)*

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

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

Operating System

Preinstalled

Genuine Windows Vista Business 32*

Genuine Windows Vista Business 64*

Genuine Windows Vista Home Basic

Genuine Windows Vista Business with downgrade to Windows XP Professional custom installed*†

FreeDOS

Supported

Genuine Windows XP Professional 32

Genuine Windows XP Professional 64

Certified

SuSE Linux Enterprise Desktop 10

* Certain Windows Vista product features require advanced or additional hardware. See <http://www.microsoft.com/windowsvista/getready/hardwarereqs.mspx> and <http://www.microsoft.com/windowsvista/getready/capable.mspx> for details. Windows Vista Upgrade Advisor can help you determine which features of Windows Vista will run on your computer. To download the tool, visit <http://www.windowsvista.com/upgradeadvisor>.

† Windows Vista Business disk may be included for future upgrade if desired. To qualify for this downgrade an end user must be a business (including governmental or educational institutions) and is expected to order at least 25 customer systems with the same custom image.

Chipset

Mobile Intel PM45 Express Chipset ICH9M-Enhanced

Standard Features

Intel Centrino 2 with vPro technology capable Intel Centrino 2 with vPro technology is a selectable feature that is available on units configured with an Intel WiFi Link 5300 or 5100. It provides advances in remote manageability, security, energy efficient performance, and wireless connectivity. Intel Active Management Technology (AMT) offers built-in manageability and proactive security for networked notebook PCs, even when they are powered off* or when the operating system is inoperable. It can help identify threats before they reach the operating system, isolate infected systems, and update PCs regardless of their power state.

*Requires a Windows operating system, network hardware and software, connection with a power source, and a direct (non-VPN) corporate network connection which is either cable or wireless LAN.

NOTE: Some functionality of Intel Centrino 2 and vPro technology, such as Intel Active Management technology and Intel Virtualization technology, requires additional 3rd party software in order to run. Availability of future "virtual appliances" applications for Centrino 2 and vPro technology is dependant on 3rd party software providers. Compatibility with future "virtual appliances" is yet to be determined.

Business Rugged

Meets the military standard Mil-Std-810F* for:

- Shock: Method 516.5 Proc. I
- Vibration: Method 514.5, Proc I
- High Temperature: Method 501.4, Proc I & II (140°F/60°C operational)
- Sand and Dust: Method 510.4, Proc. I (Blowing Dust)
- Humidity: Method 507.4 (95% relative humidity)
- Altitude: Method 500.4 Low Pressure, Proc. I & II (15,000 feet operational)

* Testing was not intended to demonstrate fitness for DOD contracts requirements or for military use. Test results are not a guarantee of future performance under these test conditions.

Graphics

Models with NVIDIA graphics:

NVIDIA Quadro FX 3700M with 1 GB of dedicated video memory, or
NVIDIA Quadro FX 2700M with 512 MB of dedicated video memory
Microsoft DirectX 10 (Shader 4.0) and OpenGL 2.1 capable

Models with ATI graphics:

ATI Mobility FireGL V5725 with 256 MB of dedicated video memory
Microsoft DirectX 10.1 (Shader 4.1) and OpenGL 2.1 capable

Standard Features

Display	Internal	17.0-inch diagonal WXGA+ anti-glare (1440 x 900 resolution) 17.0-inch diagonal WSXGA+ anti-glare wide-viewing angle (1680 x 1050 resolution) 17.0-inch diagonal WUXGA wide-viewing angle anti-glare (1920 x 1200 resolution) 17.0-inch diagonal WUXGA DreamColor wide-viewing angle (1920 x 1200 resolution)* Ambient light sensor Integrated lid switch HP Privacy Filter support
	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 HDMI 1.3 port supports direct connection to high-definition displays with up to 1920 x 1080 resolution and 7-channel audio with one convenient cable (not included). DVI port in optional HP Docking Station (sold separately) supports resolutions up to 1920 x 1200 for single-link DVI monitors and up to 2560 x 1600 for dual-link DVI monitors. NOTE: Resolutions are dependent upon monitor capability, and resolution and color depth settings. * DreamColor LED display is available only with NVIDIA graphics.

Memory	Standard	800 MHz DDR2 SDRAM; two slots supporting dual channel memory 1024 MB, 2048 MB, 4096 MB, or 8192 MB
	Maximum	Upgradeable to 8192 MB with 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. 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. Availability of 4 GB or more of memory requires Windows Vista Business 64-bit or Linux. With Windows 32-bit operating systems, memory above 3 GB may not all be available due to system resource requirements.

Communications	Integrated Intel Gigabit Network Connection (10/100/1000 NIC)* 56K V.92 modem** * The term "10/100/1000" or "Gigabit" Ethernet indicates compliance with IEEE standard 802.3ab for Gigabit Ethernet, and does not connote actual operating speed of 1 Gb/s. For high-speed transmission, connection to a Gigabit Ethernet server and network infrastructure is required. ** Designed for downloads from 56K modem compliant sources. Maximum achievable download transmission rates currently do not reach 56 KB/s, and will vary with line conditions. Modem availability is subject to country regulatory approval.
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Standard Features

Wireless Devices

Support for a broad range of secure, integrated wireless LAN options featuring support for the latest industry standards. Wireless LAN is factory configurable or available as an option to be added later. 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* 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 Three antennas integrated in the display enclosure
Intel WiFi Link 5300	Integrated support for 802.11 a, b, g, and n draft 2.0* Up to 450 mbps data rate
Intel WiFi Link 5100	Integrated support for 802.11 a, b, g, and n draft 2.0* Up to 300 mbps data rate
HP Integrated Module with Bluetooth Wireless Technology	Bluetooth Specification v2.0 compliant Works with a wide range of Bluetooth devices

* The specifications for 802.11n draft 2.0 are draft specifications and are not final. If the final specifications differ from the draft specifications, it may affect the ability of the notebook to communicate with other 802.11n WLAN devices. In countries where n draft 2.0 is not allowed, this capability is not enabled (Intel 802.11a/b/g only).

