



# HP Z8 G4 Workstation

Top-of-the-line power to fuel those who reimagine our world. When you need a workstation with the capability to run complex simulations, handle advanced Machine Learning algorithms and process huge amounts of data, the HP Z8 doesn't disappoint.



HP recommends Windows 10 Pro.

#### Extreme power

- Run 3D simulations and edit 8K video in real time with up to 56 processing cores and up to 3 TB high-speed memory. Certified for serious software, such as ANSYS or After Effects, you can ideate and iterate more to deliver better work in less time.

#### Industry-leading design and acoustics

- From the inside out, the Z8 is an engineering wonder. The modern exterior provides tool-free access to a clean, modular interior. Strategically placed vents and ducts throughout the system streamline airflow for ultra-quiet performance.

#### HP's most secure workstations

- Advanced security features come standard on every Z8. Rest assured your device, identity and data are safe with security software like HP Client Security Suite Gen3<sup>3</sup> and HP Sure Start Gen3<sup>8</sup>, the industry's first self-healing BIOS with intrusion detection.

#### Featuring

- Support your unique user needs with a choice of Windows 10 Pro 64 or Linux<sup>®</sup> operating systems.
- Achieve the performance you need with the ability to support two next generation Intel<sup>®</sup> Xeon<sup>®</sup> processors for up to 56 total processor cores in one system.
- Give ML developers high-performance GPU-accelerated algorithm development tools with support for the NVIDIA Deep Learning SDK and many widely used deep learning frameworks.
- Easily handle massive data sets with 24 memory slots supporting up to 3 TB of high-speed memory.
- Get ultra-flexible configuration with 7 high-performance PCIe Gen3 slots and get additional expandability supporting up to 4 PCIe storage devices with optional slots.
- Providing a choice of 1125W, 1450W and 1700W 90% efficient power supplies, the Z8 fires up the maximum levels of processing, memory, graphics, storage and I/O configurability.
- Designed with two ports of lightning-quick 10 GbE network connection at a lower cost than standard PCIe add-in cards and with Thunderbolt<sup>™</sup> 3 technology for fast data transfers.
- The tool-less chassis lets you quickly and easily access the interior for upgrades and maintenance.
- The Z8 workstation's modern, sophisticated look features built-in handles for easy relocation.
- Innovative acoustic design allows full range configurations to run cool and quiet for maximized productivity.

