

Overview

HP 245 G6 Notebook PC



Left

- | | |
|----------------------------|-------------------------------|
| 1. Webcam LED | 8. USB 3.1 (Gen 1) port |
| 2. Webcam | 9. HDMI port |
| 3. Microphone | 10. RJ-45/Ethernet port |
| 4. Touchpad | 11. VGA port |
| 5. Touchpad buttons | 12. AC plug LED |
| 6. Audio in/out Combo Jack | 13. AC Smart Pin adapter plug |
| 7. USB 3.1 (Gen 1) port | 14. Power button |

Overview



Right

- | | |
|--|-----------------------------|
| 1. Webcam LED | 7. SD Card slot |
| 2. Webcam | 8. Hard drive indicator LED |
| 3. Microphone | 9. Power indicator LED |
| 4. Security lock slot (Lock sold separately) | 10. Touchpad buttons |
| 5. Optical drive (optional) | 11. Touchpad |
| 6. USB 2.0 port | 12. Power button |

Overview

AT A GLANCE

- Windows 10 versions, FreeDOS 2.0
- Accelerated Processing Unit and graphics from AMD choose from
 - AMD A9-9420 APU with Radeon™ R5 Graphics
 - AMD A6-9220 APU with Radeon™ R4 Graphics
 - AMD E2-9000e APU with Radeon™ R2 Graphics
- New Dark Ash Silver color with a fresh woven texture
- Display choices include 14.0" diagonal HD
- Choice of hard drives up to 1 TB
- Weight starting at: 4.08 lbs (1.85 kg)
- Security features including FW TPM 2.0 and security lock slot (Lock not included)
- Keyboard - Full size textured island-style keyboard
- Touchpad with gestures support
- HP webcam with single digital microphone and HD (supporting WDR- Wide Dynamic Range) or VGA camera
- Two USB 3.1 (Gen 1) ports and one USB 2.0 port
- Wireless LAN (WLAN) up to 802.11ac to keep you connected

NOTE: See important legal disclosures for all listed specs in their respective features sections.

Features

PRODUCT NAME

HP 245 G6 Notebook PC

OPERATING SYSTEM

Preinstalled OS	Windows 10 Pro 64 ¹ Windows 10 Pro 64 (National Academic only) ¹ Windows 10 Home 64 ¹ Windows 10 Home Single Language 64 ¹ Windows 10 Home 64 (National Academic only) ¹ FreeDOS
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NOTE 1: 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.windows.com/>.

PROCESSOR

AMD A9-9425 APU with Radeon™ R5 Graphics (3.1 GHz, up to 3.7 GHz, 1 MB cache, 2 cores)

AMD A6-9225 APU with Radeon™ R4 Graphics (2.6 GHz, up to 3.0 GHz, 1 MB cache, 2 cores)

AMD A9-9420 APU with Radeon™ R5 Graphics (3.0 GHz, up to 3.6 GHz, 1 MB cache, 2 cores)^{2,3}

AMD A6-9220 APU with Radeon™ R4 Graphics (2.5 GHz, up to 2.9 GHz, 1 MB cache, 2 cores)^{2,3}

AMD E2-9000e APU with Radeon™ R2 Graphics (1.5 GHz, up to 2 GHz, 1 MB cache, 2 cores)^{2,3}

Processor Family

7th Generation AMD A9 processor (9420 model)³

7th Generation AMD A6 processor (9220 model)³

7th Generation AMD E2 processor (9000e model)³

NOTE 2: Multicore is designed to improve performance of certain software products. Not all customers or software applications will necessarily benefit from use of this technology. Performance and clock frequency will vary depending on application workload and your hardware and software configurations. AMD's numbering is not a measurement of clock speed.

NOTE 3: In accordance with Microsoft's support policy, HP does not support the Windows 8 or Windows 7 operating system on products configured with Intel and AMD 7th generation and forward processors or provide any Windows 8 or Windows 7 drivers on <http://www.support.hp.com>.

CHIPSET

AMD SoC (chipset is integrated with processor)

Technical Specifications

GRAPHICS

Integrated

AMD Radeon™ R5 Graphics

AMD Radeon™ R4 Graphics

AMD Radeon™ R2 Graphics

Supports

HD Decode, DX12 and HDMI⁵

NOTE 5: Cables sold separately.

