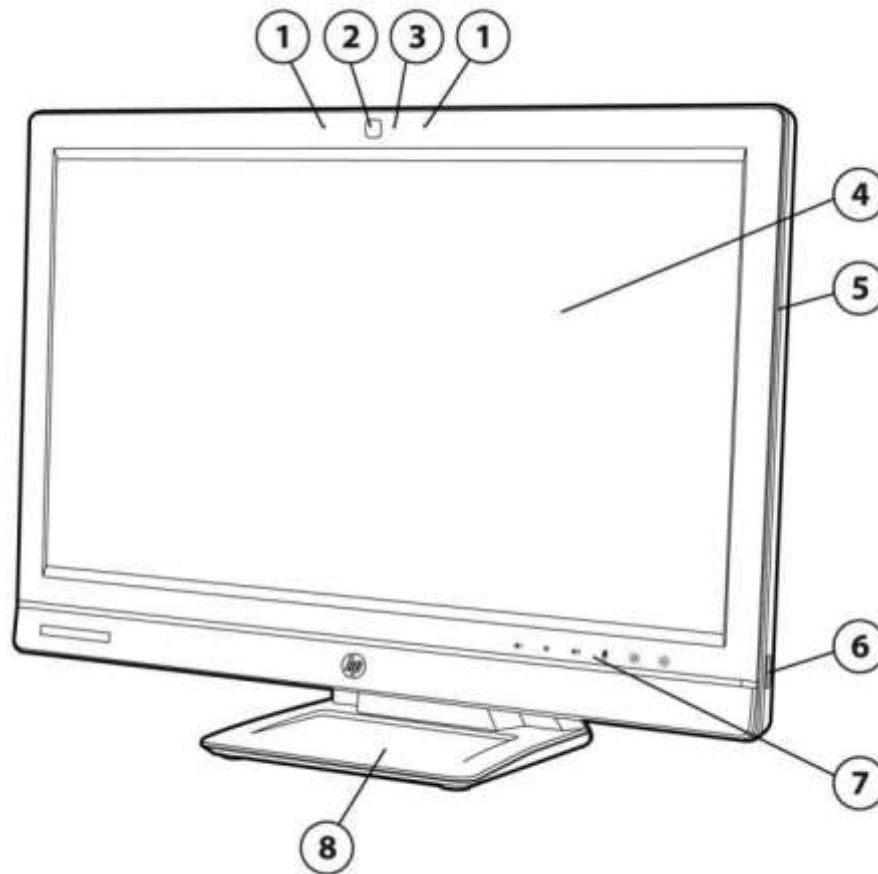


Overview

HP COMPAQ ELITE 8300 ALL-IN-ONE PC



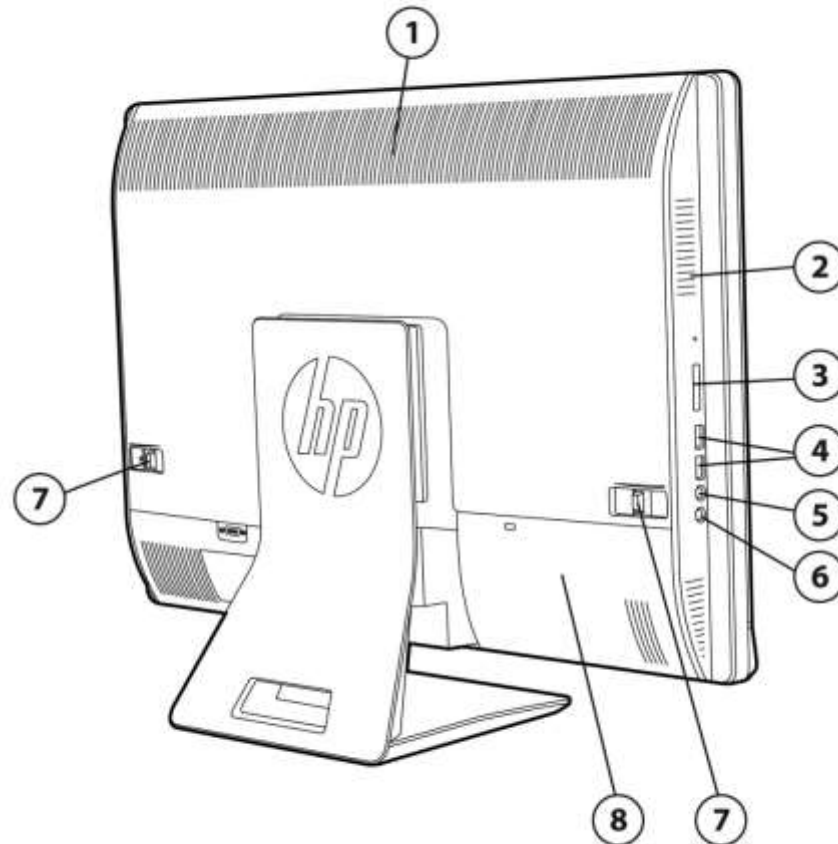
FRONT

1. Dual microphone array
2. 2.0 MP Webcam (optional)
3. Webcam Activity LED (only on models with Webcam)
4. 23-inch Full HD capable screen (with or without optical touch panel option)
5. Optical drive opening
6. Power button
7. Capacitive Controls for Brightness, Volume, Microphone Mute, Speaker Mute
8. Stand (Can be configured with no stand, basic stand, or height adjustable/reclining stand)



Overview

HP COMPAQ ELITE 8300 ALL-IN-ONE PC



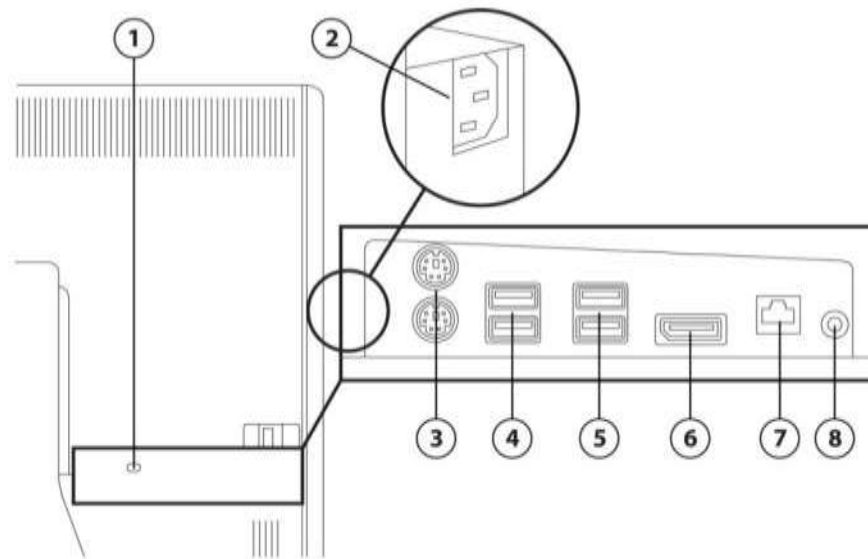
BACK

1. Vent slots
2. Side venting
3. 6-in-1 Media Card Reader (optional)
4. (2) USB 3.0 ports
5. Microphone input jack
6. Headphone jack
7. Access panel latches
8. Rear port cover



Overview

HP COMPAQ ELITE 8300 ALL-IN-ONE PC



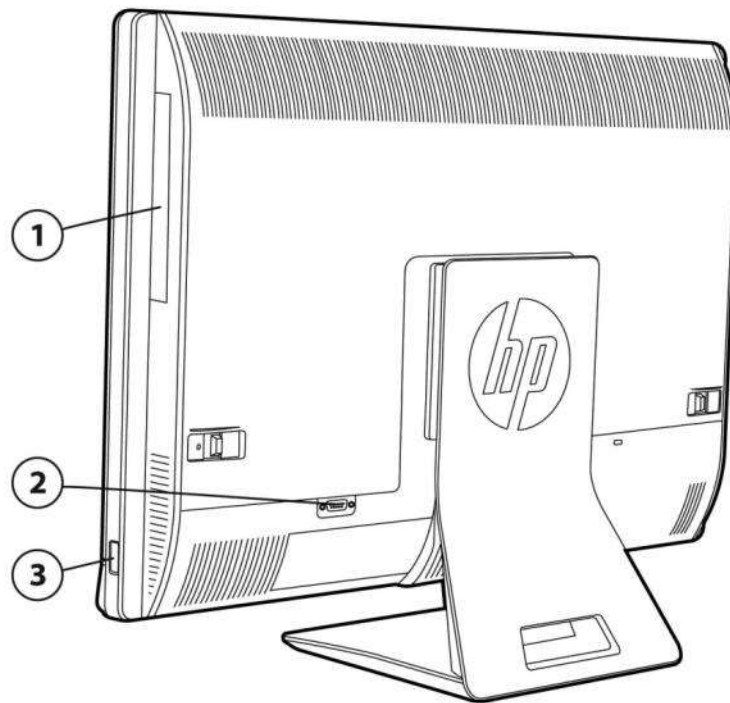
REAR PORTS (BEHIND COVER)

1. Security lock slot
2. Power connector
3. PS/2 mouse and keyboard connectors
4. (2) USB 2.0 ports
5. (2) USB 3.0 ports
6. DisplayPort connector
7. RJ-45 Gigabit Ethernet port
8. Stereo line out



Overview

HP COMPAQ ELITE 8300 ALL-IN-ONE PC



SIDE

1. Slim tray-load optical drive
2. Optional serial port
3. Power button



Overview

AT A GLANCE

- Genuine Windows 7 Professional 32- and 64-bit
- UEFI BIOS developed and engineered by HP for better security, manageability and software image stability
- Integrated all-in-one form factor
- 23-inch (1920 x 1080) diagonal widescreen WLED backlit anti-glare LCD (only in the non-touch), with or without Optical Touch Panel option
- Landscape or portrait display orientation¹
- Optional height adjustable/reclining stand
- Intel® Q77 chipset
- Intel 2nd & 3rd generation Core™ processors
- Intel vPro™ Technology available with select processors
- Integrated Intel HD Graphics
- Optional MXM Discrete graphics
- Integrated Intel 82579LM Gigabit Network Connection
- Optional wireless connectivity:
 - Intel Advanced-N 6205 WLAN (mini PCI Express) - Intel 802.11 a/b/g/n
 - WLAN (mini PCI Express) - HP 802.11 b/g/n
 - WLAN and Bluetooth Combo Card - HP 802.11 a/b/g/n and Bluetooth® 4.0
- WiDi support (with Intel 6205 WLAN)
- Optional Integrated 2.0 MP webcam & Dual Microphone Array
- High performance integrated stereo speakers
- SRS Premium Sound PRO™
- Up to 16 GB of DDR3 SDRAM, dual channel memory support, two SODIMM slots
- Support for up to 3 storage drives (2 SATA, 1 mSATA) with RAID support
- Up to 1 TB SATA hard drive, up to 128GB Solid State Drive and 256GB Self-Encrypting Solid State Drive
- Optional Intel Smart Response Technology support with 24GB mSATA SSD Flash Cache Module
- Optional slim Tray-load SuperMulti Optical Disc Drive or DVD ROM Optical Disc Drive
- Optional 6-in-1 Media Card Reader
- Optional serial port
- Display port out
- Integrated VESA 100 mm x 100 mm mounting holes
- Lockable rear access panel with intrusion sensor
- ENERGY STAR® qualified. EPEAT® registered where applicable/supported. See epeat.net for registration status by country.
- CCC, CECP & SEPA Certified
- Qualified for Microsoft Lync
- TCO AiO and Edge
- Low Halogen
- Arsenic Free
- Protected by HP Services, including standard warranties up to 5-5-5 (terms and conditions vary by country; certain restrictions and exclusions apply)

Portrait orientation not recommended for Touch



Standard Features and Configurable Components

OPERATING SYSTEM

Preinstalled

Windows® 7 Ultimate (32-bit)
Windows® 7 Ultimate (64-bit)
Windows® 7 Professional (32-bit)
Windows® 7 Professional (64-bit)
Windows® 7 Home Premium (32-bit)
Windows® 7 Home Premium (64-bit)
Windows® 7 Home Basic (32-bit)*

FreeDOS

*Not available with touch option. System may require upgraded and/or separately purchased hardware to take full advantage of Windows 7 functionality. Not all features are in all editions of Windows 7. See microsoft.com/windows/windows-7/ for details.

