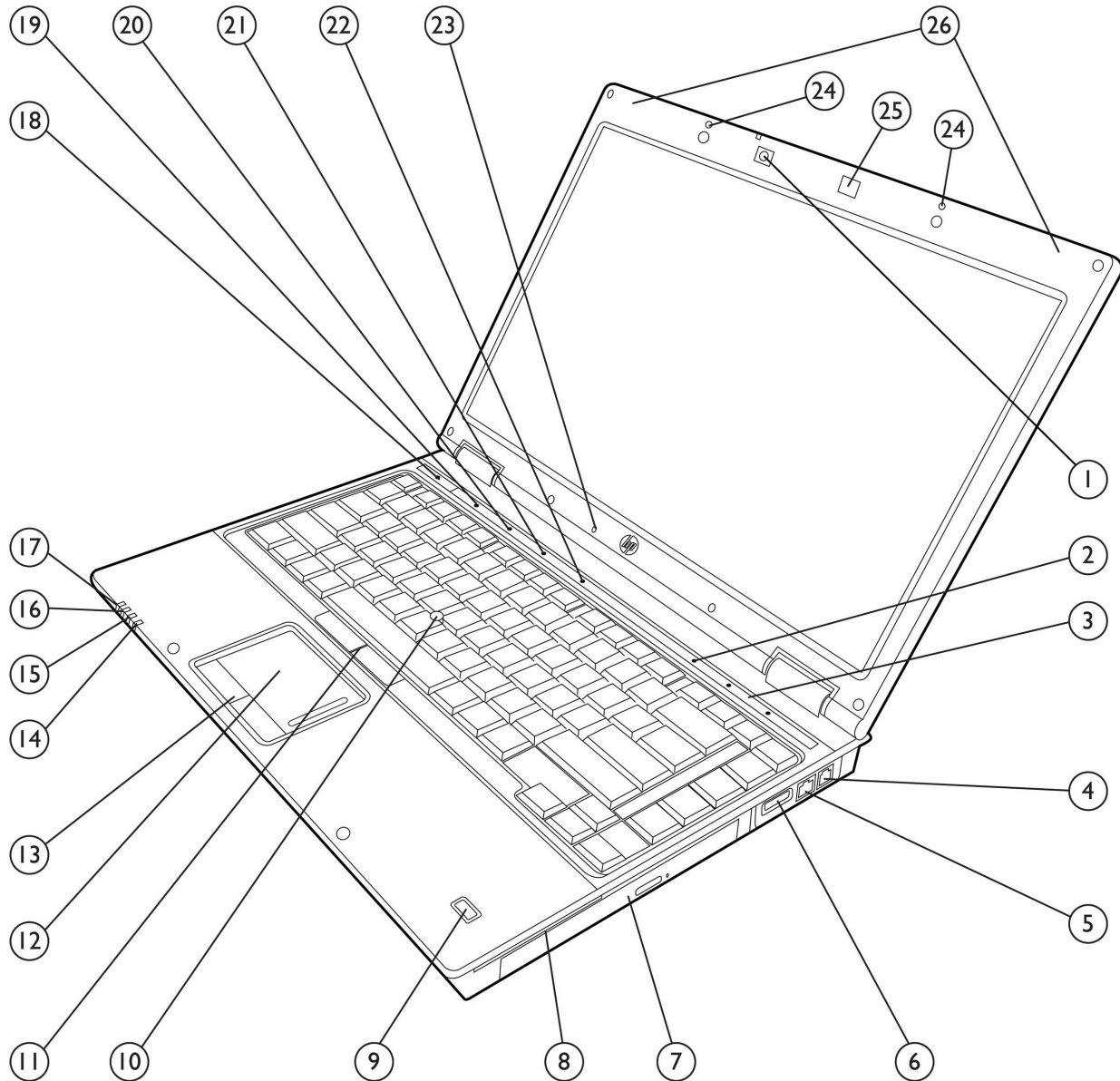


Overview

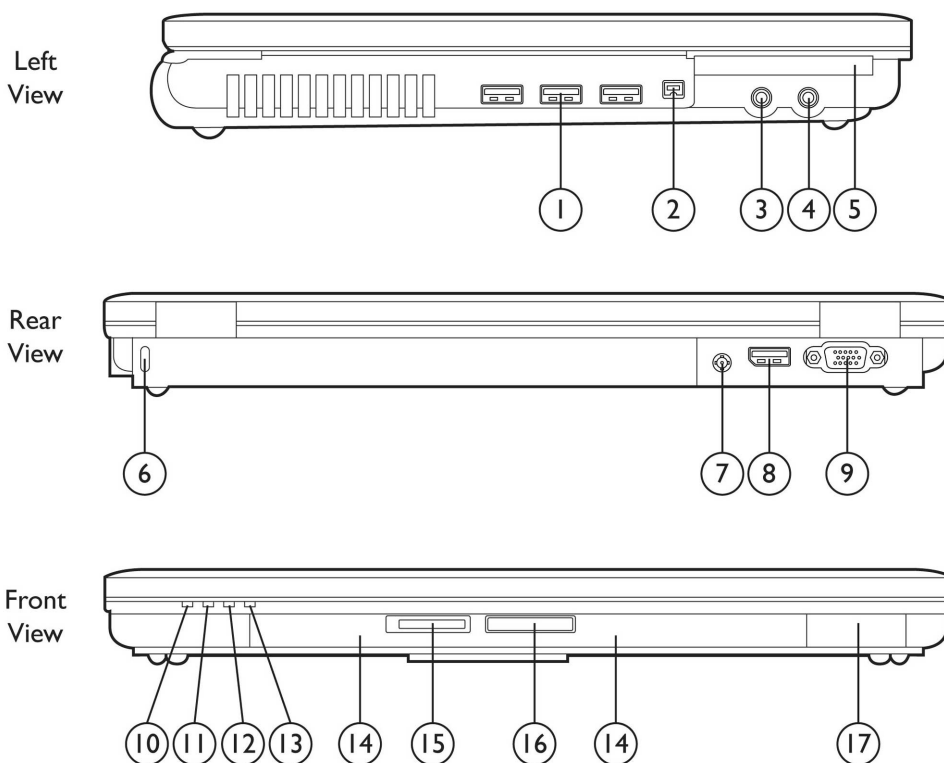


- | | |
|--|--|
| 1. Optional 2 MP Webcam | 14. Hard drive activity / HP 3D DriveGuard LED indicator |
| 2. Volume mute button with LED indicator | 15. Battery charging LED indicator |
| 3. Volume up/down buttons with LED indicators | 16. Power/standby LED indicator |
| 4. RJ-11/modem port | 17. Wireless on/off LED indicator |
| 5. RJ-45/Ethernet port | 18. Power button with LED indicator |
| 6. eSATA/USB 2.0 Combo port | 19. HP QuickLook 3 button with LED indicator |