DISPLAY

Internal

35.6 cm (14") diagonal HD WLED Anti-Glare (1366x768) slim-flat (3.0mm), SVA, eDP^{4,6}

VGA

Port supports resolutions up to 1920 x 1200 external resolution @ 60 Hz

HDMI

Port supports resolutions up to 1920 x 1080 external resolution @ 60 Hz

NOTE 4: HD content required to view HD images.

NOTE 6: Resolutions are dependent upon monitor capability, and resolution and color depth settings.

STORAGE AND DRIVES

Primary Storage

Support all 7mm/9.5mm, SATA 2.5" Hard Drives

1 TB SATA 5400 rpm SATA (7/9.5 mm)⁷

500 GB SATA 5400 rpm SATA (7 mm)⁷

500 GB SATA 7200 rpm SATA (7 mm)⁷

Optical Drive

Optional DVD+/-RW Double-Layer Writer^{8,9}

NOTE 7: For storage drives, GB = 1 billion bytes. TB = 1 trillion bytes. Actual formatted capacity is less. Up to 30 GB (for Windows 10) is reserved for system recovery software.

NOTE 8: HD-DVD disks cannot be played on this drive. No support for DVDRAM. Actual speeds may vary. Don't copy copyright-protected materials. Double Layer discs can store more data than single layer discs; discs burned with this drive may not be compatible with many existing single-layer DVD drives and players.

NOTE 9: Sold separately or as an optional feature.

MEMORY

Standard

DDR4 (AMD A9-9420, A6-9220 processors only)

DDR4-1866 (Transfer rates up to 1866 MT/s) (DDR4-2400 downgrade to DDR4-1866)

Single channel support

Technical Specifications

No customer accessible / upgradeable

Configurations

4096 MB Total System Memory (4096 MB x 1)
6144 MB Total System Memory (2048 MB x 1 + 4096 MB x 1)
8192 MB Total System Memory (4096 MB x 2)
8192 MB Total System Memory (8192 MB x 1)
12288 MB Total System Memory (8192 MB x 1 + 4096 MB x 1)
16384 MB Total System Memory (8192 MB x 2)

Maximum

16 GB DDR4-1866 SDRAM
DDR4
DDR4-1866 (Transfer rates up to 1866 MT/s) (DDR4-2400 downgrade to DDR4-1866)
Single channel support
No customer accessible / upgradeable

Configurations

4096 MB Total System Memory (4096 MB x 1)
8192 MB Total System Memory (8192 MB x 1)

Maximum

8 GB DDR4-1866 SDRAM

NETWORKING/COMMUNICATIONS

Wireless LAN (WLAN)

Realtek 802.11b/g/n (1x1) WiFi¹⁰
Realtek 802.11b/g/n (1x1) WiFi and Bluetooth® 4.2 Combo¹⁰
Realtek 802.11b/g/n (1x1) WiFi and Bluetooth® 4.0 Combo¹⁰
Intel® Dual band wireless-AC 3168 802.11AC (1x1) WiFi and Bluetooth® 4.2 Combo Adaptor (non-vPro™)¹⁰

Ethernet

Integrated 10/100/1000 NIC

Communications

Compatible with Miracast-certified devices¹¹

NOTE 10: Wireless access point and Internet service required and sold separately. Availability of public wireless access points limited. The specifications for the 802.11ac WLAN are draft specifications and are not final. If the final specifications differ from the draft specifications, it may affect the ability of the notebook to communicate with other 802.11ac WLAN devices.

NOTE 11: Miracast is a wireless technology your PC can use to project your screen to TVs, projectors, and streaming media players that also support Miracast. You can use Miracast to share what you're doing on your PC and present a slide show. For more information: <http://windows.microsoft.com/en-us/windows-8/project-wireless-screen-miracast>.

AUDIO/MULTIMEDIA

Audio

(2) Integrated stereo speakers

Camera

HP TrueVision HD Camera⁴
Indicator LED, USB2.0, HD BSI sensor, f2.0, WDR

Technical Specifications

720p by 30 frames per second
Single digital microphone

Webcam

HP Webcam¹²
VGA camera, indicator LED, USB 2.0, f2.4
480p by 30 frames per second
Single digital microphone

NOTE 4: HD content required to view HD images.