Certified

Novell SUSE Linux Enterprise Desktop 11

PROCESSOR

Intel® 3rd Generation Core™ i7 Processors

Intel® Core™ i7-3770

Up to 3.9 GHz Max. Turbo Frequency (3.4 GHz base frequency), 8 MB cache, 4 cores, 8 threads

Intel HD Graphics 4000

Supports DDR3 memory up to 1600 MHz data rate

Supports Intel vPro Technologies and Intel's Stable Image Platform Program (SIPP)

Intel® 3rd Generation Core™ i5 Processors

Intel® Core™ i5-3570

Up to 3.8 GHz Max. Turbo Frequency (3.4 GHz base frequency), 6 MB cache, 4 cores, 4 threads

Intel HD Graphics 2500

Supports DDR3 memory up to 1600 MHz data rate

Supports Intel vPro Technologies and Intel's Stable Image Platform Program (SIPP)

Intel® Core™ i5-3470

Up to 3.6 GHz Max. Turbo Frequency (3.2 GHz base frequency), 6 MB cache, 4 cores, 4 threads

Intel HD Graphics 2500

Supports DDR3 memory up to 1600 MHz data rate

Supports Intel vPro Technologies and Intel's Stable Image Platform Program (SIPP)

Intel® 3rd Generation Core™ i3 Processors

Intel® Core™ i3-3240

3.4 GHz base frequency, 3 MB cache, 2 cores, 4 threads

Intel HD Graphics 2500

Supports DDR3 memory up to 1600 MHz data rate

Intel® Core™ i3-3225

3.3 GHz base frequency, 3 MB cache, 2 cores, 4 threads

Intel HD Graphics 4000

Supports DDR3 memory up to 1600 MHz data rate

Intel® Core™ i3-3220

3.3 GHz base frequency, 3 MB cache, 2 cores, 4 threads



Standard Features and Configurable Components

Intel HD Graphics 2500
Supports DDR3 memory up to 1600 MHz data rate

Intel® Pentium® Processors

Intel® Pentium® G870

3.1 GHz base frequency, 3 MB cache, 2 cores, 2 threads
Intel HD Graphics
Supports DDR3 memory up to 1333 MHz data rate

Intel® Pentium® G860

3.0 GHz base frequency, 3 MB cache, 2 cores, 2 threads
Intel HD Graphics
Supports DDR3 memory up to 1333 MHz data rate

Intel® Pentium® G640

2.8 GHz base frequency, 3 MB cache, 2 cores, 2 threads
Intel HD Graphics
Supports DDR3 memory up to 1066 MHz data rate

CHIPSET

Intel® Q77

INTEL 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 select processors, and a preinstalled Windows operating system. It provides advances in remote manageability, security, energy efficient performance, and wireless connectivity. Intel Active Management Technology 8.0 (iAMT) offers an advanced set of remote management features and functionality which provides network administrators the latest and most effective tools to remotely discover, heal, and protect networked client systems regardless of the system's health or power state. AMT 8.0 includes the following advanced management functions:

- Power Management (on, off, reset)
- Hardware Inventory (includes BIOS and firmware revisions)
- Hardware Alerting
- Agent Presence
- System Defense Filters
- SOL/IDER
- Cisco NAC/SDN Support
- ME Wake-on-LAN
- DASH 1.1 compliance
- IPv6 Support
- Fast Call for Help - a client inside or outside the firewall may initiate a call for help via BIOS screen, periodic connections, or alert triggered connection
- Remote Scheduled Maintenance - pre-schedule when the PC connects to the IT or service provider console for maintenance. Remote PCs can get required patches, be inventoried, etc by connecting to their IT console or Service Provider when it's convenient
- Remote Alerts - automatically alert IT or service provider if issues arise
- Access Monitor - Provides oversight into Intel® AMT actions to support security requirements
- PC Alarm Clock
- Microsoft NAP Support



Standard Features and Configurable Components

- Host Base set-up and configuration
- Management Engine (ME) firmware roll back
- Wireless AMT functionality on Desktop (WoDT)*
- Enhanced KVM resolution

* Requires Intel Advanced-N 6205 WLAN 802.11a/b/g/n PCIe Minicard Wireless Module

INTEL® STANDARD MANAGEABILITY

Includes DASH 1.0/1.1 compliance plus:

- System Defense
- Agent Presence
- SOL/IDE Redirection
- CISCO NAC/SDN support
- ME Wake on LAN
- Host Based Configuration
- ME Firmware Rollback
- IPv6 Support

DASH 1.0/1.1 compliance:

- Boot Control
- HW Inventory
- SW Inventory
- Power State Management
- HW Alerting

SMBIOS

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

GRAPHICS

Integrated (*depends on processor*)

Intel HD Graphics: Basic, 2000, 2500, or 4000

Models with Intel Core i3/i5/i7 processors include HD 2000, 2500, or 4000 graphics. Models with Pentium or Celeron processors include HD graphics. Please see specific processors for graphics configuration.

Discrete (optional)

AMD Radeon HD 7650A 2GB DDR3 MXM Graphics

Graphics controller	AMD Radeon HD 7650A
Core clock	600MHz max
Memory clock	800MHz max
Memory frame buffer	2MB, DDR3, 128-bit wide
Memory	2GB DDR3



Standard Features and Configurable Components

Supported Graphics APIs

DX11, OpenGL, full 1080p BD (H264) playback in hardware, Multi-Stream DisplayPort support (supports up to 4 displays total - 4 independent video and audio streams)

WIRELESS DISPLAY

WiDi support with Intel Advanced-N 6205 WLAN (mini PCI Express)

Desktop system requirements for Intel Wireless Display

System Component	Requirement
Processor	3rd generation Intel® Core processor
Graphics	Intel® HD Graphics
Wireless	Intel Advanced-N 6205 WLAN (mini PCI Express)
Software	Intel® My WiFi Technology and Intel® Wireless Display must be pre-installed and enabled.
OS	Windows 7 64-bit, Home Premium, Ultimate or Professional

DISPLAY

Optical and non-touch

23" diagonal TN widescreen WLED backlit anti-glare LCD (only in the non-touch); orientation designed to operate in portrait or landscape; with or without Optical Touch Panel option

Display Panel	Type	TN (Twisted Nematic) LED Backlit LCD
	Viewable image area – 23" models (horizontal & vertical)	509.76(H) x 286.74(V)
	Screen opening 23" models (H x V)	513.8 (H) x 290.8 (V)
	Native Resolution	1920 x 1080
	Aspect ratio	16:9
	Contrast ratio (typical)	1000:1
	Brightness (typical)	250 nits (cd/m ²)
	Viewing angle (typical)	85/85/80/80 (L/R/U/D)
	Pixel pitch	0.2655(H) x 0.2655(V)
	Backlight lamp life (to half brightness)	30,000 hours minimum
	Color support	Over 16 million colors (through FRM)
	Color gamut (typical)	72%
	Anti-glare	Yes (only in the non-touch)
	Default color temperature	Warm (6500K)



Standard Features and Configurable Components

NOTE: All performance specifications represent the typical specifications provided by HP's component manufacturers; actual performance may vary either higher or lower.

Basic Stand Tilt Angle	-5° to +30°
Height Adjustable /Reclining Stand Tilt Angle	Low position sliding height adjustment => -5° to +60° High position sliding height adjustment => -5° to +30° Vertical adjustment=> up to 110 mm

WEBCAM & MIC

Optional integrated 2 MP webcam & dual microphone array; maximum resolution of 1920 x 1080

STORAGE

3.5" SATA Hard Drive

250 GB, 7200 rpm, SATA 6.0 Gb/s, SMART IV

500 GB, 7200 rpm, SATA 6.0 Gb/s, SMART IV

1 TB, 7200 rpm, SATA 6.0 Gb/s, SMART IV

2.5 " SATA Hard Drive

500 GB, 7200 rpm, SATA 6.0 Gb/s, SMART IV

2.5" Solid State Drive

120 GB, SATA, Solid State Drive

128 GB, SATA, Solid State Drive

2.5" Self-Encrypting Solid State Drive

256 GB, SATA, Self-Encrypting Solid State Drive

Flash Cache Module

24GB mSATA SSD Flash Cache Module (Intel Smart Response Technology - Optional with Core Processors)

Optical Disc Drive

Slim Tray-load SATA DVD-ROM

Slim Tray-load SATA SuperMulti DVD Writer

No Optical Disc Drive

Media Card Reader (optional)

6-in-1 PCIe Interface

Supports Secure Digital (SD, SDHC), MultiMedia Card (MMC), xD-Picture Card, Memory Stick, Memory Stick Pro



Standard Features and Configurable Components

MEMORY

Type

Non-ECC, DDR3 SDRAM, 1600 MHz, SODIMM

Maximum

16 GB

of Slots

2

204-pin supporting dual-channel memory

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

NOTE: Full availability of 4 GB or more of memory requires a 64-bit operating system. 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 modules support data transfer rates up to 1600 MHz; actual data rate is determined by the system's configured processor. See processor specifications for supported memory data rate.

NETWORKING/COMMUNICATIONS

Ethernet (RJ-45)

Integrated Intel 82579LM Gigabit Network Connection

NOTE: 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.

Wireless LAN (optional)

Intel 802.11 a/b/g/n wireless 6205 PCIe minicard

Up to 300 mbps data rate

HP 802.11 b/g/n wireless PCIe minicard

Up to 300 mbps data rate

HP 802.11 a/b/g/n wireless minicard with Bluetooth Combo

Up to 300 mbps data rate

Bluetooth 4.0 compliant

Works with a wide range of Bluetooth devices

AUDIO/MULTIMEDIA

SRS Premium Sound PRO™

IDT 92HD91 Audio – 16 & 24-bit PCM

High performance integrated stereo speakers

Volume control and mute buttons

Stereo headphone jack

Microphone in

Stereo line out



Standard Features and Configurable Components

Integrated 2.0 MP webcam (up to 30 frames/sec) & dual microphone array (optional)

KEYBOARDS AND POINTING DEVICES

Keyboard

HP PS/2 Keyboard

104 keys plus special functions for Mute, Volume Up, Volume Down, Sleep

Separate numeric keypad
Cable length 51 in (130 cm)

HP USB Keyboard

104 keys plus special functions for Mute, Volume Up, Volume Down, Sleep

Separate numeric keypad
Cable length 51 in (130 cm)

HP Wireless Keyboard & Mouse

104 keys plus special functions for Mute, Volume Up, Volume Down, Sleep

Separate numeric keypad; two buttons with scroll wheel acting as third button

Operates at ~ 2.4 GHz and supports a working distance of up to 32 ft (10m)

Cable length 6ft (1.8m)

HP USB CCID SmartCard Keyboard

104, 105, 106, 107, 109 layout (depending upon country)
Carbonite/Silver

All ISO 7816 smart cards

HP USB PS/2 Washable Keyboard

SpillSeal® keyboard technology protection

USB & PS/2 support in one solution

Separate numeric keypad

Cable length 7ft (2.2m)

Mice

HP PS/2 Mouse

Two buttons with scroll wheel
72.8 in (185 cm)

HP USB Optical Mouse

Two buttons with scroll wheel
72.8 in (185 cm)

HP USB 1000dpi Laser Mouse

1000 dpi support

Two buttons with scroll wheel
Cable length 70.8 in (180 cm)

HP USB PS/2 Washable Scroll Mouse

SpillSeal® mouse technology protection

Two buttons with scroll wheel

8.8 ft total 70 cm+ 2m extension

HP BIOS

Key features of the HP BIOS include:

- Deployment and manageability - HP BIOS provides several technologies that help integrate the HP Compaq Elite



Standard Features and Configurable Components

8300 Business PC into the enterprise, such as PXE, remote configuration, remote control, and F10 Setup support for 12 languages.

- Select models feature either Intel Standard Manageability or Intel Core vPro Processor Technology.
- Stability - HP BIOS supports the HP stable product roadmap by releasing only critical BIOS changes to the factory and advanced change notification.
- Support UEFI specification 2.1
- Computrace agent - For tracking and tracing services, available in select countries, separate software and purchase of a subscription is required.
- Thermal and power management - The HP BIOS provides and enables thermal and power management technologies so component temperatures are managed for high reliability and to assist in operating the HP Business Desktop computer in any enterprise environment.
- Thermal Controlled Fans – Automatic or manual controlled fan speeds for cooling and acoustic performance.
- Serviceability - HP BIOS provides diagnostic and detailed service information.
- Upgrades and recovery - HP BIOS provides numerous ways to upgrade HP Business Desktop computers, including BIOS updates from within DOS (DOSFlash), BIOS updates from within Windows (HPQFlash), HP Client Manager, and fail-safe recovery (Emergency Boot Block Recovery). In addition, the HP Business Desktop BIOS Utilities tool enables replicated BIOS setup throughout the Enterprise; it is available from within the BIOS software and from the support website.
- HP BIOS uses PKI signing of the BIOS for trusted BIOS upgrades and recovery.
- Serviceability – HP BIOS provides diagnostic and detailed service information.

