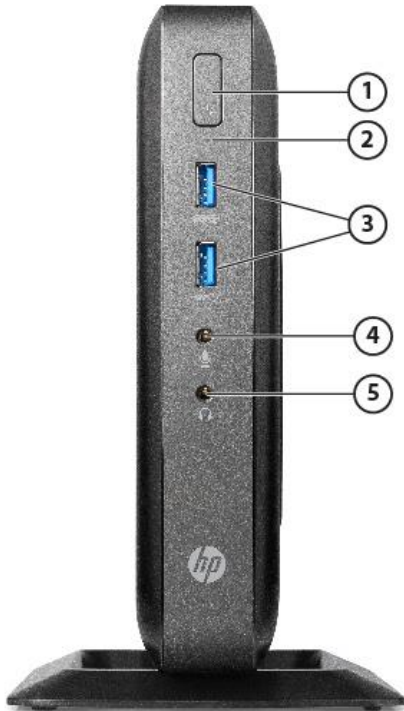


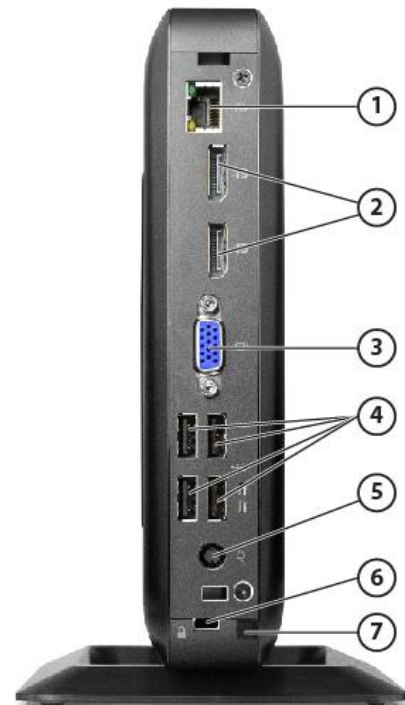
Overview

HP t520 Thin Client



FRONT

1. Power button (with integrated power indicator light)
2. Flash memory activity indicator light
3. Universal Serial Bus (USB) 3.0 ports
4. Audio connector (mic/line in)
5. Audio connector (headphone/line out)



BACK

1. Ethernet RJ-45 connector
2. DisplayPort 1.2 digital video outputs (2)
3. VGA analog video output (1)
4. Universal Serial Bus (USB) 2.0 ports
5. DC power input
6. Cable lock slot
7. Power cord retention clip

Overview

Hardware Features:

- Compact 1.8 liter thin client chassis; easily able to deploy in the horizontal or vertical orientations; integrated VESA 100 mounting system
- AMD G-Series System-on-Chip; 1.2 GHz dual core APU; AMD Radeon HD GPU¹
- DDR3L SODIMM SDRAM system memory; single SODIMM slot; up to 8 GB capacity supported²
- Solid state flash memory storage; up to 64 GB capacities
- Active thermal management technology monitors internal component operating temperatures – throttles SOC operation if appropriate and prevents unit thermal shutdown
- Integrated Gigabit Ethernet local area network (LAN) connection; RJ45 port presented on the system rear panel
- Optional Wi-Fi solutions including Bluetooth³
- Dual DisplayPort 1.2 digital video outputs and a single VGA analog video output.
NOTE: the system will support up to two displays using any combination of the three available video outputs.
- Two (2) SuperSpeed USB 3.0 front access ports and four (4) Hi-Speed USB 2.0 rear access ports. Two of the rear access ports are typically utilized by the keyboard and mouse.
- Audio system including an internal PC speaker for basic audio playback; 3.5 mm headphone and microphone ports (front access) supporting headphones, headsets and external PC speaker systems
- System BIOS designed to address NIST SP 800-147 guidelines
- ENERGY STAR® certified and EPEAT® Gold registered in the United States. See <http://www.epeat.net> for registration status in other countries.
- Post-consumer recycled plastics content greater than 25% total unit plastics (by weight)
- Low halogen materials⁴
- All models TAA compliant in the Americas and EMEA; TAA compliant models available in APJ upon special request

¹ The system requires a 64-bit operating system and 64-bit software products to take advantage of the 64-bit processing capabilities of the AMD technology. Multi-core processing available with AMD technology is designed to improve performance of this system. Given the wide range of software applications available, performance of a system including a 64-bit operating system will vary.