NOTE 12: Wireless access point and Internet service is required and is not included. Availability of public wireless access points limited.

KEYBOARDS/TOUCHPAD

Keyboard

Full size textured island-style keyboard
Jet black
Touchpad
Multitouch gestures enabled
Support Modern Trackpad Gestures
Taps enabled as default

SOFTWARE AND SECURITY

Preinstalled Software

Buy Office
HP JumpStart
Windows 10 Redstone1 Recovery Manager Installer - CPS
Windows 10 Redstone1 Push Button Reset Recovery - CPS
HP Support Assistant
HP PC Hardware Diagnostics UEFI
HP ePrint¹³
HP System Event Utility
CyberLink Power Media Player
Bing Search for IE11
Security lock slot (Locks sold separately)
McAfee LiveSafe

NOTE13: 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>).

POWER

Technical Specifications

Power Supply

65W EM Smart AC adapter¹⁴

45W Smart AC adapter¹⁴

Primary Battery

HP 3-cell battery, 31 Whr Li-ion

HP 4-cell battery, 41 Whr Li-ion

Power Cord

1 M (3.28 feet) length power cord with sticker label

Battery life

Up to 8 hours (4 cell battery)¹⁵

Fast Charge (90 mins, 90% charged)

Supports battery fast charge

NOTE 14: Availability may vary by country.

NOTE 15: Windows 10 MM14 battery life will vary depending on various factors including product model, configuration, loaded applications, features, use, wireless functionality, and power management settings. The maximum capacity of the battery will naturally decrease with time and usage. See www.bapco.com for additional details.

WEIGHTS & DIMENSIONS

Weight

Starting at 1.85 kg (4.08 lbs)¹⁶

NOTE 16: Weight varies by configuration and components.

Dimensions (W x D x H)

34 x 24 x 2.37 cm

13.39 x 9.45 x .93 in

PORTS/SLOTS

Ports/Connectors

USB 3.1 (Gen 1) ports - Two (Left)

USB 2.0 port - One (Right)

HDMI 1.4b - One¹⁷

VGA port - One

RJ-45 / Ethernet - One¹⁷

Headphone / microphone combo jack - One

AC Smart adapter port - One

Slots

HP Multi-Format Digital Media Card Reader

Technical Specifications

Supports SD/SDHC/SDXC

NOTE 17: All cables and locks are sold separately.

SERVICE AND SUPPORT

HP Services offers limited 1-year warranty; 1-year limited warranty on primary battery. On-site service is also available with optional HP Care Services, which extend protection beyond the standard limited warranty. To choose the right level of service for your HP product, use the HP Care Services Lookup Tool at: <http://www.hp.com/go/lookuptool>. Additional HP Care Services, information by product is available at: <http://www.hp.com/go/cpc>.¹⁸

NOTE 18: HP Care Packs are sold separately. Service levels and response times for HP Care Packs may vary depending on your geographic location. Service starts on date of hardware purchase. Restrictions and limitations apply. For details, visit www.hp.com/go/cpc. HP services are governed by the applicable HP terms and conditions of service provided or indicated to Customer at the time of purchase. Customer may have additional statutory rights according to applicable local laws, and such rights are not in any way affected by the HP terms and conditions of service or the HP Limited Warranty provided with your HP Product.

COMPATIBILITY

HP USB 3.0 Port Replicator (Spin 2) - Y4H06AA
HP Conferencing Keyboard - K8P74AA
HP 65W Smart Power Adapter - H6Y89AA
HP Essential Backpack (up to 15.6") - H1D24AA
HP Keyed Cable Lock 10mm - T1A62AA

CERTIFICATION AND COMPLIANCE

Energy Efficiency Compliance

UL
FCC Compliance
ENERGY STAR^{®19}
EPEAT[®] Silver¹⁹
Australia / NZ C-Tick Compliance
CCC
Japan VCCI Compliance
BSMI
CE Marking Compliance

NOTE 19: EPEAT[®] registered where applicable. EPEAT registration varies by country. See <http://www.epeat.net> for registration status by country.