Additional HP BIOS Features

- Power-On password - Helps prevent an unauthorized user from powering on the system.
- Administrator password - Also known as the setup password, this helps prevent unauthorized changes to the system configuration. If the administrator password is not known, the BIOS version cannot be changed and changes cannot be made to BIOS settings using F10 setup or under the OS.
- Advanced Configuration and Power Interface (ACPI) - Represents a significant innovation in power and configuration management, allowing operating systems and applications to manage power based on activity and usage. HP Elite models use ACPI to provide power conservation features.
- S5 Max Power Savings setting supports EU Lot6 requirement and allows the computer to power down below 1W in S5 (when turned off). When S5 Max Power Savings feature is enabled power to slots is turned off along with WOL functionality.
- Master Boot Record Security - Helps to prevent changes and/or infections to the Master Boot Record caused by viruses or malicious code.
- HP BIOS Protection – prevents unauthorized updates or changes to the BIOS due to malware, viruses, or malicious BIOS updates. Based on NIST SP800-147 policy guidelines.

SECURITY

USB port disable

HP Keyed Cable Lock (optional)



Standard Features and Configurable Components

- Common Criteria Certified, Infineon TPM SLB9635TT1.2 - 3.17 FW
- Intrusion Detector
- Lockable Access Panels
- Wall Mountable via VESA bracket
- Support for Nobel Locking Plate (3rd party option)
- Support for 3M Privacy Screen (3rd party option), for non-touch models

POWER

Internal 230W, 90% efficient, active PFC
100-240V AC

HP Power Assistant software (optional)

Provides real-time reporting of how system settings impact the energy consumed by the PC and the potential savings over time.

SOFTWARE

Included

INCLUDED SOFTWARE COMPONENTS AND APPLICATIONS WITH WINDOWS OPERATING SYSTEM

- SRS Premium Sound PRO™
- Adobe Flash Player
- Ask Search (alternate search engine)
- HP Marketplace
- HP Wallpaper
- Microsoft Advantage Program, including the following:
 - Bing Bar Toolbar
 - Bing Search
 - Microsoft Internet Explorer Home Page
 - Microsoft Office Starter 2010
- Microsoft Security Essentials
- PDF Complete Corporate Edition
- WinZip Basic
- Yahoo Search (alternate search engine)

INCLUDED HP ProtectTools Security Suite, with:

- HP ProtectTools Security Manager (w/webcam)
- Device Access Manager for HP ProtectTools
- Drive Encryption for HP ProtectTools
- File Sanitizer for HP ProtectTools
- Privacy Manager for HP ProtectTools
- HP Face Recognition for HP ProtectTools (w/webcam)



Standard Features and Configurable Components

INCLUDED HP DOCUMENTATION (eDOCS)

- HP eHelp Documentation
- HP Hardware Reference Guide
- HP Quick Setup & Getting Started Guide
- HP Regulatory and Safety Information
- HP Safety and Comfort Guide
- HP Warranty Documentation

INCLUDED HP SUPPORT APPLICATIONS

- HP EUDI Support Environment
- HP Help and Support
- HP Recovery Manager
- HP Setup v9.0
- HP Support Assistant

Optional

OPTIONAL SOFTWARE APPLICATIONS

Multi-media Software Applications

- CyberLink Media Suite
- CyberLink YouCam
- CyberLink PhotoDirector
- CyberLink Power 2 Go
- CyberLink Power DVD

Collaboration and Online Storage Solutions

- Box.net Online Storage (10GB) – USA only
- HP Virtual Rooms (up to 3 people per meeting) – Americas region only

Productivity Solutions

- Microsoft Office Professional 2010*
- Microsoft Office Home & Business Edition 2010*
- Microsoft Windows Virtual PC – XP mode
- HP Power Assistant**
- PDF Complete Office Edition

*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 office.com.

**Provides real-time reporting of how system settings impact the energy consumed by the PC and the potential savings over time.

ENVIRONMENTAL & INDUSTRY

ENERGY STAR® qualified models available

EPEAT® registered where applicable/supported. See epeat.net for registration status by country.

Industry standard certifications:

UL



Standard Features and Configurable Components

CSA
FCC compliance
ENERGY STAR®
EPEAT® Gold
EUP Lot6 Tier2
CCC
CECP
SEPA
TCO AiO and Edge
Qualified for Microsoft Lync
Low Halogen
Arsenic Free

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



Standard Features and Configurable Components

WEIGHTS & DIMENSIONS

Weight with Touch Panel **Product Weight**

Basic stand

21.7 – 25.5 lbs

9.85 – 11.55 kg

Height adjustable/reclining stand

33.4 – 37.1 lbs

15.15 – 16.85 kg

Without stand

16.9 – 20.6 lbs

7.65 – 9.35 kg

Shipping Weight

Box

Basic stand

30.78 lbs

13.96 kg

Height adjustable/reclining stand

43.81 lbs

19.87 kg

Without stand

28.38 lbs

12.87 kg

Pallet

Basic stand (18 units)

595.35 lbs

270 kg

Height adjustable/reclining stand (12 units)

567.66 lbs

257.44 kg

Without stand (18 units)

595.35 lbs

270 kg

Weight without Touch Panel

Product Weight

Basic stand

19.9 – 23.6 lbs

9.02 – 10.72 kg

Height adjustable/reclining stand

31.6 – 35.3 lbs

14.32 – 16.02 kg

Without stand

15 – 18.8 lbs

6.82 – 8.52 kg

Shipping Weight

Box

Basic stand

30.78 lbs

13.96 kg

Height adjustable/reclining stand

43.81 lbs

19.87 kg

Pallet

Basic stand (18 units)

595.35 lbs

270 kg

Height adjustable/reclining stand (12 units)

567.66 lbs

257.44 kg



Standard Features and Configurable Components

Dimensions (W x D x H)

Without stand

26.06 lbs
11.82 kg

Without stand (18 units)

510.41 lbs
231.48 kg

Product Dimensions

Basic stand

22.1 x 7.7 x 17.2 in
561.9 x 195.6 x 436.23 mm

Height adjustable/reclining stand

60 degrees

22.1 x 14.7 x 11 in
561.9 x 374.5 x 278.5 mm

0 degrees

22.1 x 9.7 x 20.9 in
561.9 x 247.5 x 529.7 mm

Without stand

22.1x2.6x15.2 in
561.9x65x387.1 mm

Shipping Dimensions

Box

Basic stand

25.98 x 10.67 x 21.61 in
660 x 271 x 549 mm

Height adjustable/reclining stand

28.54 x 12.95 x 21.26 in
725 x 329 x 540 mm

Without stand

25.98 x 10.67 x 21.61 in
660 x 271 x 549 mm

Pallet

Basic stand (18 units)

47.24 x 39.37 x 69.57 in
1200 x 1000 x 1767 mm

Height adjustable/reclining stand (12 units)

47.24 x 39.37 x 68.50 in
1200 x 1000 x 1740mm

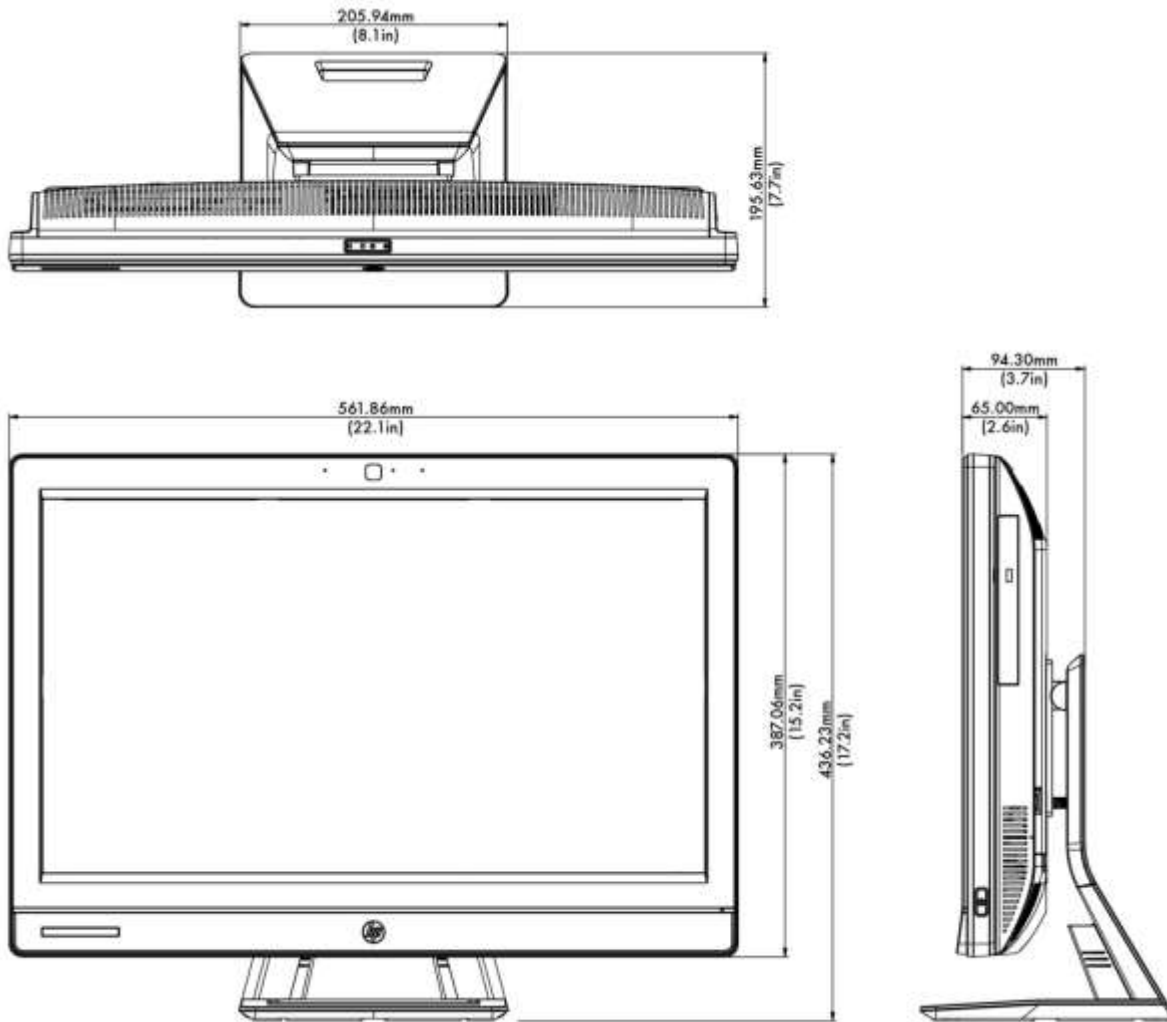
Without stand (18 units)

47.24 x 39.37 x 69.57 in
1200 x 1000 x 1767 mm



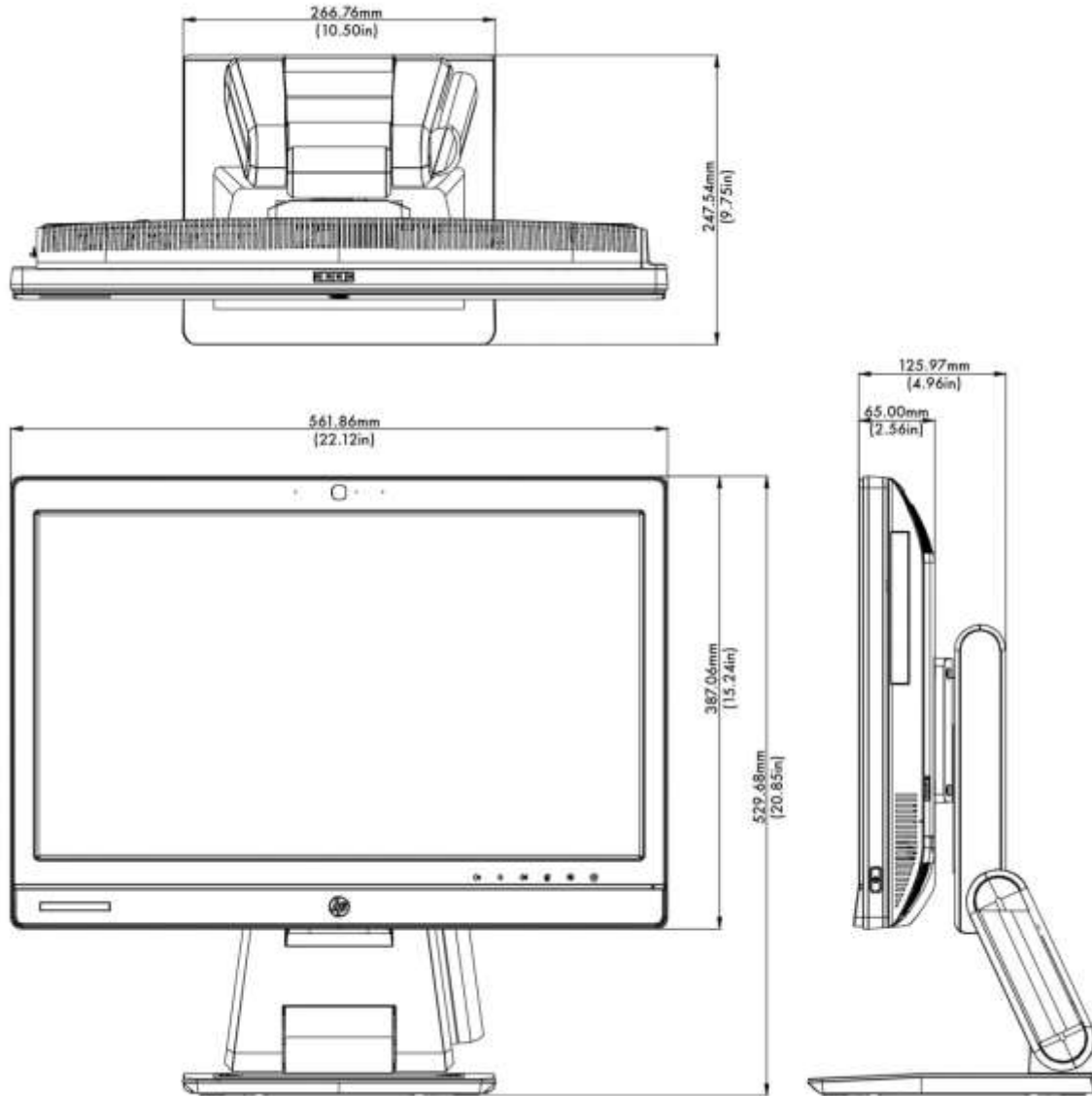
Standard Features and Configurable Components