Keyboard

The 101/102-key compatible keyboard features an industry standard, full-pitch key layout with desktop keyboard features, such as the isolated inverted-T cursor control keys, editing keys, both left and right control and alt keys, and 12 function keys. US and International key layouts are available. Other features include a full numeric keypad, hotkeys for instant access to power conservation, brightness, and other features, 19.05-mm x 19.05-mm key pitch (center-to-center spacing), 3.0-mm stroke, and comfort-dished keycaps.

HP DuraKeys is a clear coating applied over the notebook keyboard that helps protect the finish and the printed characters on the keys. HP DuraFinish helps protect the finish on the keyboard deck, graphics, and icons from normal wear and tear.

Touch-sensitive controls Touch-sensitive controls provide easy access to the following features: HP Info Center, HP QuickLook 2, wireless on/off, HP Presentation button, volume up, volume down, mute, and calculator button.

Pointing device

Enhanced dual pointing devices:
Touchpad with scroll zone, three pick buttons
and
Pointstick, three pick buttons

Standard Features

Expansion card slots	ExpressCard/54 slot	Supports ExpressCard/54 and ExpressCard/34
	Integrated Smart Card Reader	Compatible with ISO 7816 compliant Smart Cards PC/SC interface support
	Media Card Reader	Supports SD (Secure Digital), MultiMedia Card, Memory Stick, Memory Stick Pro, Memory Stick Duo*, Picture card

* Memory Stick Duo Adapters are required and sold separately. Inserting a Memory Stick Duo Card directly into your notebook could damage the memory card and/or notebook.

Storage

Internal Storage Device	160/250/500 GB 5400 rpm SMART SATA II Hard Drive
	160/250/320 GB 7200 rpm SMART SATA II Hard Drive
	80 GB Solid State Drive

NOTE: Hard drives are customer removable and will withstand multiple insertion/removal cycles. Up to 10 GB is reserved for the system recovery software.

HP 3D DriveGuard The hard drive is mounted directly to the notebook frame, reducing the transmission of shock away from 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.

Upgrade Bay	Fixed 12.7 mm SATA optical drive	Blu-ray R/RE DVD+/-RW SuperMulti DL Drive DVD+/-RW SuperMulti DL LightScribe Drive DVD-ROM Drive
	or Second hard drive*	250 GB 5400 rpm SMART SATA II Hard Drive 250/320 GB 7200 rpm SMART SATA II Hard Drive

* For RAID configurations, both hard drive capacities must be equal.

Interfaces

ExpressCard/54 slot	One
Smart Card Reader	One
Media Card Reader	One
External monitor	One – VGA
1394a	One – 4-pin connector
Stereo microphone in	One
Stereo headphone/line out	One
Power connector	One
RJ-11/modem	One
RJ-45/Ethernet	One
HDMI	One – 1.3 compliant
eSATA	One
USB 2.0	Four
Docking connector	One
Secondary battery connector	One

Standard Features

LED status indicators Sixteen

Audio/Visual

High Definition Audio support w/24-bit DAC
Integrated stereo speakers
Integrated dual-microphone array
Touch-sensitive controls for volume up, volume down, and mute
Stereo headphone/line out
Stereo microphone in

Optional 2 MP Webcam with Business Card Reader Software

- Supports videoconferencing and still image capture
- Large image sensor for excellent color matching and good low light sensitivity
- Up to 30 frames/sec
- AutoMacro focus lens
- Video capture at VGA, 1.3 Mpixel, and 2 Mpixel resolutions
- 16-bit true color (camera sensors output YCrCb format among others)

Software

Preinstalled software with Windows Vista or Windows XP

HP Recovery Manager (Vista only)
HP Help and Support Center
HP QuickLook 2
HP Universal Print Driver
HP ProtectTools Security Manager:
 BIOS Configuration for HP ProtectTools
 Credential Manager for HP ProtectTools
 Device Access Manager for HP ProtectTools
 Drive Encryption for HP ProtectTools
 Embedded Security for HP ProtectTools
 File Sanitizer for HP ProtectTools
 Privacy Manager for HP ProtectTools
HP Quick Launch Buttons
HP Wireless Assistant
Microsoft Office Ready with 60-day Office Professional 2007 Trial Edition (select models)
PDF Complete Special Edition
Intervideo WinDVD – DVD Player
Roxio Creator Business (for optional DVD+/-RW and DVD/CD-RW drives)
McAfee Total Protection*
Synaptics Touchpad Driver
Microsoft Windows Live Messenger (select models)
HP Webcam Software
MS OneNote

Additional software available from the web

HP SoftPaq Download Manager
HP Client Manager Software
HP Client Management Solutions
Java Card Security for HP ProtectTools

* 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.

Standard Features

Workstation ISV Certifications

MCAD

(Mechanical
CAD/Architectural
Engineering and
Construction)

AutoDesk AutoCAD
AutoDesk Inventor
AutoDesk Revit
AutoDesk AliasStudio
AutoDesk Map 3D
AutoDesk Civil 3D
Bentley InRoads XM
Bentley Microstation
Bentley Navigator
CEI
CoCreate OneSpace
Dassault Systemes CATIA V5
ICEM Surf
Intelligent Light
MSC Software MSC.Patran
MSC Software SimXpert
PTC Pro/ENGINEER Wildfire
SensAble
Siemens PLMS NX
Siemens PLMS NX I-deas
Siemens PLMS Solid Edge
Siemens PLMS TeamCenter Visualization
Solidworks

DCC

(Digital Content Creation)

Adobe Premiere
Adobe After effects
Adobe Encore
Adobe Photoshop
AutoDesk 3DS MAX/Combustion
AutoDesk Maya
Avid Xpress Pro
Avid Media Composer
SoftImage XSI

GIS

(Geographic Information
Systems)

ESRI ArcGIS

Oil and Gas

Landmark R5000
Paradigm EPOS, GoCAD
Schlumberger / GeoFrame
Schlumberger Petrel
SeismicMicro Technology

HP Performance Tuning Framework

HP Performance Tuning Framework (PTF) enables optimal configuration of HP Mobile Workstations delivering stability and best performance. HP PTF will guide your system setup allowing a "custom" configuration that best matches the workstation to user requirements.