| 7. Upgrade Bay (optical drive, 2nd hard drive, weight saver) | 20. HP QuickWeb button with LED indicator |
| 8. Integrated Smart Card Reader | 21. Wireless on/off button with LED indicator |
| 9. Optional HP Fingerprint Sensor | 22. Touchpad on/off button |

Overview

10. Pointstick
11. Pointstick buttons
12. Touchpad with scroll zone
13. Touchpad buttons

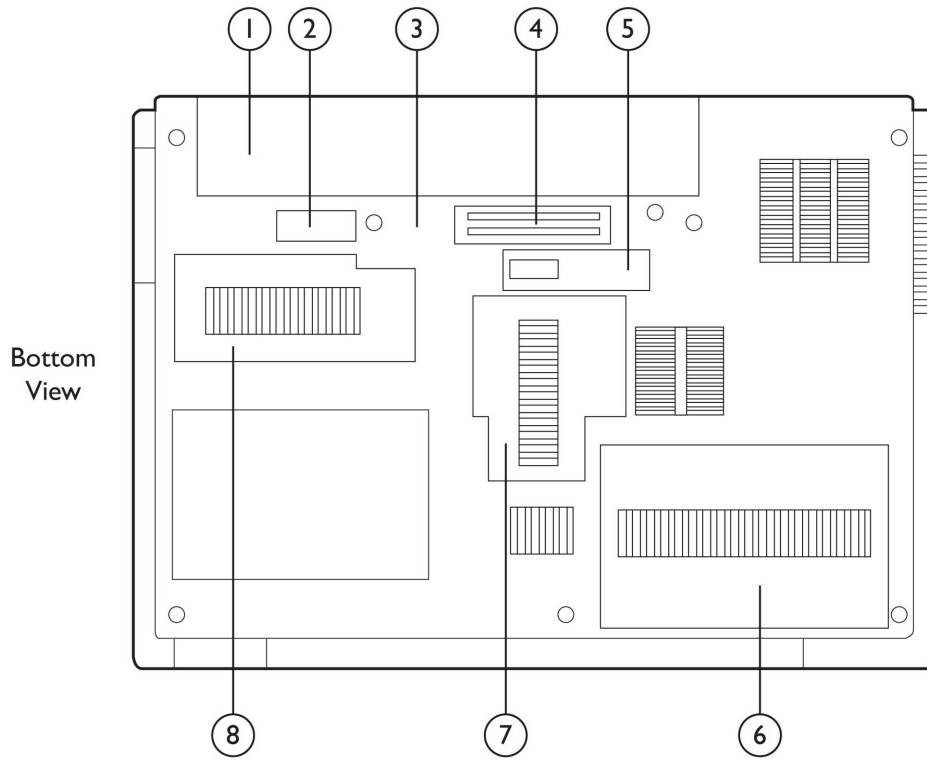
23. Ambient Light Sensor
24. Dual-microphone array
25. HP NightLight with on/off button
26. WLAN and WWAN antennas