BASIC STAND DIMENSIONS



Standard Features and Configurable Components

HEIGHT ADJUSTABLE/RECLINING STAND DIMENSIONS



Standard Features and Configurable Components

TEMPERATURE, HUMIDITY, ALTITUDE

Temperature	Operating	50° to 95° F (10° to 35° C)*
	Non-operating	-22° to 140° F (-30° to 60° C)
Relative humidity	Operating	10% to 90% (non-condensing at ambient)
	Non-operating	5% to 95% (non-condensing at ambient)
Altitude (unpressurized)	Operating	10,000 ft (3048 m)
	Non-operating	30,000 ft (9144 m)

PORTS

I/O Ports - Standard

- 4 - USB 3.0 (2 side, 2 rear)
- 2 - USB 2.0 (2 rear)
- 2 - PS/2 (legacy) (one keyboard, one mouse)
- 1 - Microphone in (side)
- 1 - Headphone jack (side)
- 1 - Serial RS-232 (rear) (optional)
- 1 - Stereo audio line out (rear)
- 1 - Power connector (rear)
- 1 - RJ-45 (rear)
- 1 - 6-in-1 Media Card Reader (optional)
- 1 - DisplayPort

DisplayPort connector supports multimode technology to support connection to DVI-D, HDMI and VGA monitors with optional adapters or to a DisplayPort monitor with a DisplayPort Cable.

DisplayPort Cable	Provides a direct connection between the PC's DisplayPort interface to the display's DisplayPort interface
DisplayPort To DVI-D Adapter	Provides a connection from the PC's DisplayPort interface to the display's DVI-D interface; adapts the DP output to the DVI-D input
DisplayPort To HDMI Adapter	Provides a connection from the PC's DisplayPort interface to the display's HDMI interface; adapts the DP output to the HDMI input
DisplayPort To VGA Adapter	Provides a connection from the PC's DisplayPort interface to the display's analog VGA interface; adapts the digital DP output to the analog VGA input



Standard Features and Configurable Components

SLOTS

- 1 – Mini PCIe half-length (used by wireless LAN module)
- 1 – SD slot(media card reader)
- 1 – MXM 3.0 Type A – 35W
- 1 – mSATA

BAYS

- 1 – 3.5" internal; Supports One – 3.5" hard drive or up to Two – 2.5" hard drives
- 1 – 5.25" external; Slim Line Optical Drive

SERVICE AND SUPPORT

On-site Warranty ¹: Three-year (3-3-3) limited warranty delivers three years of on-site, next business day ² service for parts and labor and includes free telephone support ³ 24 x 7. Three-year onsite and labor are not available in all countries. Service offers terms up to 5 years by choosing a Care Pack. To choose the right level of service for your HP product, visit HP Care Pack Central: hp.com/go/cpc

NOTE 1: Terms and conditions may vary by country. Certain restrictions and exclusions apply. Other warranty variations may be offered in your region.

NOTE 2: On-site service may be provided pursuant to a service contract between HP and an authorized HP third-party provider, and is not available in certain countries. Global service response times are based on commercially reasonable best effort and may vary by country.

NOTE 3: Technical telephone support applies only to HP-configured Compaq and third-party HP qualified hardware and software. Toll-free calling and 24 x 7 support may not be available in some countries.



Technical Specifications – Graphics

Intel HD Graphics	
VGA Controller	Integrated
DisplayPort	1.1a; integrated, multimode capable; supports HDCP and audio over DisplayPort
Bus Type	PCI Express x16
RAMDAC	Integrated, 350 MHz
Memory	<p>Intel graphics do not have dedicated memory but utilizes some of the computer's system memory. The amount of memory used for graphics depends on the amount of system memory installed, BIOS settings, operating system, and system load. 32 MB is pre-allocated for graphics use at system boot time. Additional memory can be allocated at boot time by the BIOS for PAVP (Protected Audio Video Playback) support for playback of protected video content.</p> <p>Additional memory is allocated for graphics as needed using Intel's Dynamic Video Memory Technology (DVMT), to provide an optimal balance between graphics and system memory use.</p>
Maximum Graphics Memory	Microsoft Windows 7
	Up to 1.7GB
	Note: the actual amount of maximum graphics memory can be less than the amounts listed above depending upon your computer's configuration.
HW Video Decode	AVC/VC1/MPEG2/JPEG/MJPEG/PAVP
Maximum Color Depth	32 bits/pixel
Graphics/Video API Support	<p><u>3rd Generation Core processors:</u></p> <ul style="list-style-type: none"> • The Processor Graphics contains a refresh of the seventh generation graphics core enabling substantial gains in performance and lower power consumption. Up to 16 EU support. • Next Generation Intel Clear Video Technology HD Support is a collection of video playback and enhancement features that improve the end user's viewing experience <ul style="list-style-type: none"> ○ Encode/transcode HD content ○ Playback of high definition content including Blu-ray Disc ○ Superior image quality with sharper, more colorful images ○ Playback of Blu-ray disc S3D content using HDMI (V.1.4 with 3D) • DirectX Video Acceleration (DXVA) support for accelerating video processing <ul style="list-style-type: none"> ○ Full AVC/VC1/MPEG2 HW Decode • Advanced Scheduler 2.0, 1.0, XPDM support • Windows 7, Windows XP, OSX, Linux OS Support • DirectX 11, DirectX 10.1, DirectX 10, DirectX 9 support



Technical Specifications – Graphics

	<ul style="list-style-type: none"> • OpenGL 3.3 support <p><u>2nd Generation Core processors:</u></p> <ul style="list-style-type: none"> • The Processor Graphics contains a refresh of the sixth generation graphics core enabling substantial gains in performance and lower power consumption. • Next Generation Intel Clear Video Technology HD support is a collection of video playback and enhancement features that improve the end user’s viewing experience. <ul style="list-style-type: none"> ○ Encode/transcode HD content ○ Playback of high definition content including Blu-ray Disc ○ Superior image quality with sharper, more colorful images ○ Playback of Blu-ray disc S3D content using HDMI (V.1.4 with 3D) • DirectX Video Acceleration (DXVA) support for accelerating video processing <ul style="list-style-type: none"> ○ Full AVC/VC1/MPEG2 HW Decode • Advanced Scheduler 2.0, 1.0, XPDM support • Windows 7, XP, Windows Vista, OSX, Linux OS Support • DirectX 10.1, DirectX 10, DirectX 9 support • OpenGL 3.0 support
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Supported Display Resolutions and Refresh Rates

Note: other resolutions may be available but are not recommended as they may not have been tested and qualified by HP

Resolution	
800x600	
1024x768	
1152x864	
1280x600	
1280x720	
1280x800	
1280x960	
1280x1024	
1360x768	
1366x768	
1400x1050	
1440x900	



Technical Specifications – Graphics

1600x900	
1600x1200*	
1680x1050	
1920x1080	
1920x1200*	
1920x1440*	
2560x1440*	
2560x1600*	

* Only supported on displays connected to the external DisplayPort connector.

AMD Radeon HD 7650A Graphics Card

Form Factor	MXM 3.0
Graphics Controller	AMD Radeon HD 7650A
Core Clock	600MHz
Memory Clock	800MHz
Memory	2GB, DDR3, 128-bit wide
Bus Type	MXM
Max. Power	35W
Power Source Support	12V and 19V
3D API Support	DX11, SMS
HDCP Support	Yes
Display Max. Resolution	Digital 2560 x 1600 Analog 2048 x 1536



Technical Specifications – Graphics

Supported Graphics APIs	DX11, OpenGL, full 1080p BD (H264) playback in hardware, Multi-Stream DisplayPort support
Display Resolutions Supported Note: other resolutions may be available but are not recommended as they may not have been tested and qualified by HP	
Resolution	
800 x 600	
1024 x 768	
1280 x 720	
1280 x 768	
1280 x 1024	
1360 x 768	
1440 x 900	
1600 x 900	
1680 x 1050	
1920 x 1080	



Technical Specifications – Hard Disk and Solid State Storage

Introduction:

HP Serial Advanced Technology Attachment (SATA) Hard Drives maximize the performance of HP Business PCs by providing the technologies to meet your increasing storage demands with high-capacity drives offering superior reliability and performance.

SATA provides faster data transfer speeds, better system cooling airflow, more bandwidth, more headroom for speed increases in future generations and better data integrity. A next-generation technology, the SATA interface connects hard drives to the PC platform enabling easy aggregation of multiple hard drives into a single PC. This offers you the additional benefits of dedicated bandwidth, the ability to more easily identify device failures and scalability. The HP Compaq 6300 Pro Series supports the latest SATA 6.0Gb/s specification.

HP Drive Lock

HP Serial ATA Hard Drives offer enhanced security via a new Drive Lock. When enabled, this ATA security feature set prevents software access to user data on the drive until one or two user-defined passwords are provided.

SMART IV Technology

Self Monitoring Analysis and Reporting Technology (SMART) hard drive technology allows hard drives to monitor their own health and to raise flags if imminent failures are predicted. If the drive determines that a failure is imminent, the SMART hard drive technology enables the intelligent manageability or management software to generate a fault alert. While the current versions of SMART hard drives do a good job monitoring the data on the hard drive media, the ever increasing emphasis on reliability and quality has promoted HP to implement SMART IV technology which constantly checks that the data flow from host interface to media and media to host interface is not compromised. This is accomplished by inserting a 2 byte parity code into every 512 byte block in the data path of the hard drive's Cache RAM. This unique parity checking performed by HP's SMART IV technology hard drives, allows for more complete error detection coverage encompassing the entire data path between the host and the hard drive.

Smart IV is also known as IOEDC: I/O Error Detection Code.

Native Command Queuing

NCQ or Native Command Queuing is a SATA protocol extension that allows the hard drive to have several write or read commands outstanding at the same time. In contrast, normal non-queued operation requires each command to be completed before the next command is issued by the host system. Queuing allows the drive to complete the commands in the order that allows for best overall throughput. It also involves an advanced method of transferring data to or from the host, called First Party Direct Memory Access (FPDMA), which allows the hard drive and the host controller to manage the data transfers for multiple outstanding commands, without involving the host processor. NCQ can contribute to better performance but the results are dependent on many factors, including the access patterns of the various applications and operating system functions that are initiating drive accesses. Enabling NCQ features in the hard drive requires AHCI support from the host system BIOS, controller, and driver. AHCI support is typically implemented in RAID configurations.

NOTE: GB = 1 billion bytes. Actual available capacity is less.