Standard Features

HP Recovery Manager Each Windows Vista unit is shipped with 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 10 GB of the hard drive is reserved for the system recovery software.

SMBIOS Version 2.4 System Management BIOS, previously known as DMI BIOS, is used to store system management information.

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

- BIOS Configuration for HP ProtectTools
- Credential Manager for HP ProtectTools
- Device Access Manager for HP ProtectTools
- Drive Encryption for HP ProtectTools
- File Sanitizer for HP ProtectTools
- Set-up Wizard for HP ProtectTools
- Privacy Manager for HP ProtectTools (Chat & Sign)
- Embedded Security for HP ProtectTools
- Java Card Security for HP ProtectTools

Security

Standard Features

HP ProtectTools Security Manager
Enhanced Pre-Boot Security
HP SpareKey
One-Step Logon
HP Fingerprint Sensor
Integrated Smart Card Reader
Configuration Control Hardware
Memory Change Alert
Ownership Tag
Setup Password
Power-On Password
TPM 1.2 Embedded Security Chip*
TPM Enhanced DriveLock*
HP Disk Sanitizer
HP 3D DriveGuard
Kensington Lock Slot
Support for Computrace / LoJack for Laptops (must be purchased separately)

Optional Features

HP Privacy Filter Narrows viewing area so that screen data is visible only to persons directly in front of the monitor

* TPM module disabled where use is restricted by law; for example, Russia and China.
For more information on HP security solutions refer to <http://www.hp.com/go/security>.

Standard Features

Power Supply External 120 watt* or 150 watt Smart AC adapter, 6-foot (1.8-meter) power cord included. Total length including external AC adapter is 12 feet (3.66 meter). HP Fast Charge**

* 120 watt power supply not available with NVIDIA graphics or Intel Core2 Extreme Processor

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

Battery	Primary battery	8-cell (73 WHr) Lithium-Ion battery
	Optional HP Extended Life Battery	8-cell (52 WHr) high capacity Lithium-Ion battery
	Optional HP Ultra-Capacity Battery	12-cell (95 WHr) high capacity Lithium-Ion battery

Battery Life	Primary battery	Up to 4 hours and 15 minutes
	Primary battery and optional HP Extended Life Battery	Up to 7 hours and 45 minutes
	Primary battery and optional HP Ultra-Capacity Battery	Up to 10 hours

NOTE: The listed battery life measurements were taken on models running Microsoft Windows XP Professional. 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 12 days

Power Conservation NVIDIA PowerMizer 7.0 technology (models with NVIDIA graphics)
ATI PowerPlay technology (models with ATI graphics)
Hibernation
Standby
ACPI compliance

Standard Features

Docking and Stands

- HP Advanced Docking Station
- HP Docking Station
- HP Standard Monitor Stand
- HP Adjustable Notebook Stand
- HP External MultiBay II

HP's shared docking solutions provide simple and convenient port replication and cable management. Features include Gigabit NIC pass through, modem pass through, legacy parallel and serial ports, Dual Link DVI-D, USB 2.0 ports, integrated security mechanism*, integrated MultiBay II and ExpressCard** slots. These docking solutions are compatible across multiple 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 offers limited 3-year, 1-year and 90-day 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

Memory	HP 1 GB (DDR2 800 MHz) SODIMM	KT292AA
	HP 2 GB (DDR2 800 MHz) SODIMM	KT293AA
	HP 4 GB (DDR2 800 MHz) SODIMM	KT294AA

Storage	HP Notebooks USB Diskette Drive	DC361B
	HP 250GB Pocket Media Drive	FE477AA
	HP Primary SATA 250 GB 5400 rpm Hard Drive	AK072AA
	HP Upgrade Bay SATA 250 GB 5400 rpm Hard Drive	AK868AA
	HP Upgrade Bay SATA DVD+/-RW SuperMulti DL LightScribe Drive	AK869AA

MultiBay II Storage (9.5-mm)	HP MultiBay II DVD-ROM Drive	PA849A
	NOTE: Requires HP Advanced Docking Station or HP External MultiBay II HP MultiBay II DVD+/-RW SuperMulti DL Drive	PA851A

Expansion Solutions	HP Docking Station	EN488AA#xxx
	HP Advanced Docking Station	EN489AA#xxx
	HP 2008 150W Docking Station	KQ751AA#xxx
	HP 2008 180W Advanced Docking Station	KQ752AA#xxx
	HP External MultiBay II	PA509A#xxx
	HP Standard Monitor Stand	PA507A
	HP Adjustable Notebook Stand	PA508A
	HP Mobile Port Replicator	AK155AA
	HP Dual-Monitor Stand	AK084AA

Communications	Intel WiFi Link 5300	KM591AA#xxx
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Options

