Overview

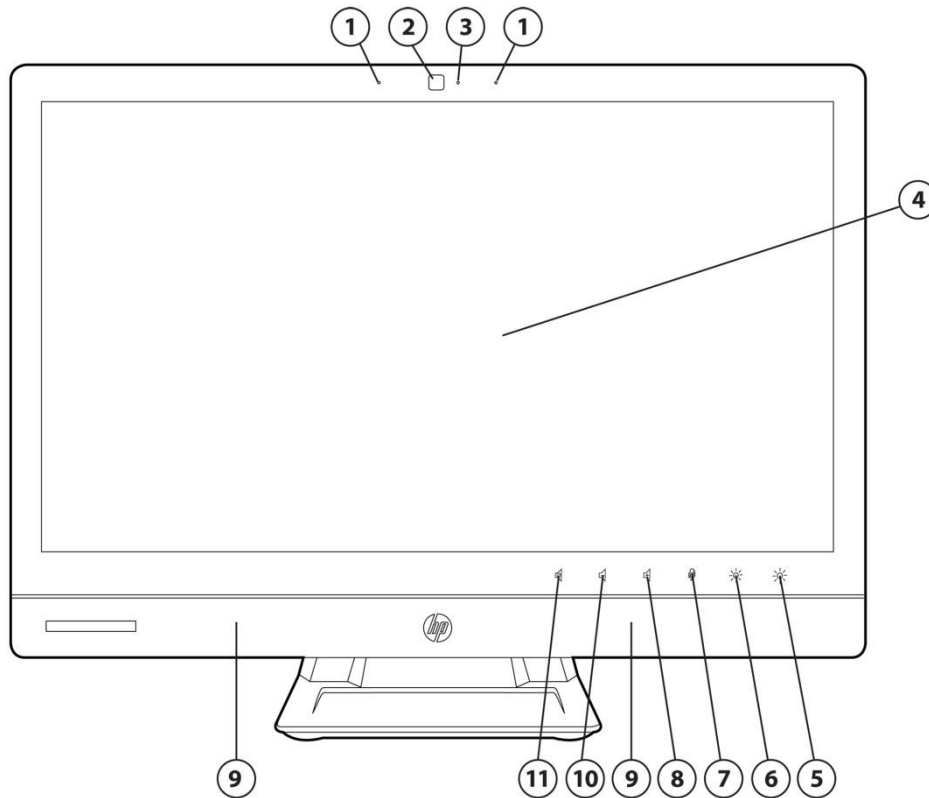## HP EliteOne 800 G1 All-in-One Business PC (23.0" Touch and Non-Touch)

FRONT

1. Dual microphone array (only on models with Webcam)
2. 2.0 MP Webcam (optional)
3. Webcam Activity LED
4. 23-inch IPS Full HD capable screen (with or without projected capacitive touch panel option)
5. Increase brightness
6. Decrease brightness
7. Mute microphone
8. Increase volume
9. High performance stereo speakers
10. Reduce volume
11. Mute speaker

QuickSpecs

Overview

HP EliteOne 800 G1 All-in-One Business PC
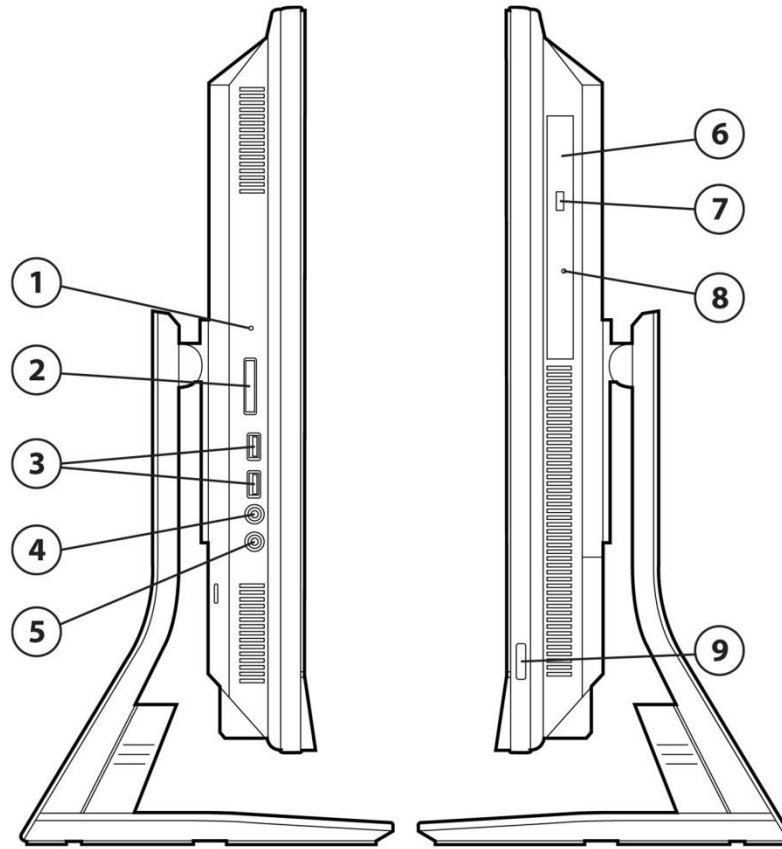
SIDE

1. Hard disc drive activity LED
2. HP SD media card reader (optional)
3. (2) USB 3.0 ports, including 1 fast charging port
4. Microphone/line in jack
5. Headphone/line out jack
6. Tray-load optical disc drive (optional)
7. Optical disc drive eject button
8. Optical disc drive activity LED
9. Power button

Overview

HP EliteOne 800 G1 All-in-One Business PC
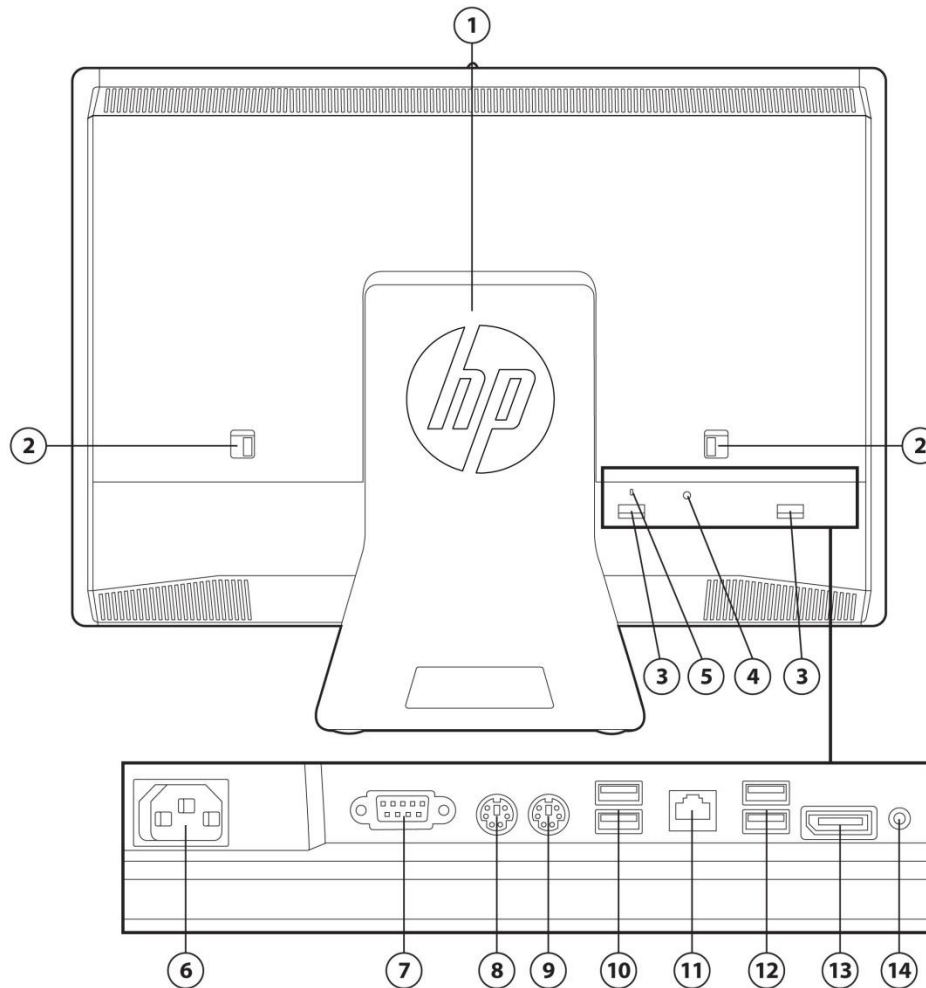
REAR/PORTS (BEHIND SECURITY COVER)

1. Basic Stand*
2. Access panel latches
3. I/O security cover latch
4. Security Screw hole
5. Security lock slot
6. Power connector
7. Serial port
8. PS/2 mouse connector
9. PS/2 keyboard connector
10. (2) USB 3.0 ports
11. RJ-45 Gigabit Ethernet port
12. (2) USB 3.0 ports
13. DisplayPort connector
14. Stereo line out

Overview

* Can be configured with no stand, basic stand, or height adjustable/reclining stand