1. (3) USB 2.0 ports
2. 1394a port
3. Stereo microphone in
4. Stereo headphone/line out
5. ExpressCard/54 slot
6. Kensington Lock slot
7. Power connector
8. DisplayPort
9. VGA connector (external monitor/projector)

10. Wireless on/off LED indicator
11. Power/standby LED indicator
12. Battery charging LED indicator
13. Hard drive activity / HP 3D DriveGuard LED
14. Integrated stereo speakers
15. Secure Digital (SD) slot
16. Display release latch
17. Bluetooth module compartment

Overview



Bottom View

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

At A Glance

- Genuine Windows 7 versions, Genuine Windows Vista versions, Genuine Windows XP Professional available through downgrade rights from Windows 7 Professional, or FreeDOS
- NVIDIA NVS 3100 graphics with 512 MB dedicated memory or Intel Graphics Media Accelerator HD graphics
- Intel® Core™ i7 or Core i5 processor with Intel Turbo Boost Technology
- DisplayPort for external monitors, and eSATA/USB 2.0 Combo port for external storage
- Industrial, business rugged construction features a full magnesium alloy chassis, magnesium/aluminum display enclosure, metal alloy hinges, brushed aluminum with platinum finish; designed to meet the military standard Mil-Std-810G for vibration, dust, humidity, altitude, and high and low temperature operation*
- Widescreen 14.0-inch diagonal 16:9 LED-backlit HD or HD+ display with Ambient Light Sensor and optional HP Privacy Filter
- HP SkyRoom 90-day trial version for professional quality visual collaboration built on HP Video and Image processing engines for hi-fi audio, hi-def video, and hi-performance 3D application sharing
- HP Power Assistant to conserve power, increase battery run-time, monitor power needs, report workforce power consumption
- Touch-sensitive controls for HP QuickLook 3 (instant access to email, calendar, contacts and tasks), HP QuickWeb, wireless on/off, mute, volume down, volume up
- Choice of 4-cell, 6-cell, 9-cell, or HP Long Life primary battery, plus optional external batteries - HP Ultra-Capacity Battery, HP Extended Life Battery
- Choice of 7200 rpm user-removable hard drive up to 500 GB with HP 3D DriveGuard protection,

Overview

- or 160/256 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; or Broadcom b/g wireless LAN module
 - Bluetooth® v2.1
- Optional 2 MP Webcam with Business Card Reader Software, HP Night Light
- Enhanced security features including integrated Smart Card Reader, HP ProtectTools, Computrace LoJack Pro ready, HP SpareKey, HP Disk Sanitizer, TPM 1.2 ;** optional HP Fingerprint Sensor, and optional HP Privacy Filter
- Upgrade Bay for easy optical drive upgrade or optional second hard drive for RAID 1 Mirroring or RAID 0 Striping
- Dual pointing devices (touchpad with scroll zone and pointstick)
- ExpressCard/54 slot, Secure Digital (SD) slot

* 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 Processor (models with discrete graphics only)

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

Up to 3.33 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 XP Professional available through downgrade rights from Windows 7 Professional*†

Genuine Windows 7 Home Premium Edition 32*

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

† Windows XP Professional is preinstalled on this system and includes end user rights and media for Windows 7 Professional. You may only use one version at a time. You must back up all data (files, photos, etc.) before uninstalling and installing operating systems to avoid loss of your data.

Chipset

Mobile Intel QM57 Express Chipset

Standard Features

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® Advanced-N 6200 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

Models with discrete graphics:

NVIDIA NVS 3100 graphics with 512 MB dedicated video memory
Microsoft DirectX 10.1 (Shader Model 4.1)

Models with integrated graphics:

Intel Graphics Media Accelerator HD
Microsoft DirectX 10 (Shader Model 4.0)

Display

Internal

14.0-inch diagonal 16:9 LED-backlit HD anti-glare (1366 x 768 resolution)
14.0-inch diagonal 16:9 LED-backlit HD+ anti-glare (1600 x 900 resolution)
Ambient Light Sensor
Optional HP Privacy Filter

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 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.

Standard Features

| | | |
|--------|--------------|--|
| Memory | Standard | DDR3 PC3-10600 SDRAM (1333 MHz)* Two SODIMM slots supporting dual-channel memory 1024 MB, 2048 MB, 3072 MB, or 4096 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. |

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

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 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. |

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

Standard Features

| | |
|---|---|
| Intel Centrino Advanced-N 6200 (2x2) | Integrated support for 802.11 a, b, g, and n* 2 transmit, 2 receive antennas Up to 300 mbps data rate |
| Broadcom 4312G 802.11b/g WiFi Adapter | Integrated support for 802.11 b and g Up to 54 mbps data rate |
| HP Integrated Module with Bluetooth Wireless Technology | Bluetooth Specification v2.1 compliant Works with a wide range of Bluetooth devices |

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

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 an integrated 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 2.5 mm stroke.