# HP Z8 G4 Workstation Specifications Table



<b>Operating System</b>	Windows 10 Pro for Workstations 64 - HP recommends Windows 10 Pro <sup>1,21,22</sup> HP Installer Kit for Linux® Red Hat® Enterprise Linux® HP Linux® Installer Kit includes drivers for 64-bit versions of Red Hat® Enterprise Linux® 7.4, SUSE Linux® Enterprise Desktop 12 and Ubuntu 16.04. Red Hat® Enterprise Linux® (1-year paper license only) is available as a second operating system.
<b>Processor Family</b>	Intel® Xeon® Scalable processor
<b>Processors<sup>2,3</sup></b>	Intel® Xeon® Platinum 8180 (2.5 GHz base frequency, up to 3.8 GHz with Intel® Turbo Boost Technology, 38.5 MB cache, 28 cores); Intel® Xeon® Platinum 8160 (2.1 GHz base frequency, up to 3.7 GHz with Intel® Turbo Boost Technology, 33 MB cache, 24 cores); Intel® Xeon® Gold 6152 (2.1 GHz base frequency, up to 3.7 GHz with Intel® Turbo Boost Technology, 30.25 MB cache, 22 cores); Intel® Xeon® Gold 6154 (3 GHz base frequency, up to 3.7 GHz with Intel® Turbo Boost Technology, 24.75 MB cache, 18 cores); Intel® Xeon® Gold 6148 (2.4 GHz base frequency, up to 3.7 GHz with Intel® Turbo Boost Technology, 27.5 MB cache, 20 cores); Intel® Xeon® Gold 6142 (2.6 GHz base frequency, up to 3.7 GHz with Intel® Turbo Boost Technology, 22 MB cache, 16 cores); Intel® Xeon® Gold 6136 (3 GHz base frequency, up to 3.7 GHz with Intel® Turbo Boost Technology, 24.75 MB cache, 12 cores); Intel® Xeon® Gold 6140 (2.3 GHz base frequency, up to 3.7 GHz with Intel® Turbo Boost Technology, 24.75 MB cache, 18 cores); Intel® Xeon® Gold 6134 (3.2 GHz base frequency, up to 3.7 GHz with Intel® Turbo Boost Technology, 19.25 MB cache, 14 cores); Intel® Xeon® Gold 6130 (2.1 GHz base frequency, up to 3.7 GHz with Intel® Turbo Boost Technology, 22 MB cache, 16 cores); Intel® Xeon® Gold 6128 (3.4 GHz base frequency, up to 3.7 GHz with Intel® Turbo Boost Technology, 19.25 MB cache, 14 cores); Intel® Xeon® Gold 5118 (2.3 GHz base frequency, up to 3.2 GHz with Intel® Turbo Boost Technology, 16.5 MB cache, 12 cores); Intel® Xeon® Gold 5122 (3.6 GHz base frequency, up to 3.7 GHz with Intel® Turbo Boost Technology, 16.5 MB cache, 4 cores); Intel® Xeon® Silver 4116 (2.1 GHz base frequency, up to 3 GHz with Intel® Turbo Boost Technology, 16.5 MB cache, 12 cores); Intel® Xeon® Silver 4114 (2.2 GHz base frequency, up to 3 GHz with Intel® Turbo Boost Technology, 13.75 MB cache, 10 cores); Intel® Xeon® Silver 4112 (2.6 GHz base frequency, up to 3 GHz with Intel® Turbo Boost Technology, 8.25 MB cache, 4 cores); Intel® Xeon® Silver 4108 (1.8 GHz base frequency, up to 3 GHz with Intel® Turbo Boost Technology, 11 MB cache, 8 cores); Intel® Xeon® Bronze 3106 (1.7 GHz, 11 MB cache, 8 cores); Intel® Xeon® Bronze 3104 (1.7 GHz, 8.25 MB cache, 6 cores)
<b>Chipset</b>	Intel® C622
<b>Maximum Memory</b>	3 TB DDR4-2666 ECC SDRAM <sup>20</sup> Transfer rates up to 2666 MT/s.
<b>Memory Slots</b>	24 DIMM
<b>Drive Controllers</b>	Integrated SATA 6.0 Gb/s
<b>Internal Storage</b>	up to 300 GB SAS (15000 rpm) <sup>4</sup> 500 GB up to 2 TB SATA (7200 rpm) <sup>4</sup> up to 500 GB SATA SED (7200 rpm) <sup>4</sup> 1 TB up to 4 TB 7200 rpm SATA Enterprise <sup>4</sup> 256 GB up to 2 TB SATA SSD <sup>4</sup> 256 GB up to 512 GB SATA SED Opal 2 SSD <sup>4</sup> 240 GB up to 480 GB SATA Enterprise SSD <sup>4</sup>
<b>Optical Storage</b>	HP Slim DVD-ROM; HP Slim Blu-ray Writer; HP Slim DVD-Writer <sup>5,6</sup>
<b>Additional Storage</b>	HP SD 4 Media Card Reader (optional)
<b>Available Graphics</b>	Entry 3D: NVIDIA® Quadro® P400 (2 GB GDDR5 dedicated); NVIDIA® Quadro® P600 (2 GB GDDR5 dedicated); AMD FirePro™ W2100 Graphics (2 GB DDR3 dedicated) Mid-range 3D: NVIDIA® Quadro® P1000 (4 GB GDDR5 dedicated); NVIDIA® Quadro® P2000 (5 GB GDDR5 dedicated); AMD Radeon™ Pro WX 3100 Graphics (4 GB GDDR5 dedicated); AMD Radeon™ Pro WX 4100 Graphics (4 GB GDDR5 dedicated) <sup>17</sup> High-end 3D: AMD Radeon™ Pro WX 7100 Graphics (8 GB GDDR5 dedicated); NVIDIA® Quadro® P4000 (8 GB GDDR5 dedicated); NVIDIA® Quadro® P5000 (16 GB GDDR5X dedicated); NVIDIA® Quadro® P6000 (24 GB GDDR5X dedicated)
<b>Audio</b>	Realtek HD ALC221
<b>Communications</b>	LAN: Integrated Intel® I219-LM PCIe® GbE; Integrated Intel® X722 PCIe® GbE; Intel® I350-T2 dual-port GbE NIC; Intel® I350-T4 dual-port GbE NIC; Intel® I210-T1 PCIe® GbE; Intel® X550-T2 dual-port GbE NIC; Intel® X710-DA2 dual-port GbE NIC; Intel® 10 GbE SFP+ SR transceiver; HP dual-port 10GbBase-T NIC <sup>19</sup> WLAN: Intel® Dual Band Wireless-AC 8265 802.11 a/b/g/n/ac (2x2) Wi-Fi® and Bluetooth® 4.2 Combo, non-vPro™ <sup>9</sup>
<b>Expansion Slots</b>	2 PCIe x4; 3 PCIe x8; 4 PCIe x16 1 PCIe x8 has rear bulkhead access and 2 PCIe x8 are internal access only. Slot 1: Transforms to PCIe x8 when 2nd CPU is installed. Slots 3 and 6: are available only when 2nd processor is installed. PCIe x16 - Available only when 2nd processor is installed.
<b>Ports and Connectors</b>	Front: 1 headset connector; 4 USB 3.1 (1 charging) Rear: 6 USB 3.1 Gen 1; 2 RJ-45 (1 GbE); 1 audio-in; 1 audio-out; 1 PS/2 mouse port; 1 PS/2 keyboard port; 1 serial Premium front includes: 1 headset, 2 USB 3.1 Gen 1 (1 charging), 2 USB 3.1 Gen 2 Type-C™.
<b>Drive Bays (Internal)</b>	Four 2.5" or 3.5"
<b>Drive Bays (External)</b>	Two 5.25"; <sup>16</sup>
<b>Input Device</b>	HP Wireless Business Slim Keyboard and Mouse Combo; HP USB Business Slim Keyboard; USB Premium wired keyboard; USB Smart Card (CCID) keyboard 3Dconnexion CADMouse; HP USB Optical Mouse; HP PS/2 Mouse; HP USB Hardened Mouse <sup>10</sup>
<b>Software</b>	HP Remote Graphics Software (RGS); HP Performance Advisor
<b>Security</b>	HP Sure Start Gen3; Secure authentication; Kensington lock slot; Full volume encryption; HP Keyed Cable Lock Kit; TPM 2.0 certified; HP Secure Erase <sup>14,15,18</sup>
<b>Power</b>	1700 W internal power supply, up to 90% efficiency, active PFC; 1450 W internal power supply, up to 90% efficiency, active PFC; 1125 W internal power supply, up to 90% efficiency, active PFC
<b>Dimensions</b>	21.59 x 55.12 x 44.45 cm
<b>Weight</b>	Starting at 22.4 kg
<b>Environmental Certification</b>	Low halogen <sup>12</sup>
<b>Compatible Displays</b>	All HP Z Displays and HP DreamColor Displays are supported. For more information see <a href="http://www.hp.com/go/zdisplays">www.hp.com/go/zdisplays</a> .
<b>Energy Efficiency Compliance</b>	ENERGY STAR® certified and EPEAT® Gold registered configurations available <sup>11</sup>

