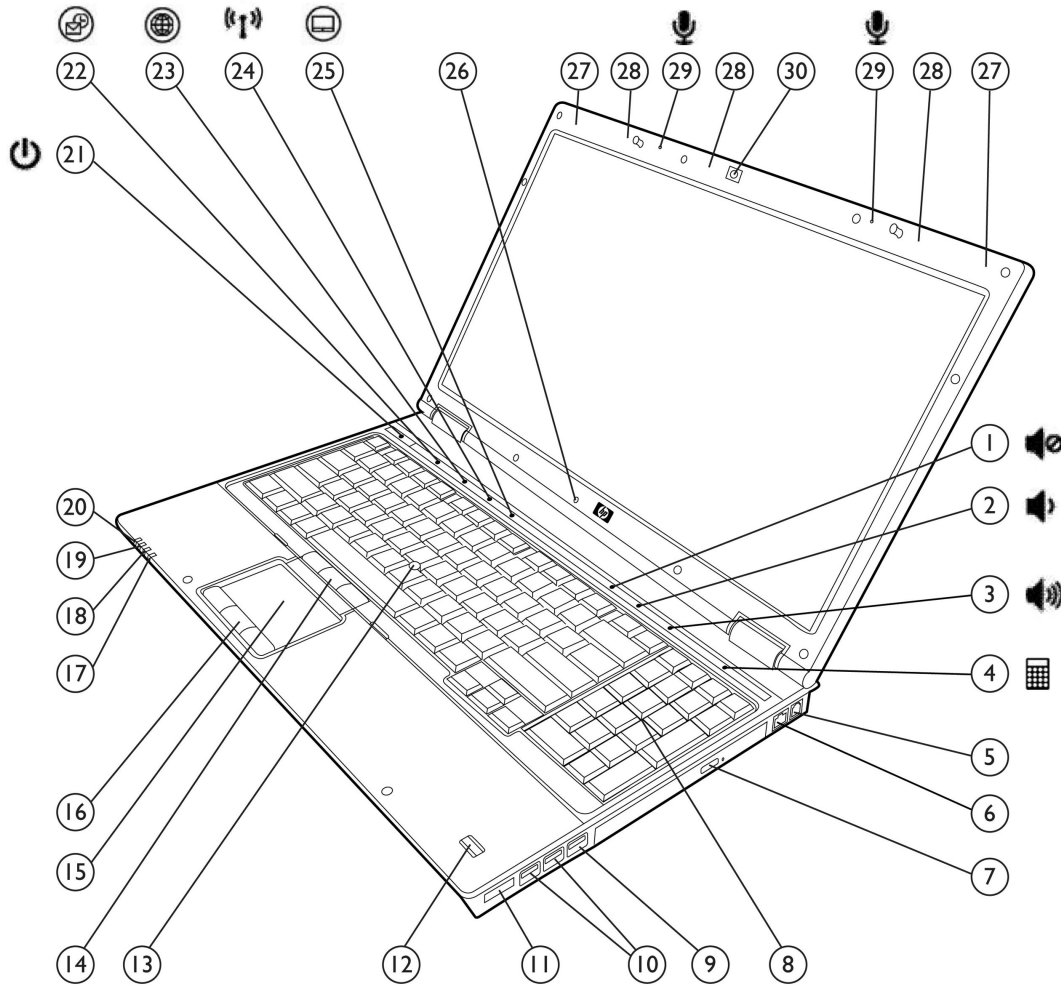


Overview

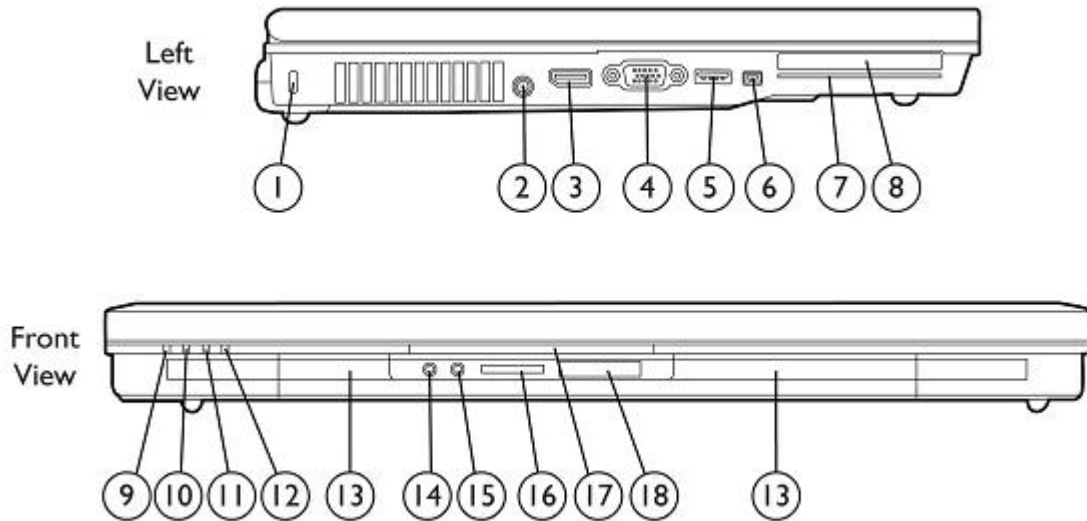


- | | |
|---|---|
| 1. Volume mute button with LED indicator | 16. Touchpad buttons (3) |
| 2. Volume down button with LED indicator | 17. Drive activity / HP 3D DriveGuard LED indicator |
| 3. Volume up button with LED indicator | 18. Battery charging LED indicator |
| 4. Calculator button with LED indicator | 19. Power/standby LED indicator |
| 5. RJ-11/modem port | 20. Wireless on/off LED indicator |
| 6. RJ-45/Ethernet port | 21. Power button with LED indicator |
| 7. Upgrade Bay (optical drive or second hard drive) | 22. HP QuickLook 3 button with LED indicator |
| 8. Full numeric keypad | 23. HP QuickWeb button with LED indicator |
| 9. USB 2.0 port | 24. Wireless on/off button with LED indicator |
| 10. (2) USB 3.0 ports | 25. Touchpad on/off button with LED indicator |
| 11. eSATA port | 26. Ambient Light Sensor |
| 12. HP Fingerprint Sensor | 27. WWAN antennas |
| 13. Pointstick | 28. Three WLAN antennas |
| 14. Pointstick buttons (3) | 29. Dual-microphone array |