AT A GLANCE

- Windows 7, Windows 8 or Windows 10
- UEFI BIOS developed and engineered by HP for better security, manageability and software image stability
- Integrated All-in-One form factor
- 23-inch IPS (1920 x 1080) diagonal widescreen WLED backlit anti-glare LCD, with or without Projected Capacitive Touch Panel option
- Landscape or portrait display orientation – with height adjustable stand or VESA mount
- Can be configured with no stand, basic stand, or height adjustable/reclining stand
- Intel® Q87 chipset
- Intel® 4th generation Core™ processors
- Intel® vPro™ Technology available with select processors
- Processor support up to 65W
- Integrated Intel® HD Graphics
- Optional MXM Discrete graphics
- Integrated Intel® I217LM Gigabit Network Connection
- Optional wireless connectivity:
    - Intel® Advanced-N 6205 WLAN - Intel® 802.11 a/b/g/n
    - Intel® Dual Band Wireless-N 7260 - Intel 802.11 a/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 and Intel® HD Graphics)
- Optional Near Field Communication (NFC)
- Optional Integrated 2.0 MP Webcam & Dual Microphone Array
- High performance integrated stereo speakers
- DTS Studio Sound™
- 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 500GB SATA Hard Drive, 500 GB Self-Encrypting Drive, 256GB Self-Encrypting Solid State Drive, and 1TB Solid State Hybrid Drive
- Optional Intel® Smart Response Technology support with 32GB mSATA SSD Flash Cache Module
- Optional slim Tray-load SuperMulti DVD Writer, DVD-ROM, or BDXL Blu-ray Writer Optical Disc Drive
- Optional SD Media Card Reader
- Serial port
- DisplayPort out
- Integrated VESA 100 x 100 mounting holes
- Lockable rear access panel with intrusion sensor
- ENERGY STAR® qualified. EPEAT® registered where applicable/supported. See www.epeat.net for registration status by country.
- CCC, CECP & SEPA Certified
- Optimized for Microsoft Lync

QuickSpecs

Standard Features and Configurable Components

- TCO AiO and TCO Edge
- Low Halogen
- Arsenic Free
- Protected by HP Services, including warranties up to 5-5-5 (terms and conditions vary by country; certain restrictions and exclusions apply)

Standard Features and Configurable Components

OPERATING SYSTEM

Preinstalled (Windows)
Windows 10 Pro 64*
Windows 10 Home 64*
Windows 8.1 Pro 64*
Windows 8.1 64*
Windows 7 Professional 64 (available through downgrade rights from Windows 10 Pro)**
Windows 7 Professional 32 (available through downgrade rights from Windows 10 Pro)**
Windows 7 Professional 64 (available through downgrade rights form Windows 8.1 Pro)***
Windows 7 Professional 32 (available through downgrade rights form Windows 8.1 Pro)***
Windows 7 Professional 64*
Windows 7 Professional 32*

Pre-installed (Other)
FreeDOS 2.0
Novell SUSE Linux Enterprise Desktop 11

Web-supported
Windows 10 Pro 64
Windows 10 Home 64
Windows 8.1 Pro 64
Windows 8.1 64
Windows 7 Professional 64 (available through downgrade rights from Windows 10 Pro)
Windows 7 Professional 32 (available through downgrade rights from Windows 10 Pro)
Windows 7 Professional 64 (available through downgrade rights form Windows 8.1 Pro)
Windows 7 Professional 32 (available through downgrade rights form Windows 8.1 Pro)
Windows 7 Professional 64
Windows 7 Professional 32
Windows 10 Enterprise 64
Windows 8.1 Enterprise 64
Windows 7 Enterprise 64
Windows 7 Enterprise 32

FreeDOS 2.0
Novell SUSE Linux Enterprise Desktop 11

***NOTE**: Not all features are available in all editions or versions of Windows. Systems may require upgraded and/or separately purchased hardware, drivers, software or BIOS update to take full advantage of Windows functionality. Windows 10 is automatically updated, which is always enabled. ISP fees may apply and additional requirements may apply over time for updates. See http://www.microsoft.com.

**This system is preinstalled with Windows 7 Pro software and also comes with a license and media for Windows 10 Pro software. You may only use one version of the Windows software at a time. Switching between versions will require you to uninstall one

Standard Features and Configurable Components

version and install the other version. You must back up all data (files, photos, etc.) before uninstalling and installing operating systems to avoid loss of your data.

***This system is preinstalled with Windows 7 Pro software and also comes with a license and media for Windows 8.1 Pro software. You may only use one version of the Windows software at a time. Switching between versions will require you to uninstall one version and install the other version. You must back up all data (files, photos, etc.) before uninstalling and installing operating systems to avoid loss of your data.

PROCESSORS

Intel® 4th Generation Core™ i7 Processors

Intel® Core™ i7-4790S
Up to 4.0 GHz Max. Turbo Frequency (3.2 GHz base frequency), 8 MB cache, 4 cores, 8 threads
Intel® HD Graphics 4600
Supports DDR3 memory up to 1600 MT/s data rate
Supports Intel® vPro Technologies and Intel's® Stable Image Platform Program (SIPP)

Intel® Core™ i7-4770S
Up to 3.9 GHz Max. Turbo Frequency (3.1 GHz base frequency), 8 MB cache, 4 cores, 8 threads
Intel® HD Graphics 4600
Supports DDR3 memory up to 1600 MT/s data rate
Supports Intel® vPro Technologies and Intel's® Stable Image Platform Program (SIPP)

Intel® 4th Generation Core™ i5 Processors

Intel® Core™ i5-4690S
Up to 3.9 GHz Max. Turbo Frequency (3.2 GHz base frequency), 6 MB cache, 4 cores, 4 threads
Intel® HD Graphics 4600
Supports DDR3 memory up to 1600 MT/s data rate
Supports Intel® vPro Technologies and Intel's® Stable Image Platform Program (SIPP)

Intel® Core™ i5-4670S
Up to 3.8 GHz Max. Turbo Frequency (3.1 GHz base frequency), 6 MB cache, 4 cores, 4 threads
Intel® HD Graphics 4600
Supports DDR3 memory up to 1600 MT/s data rate
Supports Intel® vPro Technologies and Intel's® Stable Image Platform Program (SIPP)

Intel® Core™ i5-4590S
Up to 3.7 GHz Max. Turbo Frequency (3.0 GHz base frequency), 6 MB cache, 4 cores, 4 threads
Intel® HD Graphics 4600
Supports DDR3 memory up to 1600 MT/s data rate
Supports Intel® vPro Technologies and Intel's® Stable Image Platform Program (SIPP)

Intel® Core™ i5-4570S
Up to 3.6 GHz Max. Turbo Frequency (2.9 GHz base frequency), 6 MB cache, 4 cores, 4 threads
Intel® HD Graphics 4600
Supports DDR3 memory up to 1600 MT/s data rate
Supports Intel® vPro Technologies and Intel's® Stable Image Platform Program (SIPP)

Standard Features and Configurable Components

Intel® 4th Generation Core™ i3 Processors

Intel® Core™ i3-4360
3.7 GHz base frequency, 4 MB cache, 2 cores, 4 threads
Intel® HD Graphics 4600
Supports DDR3 memory up to 1600 MT/s data rate

Intel® Core™ i3-4350
3.6 GHz base frequency, 4 MB cache, 2 cores, 4 threads
Intel® HD Graphics 4600
Supports DDR3 memory up to 1600 MT/s data rate

Intel® Core™ i3-4340
3.6 GHz base frequency, 4 MB cache, 2 cores, 4 threads
Intel® HD Graphics 4600
Supports DDR3 memory up to 1600 MT/s data rate

Intel® Core™ i3-4330
3.5 GHz base frequency, 4 MB cache, 2 cores, 4 threads
Intel® HD Graphics 4600
Supports DDR3 memory up to 1600 MT/s data rate

Intel® Core™ i3-4150
3.5 GHz base frequency, 3 MB cache, 2 cores, 4 threads
Intel® HD Graphics 4400
Supports DDR3 memory up to 1600 MT/s data rate

Intel® Core™ i3-4130
3.4 GHz base frequency, 3 MB cache, 2 cores, 4 threads
Intel® HD Graphics 4600
Supports DDR3 memory up to 1600 MT/s data rate

Intel® Core™ i3-4160
3.6 GHz base frequency, 3 MB cache, 2 cores, 4 threads
Intel® HD Graphics 4400
Supports DDR3 memory up to 1600 MT/s data rate

Intel® Core™ i3-4370
3.8 GHz base frequency, 4 MB cache, 2 cores, 4 threads
Intel® HD Graphics 4600
Supports DDR3 memory up to 1600 MT/s data rate

Intel® 4th Generation Pentium™ Processors

Intel® Pentium™ G3450
3.4 GHz base frequency, 3 MB cache, 2 cores, 2 threads
Intel® HD Graphics

Standard Features and Configurable Components

Supports DDR3 memory up to 1600 MT/s data rate

Intel® Pentium™ G3460
3.5 GHz base frequency, 3 MB cache, 2 cores, 2 threads
Intel® HD Graphics
Supports DDR3 and DDR3L memory up to 1333/1600 MT/s data rate

Intel® Pentium™ G3440
3.3 GHz base frequency, 3 MB cache, 2 cores, 2 threads
Intel® HD Graphics
Supports DDR3 memory up to 1600 MT/s data rate

Intel® Pentium™ G3430
3.3 GHz base frequency, 3 MB cache, 2 cores, 2 threads
Intel® HD Graphics
Supports DDR3 memory up to 1600 MT/s data rate

Intel® Pentium™ G3420
3.2 GHz base frequency, 3 MB cache, 2 cores, 2 threads
Intel® HD Graphics
Supports DDR3 memory up to 1600 MT/s data rate

Intel® Pentium™ G3240
3.1 GHz base frequency, 3 MB cache, 2 cores, 2 threads
Intel® HD Graphics
Supports DDR3 memory up to 1600 MT/s data rate

Intel® Pentium™ G3220
3.0 GHz base frequency, 3 MB cache, 2 cores, 2 threads
Intel® HD Graphics
Supports DDR3 memory up to 1300 MT/s data rate

Intel® Pentium™ G3250
3.2 GHz base frequency, 3 MB cache, 2 cores, 2 threads
Intel® HD Graphics
Supports DDR3 memory up to 1600 MT/s data rate

Intel® Pentium™ G3450
3.5 GHz base frequency, 3 MB cache, 2 cores, 2 threads
Intel® HD Graphics
Supports DDR3 memory up to 1600 MT/s data rate

Intel® 4th Generation Pentium™ Processors
Intel® Celeron™ G1850
2.9 GHz base frequency, 2 MB cache, 2 cores, 2 threads

Standard Features and Configurable Components

Intel® HD Graphics
Supports DDR3 memory up to 1600 MT/s data rate

Intel® Celeron™ G1840
2.8 GHz base frequency, 2 MB cache, 2 cores, 2 threads
Intel® HD Graphics
Supports DDR3 memory up to 1600 MT/s data rate

CHIPSET

Intel® 8 Series (Q87) Chipset

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 9.0 (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 9.0 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
- 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

QuickSpecs

Standard Features and Configurable Components

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*

*NOTE: AMD and NVIDIA graphics cards are not available on configurations with the preinstalled Windows 10 operating system. Configurations with the Windows 10 downgrade to Windows 7 operating system will allow for upgrading to Windows 10 with AMD and NVIDIA graphics cards through graphics driver installation from hp.com.