² Graphics chipset uses a portion of the system SDRAM for graphics performance; system memory dedicated to graphics is not available for use by other programs or subsystems.

³ Use of a Wi-Fi adapter requires a Wi-Fi access point and Internet service; availability of public Wi-Fi access is limited.

⁴ External power adapters, power cords, cables and peripherals are not low halogen; service parts obtained aftermarket may not be low halogen.

HP ThinPro / Smart Zero Core Operating System Features:

- Purpose built Linux based thin client operating system
- Includes HP Connection Manager enabling quick server connections
- Smart Zero Core boots directly into a user log-in on the server or portal for which they are configured. No local thin client user interface means the end user can get to work without special training on the access device. Smart Zero Core reduces the administration burden by enabling the IT administrator to perform the configuration setting on the server and the settings will be automatically applied to all thin clients on the network.

Overview

- ICA and RDP support for accessing Citrix and Windows resources
- VMware Horizon View PCoIP support for accessing VMware Horizon View sessions
- VDI broker support includes VMware Horizon View, Citrix XenDesktop (with CDA mode utility)
- Multimedia and USB redirection support:
 - Citrix HDX MediaStream (multimedia redirection)
 - Citrix HDX Plug-n-Play (USB redirection)
- Improved quality of experience for end users using HP Velocity (for details visit <http://www.hp.com/go/velocity>)
 - Exclusive to HP thin clients
 - Enables IT managers to monitor network activity and optimize the end user experience
 - Intelligently reduces network packet loss and retransmissions providing a better experience for end users located off the local area network

Windows® Embedded Standard 7E (32-bit)

- Microsoft® WES 7E with support for RemoteFX and local applications, providing a richer user experience
- Internet Explorer 10 (IE10) for genuine Internet Explorer browsing and Web-application interfaces
- Excellent rich multimedia experience and enhanced USB device support in VDI environments
- Latest protocol support from Citrix On-Line Plug in (ICA) 4.1, RDP 8.1 w/RemoteFX, and VMware Horizon Client 2.3.3
- Enhanced Write Filter and File-Based Write Filter provide complete flexibility to protect the entire SSD, or configure areas of the drive for persistent access by local applications
- Microsoft Firewall for enhanced data security
- Support 802.1x LAN-based authentication for greater security
- HP Universal Print Driver provides instant access to a range of HP print devices without downloading separate
- Improved quality of experience for end users using HP Velocity (for details visit <http://www.hp.com/go/velocity>)
 - Exclusive to HP thin clients
 - Enables IT managers to monitor network activity and optimize the end user experience
 - Intelligently reduces network packet loss and retransmissions providing a better experience for end users located off the local area network

Windows® Embedded Standard 7P (64-bit)

- A 64-bit OS for improved performance and support for larger memory installations (up to 16 GB)
- Windows Touch (Multi-touch support) for touch-screen monitors
- Multi-language support brings multilingual capabilities letting users select a preferred display language, or to easily install a number of other languages
- DirectAccess feature allows remote users to securely access enterprise shares, websites, and applications without connecting to VPN

Overview

- BrancheCache WAN optimization technology
- AppLocker application “whitelisting”
- AntiMalware and Windows Defender software providing additional protection from virus, worms, and spyware
- Snipping tool for easy screen capture copying and pasting
- Remote media streaming to enhance multimedia user experience
- Photo Viewer for easy image viewing
- Improved end user experience with HP Velocity (for details visit <http://www.hp.com/go/velocity>)
 - Exclusive to HP thin clients
 - Enables IT managers to monitor network activity and optimize the end user experience
 - Intelligently reduces network packet loss and retransmissions providing a better experience for end users located off the local area network