Technical Specifications

DISPLAYS

14" HD WLED Anti-Glare (1366x768) slim-flat (3.0mm), SVA, eDP	Outline Dimensions (W x H x D)	320.9 x 250.6 x 3.0		
	Active Area	309.5 x 174.05		
	Weight	270 max.		
	Diagonal Size	14.0"		
	Surface Treatment	AG		
	Contrast Ratio	600:1 (typ. AG)		
	Refresh Rate	60Hz		
	Pixel Per Inch (PPI)	112		
	Brightness	220 nit typ.		
	Pixel Resolution	Format	1366 x 768 (HD)	
		Configuration	RGB	
	Interface	eDP 1.2		
	LCD Mode	TN		
	Viewing Angle	45/45/20/40		

STORAGE AND DRIVES

500 GB 5400 rpm SATA Drive Weight Hard Drive	<95g (0.209lb)		
	Capacity	500 GB	
	Height	6.8 +/- 0.2 mm (0.268 +/- .008 in)	
	Width	69.85 +/- 0.25 mm (2.750 +/- 0.010 in)	
	Interface	SATA 6Gb/s	
	Performance	Maximum Sequential Read	600 MB/s max
		Maximum Sequential Write	600 MB/s max
	Logical Blocks	976,773,168	
	Operating Temperature	32° to 140° F (0° to 60° C)	
	Features	DIPM	

Technical Specifications

500 GB 7200 rpm SATA Drive Weight	<95g (0.209lb)	
Hard Drive		
Capacity	500 GB	
Height	6.8 +/- 0.2 mm (0.268 +/- .008 in)	
Width	69.85 +/- 0.25 mm (2.750 +/- 0.010 in)	
Interface	SATA 6Gb/s	
Performance	Maximum Sequential Read	600 MB/s max
	Maximum Sequential Write	600 MB/s max
Logical Blocks	976,773,168	
Operating Temperature	32° to 140° F (0° to 60° C)	
Features	DIPM	

1 TB 5400 rpm SATA Hard Drive Weight	90g(0.198lb)	
Drive		
Capacity	1TB	
Height	7.0 (± 0.2) mm / 0.276 (± 008) in	
Width	69.85 (± 0.25) mm / 2.750 (± 0.010) in	
Interface	SATA 6Gb/s	
Performance	Maximum Sequential Read	600 MB/s max
	Maximum Sequential Write	600 MB/s max
Logical Blocks	1,953,525,168	
Operating Temperature	32° to 140° F (0° to 60° C)	
Features	DIPM	

Technical Specifications

NETWORKING/COMMUNICATIONS

WWAN

Realtek RTL 8188EE 802.11 bgn 1x1 WiFi Adapter

Technology/Operating bands	2.4Ghz
Wireless protocol standards	11n
Maximum data rates	150Mbps
Maximum output power	FCC/11b at max. 17.5dBm
Maximum power consumption	934mW in Tx mode
Form Factor	M2 2230
Weight	2 g
Dimensions (Length x Width x Thickness)	22 mm x 30 mm x 2.3 mm

Realtek RTL8723DE 802.11 bgn 1x1 WiFi + BT 4.2 Combo Adapter

Technology/Operating bands	2.4Ghz
Wireless protocol standards	11n
Maximum data rates	150Mbps
Maximum output power	CE/11g at max 17dBm
Maximum power consumption	736mW in Tx mode
Form Factor	M2 1630
Weight	2 g
Dimensions (Length x Width x Thickness)	16 mm X 30 mm x 2.3 mm

Technical Specifications

Realtek RTL8723BE-VB 802.11b/g/n 1x1 Wi-Fi + BT4.0 Combo Adapter

Technology/Operating bands	2.4Ghz
Wireless protocol standards	11n
Maximum data rates	150Mbps
Maximum output power	FCC/11b at max. 16dBm
Maximum power consumption	878mW in Tx mode
Form Factor	M2 2230
Weight	2 g
Dimensions (Length x Width x Thickness)	22 mm X 30 mm x 2.3 mm

Intel Dual band wireless-AC 3168 802.11AC 1x1 WiFi + BT 4.2 Combo Adaptor (non-vPro)