Technical Specifications – Hard Disk and Solid State Storage

HP 250-GB 7.2K SATA 6.0Gb/s 3.5” Hard Disk Drive

Capacity	250,059,350,016 bytes	
Rotational Speed	7,200 rpm	
Interface	Serial ATA 3.0 (6.0 Gb/s)	
Buffer Size	8 MB	
Logical Blocks	488,397,168	
Seek Time (typical reads, includes controller overhead, including settling)	Single Track:	1.0 ms
	Average:	8.5 ms
	Full-Stroke:	18 ms
Height (nominal)	1 in (2.54 cm)	
Width (nominal)	Media diameter: 3.5 in (8.89 cm)	
	Physical size: 4 in (10.2 cm)	
Operating Temperature	41° to 131° F (5° to 55° C)	

HP 500-GB 7.2K rpm SATA 6.0Gb/s 3.5” Hard Disk Drive

Capacity	500,107,862,016 bytes	
Rotational Speed	7,200 rpm	
Interface	Serial ATA 3.0 (6.0 Gb/s)	
Buffer Size	16 MB	
Logical Blocks	976,773,168	
Seek Time (typical reads, includes controller overhead, including settling)	Single Track:	2.0 ms
	Average:	11 ms



Technical Specifications – Hard Disk and Solid State Storage

	Full-Stroke:	21 ms
Height (nominal)	1 in/2.54 cm	
Width (nominal)	Media diameter: 3.5 in/8.89 cm	
	Physical size: 4 in/10.2 cm	
Operating Temperature	41° to 131° F (5° to 55° C)	

HP 1-TB 7.2K rpm SATA 6.0Gb/s 3.5” Hard Disk Drive

Capacity	1,000,204,886,016 bytes	
Rotational Speed	7,200 rpm	
Interface	Serial ATA 3.0 (6.0 Gb/s)	
Buffer Size	32 MB	
Logical Blocks	1,953,525,168	
Seek Time (typical reads, includes controller overhead, including settling)	Single Track:	2.0 ms
	Average:	11 ms
	Full-Stroke:	21 ms
Height (nominal)	1 in/2.54 cm	
Width (nominal)	Media diameter: 3.5 in/8.89 cm	
	Physical size: 4 in/10.2 cm	
Operating Temperature	41° to 131° F (5° to 55° C)	

HP 500-GB 7.2K SATA 6.0Gb/s 2.5” Hard Disk Drive

Capacity	500,107,862,016 bytes
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Technical Specifications – Hard Disk and Solid State Storage

Rotational Speed	7,200 rpm	
Interface	Serial ATA 2.0 (3.0 Gb/s)	
Buffer Size	16 MB	
Logical Blocks	976,773,168	
Seek Time (typical reads, includes controller overhead, including settling)	Single Track:	2.0 ms
	Average:	12 ms
	Full-Stroke:	25 ms
Height (nominal)	0.374 in/9.5 mm	
Width (nominal)	Media diameter: 2.5 in/63.5 mm	
	Physical size: 2.75 in/70 mm	
Operating Temperature	41° to 131° F (5° to 55° C)	

HP 320-GB 7.2K SATA 6.0Gb/s 2.5" Hard Disk Drive

Capacity	320,072,933,376 bytes	
Rotational Speed	7,200 rpm	
Interface	Serial ATA 2.0 (6.0 Gb/s)	
Buffer Size	16 MB	
Logical Blocks	488,397,168	
Seek Time (typical reads, includes controller overhead, including settling)	Single Track:	2.0 ms
	Average:	11 ms
	Full-Stroke:	22 ms
Height (nominal)	0.374 in/9.5 mm	
Width (nominal)	Media diameter: 2.5 in/63.5 mm	
	Physical size: 2.75 in/70 mm	



Technical Specifications – Hard Disk and Solid State Storage

Operating Temperature 41° to 131° F (5° to 55° C)

HP 500-GB 7200 RPM SATA 2.5" Self-Encrypting (SED) Hard Disk Drive

Capacity	500,107,862,016 bytes	
Rotational Speed	7,200 rpm	
Drive Type	Self-Encrypting Drive (SED) with SATA interface	
Interface	SATA Interface conforming to Serial ATA International Organization: Serial ATA Revision 2.6	
Segmented Buffer with write cache	32768 KB - A portion of buffer capacity used for firmware	
Number of Sectors	976,773,168	
Seek Time (typical reads, includes controller overhead, including settling)	Single Track:	1.0 ms
	Average:	13 ms
	Full-Stroke:	25 ms
Media Diameter	2.5 in/63.5 mm	
Height	0.267 in/6.8 mm, ±0.2mm	
Width	2.75 in/69.85 mm, ±0.25mm	
Length	3.945 in/100.2 mm, ±0.25mm	
Weight	3.35 oz/95 g (max)	
Operating Temperature	41° to 131° F (5° to 55° C)	

HP 120 GB Solid State Drive

Unformatted Capacity	120 GB
Architecture	Multi Level Cell (MLC) NAND Flash with wear leveling 10 channel controller



Technical Specifications – Hard Disk and Solid State Storage

Interface	Serial ATA 2.0 (3.0 Gb/s)	
Dimensions (W x H x D)	2.74 x 0.37 x 4 in (6.98 x 0.95 x 10.2 cm)	
Weight	0.18 lb (80 g)	
Bandwidth Performance	Sustained Sequential Read:	Up to 250 MB/s
	Sustained Sequential Write:	Up to 70 MB/s
	Random Read:	Up to 35K IOPs
	Random Write:	Up to 6.6K IOPs
Latency	Read:	65-ms
	Write:	85-ms
Power	DC power requirement:	5 VDC 5%-100 mV ripple p-p
	Total power consumption:	0.15W (active); 0.075W (idle)
Useful Drive Life	35TB written, up to 20GB/day for 5 years	
Environmental (all conditions, non-condensing)	Operating Temperature:	32° to 158° F (0° to 70° C)
	Relative Humidity:	5% to 95%
	Maximum Wet Bulb Temperature (operating):	84° F (29° C)
	Shock:	1,500 G/0.5-ms

HP 128 GB Solid State Drive

Unformatted Capacity	128 GB*
Architecture	Multi Level Cell (MLC) NAND
Interface	SATA 6 GB/sec
Dimensions (W x H x D)	2.75 x 0.276 x 3.96 in (6.985 x 0.7 x 10.05 cm)
Weight	0.16 lb (73 g)



Technical Specifications – Hard Disk and Solid State Storage

Bandwidth Performance	Sustained Sequential Read:	Up to 450 MB/ss
	Sustained Sequential Write:	Up to 260 MB/s
	Random Read (4KB):	up to 46K IOPs
	Random Write (4KB):	up to 56K IOPs
Latency	Read:	55µs (TYP)
	Write:	55µs (TYP)
Power	DC power requirement:	Min 4.5 V; Max 5.5 V
	Total power consumption:	160 mW (Active) ; <85 mW; (Idle)
Useful Drive Life	1.2 million device hours**	
Environmental (all conditions, non-condensing)	Operating Temperature:	32° to 158° F (0° to 70° C)
	Relative Humidity (operating):	5% to 95%
	Shock:	1,500 G/1.0 msec
Regulations	UL, CSA, EN 60950-2000, CISPR Pub 22 Class B, CNS 13438, AS/NZS CISPR 22:2002 Class B, Korea KCC, CE Mark	
Option kit contents	HP 128 GB Solid State Drive, documentation, 3.5-inch bay adapter bracket, 3.5-inch bay adapter bracket screws, SATA cable	
<p>* For solid state disk drives, GB means 1 billion bytes. 128GB is the unformatted capacity of this drive before a portion of the drive is reserved for flash management features. Actual capacity will vary by content</p> <p>** The product achieves a mean time between failure (MTBF) based on population statistics not relevant to individual units.</p>		



Technical Specifications – Removable Storage

HP Slim SuperMulti DVD Writer Drive

Height	12.7mm height	
Orientation	Either horizontal or vertical	
Interface type	SATA/ATAPI	
Disc recording capacity	Up to 8.5 GB DL or 4.7 GB standard	
Dimensions (W x H x D)	5.0 x 0.5 x 5.0 in (128 x 13.6 x 129 mm)	
Weight	0.42 lb (190 g)	
Write speeds	DVD-RAM	Up to 5X
	DVD-R DL	Up to 4X
	DVD+R	Up to 8X
	DVD+RW	Up to 4X
	DVD+R DL	Up to 4X
	DVD-R	Up to 8X
	DVD-RW	Up to 6X
	CD-R	Up to 24X
	CD-RW	Up to 16X
Read speeds	DVD-RAM	Up to 5X
	DVD-RW, DVD+RW	Up to 8X
	DVD-R DL, DVD+R DL	Up to 6X
	DVD+R, DVD-R	Up to 8X
	DVD-ROM DL, DVD-ROM	Up to 8X
	CD-ROM, CD-R	Up to 24X



Technical Specifications – Removable Storage

	CD-RW	Up to 24X
	Random	DVD: < 140 ms (typical), CD: < 125 ms (typical)
	Full Stroke	DVD: < 250 ms (seek), CD: < 210 ms (seek)
	Stop Time	< 4 seconds
	Cache Buffer	2 MB (minimum)
	Data Transfer Modes	ATA PIO mode 4 (16.7 MB/s); ATA Multi-word DMA mode 2 (16.7 MB/s); ATA UltraDMA Mode 3 (44.4 MB/s - default)
Power	Source	Four-pin, DC power receptacle
	DC Power Requirement	5 VDC \pm 5%-100 mV ripple p-p
	DC Current	12 VDC \pm 5%-200 mV ripple p-p
		5 VDC (< 1000 mA typical, 1600 mA maximum)
Total Drive Power (standby mode)	< 2.5 Watt	
Audio output	Line-Out	0.7 VRMS
	Signal-to-Noise Ratio	74 dB
	Channel Separation	65 dB
Environmental conditions (operating - non-condensing)	Temperature	41° to 122° F (5° to 50° C)
	Relative Humidity	10% to 90%
	Maximum Wet Bulb Temperature	86° F (30° C)

HP Slim DVD-ROM Drive

Height	12.7mm
Orientation	Either horizontal or vertical
Interface type	SATA/ATAPI



Technical Specifications – Removable Storage

Dimensions (W x H x D)	5.0 x 0.5 x 5.0 in (128 x 13.6 x 129 mm)	
Weight (max)	0.42 lb (190 g)	
Read speeds	DVD+R/-R/+RW/ -RW/+R DL /-R DL	Up to 4X
	DVD-ROM	Up to 8X
	CD-ROM, CD-R	Up to 24X
	CD-RW	Up to 24X
Access time (typical reads, including settling)	Random DVD	DVD: < 140 ms (typical), CD: < 125 ms (typical)
	Random CD	DVD: < 250 ms (seek), CD: < 210 ms (seek)
	Data Transfer Modes	ATA PIO mode 4 (16.7 MB/s); ATA Multi-word DMA mode 2 (16.7 MB/s)
Power	Source	Four-pin, DC power receptacle
	DC Power Requirement	5 VDC ± 5%-100 mV ripple p-p
	DC Current	5 VDC - <1000 mA typical, < 1600 mA maximum
	Total Drive Power (standby mode)	< 2.5 Watt
Audio output	Line-Out	0.7 VRMS
	Signal-to-Noise Ratio	74 dB
	Channel Separation	65 dB
Environmental (all conditions non-condensing)	Temperature	41° to 122° F (5° to 50° C)
	Relative Humidity	5% to 85%
	Maximum Wet Bulb Temperature (operating)	86° F (30° C)



Technical Specifications – Memory

System Memory Support

The HP Compaq Elite 8300 All-in-One Business PC supports the 2nd and 3rd generation Intel® Core™ processor families. Based on a new PC micro-architecture, the processor is designed for a two-chip platform consisting of a processor and Platform Controller Hub (PCH). Unlike previous generations, the processor includes an integrated memory controller (IMC). The IMC supports DDR3 protocols with two independent, 64-bit wide channels each accessing one or two DIMMs.

- Two channels of non-ECC DDR3 unbuffered dual in-line memory modules (UDIMM) or DDR3 unbuffered small outline dual in-line memory modules (SO-DIMM) with a maximum of two DIMMs per channel
- Single-channel and dual-channel memory organization modes
- Data burst length of eight for all memory organization modes
- DDR3 memory data transfer rates of up to 1600 MHz; actual supported DDR3 data transfer rate determined by the configured processor.
- 64-bit wide channels
- DDR3 system memory I/O voltage of 1.5V
- Theoretical Maximum Memory Bandwidth:
 - 10.6 GB/s in single-channel mode of 21.3 GB/s in dual-channel mode assuming DDR3 1333 MHz
 - 12.8 GB/s in single-channel mode or 25.6 GB/s in dual-channel mode assuming DDR3 1600 MHz
 - 32 GB maximum memory support depending upon available number of DIMM sockets

CAUTION: You must shut down the computer and disconnect the power cord before adding or removing memory modules. Regardless of the power-on state, voltage is always supplied to the memory modules as long as the computer is plugged in to an active AC outlet. Adding or removing memory modules while voltage is present may cause irreparable damage to the memory modules or system board.

Memory Configurations:

Slot 1 is black and must always be populated. Not all memory configurations possible are represented below.