Touch-sensitive controls

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

Dual Pointing devices

Touchpad with scroll zone, two pick buttons
Pointstick with two 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 |
| Secure Digital slot | Supports SD (Secure Digital), MMC (MultiMedia Card) |

Internal Storage

| | |
|---|---|
| Hard Drives | 250/320/500 GB 7200 rpm SMART SATA II |
| NOTE: These 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 (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 | 160 GB Solid State Drive 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 |
| | Second hard drive | 500 GB 7200 rpm SMART SATA II Hard Drive |
| | Weight saver | |

| | | |
|------------|-----------------------------|--------------------------------|
| Interfaces | ExpressCard/54 slot | One |
| | External monitor | Two - (1) DisplayPort, (1) VGA |
| | Smart 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 | Three |
| | eSATA/USB 2.0 Combo port | One |
| | Docking connector | One |
| | Secondary battery connector | One |

| | |
|--------------|---|
| Audio/Visual | High definition audio |
| | 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 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)

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 Professional 2007 60-day Convertible Trial
McAfee Total Protection*
PDF Complete SE
Roxio Creator Business 10 (select models)
InterVideo WinDVD (select models)
Synaptics Touchpad Driver
HP Webcam Software
WinZip 12

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.

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
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**

Optional Features

HP Fingerprint Sensor

Enhanced sensor scans the fingerprint to uniquely identify and authenticate a person.

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

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
- Java Card Security for HP ProtectTools
- Computrace LoJack Pro for HP ProtectTools

Power Supply

Models with discrete graphics:

External 90-watt Smart AC adapter

Models with integrated graphics:

External 65-watt Smart AC adapter

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 9-cell Primary Battery, HP Long Life 6-cell Primary Battery, or the HP Ultra-Capacity Battery.

Standard Features

| | | |
|---------|--------------------------------|---|
| Battery | Primary battery | HP 9-cell 100 WHr Li-Ion Primary Battery |
| | | HP 6-cell 55 WHr Li-Ion Primary Battery |
| | | HP 4-cell 37 WHr Li-Ion Primary Battery |
| | | HP Long Life 6-cell 51 WHr Li-Ion Primary Battery |
| | Optional HP Long Life Battery* | HP Long Life Battery (3-cell 47 WHr) |
| | Optional secondary battery | HP Extended Life Battery (8-cell 52 WHr) |
| | | HP Ultra-Capacity Battery (12-cell 95 WHr) |

* The optional HP Long Life Battery takes the place of the primary battery, which must be removed.

| Battery Life | | 9-cell (100 WHr) Primary | 6-cell (55 WHr) Primary | 4-cell (37 WHr) Primary | HP Long Life 6-cell (51 WHr) Primary |
|--------------|---|-----------------------------|----------------------------|----------------------------|--|
| | Primary battery | Up to TBD hours | Up to TBD hours | Up to TBD hours | Up to TBD hours |
| | Primary battery and optional HP Extended Life Battery | Up to TBD hours | Up to TBD hours | Up to TBD hours | Up to TBD hours |
| | Primary battery and optional HP Ultra- Capacity Battery | Up to TBD hours | Up to TBD hours | Up to TBD hours | Up to TBD 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.

| | |
|---------------------|--------------|
| System Standby Time | Up to 1 week |
|---------------------|--------------|

| | |
|--------------------|---|
| Power Conservation | Supports enhanced Intel SpeedStep technology (allows Battery Optimized Mode, Maximum Performance Mode, or Automatic mode) |
| | Intel Display Power Saving technology (models with integrated graphics) |
| | NVIDIA PowerMizer 7.0 technology (models with NVIDIA graphics) |
| | Hibernation |
| | Standby |
| | ACPI compliance |

| | |
|--------------------|--------------------------------------|
| 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-Monitor Stand |
| | HP Monitor Stand |
| | HP Basic Adjustable Stand |
| | HP Adjustable Notebook Stand |

Standard 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 1 GB (DDR3 1333 MHz) SODIMM | AT911AA |
| | HP 2 GB (DDR3 1333 MHz) SODIMM | AT912AA |
| | HP 4 GB (DDR3 1333 MHz) SODIMM | AT913AA |
| Storage | HP Notebooks USB Diskette Drive | DC361B |
| | 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 |
| | HP Primary SATA 320 GB 7200 rpm Hard Drive | AS282AA |
| | HP Primary SATA 250 GB 5400 rpm Hard Drive | AK868AA |
| Expansion Solutions | HP Docking Station | TBD |
| | HP Advanced Docking Station | TBD |
| | HP USB 2.0 Docking Station | FQ834AA |
| | HP Essential USB 2.0 Port Replicator | AQ731AA |
| | HP Dual-Monitor Stand | AK084AA |
| | HP 2009 Monitor Stand | TBD |
| | HP 2009 Adjustable Notebook Stand | TBD |
| | HP Basic Adjustable Stand | AL549AA |
| Communications | Intel WLAN 802.11a/b/g/n Mini-card Option Kit | TBD |
| | HP un2420 EVDO/HSPA Mobile Broadband Module | TBD |
| Power | HP 1-Bay Battery Charging Station | RW635AA |
| | HP 5-Bay Battery Charging Station | RW636AA |
| | HP Battery Adapter Kit | KV829AA |
| | HP Smart 65W Travel AC Adapter | AU155AA |
| | HP 90W Smart AC Adapter | ED495AA |
| | HP 90W Smart Combo Adapter | AJ652AA |
| | HP 6-Cell Li-Ion Primary Battery | KU531AA |
| | HP 9-Cell Li-Ion Primary Battery | AT908AA |
| | HP Extended Life Battery | AJ357AA |
| | HP Ultra-Capacity Battery | AT486AA |
| | HP Long Life Battery | AU213AA |