Overview

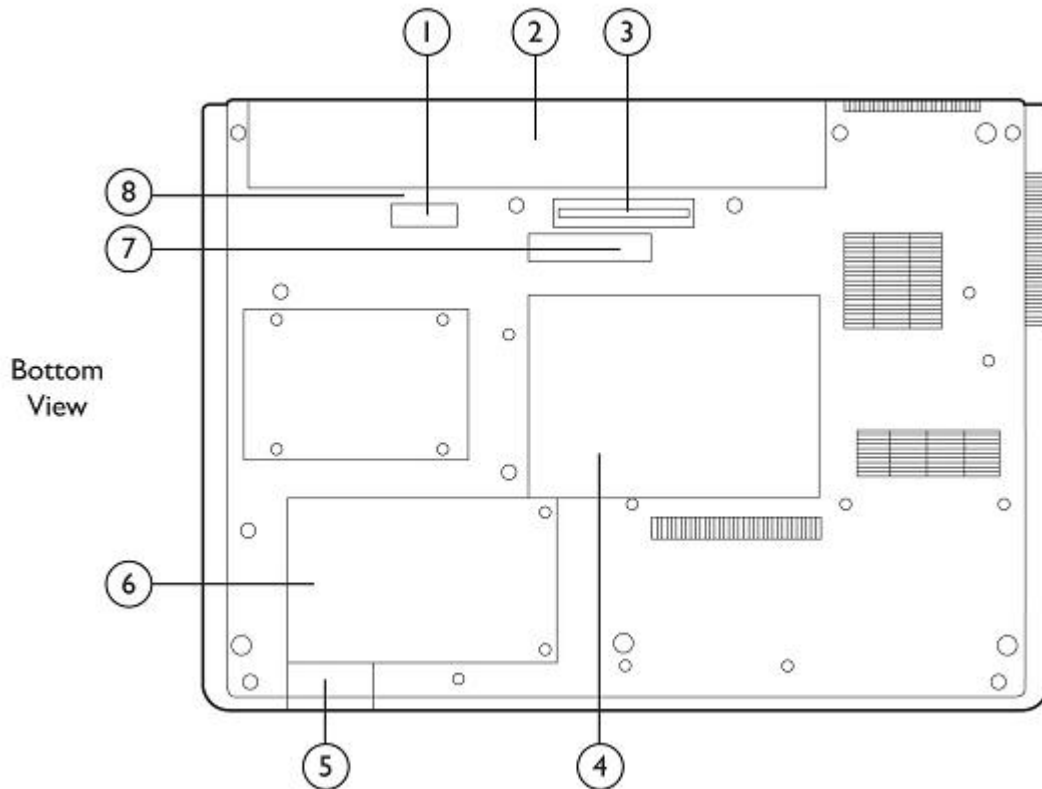
15. Touchpad with scroll zone

30. 2 MP Webcam with LED



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

Overview



- | | |
|---|---|
| 1. Battery release latch | 5. Bluetooth compartment |
| 2. Battery bay | 6. Hard drive bay |
| 3. Docking connector | 7. Secondary battery connector |
| 4. Memory module and WWAN/WLAN module compartment | 8. SIM slot for WWAN (select models) - inside battery bay under the battery |

At A Glance

- Genuine Windows 7 versions, Genuine Windows Vista versions, or FreeDOS
- Widescreen 17.0-inch diagonal LED-backlit WXGA+, WSXGA+ WVA, or WUXGA WVA display with optional HP DreamColor; Ambient Light Sensor, optional HP Privacy Filter
- Intel® Core™ i7 or Core i5 processor with Intel Turbo Boost Technology
- ATI FirePro M7820 graphics with 1 GB dedicated GDDR5 memory, NVIDIA Quadro FX 3800M or FX2800 graphics with 1 GB dedicated GDDR3 memory
- Industrial, business rugged construction features a full magnesium alloy chassis, magnesium/aluminum display enclosure, metal alloy hinges, gun metal finish; designed to meet the military standard Mil-Std-810G for vibration, dust, humidity, altitude, and high and low temperature operation*
- DisplayPort for external monitors, eSATA port for external storage, two USB 3.0 ports for faster transfer speeds to USB 3.0 peripherals and compatibility with USB 2.0 peripherals, two USB 2.0 ports
- Choice of 7200 rpm user-removable hard drive up to 500 GB with HP 3D DriveGuard protection, or 256 GB Solid State Drive
- Flexible wireless connectivity options:
 - Integrated HP un2420 EV-DO/HSPA Mobile Broadband Module provides worldwide Gobi mobile Internet technology with GPS
 - Integrated Intel Centrino® Ultimate-N / Advanced-N 6000 Series 802.11 a/b/g/n wireless LAN module

Overview

- Bluetooth® v2.1
- Choice of standard 8-cell primary battery or HP Long Life battery, plus optional external batteries - HP Ultra-Capacity Battery, HP Extended Life Battery
- Touch-sensitive controls for HP QuickLook 3 (instant access to email, calendar, contacts and tasks), HP QuickWeb, wireless on/off, touchpad on/off, mute, volume down, volume up, and calculator
- Optional backlit keyboard
- Optional 2 MP Webcam
- Dual pointing devices (touchpad with scroll zone and gesture support; pointstick)
- Upgrade Bay for easy optical drive upgrade or optional second hard drive for RAID 1 Mirroring or RAID 0 Striping
- ExpressCard/54 slot, Media Card Reader
- Fully ISV certified for workstation reliability and graphics-intense applications
- HP Performance Advisor for optimal configuration, compatibility and performance
- HP Power Assistant to conserve power, increase battery run-time, monitor power needs, report workforce power consumption
- Enhanced security features including integrated Smart Card Reader, HP ProtectTools, Computrace LoJack Pro ready, HP SpareKey, HP Disk Sanitizer, TPM 1.2 ;** HP Fingerprint Sensor, and optional HP Privacy Filter
- New central management software for HP ProtectTools to manage the security of multiple notebooks from a single point

* 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 Quad-Core Processors

Intel Core i7-920XM Processor Extreme Edition (2.00 GHz, 8 MB L3 cache)*

Up to 3.20 GHz with Intel Turbo Boost Technology

Intel Core i7-840QM Processor (1.86 GHz, 8 MB L3 cache)*

Up to 3.20 GHz with Intel Turbo Boost Technology

Intel Core i7-820QM Processor (1.73 GHz, 8 MB L3 cache)*

Up to 3.06 GHz with Intel Turbo Boost Technology

Intel Core i7-720QM Processor (1.60 GHz, 6 MB L3 cache)*

Up to 2.8 GHz with Intel Turbo Boost Technology

Intel Dual-Core Processors

Intel Core i7-640M Processor (2.80 GHz, 4 MB L3 cache)*

Up to 3.46 GHz with Intel Turbo Boost Technology

Intel Core i7-620M Processor (2.66 GHz, 4 MB L3 cache)*

Up to 3.33 GHz with Intel Turbo Boost Technology

Intel Core i5-580M Processor (2.66 GHz, 3 MB L3 cache)*

Up to 3.33 GHz with Intel Turbo Boost Technology

Intel Core i5-560M Processor (2.66 GHz, 3 MB L3 cache)*

Up to 3.20 GHz with Intel Turbo Boost Technology

Intel Core i5-540M Processor (2.53 GHz, 3 MB L3 cache)*

Up to 3.06 GHz with Intel Turbo Boost Technology

Intel Core i5-520M Processor (2.4 GHz, 3 MB L3 cache)*

Up to 2.93 GHz with Intel Turbo Boost Technology

* 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 7 Professional Edition 32*

Genuine Windows 7 Professional Edition 64*

Genuine Windows 7 Home Premium Edition 64*

Genuine Windows Vista Business 32**

Genuine Windows Vista Home Basic 32**

FreeDOS

Supported

Genuine Windows Vista Enterprise 32**

Genuine Windows Vista Enterprise 64**

Genuine Windows Vista Business 64**

Genuine Windows XP Professional 64

Certified

SuSE Linux Enterprise Desktop 11

* System may require upgraded and/or separately purchased hardware and/or a DVD drive to install the Windows 7 software and take full advantage of Windows 7 functionality. See: <http://www.microsoft.com/windows/windows-7/> for details.

** 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

Standard Features

the tool, visit: <http://www.windowsvista.com/upgradeadvisor>.

Chipset

Mobile Intel QM57 Express Chipset

Intel Core i5 with vPro/Core i7 with vPro technology capable

Intel Core i5 with vPro and Core i7 with vPro technology is a selectable feature that is available on units configured with an Intel Centrino® Ultimate-N/Advanced-N 6000 series WLAN module and a preinstalled Windows operating system. 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 network, 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 Core i5 with vPro/Core i7 with 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 Intel Core i5 with vPro/Core i7 with vPro technology is dependent on 3rd party software providers. Compatibility with future "virtual appliances" is yet to be determined.