Windows® Embedded 8 Standard (64-bit)

- The newest Microsoft embedded software based on Windows 8
- A 64-bit OS for improved performance and support for larger memory installations (up to 8GB)
- Smooth, immersive experiences with technologies like advanced Multi Touch and Windows 8 applications
- The latest RDP8 and Remote FX client software
- WE8S offers a secure platform that is intelligent systems ready
- Latest Internet Explorer 10 (IE10) for genuine Internet Explorer browsing, HTML 5 support and Web-application interfaces
- Latest protocol support from Citrix Receiver Standard 4.1 with Storefront support, RDP 8.1 w/RemoteFX, and VMware Horizon View 2.2.3.
- Excellent rich multimedia experience and enhanced USB device support in VDI environments
- Integrated 802.11a/b/g/n with dual internal antennas configurations available
- Standard configurations: 16 GB SSD and 4 GB SDRAM
- Improved quality of experience for end users using HP Velocity (for details visit <http://www.hp.com/go/velocity>)
 - Exclusive to HP thin clients
 - Enables IT managers to monitor network activity and optimize the end user experience
 - Intelligently reduces network packet loss and retransmissions providing a better experience for end users located off the local area network

NOTE: all Windows Embedded 8 Standard devices must be activated; customers have the option via an Internet connection, telephone or indirectly through a proxy for large deployments

Windows® 10 IoT Enterprise Operating System: (64-bit)

- The newest Microsoft embedded operating system based on Windows® 10
- A 64-bit operating system for improved performance and support for larger memory installations

Overview

- Smooth, immersive experiences with technologies like advanced Multi Touch and Windows® 10 applications
- The latest RDP-and Remote FX client software
- Latest Internet Explorer 11 for genuine browsing, HTML 5 support and web-application interfaces
- Latest protocol support from Citrix®, VMware® and RDP
- Excellent rich multimedia experience and enhanced USB device support in VDI environments
- Improved end-user experience with HP Velocity
 - Enables IT managers to monitor network activity and optimize end-user experience
 - Intelligently reduces network retransmissions due to packet loss, providing a better user experience
 - Built in monitors enable remote debugging and troubleshooting

For details visit: <http://www.hp.com/go/velocity>

Warranty

HP Total Care Warranty and Services: limited three year hardware warranty in most regions. HP Care Pack Services extend service contracts beyond the standard warranty. For more details visit <http://www.hp.com/go/lookuptool>

Technical Specifications

OPERATING SYSTEMS

- HP Smart Zero Core (32-bit)
- HP ThinPro (32-bit)
- Windows® Embedded 8 Standard (64-bit)*
- Windows® Embedded Standard 7P (64-bit)*
- Windows® Embedded Standard 7E (32-bit)*
- Windows® 10 IoT Enterprise (64-bit)**

* 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. See <http://www.microsoft.com>.

* 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>.

PROCESSOR / CHIPSET

AMD GX-212JC SOC; 1.2 GHz dual core APU with AMD Radeon HD Graphics

NOTE: This system requires a 64-bit operating system and 64-bit software products to take advantage of the 64-bit processing capabilities of AMD technology. Multi-core processing available with AMD technology is designed to improve performance of this system. Given the wide range of software applications available, performance of a system including a 64-bit operating system will vary.

MEMORY

Type:	DDR3L SODIMM SDRAM
Data Rate:	1,600 MT/s
Peak Transfer Rate:	12,800 MB/s
Number of Slots:	Single SODIMM
Capacities:	4 GB, 8 GB

NOTE: The system's graphics engine uses a portion of the system SDRAM for graphics performance; system memory dedicated to graphics is not available for use by other programs or subsystems

STORAGE

Type:	Flash memory based solid state modules
Number of Slots:	1 slot
Slot Type	M.2
Capacities	8 GB, 16 GB, 32 GB, 64 GB

