

Overview

HP OMEN Pro 15 Mobile Workstation



Front Open View

Component	Description
1. Internal microphones (2)	Record Sound
2. Webcam light	On: the webcam is in use.
3. Webcam	Records video and captures photographs.
4. Power button	Powers Mobile Workstation On/Off
5. Programmable Keys	Shortcut keys for favorite functions
6. Speakers (2)	Reproduce Sound

Overview



Rear Open View

Component

1. Vents (2)
2. AC Adapter light
3. Power Connector
4. USB 3.0 ports (4)
5. HDMI port
6. Mini DisplayPort
7. Audio-out (headphone)/Audio-in (microphone) jack

Description

- Enable airflow to cool internal components.
- On: the AC adapter is connected and the battery is charged.
Off: the mobile workstation is using battery power.
- Connects an AC adapter.
- Connect optional USB devices.
- Connects an optional video or audio device.
- Connects an optional digital display device.*
- Connects optional powered stereo speakers, headphones, ear buds, headset, or television audio cable. Also connects an optional headset microphone. **

*You can connect up to 2 optional display devices with a Mini DisplayPort splitter (purchased separately)

**This jack does not support optional microphone-only devices.

Warning: To reduce the risk of personal injury, adjust the volume before putting on headphones, earbuds, or a headset.

NOTE: When a device is connected to the jack, the mobile workstation speakers are disabled.

NOTE: Be sure that the device cable has 4-conductor connector that supports both audio-out (headphone) and audio-in (microphone).

Overview



Right Side (Left Facing)

Component

1. Memory card reader

Description

Reads optional memory cards that store, manage, share, or access information.

Overview

At A Glance

- Windows 7 Professional 64-bit
- Intel® Core™ i7-4870HQ with Intel Iris™ Pro Graphics 5200 or Intel® Core™ i7-4720HQ with Intel HD Graphics 4600
- 8 or 16 GB 1600 MHz DDR3L SDRAM (onboard)
- 256 or 512 Gb HP Z Turbo Drive (PCIe SSD)
- Integrated Intel® HD Graphics or Intel Iris™ Pro Graphics 5200
- NVIDIA® Quadro® K1100M (2 GB dedicated GDDR5)
- 15.6" (39.6 cm) diagonal full HD WLED backlit touch screen display (1920 x 1080)
- Intel® Dual Band Wireless-AC 7260 802.11ac (2x2) WiFi + Bluetooth® 4.0 Combo Adapter
- 1 multi-format SD Media Card Reader
- HP TrueVision Full HD WVA Webcam (front-facing) with integrated dual digital microphones.
- Audio by Bang & Olufsen. Dual front-facing speakers with dual array digital microphones with beam forming, echo cancellation and noise suppression. Support for voice recognition.
- USB Ethernet Adapter Included

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

Features

OPERATING SYSTEM

Preinstalled OS Windows 7 Professional 64*

Supported Windows 8.1 Pro 64*

*Not all features are available in all editions or versions of Windows. Systems may require upgraded and/or separately purchased hardware, drivers and/or software to take full advantage of Windows functionality. See <http://www.microsoft.com>.

PROCESSOR*

Intel® Core™ i7-4870HQ with Intel Iris™ Pro Graphics 5200
(2.5 GHz, up to 3.7 GHz with Intel Turbo Boost Technology, 6 MB cache, 4 cores)

Intel® Core™ i7-4720HQ with Intel HD Graphics 4600
(2.6 GHz, up to 3.6 GHz with Intel Turbo Boost Technology, 6 MB cache, 4 cores)

* Multi-Core is designed to improve performance of certain software products. Not all customers or software applications will necessarily benefit from use of this technology. 64-bit computing on Intel® architecture requires a computer system with a processor, chipset, BIOS, operating system, device drivers, and applications enabled for Intel® 64 architecture. Processors will not operate (including 32-bit operation) without an Intel® 64 architecture-enabled BIOS. Performance will vary depending on your hardware and software configurations. Intel's numbering is not a measurement of higher performance.