Technology/Operating bands	2.4Ghz/5G
Wireless protocol standards	11ac
Maximum data rates	433Mbps
Maximum output power	16.25dBm in 2.4G 17.25dBm in 5G
Maximum power consumption	1250 mW in 11ac 1x1 HB/80 Or 11n 1x1 HB/40
Form Factor	M2 2230
Weight	2 g
Dimensions (Length x Width x Thickness)	22 mm X 30 mm x 2.4 mm

Technical Specifications

Intel Dual Band Wireless-AC 7265 802.11 AC 2x2 WiFi + BT 4.2 Combo Adapter (non-vPro)

Technology/Operating bands	2.4Ghz/5G
Wireless protocol standards	11ac
Maximum data rates	867Mbps
Maximum output power	17.25dBm in 2.4G 16.25dBm in 5G
Maximum power consumption	1580 mW in Wi-Fi: 802.11n link at 200 mbps, FTP transmitting 90% and FTP receiving 10%. Bluetooth: A2DP, 375 Kbps
Form Factor	M2 2230
Weight	2 g
Dimensions (Length x Width x Thickness)	22 mm X 30 mm x 2.4 mm

POWER

65 W Smart AC adapter	Dimensions (H x W x D)	107.0 x 47.0 x 30.0mm	
	Weight	250g +/-10%	
	Input	Input Efficiency	88.0 % at 115 Vac and 89.0 % at 230Vac
		Input frequency range	47 to 63 Hz
	Output	Input AC current	Max. 1.7 A at 90 Vac
		Output power	65W
		DC output	19.5V
		Hold-up time	5ms at 115 Vac input
		Output current limit	<11.0A
	Connector	C6 (3pin/with grounded, with Smart ID DC connector)	
	Environmental Design	Operating temperature	32° to 95° F (0° to 35° C)
		Non-operating (storage) temperature	-4° to 185° F (-20° to 85° C)
		Altitude	0 to 16,400 ft (0 to 5,000 m)
		Humidity	20% to 95%
Storage Humidity		10% to 95%	
EMI and Safety Certifications	*CE Mark - full compliance with LVD and EMC directives * Worldwide safety standards - IEC60950, EN60950, UL60950, Class1, SELV;		

Technical Specifications

Agency approvals - C-UL-US, NORDICS, DENAN, EN55022 Class B, FCC Class B,
CISPR22 Class B, CCC, NOM-1 NYCE.
* MTBF - over 200,000 hours at 25°C ambient condition.

65 W EM Smart AC adapter	Dimensions (H x W x D)	127.0x51.0x30.0mm	
	Weight	350g +/-10%	
	Input	Input Efficiency	88.0 % at 115 Vac and 89.0 % at 230Vac
		Input frequency range	47 to 63 Hz
		Input AC current	Max. 1.7 A at 90 Vac
	Output	Output power	65W
		DC output	19.5V
		Hold-up time	5ms at 115 Vac input
		Output current limit	<11.0A
	Connector	C6 (3pin/with grounded, with Smart ID DC connector)	
	Environmental Design	Operating temperature	32° to 95° F (0° to 35° C)
		Non-operating (storage) temperature	-4° to 185° F (-20° to 85° C)
		Altitude	0 to 16,400 ft (0 to 5,000 m)
		Humidity	20% to 95%
Storage Humidity		10% to 95%	
EMI and Safety Certifications	*CE Mark - full compliance with LVD and EMC directives * Worldwide safety standards - IEC60950, EN60950, UL60950, Class1, SELV; Agency approvals - C-UL-US, NORDICS, DENAN, EN55022 Class B, FCC Class B, CISPR22 Class B, CCC, NOM-1 NYCE. * MTBF - over 200,000 hours at 25°C ambient condition.		
45 W Smart AC adapter	Dimensions (H x W x D)	95.0 x 40.0 x 26.5 mm	
	Weight	200g +/-10%	
	Input	Input Efficiency	87.74 % at 115 Vac and 88.4 % at 230Vac
		Input frequency range	47 to 63 Hz
		Input AC current	Max. 1.4 A at 90 VAC
	Output	Output power	45W
		DC output	19.5V
		Hold-up time	5ms at 115 Vac input
		Output current limit	<8.0A
	Connector	C6 (3pin/with grounded, with Smart ID DC connector)	
	Environmental Design	Operating temperature	32° to 95° F (0° to 35° C)
		Non-operating (storage) temperature	-4° to 185° F (-20° to 85° C)
		Altitude	0 to 16,400 ft (0 to 5,000 m)
		Humidity	20% to 95%
Storage Humidity		10% to 95%	