Graphics

ATI FirePro M7820 graphics with 1 GB dedicated GDDR5 video memory
Microsoft DirectX 11 (Shader Model 4.1) and OpenGL 3.2 capable

NVIDIA Quadro FX 3800M graphics with 1 GB dedicated GDDR3 video memory
NVIDIA Quadro FX 2800M graphics with 1 GB dedicated GDDR3 video memory
Microsoft DirectX 10 (Shader Model 4.0) and OpenGL 3.2 capable

NVIDIA Quadro 5000M graphics with 2 GB dedicated GDDR5 video memory
Microsoft DirectX 11 (Shader Model 5.0) and OpenGL 4.0 capable

Display

Internal

17.0-inch diagonal LED-backlit WXGA+ anti-glare (1440 x 900 resolution)
17.0-inch diagonal LED-backlit WSXGA+ wide-viewing angle anti-glare (1680 x 1050 resolution)
17.0-inch diagonal LED-backlit WUXGA wide-viewing angle anti-glare (1920x1200 resolution)
17.0-inch diagonal LED-backlit WUXGA wide-viewing angle anti-glare DreamColor* (1920x1200 resolution)
Ambient Light Sensor
Integrated lid switch
Optional HP Privacy Filter

* HP EliteBook 8740w Mobile Workstations with DreamColor technology are not available with HP Mobile Broadband.

External

Up to 32-bit per pixel color depth
DisplayPort supports resolutions up to 2560 x 1600, 30-bit color depth at 60 Hz, and full HD (1920 x 1080) monitors, 24-bit color depth at 120 Hz
VGA port supports resolutions up to 2048 x 1536 at 75 Hz, and lower

Standard Features

resolutions at up to 100 Hz

DVI-D (single link) video signal available through DVI port in optional HP Docking Station (sold separately)

supports resolutions up to 1600 x 1200 at both full and reduced blanking, and 1920 x 1200 at reduced blanking

NOTE: Resolutions are dependent upon monitor capability, and resolution and color depth settings.

Memory

Standard

DDR3 PC3-10600 SDRAM (1333 MHz)*

Two or four SODIMM slots supporting dual-channel memory
2048 MB, 4096, and 8192 MB SODIMMs**

NOTE: Four memory slots only on models with quad-core processor.

Maximum

Upgradeable to 32768 MB with (4) 8192 MB SODIMMs**

Dual-channel

Maximized dual-channel performance requires SODIMMs of the same size and speed in both memory channels.

* With some processors, memory bus runs at a maximum of 1066 MHz.

** 8 GB SODIMMs are only supported on quad-core processors.

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. Full availability of 4 GB or more of memory requires a Windows 64-bit operating system or Linux. With Windows 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

Integrated Intel Gigabit Ethernet (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.

Standard Features

Wireless Devices

Support for a broad range of secure, integrated wireless LAN and wireless WAN options featuring support for the latest industry standards. Mobile Broadband (WWAN) requires a Windows operating system and is available in select countries as a standard, factory configurable feature or 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 and wireless WAN options.

HP un2420 EV-DO/HSPA Mobile Broadband Module*

Integrated mobile broadband module with Gobi global mobile Internet technology that provides connectivity to both CDMA (EVDO) and UMTS (HSPA) networks. It also provides GPS functionality for various mapping applications and security applications such as Computrace LoJack Pro Premium for HP ProtectTools.

NOTE: Separately purchased mobile network operator service is required.

Two 850/900/1575/1800/1900/2100 MHz antennas integrated in the top of the display panel support current and future WWAN technologies.

All 802.11 integrated wireless LAN options

Wi-Fi Certified**

Cisco Compatible Extensions support

Wired Equivalent Privacy (WEP) support up to 128-bit keys

Wi-Fi Protected Access (WPA) and WPA2 support

802.1x authentication support, including EAP-TLS, EAP-TTLS, PEAP-GTC, PEAP-MSCHAPv2, and LEAP

Advanced Encryption Standard (AES) support

Three antennas integrated in the display enclosure

Intel Centrino Ultimate-N 6300 (3x3)

Integrated support for 802.11a, b, g, and n

3 transmit, 3 receive antennas

Up to 450 mbps data rate

Intel Centrino Advanced-N 6200 (2x2)

Integrated support for 802.11a, b, g, and n**

2 transmit, 2 receive antennas

Up to 300 mbps data rate

Broadcom 4322AGN 802.11a/b/g/n Wi-Fi Adapter

Integrated support for 802.11a, b, g, and n

Up to 300 mbps data rate

HP Integrated Module with Bluetooth Wireless Technology

Bluetooth Specification v2.1 compliant

Works with a wide range of Bluetooth devices

* HP EliteBook 8740w Mobile Workstations with DreamColor technology are not available with HP Mobile Broadband.

** In countries where 802.11n is not allowed, this capability is not enabled (802.11a/b/g only).

Standard Features

Keyboard

The HP spill-resistant keyboard is designed using a thin layer of Mylar film under the keyboard and a drain system that funnels fluid through a hole in the bottom of the notebook. This minimizes the risk of damage to sensitive components underneath. 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. U.S. and International key layouts are available. Includes a full numeric keypad, hotkeys for instant access to power conservation, brightness, and other features. It has 19.05 x 19.05 mm key pitch (center-to-center spacing) and 3.0 mm stroke (2.0 mm stroke with optional backlit keyboard).

HP DuraKeys and DuraFinish

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. These are standard.

Backlit Keyboard

The optional backlit keyboard has a minimum brightness of 3 nits. FN-Space bar enables or disables the back lighting. Back light timeout is 15 seconds (default) and can be changed to 5s, 15s, 30s, 1min, 5min, or never in F10 Setup.

Touch-sensitive controls Touch-sensitive controls provide easy access to the following features: HP QuickLook 3, HP QuickWeb, wireless on/off, touchpad on/off, volume mute, volume down, volume up, and calculator button.

Dual Pointing devices Touchpad with scroll zone and gesture support, three pick buttons
Pointstick with three additional pointstick buttons

| | | |
|-----------------------------|-------------------------------------|--|
| Expansion card slots | ExpressCard/54 slot | Supports ExpressCard/54 |
| | 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.

| | | |
|-------------------------|--|---|
| Internal Storage | Hard Drives | 250/320/500/640 GB 7200 rpm SMART SATA II 320 GB 7200 rpm SMART SATA II Self Encrypting Drive |
| | HP 3D DriveGuard (Windows only) | The hard drive is mounted directly to the notebook frame, reducing the transmission of shock to the hard drive. Uses three-axis digital motion detection with intelligent sensitivity to help protect the hard drive during normal use from shock and vibration. The digital accelerometer temporarily halts all data transfer and parks the hard drive when abrupt motion is detected. |
| | Solid State Drives | 256 GB Solid State Drive |

Standard Features

Upgrade Bay

Fixed 12.7 mm SATA optical drive

Blu-ray R/RE DVD+/-RW SuperMulti DL Drive
Blu-ray ROM DVD+/-RW SuperMulti DL LightScribe Drive
DVD+/-RW SuperMulti DL LightScribe Drive
DVD-ROM Drive

or

Second hard drive*

500 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

External monitor

Two – (1) DisplayPort, (1) VGA

Media Card Reader

One

1394a

One

Stereo microphone in

One

Stereo headphone/line out

One

Power connector

One

RJ-11/modem

One

RJ-45/Ethernet

One

USB 2.0

Two

USB 3.0

Two (for USB 2.0 and USB 3.0 peripherals)

eSATA

One

Docking connector

One

Secondary battery connector

One

Audio/Visual

HD audio (HP Premier Sound)

Integrated stereo speakers

Integrated dual-microphone array

Touch-sensitive controls for volume up, volume down, and mute

Stereo headphone/line out

Stereo microphone/line in

Optional 2 MP webcam

- 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)

Standard Features

Software

Preinstalled software with Windows operating system

HP Recovery Manager (available with Windows 7 or Vista only)
HP Support Assistant (available with Windows 7 or Vista only)
HP ProtectTools Security Manager
HP QuickLaunch Buttons Software
HP QuickLook 3
HP QuickWeb
HP Power Assistant
HP Connection Manager
HP Wireless Assistant
Microsoft Office 2010 preloaded (purchase of a Product Key required to activate a full Office 2010 suite)*
McAfee Total Protection**
PDF Complete Special Edition***
Roxio Creator Business 10 (select models)
InterVideo WinDVD (select models)
Synaptics Touchpad Driver
HP Webcam Software
WinZip 14.5

Additional software available from the web

HP SoftPaq Download Manager
HP Client Manager Software
HP Client Management Solutions

* 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>.