Integrated

Intel® HD Graphics 4600

Graphics controller	Intel® Processor Graphics
DisplayPort	Multi-Stream support (supports up to 2 external displays)[1]
Memory	Up to 1.8GB DDR3
Supported Graphics APIs	DX11.1, OpenGL 4.0, OpenCL 1.2, full 1080p Blu-Ray Disc (H264) playback in hardware

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[1] Using the Integrated Graphics, two (2) external displays are supported via one of these methods:
 Using the MXM Graphics, up to four (4) external displays are supported via one of these methods:
1) DisplayPort multi-stream monitors 'daisy-chained' together or
2) DisplayPort multi-stream hub – hub requires power through power cable provided. DisplayPort multi-stream hub provides 4 DisplayPort ports, adapters are required for support of DVI, VGA or HDMI displays.

Standard Features and Configurable Components

Discrete (optional)

AMD® Radeon HD 7650A 2GB DDR3 MXM Graphics

Graphics controller	AMD® Radeon HD 7650A
DisplayPort	Multi-Stream support (supports up to 4 external displays at 1920x1080)[4]
Core clock	600MHz max
Memory clock	800MHz max
Memory frame buffer	2GB, DDR3, 128-bit wide
Memory	2GB DDR3
Supported Graphics APIs	DX11, OpenGL 4.1, OpenCL 1.1, full 1080p Blu-Ray Disc (H264) playback in hardware

WIRELESS DISPLAY

WiDi support with Intel® Advanced-N 6205 WLAN or Dual Band Wireless-N 7260 (mini PCI Express) and Intel® HD graphics

Desktop system requirements for Intel® Wireless Display

System Component	Requirement
Processor	4th generation Intel® Core processor
Graphics	Intel® HD Graphics
Wireless	Intel Advanced-N 6205 WLAN
Software	Intel® My WiFi Technology and Intel® Wireless Display must be pre-installed and enabled.
OS	Windows 7 32-bit/64-bit Home Premium, Ultimate, Professional; Windows 7 32-bit Home Basic; Windows 8 64-bit Professional

DISPLAY

23"diagonal IPS widescreen WLED backlit anti-glare LCD display
Orientation designed to operate in portrait or landscape mode
Non-touch or optional touch
Projected Capacitive Touch supports up to 10 touch-points

Display Panel	Type	IPS WLED Backlit LCD
	Viewable image area (mm)	509.18 x 286.42
	Touch Active Area (mm)	509.18 x 286.42[2]
	Screen opening (mm)	510.6 x 287.6[3]
	Native Resolution (HxV)	1920 x 1080
	Aspect ratio	16:9
	Pixel pitch (HxV)(mm)	0.256 x 0.256
	Contrast ratio (typical)	1000:1

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[2] With Projected Capacitive Touch Panel

[3] Without Projected Capacitive Touch Panel

Standard Features and Configurable Components

Brightness (typical)	Touch - 225nits (cd/m2)/ Non-Touch 250nits (cd/m2)
Viewing angle (typical) (HxV)	179 ° x 179 °
Backlight lamp life (to half brightness)	30,000 hours minimum
Color support	Over 16 million colors
Color gamut (typical)	72%
Anti-glare	Yes
Default color temperature	Warm (6500K)

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°
	Rotation	360° swivel

Height Adjustable / Reclining Stand:	Vertical Adjustment	Up to 110 mm
	Recline Angle	Low position sliding height adjustment => -5° to +60°
	Tilt Angle	High position sliding height adjustment => -5° to +30°
	Rotation	360° swivel and portrait or landscape orientation

WEBCAM & MIC

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

STORAGE*

2.5" SATA Hard Drive
320 GB, 7200 rpm, SATA 6.0 Gb/s, SMART IV
500 GB, 7200 rpm, SATA 6.0 Gb/s, SMART IV

2.5" Solid State Drive
120 GB, SATA 2.5 2nd Non-SED SSD
120 GB, SATA 2.5 Non-SED SSD
180 GB, SATA 2.5 Non-SED SSD
180 GB, SATA 2.5 2nd Non-SED SSD
120 GB, SATA Solid State Drive
128 GB, SATA Solid State Drive
128 GB SATA 2.5 TLC Non-SED SSD
256 GB SATA 2.5 TLC Non-SED SSD
512 GB SATA 2.5 Non-SED SSD

2.5" Self-Encrypting Solid State Drive
180 GB, SATA 2.5 Opal2 SED SSD
180 GB, SATA 2.5 2nd Opal2 SED SSD
120 GB, SATA 2.5 Opal2 SED SSD
120 GB, SATA 2.5 Opal2 SED SSD
120 GB, SATA 2.5 2nd Opal2 SED SSD

QuickSpecs

Standard Features and Configurable Components

128 GB, SATA Self-Encrypting Solid State Drive
256 GB, SATA Self-Encrypting Solid State Drive

2.5" Self-Encrypting Drive
500 GB, SATA, Self-Encrypting Drive

2.5" Solid State Hybrid Drive
500 GB, SATA, Solid State Hybrid Drive
1 TB SATA, Solid State Hybrid Drive

***NOTE**: For hard drives and solid state drives, GB = 1 billion bytes. TB = 1 trillion bytes. Actual formatted capacity is less. Up to 16 GB (for Windows 7) and 36 GB (for Windows 8.1/10) of system disk is reserved for the system recovery software.*

Optical Disc Drive
Slim Tray-load SATA DVD-ROM
Slim Tray-load SATA SuperMulti DVD Writer
Slim Tray-load SATA BDXL Blu-ray Writer
No included Optical Disc Drive

Removable
HP Slim Removable SATA HDD

Media Card Reader (optional)
5-in-1 PCIe Interface
Supports Secure Digital (SD, SDXC, SDHC, UHS-I, UHS-II)

PERFORMANCE

Flash Cache Module
32GB mSATA SSD Flash Cache Module (Intel® Smart Response Technology - Optional with Core Processors)

MEMORY

Type
Non-ECC, DDR3 SDRAM, 1600 MT/s, 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.

Standard Features and Configurable Components

Memory modules support data transfer rates up to 1600 MT/s; 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® I217LM 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

Intel® 802.11 a/b/g/n wireless 7260 PCIe minicard ~~over here~~
Up to 300 mbps data rate

HP 802.11 a/b/g/n wireless PCIe minicard with Bluetooth Combo
Up to 300 mbps data rate
Bluetooth 4.0 compliant
Works with a wide range of Bluetooth devices

Intel 7260 802.11 a/b/g/n MCard BT NIC

Near Field Communications (NFC) (optional)
HP Module with NXP NFC Controller with Embedded Secure Element, PN650
Supports Windows 8, Proximity Events
Support Windows 7, PC/SC
NFC Forum Compliant

AUDIO/MULTIMEDIA

DTS Studio Sound™

Realtek ALC 3228 Audio – 16 & 24-bit PCM

High performance integrated stereo speakers

Volume control and mute buttons

Stereo headphone jack

Standard Features and Configurable Components

Microphone in

Stereo line out

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

DTS Studio Sound™ Technology Introduction	**DTS Studio Sound™** provides an outstanding audio and entertainment experience for all PC applications related to music, movies and games. Utilizing DTS' revolutionary 3D audio technology, DTS Studio Sound™ provides an immersive and realistic listening experience for a two speaker playback environment. DTS Studio Sound™ offers a wide surround effect and 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 (desktop speakers or headphones).
DTS Studio Sound™ Features	• Outstanding 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
DTS Studio Sound Benefits	• Outstanding 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

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 70.87 in (180 cm)

Standard Features and Configurable Components

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 (Keyboard contains 25% post-consumer recycled plastic material)	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 SmartCard CCID Keyboard	104, 105, 106, 107, 109 layout (depending upon country) 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 Encryption - 128bit AES Encryption

Mice

HP PS/2 Mouse	800 dpi support Two buttons with scroll wheel 72.8 in (185 cm)
HP USB Optical Mouse	800 dpi support 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 BIOSphere

Key features of the HP BIOS include:

- Deployment and manageability - HP BIOS provides several technologies that help integrate the HP EliteOne 800 Business PC into the enterprise, such as PXE, remote configuration, remote control, and F10 Setup support for 12 languages.

Standard Features and Configurable Components

- 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 2.3.1

- 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 F10 setup 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 is 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

QuickSpecs

Standard Features and Configurable Components

USB port disable

Lockable Access Panel

Lockable I/O security cover

Security Screw

HP Keyed Cable Lock (optional)

Common Criteria Certified, Infineon TPM SLB9656TT1.2- 4.32 FW

Intrusion Detector

Wall/Arm/Cart 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 200W, up to 93% efficient, active PFC
100-240V AC

Loading	20%		50%		100%	
Power Efficiency	90%	90%	93%	92%	91%	89%
Volts	230	100/115	230	100/115	230	100/115

Current Leakage **(NFPA 99: 2102)**	Less than 500 microamps of leakage current at 120 Vac with the ground wire disconnected, as required for Non-patient Electrical Appliances and Equipment used in a patient care facility or that contact patients in normal use. Per section 10.3.5.1.
	Less than 100 microamps of leakage current at 120 Vac with the ground wire intact with normal polarity, as required for Non-patient Electrical Appliances and Equipment used in a patient care facility or that contact patients in normal use. Per section 10.3.5.1.