Technical Specifications

EMI and Safety Certifications

*CE Mark - full compliance with LVD and EMC directives
 * Worldwide safety standards - IEC60950, EN60950, UL60950, Class1, SELV;
 Agency approvals - C-UL-US, NORDICS, DENAN, EN55022 Class B, FCC Class B,
 CISPR22 Class B, CCC, NOM-1 NYCE.
 * MTBF - over 200,000 hours at 25°C ambient condition.

HP 3-cell Li-Ion (31 WHr)	Dimensions	274.15mm x 35.25mm x 21.1mm
	Weight	185g
	Cells/Type	3cell Lithium-Ion cylindrical cell / 18650
	Voltage	LGC: 10.95V; SDI/Sanyo: 11.1V
	Amp-hour capacity	LGC: 2850mAh;SDI/Sanyo:2800mAh
	Watt-hour capacity	LGC: 31.2Wh; SDI/Sanyo:31.08Wh
	Operating (Charging)	0~45°C
	Operating (Discharging)	-10~60°C
	Fuel Gauge LED	No
	Warranty	300 cycles>80%(at 23°C)
Optional Travel Battery Available	No	
HP 4-cell Li-Ion (41 WHr)	Dimensions	274.15mm x 35.25mm x 21.1mm
	Weight	230g
	Cells/Type	4cell Lithium-Ion cylindrical cell / 18650
	Voltage	LGC: 14.6V; SDI/Sanyo:14.8V
	Amp-hour capacity	LGC: 2850mAh; SDI/Sanyo: 2800mAh
	Watt-hour capacity	LGC: 41.6Wh;SDI/Sanyo41.44Wh
	Operating (Charging)	0~45°C
	Operating (Discharging)	-10~60°C
	Fuel Gauge LED	No
	Warranty	300 cycles>80%(at 23°C)
Optional Travel Battery Available	No	

Technical Specifications

Environmental Data **Eco-Label declarations** **Certifications &** This product has received or is in the process of being certified to the following approvals and may be labeled with one or more of these marks:

- IT ECO declaration
- US ENERGY STAR®
- EPEAT[®] Gold registered in the United States. See <http://www.epeat.net> for registration status in your country. Search keyword *generator* on HP's 3rd party option store for solar energy accessory at <http://www.hp.com/go/options>.

System Configuration The configuration used for the Energy Consumption and Declared Noise Emissions data for the Notebook model is based on a "Typically Configured Notebook".

Energy Consumption (in accordance with US ENERGY STAR® test method)	Consumption		
	115VAC, 60Hz	230VAC, 50Hz	100VAC, 50Hz
Normal Operation (Short idle)	8.96 W	9.21 W	9.02 W
Normal Operation (Long idle)	4.42 W	4.53 W	4.42 W
Sleep	0.43 W	0.45 W	0.43 W
Off	0.22 W	0.25 W	0.22 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*	Consumption		
	115VAC, 60Hz	230VAC, 50Hz	100VAC, 50Hz
Normal Operation (Short idle)	31 BTU/hr	31 BTU/hr	31 BTU/hr
Normal Operation (Long idle)	15 BTU/hr	15 BTU/hr	15 BTU/hr
Sleep	2 BTU/hr	2 BTU/hr	2 BTU/hr
Off	1 BTU/hr	1 BTU/hr	1 BTU/hr

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

Technical Specifications

Declared Noise Emissions (in accordance with ISO 7779 and ISO 9296)	Sound Power (L_{WAd} , bels)	Sound Pressure (L_{pAm} , decibels)
Typically Configured – Idle	1.6	16
Fixed Disk – Random writes	1.6	16

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

Longevity and Upgrading

- 3 USB ports
- 1 PC card slot (type I/II)
- 1 ExpressCard/54 slot
- 1 IEEE 1394 Port
- 2 SODIMM memory slots
- Optional expansion base docking station
- 1 multi-bay II storage port
- Interchangeable HDD??