Technical Specifications

GRAPHICS

Mode	Color Depth	Refresh Rate (Hz)
800 x 600	8/16/32 bit	60, 75, 85
1024 x 600	8/16/32 bit	60, 75, 85
1024 x 768	8/16/32 bit	60, 70, 75, 85
1152 x 864	8/16/32 bit	60, 75, 85
1280 x 720	8/16/32 bit	60, 75, 85
1280 x 768	8/16/32 bit	60, 75, 85
1280 x 800	8/16/32 bit	60
1280 x 960	8/16/32 bit	60, 75, 85
1280 x 1024	8/16/32 bit	60, 75, 85
1366 x 768	8/16/32 bit	60
1400 x 1050	8/16/32 bit	60, 75, 85
1440 x 900	8/16/32 bit	60, 75, 85
1600 x 900	8/16/32 bit	60
1600 x 1200	8/16/32 bit	60, 75, 85
1680 x 1050	8/16/32 bit	60
1920 x 1080	8/16/32 bit	60, 75, 85
1920 x 1200	8/16/32 bit	60, 75
2048 x 1536 (DisplayPort, only)	8/16/32 bit	60
2560 x 1600 (DisplayPort, only)	8/16/32 bit	60

NOTE: This table represents a sample of possible modes that this controller is capable of displaying but various factors such as the capability and EDID information returned by the attached monitor, the interface used (DVI-I/DisplayPort or optional D-SUB with dongle), and dual monitor mode may limit the availability of modes, color depth, and/or refresh rate.

Technical Specifications

INPUT / OUTPUT

SuperSpeed USB 3.0	Two (2) ports; front access
Hi-Speed USB 2.0	Four (4) ports; rear access NOTE: the keyboard and mouse typically utilize two of the rear access ports
Video	Two (2) DisplayPort 1.2 digital outputs One (1) VGA analog output NOTE: only two video streams are provided by the system; any combination of two from the three available video outputs can be utilized at one time
Audio	Internal PC speaker system for basic audio playback One (1) 3.5 mm audio port marked as headphone; front access One (1) 3.5 mm audio port marked as microphone; front access

NETWORKING

Hardware based	Integrated (all models):	Gigabit Ethernet Network Interface; rear access RJ45 port		
	Optional (select models):	Broadcom 802.11n 2x2 Wi-Fi Network Interface with Bluetooth® Intel 802.11ac Wi-Fi Network Interface with Bluetooth NOTE: 802.11 is an optional or add on feature; use of the Wi-Fi module requires a Wi-Fi access point and Internet service; availability of public Wi-Fi access points is limited.		
Software based		HP ThinPro HP Smart Zero Core	Microsoft WES 7E	Microsoft WE 8S
	Point-to-Point Protocol (PPP)		✓	✓
	Point-to-Point over Ethernet (PPPoE)		✓	✓
	Direct Connection through RS-232	✓	✓	✓
	Point-to-Point Tunneling Protocol (PPTP)	✓	✓	✓
	Layer-2 Tunneling Protocol (L2TP)	✓	✓	✓
	Server Network Time Protocol (SNTP)	✓	✓	✓

SERVER OPERATING SYSTEM COMPATIBILITY / SUPPORT

- Citrix XenApp 5 and later
- Citrix XenDesktop 3 and later
- Citrix Presentation Server 4.0 and later
- Windows Server 2003
- Windows Server 2008r2 Terminal Services
- Windows 2012 Server Remote Desktop Services

Technical Specifications

- VMware Horizon View Virtual Desktop Infrastructure

WEIGHT & DIMENSIONS

Dimensions: (W x D x H)	4.51 x 20.0 x 20.0 cm
(vertical orientation without stand attached)	1.78 x 7.87 x 7.87 in
Shipping Dimensions (W x D x H)	28.8 x 15.1 x 49.1
Volume:	1.8 liter
Weight:	1.04 kgs 2.29 lbs
Shipping Weight:	Starting with 3.48 kg (7.67 lbs)

NOTE: Models configured with optional equipment and modules will increase in weight

POWER SUPPLY

- 65W external power adapter
- Worldwide auto-sensing 100-240 VAC, 50-60 Hz
- Energy saving automatic power down feature
- Surge tolerant

The HP t520 thin client external power adapters are sourced from a number of suppliers in order to ensure adequate supply and availability is maintained. The actual dimensions of the power brick will vary by supplier.