Power	HP 1-Bay Battery Charging Station	RW635AA#xxx
	HP 5-Bay Battery Charging Station	RW636AA#ABA
	HP Battery Adapter Kit	KV830AA
	HP 150W Smart AC Adapter	AL192AA#xxx
	HP 180W Smart AC Adapter	AK875AA#xxx
	HP 90W Smart Combo Adapter	AJ652AA#xxx
	90W Smart Auto/Truck Adapter	ED493AA
	HP Primary 8-cell Battery pack	KU533AA
	HP Extended Life Battery	AJ359AA
HP 12-cell Ultra-Capacity Battery	EJ092AA	
<hr/>		
Carrying Cases	HP Universal Nylon Case	RR315AA
	HP Executive Leather Case	RR316AA
	HP Deluxe Nylon Backpack	RR317AA
	HP Deluxe Roller Case	GD405AA
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Security	HP ExpressCard Smart Card Reader with Java Card	AJ451AA
	HP ProtectTools Java Card – 10 units	EL348AA
	HP/Kensington MicroSaver Security Lock	PC766A
	HP Privacy Filter	GA890AV
<hr/>		
Input/Output Devices	HP PS/2 Keyboard & Mouse Bundle*	RC464AA#xxx
	HP USB Keyboard & Mouse Bundle	RC465AA#xxx
	HP USB/PS2 Optical 2-Button Scroll Mouse	DC369A
	HP USB Optical Travel Mouse	RH304AA
	* Requires HP Docking Station, HP Advanced Docking Station, HP 2008 Docking Station or HP 2008 Advanced Docking Station. Availability may vary by region.	

Memory

800-MHz DDR2 SDRAM
Two DIMM slots supporting dual channel memory
DIMM sizes supported: 1024 MB, 2048 MB, and 4096 MB

- Standard Memory**
- 1024 MB (1024 MB x 1)
 - 2048 MB (2048 MB x 1 or 1024 MB x 2)
 - 4096 MB (4096 MB x 1 or 2048 MB x 2)
 - 8192 MB (4096 MB x 2)

Optional Memory Upgrades Support for up to 8192 MB of memory with the installation of optional DDR2 SDRAM memory kits. Both memory slots are user accessible. Please refer to the Hardware and Software Guide for installation procedures. Maximized dual-channel performance requires SODIMMs of the same size and speed in both memory slots.

Up to	Slot 1	Slot 2
1024 MB	1024 MB	Empty
2048 MB	1024 MB	1024 MB
3072 MB	2048 MB	1024 MB
4096 MB	2048 MB	2048 MB
8192 MB	4096 MB	4096 MB

NOTE: This chart does not represent all possible memory configurations. Due to the non-industry standard nature of some third-party memory modules, we strongly recommend using only HP branded memory modules to ensure compatibility. If you mix memory speeds, the system will perform at the lower memory speed. Availability of 4 GB or more of memory requires Windows Vista Business 64-bit or Linux. With Windows 32-bit operating systems, memory above 3 GB may not all be available due to system resource requirements.

Memory Upgrades	HP 1 GB (DDR2 800 MHz) SODIMM	KT292AA
	HP 2 GB (DDR2 800 MHz) SODIMM	KT293AA
	HP 4 GB (DDR2 800 MHz) SODIMM	KT294AA

Storage

Upgrade Bay Drive Support

	Quantity Supported	Drive Bay
Blu-ray R/RE DVD+/-RW SuperMulti DL Drive	One	Upgrade Bay
DVD+/-RW SuperMulti DL LightScribe Drive	One	Upgrade Bay
DVD-ROM Drive	One	Upgrade Bay
250 GB 5400 rpm SMART SATA II Hard Drive	One	Upgrade Bay
320 GB 7200 rpm SMART SATA II Hard Drive	One	Upgrade Bay
250 GB 7200 rpm SMART SATA II Hard Drive	One	Upgrade Bay

Internal Storage Device

	Quantity Supported	Drive Bay
Hard Drives		
500 GB 5400 rpm SMART SATA II Hard Drive	One	Dedicated hard drive bay
250 GB 5400 rpm SMART SATA II Hard Drive	One	Dedicated hard drive bay
160 GB 5400 rpm SMART SATA II Hard Drive	One	Dedicated hard drive bay
320 GB 7200 rpm SMART SATA II Hard Drive	One	Dedicated hard drive bay
250 GB 7200 rpm SMART SATA II Hard Drive	One	Dedicated hard drive bay
160 GB 7200 rpm SMART SATA II Hard Drive	One	Dedicated hard drive bay
Solid State Drive		
80 GB Solid State Drive	One	Dedicated hard drive bay

Technical Specifications

System Unit	Dimensions (HxWxD)	1.3 in (at front) x 15.5 in x 11.1 in 32 mm (at front) x 393 mm x 282 mm
	Weight	Starting from 7.6 lb (3.40 kg)
	NOTE: Height varies depending upon where on the notebook the measurement is made. Starting weight includes 8-cell battery, hard drive, 1 GB memory, 802.11 wireless communications module, Bluetooth, and optical drive. Weight varies by configuration and components.	
	Stand-Alone Power Requirements (AC Power)	Nominal Operating Voltage 18.5 V Average Operating Power 33.0 W Max Operating Power < 150 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 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 Gold** ICES Yes GS Yes Australia / NZ A-Tick Compliance Yes CCC Yes Japan VCCI Compliance Yes MIC Yes BSMI Yes CE Marking Compliance Yes BNCI or BELLIS Yes CIT Yes GOST Yes Saudi Arabian Compliance (ICCP) Yes SABS Yes

Technical Specifications

UKRSERTCOMPUTER Yes

* Configurations of the HP EliteBook 8730w that are ENERGY STAR qualified are identified as HP EliteBook 8730w 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.

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

HP 120W Smart AC Adapter*

Weight	1.52 lb (0.69 kg) (adapter) 0.29 lb (0.13 kg) (power cord)
Dimensions	6.65 x 2.56 x 1.50 in (16.9 x 6.5 x 3.8 cm)
Input	Operating Input Voltage 100 to 240 VAC Operating Input Current PFC Version: 2.20 A at 90 VAC 1.10 A at 180 VAC Non-PFC Version: 2.5 A at 110 VAC 1.25 A at 180 VAC Operating Frequency Range 47 to 63 Hz AC Efficiency 83% minimum at 115 VAC
Output	Output power 120 W DC Output Voltage 18.5 V
Environmental Design	Operating Temperature 32° to 104° F (0° to 35° 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, Class2, SELV Agency approvals: C-UL-US, NORDICS, DENAN, EN55022 Class B, FCC Class B, CISPR22 Class B, CCC, NOM-1 NYCE, S-Mark, Australian Electric Permit, PSB, eK, BSMI, BNCI, KONCAR, GS, GOST, SASO, SABS, UKRSERTCOMPUTER NOTE: Approvals in italics apply to PFC version only.