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 the 1ppm by weight
Cadmium greater than 20ppm by weight

Battery description: 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
- Plastics parts weighing over 25 grams used in the product are marked per ISO11469 and ISO1043.
- This product contains 0.0% post-consumer recycled plastic (by wt.)

Technical Specifications

- This product is 97% recycle-able when properly disposed of at end of life.

Packaging Materials	External:	PAPER/Paperboard	340 g
	Internal:	PLASTIC/Polyethylene Expanded - EPE	49 g
		PLASTIC/Polyethylene low density - LDPE	9 g

The plastic packaging material contains at least 0.0% recycled content. The corrugated paper packaging materials contains at least 80% 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, has been voluntarily removed from most applications.
- Radioactive Substances
- Tributyl Tin (TBT), Triphenyl Tin (TPT), Tributyl Tin Oxide (TBTO)

Technical Specifications

Packaging Usage

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.

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.

HP, Inc. 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://www8.hp.com/us/en/hp-information/environment/ecolabels.html>

ISO 14001 certificates:

<http://h20195.www2.hp.com/V2/GetDocument.aspx?docname=c04755842>

and

<http://www.hp.com/hpinfo/globalcitizenship/environment/pdf/cert.pdf>

Options and Accessories (sold separately and availability may vary by country)

Category	Description	Part Number
Cases	HP Essential Top Load Case	H2W17AA
	HP Essential Backpack	H1D24AA
Docking	HP 3005PR USB3 Port Replicator	Y4H06AA
	HP USB Travel Dock	TOK30AA
Input Devices	HP 3001pr USB 3.0 Port Replicator	F3S42AA
	HP Slim USB Keyboard and Mouse	H4B81AA
	HP Slim Wireless Keyboard and Mouse	H6F25AA
	HP 3-Button USB Laser Mouse	G1K28AA
	HP USB Travel Mouse	N9K77AA
	HP Comfort Grip Wireless Mouse	N9K78AA
	HP Ultra Mobile Wireless Mouse	N2Z63AAA
Power	HP HDMI to DVI Adapter	V7W66AA
	HP 45W Smart AC Adapter 4.5mm	H6Y88AA#xxx
	HP 65W Smart AC Adapter	H6Y89AA#xxx
	HP 65W Slim AC Adapter	H6Y82AA#xxx
Memory	HP Power Bank	N9F71AA#xxx
	HP 4GB DDR3L-1600 1.35V SODIMM	H6Y75AA#XXX
Security	HP 8GB DDR3L-1600 1.35V SODIMM	H6Y77AA#XXX
	HP Essential Combination Lock	TOY16AA
	HP Combination Lock	TOY15AA
	HP Keyed Cable lock	TOY14AA
	HP Keyed Cable Lock 10mm	T1A62AA
	HP 15.6 NB Privacy Filter (For Jaguars and Lions only)	J7H71AA
UCC	HP 14.0" Notebook Privacy Filter (For Colts and Rams only)	J6E65AA
	HP Conferencing Keyboard	K8P74AA#xxx
	HP UC Speaker Phone	K7V16AA
	HP UC Wired Headset	K7V17AA
	HP Stereo USB Headset	T1A67AA
Displays	HP Stereo 3.5mm Headset	T1A66AA
	HP S140u 14-inch Portable Display	G8R65AA
	HP ProDisplay P223 21.5 inch Monitor	X7R61AA
	HP ProDisplay P232 23-inch Monitor	K7X31AA
	HP ProDisplay P240va 23.8-inch Monitor	N3H14AA

Summary of Changes

Date of change:	Version History:		Description of change:
April 24, 2017	From v1 to v2	Update	Features Section updated
May 5, 2017	From v2 to v3	Update	Technical Specifications added
July 27, 2017	From v3 to v4	Update	Software and security section updated
November 28, 2017	From v4 to v5	Update	McAfee LiveSafe added to Software and security section
			Environmental data added
February 1, 2018	From v5 to v6	Update	AMD A9-9425 and AMD A6-9225 processors added to Processor section

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