** 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.

*** 60 day trial; purchase license afterwards for full functionality.

Planned 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

Standard Features

| | |
|--|---|
| | 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 Advisor HP Performance Advisor enables optimal configuration of HP Mobile Workstations delivering stability and best performance. It is available as a download from <http://www.hp.com> to guide your system setup allowing a "custom" configuration that best matches the workstation to user requirements.

HP Recovery Manager Models shipped with Windows 7 or Windows Vista include 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 15 GB of the hard drive is reserved for the system recovery software.

Security

| | |
|--------------------------|--|
| Standard Features | HP ProtectTools Security Manager HP Fingerprint Sensor Integrated Smart Card Reader Enhanced Pre-Boot Security HP SpareKey One-Step Logon Setup Password DriveLock Password TPM 1.2 Embedded Security Chip* TPM Enhanced DriveLock* HP Disk Sanitizer Kensington Lock slot Support for Computrace** LoJack Pro for HP ProtectTools |
| Optional Features | HP Privacy Filter Narrows viewing area so that screen data is visible only to persons directly in front of the monitor. |

Standard Features

CompuTrace LoJack Pro Premium for HP ProtectTools with GPS Tracking** Subscription based security solution providing the ability to track, initiate physical recovery, conduct asset management, and perform remote data delete by utilizing GPS technology. GPS functionality requires HP un2420 EV-DO/HSPA Mobile Broadband Module.

* TPM module disabled where use is restricted by law; for example, Russia and China.

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

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

HP ProtectTools Security Manager with Central Management

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

- Credential Manager for HP ProtectTools
- Device Access Manager for HP ProtectTools
- Drive Encryption for HP ProtectTools
- File Sanitizer for HP ProtectTools
- Privacy Manager for HP ProtectTools (Chat & Sign)
- Embedded Security for HP ProtectTools
- CompuTrace LoJack Pro for HP ProtectTools

HP ProtectTools is now centrally manageable with the capability to manage notebooks from a single point. On the HP EliteBook 8740w, Security is management ready out of the box, in partnership with Digital Persona. New features address requirements that customers expect from a centrally managed security solution such as user provisioning, credential reset, and credential revocation.

HP ProtectTools provides two separate management solutions, targeted at the enterprise and the SMB:

- Digital Persona Pro AD: Designed for the enterprise customer. A fee-based solution that integrates with Active Directory and gives IT Managers the ability to provision users, create login policies based on passwords, biometrics or smartcards. Management features also include remote credential recovery in case the user forgets the password, loses the smartcard or cannot use the fingerprint reader for any reason. In addition, advanced auditing capabilities are also built in. Digital Persona Pro AD is available now.
- Digital Persona Pro Workgroup: Designed for the small business customer. Provides features similar to the Active Directory version, but for workgroups. Workgroup activation is built into HP ProtectTools, and activation of up to 5 seats is completely free.

Standard Features

Power Supply

External 200-watt Slim Smart AC adapter
External 230-watt Slim Smart AC adapter (available only with Intel Core XM Processor, NVIDIA Quadro FX 3800M graphics, and HP DreamColor display option)
Power cord included is 6-foot (1.8 meter).
Total length including external AC adapter is 12 feet (3.66 meter).
HP Fast Charge*

HP Fast Charge recharges your battery up to 90% within 90 minutes when the system is off. HP Fast Charge does not apply to the HP Ultra-Capacity Battery or HP Long Life Battery.

Battery

| | |
|-----------------------------------|--|
| Primary battery | HP 8-cell 73 WHr Li-Ion Primary Battery HP Long Life 8-cell 68 WHr Li-Ion Primary Battery |
| Optional secondary battery | HP Extended Life Battery (8-cell 52 WHr) HP Ultra-Capacity Battery (12-cell 95 WHr) |

Battery Life

| | HP 8-cell 73 WHr Primary | HP Long Life 8-cell 68 WHr Primary |
|---|---------------------------------|---|
| Primary battery only | Up to 3 hours and 30 minutes | Up to 3 hours and 15 minutes |
| Primary battery and optional HP Extended Life Battery | Up to 6 hours | ** |
| Primary battery and optional HP Ultra-Capacity Battery | Up to 8 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 www.bapco.com/products/mobilemark2007 for additional details.

** This configuration not tested for battery life.

System Standby Time

Up to 2 weeks

Power Conservation

Supports enhanced Intel SpeedStep technology (allows Battery Optimized Mode, Maximum Performance Mode, or Automatic mode)
NVIDIA PowerMizer 7.0 technology
ATI PowerXpress technology
Hibernation
Standby
ACPI compliance

Standard Features

Docking and Stands

- HP Docking Station
- HP Advanced Docking Station
- HP USB 2.0 Docking Station
- HP Essential USB 2.0 Port Replicator
- HP Dual Hinge Notebook Stand
- HP Display and Notebook Stand
- HP Adjustable Display Stand
- HP Adjustable Dual Display Stand

NOTE: Some HP Docking stations may not support every feature of some HP Notebook models. Please refer to the individual docking station documentation for specific information about supported features.

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 2 GB (DDR3 1333 MHz) SODIMM | AT912AA |
| | HP 4 GB (DDR3 1333 MHz) SODIMM | AT913AA |
| Storage | HP Upgrade Bay SATA DVD+/-RW SuperMulti DL LightScribe Drive | AK869AA |
| | HP 250GB Pocket Media Drive | FE477AA |
| | HP External USB Drive CD/DVD R/RW | FS943AA |
| | HP Upgrade Bay SATA 500 GB 7200 rpm Hard Drive | AU097AA |
| | HP Primary SATA 500 GB 7200 rpm Hard Drive | AU098AA |
| Expansion Solutions | HP Docking Station | VB043AA |
| | HP Advanced Docking Station | NZ223AA |
| | HP USB 2.0 Docking Station | FQ834AA |
| | HP Compaq USB 2.0 Docking Station | AY052AA |
| | HP Essential USB 2.0 Port Replicator | AQ731AA |
| | HP Dual Hinge Notebook Stand | AW661AA |
| | HP Display and Notebook Stand | AW662AA |
| | HP Adjustable Display Stand | AW663AA |
| HP Adjustable Dual Display Stand | AW664AA | |
| Communications | HP un2420 EVDO/HSPA Mobile Broadband Module | WD301AA |
| Power | HP 180W Smart AC Adapter | AK875AA |
| | HP 8500/8700 Series 8-Cell Primary Battery | KU533AA |
| | HP Extended Life Battery | AJ359AA |
| | HP Ultra-Capacity Battery | AT486AA |
| | HP 230W Smart Adapter | AT895AA |
| Carrying Cases | HP Deluxe Nylon Backpack | RR317AA |
| | HP Deluxe Roller Case | GD405AA |
| | HP Basic Backpack | AM863AA |
| | HP 17.3 Quick Case with Integrated Fan | AY467AA |
| | HP 17.3 Slip Case with Integrated Fan | AY464AA |
| | HP Basic Messenger | AP355AA |
| | HP Basic Carrying Case | AJ078AA |

Options

| | | |
|-----------------------------|--|---------|
| Security | HP/Kensington MicroSaver Security Lock | PC766A |
| | HP 17.0-inch Display Privacy Filter | GA890AV |
| | HP ExpressCard Smart Card Reader | AJ451AA |
| | HP Compaq Notebook Cable Lock | AY475AA |
| <hr/> | | |
| Input/Output Devices | HP PS/2 Keyboard & Mouse Bundle | RC464AA |
| | HP USB Keyboard & Mouse Bundle | RC465AA |
| | HP USB Optical Travel Mouse | RH304AA |
| | HP Wireless Mouse | AR085AA |
| | HP BT Headset | AR084AA |
| | HP Mobile Audio Speakers | FS944AA |
| | HP Mobile Productivity Bundle | AQ729AA |
| | HP Mobile Bluetooth Presenter Mouse | GK872AA |
| | HP Notebook Companion Projector | AX325AA |
| | HP DreamColor Calibration Solution | BL529AA |
| | HP Premium Autofocus Webcam | KQ245AA |
| | HP Premium Digital Headset | KJ270AA |
| | HP Desktop Mouse | DA700AV |

Memory

DDR3 PC3-10600 SDRAM (1333 MHz)*

Two or four SODIMM slots supporting dual-channel memory

SODIMM sizes supported: 2048 MB, 4096 MB, and 8192 MB SODIMMs

NOTE: Four memory slots only on models with quad-core processor.