CHIPSET

Intel HM87 Express

GRAPHICS

Integrated

Intel HD 4600 Graphics*

Intel® Iris™ Pro Graphics 5200

Discrete

NVIDIA® Quadro® K1100M (2 GB dedicated GDDR5)**

*HD content required to view HD images.

**Integrated graphics dependent on processor

Features

DISPLAY

Internal

15.6" (39.6 cm) diagonal full HD WLED backlit touch screen display (1920 x 1080)

STORAGE AND DRIVES

Primary Storage Bay

256 or 512 Gb HP Z Turbo Drive (PCIe SSD)

NOTE: For hard drives, GB = 1 billion bytes. TB = 1 trillion bytes. Actual formatted capacity is less. Up to 20 GB of system disk is reserved for Windows 7 and higher system recovery software.

MEMORY

Standard

8GB or 16 GB 1600 MHz DDR3L SDRAM (onboard) (Transfer rates up to 1600 MT/s)

NETWORKING/COMMUNICATIONS

Wireless LAN *

Intel® Dual Band Wireless-AC 7260 802.11ac (2x2) WiFi + Bluetooth® 4.0 Combo Adapter

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

AUDIO/MULTIMEDIA

Audio

Audio by Bang & Olufsen. Dual front-facing speakers with dual array digital microphones with beam forming, echo cancellation and noise suppression. Support for voice recognition.

Webcam

HP TrueVision Full HD WVA Webcam (front-facing) with integrated dual digital microphones.

Multimedia

1 multi-format SD Media Card Reader

* HD content required to view HD images.

Features

KEYBOARDS/POINTING DEVICES/BUTTONS & FUNCTION KEYS

Keyboard

Full-size island-style backlit keyboard

Pointing Devices

Touchpad with multi-touch gesture support

SOFTWARE AND SECURITY

HP Performance Advisor

HP Keyboard Control

TPM 1.2 embedded security chip

HP Performance Advisor

HP Performance Advisor enables optimal configuration of HP Mobile Workstations delivering stability and best performance. HP Performance Advisor will guide your system setup allowing a "custom" configuration that best matches the workstation to user requirements.

Download at: www.hp.com/go/performanceadvisor

POWER

Power Supply

120 W AC power adapter

Power cord is 60 feet (1.8 m)

Primary Battery

4-cell, 58 WHr 3.82Ah Lithium-ion polymer battery

Battery Life

Battery life up to 5 hours*

*Windows 7 MM12 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.

ENVIRONMENTAL

ENERGY STAR® certified and EPEAT® Gold registered*

Low Halogen**

*EPEAT® registered where applicable. EPEAT registration varies by country. See www.epeat.net for registration status by country.

**External power supplies, power cords, cables and peripherals are not low halogen. Service parts obtained after purchase may not be low halogen.

WEIGHTS & DIMENSIONS

Weight

2.12 kg

4.68 lb (FHD + 4 cell battery + single mSATA)

Features

Dimensions (h x w x d)

24.56 x 38.28 x 1.98 cm

9.67 x 15.07 x 0.78 in

NOTE: Weight and dimensions vary by configuration and components.

PORTS/SLOTS

External I/O Ports

1 HDMI

1 headphone/microphone combo

4 USB 3.0 (charging)*

1 Mini DisplayPort 1.2

Expansion

1 Multi-format SD media card reader

Adapters

USB to Ethernet Adapter (included)

*USB ports allow any connected device to charge while computer is in sleep mode

SERVICE AND SUPPORT

HP Services offers a 3-year limited warranty option. Warranty on the battery is the same number of years as the platform warranty. On-site service and extended coverage is also available. HP Care Pack Services are optional extended service contracts that go beyond the standard limited warranties. To choose the right level of service for your HP product, use the HP Care Pack Services Lookup Tool at: <http://www.hp.com/go/cpc>.

NOTE: Certain restrictions and exclusions apply. Consult the HP Customer Support Center for details.