*Not available with NVIDIA graphics, Extreme Edition processors, or DreamColor panels

Technical Specifications

HP 150W Smart AC Adapter	Dimensions	6.65 x 2.76 x 1.57 in (16.9 x 7.0 x 4.0 cm)	
	Weight	1.54 lb (700 g)	
	Input	Input	100 to 240 VAC
		Input Efficiency	83% min at 115 VAC
		Input frequency range	47 to 63 Hz
	Output	Input AC current	2.2 A at 90 VAC, 1.1 A at 180 VAC
		Output power	150W
		DC output	19.0V
		Hold-up time	5 msec at 115 VAC input
		Output current limit	<15A, Over voltage protection- 29V max automatic shutdown
	Connector	3 pin/grounded, mates with interchangeable cords	
	Environmental Design	Operating temperature	32° to 104° F (0° to 35° 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%
EMI and Safety Certifications	Storage Humidity	10% to 90%	
	CE Mark- full compliance with LVD and EMC directives; Worldwide safety standards- IEC950, EN60950, UL1950, Class 1, SELV; Agency approvals- C-UL-US, NORDICS, DENAN, EN55022 Class B, FCC Class B, CISPR22 Class B, CCIB, NOM-1 NYCE; MTBF- over 200,000 hours at 25°C ambient condition.		

Optional HP Ultra-Capacity Battery	Dimensions (H x W x L)	1.3 x 6.0 x 10.6 in (3.33 x 15.25 x 26.88 cm)	
	Weight	1.77 lb (0.803 kg)	
	Cells/Type	12-cell Lithium-Ion	
	Energy	Watt-hour Capacity	95 WHr
		Temperature	Operating (Charging) 32° to 113° F (0° to 45° C)
	Battery Re-Charge Time	Operating (Discharging)	14° to 140° F (-10° to 60° C)
		Non-operating	-4° to 140° F (-20° to 60° C)
		Smart Adapter	3 to 4 hours
	Fuel Gauge	System ON	4 to 5 hours (depending on system power consumption)
		When pressed, LEDs light indicating level of charge remaining on battery	

Technical Specifications

Optional HP Extended Life Battery	Dimensions (H x W x L)	1.0 x 3.9 x 8.7 in (2.5 x 10.0 x 22.0 cm)	
	Weight	1.00 lb (0.455 kg)	
	Cells/Type	8-cell Lithium-Ion	
	Energy	Watt-hour Capacity	52 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	3 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
Fuel Gauge	When pressed, LEDs light indicating level of charge remaining on battery		

8-Cell (73 WHr) Lithium-Ion battery	Dimensions (H x W x L)	0.8 x 1.9 x 10.6 in (2.0 x 4.8 x 27.0 cm)	
	Weight	0.980 lb (0.445 kg)	
	Cells/Type	8-cell Lithium-Ion	
	Energy	Watt-hour Capacity	73 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 1.5 hours when system is OFF	

Displays

Technical Specifications

17.0-inch WXGA+ anti-glare	Active Area (W x H)	14.5 x 9.0 in (36.7 x 22.9 cm)		
	Diagonal Size	17.0 in (43.2 cm)		
	Surface Treatment	Anti-glare		
	Contrast Ratio	300:1 typical		
	Refresh Rate	60 Hz		
	Brightness	200 nit typical		
	Pixel Resolution	Pitch	0.255 mm	
		Format	1440 x 900	
		Configuration	RGB Stripe	
	Backlight	CCFL		
	PPI	100		
	Viewing Angle	±30° Horizontal, ±10° Vertical (minimum) 30/30/20/10 (Left/Right/Down/Up) (minimum) or 45/45/35/25 (Left/Right/Down/Up) (typical)		

17.0-inch WSXGA+ wide-viewing angle, anti-glare	Active Area (W x H)	14.5 x 9.0 in (36.7 x 22.9 cm)		
	Diagonal Size	17.0 in (43.2 cm)		
	Surface Treatment	Anti-glare		
	Contrast Ratio	300:1 typical		
	Refresh Rate	60 Hz		
	Brightness	200 nit typical		
	Pixel Resolution	Pitch	0.219 mm	
		Format	1680 x 1050	
		Configuration	RGB Stripe	
	Backlight	CCFL		
	PPI	116		
	Viewing Angle	±60° Horizontal, ±50° Vertical (minimum) or ±70° Horizontal, ±60° Vertical (typical)		

Technical Specifications

17.0-inch WUXGA wide-viewing angle, anti-glare	Active Area (W x H)	14.5 x 9.0 in (36.7 x 22.9 cm)
	Diagonal Size	17.0 in (43.2 cm)
	Surface Treatment	Anti-glare
	Contrast Ratio	300:1 typical
	Refresh Rate	60 Hz
	Brightness	200 nit typical
	Pixel Resolution	Pitch 0.191 mm
		Format 1920 x 1200
		Configuration RGB Stripe
	Backlight	CCFL
PPI	133	
Viewing Angle	±60° Horizontal, ±50° Vertical (minimum) or ±70° Horizontal, ±60° Vertical (typical)	