NOTE: For systems configured with more than 3 GB of memory and a 32-bit operating system, all memory may not be available due to system resource requirements. Addressing memory above 4 GB requires a 64-bit operating system.

Total Memory	Socket	
	Channel A (black)	Channel B (black)
2 GB	2 GB	Unpopulated
4 GB (dual channel)	4 GB	Unpopulated
8 GB (dual channel)	8 GB	Unpopulated
16 GB (dual channel)	8 GB	8 GB



Technical Specifications – Networking and Communications

Intel 82579LM GbE Network Connection (integrated)	
Connector	RJ-45
System Interface	Integrated on PCA
Controller	Intel 82579LM GbE platform LAN connect networking controller
Memory	24 KB FIFO packet buffer memory
Data rates supported	10/100/1000 Mbps
IEEE Compliance	802.1P 802.1Q 802.2 802.3 802.3ab 802.3az 802.3u
Bus architecture	PCI Express and SMBus
Data transfer mode	PCIe-based interface for active state operation (S0 state) and SMBus for host and management traffic (Sx low power state)
Power requirement	Requires 3.3V and 1.05V or just 3.3V with integrated regulators Power consumption 0.697 Watts
Boot ROM support	Yes
Network transfer mode	Full-duplex
	Half-duplex (not supported for the 1000BASE-T transceiver)
Network transfer rate	10BASE-T (half-duplex) 10 Mbps
	10BASE-T (full-duplex) 20 Mbps
	100BASE-TX (half-duplex) 100 Mbps
	100BASE-TX (full-duplex) 200 Mbps
	1000BASE-T (full-duplex) 2000 Mbps



Technical Specifications – Networking and Communications

Environmental	Operating Temperature:	0° to 85° C
	Operating Humidity:	60% RH
Management	WOL, auto MDI crossover, PXE, Multi-port teaming, RSS, Advanced cable diagnostic.	
Alerting	ASF 2.0 support; AMT 7.0 support	

Intel Centrino® Advance-N 6205 Wireless Network Interface Connection

Wireless LAN Standards	IEEE 802.11a/b/g/n
	IEEE 802.11 e, 802.11i, 802.11d, 802.11d, 802.11h
Interoperability	Wi-Fi certified (802.11 a/b/g/n WMM, WPA, WPA2 and WPS)
	Tested with wireless access points from several major manufacturers
	OS compatible with Microsoft Windows, Win7 and XP
	Cisco Compatible Extensions Program compliant (802.11a/b/g only) with Microsoft Windows XP and Windows 7
Frequency Band	2.4 GHz and 5 GHz
Antenna Structure	2 transmit; 2 receive (2x2)
Data Rates	802.11b: 1, 2, 5.5, 11 Mbps
	802.11a/g: 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
Security	Supports 64- and 128-bit WEP, WPA, WPA2, hardware-accelerated AES (support for key sizes of 128bits), TKIP, 802.1x authentication types EAP-TLS, EAP-TTLS, PEAP, MSCHAP, PEAP-MSCHAPv2, LEAP, EAP-FAST, EAP-SIM, EAP-AKA PAP, CHAP, TLS, GTC



Technical Specifications – Networking and Communications

	Support for Cisco Security Features (proven compatibility with Cisco Aironet infrastructure products through the Cisco Compatible Extensions Program Version 4) with Microsoft Windows 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) Intel® My Wifi Technology (iPAN)	
Roaming	Provide seamless roaming between like access points (same frequency band)	
Output Power (for CCK)	15 dBm	
Output Power (for OFDM; power varies by data rate)	15 dBm	
Power Consumption	Transmit: 2.3 Watts (average, with one spatial streams)	
	Receive: 1.9 Watts (average with two receive chains)	
	Idle mode: 30mW – 40mW (average)	
	Radio off: 20 mW (max)	
Power Management	ACPI compliant power management 802.11 compliant power saving mode	
Antenna Connections	3 U.FL type connectors, 50 ohm nominal impedance	
Range	802.11 a - Typical (@6 Mbps)	600 feet - Outdoor Open Area 150 feet - Indoor, Office environment
	802.11 b - Typical (@1 Mbps)	1200 feet - Outdoor Open Area 300 feet - Indoor, Office environment
	802.11 g - Typical (@1 Mbps)	1200 feet - Outdoor Open Area 300 feet - Indoor, Office environment



Technical Specifications – Networking and Communications

Form Factor	MiniPCI-Express	
Weight	0.013 lb (4.0 g)	
Dimensions	1.1 x 1.2 in (26.8 x 30.0 mm)	
Operating Voltage	3.3V +/- 9%, 1.5V +/- 5%	
Temperature	Operating: Non-operating:	32° to 176° F (0° to 80° C) -40° to 176° F (-40° to 80° C)
Humidity	Operating: Non-operating:	10% to 90% (non-condensing) 50% to 90% (non-condensing)
Configuration Utility	Microsoft Windows XP	Microsoft Windows Win 7
	<ul style="list-style-type: none"> Microsoft Windows XP Wireless Network Connection Manager Intel PROSet for Microsoft Windows XP (required for Cisco Compatible Extensions support) 	<ul style="list-style-type: none"> Intel IHV extensions for Win7 available to support Cisco Compatible Extensions

HP 802.11b/g/n Wireless PCIe Minicard

Dimensions (L x H)	1.18 x 1.06 in (30 x 26.8 mm)	
Controller	Realtek RT5392	
System interface	PCI Express x1	
Network standard	802.11 b/g/n	
Frequency band	2.400 - 2.4835 GHz	
Operating temperature	14° to 140°F, operating (-10° to 60°C, operating)	
Operating voltage	3.3V +/- .3V 1.2V +/- .06V	
Power Consumption	Platform/WLAN Mode	Power Consumption



Technical Specifications – Networking and Communications

	Not configured (PC on and NIC is powered. Adaptor not configured.)	160 mW
	Disabled (PC on and NIC is powered. Adaptor is configured but disabled)	86 mW
	Tx (Average power consumption measured while adaptor is transmitting a packet.)	HT20 - 1670 mW HT40 – 1560 mW
	Rx (Average power consumption measured while adaptor is receiving a packet.)	HT20 – 820 mW HT40 – 990 mW
	Idle associated (power save)	125 mW
	Idle non-associated	40 mW
	RF kill (RF diable)	29 mW
	Platform in S3 or S4	39 mW
Output Power (approximate)	802.11 g/n modes high data rate (54Mbps, MCS7,MCS15)	+14 dBm +/- 1.5 dB maximum
	802.11 g/n modes low data rate (MCS0)	+17 dBm +/- 1.5 dB maximum
	802.11 b modes	+17 dBm +/- 1.5 dB maximum
Security	IEEE 802.11i 64-/128-bit WEP encryption	
	WPA, WPA-PSK and TKIP, and WPA2 (with AES-CCM support)	
	802.1x authentication	
	IEEE 802.11i WPA Security	
	64-/128-Bit WEP Key Privacy	
	IEEE 802.11i	
	Cisco CCX V1.0, V2.0, V3.0, V.4.0 and CCX5.0 certified	
Antenna	Nominal antenna port impedance specification is 50 ohm	



Technical Specifications – Networking and Communications

HP 802.11a/b/g/n Wireless Minicard with Bluetooth Combo			
Dimensions (L x H)	1.18 x 1.06 in (30 x 26.8 mm)		
Chipset	Broadcom BCM43228 + BCM20702		
System interface	PCI Express x1		
Network standard	802.11 a/b/g/n		
Frequency band	Bluetooth: 2.402 - 2.480 GHz		
	Wi-Fi: 802.11a – 5.15-5.85 GHz; 802.11bg 2.412-2.4835 GHz		
Operating temperature	32° to 131°F, operating (0° to 55°C, operating)		
Storage temperature	-40° to 176°F, non-operating (-40° to 80°C, non-operating)		
Humidity	5-90% operating 5-95% non-operating		
Operating voltage	3.3 V ±9% I/O supply voltage		
Power Consumption		Platform/WLAN Mode	Power Consumption
	Wi-Fi		
		Tx Mode	515 mA
		Rx Mode	425 mA
	Bluetooth		
		Tx Mode	40 mA
		Rx Mode	38 mA
		Standby Mode	Wi-Fi + Bluetooth – 165 mA
			Wi-Fi only – 165 mA



Technical Specifications – Networking and Communications

		Bluetooth only – 0.5 mA
	Radio Off	77 mA
Output Power (2x2 – Tolerance +/- 1.5 dBm)	802.11 a	15.5 dBm@6Mbps; 15.5 dBm@54Mbps
	802.11 b	18.5 dBm@11Mbps
	802.11 g	16.5 dBm@6Mbps; 16.5 dBm@54Mbps
	802.11 n/2.4G	20MHz: 18 dBm@MCS0; 18 dBm@MCS15
		40MHz: 17 dBm@MCS0; 17 dBm@MCS15
	802.11 n/5G	20MHz: 16 dBm@MCS0; 16 dBm@MCS15
		40MHz: 16 dBm@MCS0; 16 dBm@MCS15
Security	IEEE 802.11i 64-/128-bit WEP encryption	
	WPS, WPA, WPA2, WEP 64bit & 128bit, IEEE 802.11x, IEEE 802.11i	
Antenna	Dual antenna connectors	



Technical Specifications – Audio

IDT 92HD91 Audio	
Type	Integrated
HD Stereo Codec	IDT92HD91 4-channel codec
Ports	Line-In/Microphone input ports are 50K (nominal) at the pin
	Line-Out intended to drive an external 10K load (nominal) and an on board shunt resistor of 20-47K (nominal)
	Headphone-Out designed to drive 32 ohm (nominal) headphones or a 10K (nominal) load
	All ports are 3.5 mm
Internal Speaker Amplifier	2W/channel Class-D stereo BTL speaker amplifier@ 4 ohms and 4.75V
Sampling	The 92HD91 audio CODEC provides stereo 24-bit, full duplex resolution supporting sample rates up to 192kHz by the DAC and ADC. SPDIF outputs support sample rates of 192kHz, 96kHz, 88.2kHz, 48kHz, and 44.1kHz. Additional sample rates are supported by the driver software.
Analog Audio	Yes
# of Channels on Line-Out	4 Channels (2 stereo DACs and 2 stereo ADCs) with 24-bit resolution
Internal Speaker	Yes
External Speaker Jack	Yes

SRS Premium Sound PRO Technology

Introduction	SRS Premium Sound PRO™ provides the ultimate audio and entertainment experience for all PC applications related to music, movies and games. Utilizing SRS' revolutionary 3D audio technology, SRS Premium Sound PRO provides the most immersive and realistic listening experience unlike any solution ever offered for a two speaker playback environment. SRS Premium Sound PRO offers a wider surround effect and significantly more natural positioning of audio for both 2D and 3D content and delivers immersive surround complete with deep, rich enveloping bass and crystal clear dialog. It also delivers high-frequency definition for crisp detail in any listening environment, ensuring users a premium and natural entertainment experience across any speaker configuration
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Technical Specifications – Audio

	(desktop speakers or headphones).
SRS Premium Sound PRO Features	<ul style="list-style-type: none">• The ultimate multimedia audio experience• Immersive surround sound from two speakers or headphones• Extracts acoustic placement cues from original audio signal and adds near and far depth to the sound field to maximize 3D surround effect• Custom-tuned solutions to provide superior natural sound from desktop speakers and headphones• Maximum volume from small speakers• Deep, rich bass and crystal clear dialog• Intuitive user interface with presets for ease of use
SRS Premium Sound PRO Benefits	<ul style="list-style-type: none">• Provides a remarkably immersive 3D surround sound experience for business multimedia applications, complete with deep, rich enveloping bass, and crystal clear dialog• Ability to personalize acoustic preferences with speaker and headphone optimization



Technical Specifications – Keyboards and Pointing Devices

HP USB Keyboard		
Physical characteristics	Keys	104, 105, 106, 107, 109 layout (depending upon country)
	Dimensions (L x W x H)	18.12 x 6.47 x 0.96 in (46.03 x 16.43 x 2.44 cm)
	Weight	2 lb (0.9 kg)
Electrical	Operating voltage	+ 5VDC ± 5%
	Power consumption	50-mA maximum (with three LEDs ON)
	System interface	USB Type A plug connector
	ESD	CE level 4, 15-kV air discharge
	EMI - RFI	Conforms to FCC rules for a Class B computing device
	Microsoft® PC 99 - 2001	Functionally compliant
Mechanical	Keycaps	Low-profile design
	Switch actuation	55-g nominal peak force with tactile feedback
	Switch life	20 million keystrokes (using Hasco modified tester)
	Switch type	Contamination-resistant switch membrane
	Key-leveling mechanisms	For all double-wide and greater-length keys
	Cable length	6 ft (1.8 m)
	Microsoft PC 99 - 2001	Mechanically compliant
Environmental	Acoustics	43-dBA maximum sound pressure level
	Operating temperature	50° to 122° F (10° to 50° C)
	Non-operating temperature	-22° to 140° F (-30° to 60° C)
	Operating humidity	10% to 90% (non-condensing at ambient)