<http://h20000.www2.hp.com/bizsupport/TechSupport/ProductRoot.jsp>

Technical Specifications

SYSTEM UNIT

Stand-Alone Power Requirements (AC Power)	Nominal Operating Voltage	19.5 V dc @ 6.15A
	Average Operating Power	13.18W
Temperature	Max Operating Power	<120W
	Operating	32° to 95° F (0° to 35° C)
	Non-operating	-4° to 140° F (-20° to 60° C)
Relative Humidity	Operating	10% to 90%, non-condensing
	Non-operating	5% to 95%, 101.6° F (38.7° C) maximum wet bulb temperature
Shock	Operating	40 G, 2 ms, half-sine
	Non-operating	200 G, 2 ms, half-sine
Random Vibration	Operating	0.75 grms
	Non-operating	1.50 grms
Altitude (unpressurized)	Operating	-50 to 10,000 ft (-15.24 to 3,048 m)
	Non-operating	-50 to 40,000 ft (-15.24 to 12,192 m)
Planned Industry Standard Certifications	UL	Yes
	CSA	No
	FCC Compliance	Yes
	ENERGY STAR®	Select models*
	EPEAT	Gold target**
	ICES	Yes
	Australia / NZ A-Tick Compliance	Yes
	CCC	Yes
	Japan VCCI Compliance	Yes
	KCC	Yes
	BSMI	No
	CE Marking Compliance	Yes

* Configurations that are ENERGY STAR certified are identified as ENERGY STAR on HP websites and on www.energystar.gov.

** EPEAT registration varies by country. See www.epeat.net for registration status by country.

EPEAT status listed above applies to U.S.

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

Technical Specifications

Graphics

Intel HD 4600 Graphics

Form Factor

Integrated in select Intel® Xeon® E3, Intel® Core™ i7, and Intel® Core™ i5 processors.

Check specific platform specifications for selections.

Graphics Controller

Intel HD Graphics

Memory

Unified Memory Architecture (UMA) frame buffer. Graphics memory is shared with system memory. Size selectable between 64 MB to 512 MB via BIOS setting. Default size is 64 MB. Additional memory is allocated for graphics as needed using Intel's Dynamic Video Memory Technology (Intel DVMT 5.0), to provide an optimal balance between graphics and system memory use.

Connectors

Check system platform specifications where Intel HD Graphics are available.

Maximum Resolution

Mini Display Port: 3840 x 2160 @ 60hz
HDMI: 2560x1600@60hz/ 4096x2304@24hz

Shading Architecture

Shader Model 5.0

Supported Graphics APIs

OpenGL 4.5
DirectX 11.2

Available Graphics Drivers

Windows 7
Windows 8.1

NVIDIA® Quadro® K1100M

Form Factor

Discrete

Graphics Controller

NVIDIA® Quadro®

Memory

2 GB GDDR5

Memory Bandwidth

44.8 GB/s

Maximum Resolution

VGA: 1920 x 1200
DVI: 2560 x 1600
DP: 3840 x 2160
TBT: 3840 x 2160

Shading Architecture

Shader Model 5.0

Supported Graphics APIs

DX 11.1

Available Graphics Drivers

Windows 7

Technical Specifications

DISPLAY

15.6" (39.6 cm) diagonal full HD WLED backlit touch screen display (1920 x 1080)

Outline Dimensions (W x H x D)	14.17 x 8.83 x 0.15 in (36.0 x 22.43 x 0.32 cm)	
Active Area	13.55 x 7.62 in (34.42 x 19.36 cm)	
Weight	< 0.79 lb. (360 g) (max)	
Diagonal Size	15.6in (39.62 cm)	
Surface Treatment	Anti-glare	
Contrast Ratio	600:1 (typical)	
Refresh Rate	60 Hz	
Brightness	300 nit (typical)	
Pixel Resolution	Format	1920 x 1080 (FHD)
	Configuration	RGB Stripe
Interface	eDP 1.3 (2 lane)	
LCD Mode	IPS	
PPI	141 pps	
Viewing Angle	UWVA 85/85/85/85 (Left/Right/Down/Up) (typical)	