Standard Memory

- 2048 MB (2048 MB x 1)
- 4096 MB (4096 MB x 1)
- 4096 MB (2048 MB x 2)
- 8192 MB (8192 MB x 1)
- 8192 MB (4096 MB x 2)
- 8192 MB (2048 MB x 4)**
- 12288 MB (4096 MB x 2 + 2048 MB x 2)**
- 16384 MB (8192 MB x 2)
- 16384 MB (4096 MB x 4)**
- 32768 MB (8192 MB x 4)**

Optional Memory Upgrades

Support for up to 32768 MB** of memory with the installation of optional DDR3 SDRAM memory kits. All 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 channels.

| Up to | Channel A | | Channel B | |
|------------|-----------|---------|-----------|---------|
| | Slot 1 | Slot 2 | Slot 3 | Slot 4 |
| 2048 MB | 2048 MB | | Empty | |
| 4096 MB | 4096 MB | | Empty | |
| 4096 MB | 2048 MB | | 2048 MB | |
| 8192 MB | 8192 MB | | | |
| 8192 MB | 4096 MB | | 4096 MB | |
| 8192 MB** | 2048 MB | 2048 MB | 2048 MB | 2048 MB |
| 12288 MB** | 4096 MB | 2048 MB | 4096 MB | 2048 MB |
| 16384 MB | 8192 MB | | 8192 MB | |
| 16384 MB** | 4096 MB | 4096 MB | 4096 MB | 4096 MB |
| 32768 MB** | 8192 MB | 8192 MB | 8192 MB | 8192 MB |

* With some processors, memory bus runs at a maximum of 1066 MHz.

** Requires quad-core processor configuration with four memory slots.

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. Full availability of 4 GB or more of memory requires a Windows 64-bit operating system or Linux. With Windows 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.

Memory Upgrades

HP 2 GB (DDR3 1333 MHz) SODIMM

AT912AA

HP 4 GB (DDR3 1333 MHz) SODIMM

AT913AA



Storage

Upgrade Bay Drive Support

| | Quantity Supported | Drive Bay |
|--|--------------------|-------------|
| Blu-ray R/RE DVD+/-RW SuperMulti DL Drive | One | Upgrade Bay |
| Blu-ray ROM DVD+/-RW SuperMulti DL LightScribe Drive | One | Upgrade Bay |
| DVD+/-RW SuperMulti DL LightScribe Drive | One | Upgrade Bay |
| DVD-ROM Drive | One | Upgrade Bay |
| 500 GB 7200 rpm SMART SATA II Hard Drive | One | Upgrade Bay |

Internal Storage Device

| | Quantity Supported | Drive Bay |
|---|--------------------|--------------------------|
| Hard Drives | | |
| 640 GB 7200 rpm SMART SATA II Hard Drive | One | Dedicated hard drive bay |
| 500 GB 7200 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 |
| 320 GB 7200 rpm SMART SATA II Self Encrypting Drive | One | Dedicated hard drive bay |
| 250 GB 7200 rpm SMART SATA II Hard Drive | One | Dedicated hard drive bay |
| Solid State Drive | | |
| 256 GB Solid State Drive | One | Dedicated hard drive bay |

Technical Specifications

| | | |
|--------------------|--|---|
| System Unit | Dimensions (HxWxD) | 1.4 in (at front) x 15.6 in x 11.2 in 36.5 mm (at front) x 397.5 mm x 285.5 mm |
| | Weight | Starting at 7.8 lb (3.57 kg) |
| | NOTE: Height varies depending upon where on the notebook the measurement is made. Weight varies by configuration and components. Weight includes hard drive, optical drive, and wireless. | |
| | Stand-Alone Power Requirements (AC Power) | Nominal Operating Voltage 18.5 V Average Operating Power 35.5 W Max Operating Power < 90 W or < 120 W or < 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® Select models* EPEAT Registered TBD in United States** ICES Yes GS Yes Australia / NZ A-Tick Compliance Yes CCC Yes Japan VCCI Compliance Yes KCC Yes BSMI Yes CE Marking Compliance Yes BNCI or BELUS Yes CIT Yes GOST Yes |

Technical Specifications

Saudi Arabian Compliance (ICCP) Yes

SABS Yes

UKRSERTCOMPUTER Yes

* Configurations of the HP EliteBook 8740w that are ENERGY STAR qualified are identified as HP EliteBook 8740w ENERGY STAR on HP websites and on www.energystar.gov.

** EPEAT TBD Registered in U.S. EPEAT registration varies by country. See www.epeat.net for registration status by country.

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

HP 230W Slim Smart AC Adapter

| | |
|--------------------------------------|---|
| Dimensions | 7.87 x 3.94 x 1.57 in (20.0 x 10.0 x 4.0 cm) |
| Weight | 2.87 lb (1300 g) |
| Input | 100 to 240 VAC |
| | Input Efficiency 87% min at 115 VAC |
| | Input frequency range 47 to 63 Hz |
| | Input AC current 3.5 A at 90 VAC, 1.75 A at 180 VAC |
| Output | Output power 230W |
| | DC output 19.5V |
| | Hold-up time 5 msec at 115 VAC input |
| | Output current limit <18A, 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% |
| | Storage Humidity 10% to 90% |
| EMI and Safety Certifications | 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. |

Technical Specifications

| | | | |
|--------------------------------------|---|--|---|
| HP 200W Slim Smart AC Adapter | Dimensions | 6.69 x 3.35 x 1.38 in (17.0 x 8.5 x 3.5 cm) | |
| | Weight | 2.03 lb (920 g) | |
| | Input | 100 to 240 VAC | |
| | | Input Efficiency | 87% min at 115 VAC |
| | | Input frequency range | 47 to 63 Hz |
| | Output | Input AC current | 2.9 A at 90 VAC, 1.45 A at 180 VAC |
| | | Output power | 200W |
| | | DC output | 19.5V |
| | | Hold-up time | 5 msec at 115 VAC input |
| | | Output current limit | <16A, 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. | | |

NOTE: Unless otherwise noted, temperature limits listed in the following component specifications relate to the internal temperatures of these components and not to the environment in which the PC is operating.