Technical Specifications – Keyboards and Pointing Devices

	Non-operating humidity	20% to 80% (non-condensing at ambient)
	Operating shock	40 g, six surfaces
	Non-operating shock	80 g, six surfaces
	Operating vibration	2-g peak acceleration
	Non-operating vibration	4-g peak acceleration
	Drop (out of box)	26 in (66 cm) on carpet, six-drop sequence
	Drop (in box)	30 in (76.2 cm) on concrete, 16-drop sequence
Approvals	UL, CSA, FCC, CE Mark, TUV, TUV GS, VCCI, BSMI, C-Tick, KC	
Ergonomic compliance	ANSI HFS 100, ISO 9241-4, and TUVGS	
Kit contents	Keyboard	Installation Guide
	Warranty Card	Safety and Comfort Guide

HP PS/2 Keyboard

Physical Characteristics	Keys	104, 105, 106, 107, 109 layout (depending upon country)
	Dimensions (L x W x H)	18.12 x 6.47 x 0.96 in (46.03 x 16.43 x 2.44 cm)
	Weight	2 lb (0.9 kg) minimum
Electrical	Operating voltage	+ 5VDC ± 10%
	Power consumption	50-mA maximum (with three LEDs ON)
	System interface	PS/2 6-pin mini din connector
	ESD	CE level 4, 15-kV air discharge
	EMI - RFI	Conforms to FCC rules for a Class B computing device
	Microsoft PC 99 - 2001	Functionally compliant



Technical Specifications – Keyboards and Pointing Devices

	Keycaps	Low-profile design
	Switch actuation	55-g nominal peak force with tactile feedback
	Switch life	20 million keystrokes (using Hasco modified tester)
	Switch type	Contamination-resistant switch membrane
	Key-leveling mechanisms	For all double-wide and greater-length keys
	Cable length	6 ft (1.8 m)
	Microsoft PC 99 - 2001	Mechanically compliant
Environmental	Acoustics	43-dBA maximum sound pressure level
	Operating temperature	50° to 122° F (10° to 50° C)
	Non-operating temperature	-22° to 140° F (-30° to 60° C)
	Operating humidity	10% to 90% (non-condensing at ambient)
	Non-operating humidity	20% to 80% (non-condensing at ambient)
	Operating shock	40 g, six surfaces
	Non-operating shock	80 g, six surfaces
	Operating vibration	2-g peak acceleration
	Non-operating vibration	4-g peak acceleration
	Drop (out of box)	26 in (66 cm) on carpet, six-drop sequence
	Drop (in box)	30 in (107 cm) on concrete, 16-drop sequence
Approvals	UL, CSA, FCC, CE Mark, TUV, TUV GS, VCCI, BSMI, C-Tick, KC	
Ergonomic compliance	ANSI HFS 100, ISO 9241-4, and TUVGS	

HP USB Smart Card (CCID) Keyboard



Technical Specifications – Keyboards and Pointing Devices

Introduction:

Boost your security, simplify access procedures and reduce the costs associated with managing networks by preventing unauthorized access to your computers and networks using smartcard technology with the HP Smart Card (CCID) Keyboard.

The USB Smart Card (CCID) Keyboard is a full-sized keyboard that takes advantage of digital signatures and certificates to secure the environment for transactions performed on both public and private networks. The USB Smart Card (CCID) Keyboard works with all smart cards that comply with ISO standard 7816.

Smart cards are easy-to-use credit card-sized devices which require multiple forms of information to be validated before you gain access to your accounts or resources. Used worldwide, smart cards strengthen access to a network or other resource using dual-factor authentication. Implementing a two-factor authentication (or multi-factor authentication) process reduces the risk of unauthorized access by verifying and validating your identity in one of the following ways:

- Something you know - a combination of username and password or PIN
- Something you have - a smart card or security token.

Something you have (smart card) plus something you know (PIN), improves user-access security within corporate network environments. Smart cards are used in government agencies, healthcare companies and the finance industry.

HP ProtectTools Smart Card Manager provides authentication software for the smart card. The Smart Card Reader module works with the HP ProtectTools Security Manager and enables the user to setup, use, and manage the smart card. This allows strengthened security with HP patented technology.

Key Benefits:

- Protects against unauthorized access with smart card technology
- Delivers even greater security when combined with a HP ProtectTools smart card and the HP ProtectTools Security Software
- Combination of username and password or pin with a smart card or security token
- Secures online transactions using digital signatures and certificates
- Conforms to industry standards for ease of setup and use
- Delivers long product life and quiet operation with high-impact materials and lubricated keys
- Spill drain feature

Physical Characteristics

Keys	104, 105, 106, 107, 109 layout (depending upon country)
Form factor	USB basic smart card keyboard
Colors	Carbonite/Silver
Dimensions (H x W x D)	18.2 x 6.3 x 1.3 in (46.3 x 16.1 x 3.3 cm)



Technical Specifications – Keyboards and Pointing Devices

	Weight	2 lb (0.9 kg) minimum
Electrical	Operating voltage	+ 5VDC ± 5%
	Power consumption	100-mA maximum (with four LEDs ON)
	System interface	USB Type A plug connector
	ESD	CE level 4, 15-kV air discharge
	EMI - RFI	Conforms to FCC rules for a Class B computing device
	Microsoft PC 99 - 2001	Functionally compliant
Mechanical	Languages	30+ available
	Keycaps	Standard design
	Switch actuation	55 g nominal peak force with tactile feedback
	Switch life	20 million keystrokes (using Hasco modified tester)
	Switch type	Contamination-resistant membrane
	Key-leveling mechanisms	For all double-wide and greater-length keys
	Cable length	6 ft (1.8 m)
	Microsoft PC 99 - 2001	Mechanically compliant
Environmental	Acoustics	43-dBA maximum sound pressure level
	Operating temperature	50° to 122° F (10° to 50° C)
	Non-operating temperature	-22° to 140° F (-30° to 60° C)
	Operating humidity	10% to 90% (non-condensing at ambient)
	Non-operating humidity	20% to 80% (non-condensing at ambient)
	Operating shock	40 g, six surfaces



Technical Specifications – Keyboards and Pointing Devices

	Non-operating shock	80 g, six surfaces		
	Operating vibration	2-g peak acceleration		
	Non-operating vibration	4-g peak acceleration		
	Drop (out of box)	26 in (66 cm) on carpet, six-drop sequence		
	Drop (in box)	42 in (107 cm) on concrete, 16-drop sequence		
SmartCard Function	Support	All ISO 7816 smart cards		
	Interface	Reads from and writes to all ISO7816-1, 2, 3, 4 memory and microprocessor smart cards (T=0, T=1)		
	Chipset	SCM STCII		
	Standard APIs supported	PC/SC, EMV2000, SET		
	Power	USB Port		
		Short circuit detection (protects smart card and reader)		
		Power supply compliant with ISO7816 and EMV (5V, 60 mA)		
		Supports 3-V and 5-V cards		
	Power consumption	100-mA maximum draw		
	Communication	From card	9600 bps to 330,000 bps	
		From computer	12 Mbps (USB transfer speed)	
	Landing mechanism	Contact device	Friction contact	
		Card insertions rating	Up to 100,000 insertion cycles	
Interface modes	CCID protocol			



Technical Specifications – Keyboards and Pointing Devices

	Reader performance interface	USB connection	
	Electro-magnetic standards	Europe	2004/108/EC
		USA	USAFCC part 15
Approvals	CE-Mark, UL, CSA, FCC, CE Mark, TUV, TUV GS, VCCI, BSMI, C-Tick, MIC, EMV2000, USB-IF		
Ergonomic Compliance	ISO 9241-4, TUVGS		
Kit Contents	Keyboard, I/O Security and Documentation CD, warranty card		

HP USB PS/2 Washable Keyboard

Physical Characteristics	Keys	104 (US) Layout, 105 (EU) layout – depending upon country
	Dimensions (L x W x H)	17.67x 6.62 x 1.38 in (449 x 168 x 35 mm)
	Weight	1.7 lb (0.77 kg) minimum
Electrical	Operating voltage	+ 5VDC ±5%
	Power consumption	50-mA maximum (with three LEDs ON)
	System interface	USB Type A plug connector
	ESD	CE level 4, 15-kV air discharge
	EMI - RFI	Conforms to FCC rules for a Class B computing device
	Microsoft PC 99 - 2001	Functionally compliant
Mechanical	Keycaps	Stepped -profile design
	Switch actuation	55-g nominal peak force with tactile feedback
	Switch life	20 million keystrokes
	Switch type	Contamination-resistant switch membrane
	Key-leveling mechanisms	For all double-wide and greater-length keys
	Cable length	7 ft (2.2 m)
	Microsoft PC 99 - 2001	Mechanically compliant
	Acoustics	43-dBA maximum sound pressure level
Environmental	Operating temperature	50° to 122° F (10° to 50° C)



Technical Specifications – Keyboards and Pointing Devices

	Non-operating temperature	4° to 149° F (-20° to 65° C)
	Operating humidity	10% to 95% (non-condensing at ambient)
	Non-operating humidity	0% to 95% (non-condensing at ambient)
	Operating shock	40 g, six surfaces
	Non-operating shock	80 g, six surfaces
	Operating vibration	2-g peak acceleration
	Non-operating vibration	4-g peak acceleration
	Drop (out of box)	26 in (66 cm) on carpet, six-drop sequence
	Drop (in box)	42 in (107 cm) on concrete, 16-drop sequence
Operating system support	Windows® 7, Windows Vista, Windows XP Professional	
Approvals	UL, cUL, FCC, CE, TUV GS, VCCI, BSMI, C-Tick, KCC, USB-IF, WHQL, EN/IEC 60601-1, IP66/NEMA4X	
Ergonomic compliance	ANSI HFS 100, ISO 9241-4, and TUVGS	

HP Wireless Keyboard and Mouse

Keyboard	Dimensions (H x L x W)	1.09 x 18.1 x 6.47 in (27.87 x 460.3 x 164.3 mm)
	Weight – Without Two AA Alkaline Batteries	1.94 lb (880 g)
Mouse	Dimensions (H x L x W)	1.46 x 4.53 x 2.47 in (37 x 115 x 62.9 mm)
	Weight – Without Two AA Alkaline Batteries	0.15 lb (67 g)
Receiver	Dimensions (H x L x W)	0.33x 1.79 x 0.72 in (8.4 x 45.5 x 18.4 mm)
	Weight	0.21 oz (5.9 g)
	Cable Length – Minimum	6 ft (1.8 m)
	Range	32.8 ft (10 m)



Technical Specifications – Keyboards and Pointing Devices

System Requirements	<p>Windows 7 Home Basic*, Windows 7 Home Premium*, Windows 7 Professional Edition 32*, Windows 7 Professional Edition 64*, Windows 7 Ultimate Edition 32*, Windows 7 Ultimate Edition 64* Windows Vista or Windows XP</p> <p>Available USB port for the receiver</p> <p>CD-ROM Drive</p> <p><i>*This 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 microsoft.com/windows/windows-7/ for details.</i></p>	
Approvals	Product Safety	UL; CSA /TUV (Europe only); CE Mark; CB Report
	Ergonomics	ANSI; ISO (Europe only); GS Mark (Germany only)
	EMC	FCC; CE; ACA (-tick); BSMI; KC ; VCCI
	CE Mark	EN 55022:2010; EN 55024; EN 301489-1; EN 61000
	Design Guidelines for PCs	PC 99 – connector overmold colors; PC 2001 – full functionality
	Telecom	All local telecom requirements and approvals for intended markets
	USA	FCC Title 47 CFR, Par 15, Subpart C; other local requirements
	Country Support	US, Belgium, Switzerland, Spain, Denmark, Netherlands, France, Germany, Italy, Portugal, Sweden, Norway, Finland, UK, Poland, Czech Republic, Turkey, Greece, Austria, Bulgaria, Cyprus, Estonia, Hungary, Ireland, Latvia, Lithuania, Luxemburg, Malta, Romania, Slovakia, Slovenia, Vietnam, HK, Australia, NZ, Malaysia, Singapore, Indonesia, Philippines, Thailand, Canada, China, Japan, Korea, Taiwan, India, Venezuela, Ecuador, Russia, Ukraine, Israel, Croatia, United Arab Emirates, Peru, Brazil, Chile, Argentina, Mexico, South Africa, and up to 193 countries worldwide.