Options

| | | |
|----------------------|--|---------|
| Carrying Cases | HP Basic Carrying Case | AJ078AA |
| | HP Value Nylon Case | RR314AA |
| | HP Universal Nylon Case | RR315AA |
| | HP Executive Leather Case | RR316AA |
| | HP Deluxe Nylon Backpack | RR317AA |
| | HP Deluxe Roller Case | GD405AA |
| | HP Basic Backpack | AM863AA |
| | HP Basic Messenger Carrying Case | AP355AA |
| | HP Professional Series Carrying Case | AT886AA |
| | HP Professional Series Backpack | AT887AA |
| | HP Professional Series Messenger | AT888AA |
| | HP Professional Series Lady's Case | AT889AA |
| | HP Professional Series Slip Case | AT890AA |
| | HP Elite Series Lady's Case | AT891AA |
| | HP Merlot Slip Case | AU095AA |
| <hr/> | | |
| Security | HP/Kensington MicroSaver Security Lock | PC766A |
| | HP 14.0-inch Display Privacy Filter | AU100AA |
| | HP ExpressCard Smart Card Reader | AJ451AA |
| <hr/> | | |
| Input/Output Devices | HP PS/2 Keyboard & Mouse Bundle | RC464AA |
| | HP USB Keyboard & Mouse Bundle | RC465AA |
| | HP USB Optical Travel Mouse | RH304AA |
| | HP USB/PS2 Optical 2-Button Scroll Mouse | DC369A |
| | HP Wireless Mouse | AR085AA |
| | HP BT Headset | AR084AA |
| | HP Mobile Audio Speakers | FS944AA |

Memory

DDR3 PC3-10600 SDRAM (1333 MHz)*

Two SODIMM slots supporting dual-channel memory

SODIMM 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)
- 3072 MB (2048 MB + 1024 MB)
- 4096 MB (4096 MB x 1 or 2048 MB x 2)

Optional Memory Upgrades

Support for up to 8192 MB of memory with the installation of optional DDR3 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 | 2048 MB | Empty |
| 2048 MB | 1024 MB | 1024 MB |
| 3072 MB | 2048 MB | 1024 MB |
| 4096 MB | 4096 MB | Empty |
| 4096 MB | 2048 MB | 2048 MB |
| 8192 MB | 4096 MB | 4096 MB |

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

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 1 GB (DDR3 1333 MHz) SODIMM

AT911AA

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 |
| Weight Saver | One | Upgrade Bay |

Internal Storage Device

| | Quantity Supported | Drive Bay |
|--|--------------------|--------------------------|
| Hard Drives | | |
| 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 |
| 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 |
| 160 GB Solid State Drive | One | Dedicated hard drive bay |

Technical Specifications

| | | |
|--|----------------------------------|---|
| System Unit | Dimensions (HxWxD) | 1.23 in (at front) x 13.21 in x 9.3 in 31.3 mm (at front) x 335.6 mm x 236.2 mm |
| | Weight | Starting at 4.6 lb (2.08 kg) with weight saver (no optical drive) Starting at TBD lb (TBD kg) with DVD-ROM drive |
| NOTE: Height varies depending upon where on the notebook the measurement is made. Weight varies by configuration and components. Weight includes 6-cell battery and hard drive. | | |
| Stand-Alone Power Requirements (AC Power) | Nominal Operating Voltage | 18.5 V |
| | Average Operating Power | TBD W |
| | Max Operating Power | Discrete graphics: < 90 W Integrated graphics: < 65 W |
| Temperature | Operating | 32° to 95° F (0° to 35° C) (not writing optical) 41° to 95° F (5° to 35° C) (writing optical) |
| | Non-operating | −4° to 140° F (−20° to 60° C) |
| Relative Humidity | Operating | 10% to 90%, non-condensing |
| | Non-operating | 5% to 95%, 101.6° F (38.7° C) maximum wet bulb temperature |
| Shock | Operating | 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 |
| | Saudi Arabian Compliance (ICCP) | Yes |

Technical Specifications

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|-----------------|-----|
| SABS | Yes |
| UKRSERTCOMPUTER | Yes |