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 | 400:1 typical | | |
| | Refresh Rate | 60 Hz | | |
| | Brightness | 200 nit typical | | |
| | Pixel Resolution | Pitch | 0.255 mm | |
| | | Format | 1440 x 900 | |
| | | Configuration | RGB Stripe | |
| | Backlight | White LED | | |
| PPI | 100 | | | |
| Viewing Angle | ±40° Horizontal, +10/-30° Vertical (minimum) | | | |

| | | | | |
|--|---|--------------------------------|-------------|--|
| 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 | 400:1 (typical) | | |
| | Refresh Rate | 60 Hz | | |
| | Brightness | 200 nit typical | | |
| | Pixel Resolution | Pitch | 0.21825 mm | |
| | | Format | 1680 x 1050 | |
| | | Configuration | RGB Stripe | |
| | Backlight | White LED | | |
| PPI | 117 | | | |
| 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 | 400:1 typical | | |
| | Refresh Rate | 60 Hz | | |
| | Brightness | 200 nit typical | | |
| | Pixel Resolution | Pitch | 0.191 mm | |
| | | Format | 1920 x 1200 | |
| | | Configuration | RGB Stripe | |
| | Backlight | White LED | | |
| | PPI | 133 | | |
| | Viewing Angle | ±65° Horizontal, ±55° Vertical (typical) | | |
| | Technology Type | 18-bit Twisted Nematic (TN) | | |
| | Color Depth | 6-bits/color | | |
| Display Colors | Over 260 thousand colors (native mode) | | | |
| Color Gamut Coverage | 45% of NTSC color gamut | | | |

| | | | | |
|--|-------------------------------------|--|-------------------------|--|
| 17.0-inch WUXGA wide-viewing angle, anti-glare DreamColor | 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 | 48Hz, 50Hz and 60 Hz | | |
| | Brightness | 210 nit typical | | |
| | Pixel Resolution | Pitch | 0.191 mm | |
| | | Format | 1920 x 1200 | |
| | | Configuration | RGB Stripe | |
| | Backlight | RGB LED | | |
| | PPI | 133 | | |
| | Viewing Angle | ±89° Horizontal, ±89° Vertical (typical) | | |
| | Technology Type | 30-bit In-Plane Switching (IPS) | | |
| | Color Depth | 10-bits/color | | |
| Display Colors | Over 1 billion colors (native mode) | | | |
| Color Gamut Coverage | | CIE1931 (x,y) | CIE 1976 (u',v') | |
| | NTSC | 109% | 129% | |
| | AdobeRGB | 114% | 127% | |
| | sRGB | 154% | 148% | |

Technical Specifications

Internal Storage

| | | | |
|--|--|--|-------|
| 500 GB 7200 rpm SATA Hard Drive | Drive Weight | 0.25 lbs (115g) | |
| | 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 | 1.5ms |
| | | Average | 11ms |
| | | Maximum | 22ms |
| | Rotational Speed | 7200 rpm | |
| | Logical Blocks | 976,773,168 | |
| | Operating Temperature | 32° to 140° F (0° to 60° C) [case temp] | |
| Features | ATA Security | | |

| | | | |
|--|--|--|-------|
| 320 GB 7200 rpm SATA Hard Drive | Drive Weight | 0.25 lbs (115g) | |
| | Capacity | 320 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) 150 MB/s (Drive Capability) | |
| | Seek Time (typical reads, including settling) | Single Track | 1.5ms |
| | | Average | 11ms |
| | | Maximum | 22ms |
| | Rotational Speed | 7200 rpm | |
| | Logical Blocks | 625,142,448 | |
| | Operating Temperature | 32° to 140° F (0° to 60° C) [case temp] | |
| Features | ATA Security | | |

Technical Specifications

250 GB 7200 rpm SATA Hard Drive

| | |
|---|---|
| Drive Weight | 0.25 lbs (115g) |
| Capacity | 250 GB |
| Height | 0.37 in (9.5 mm) 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) 150 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 |

256 GB 2.5-Inch SATA Solid State Drive

| | |
|------------------------------|---|
| Weight | 80.1 Grams |
| Capacity | 256 GB |
| Height | 0.37 in (9.5 mm) |
| Width | 2.75 in (70 mm) |
| Interface | SATA |
| Performance | Maximum Sequential Read 220 MB/s Maximum Sequential Write 200 MB/s |
| Logical Blocks | 500,118,192 |
| Operating Temperature | 32° to 158°F (0° to 70°C) [case temp] |
| Features | ATA Security; ATA-7; SATA 2.6; DIPM |

Optical Drives

Technical Specifications

| | | | |
|----------------------|----------------------------------|--|---|
| DVD-ROM Drive | Access Times | Random | < 140 ms CD (typical) < 160 ms DVD (typical) |
| | Max Data Transfer Rate | 24X CD-ROM | Up to 3,600 KB/s |
| | | 8X-DVD | 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) | 8.5GB | |
| | Transport | Tray Loading | |

| | | | |
|---|---|--|--|
| DVD+/-RW SuperMulti DL LightScribe Drive | Access Times | Random | < 150ms CD (typical) < 160 ms DVD (typical) |
| | | Max Data Transfer Rate | 24X CD-ROM |
| | | 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 |
| | | 8X DVD+RW | Up to 10,800 KB/s |
| | | 8X DVD-R | Up to 10,800 KB/s |
| | | 6X DVD-RW | Up to 8100KB/s |
| | | 4X - DVD+R Dual Layer | Up to 5,400 KB/s |
| | | 4X - DVD-R Dual Layer | Up to 5,400 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 | | |

Technical Specifications

| | | | |
|--|---|---------------------|---|
| Blu-ray R/RE DVD+/-RW SuperMulti DL Drive | Access Times | Random | <180 ms CD-ROM (typical) <180 ms DVD-ROM (typical) <230 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 |
| | | 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 |
| | | 6X DVD+RW | Up to 8,100 KB/s |
| | | 8X DVD-R | Up to 10,800 KB/s |
| | | 6X DVD-RW | Up to 8,100 KB/s |
| | | 4X DVD+R Dual Layer | Up to 5,400 KB/s |
| | | 4X DVD-R Dual Layer | Up to 5,400 KB/s |
| | | 5X DVD-RAM | Up to 6,750 KB/s |
| | | 2X BD-ROM | Up to 9,000 KB/s |
| | | 2X BD-R | Up to 9,000 KB/s |
| | 2X BD-RE | Up to 9,000 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, 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 | | |

Technical Specifications

| | | | |
|---|---|-----------------------|---|
| Blu-ray ROM DVD+/-RW SuperMulti DL LightScribe Drive | Access Times | Random | <190 ms CD-ROM (typical) < 190ms DVD-ROM (typical) <230 ms BD-ROM (typical) |
| | Max Data Transfer Rate | 24X CD-ROM | Up to 3600KB/s |
| | | 8X DVD-ROM | Up to 10800 KB/s |
| | | 16X CD-R | Up to 1,200KB/s |
| | | 10X CD-RW | Up to 1500 KB/s |
| | | 8X DVD+R | Up to 10800 KB/s |
| | | 8X DVD+RW | Up to 10,800KB/s |
| | | 8X DVD-R | Up to 10800 KB/s |
| | | 6X DVD-RW | Up to 8,100 KB/s |
| | | 4X - DVD+R Dual Layer | |
| | | 4X - DVD-R Dual Layer | Up to 5400 KB/s |
| | 5X DVD-RAM | Up to 6750 KB/s | |
| | 4X BD-ROM | Up to 18,000KB/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, 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, LightScribe | | |
| Max Media Capacity (read) | 50.0 GB | | |
| Max Media Capacity (write) | 8.5GB | | |
| 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 |

Technical Specifications

Audio

| | | |
|-----------------|--|---|
| Hardware | Implementation | IDT 92HD75B High Definition CODEC |
| | Touch-Sensitive Volume Controls | Volume up, volume down, and mute |
| | Full Duplex | Yes |
| | Microphone In | Stereo |
| | Headphone/Line Out | Stereo |
| | Integrated Microphone | Yes, dual-microphone array when equipped with optional webcam |

| | | |
|-----------------------------|-------------------------------------|------------------|
| 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) | 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)) |