SOFTWARE COMPONENTS AND APPLICATIONS WITH WINDOWS

Included	Windows 7	Windows 8.1
Security	Absolute Persistence(status tracing) [1] Device Access Manager Drive Encryption [4] File Sanitizer (Activated via Wizard) Disk Sanitizer (external version) [2] Microsoft Security Essentials	Absolute Persistence(status tracing) [1] Device Access Manager Drive Encryption [4] File Sanitizer (Activated via Wizard) Disk Sanitizer (external version) [2] Microsoft Defender

Standard Features and Configurable Components

	HP Client Security	Secure Erase HP Client Security
MultiMedia	Cyberlink Power DVD, BD Cyberlink Power2Go (Secure Burn)	Cyberlink Power DVD, BD Cyberlink Power2Go (Secure Burn)
Communication		HP Wireless Hotspot
HP Value Add	HP ePrint Driver[3] HP PageLift HP Support Assistant HP Recovery Disk Creator	HP ePrint Driver[3] HP PageLift HP Recovery Manager HP Support Assistant HP QuickStart
3rd Party	Adobe Flash Player Bing Search for Internet Explorer 10 Box Foxit PhantomPDF *Express* for HP Skype	Bing Search Foxit PhantomPDF *Express* for HP Skype
Microsoft Products	Buy Office	Buy Office

[1] Computrace agent is shipped turned off, and must be activated by customers when they purchase a subscription. Subscriptions can be purchased for terms ranging from one to five years. Service is limited, check with Absolute for availability outside the U.S.

[2] Drive Encryption is planned to be available in October 2013. Requires Windows. Data is protected prior to Drive Encryption login. Turning the PC off or into hibernate logs out of Drive Encryption and prevents data access.

[3] Available via download

[4] Preinstalled on models with webcam

[5] Requires an Internet connection to HP web-enabled printer and HP ePrint account registration (for a list of eligible printers, supported documents and image types and other HP ePrint details, see http://www.hp.com/go/eprintcenter).Requires optional broadband module. Broadband use requires separately purchased service contract. Check with service provider for coverage and availability in your area. Separately purchased data plans or usage fees may apply. Print times and connection speeds may vary.

[6] Non-Touch model only

[7] UK only

ENVIRONMENTAL & INDUSTRY

ENERGY STAR® qualified models available

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

Industry standard certifications:

UL
CSA
FCC compliance
ENERGY STAR®
EPEAT® Gold
EUP Lot6 Tier2
CCC

QuickSpecs

Standard Features and Configurable Components

CECP
SEPA
TCO AiO and TCO Edge
Optimized for Microsoft Lync
Low halogen
Arsenic Free
80 PLUS®
TAA compliant

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

WEIGHTS & DIMENSIONS

Weight with Touch Panel

	Without stand	Basic_stand	Height adjustable/reclining stand
Product Weight	19.3 – 19.7 lbs	24.1 – 24.5 lbs	33.4 – 33.9 lbs
Unboxed	8.74 – 8.94 kg	10.91 – 11.11 kg	15.17 – 15.37 kg

	Without stand	Basic stand	Height adjustable/reclining stand
Shipping Weight	28.38 lbs	31.39 lbs	41.68 lbs
Boxed	12.87 kg	14.24 kg	18.91 kg

	Without stand (24 units)	Basic stand (24 units)	Height adjustable/reclining stand (12 units)
Shipping Weight	595.35 lbs	795.87 lbs	542.16 lbs
Pallet	270 kg	361 kg	245.92 kg

Weight without Touch Panel

	Without stand	Basic_stand	Height adjustable/reclining stand
Product Weight	17.4 – 17.8 lbs	22.2 – 22.6 lbs	31.6 – 32 lbs
Unboxed	7.89 – 8.09 kg	10.06 – 10.26 kg	14.32 – 14.52 kg

Shipping Weight	Without stand	Basic stand	Height adjustable/reclining stand
Box	26.06 lbs	29.23 lbs	39.38 lbs
	11.82 kg	13.26 kg	17.86 kg

	Without stand (24 units)	Basic stand (24 units)	Height adjustable/reclining stand (12 units)
Shipping Weight	510.41 lbs	743.49 lbs	514.38 lbs
Pallet	231.48 kg	337.24 kg	233.32 kg

Standard Features and Configurable Components

Dimensions (W x D x H)

Product Dimensions	Without stand 22 x 1.98 x 15.3 in 560 x 50.3 x 389 mm	Basic stand 22 x 6 x 17.2 in 560 x 153.4 x 437.2 mm	Height adjustable/reclining stand 0 degrees 22 x 7.7 x 20.8 in 560 x 194.8 x 528.9 mm
			Height adjustable/reclining stand 60 degrees 22 x 14.6 x 10.5 in 560 x 370.2 x 265.9 mm

Shipping Dimensions

Shipping Dimensions *Boxed*	Without stand 25.83 x 10.59 x 20.39 in 656 x 269 x 518 mm	Basic stand 25.83 x 10.59 x 20.39 in 656 x 269 x 518 mm	Height adjustable/reclining stand 26.46 x 12.56 x 21.10 in 672 x 319 x 536 mm
Shipping Dimensions *Pallet*	Without stand (24 units) 47.24 x 39.37 x 86.30 in 1200 x 1000 x 2129 mm	Basic stand (24 units) 47.24 x 39.37 x 86.30 in 1200 x 1000 x 2129 mm	Height adjustable/reclining stand (12 units) 47.24 x 39.37 x 68.03 in 1200 x 1000 x 1728 mm

QuickSpecs

Standard Features and Configurable Components

BASIC STAND DIMENSIONS

QuickSpecs
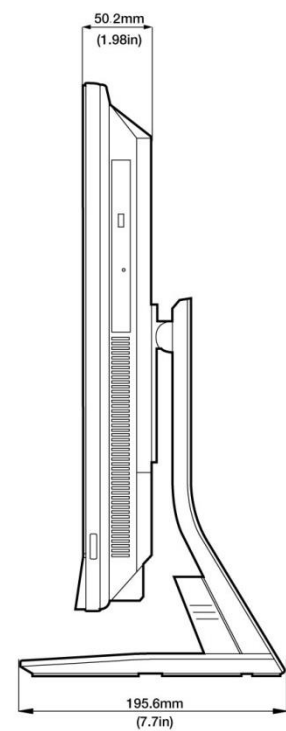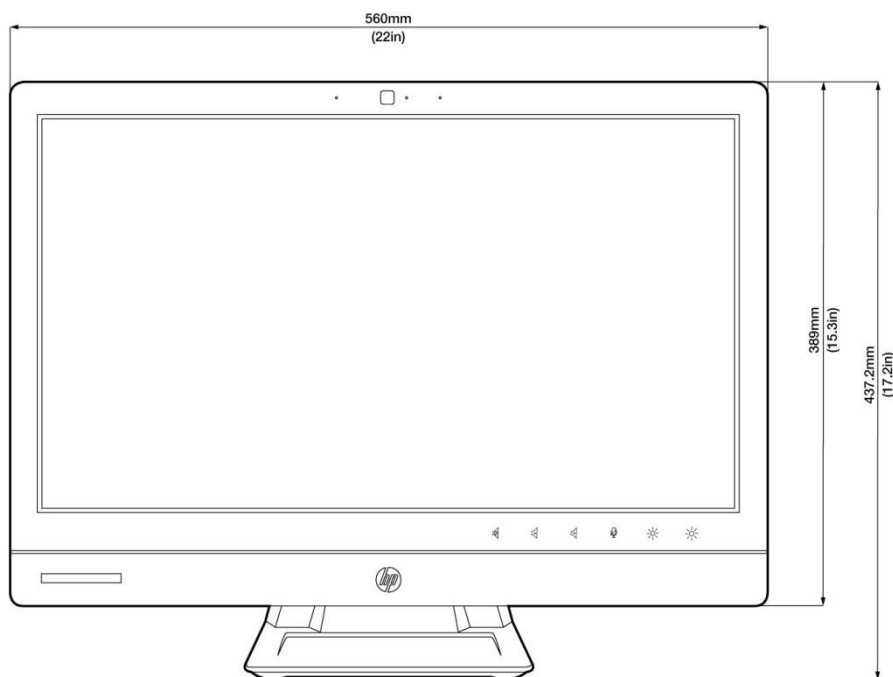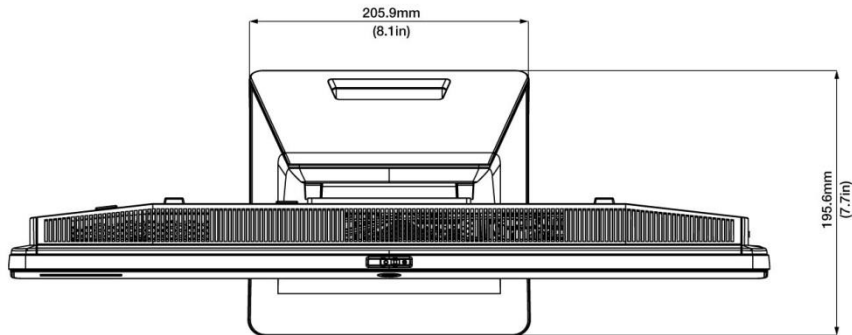
Standard Features and Configurable Components