* Configurations of the HP EliteBook 8440p that are ENERGY STAR qualified are identified as HP EliteBook 8440p 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 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 |
| Output | 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 power 120 W |
| Environmental Design | DC Output Voltage 18.5 V |
| | 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) |
| EMI and Safety Certifications | Humidity 20% to 80% |
| | Storage Humidity 10% to 90% |
| | 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; MTBF- over 200,000 hours at 25°C ambient condition. |

Technical Specifications

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|-------------------------|-------------------------------|--|---|
| HP 90W Smart AC Adapter | Dimensions | 5.00 x 1.97 x 1.1 in (12.7 x 5.0 x 2.9 cm) | |
| | Weight | 0.82 lb (370 g) | |
| | Input | 100 to 240 VAC | |
| | | Input Efficiency | 83% min at 115 VAC |
| | | Input frequency range | 47 to 63 Hz |
| | | Input AC current | 1.5 A at 90 VAC, 0.75 A at 180 VAC PFC Version |
| | Output | 2.4 A at 90 VAC, 1.2 A at 180 VAC NON PFC Version | |
| | | Output power | 90W |
| | | DC output | 19.0V |
| | | Hold-up time | 5 msec at 115 VAC input |
| | | Output current limit | <11A, Over voltage protection- 29V max automatic shutdown |
| | Connector | 3 pin/grounded, mates with interchangeable cords | |
| | Environmental Design | Operating temperature | 32° to 104° F (0° to 40° C) |
| | | Non-operating (storage) temperature | -4° to 149° F (-20° to 65° C) |
| | | Altitude | 0 to 10,000 ft (0 to 3,048 m) |
| | | Humidity | 20% to 80% |
| | EMI and Safety Certifications | Storage Humidity | 10% to 90% |
| | | CE Mark – full compliance with LVD and EMC directives; Worldwide safety standards – IEC60950, EN60950, UL60950, Class I, SELV; Agency approvals – C-UL-US, NORDICS, DENAN, EN55022 Class B, FCC Class B, CISPR22 Class B, CCC, NOM-1 NYCE; MTBF– over 200,000 hours at 25°C ambient condition. | |
| | | | |

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|------------------------------------|------------------------|--|--|
| 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) |
| | | Operating (Discharging) | 14° to 140° F (-10° to 60° C) |
| | | Non-operating | -4° to 140° F (-20° to 60° C) |
| | Battery Re-Charge Time | Smart Adapter | 3 to 4 hours |
| | | System ON | 4 to 5 hours (depending on system power consumption) |
| | Fuel Gauge | When pressed, LEDs light indicating level of charge remaining on battery | |

Technical Specifications

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|-----------------------------------|-------------------------------|--|--|
| 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) |
| Battery | 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 | |

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| Optional HP Long Life Battery | | Dimensions (H x W x L) | 0.8 x 2.1 x 8.0 in (2.0 x 5.3 x 20.4 cm) |
| Battery | Weight | | 0.71 lb (0.32 kg) |
| | Cells/Type | | 3-cell Lithium-Ion |
| | Energy | Watt-hour Capacity | 47 WHr |
| | Temperature | Operating (Charging) | 32° to 113° F (0° to 45° C) |
| | | Operating (Discharging) | 14° to 140° F (-10° to 60° C) |
| | | Non-operating | -4° to 140° F (-20° to 60° C) |
| Battery Re-Charge Time | System in OFF mode or Standby | | 2.5 hours |
| | | System ON | 3 to 5 hours (depending on system power consumption) |
| | HP Fast Charge Technology | | Charges the battery up to 90% within 90 minutes when system is OFF |

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|---|-------------------------------|-------------------------|--|
| HP 9-Cell 100 WHr Lithium-Ion Primary battery | | Dimensions (H x W x L) | 0.75 x 3.0 x 8.0 in (2.0 x 7.5 x 20.5 cm) |
| Battery | Weight | | 1.1 lb (0.480 kg) |
| | Cells/Type | | 9-cell Lithium-Ion |
| | Energy | Watt-hour Capacity | 100 WHr |
| | Temperature | Operating (Charging) | 32° to 113° F (0° to 45° C) |
| | | Operating (Discharging) | 14° to 122° F (-10° to 50° C) |
| | | Non-operating | -4° to 122° F (-20° to 50° C) |
| Battery Re-Charge Time | System in OFF mode or Standby | | 3.5 to 5 hours |
| | System ON | | 4 to 7 hours (depending on system power consumption) |

Technical Specifications

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|-------------------------------------|-------------------------------|--|--|
| 6-Cell (55 WHr) Lithium-ion battery | Dimensions (HxWxL) | 0.8 x 2.1 x 8.0 in (2.0 x 5.3 x 20.4 cm) | |
| | Weight | 0.71 lb (0.32 kg) | |
| | Cells/Type | 6-cell Lithium-ion | |
| | Energy | Watt-hour Capacity | 55Wh |
| | Temperature | Operating (Charging) | 32° to 113° F (0° to 45° C) |
| | | Operating (Discharging) | 14° to 140° F (-10° to 60° C) |
| | | Non-operating | -4° to 140° F (-20° to 60° C) |
| Battery Re-Charge Time | System in OFF Mode or Standby | | 2.5 hours |
| | | System ON | 3 to 5 hours (depending on system power consumption) |
| | HP Fast Charge Technology | Charges the battery up to 90% within 90 minutes when system is OFF | |