Technical Specifications

| | |
|-------------------------------|--|
| | Comprehensive diagnostic and configuration software suite Intel Advanced Management Technology 6.0 (iAMT) |
| Interface | PCI Express x1 based, SMBUS dedicated connection with Intel® 5 Series Chipset |
| NIC Device Driver Name | Intel 82577 Gigabit Network Connection |

| | |
|--|---|
| 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 |

Technical Specifications

| | | |
|---|---|--|
| HP un2420 EV-DO/HSPA Mobile Broadband Module | Technology/Operating Bands | GSM/GPRS/EDGE: 850MHz(Cell), 900MHz(EGSM), 1800MHz(DCS), 1900MHz (PCS) UMTS/WCDMA with receive diversity: 2100MHz (UTRA FDD Band I), 1900MHz (UTRA FDD Band II), 900MHz (UTRA FDD Band VIII), 850MHz (UTRA FDD Band V) 1xEVDO/1xRTT with receive diversity: 850MHz (Band Class0-Cell), 1900MHz (Band Class1-PCS) |
| | Wireless Protocol Standards | GSM/GPRS/EDGE: Class B, Multi-slot operation, coding schemes CS1 - CS4 and MSC1 - MSC9. UMTS/WCDMA: Release 99 and Release 6 CDMA: 1xEVDO Release 0 and Release A, IS-95A, IS-95B, IS-2000 |
| | Wireless Parametric Standards | Meets or exceeds TIA/EIA IS-98-D |
| | Maximum Data Rates | UMTS (HSPA) - 7.2 Mbps (Download), 2.0Mbps (Upload) CDMA (EVDO Release A) - 3.1 Mbps (Download), 1.8Mbps (Upload) |
| | GPS | Standalone GPS enabled |
| | GPS Bands | L1 - 1575.42 MHz |
| | Maximum Output Power | GSM/GPRS/EDGE: 32dBm (+/-1) WCDMA: 24dBm (+/-1) CDMA: 24dBm (+/-1) |
| | Maximum Power Consumption | 2500mA (peak); 1000mA (average) |
| | Power Consumption, Sleep Mode | 5 mA |
| | Power Management | USB selective suspend Integrated notebook wireless button |
| | Antenna Type | Dual high efficiency 5 band antennae with spatial diversity, mounted in the display enclosure |
| | Form Factor | PCI-Express MiniCard, USB 2.0 interface |
| | Weight | 11.5 g |
| | Dimensions (Length x Width x Thickness) | 2.01 x 1.18 x 0.18 in (51 x 30 x 5 mm) |
| | Voltage, Operating | 3.3v +/- 10% |
| | Temperature, Operating (from TIA/EIA/IS-98-D) | -22° to 140° F (-30° to 60° C) (full RF performance) -22° to 167° F (-30° to 75° C) (reduced RF performance) |
| | Temperature, Non-operating, 96 hours (from MIL-STD 202 Method 108) | -40° to 185° F (-40° to 85° C) |
| | Humidity, Non-operating | 85% relative humidity for 48 hours @ 185° F (85° C) (non-condensing) |
| | Configuration Utilities | HP Connection Manager |
| | LED Activity | LED Off - Radio Off; Solid LED On - Radio On |

Technical Specifications

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|---------------------------------------|---|--|
| Intel Centrino Ultimate-N 6300 | Wireless LAN Standards | IEEE 802.11a IEEE 802.11b IEEE 802.11g IEEE 802.11n* |
| | | * In countries where 802.11n is not allowed, this capability is not enabled. |
| | Interoperability | Wi-Fi certified (802.11bgn only) Cisco Compatible Extensions Program compliant (802.11bgn only) with Microsoft Windows Vista and XP (details at: http://www.hp.com/go/notebooks/WLAN) |
| | Frequency Band | 2.4 GHz and 5GHz |
| | Antenna Structure | 3 transmit; 3 receive (3x3) |
| | Data Rates | 802.11a: 6, 9, 12, 18, 24, 36, 48, 54 Mbps 802.11b: 1, 2, 5.5, 11 Mbps 802.11g: 6, 9, 12, 18, 24, 36, 48, 54 Mbps 802.11n: many 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 specification |
| | Modulation | Direct Sequence Spread Spectrum DBPSK, DQPSK, CCK, OFDM, BPSK, QPSK, 16-QAM, 64-QAM |
| | Security¹ | Authentication: WPA and WPA2, 802.1x (EAP_TLS, TTLS, PEAP, LEAP, EAP-FAST) Authentication Protocols: PAP, CHAP, TLS, GTC, MS-CHAP, MS-CHAPv2 Encryption: 64 and 128-bit WEP, AES-CCMP, CKIP, TKIP Support for Cisco Security Features (proven compatibility with Cisco Aironet infrastructure products through the Cisco Compatible Extensions Program 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 and OFDM) ² | 17 dBm max |
| | Power Consumption | Transmit: 2.4 Watts (max, with three spatial streams) Receive: 1.4 Watts (max with three spatial streams) Idle mode ³ : 35 mW (average) Radio off: 20 mW (max) |
| | Power Management | ACPI compliant power management 802.11 compliant power saving mode |
| | Receiver Sensitivity⁴ | 54 Mbps: -76 dBm, 6 Mbps: -92 dBm |
| | Antenna Connections | 3 U.FL type connectors, 50 ohm nominal impedance |
| | Form Factor | PCI-Express Half-MiniCard |

Technical Specifications

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| Weight | 0.0075 lb (3.4 g) | |
| Dimensions | 0.12 x 1.06 x 1.18 in (3.1 x 26.8 x 30.0 mm) | |
| Operating Voltage | 3.3V +/- 9% | |
| Temperature | Operating | 32° to 176° F (0° to 80° C) |
| | Non-operating | -40° to 176° F (-40° to 80° C) |
| Humidity | Operating | 10% to 90% (non-condensing) |
| | Non-operating | 5% to 90% (non-condensing) |
| Altitude | Operating | 0 to 10,000 ft (3,048 m) |
| | Non-operating | 0 to 50,000 ft (15,240 m) |
| 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 Centrino Advanced-N Wireless LAN Standards 6200

| | |
|--------------------------|--|
| | IEEE 802.11a IEEE 802.11b IEEE 802.11g IEEE 802.11n* |
| | * In countries where 802.11n is not allowed, this capability is not enabled. |
| Interoperability | Wi-Fi certified Cisco Compatible Extensions Program compliant with Microsoft Windows Vista and XP (details at: http://www.hp.com/go/notebooks/WLAN) |
| Frequency Band | 2.4 GHz and 5GHz |
| Antenna Structure | 2 transmit; 2 receive (2x2) |
| Data Rates | 802.11a: 6, 9, 12, 18, 24, 36, 48, 54 Mbps |
| | 802.11b: 1, 2, 5.5, 11 Mbps |
| | 802.11g: 6, 9, 12, 18, 24, 36, 48, 54 Mbps |
| | 802.11n: 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 specification |
| Modulation | Direct Sequence Spread Spectrum DBPSK, DQPSK, CCK, OFDM, BPSK, QPSK, 16-QAM, 64-QAM |
| | Security¹ Authentication: WPA and WPA2, 802.1x (EAP_TLS, TTLS, PEAP, LEAP, EAP-FAST) Authentication Protocols: PAP, CHAP, TLS, GTC, MS-CHAP, MS-CHAPv2 Encryption: 64 and 128-bit WEP, AES-CCMP, CKIP, TKIP Support for Cisco Security Features (proven compatibility with Cisco Aironet |

Technical Specifications

| | |
|---|---|
| | 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 2.4GHz band Access Points |
| Output Power (for CCK and OFDM) ² | 17 dBm max |
| Power Consumption | Transmit: 2.3 Watts (max, with two spatial streams) Receive: 1 Watt (max with two spatial streams) Idle mode ³ : 35 mW (average) Radio off: 20 mW (max) |
| Power Management | ACPI compliant power management 802.11 compliant power saving mode |
| Receiver Sensitivity ⁴ | 54 Mbps: -76 dBm, 6 Mbps: -92 dBm |
| Antenna Connections | 2 U.FL type connectors, 50 ohm nominal impedance |
| Form Factor | PCI-Express Half-MiniCard |
| Weight | 0.0075 lb (3.4 g) |
| Dimensions | 0.12 x 1.06 x 1.18 in (3.1 x 26.8 x 30.0 mm) |
| Operating Voltage | 3.3V +/- 9% |
| Temperature | Operating 32° to 176° F (0° to 80° C) Non-operating -40° to 176° F (-40° to 80° C) |
| Humidity | Operating 10% to 90% (non-condensing) Non-operating 5% to 90% (non-condensing) |
| Altitude | Operating 0 to 10,000 ft (3,048 m) Non-operating 0 to 50,000 ft (15,240 m) |
| LED Activity | LED Off - Radio OFF; Solid 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. 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.