Chicony:	126 x 50 x 30 mm
Delta:	108 x 46 x 29.5 mm
Bestec:	116 x 50 x 30 mm
LiteOn:	113.5 x 55 x 30 mm

COUNTRY OF ORIGIN

Americas	Mexico
Europe, Middle East & Africa	Czech Republic
Asia, Pacific & Japan	China

Software

Host Environment	Protocol	HP ThinPro HP Smart Zero Core	WES 7E WES 7P WE 8S	WIN 10 IoT
Microsoft Remote Desktop Services	Remote FX (RFX) RDP	✓	✓	✓
Citrix	ICA HDX	✓	✓	✓
VMware Horizon View	RDP PCoIP	✓	✓	✓

Protocol Clients	ThinPro Smart Zero Core	WES 7E	WES 7P	WE 8S	WIN 10 IoT
Citrix Receiver*	✓	✓	✓	✓	✓
Microsoft Remote Desktop Client		✓	✓	✓	✓
VMware Horizon View Client*	✓	✓	✓	✓	✓
Remote Graphics Software (RGS)		✓	✓	✓	✓
HP TeamTalk Terminal Emulator		Via add-on	Via add-on		via add-on
Free RDP	✓				N/A

***NOTE:** These features are included in the Windows Embedded 8 Standard image, but they are disabled. To unlock these features, the “Windows Embedded 8 Standard Enterprise Kit” must be purchased through Microsoft volume licensing.

Protocols are dependent on operating system installed. Other add-on software available (see: <http://www.hp.com/support> for latest list of available add-ons). Software performance and support may vary depending on customer environment and backend.

Browser Support	ThinPro Smart Zero Core	WES 7E	WES 7P	WE 8S	WIN 10 IoT
Mozilla Firefox	✓				
Internet Explorer		✓	✓	✓	✓

Security	ThinPro Smart Zero Core	WES 7E	WES 7P	WE 8S	WIN 10 IoT
Smart Card	✓	✓	✓	✓	✓
Log-on Manager		✓	✓	✓	✓
Read-only Operating System		✓	✓	✓	✓
802.1x	✓	✓	✓	✓	✓
Operating System Write Filter		EFW, FBWF	EFW, FBWF	UWF	UWF

Software

Microsoft Firewall		✓	✓	✓	✓
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Software

Management Tools	ThinPro Smart Zero Core	WES 7E	WES 7P	WE 8S	WIN 10 IoT
HP Device Manager	✓	✓	✓	✓	✓
HP ThinState	✓	✓	✓	✓	✓
HP Easy Tools	✓	✓	✓		N/A
HP Smart Zero Client Services	✓				N/A
Microsoft SCCM/EDM agent		✓	✓	✓	✓

Additional Components	ThinPro Smart Zero Core	WES 7E	WES 7P	WE 8S	WIN 10 IoT
HP Velocity	✓	✓	✓	✓	✓
HP Easy Shell	✓	✓	✓	✓	✓
HP Universal Print Driver		✓	✓	✓	N/A
Windows Media Player		✓	✓	✓	
Microsoft DirectAccess			✓	N/A	✓
Microsoft BranchCache			✓	N/A	✓
Microsoft AppLocker			✓	N/A	✓
Microsoft Sideload			✓	N/A	✓

Software

TEXT AND GRAPHICS TERMINAL EMULATIONS

(provided by HP TeemTalk 7 in HP ThinPro, WES 7 and WE 8S operating systems)