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|-------------------------------------|-------------------------------|--|--|
| 4-Cell (37 WHr) Lithium-ion battery | Dimensions (H x W x L) | 0.8 x 2.1 x 8.0 in (2.0 x 5.3 x 20.3 cm) | |
| | Weight | 0.55 lb (0.249 kg) | |
| | Cells/Type | 4-cell Lithium-ion | |
| | Energy | Watt-hour Capacity | 37 WHr |
| | Temperature | Operating (Charging) | 32° to 113° F (0° to 45° C) |
| | | Operating (Discharging) | 14° to 140° F (-10° to 60° C) |
| | | Non-operating | -4° to 140° F (-20° to 60° C) |
| Battery Re-Charge Time | System in OFF Mode or Standby | | 2.5 hours |
| | | System ON | 3 to 5 hours (depending on system power consumption) |
| | HP Fast Charge Technology | Charges the battery up to 90% within 90 minutes when system is OFF | |

| | | | |
|--|-------------------------------|--|--|
| HP Long Life 6-cell 51 WHr Lithium-ion Primary battery | Dimensions (H x W x L) | 0.8 x 2.1 x 8.0 in (2.0 x 5.3 x 20.3 cm) | |
| | Weight | 0.73 lb (0.331 kg) | |
| | Cells/Type | 6-cell Lithium-ion | |
| | Energy | Watt-hour Capacity | 51 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) |

Technical Specifications

Displays

| | | | |
|---|---------------------|---|------------|
| 14.0-inch LED HD (1366 x 768) anti-glare | Active Area (W x H) | 12.74 x 7.56 in (32.4 x 19.2 cm) | |
| | Diagonal Size | 14.0 in (35.6cm) | |
| | Surface Treatment | Anti-glare | |
| | Contrast Ratio | 300:1 (typical) | |
| | Refresh Rate | 60 Hz | |
| | Brightness | 200 nit (typical) | |
| | Pixel Resolution | Pitch | 0.227 mm |
| | | Format | 1366 x 768 |
| | | Configuration | RGB Stripe |
| | Backlight | LED | |
| PPI | | 112 ppi | |
| Viewing Angle | | $\pm 30^\circ$ Horizontal, $\pm 10^\circ$ Vertical (minimum) 30/30/20/10 (Left/Right/Down/Up) (minimum) or 45/45/35/25 (Left/Right/Down/Up) (typical) | |

| | | | |
|---|--------------------|--|------------|
| 14.0-inch LED HD+ (1600 x 900) anti-glare | Dimensions (W x H) | 323.5 mm x 192.0 mm (typ) | |
| | Diagonal Size | 14.0 in (35.6cm) | |
| | Surface Treatment | Anti-glare | |
| | Contrast Ratio | 300 (min) | |
| | Refresh Rate | 60 Hz | |
| | Brightness | 200 nits (typ) | |
| | Pixel Resolution | Pitch | 0.1935mm |
| | | Format | 1600 x 900 |
| | | Configuration | RGB Strip |
| | Backlight | LED | |
| PPI | | 131 ppi | |
| Viewing Angle | | 30/30/20/10 (Left/Right/Down/Up) (minimum) | |

Internal Storage

Technical Specifications

| | | | |
|------------------------------------|---|---|-----------------------------|
| 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) | 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 | 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 | 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 | 625,142,448 | |
| | Operating Temperature | 32° to 140° F (0° to 60° C) [case temp] | |
| | Features | ATA Security | |

Technical Specifications

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

| | | | |
|---|-----------------------|---------------------------------------|---------------------------------|
| 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 | Maximum Sequential Write |
| | | 220 MB/s | 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 | |

| | | | |
|---|-----------------------|---------------------------------------|---------------------------------|
| 160 GB 2.5-inch SATA Solid State Drive | Weight | 78 Grams | |
| | Capacity | 160 GB | |
| | Height | 0.275 in (7 mm) | |
| | Width | 2.75 in (70 mm) | |
| | Interface | SATA | |
| | Performance | Maximum Sequential Read | Maximum Sequential Write |
| | | 250 MB/s | 70 MB/s |
| | Logical Blocks | 312,581,808 | |
| | 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 | < 110 ms CD (typical) < 110 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) | 8.5 GB | |
| | 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 24X CD-R 16X CD-RW 8X DVD+R 8X DVD+RW 8X DVD-R 6X DVD-RW 4X - DVD+R Dual Layer 4X - DVD-R Dual Layer 5X DVD-RAM | Up to 3,600 KB/s Up to 10,800 KB/s Up to 3,600 KB/s Up to 2,400 KB/s Up to 10,800 KB/s Up to 10,800 KB/s Up to 10,800 KB/s Up to 8100KB/s Up to 5,400 KB/s Up to 5,400 KB/s 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 | |
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Technical Specifications