STORAGE AND DRIVES*

Internal Storage

Z Turbo Drive 256 GB, M.2 PCIe Solid State Drive

Capacity	256 GB SSD	
Drive Weight	Up to 10g	
Height	0.14in (3.58mm)	
Width	0.87in (22mm)	
Interface	ATA-8, PCIe 2.0	
Performance	Maximum Sequential Read	Maximum Sequential Write
	Up to 730 MB/s	Up to 620 MB/s
Logical blocks	500,118,192	
Operating Temperature	32° to 158°F (0° to 70°C) [ambient temp]	
Features	ATA Security; TRIM; L1.0	

Z Turbo Drive 512 GB, M.2 PCIe Solid State Drive

Capacity	512 GB SSD	
Drive Weight	Up to 10g	
Height	0.14 in (3.58mm)	
Width	0.87in (22mm)	
Interface	PCIe 2.0	
Performance	Maximum Sequential Read	Maximum Sequential Write
	Up to 730 MB/s	Up to 620 MB/s
Logical blocks	1,000,215,216	
Operating Temperature	32° to 158°F (0° to 70°C) [ambient temp]	
Features	ATA Security; TRIM	

Technical Specifications

NETWORKING/COMMUNICATION

Intel® Dual Band Wireless-AC 7260 802.11ac (2x2) WiFi + Bluetooth® 4.0 Combo Adapter	Wireless LAN Standards	IEEE 802.11a IEEE 802.11b IEEE 802.11g IEEE 802.11n IEEE 802.11ac
	Interoperability	Wi-Fi certified Cisco Compatible Extensions Program compliant with Microsoft Windows 7, Windows Vista and XP (details at: http://www.hp.com/go/notebooks/WLAN)
	Frequency Band	802.11b/g/n 2.402 - 2.482 GHz 802.11ac 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
	Antenna Structure	2 transmit; 2 receive (2x2)
	Data Rates	802.11a: 6, 9, 12, 18, 24, 36, 48, 54 Mbps 802.11b: 1, 2, 5.5, 11 Mbps 802.11g: 6, 9, 12, 18, 24, 36, 48, 54 Mbps 802.11n: card will support rates for NSS=1 and NSS=2 for RX and TX for 20 and 40 MHz channels. Short and long guard interval shall be supported. 802.11ac : MCS0 ~ MCS9, (1SS, and 2SS) (20MHz, 40MHz, and 80MHz)
	Modulation	Direct Sequence Spread Spectrum CCK, BPSK, QPSK, 16-QAM, 64-QAM
	Security¹	IEEE and WiFi compliant 64 / 128 bit WEP encryption for a/b/g mode only AES-CCMP: 128 bit in hardware 802.1x authentication WPA, WPA2: 802.1x. WPA-PSK, WPA2-PSK, TKIP, and AES. WPA2 certification IEEE 802.11i Cisco Certified Extensions, all versions through CCX4 and CCX Lite WAPI
	Sub-channels	Multinational support with frequency bands and channels compliant to local regulations.
	Network Architecture Models	Ad-hoc (Peer to Peer) Infrastructure (Access Point Required)
	Roaming	IEEE 802.11 compliant roaming between band Access Points
	Output Power²	2.4G: +13.5dBm minimum 5G: +12dBm minimum
	Power Consumption	Transmit: 2.0 Watts Receive: 1.6 Watts Idle mode ³ : 250 mW (WLAN Associated) Idle mode: 100 mW (WLAN unassociated) Radio off: 75 mW