17.0-inch WUXGA DreamColor wide-viewing angle, anti-glare*	Active Area (W x H)	14.5 x 9.0 in (36.7 x 22.9 cm)
	Diagonal Size	17.0 in (43.2 cm)
	Surface Treatment	Anti-glare
	Contrast Ratio	800:1 typical
	Refresh Rate	60 Hz
	Brightness	300 nit typical
	Pixel Resolution	Pitch 0.191 mm
		Format 1920 x 1200
		Configuration RGB Stripe
	Backlight	LED
PPI	133	
Viewing Angle	±75° Horizontal, ±55° Vertical (minimum) or ±80° Horizontal, ±60° Vertical (typical)	

* Only on models with NVIDIA graphics

Internal Storage

Technical Specifications

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	

250 GB 7200 rpm SATA Hard Drive	Drive Weight	0.25 lbs (115 g)	
	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	488397168	
	Operating Temperature	32° to 140° F (0° to 60° C) [case temp]	
	Features	ATA Security	

Technical Specifications

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	

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) 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	976,773,168	
	Operating Temperature	32° to 140° F (0° to 60° C) [case temp]	
	Features	ATA Security	

Technical Specifications

250 GB 5400 rpm SATA Hard Drive	Drive Weight	0.22 lb (101 g)	
	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	3 ms
		Average	13 ms
		Maximum	24 ms
	Rotational Speed	5400 rpm	
	Logical Blocks	488,397,168	
	Operating Temperature	32° to 140° F (0° to 60° C) [case temp]	
	Features	ATA Security	

160 GB 5400 rpm SATA Hard Drive	Drive Weight	0.22 lb (101 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	3 ms
		Average	13 ms
		Maximum	24 ms
	Rotational Speed	5400 rpm	
	Logical Blocks	312,581,808	
	Operating Temperature	32° to 140° F (0° to 60° C) [case temp]	
	Features	ATA Security	

Technical Specifications

80 GB 2.5-inch SATA Solid State Drive	Weight	0.19 lbs (86 g)		
	Capacity	80 GB		
	Height	0.37 in (9.5 mm)		
	Width	2.75 in (70 mm)		
	Interface	ATA-7 / SATA 2.6		
	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		

Optical Drives

DVD-ROM Drive	Access Times	Random	<116 ms CD (typical) <125 ms DVD (typical)
	Max Data Transfer Rate	24X CD-ROM 8X-DVD	Up to 3,600 KB/s Up to 10,800 KB/s
	Transfer Mode	UDMA Mode 5	
	Interface	Gen 1 SATA	
	Supported Media (read)	CD-DA, CD+(E)G, CD-MIDI, CD-TEXT, CD-ROM, CD-ROM XA, MIXED MODE CD, CD-I, CD-I Bridge (Photo-CD, Video CD), Multisession CD (Photo-CD, CD-EXTRA, Portfolio, CD-R, CD-RW), CD-R, CD-RW, DVD-ROM (DVD-5, DVD-9, DVD-10, DVD-18), DVD-R, DVD-RW, DVD+R, DVD+RW, DVD-RAM	
	Supported Media (write)	None	
	Max Media Capacity (read)	4.7 GB	
	Transport	Tray Loading	

Technical Specifications

DVD+/-RW SuperMulti DL LightScribe Drive	Access Times	Random	<175 ms CD (typical) <230 ms DVD (typical)
	Max Data Transfer Rate	24X CD-ROM	Up to 3,600 KB/s
		8X DVD	Up to 10,800 KB/s
		24X CD-R	Up to 3,600 KB/s
		16X CD-RW	Up to 2,400 KB/s
		8X DVD+R	Up to 10,800 KB/s
		4X DVD+RW	Up to 5,400 KB/s
		8X DVD-R	Up to 10,800 KB/s
		4X DVD-RW	Up to 5,400 KB/s
		2.4X DVD+R(9)	Up to 2,700 KB/s
		5X DVD-RAM	Up to 6,750 KB/s
	Transfer Mode	UDMA Mode 5	
	Interface	Gen 1 SATA	
Supported Media (read)	CD-DA, CD+(E)G, CD-MIDI, CD-TEXT, CD-ROM, CD-ROM XA, MIXED MODE CD, CD-I, CD-I Bridge (Photo-CD, Video CD), Multisession CD (Photo-CD, CD-EXTRA, Portfolio, CD-R, CD-RW), CD-R, CD-RW, DVD-ROM (DVD-5, DVD-9, DVD-10, DVD-18), DVD-R, DVD-RW, DVD+R, DVD+RW, DVD-RAM		
Supported Media (write)	CD-R, CD-RW, DVD+R, DVD+RW, DVD-R, DVD-RW, DVD-RAM, LightScribe		
Max Media Capacity (read)	8.5 GB		
Max Media Capacity (write)	8.5 GB		
Transport	Tray Loading		

Blu-ray R/RE DVD+/-RW SuperMulti DL Drive	Access Times	Random	<140 ms CD-ROM (typical) <160 ms DVD-ROM (typical) <300 ms BD-ROM (typical)
	Max Data Transfer Rate	24X CD-ROM	Up to 3,600 KB/s
		8X DVD-ROM	Up to 10,800 KB/s
		8X CD-R	Up to 1,200 KB/s
		8X CD-RW	Up to 1,200 KB/s
		8X DVD+R	Up to 10,800 KB/s
		4X DVD+RW	Up to 5,400 KB/s
		8X DVD-R	Up to 10,800 KB/s
		4X DVD-RW	Up to 5,400 KB/s
		2.4X DVD+R(9)	Up to 2,700 KB/s
		5X DVD-RAM	Up to 6,750 KB/s
	1X BD-ROM	Up to 4,500 KB/s	
	1X BD-R	Up to 4,500 KB/s	
1X BD-RE	Up to 4,500 KB/s		
Transfer Mode	UDMA Mode 5		