HP PS/2 Mouse		
Dimensions (H x L x W)	1.46 x 2.48 x 4.53 in (3.70 x 6.29 x 11.50 cm)	
Weight	3.53 oz (100g; +10g/- 5 g)	
Environmental	Operating temperature	-32° to 104°F (0° to 40° C)



Technical Specifications – Keyboards and Pointing Devices

	Non-operating temperature	-4° to 140°F (-20° to 60° C)
	Operating humidity	10% to 90% (non condensing at ambient)
	Non-operating humidity	10% to 90% (non condensing at ambient)
	Operating shock	40 g, 6 surfaces
	Non-operating shock	80 g, 6 surfaces
	Operating vibration	2 g peak acceleration
	Non-operating vibration	4 g peak acceleration
	Drop (out of box)	80 cm height onto asphalt tile over concrete or equivalent, 5-drop in 5 direction except the cable face
Electrical	Operating voltage	5 VDC ± 10%
	Power consumption	100mA
	System consumption	PS/2 mini-din connector
	ESD	CE level 4, 15 kV air discharge
	EMI-RFI	Conforms to FCC rules for a Class B computing device
	Microsoft PC99 - 2001	Functionally compliant
Mechanical	Resolution	800 DPI
	Tracking speed	10 in/s (25.4 cm/s) maximum
	Acceleration	±15%
	Switch actuation	65±20 gf
	Switch life	3,000,000 operations (using Hasco modified tester)
	Switch type	Low force micro-switches



Technical Specifications – Keyboards and Pointing Devices

	Tracking mechanism life	80 km
	Cable length	6 ft (1.8 m)
	Microsoft PC99 - 2001	Mechanically compliant
Scroll wheel	Width	6 mm
	Diameter	22.5 ± 0.2 mm
	Maximum rotation force	50 gf-cm
	Switch type	Light force micro-switch
	Switch life	1 million operations
	Mechanical life	Minimum 200,000 revolutions
Regulatory Approvals	UL/cUL, FCC, CE Mark, TUV/GS, VCCI, KCC, BSMI, C-Tick	

HP USB Optical Mouse

Dimensions (H x L x W)	1.5x 4.5 x 2.5 in (3.7x 11.5 x 6.3 cm)
Weight	0.22 lb (0.10 kg)
Cable length	70.9 in (180 cm)
System requirements	Available USB port

HP USB 1000dpi Laser Mouse

Dimensions (H x L x W)	1.47 x 4.53 x 2.47 in (37.3 x 114.97 x 62.86 mm)
Weight	3.360 oz (102g)



Technical Specifications – Keyboards and Pointing Devices

Cable length	70.9 in (180 cm)	
System requirements	Available USB port	
Environmental	Operating Temperature	32° to 104° F (0° to 40° C)
	Non-operating Temperature	-4° to 140° F (-20° to 60° C)
	Operating Humidity	10% to 90% (non-condensing at ambient)
Mechanical	Resolution	1000dpi
	Tracking Speed	45 cm/sec
	Cable Length	70.9 in (180 cm)

HP USB PS/2 Washable Mouse

Dimensions (H x L x W)	1.56 x 2.44 x 4.61 in (3.95 x 6.21 x 11.7 cm)	
Weight	4.44 oz (126 g)	
Environmental	Operating temperature	-32° to 104°F (0° to 40° C)
	Non-operating temperature	-4° to 140°F (-20° to 60° C)
	Operating humidity	10% to 90% (non condensing at ambient)
	Non-operating humidity	10% to 90% (non condensing at ambient)
	Operating shock	40 g, 6 surfaces
	Non-operating shock	80 g, 6 surfaces
	Operating vibration	2 g peak acceleration
	Non-operating vibration	4 g peak acceleration
	Drop (out of box)	80 cm height onto asphalt tile over concrete or equivalent, 5-drop in 5 direction except the cable face
Electrical	Operating voltage	5 VDC ± 10%
	Power consumption	100mA



Technical Specifications – Keyboards and Pointing Devices

	System consumption	PS/2 mini-din connector
	ESD	CE level 4, 15 kV air discharge
	EMI-RFI	Conforms to FCC rules for a Class B computing device
	Microsoft PC99 - 2001	Functionally compliant
Mechanical	Resolution	400 ± 20% DPI
	Tracking speed	10 in/s (25.4 cm/s) maximum
	Acceleration	100 in/s/s (2.54 m/s/s)
	Switch actuation	61 g nominal peak force
	Switch life	3,000,000 operations (using Hasco modified tester)
	Switch type	Low force micro-switches
	Tracking mechanism life	155 mi (250 km) at average speed of 10 in/s
	Cable length	6 ft (1.8 m)
	Microsoft PC99 - 2001	Mechanically compliant
Scroll wheel	Width	8 mm
	Diameter	1.01 in (25.6 mm)
	Maximum rotation speed	48 rats/sec
	Switch type	Light force micro-switch
	Switch life	1 million operations
	Mechanical life	Minimum 200,000 revolutions
Regulatory Approvals	Compliant	UL, CSA, FCC, CE Mark, TUV, TUV GS, VCCI, BSMI, C-Tick, MIC
Compatibility	Operating system support	Windows 7, Windows Vista Business 64*, Windows Vista Business 32*, Windows Vista Home Basic 32*, Windows 2000, Windows XP Professional or Windows XP Home 32* (No driver is required for this device. Native support is provided by the operating system.), xpe, ce.net, Linux, XP-64 <p>* Certain Windows Vista product features require advanced or additional hardware. Windows Vista Upgrade Advisor can help you determine which features of Windows Vista will run on your computer. To download the tool, visit: windowsvista.com/upgradeadvisor. For Windows Vista system requirements, visit: windowsvista.com/systemrequirements.</p>





Environmental Data

Environmental Data Eco-Label Certifications and Declarations 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 epeat.net for registration status in your country.

System Configuration The configuration used for the Energy Consumption and Declared Noise Emissions data for the All-in-One Desktop model is based on a typically configured product.

Energy Consumption	115 VAC	230 VAC	100 VAC
Normal Operation	37.76 W	37.21 W	37.11 W
Sleep (ENERGY STAR® low power mode)	2.43 W	2.36 W	2.48 W
Off	1.33 W	1.34 W	1.33 W

Note: Energy efficiency data listed is for an ENERGY STAR® compliant product if offered within the model family. HP computers marked with the ENERGY STAR® Logo are compliant with the applicable U.S. Environmental Protection Agency (EPA) ENERGY STAR® specifications for computers. If a model family does not offer ENERGY STAR® compliant configurations, then energy efficiency data listed is for a typically configured model.

Heat Dissipation*	115 VAC	230 VAC	100 VAC
Normal Operation	126 BTU/hr	127 BTU/hr	127 BTU/hr
Sleep	8 BTU/hr	8 BTU/hr	8 BTU/hr
Off	4 BTU/hr	4 BTU/hr	4 BTU/hr

*NOTE: 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)
(Typically configured)

	Sound Power (L _{WAd} , bels)	Sound Pressure (L _{pAm} , decibels)
Idle	3.3	23
Fixed Disk (random writes)	3.3	23

Longevity and Upgrading This product can be upgraded, possibly extending its useful life by several years. Upgradeable features and/or components contained in the product may include:

- Intel LGA775 processor socket
- 8 USB ports
- 1 empty PCI slot (w/ optional PCI riser card), or 1 empty PCIe x16 slot (w/optional PCIe riser card)
- 1 internal drive slot
- 1 Slimline optical drive slot
- 3 memory slots
- 1 Serial/Parallel Port (optional)

Spare parts are available throughout the warranty period and or for up to "5"



Environmental Data

years after the end of production.

Batteries

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

Batteries used in the product do not contain:

Mercury greater than 5ppm by weight

Cadmium greater than 10ppm by weight

Battery size: CR2032 (coin cell)

Battery type: Lithium

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).
- This product is in compliance with the IEEE 1680 (EPEAT) standard at the Gold level where HP registers commercial desktop products. See epeat.net for registration status in your country.
- Plastics parts weighing over 25 grams used in the product are marked per ISO 11469 and ISO1043.
- This product contains 36.9% post consumer recycled plastic (by wt.)
- This product is 95.2% recyclable when properly disposed of at end of life.

Packaging Materials

External:

- PAPER/Corrugated 1516g
- PAPER/Paper 94g

Internal:

- PLASTIC/Polyethylene high density 39 g
- PLASTIC/EPE-Expanded Polyethylene 533 g

- The PAPER/Corrugated packaging material is made from 25% recycled content.
- The PAPER/Paper packaging material is made from 25% recycled content.
- The PLASTIC/Polyethylene high density packaging material is made from 0% recycled content
- The PLASTIC/EPE-Expanded Polyethylene packaging material is made from 0% recycled content

RoHS Compliance

Hewlett-Packard is committed to compliance with all applicable environmental laws and regulations, including the European Union Restriction of Hazardous Substances (RoHS) Directive. HP's goal is to exceed compliance obligations by meeting the requirements of the RoHS Directive on a worldwide basis. By July 1, 2006, RoHS substances will be virtually eliminated (virtually = to levels below



Environmental Data

Material Usage

legal limits) for all HP electronic products subject to the RoHS Directive, except where it is widely recognized that there is no technically feasible alternative (as indicated by an exemption under the EU RoHS Directive).

This product does not contain any of the following substances in excess of regulatory limits (refer to the HP General Specification for the Environment at hp.com/hpinfo/globalcitizenship/environment/supplychain/gen_specifications.html):

- Asbestos
- Certain Azo Colorants
- Certain Brominated Flame Retardants – may not be used as flame retardants in plastics
- Cadmium
- Chlorinated Hydrocarbons
- Chlorinated Paraffins
- Formaldehyde
- Halogenated Diphenyl Methanes
- Lead carbonates and sulfates
- Lead and Lead compounds
- Mercuric Oxide Batteries
- Nickel – finishes must not be used on the external surface designed to be frequently handled or carried by the user.
- Ozone Depleting Substances
- Polybrominated Biphenyls (PBBs)
- Polybrominated Biphenyl Ethers (PBBEs)
- Polybrominated Biphenyl Oxides (PBBOs)
- Polychlorinated Biphenyl (PCB)
- Polychlorinated Terphenyls (PCT)
- Polyvinyl Chloride (PVC) – except for wires and cables, and certain retail packaging has been voluntarily removed from most applications.
- Radioactive Substances
- Tributyl Tin (TBT), Triphenyl Tin (TPT), Tributyl Tin Oxide (TBTO)

Packaging

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



Environmental Data

standards.

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: 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: 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

hp.com/hpinfo/globalcitizenship/gcreport/index.html

Eco-label certifications

hp.com/hpinfo/globalcitizenship/environment/productdesign/ecolabels.html

ISO 14001 certificates:

hp.com/hpinfo/globalcitizenship/environment/operations/envmanagement.html



Options and Accessories (sold separately)

AFTER MARKET OPTIONS:

MEMORY

	Part Number
HP 2GB DDR3-1600 (PC3-12800) SODIMM	B4U38AA
HP 4GB DDR3-1600 (PC3-12800) SODIMM	B4U39AA
HP 8GB DDR3-1600 (PC3-12800) SODIMM	B4U40AA

DATA STORAGE DRIVES AND ACCESSORIES

	Part Number
1 TB, 7200 rpm, SATA -6.0 Gb/s	QK555AA
500 GB, 7200 rpm, SATA -6.0 Gb/s	QK554AA
128 GB SATA Solid State Drive	QV063AA
HP Slim DVD-ROM Drive	VP033AA
HP Slim SuperMulti DVD Writer Drive	QS209AA

INPUT DEVICES

	Part Number
HP PS/2 Mouse	QY775AA
HP USB 1000dpi Laser Mouse	QY778AA
HP USB Mouse	QY777AA
HP USB PS/2 Washable Scroll Mouse	BM866AA
HP Mouse Pad	AT485AA
HP USB Smart Card (CCID) Keyboard	BV813AA
HP Wireless Keyboard & Mouse	QY449AA
HP USB PS/2 Washable Keyboard	VF097AA
HP USB Keyboard	QY776AA
HP USB Grey Keyboard	B6B64AA

SECURITY

	Part Number
HP Keyed Cable Lock	BV411AA

MISCELLANEOUS

	Part Number
Belkin Promo 7-Outlet Surge Protector	AG290AA



Options and Accessories (sold separately)

Belkin USB to Serial Adapter	EM449AA
DisplayPort Cable	VN567AA
DisplayPort To DVI-D Adapter	FH973AA
DisplayPort To HDMI Adapter	BP937AA
DisplayPort To VGA Adapter	AS615AA

STANDS AND MONITOR ARMS

	Part Number
AiO Height Adjustable Stand	C1N43AA
HP Single Monitor Arm	BT861AA

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