HEIGHT ADJUSTABLE/RECLINING STAND DIMENSIONS

QuickSpecs
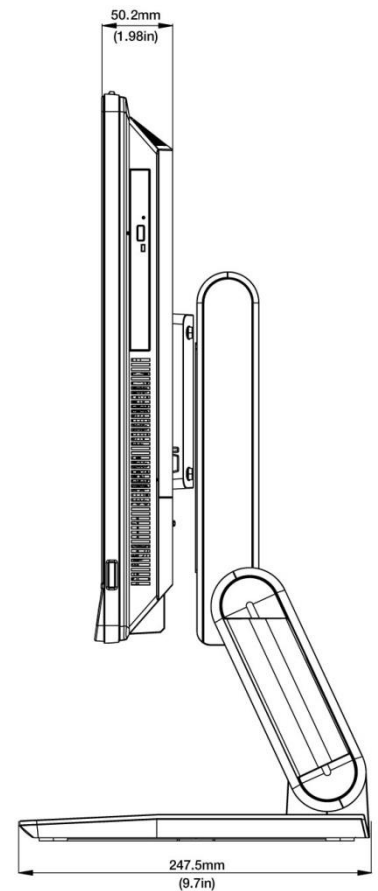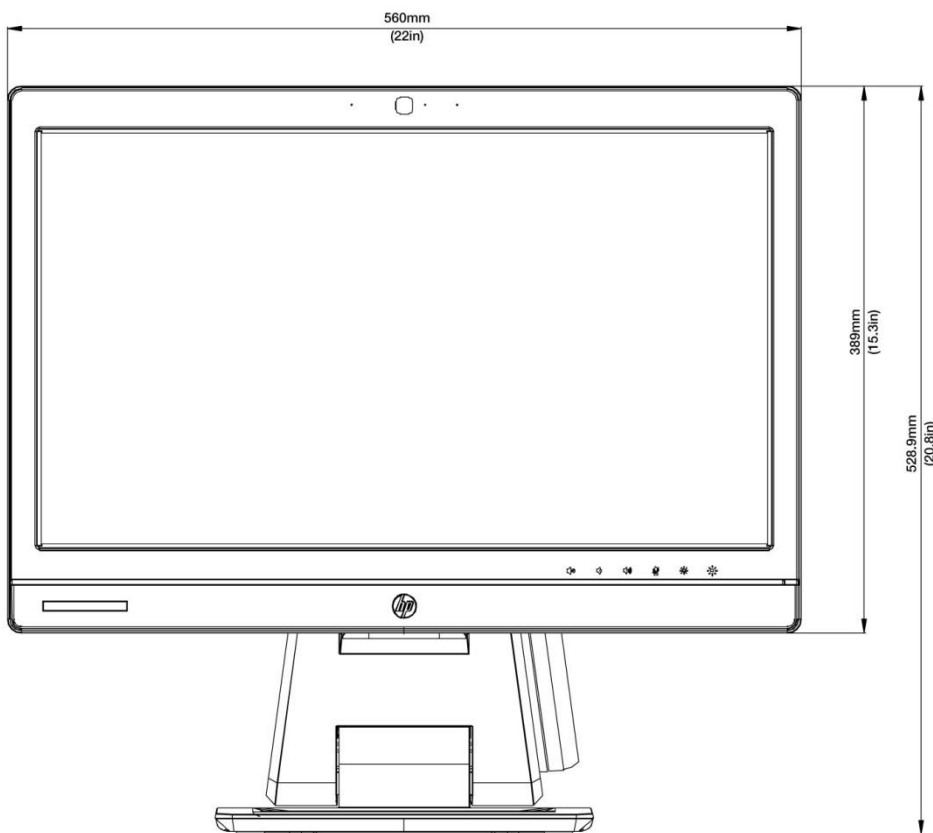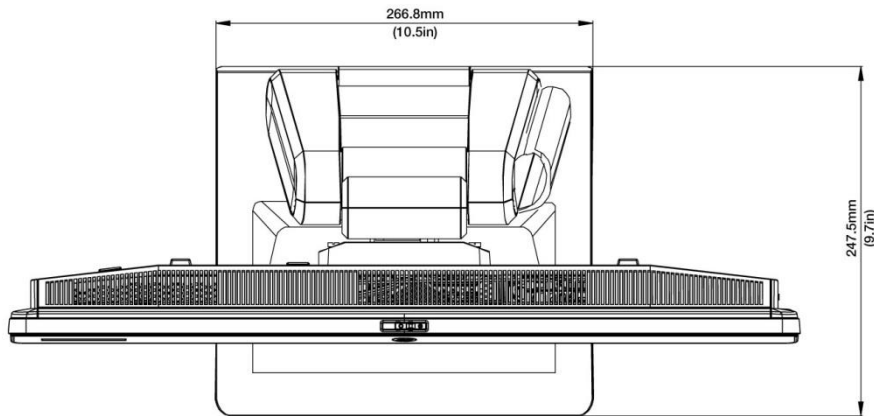
Standard Features and Configurable Components

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

6 – USB 3.0 (2 side including 1 fast charging, 4 rear)

USB Fast Charging Port:
- Up to 2.5A charging current (5 times the maximum current supported by a USB 2.0 port; 2.8 times the maximum current supported by a USB 3.0 port)
- D+/D– CDP/DCP Modes per USB Battery Charging Specification 1.2
- D+/D– Shorted Mode per Chinese Telecommunication Industry Standard YD/T 1591-2009
- Supports non-BC1.2 Charging Modes by Automatic Selection
- D+/D– Divider Modes 2.0V/2.7V and 2.7/2.0V
- D+/D- 1.2V Mode
- Supports Sleep-Mode Charging
- Automatic SDP/CDP Switching for Devices That do not Connect to CDP Ports

2 – PS/2 (legacy) (one keyboard, one mouse)

1 – Microphone in (side)

1 – Headphone jack (side)

1 – Serial RS-232 (rear)

1 – Stereo audio line out (rear)

1 – Power connector (rear)

1 – RJ-45 (rear)

Standard Features and Configurable Components

1 – DisplayPort with multi-stream[4]

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

SLOTS

1 – Mini PCIe half-length (used by wireless LAN module)

1 – MXM 3.0 Type A – 35W

1 – mSATA

BAYS

2 – 2.5" internal; Supports up to Two – 2.5" hard drives (HDD/SSD/SED/SSHD)

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: http://www.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.

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[4] Using the Integrated Graphics, two (2) external displays are supported via one of these methods:
 Using the MXM Graphics, up to four (4) external displays are supported via one of these methods:
1) DisplayPort multi-stream monitors 'daisy-chained' together or
2) DisplayPort multi-stream hub – hub requires power through power cable provided. DisplayPort multi-stream hub provides 4 DisplayPort ports, adapters are required for support of DVI, VGA or HDMI displays.

Standard Features and Configurable Components

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.

QuickSpecs

Technical Specifications – Graphics

Intel HD Graphics

VGA Controller	Integrated
DisplayPort	Multimode capable; supports HDCP, Display Port Audio (2 streams), HBR2 link rates and Multi-Stream Technology for a maximum of 3 displays (including the integrated panel)
Bus Type	N/A
RAMDAC	N/A
Memory	Intel graphics do not have dedicated memory but utilizes some of the computer's system memory The amount of memory used for graphics depending 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. 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.

Maximum Graphics Memory	Microsoft Windows 7	Windows 8
	Up to 1.7GB	Up to 1.8GB
	NOTE: the actual amount of maximum graphics memory can be less than the amounts listed above depending upon your computer's configuration.	

Maximum Color Depth	32 bits/pixel

Graphics/Video API Support	4th Generation Core processors:
	
	• 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
	   o Encode/transcode HD content
	   o Playback of high definition content including Blu-ray Disc
	   o Superior image quality with sharper, more colorful images
	• DirectX Video Acceleration (DXVA) support for accelerating video processing
	   o Full AVC/VC1/MPEG2 HW Decode
	• Advanced Scheduler 2.0, 1.0
	• Windows 7, Windows 8, Linux OS Support
	• DirectX 11.1

Technical Specifications – Graphics

	• OpenGL 4.0 • Open CL 1.2

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	**Refresh Rates**
800x600	60 Hz
1024x768	60 Hz
1152x864	60 Hz
1280x600	60 Hz
1280x720	60 Hz
1280x800	60 Hz
1280x960	60 Hz
1280x1024	60 Hz
1360x768	60 Hz
1366x768	60 Hz
1400x1050	60 Hz
1440x900	60 Hz
1600x900	60 Hz
1600x1200*	60 Hz
1680x1050	60 Hz
1920x1080	60 Hz
1920x1200*	60 Hz
1920x1440*	60 Hz
2560x1440*	60 Hz
2560x1600*	60 Hz

QuickSpecs

Technical Specifications – Graphics

* 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
DisplayPort	Multi-Stream Technology for a maximum of 5 displays (including the integrated panel)
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
Supported Graphics APIs	DX11, OpenGL, full 1080p BD (H264) playback in hardware

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	Refresh Rates
800 x 600	60 Hz

QuickSpecs

Technical Specifications – Graphics

1024 x 768	60 Hz
1280 x 720	60 Hz
1280 x 768	60 Hz
1280 x 1024	60 Hz
1360 x 768	60 Hz
1440 x 900	60 Hz
1600 x 900	60 Hz
1680 x 1050	60 Hz
1920 x 1080	60 Hz

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 Elite 800 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.

Technical Specifications – Hard Disk and Solid State Storage

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

Technical Specifications – Hard Disk and Solid State Storage

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	SATA 6 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:	12 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	
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	
Rotational Speed	7,200 rpm	
Interface	SATA 6 Gb/s	
Buffer Size	16 MB	
Logical Blocks	976,773,168	
	Single Track:	2.0 ms

QuickSpecs

Technical Specifications – Hard Disk and Solid State Storage

Seek Time (typical reads, includes controller overhead, including settling)	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 120 GB Solid State Drive

Unformatted Capacity	120 GB	
Architecture	Multi Level Cell (MLC) NAND Flash with wear leveling 10 channel controller	
Interface	SATA 3 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	

QuickSpecs

Technical Specifications – Hard Disk and Solid State Storage

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)	
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:	55ms (TYP)
	Write:	55ms (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

Technical Specifications – Hard Disk and Solid State Storage

Regulations	UL, CSA, EN 60950-2000, CISPR Pub 22 Class B, CNS 13438, AS/NZS
	CISPR 22:2002 Class B, Korea KCC, CE Mark

* 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
** The product achieves a mean time between failure (MTBF) based on population statistics not relevant to individual units.