Technical Specifications

Interface	Gen 1 SATA
Supported Media (read)	CD-DA, CD+(E)G, CD-MIDI, CD-TEXT, CD-ROM, CD-ROM XA, MIXED MODE CD, CD-I, CD-I Bridge (Photo-CD, Video CD), Multisession CD (Photo-CD, CD-EXTRA, Portfolio, CD-R, CD-RW), CD-R, CD-RW, DVD-ROM (DVD-5, DVD-9, DVD-10, DVD-18), DVD-R, DVD-RW, DVD+R, DVD+RW, DVD-RAM, BD-ROM, BD-R, BD-RE
Supported Media (write)	CD-R, CD-RW, DVD+R, DVD+R(9), DVD+RW, DVD-R, DVD-R(9), DVD-RW, DVD-RAM, BD-R, BD-RE
Max Media Capacity (read)	50.0 GB
Max Media Capacity (write)	50.0 GB
Transport	Tray Loading

Security

HP Fingerprint Sensor	Mobile Voltage Operation	3.0V–3.6V Single Supply
	Operating Temperature	32° – 158°F (0° – 70°C)
	Current Consumption @ 3.3V	Less than 70 mA peak imaging and scrolling Less than 25 mA hardware finger detection Advanced Power Management
	High-Rate Image Capture	Up to 240 image frames /sec
	ESD Resistance	IEC 61000-4-2 Level 4 (±15KV)
	Detection Matrix	192 x 16 Pixels 9.7 mm x 0.81 mm 500 ppi High-Resolution Images

Audio

Hardware	Implementation	ADI1984A High Definition CODEC
	Touch-Sensitive Volume Controls	Volume up, volume down, and mute
	Full Duplex	Yes
	Sound Blaster Pro compatible	Yes
	Microphone In	Stereo
	Headphone/Line Out	Stereo
	Integrated Microphone	Yes

Technical Specifications

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

Integrated Stereo Speakers	Power Rating	2 Watts
	Impedance	4 Ohms

Communications

Integrated Intel Gigabit Network Connection (10/100/1000 NIC) 82567LM	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 (1000BASE-T; IEEE 802.3z and 802.3ab; IEEE 802.3 clauses 34-42) 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 802.3x Flow Control (IEEE 802.3 clauses 31-32; configurable)	
	Power Management	ACPI compliant -- multiple power modes Situation-sensitive features reduce power consumption	
	Performance Features	TCP/IP/UDP Checksum Offload (configurable)	
	Manageability	Wake-on-LAN from standby and hibernation (Magic Packet and Microsoft Wake-Up Frame); Wake-on-LAN from off (Magic Packet only) 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 Intel Advanced Management Technology (iAMT)	
	Interface	PCI Express x1	
	NIC Device Driver Name	Intel 82567 Gigabit Network Connection	

Technical Specifications

V.92 56K Data/Fax Modem Form Factor	MDC 1.5 Daughtercard
Power Management Support	APM Revision 1.2, ACPI
Approvals/Certifications	UL, CSA, NEMKO, CCIB, Industry Canada, FCC Part 68, CTR21, FCC Part 15 Class B, Canadian ICES-003 Class B, C.I.S.P.R.22, Australian ACA, CE Mark, Other Countries
Data Mode Capabilities	V.92 data V.8bis V.80 V44, V.42bis, MNP5 (Compression) V.42 (LAPM, MNP2-4) (Error Correction) Optional symbol rates: 2800, 3429 Asymmetric Symbol rates Synchronous primary channel data signaling rates: 3600, 31200 Automatic rate re-negotiation V.34 V.32bis V.32 V.23 V.22bis V.22 V.21 Bell 212A Bell 103J
Fax Mode Capabilities	TIA/EIA-578-B (Class 1) T.30, T.4 (Group 3) V.17 V.29 V.27ter V.21 Channel 2
Command Set	V.250 (Partial) TIA-602 Identification: +GMI, +GMM, +GMR Port control: +IPR, +ICF, +IFC, +ILRR Modulation: +MS, +MR, +MA Error control: +ES, +ER, +EB, +ESR, +ETBM Data compression: +DS, +DR V.251

Intel WiFi Link 5300	Wireless LAN Standards	IEEE 802.11a IEEE 802.11b IEEE 802.11g IEEE 802.11n (draft 2.0)
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Technical Specifications

Interoperability	<p>Wi-Fi certified (802.11 abg only) Cisco Compatible Extensions Program compliant (802.11 abg only) with Microsoft Windows Vista and XP (details at: http://www.hp.com/go/notebooks/WLAN) Tested with wireless access points from several major manufacturers (details at: http://www.hp.com/go/notebooks/WLAN/draft-n)</p>	
Frequency Band	2.4 GHz and 5 GHz	
Antenna Structure	3 transmit; 3 receive (3x3)	
Data Rates	<p>802.11b: 1, 2, 5.5, 11 Mbps 802.11a/g: 6, 9, 12, 18, 24, 36, 48, 54 Mbps 802.11n (draft): 66 possible data rates, ranging from 6 Mbps to 450 Mbps, depending on the combination of Bandwidth, Modulation Coding Scheme, and Guard Interval used, as defined in IEEE 802.11n (draft) specification</p>	
Modulation	<p>Direct Sequence Spread Spectrum DBPSK, DQPSK, CCK, OFDM, BPSK, QPSK, 16-QAM, 64-QAM</p>	
Security¹	<p>Supports 64- and 128-bit WEP, WPA, WPA2, hardware-accelerated AES (support for key sizes of 128, 192, and 256 bits), 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 Vista and XP only.</p>	
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	<p>Ad-hoc (Peer to Peer) Infrastructure (Access Point Required)</p>	
Roaming	IEEE 802.11 compliant roaming between access points	
Output Power (for CCK)²	15 dBm	
Output Power (for OFDM; power varies by data rate)²	15 dBm	
Power Consumption	<p>Transmit: 2.3 Watts (average, with three spatial streams) Receive: 1.9 Watts (average with three receive chains) Idle mode³: 30 mW (average) Radio off: 20 mW (max)</p>	
Power Management	<p>ACPI compliant power management 802.11 compliant power saving mode</p>	
Receiver Sensitivity⁴	300 Mbps: -68 dBm, 54 Mbps: -74 dBm, 6 Mbps: -90 dBm	
Antenna Connections	3 U.FL type connectors, 50 ohm nominal impedance	
Range	<p>802.11 a – Typical (@6 Mbps) 802.11 b – Typical (@1 Mbps) 802.11 g – Typical (@1 Mbps)</p>	<p>600 feet – Outdoor Open Area 150 feet – Indoor, Office environment 1200 feet – Outdoor Open Area 300 feet – Indoor, Office environment 1200 feet – Outdoor Open Area 300 feet – Indoor, Office environment</p>
Form Factor	PCI-Express MiniCard	