Technical Specifications

Power Management	ACPI and PCI Express compliant power management 802.11 compliant power saving mode
Receiver Sensitivity⁴	802.11g:-90 dBm (6 Mbps), -89 dBm (9 Mbps), -87 dBm (12 Mbps), -85 dBm (18 Mbps), -82 dBm (24 Mbps), -79 dBm (36 Mbps), -76 dBm (48 Mbps), -74 dBm (54 Mbps) 802.11b:-95 dBm (1 Mbps), -93 dBm (2 Mbps), -91 dBm (5.5 Mbps), -88 dBm (11 Mbps) 802.11g:-90 dBm (6 Mbps), -89 dBm (9 Mbps), -87 dBm (12 Mbps), -85 dBm (18 Mbps), -82 dBm (24 Mbps), -79 dBm (36 Mbps), -76 dBm (48 Mbps), -74 dBm (54 Mbps) 802.11n:-69 dBm (150 Mbps), -66 dBm (300 Mbps)
Antenna Type	2 U.FL type connectors (output impedance of 50 ± 2 ohms)
Form Factor	M.2 NGFF
Dimensions	0.87 x 1.18 x 0.09 in (22mm x 30mm x 2.4mm)
Weight	2.3g
Operating Voltage	3.3v +/- 9%
Temperature	Operating 32° to 176° F (0° to 80° C) Non-operating -40° to 176° F (-40° to 80° C)
Humidity	Operating 10% to 90% (non-condensing) Non-operating 5% to 95% (non-condensing)
Altitude	Operating 0 to 10,000 ft (3,048 m) Non-operating 0 to 50,000 ft (15,240 m)
LED Activity	LED On - Radio OFF; LED Off - Radio ON

1. [Check latest software/driver release for updates on supported security features.](#)
2. [Maximum output power may vary by country according to local regulations.](#)
3. [In Power Save Polling mode and on battery power.](#)
4. [Receiver sensitivity is measured at a packet error rate of 8% for 802.11b \(CCK modulation\) and a packet error rate of 10% for 802.11a/g \(OFDM modulation\).](#)

Technical Specifications

AUDIO/MULTIMEDIA

Hardware	Implementation	Realtek ALC3227
	Function Key	Volume up, volume down, and mute
	Volume Controls	
	Full Duplex	Yes
	Microphone In	Mono
	Headphone	Stereo
	Integrated Microphone	Yes, dual digital microphone array when equipped with webcam
Audio Output Quality	Frequency Response	100Hz – 20kHz
	Signal to Noise Ratio	88 dB
	Total Harmonic Distortion	0.01%
	Noise Floor	<-80 dB
	Play/Record Sampling Rate(s)	44.1k/48k/96k/192KHz
	DAC	16, 20 or 24-bit
	ADC	16, 20 or 24-bit
Integrated Stereo Speakers	Power Rating	2 Watts
	Impedance	4 Ohms

Technical Specifications

Power

HP 120W Smart AC Adapter	Power	120W AC	
	Connector	4.5mm(F)-7.4mm(M) dongle	
	Cable length	1800mm	
	Minimum system requirements	Smart Pin connector	
	Dimensions	5.83 x 2.97 x 1.0 in (148 x 75.5 x 25.4mm)	
	Weight	1.32 lb (493 g)	
4-cell, HP (58 WHr) Lithium-Ion Prismatic	Dimensions (H x W x L)	0.29 x 3.36 x 11.8in (7.4 x 85.3 x 300mm)	
	Weight	315 g	
	Cells/Type	4-cell Li-Ion Prismatic	
	Energy	Voltage	15V
		Amp-hour capacity	3.82 Ah
		Watt-hour capacity	58 Wh
	Temperature	Operating (charging)	32° to 113° F (0° to 45° C)
		Operating (Discharging)	14° to 140° F (-10° to 60° C)
		Non-operating	-4° to 140° F (-20° to 60° C)
	Battery Re-Charge Time	System in OFF or Standby Mode	3.5 hours
Fuel Gauge LED		No	
Warranty		3 years*	
Optional Travel Battery Available		No	

*Battery warranty depends on the platform warranty

Country of Origin

China

ENVIRONMENTAL DATA

TBD

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

Type	Description	Part #
Docking	HP 3001pr USB 3 Port Replicator	F3S42AA
	HP USB 3.0 Port Replicator	H1L08AA
Input/Output - Mice	HP 3-Button Laser Mouse	H4B81AA
	HP Stylish Wireless KB/Mouse	H4B79AA
	HP Stylish USB KB/Mouse	H4B80AA
Adapters	USB Graphics adapter Dual	C5U89AA
	HDMI to VGA Adapter	H4F02AA
Storage - External Storage	HP External USB Optical Drive	F2B56AA

Summary of Changes

Date of change:	Version History:		Description of change:

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