Emulation	Terminal ID
HP 700-92/96	70092, 70094, 70096, 2392A, 2622A
IBM3151	Mod11, Mod31
IBM3270	3278-2 (24x80), 3278-3 (32x80), 3278-4 (43x80), 3278-5 (27x132), 3278-2-E (24x80), 3278-3-E (32x80), 3278-4-E (43x80), 3278-5-E (27x132), 3279-2 (24x80), 3279-3 (32x80), 3279-4 (43x80), 3279-5 (27x132), 3287-1
IBM5250	5291-1, 5292-2, 5251-11, 3179-2, 3196-A1, 3180-2, 3477-FC (27x132), 3477-FG (24x80), 3486-BA, 3487-HA, 3487-HC, 3812-1
VT52, VT100, VT100+, VT500 (7- or 8-bit)	VT100, VT101, VT102, VT125, VT131, VT132, M2200, VT220, VT240, VT320, VT340, VT420, VT510, VT520, VT525
VT HP220, VT UTF8	VT100, VT101, VT102, VT125, VT220, VT240, VT320, VT340, VT420, VT131, VT132, M2200, VT510, VT520, VT525

NOTE: Wireless features, performance and support may vary depending on environmental variables such placement, settings and firmware of your access points. Please contact your wireless vendor for support of your wireless environment.

LANGUAGES (Local User Interface)

The following local user interface languages are available for Windows Embedded Standard 7:

English, French, German, Spanish, Dutch, Norwegian, Korean, Simplified Chinese, Traditional Chinese, Japanese, Russian, and Arabic

The following local user interface languages are available for HP ThinPro and HP Smart Zero Technology:

English, French, German, Spanish, Korean, Simplified Chinese, Traditional Chinese, and Japanese

Environmental

ENVIRONMENTAL

Operating Temperature Range	<u>Standard</u> 50° to 104° F (10° to 40° C)
	<u>Using Quick Release with a flat panel monitor</u> 50° to 95° F (10° to 35° C)
	<u>Using PCIe Expansion Card</u> 50° to 104° F (10° to 40° C)
Non-operating Temperature Range	-22° to 140° F (-30° to 60° C)
Humidity	<u>Condensing</u> 20% to 80%
	<u>Non-condensing</u> 10% to 90% non-condensing

NOTE: Specifications are at sea level with altitude derating of 1° C/300m (1.8° F/1000ft) to a maximum of 3 Km (10,000 ft), with no direct, sustained sunlight. Upper limit may be limited by the type and number of options installed.

REGULATORY COMPLIANCE

Ergonomics:	Approved
Safety:	UL 1950, CSA 950; TÜV-GS (EN60 950); approved
RF Interference:	FCC Class B; CE Mark; EN55022B; VCCI

ENVIRONMENTAL 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:

- US ENERGY STAR®
- EPEAT <Gold> registered in the United States. See <http://www.epeat.net> for registration status in your country.
- IT ECO declaration

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

	115VAC, 60Hz	230VAC, 50Hz	100VAC, 60Hz
Normal Operation (Short idle)	6.27 W	6.46 W	6.43 W
Normal Operation (Long idle)	5.63 W	5.87 W	5.57 W
Sleep	0.87 W	0.92 W	0.86 W
Off	0.69 W	0.74 W	0.69 W

	115VAC, 60Hz	230VAC, 50Hz	100VAC, 60Hz
Heat Dissipation* Normal Operation (Short idle)	21 BTU/hr	22 BTU/hr	22 BTU/hr

Environmental

Normal Operation (Long idle)	19 BTU/hr	20 BTU/hr	19 BTU/hr
Sleep	3 BTU/hr	3 BTU/hr	3 BTU/hr
Off	2 BTU/hr	3 BTU/hr	2 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 (LWAd, bels):	2.6 Bels
Sound Pressure (LpAm, decibels):	15 dBA

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 ports
- 1 SODIMM memory socket
- 1 PCI Express mini card socket
- 1 M.2 flash module socket

Spare parts are available throughout the warranty period and or for up to five (5) years after the end of production.