Technical Specifications

Weight	0.013 lb (6 g)
Dimensions	0.19 x 1.2 x 2.0 in (4.75 x 29.85 x 50.8 mm)
Operating Voltage	3.3V +/- 9%, 1.5V +/- 5%
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	Microsoft Windows XP Choice of Configuration Utility: <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 supplier IHV extensions required for Cisco Compatible Extensions support for Microsoft Windows Vista.

Intel WiFi Link 5100	Wireless LAN Standards	IEEE 802.11a IEEE 802.11b IEEE 802.11g IEEE 802.11n (draft 2.0)
	Interoperability	Wi-Fi certified (802.11abg only) Cisco Compatible Extensions Program compliant (802.11abg only) with Microsoft Windows Vista and XP (details at: http://www.hp.com/go/notebooks/WLAN) Tested with wireless access points from several major manufacturers (details at: http://www.hp.com/go/notebooks/WLAN/draft-n)
	Frequency Band	2.4 GHz and 5 GHz
	Antenna Structure	1 transmit; 2 receive (1x2)

Technical Specifications

Data Rates	802.11b: 1, 2, 5.5, 11 Mbps 802.11a/g: 6, 9, 12, 18, 24, 36, 48, 54 Mbps 802.11n (draft): 66 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	Supports 64- and 128-bit WEP, WPA, WPA2, hardware-accelerated AES (support for key sizes of 128, 192, and 256 bits), 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 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 access points	
Output Power (for CCK)²	15 dBm	
Output Power (for OFDM; power varies by data rate)²	15 dBm	
Power Consumption	Transmit: 2.3 Watts (average, with one spatial streams) Receive: 1.9 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	300 Mbps: -68 dBm, 54 Mbps: -74 dBm, 6 Mbps: -90 dBm	
Antenna Connections	3 U.FL type connectors, 50 ohm nominal impedance	
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	PCI-Express MiniCard	
Weight	0.013 lb (6 g)	
Dimensions	0.19 x 1.2 x 2.0 in (4.75 x 29.85 x 50.8 mm)	
Operating Voltage	3.3V +/- 9%, 1.5V +/- 5%	
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)

Technical Specifications

Altitude	Operating	0 to 10,000 ft (3,048 m)
	Non-operating	0 to 50,000 ft (15,240 m)
Configuration Utility⁵	Microsoft Windows XP Choice of Configuration Utility:	
	<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 supplier IHV extensions required for Cisco Compatible Extensions support for Microsoft Windows Vista. 	

HP Integrated Module with Bluetooth Wireless Technology	Bluetooth Specification	2.0 Compliant
	Dimensions	1.02 x 0.55 x 0.22 in (26 x 14 x 5.7 mm)
	Frequency Band	2402 to 2480 MHz
	Number of Available Channels	79 (1 MHz) available channels
	Data Rates and Throughput	3 Mbps data rate; throughput up to 2.17 Mbps Synchronous Connection Oriented links up to 3, 64 kbps, 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
	OS Support	Microsoft Windows XP Professional and Home Microsoft Windows 2000

Technical Specifications

Bluetooth Software Supported	Broadcom Bluetooth for Windows Microsoft Windows XP Bluetooth Software
Link Topology	Point to Point, Multipoint Pico Nets up to 7 slaves
Security	Full support of Bluetooth Security Provisions
Power Management	Microsoft Windows ACPI, and USB Bus Support Self configurable to optimize power conservation in all 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	(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

Technical Specifications

Eco 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

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	21.72 W	21.98 W	21.46 W
Sleep (Energy Star low power mode)	1.48 W	1.52 W	1.47 W
Off	1.29 W	1.34 W	1.22 W

Heat Dissipation*

	115 VAC	230 VAC	100 VAC
Normal Operation	74 BTU/hr	75 BTU/hr	73 BTU/hr
Sleep	5 BTU/hr	5 BTU/hr	5 BTU/hr
Off	4 BTU/hr	5 BTU/hr	4 BTU/hr

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

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

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

	Sound Power (LWAd, bels)	Sound Pressure (LpAm, decibels)
Idle	3.2	25
Operation	3.2	25

Batteries

This product complies with ISO standards:

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

Batteries used in the product do not contain:

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

The battery type and chemistry used in the product is:
CR2032 (coin cell), Lithium
High capacity Lithium-Ion battery

Additional

This product is in compliance with the Restrictions of Hazardous Substances

Technical Specifications

information:

(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 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

Keyboard complies with ISO standard: ISO 9995, EN 29241-4, and ISO/IEC 15412

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

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

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

This product is greater than 95.7% recycle-able when properly disposed of at end of life.

Packaging Materials

- External:
 - CANON bags – several layers – 15 g
 - Corrugated carton – 440 g
 - Cardboard & misc. – 245 g
- Internal:
 - EPE-Expanded Polyethylene – 80 g
- The EPE foam packaging material is made from 100% recycled content.
- The corrugated paper packaging materials contains at least 100% 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.

Technical Specifications

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
- 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>

Technical Specifications

ISO 14001 certificates:

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

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