HP 256 GB SATA 2.5" Self-Encrypting (SED) Solid State Drive

Unformatted Capacity	256,186,209,271 bytes	
Architecture	Self-Encrypting (SED) Solid State Drive with 25nm MLC NAND Flash and SATA interface	
Interface	SATA 6 Gb/s	
NAND Flash	25nm MLC NAND Flash	
Height	.275 in/7mm	
Width	2.75 in/69.85 mm	
Length	3.95 in/100.5 mm	
Weight	0.161 lb (73 g)	
Bandwidth Performance	Sustained Sequential 128k Read:	Up to 450 MB/s
	Sustained Sequential 128k Write:	Up to 260 MB/s
	Random 4k Read:	Up to 46K IOPs
	Random 4k Write:	Up to 56K IOPs
Latency	Read:	55 µs
	Write:	55 µs
Power	SATA power consumption:	160 mW (active average); <85 mW (idle average)

QuickSpecs

Technical Specifications – Hard Disk and Solid State Storage

Useful Drive Life	72TB written, up to 40GB/day for 5 years	
Environmental (all conditions, non-condensing)	Operating Temperature:	32° to 158° F (0° to 70° C)
	Relative Humidity:	5% to 95%
	Shock:	1,500 G/1 ms

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 6 Gb/s	
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)	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	

Technical Specifications – Hard Disk and Solid State Storage

Length	3.945 in/100.2 mm, ±0.25mm
Weight	3.35 oz/95 g (max)
Operating Temperature	32° to 140° F (0° to 60° C)

HP 500 GB SATA 6G 2.5" 8GB Solid State Hybrid Drive (SSHD)

Formatted Capacity	500 GB	
Spindle Speed	5,400 rpm +/- 0.2%	
Drive Type	Solid State Hybrid Drive (SSHD) technology with NAND Flash	
Interface	SATA 6 Gb/s	
Cache Buffer	64 MB	
NAND Flash **Commercial Multilevel Cell** **(cMLC)**	8 GB	
Number of Sectors	976,773,168	
Seek Time (typical reads)	Single Track:	2.0 ms
	Average:	12 ms
Height	0.268 +/-.008 in (6.8 +/- 0.2 mm)	
Width	2.750 +/- 0.010 in (69.85 +/- 0.25 mm)	
Length	3.951 +0.008 / -0.010 in (100.35 +0.20 / -0.25 mm)	
Weight	0.209 lb/95 g (max)	
Operating Temperature	32° to 140° F (0° to 60° C)	

QuickSpecs

Technical Specifications – Hard Disk and Solid State Storage

HP 1-TB SATA 6G 2.5" 8GB Solid State Hybrid Drive (SSHD)

Formatted Capacity	1 TB
Spindle Speed	5,400 rpm +/- 0.2%
Drive Type	Solid State Hybrid Drive (SSHD) technology with NAND Flash
Interface	SATA 6 Gb/s
Cache Buffer	64 MB
NAND Flash Commercial Multilevel Cell (cMLC)	8 GB
Number of Sectors	976,773,168
Seek Time (typical reads)	Single Track: 2.0 ms Average: 12 ms
Height	0.374 +/-.008 in (9.5 +/- 0.2 mm)
Width	2.750 +/- 0.010 in (69.85 +/- 0.25 mm)
Length	3.951 +0.008 / -0.010 in (100.35 +0.20 / -0.25 mm)
Weight	0.254 lb/115 g (max)
Operating Temperature	32° to 140° F (0° to 60° C)

QuickSpecs

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 6X
	DVD+R	Up to 8X
	DVD+RW	Up to 8X
	DVD+R DL	Up to 6X
	DVD-R	Up to 8X
	DVD-RW	Up to 6X
	CD-R	Up to 24X
	CD-RW	Up to 24X
Read speeds	DVD-RAM	Up to 5X
	DVD-RW, DVD+RW	Up to 8X
	DVD-R DL, DVD+R DL	Up to 8X
	DVD+R, DVD-R	Up to 8X
	DVD-ROM DL, DVD-ROM	Up to 8X

QuickSpecs

Technical Specifications – Removable Storage

	CD-ROM, CD-R	Up to 24X
	CD-RW	Up to 24X
	Random	DVD-ROM: 170 ms (typical), CD-ROM: 170 ms (typical)
	Full Stroke	DVD-ROM: 320 ms (typical), CD-ROM: 320 ms (typical)
	Stop Time	6 seconds typical
Power	Source	Slimline SATA DC power receptacle
	DC Power Requirement	5 VDC ± 5%-100 mV ripple p-p
	DC Current	
		5 VDC (< 1000 mA typical, 1600 mA maximum)
Environmental conditions (operating - non-condensing)	Temperature	41° to 122° F (5° to 50° C)
	Relative Humidity	10% to 90%
	Maximum Wet Bulb Temperature	84° F (29° C)

HP Slim Blu-ray BDXL Drive	
Height	12.7mm height
Orientation	Either horizontal or vertical
Interface type	SATA/ATAPI
Disc recording capacity	Up to 128 GB QL, 100 GB TL, 50 GB DL or 25 GB standard SL

QuickSpecs

Technical Specifications – Removable Storage

Dimensions (W x H x D)	5.04 x 0.5 x 5.0 in (128 x 12.7 x 127 mm) without bezel		
Weight (max)	Up to 0.37 lb (170 g) without bezel		
		Triple-layer	**Quadruple-layer**
Write speeds	BD-R	Up to 4X	Up to 4X
	BD-RE	Up to 2X	Not supported
		Single-layer	**Double-layer**
	BD-R	Up to 6X	Up to 6X
	BD-RE	Up to 2X	Up to 2X
	DVD-R	Up to 8X	Up to 6X
	DVD-RW	Up to 6X	Not supported
	DVD+R	Up to 8X	Up to 6X
	DVD+RW	Up to 8X	Not supported
	DVD-RAM	Up to 5X	N/A
	CD-R	Up to 24X	N/A
	CD-RW	Up to 24X	N/A
		Triple-layer	**Quadruple-layer**
	BD-R	Up to 4X	Up to 4X
	BD-RE	Up to 4X	Not supported
		Single-layer	**Double-layer**
	BD-ROM	Up to 6X	Up to 6X

QuickSpecs

Technical Specifications – Removable Storage

Read speeds	BD-R	Up to 6X	Up to 6X
	BD-RE	Up to 6X	Up to 6X
	DVD-ROM	Up to 8X	Up to 8X
	DVD-R	Up to 8X	Up to 8X
	DVD-RW	Up to 8X	N/A
	DVD+R	Up to 8X	Up to 8X
	DVD+RW	Up to 8X	N/A
	BDMV (AACS Compliant Disc)	Up to 6X/2X (Read/Play)	N/A
	DVD-RAM	Up to 5X	N/A
	DVD-Video (CSS Compliant Disc)	Up to 8X/4X (Read/Play)	N/A
	CD-R/RW/ROM	Up to24X	N/A
	CD-DA(DAE)	Up to 20X/10X (Read/Play)	N/A
Access time (typical reads, including settling)	Random	BD-ROM: 205 ms (typical), DVD-ROM: 185 ms (typical), CD-ROM: 165 ms (typical)	
	Full Stroke	BD-ROM: 350 ms (typical), DVD-ROM: 345 ms (typical), CD-ROM: 340 ms (typical)	
Power	Source	Slimline SATA DC power receptacle	
	DC Power Requirement	5 VDC ± 5%-100 mV ripple p-p	
	DC Current	5 VDC -1200 mA typical, 2000 mA maximum	
Environmental conditions (operating - non-condensing)	Temperature	41° to 122° F (5° to 50° C)	
	Relative Humidity	10% to 80%	
	Maximum Wet Bulb Temperature	84° F (29° C)	

QuickSpecs

Technical Specifications – Removable Storage

HP Slim DVD-ROM Drive		
Height	12.7mm	
Orientation	Either horizontal or vertical	
Interface type	SATA/ATAPI	
Dimensions (W x H x D)	5.04 x 0.5 x 5.0 in (128 x 12.7 x 127 mm) without bezel	
Weight (max)	Up to 0.37 lb (170 g) without bezel	
Read speeds	DVD+R/-R/+RW/ -RW/+R DL /-R DL	Up to 8X
	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-ROM: 170 ms (typical), CD-ROM: 170 ms (typical)
	Full Stroke	DVD-ROM: 320 ms (typical), CD-ROM: 320 ms (typical)
Power	Source	Slimline SATA DC power receptacle
	DC Power Requirement	5 VDC ± 5%-100 mV ripple p-p
	DC Current	5 VDC - <1000 mA typical, < 1600 mA maximum
	Temperature	41° to 122° F (5° to 50° C)

Technical Specifications – Removable Storage

Environmental (all conditions non-condensing)	Relative Humidity	10% to 80%
	Maximum Wet Bulb Temperature (operating)	84° F (29° C)

Technical Specifications – Memory

System Memory Support

The HP EliteOne 800 G1 All-in-One Business PC supports the 4th 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 SODIMM.