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|--|----------------------------|---|---|
| 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 8X DVD-ROM 8X CD-R 8X CD-RW 8X DVD+R 4X DVD+RW 8X DVD-R 4X DVD-RW 2.4X DVD+R(9) 5X DVD-RAM 1X BD-ROM 1X BD-R 1X BD-RE | Up to 3,600 KB/s Up to 10,800 KB/s Up to 1,200 KB/s Up to 1,200 KB/s Up to 10,800 KB/s Up to 5,400 KB/s Up to 10,800 KB/s Up to 5,400 KB/s Up to 2,700 KB/s Up to 6,750 KB/s Up to 4,500 KB/s Up to 4,500 KB/s Up to 4,500 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 8X DVD-ROM 16X CD-R 10X CD-RW 8X DVD+R 8X DVD+RW 8X DVD-R 6X DVD-RW 4X - DVD+R Dual Layer 4X - DVD-R Dual Layer 5X DVD-RAM 4X BD-ROM | Up to 3600 KB/s Up to 10800 KB/s Up to 1,200 KB/s Up to 1500 KB/s Up to 10800 KB/s Up to 10,800 KB/s Up to 10800 KB/s Up to 8,100 KB/s Up to 5400 KB/s Up to 6750 KB/s Up to 18,000 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, LightScribe | |
| | Max Media Capacity (read) | 50.0 GB | |
| | Max Media Capacity (write) | 8.5 GB | |
| | Transport | Tray Loading | |

Security

Technical Specifications

| | | |
|----------------------------------|----------------------------|--|
| HP Fingerprint Sensor (optional) | 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 (± 15 KV) |
| | Detection Matrix | 192 x 16 Pixels 9.7 mm x 0.81 mm 500 ppi High-Resolution Images |

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

Technical Specifications

| | | |
|---|-------------------------------|--|
| Integrated Intel Gigabit Network Connection (10/100/1000 NIC) 82577LM | 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 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 V.44, 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 |

Technical Specifications

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

| | | |
|--|----------------------------------|---|
| 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 II), 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 |

Technical Specifications

| | |
|---|---|
| Weight | 11.5 g |
| Dimensions (Length x Width x Thickness) | 2.01 x 1.18 x 0.18 in (51 x 30 x 5 mm) |
| Voltage, Operating | 3.3v +/- 10% |
| Temperature, Operating (from TIA/EIA/IS-98-D) | -22° to 140° F (-30° to 60° C) (full RF performance) -22° to 167° F (-30° to 75° C) (reduced RF performance) |
| Temperature, Non-operating, 96 hours (from MIL-STD 202 Method 108) | -40° to 185° F (-40° to 85° C) |
| Humidity, Non-operating | 85% relative humidity for 48 hours @ 185° F (85° C) (non-condensing) |
| Configuration Utilities | HP Connection Manager |
| LED Activity | LED Off - Radio Off; Solid LED On - Radio On |

| | | |
|---------------------------------------|-------------------------------|--|
| Intel 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. |

Technical Specifications

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|--|--|--------------------------------|
| Media Access Protocol | CSMA/CA (Collision Avoidance) with ACK | |
| Network Architecture | Ad-hoc (Peer to Peer) | |
| Models | 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 Sensitivity ⁴ | 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 | |
| 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 | |
| <div><div>1. Check latest software/driver release for updates on supported security features.</div><div>2. Maximum output power may vary by country according to local regulations.</div><div>3. In Power Save Polling mode and on battery power.</div><div>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).</div><div>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.</div></div> | | |

Intel Centrino Advanced- N 6200 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
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)

Technical Specifications

| | |
|--|--|
| 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 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 Sensitivity⁴ | 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) |
| Configuration Utility⁵ | Choice of Configuration Utility: Microsoft Windows XP |

Technical Specifications

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

Microsoft Windows Vista

- 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

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 4312G 802.11b/g WiFi Adapter

Wireless LAN Standards

IEEE 802.11b
IEEE 802.11g

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

Data Rates

802.11b: 1, 2, 5.5, 11 Mbps
802.11g: 6, 9, 12, 18, 24, 36, 48, 54 Mbps

Modulation

Direct Sequence Spread Spectrum
DBPSK, DQPSK, CCK, OFDM

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

Technical Specifications

| | |
|---|---|
| Power Consumption | Idle associated: 250 mW Idle unassociated: 150 mW Transmit: 2.0 W (max) Receive: 2.0 W (max) |
| Power Management | ACPI compliant power management 802.11 compliant power saving mode |
| Receiver Sensitivity ³ | 54 Mbps: -71 dBm, 11 Mbps: -85 dBm , 1 Mbps: -95 dBm |
| Antenna type | 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) |
| 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 |

Technical Specifications

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

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