Battery

The CR2032 (coin cell) Lithium battery used in the product does not contain:

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

This product complies with ISO standards:

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

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
- Plastics parts weighing over 25 grams used in the product are marked per ISO 11469 and ISO1043.
- This product contains 19% post-consumer recycled plastic (by wt.)
- This product is 95% recycle-able when properly disposed of at end of life.

Packaging Materials

External:	PAPER/Corrugated	547.7 g
	PAPER/Paper	140.7 g
Internal:	PLASTIC/EPE (Expanded Polyethylene)	40.2 g
	PLASTIC/Polyethylene high density	7.6 g

Environmental

RoHS Compliance

Hewlett-Packard is committed to compliance with all applicable environmental laws and regulations, including the European Union Restriction of Hazardous Substances (RoHS) Directive. HP's goal is to exceed compliance obligations by meeting the requirements of the RoHS Directive on a worldwide basis. By July 1, 2006, RoHS substances will be virtually eliminated (virtually = to levels below legal limits) for all HP electronic products subject to the RoHS Directive, except where it is widely recognized that there is no technically feasible alternative (as indicated by an exemption under the EU RoHS Directive).

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/supplychain/gen_specifications.html):

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

Packaging

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

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

Environmental

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>

Options and Accessories (sold separately)

Category	Description	Part Number
Accessories	HP Quick Release Kit	EM870AA
	HP Integrated Work Center Stand	G1V61AA
	HP Business Headset	QK550AA
	HP USB 720P Business Webcam	D8Z08AA
Memory Upgrade	4 GB DDR3L-1600 SODIMM Kit	B4U39AA/AT
	8 GB DDR3L-1600 SODIMM Kit	B4U40AA/AT
Communications	HP USB to Serial Adapter	J7B60AA
Input Devices	HP USB Standard Keyboard	DT528A
	HP USB CCID Smartcard Keyboard	BV813AA
	HP USB Optical Mouse	DC172B
Graphics	DisplayPort to DVI-D Adapter	FH973AA/AT
	DisplayPort to VGA Adapter	AS615AA
	DisplayPort to HDMI Adapter	BP937AA
	DisplayPort Cable Kit	VN567AA
Storage	64 GB M.2 Flash Memory Module	F3V79AA
Security	HP Keyed Cable Lock	BV411AA
Care Pack Services¹	9 x 5 Next-Business-Day Advanced Exchange - 3 Years	331653-001; U4847E ²
	9 x 5 Next-Business-Day On-Site Coverage - 3 Years	331655-001; U4849E ²
	Hardware Installation	331686-001; UJ865E

¹Service levels and response times for HP Care Pack Services may vary depending on your geographic location. Restrictions and limitations apply. For details, visit: <http://www.hp.com/go/carepack>.

²U4847E is available in all regions; U4849E is available in Latin America and Asia-Pacific/Japan.

Summary of Changes

Date of change:	Version History:		Description of change:
May 28, 2014	From June v1 to June v1.1	Changed	Energy Star compliances and power specifications
		Added	Part numbers
August 28, 2014	From v1 to v2	Changed	Hardware Features, Hardware Security, WI-FI Adapter title, Software options matrix, Options and Accessories part numbers
		Removed	Server OS Compatibility/Support for Windows Server 2008r2 wording
November 24, 2014	From v2 to v3	Changed	Part list, Hardware features; Technical Specifications: Processor, Input/output, Networking, Wi-Fi, Power Supply; Software, Options and Accessories section
February 17, 2015	From v3 to v4	Changed	Reorganize callouts from Overview pictures
March 24, 2015	From v4 to v5	Changes	Memory nomenclature and updates throughout the document.
July 14, 2015	From v5 to v6	Removed	Remote Graphics Software (RGS)
July 22, 2015	From v6 to v7	Changed	Environmental data section
August 31, 2015	From v7 to v8	Changed	Sound pressure Level in Environmental Data section
January 25, 2015	From v8 to v9	Added	Windows 10 IoT Enterprise in Overview and Technical Specifications
July 11, 2016	From v9 to v10	Added	Shipping weight and Dimensions in Technical Specification section.

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