- Two channels of non-ECC DDR3 unbuffered small outline dual in-line memory modules (SODIMM) with a maximum of one SODIMM 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 MT/s; actual supported DDR3 data transfer rate determined by the configured processor
- 64-bit wide channels
- DDR3 system memory I/O voltage of 1.5V and 1.35V
- Theoretical Maximum Memory Bandwidth:
  - 10.6 GB/s in single-channel mode of 21.3 GB/s in dual-channel mode assuming DDR3 1333 MT/s
  - 12.8 GB/s in single-channel mode or 25.6 GB/s in dual-channel mode assuming DDR3 1600 MT/s
  - 16 GB maximum memory support

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 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	4 GB	Unpopulated
8 GB (dual channel)	4 GB	4 GB
8 GB	8 GB	Unpopulated
16 GB (dual channel)	8 GB	8 GB

QuickSpecs

Technical Specifications – Networking and Communications

Intel® I217LM GbE Network Connection (integrated)	
Connector	RJ-45
System Interface	Integrated on PCA
Controller	Intel® Ethernet Controller I217LM
Memory	24 KB FIFO packet buffer memory Two Queues (Tx & Rx)
Data rates supported	10/100/1000 Mbps
IEEE Compliance	802.1P 802.1Q 802.1as/1588 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 3.3Vdc with integrated regulators Thermal Design Power (TDP) 0.535 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

QuickSpecs

Technical Specifications – Networking and Communications

	1000BASE-T (full-duplex) 2000 Mbps	
Environmental	Operating Temperature:	0° to 85° C
	Operating Humidity:	60% RH
Management	WOL, auto MDI crossover, PXE, Muti-port teaming, RSS, Advanced cable diagnostic, Smart speed operation	
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

QuickSpecs

Technical Specifications – Networking and Communications

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
	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

Technical Specifications – Networking and Communications

	802.11 b - Typical (@1 Mbps)	1200 feet - Outdoor Open Area 300 feet - Indoor, Office environment
	802.11 g - Typical (@1 Mbps)	1200 feet - Outdoor Open Area 300 feet - Indoor, Office environment
Form Factor	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 XP Wireless Network Connection Manager • Intel PROSet for Microsoft Windows XP (required for Cisco Compatible Extensions support)	Microsoft Windows Win 7 • Intel IHV extensions for Win7 available to support Cisco Compatible Extensions

HP WLAN 802.11a/b/g/n Wireless 2x2 Dual-Band Minicard with Bluetooth Combo	
Dimensions (L x H)	1.18 x 1.06 in (30 x 26.8 mm)
Chipset	Atheros AR9462
System interface	PCI-Express Mini Card
Network standard	802.11 a/b/g/n

QuickSpecs

Technical Specifications – Networking and Communications

<table>
<tr>
<td rowspan="3">Frequency band</td>
<td>Bluetooth: 2.402 - 2.480 GHz</td>
</tr>
<tr>
<td>Wi-Fi:

802.11a/n – 4.9 – 4.95 GHz (Japan), 5.15 – 5.25 GHz, 5.25 – 5.35 GHz, 5.47 – 5.725 GHz, 5.825 – 5.850 GHz

802.11b/g/n 2.402-2.482 GHz</td>
</tr>
</table>

Bluetooth	The WLAN + Bluetooth Combo Mini Card meets all of the requirements to support Bluetooth 4.0 and is backwards compatible with 2.1 with EDR and 3.0 High speed.
Operating temperature	14° to 158°F, operating (-10° to 70°C, operating)
Storage temperature	-40° to 176°F, non-operating (-40° to 80°C, non-operating)
Humidity	10-90% operating 5-95% non-operating
Operating voltage	3.3 V ±9% I/O supply voltage

<table>
<tr>
<td rowspan="11">Power Consumption</td>
<td>Platform/WLAN Mode</td>
<td>Power Consumption</td>
</tr>
<tr>
<td colspan="2">Wi-Fi</td>
</tr>
<tr>
<td>Transmit Mode</td>
<td>2 W</td>
</tr>
<tr>
<td>Receive Mode</td>
<td>1.6 W</td>
</tr>
<tr>
<td>Idle mode (PSP)
(WLAN Associated)</td>
<td>250mW</td>
</tr>
<tr>
<td>Idle mode
(WLAN unassociated)</td>
<td>100mW</td>
</tr>
<tr>
<td>Radio disabled</td>
<td>75mW</td>
</tr>
<tr>
<td colspan="2">Bluetooth</td>
</tr>
<tr>
<td>Peak Operating</td>
<td>330 mW</td>
</tr>
<tr>
<td>Receive</td>
<td>230 mW</td>
</tr>
</table>

QuickSpecs

Technical Specifications – Networking and Communications

	USB Selective Suspend	17 mW
Output Power	2.4G: +13.5dBm minimum	
	5G: +12dBm minimum	
Security	IEEE and WiFi compliant 64 / 128 bit WEP encryption for a/b/g mode only	
	802.1x authentication	
	WPA, WPA2: 802.1x. WPA-PSK, WPA2-PSK, TKIP, and AES	
	IEEE 802.11i	
	Cisco Certified Extensions, all versions through V5	
	WAPI	
Antenna	Dual antenna connectors	

Near Field Communications Controller, with Embedded Secure Element	
Dimensions (L x W x H)	Module 10mm by 17mm by 1.8mm
Chipset	NXP PN650 (PN544C3 and P5CN145 dies in a single VFBGA64 package)
System interface	I^{2}C
NFC RF standards	ISO/IEC 14443 A ISO/IEC 14443 B ISO/IEC 15693 ISO/IEC 18092 ECMA-340 NFCIP-1 Target and Initiator ECMA-320 NFCIP-2
NFC Forum Support	Tag Type 1, Type 2, Type3 and Type 4, NFCIP-1 and NFCIP-2

Technical Specifications – Networking and Communications

Reader (PCD-VCD) Mode[1]	ISO/IEC 14443 A ISO/IEC 14443 B ISO/IEC 15693 MIFARE 1K MIFARE 4K FeliCa
Card Emulation (PICC-VICC) Mode[1]	ISO/IEC 14443 A ISO/IEC 14443 B and B' MIFARE FeliCa
Frequency	13.56 MHz
NFC Modes Supported	Reader/Writer, Peer-to-Peer, Card Emulation
Raw RF Data Rates	106, 212, 424 kbps
Embedded Secure Element	144 KB EEPROM, Data Memory or Program Memory 264 KB User ROM 7.5 KB RAM PKI (Public Key Infrastructure) coprocessor Dual Triple DES Key coprocessor NFC-WI interface to NFC controller, PN544 MIFARE 4 KB card emulation EEPROM data retention time 20 years, minimum
Operating temperature	0°C to 70°C
Storage temperature	-40° to 80°C
Humidity	10-90% operating 5-95% non-operating

QuickSpecs

Technical Specifications – Networking and Communications

Supply Operating voltage	2.97 to 5.25 Volts	
I/O Voltage	1.8V or 3.3V	
Power Consumption (Supply 3.3 Volts)	**Mode**	**Power Consumption, Typical[2]**
	Reset	10 µW
	Standby	150 µW
	Card Emulation within Polling Loop	297 µW
	When generating RF	120 mW
	Transmitter Supply Current (Continuous wave)	30 mA
Antenna	Antenna connector, 0.5mm pitch, 5 connector FPC. Antenna matching is external to module.	

(1) With application or UICC support

(2) Actual Power Consumption is dependent on NFC antenna and matching circuit and on the particular polling sequence and period configured.

QuickSpecs

Technical Specifications – Audio

Realtek ALC3228 High Definition Audio

Type	Integrated
HD Stereo Codec	Realtek ALC3228 4-channel codec
Ports	Line-In/Microphone input ports are 47K (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	2.2W/channel Class-D stereo BTL speaker amplifier@ 4 ohms and 5V
Sampling	The ALC3228 audio CODEC provides stereo 24- bit, full duplex resolution supporting sample rates up to 192kHz by the DAC and ADC. 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

DTS Studio Sound Technology

Introduction	**DTS Studio Sound** provides the ultimate audio and entertainment experience for all PC applications related to music, movies and games. Utilizing DTS' revolutionary 3D audio technology, DTS Studio Sound provides the most immersive and realistic listening experience unlike any solution ever offered for a two speaker playback environment. DTS Studio Sound 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 (desktop speakers or headphones).

QuickSpecs

Technical Specifications – Audio

DTS Studio Sound Features	• 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
DTS Studio Sound Benefits	• 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

QuickSpecs

Technical Specifications – Keyboard and Mouse

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)

QuickSpecs

Technical Specifications – Keyboard and Mouse

	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 (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)	18.22 x 6.47 x 1.1 in (46.28 x 16.43 x 2.79 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

QuickSpecs

Technical Specifications – Keyboard and Mouse

	EMI - RFI	Conforms to FCC rules for a Class B computing device
	Microsoft PC 99 - 2001	Functionally compliant
	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	50-dBA maximum sound pressure level
	Operating temperature	32° to 104° F (0° to 40° C)
	Non-operating temperature	-22° to 149° F (-30° to 65° C)
	Operating humidity	15% to 80% (non-condensing at ambient)
	Non-operating humidity	15% to 90% (non-condensing at ambient)
	Operating shock	N/A
	Non-operating shock	65 inch 2.9 ms, six surface; 30g 266 inch/second; 50g 266 inch/second six surface
	Operating vibration	2-g peak acceleration
	Non-operating vibration	Starting at 5 Hz, vary the frequency of vibration from 5 to 500 Hz and back to 5 Hz at a Logarithmic sweep rate of 1 octave per minute.
	Drop (out of box)	26 in (66 cm) on carpet, six-drop sequence
	Drop (in box)	29.93 in (76 cm) on concrete, 16-drop sequence

Technical Specifications – Keyboard and Mouse

Approvals	CUL, ICES-003 Class B, FCC, CE Mark,TUV GS, VCCI, BSMI, C-Tick, KC
Ergonomic compliance	ANSI HFS 100, ISO 9241-4, and TUVGS

HP USB Smart Card (CCID) Keyboard

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.

QuickSpecs

Technical Specifications – Keyboard and Mouse

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)
	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

Technical Specifications – Keyboard and Mouse

	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
	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

Technical Specifications – Keyboard and Mouse

	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	
	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

QuickSpecs

Technical Specifications – Keyboard and Mouse

	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)
	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	

QuickSpecs

Technical Specifications – Keyboard and Mouse

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)
System Requirements	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 Available USB port for the receiver CD-ROM Drive *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 http://www.microsoft.com/windows/windows-7/ for details.	
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

Technical Specifications – Keyboard and Mouse

	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.
Environmental	Keyboard contains 25% post-consumer recycled plastic material.	

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)
	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

Technical Specifications – Keyboard and Mouse

	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
	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

Technical Specifications – Keyboard and Mouse

	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)	
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)

QuickSpecs

Technical Specifications – Keyboard and Mouse

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
	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

QuickSpecs

Technical Specifications – Keyboard and Mouse

	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
		* 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: http://www.windowsvista.com/upgradeadvisor. For Windows Vista system requirements, visit: http://www.windowsvista.com/systemrequirements.