**Broadcom 4322AGN
802.11a/b/g/n
WiFi Adapter**

Wireless LAN Standards IEEE 802.11a
IEEE 802.11b
IEEE 802.11g
IEEE 802.11n*

Technical Specifications

| | |
|---|---|
| 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) |
| Frequency Band | 2.4 GHz and 5 GHz |
| Data Rates | 802.11b: 1, 2, 5.5, 11 Mbps 802.11a/g: 6, 9, 12, 18, 24, 36, 48, 54 Mbps 802.11n: 6, 6.5, 9, 12, 13, 13.5, 18, 19.5, 24, 26, 27, 36, 39, 40.5, 48, 52, 54, 58.5, 65, 78, 81, 104, 108, 117, 121.5, 130, 135, 162, 216, 243, 270, 300 Mbps |
| Frequency Support | 20 MHz: 2.4 GHz and 5 GHz bands 40 MHz: 2.4 GHz and 5 GHz bands |
| 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, 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 | 17 dBm , nominal |
| Output Power (for OFDM; power varies by data rate)² | 15 dBm , nominal |
| Power Consumption | Idle associated: 250 mW Idle unassociated: 150 mW Transmit/Receive 20 MHz channel: 2.0 W (max) Transmit/Receive 40 MHz channel: 2.0 W (max) |
| Power Management | ACPI compliant power management 802.11 compliant power saving mode |
| Receiver Sensitivity³ | 270 Mbps: -61dBm , 54 Mbps: -72 dBm , 11 Mbps: -85 dBm , 1 Mbps: -92 dBm |
| Antenna Connections | High efficiency dual band antenna with spatial diversity, mounted in the display enclosure |
| Form Factor | PCI-Express Half-MiniCard |
| Weight | 0.013 lb (6 g) |
| Dimensions | 0.19 x 1.06 x 1.18 in (4.75 x 26.8 x 30 mm) |
| Operating Voltage | 3.3v +/- 10% |
| Temperature | Operating 14° to 149° F (-10° to 65° C) Non-operating -40° to 176° F (-40° to 80° C) |

Technical Specifications

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|---------------------|--|-----------------------------|
| 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 - Radio ON | |
| | <ol style="list-style-type: none">1. Check latest software/driver release for updates on supported security features.2. Maximum output power may vary by country according to local regulations.3. Receiver sensitivity is measured at a packet error rate of 8% for 802.11b (CCK modulation) and a packet error rate of 10% for 802.11a/g (OFDM modulation).4. WLAN supplier's client utility is required for Cisco Compatible Extensions support with Microsoft Windows XP. WLAN may also be compatible with certain third-party software supplicants. WLAN supplier IHV extensions required for Cisco Compatible Extensions support for Microsoft Windows Vista. | |

HP Integrated Module with Bluetooth 2.1 Wireless Technology

| | |
|-------------------------------------|---|
| Bluetooth Specification | 2.1 Compliant |
| Dimensions | 1.18 x 0.26 x 0.13 in (30 x 6.5 x 3.25 mm) |
| Frequency Band | 2402 to 2480 MHz |
| Number of Available Channels | 79 (1 MHz) available channels |
| Data Rates and Throughput | 3 Mbps data rate; throughput up to 2.17 Mbps Synchronous Connection Oriented links up to 3, 64 kbps, voice channels Asynchronous Connection Less links 2178.1 kbps/177.1 kbps asymmetric or 1306.9 kbps symmetric |
| Transmit Power | -6 dBm to 4 dBm (Bluetooth Class II) |
| Receiver Sensitivity | Better than -80 dBm at 0.1 % raw bit error rate |
| Power Consumption | Peak (Tx) 264 mW Peak (Rx) 231 mW Sleep <1 mW |
| Antenna | Internally integrated within module |
| Range | Up 33 ft (10 m) |
| Electrical Interface | USB 2.0 compliant Microsoft Windows Plug and Play compliant |
| Bluetooth Software Supported | Broadcom Bluetooth for Windows Microsoft Windows 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 |

Technical Specifications

| | |
|-------------------------------------|--|
| Certifications | All necessary regulatory approvals for supported countries, including: FCC (47 CFR) Part 15C, Section 15.247 & 15.249 ETS 300 328, ETS 300 826 Low Voltage Directive IEC950 UL, CSA, and CE Mark |
| Temperature | Operating -4° to 158° F (-20° to 70° C) Non-operating -40° to 176° F (-40° to 80° C) |
| Humidity | Operating 10% to 90% Non-operating 5% to 95% |
| Altitude | Operating 15,000 ft (4,572 m) Non-operating 40,000 ft (12,192 m) |
| Bluetooth Profiles Supported | Serial Port Profile (SPP) ¹ Service Discovery Application Profile (SDAP) Dial-Up Networking (DUN) ^{1,2} Generic Object Exchange Profile (GOEP) ^{1,2} Object Push Profile (OPP) ^{1,2} File Transfer Profile (FTP) Synchronization Profile (SYNC) Hard Copy Cable Replacement (HCRP) ^{1,2} Personal Area Networking Profile (PAN) ^{1,2} Human Interface Device Profile (HID) ^{1,2,3} FAX Profile (FAX) Basic Imaging Profile (BIP) ² Headset Profile (HSP) Hands Free Profile (HFP) Advanced Audio Distribution Profile (A2DP) |

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

Technical Specifications

Environmental Data

Eco-Label Certifications

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

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

Energy Consumption

| | 115 VAC | 230 VAC | 100 VAC |
|------------------------------------|---------|---------|---------|
| Normal Operation | 28.16 W | 29.19 W | 28.19 W |
| Sleep (Energy Star low power mode) | 1.08 W | 1.15 W | 1.09 W |
| Off | 0.80 W | 0.84 W | 0.80 W |

Heat Dissipation*

| | 115 VAC | 230 VAC | 100 VAC |
|------------------|-----------|------------|-----------|
| Normal Operation | 96 BTU/hr | 100 BTU/hr | 96 BTU/hr |
| Sleep | 4 BTU/hr | 4 BTU/hr | 4 BTU/hr |
| Off | 3 BTU/hr | 3 BTU/hr | 3 BTU/hr |

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

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

| System Fan Off | Sound Power (LWAd, bels) | Sound Pressure (LpAm, decibels) |
|-------------------------------|-----------------------------|------------------------------------|
| Idle | 3.5 | 32.2 |
| Fixed Disk (random writes) | 3.5 | 32.3 |

System fan is usually off except when charging the battery

Batteries

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

Batteries used in the product do not contain:

- Mercury greater 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 California Proposition 65 (State of California; Safe Drinking Water and Toxic Enforcement Act of 1986).

Technical Specifications

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

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

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

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

Packaging Materials

- External:
 - Corrugated carton 745 g
 - Cardboard & misc 120 g
- Internal:
 - Polyethylene low density foam 15 g
 - EPE-Expanded Polyethylene 75 g
- The Corrugated carton packaging material is made from 70~80% recycled content.
- The Cardboard & misc packaging material is made from 70~80% recycled content.
- The Polyethylene low density foam packaging material is made from 0% recycled content.
- The EPE-Expanded Polyethylene packaging material is made from 0% recycled content.

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

- Eliminate the use of heavy metals such as lead, chromium, mercury and cadmium in packaging materials.
- Eliminate the use of ozone-depleting substances (ODS) in packaging materials.
- Design packaging materials for ease of disassembly.
- Maximize the use of post-consumer recycled content materials in packaging materials.
- Use readily recyclable packaging materials such as paper and corrugated materials.
- Reduce size and weight of packages to improve transportation fuel efficiency.
- Plastic packaging materials are marked according to ISO 11469 and DIN 6120 standards.

Material Usage

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

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

- Asbestos

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- 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
- 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 micro-grams/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>

Technical Specifications

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