QuickSpecs

Technical Specifications – Enviromental Data

Eco-Label Certifications & 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: • IT ECO declaration • US ENERGY STAR® • EPEAT <Gold> registered in the United States. See http://www.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 PC model is based on a typically configured PC featuring a hard disk drive, a high efficiency power supply, and a Microsoft Windows® operating system.

Energy Consumption (in accordance with US ENERGY STAR® test method)

	115VAC, 60Hz	230VAC, 50Hz	100VAC, 60Hz
Normal Operation (Short idle)	23.81 W	23.58 W	23.58 W
Normal Operation (Long idle)	12.98 W	12.71 W	12.71 W
Sleep	1.48 W	1.42 W	1.42 W
Off	1.15 W	1.16 W	1.16 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 PC featuring a hard disk drive, a high efficiency power supply, and a Microsoft Windows® operating system.

Heat Dissipation	115VAC, 60Hz	230VAC, 50Hz	100VAC, 60Hz
Normal Operation (Short idle)	81 BTU/hr	81 BTU/hr	81 BTU/hr
Normal Operation (Long idle)	44 BTU/hr	43 BTU/hr	43 BTU/hr
Sleep	5 BTU/hr	5 BTU/hr	5 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)	Sound Power (L_{WAd}, bels)	Sound Pressure (L_{pAm}, decibels)
	3.4	22

QuickSpecs

Technical Specifications – Enviromental Data

	3.4	22

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:

- 6 USB 3.0 ports
- 2 memory slots
- 1 Mini PCIe half-length slot
- 1 SD card reader
- (2) 2.5" internal bays supporting (2) 2.5" drives (HDD/SSD/SED/SSHD)
- 1 5.25" external supporting optical drive

Spare parts are available throughout the warranty period and or for up to "5" 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 the1ppm by weight
Cadmium greater than 20ppm 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 - 2011/65/EC.
- This HP product is designed to comply with the Waste Electrical and Electronic Equipment (WEEE) Directive – 2002/96/EC.
- This product is in compliance with California Proposition 65 (State of California; Safe Drinking Water and Toxic Enforcement Act of 1986).
- This product is in compliance with the IEEE 1680 (EPEAT) standard at the <gold> level, see www.epeat.net
- This product has obtained a Korea KCC EMC certificate.

- Plastics parts weighing over 25 grams used in the product are marked per ISO11469 and ISO1043.
- This product contains 36.9% post-consumer recycled plastic (by wt.)
- This product is 97.6% recycle-able when properly disposed of at end of life.

Packaging Materials

- External:
  - PAPER/Corrugated   1516 g
  - PAPER/Paper   94 g
- Internal:
  - PLASTIC/EPE – Expanded Polyethylene   533 g
  - PLASTIC/Polyethylene high density   39 g

Technical Specifications – Enviromental Data

The plastic packaging material contains at least 5% recycled content.

The corrugated paper packaging materials contains at least 100% recycled content.

Material Usage
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: http://www.hp.com/hpinfo/globalcitizenship/environment/pdf/gse.pdf):

- 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 standards.

Technical Specifications – Enviromental Data

End-of-life Management and Recycling

Hewlett-Packard offers end-of-life HP product return and recycling programs in many geographic areas. To recycle your product, please go to: http://www.hp.com/go/reuse-recycle or contact your nearest HP sales office. Products returned to HP will be recycled, recovered or disposed of in a responsible manner.

The EU WEEE directive (2002/95/EC) requires manufacturers to provide treatment information for each product type for use by treatment facilities. This information (product disassembly instructions) is posted on the Hewlett Packard web site at: http://www.hp.com/go/recyclers. These instructions may be used by recyclers and other WEEE treatment facilities as well as HP OEM customers who integrate and re-sell HP equipment.

Hewlett-Packard Corporate Environmental Information

For more information about HP's commitment to the environment:
Global Citizenship Report
http://www.hp.com/hpinfo/globalcitizenship/gcreport/index.html
Eco-label certifications
http://www.hp.com/hpinfo/globalcitizenship/environment/productdesign/ecolabels.html
ISO 14001 certificates:
http://www.hp.com/hpinfo/globalcitizenship/environment/operations/envmanagement.html

QuickSpecs

After-Market Options (availability may vary by region)

AFTER MARKET OPTIONS:

ADDITIONAL MONITORS FOR MULTI-DISPLAY CONFIGURATIONS	Part Number
HP EliteDisplay E190i 18.9-inch LED Backlit Monitor	E4U30AA
HP EliteDisplay E201 20-inch LED Backlit Monitor	C9V73AA
HP EliteDisplay E221 21.5-inch LED Backlit Monitor	C9V76AA
HP EliteDisplay E221c 21.5-inch Webcam LED Backlit Monitor	D9E49AA
HP EliteDisplay E231 23-inch LED Backlit Monitor	C9V75AA
HP EliteDisplay E241i 24-inch LED Backlit Monitor	F0W81AA
HP EliteDisplay E271i 27-inch LED Backlit Monitor	D7Z72AA
HP L2206tm 21.5-inch LED Backlit Touchscreen Monitor	B0L55AA
HP EliteDisplay S230tm 23-inch Touch Monitor	E4S03AA

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
HP 500GB SATA , 6G (8GB cache) Solid State Hybrid Drive (SSHD)	E1C62AA
HP 128GB SATA Solid State Drive	QV063AA
HP 160GB SATA Solid State Drive	QV064AA
HP Slim SATA DVD-ROM Drive	VP033AA
HP Slim SATA BDXL Blu-Ray Writer Drive	E0X94AA
HP Slim SATA SuperMulti DVD Writer Drive	QS209AA

INPUT DEVICES – KEYBOARD AND MOUSE COMBO	Part Number
HP USB PS/2 Washable Keyboard & Mouse	BU207AA
HP Wireless Keyboard & Mouse (Keyboard contains 25% post-consumer recycled plastic material)	QY449AA

INPUT DEVICES – KEYBOARD	Part Number
HP PS/2 Keyboard	QY774AA

After-Market Options (availability may vary by region)

HP USB Grey Keyboard	B6B64AA
HP USB Smart Card (CCID) Keyboard	E6D77AA
HP USB Keyboard	QY776AA

INPUT DEVICES – MOUSE	**Part Number**
HP PS/2 Mouse	QY775AA
HP USB 1000dpi Laser Mouse	QY778AA
HP USB Mouse	QY777AA
HP USB Gray Mouse	K7W54AA
HP Mouse Pad	AT485AA

SECURITY	**Part Number**
HP UltraSlim Cable Lock	H4D73AA

GRAPHICS – VIDEO ADAPTERS AND CABLES	**Part Number**
HP DisplayPort Cable Kit	VN567AA
HP DisplayPort To DVI-D Adapter	FH973AA
HP DisplayPort To HDMI Adapter	BP937AA
HP DisplayPort To HDMI 1.4 Adapter	K2K92AA
HP DisplayPort To VGA Adapter	AS615AA
HP DVI Cable	DC198A
USB Graphics Adapter	NL571AA
HP (Bulk) 700mm DisplayPort Cable Kit	V8Y77A6

STANDS AND MONITOR ARM	**Part Number**
AiO Height Adjustable and Reclining Stand	C1N43AA
HP Single Monitor Arm	BT861AA
HP (Flat Panel Monitor) Quick Release	EM870AA

MISCELLANEOUS	**Part Number**
Belkin 7-Outlet Surge Protector for North America 120V	AG290AA
Belkin USB to Serial Adapter	EM449AA
Belkin CAT5e Patch Cable RJ45/RJ45	AH122AA

QuickSpecs

HP EliteOne 800 G1 All-in-One Business PC

After-Market Options (availability may vary by region)

HP Business Headset	QK550AA
HP Executive Capacitive Stylus	G4Y85AA

LANDESK SOFTWARE (E-DELIVERY)	**Part Number**
Contact your HP representative for available options.	N/A

c04123118 — DA — 14652— Worldwide — Version 33 —April 18, 2016　　　　Page 78

After-Market Options (availability may vary by region)

Summary of Changes

Summary of Changes

Date of change:	Version History:		Description of change:
	From v1 to v2		
May 14, 2014	From v3.3 to v3.4	Added	Intel processors.
May 30, 2014	From v3.4 to v3.5	Changed	Operating systems, 3rd party software
July 16, 2014	From v3.5 to v17	Upgrade	Change the version so it would match what we have on the PB
July 18, 2014	From v17 to v18	Addition	Added new list of processors
		Addition	Added a new WLAN card under NETWORKING/COMMUNICATIONS
September 26, 2014	From v18 to v19	Change	Change the Environmental data chart
November 12, 2014	From v19 to v20	Changes	
November 20, 2014	From v19 to v20	Addition	Added a new section for DTS sound under audio
December 1, 2014	From v20 to v22	Upgrade	Change the version to sync up with Concentra
January 21, 2015	From v22 to v23	Addition	Added a note about Current Leakage, under POWER
February 10, 2015	From v23 to v24	Change	Change the value for Bays
February 23, 2015	From v24 to v25	Remove	Remove the chart "HP 160 GB Solid State Drive"
March 24, 2015	From v25 to v26	Added	HP Executive Capacitive Stylus At a glance added, • Processor support up to 65W
		Removed	Up to 160 GB SDD from at a glance
April 28, 2015	From v26 to v27	Addition	Added the following to the processors list : Intel® Pentium™ G3460 128 GB SATA 2.5 TLC Non-SED SSD 256 GB SATA 2.5 TLC Non-SED SSD 512 GB SATA 2.5 Non-SED SSD
		Remove	160 GB, SATA Solid State Drive
July 9, 2015	From v28 to v29	Changed	Change the OS
		Added	Added new note under Storage
October 06, 2015	From v30 to v31	Added	Added note about AMD and NVIDIA graphics cards are not available for Windows 10
March 28, 2016	From v31 to v32	Added	HP (Bulk) 700mm DisplayPort Cable Kit
April 18, 2016	From v32 to v33	Added	This product has obtained a Korea KCC EMC certificate.