## HP Z8 G4 Workstation

### Recommended Accessories and Services

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#### HP 10GBASE-T Dual NIC Module Z6/8 G4

Get affordable, full line-rate performance with CAT 6a cabling or better at distances up to 100 meters, support for business and virtualization features, and keep one more PCIe slot available for other use with the HP 10GBASE-T Dual NIC Module Z6/8 G4.

**Product number: 1QL49AA**

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#### HP Z Premium Front I/O 2xUSB-A 2xUSB-C

Use the HP Z Premium Front I/O 2xUSB-A 2xUSB-C to quickly and easily upgrade your HP Z4, Z6 or Z8 G4 Workstation standard front I/O ports from 4x USB 3.1 Gen 1 Type A ports to 2x higher-bandwidth USB 3.1 Gen 2 Type-C™ ports for modern peripheral compatibility and 2x USB 3.1 Gen 1 Type A ports.

**Product number: 1XM32AA**

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#### HP Z Turbo Drv Quad Pro 2x1TB PCIe SSD

Power through your largest data challenges and get amazing performance with the HP Z Turbo Drive Quad Pro, which integrates up to four super-fast HP Z Turbo Drive G2 modules<sup>1</sup> into one PCIe x16 card.

**Product number: T9H99AA**

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#### HP 5-year Next Business Day Onsite Workstation Only Hardware Support



Receive 5 years of next business day onsite repair from an HP-qualified technician for your computing device, if the issue cannot be solved remotely. For more information on Care Pack services, please visit [www.hp.com/go/cpc](http://www.hp.com/go/cpc).

**Product number: U7944E**

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## Messaging Footnotes

- <sup>1</sup> 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>
- <sup>2</sup> Based on desktop workstations as of June 14, 2017 and power based on processor, graphics, memory, and power supply.
- <sup>3</sup> HP Client Security Suite Gen3 requires Windows and Intel® or AMD 7th Gen processors.
- <sup>4</sup> 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. Intel's numbering, branding and/or naming is not a measurement of higher performance.
- <sup>5</sup> HP dual-port 10GBase-T NIC is sold separately or as an optional feature.
- <sup>6</sup> Sold separately or as an optional feature.
- <sup>7</sup> Available in the first half of 2018.
- <sup>8</sup> HP Sure Start Gen3 is available on HP EliteBook, HP ZBook, and HP Z Workstation products equipped with Intel® 7th generation processors.
- Screen image courtesy of Renault Sport Racing  
Screen image courtesy of Chris McLennan

## Technical Specifications Footnotes

- <sup>1</sup> 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>.
- <sup>2</sup> 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. Intel's numbering, branding and/or naming is not a measurement of higher performance.
- <sup>3</sup> Some vPro functionality of this technology, such as Intel® Active management technology and Intel Virtualization technology, requires additional 3rd party software in order to run. Availability of future "virtual appliances" applications for Intel vPro technology is dependent on 3rd party software providers. Microsoft Windows required.
- <sup>4</sup> For hard drives and solid state drives, 1 GB = 1 billion bytes. TB = 1 trillion bytes. Actual formatted capacity is less. Up to 30 GB of system disk is reserved for system recovery software.
- <sup>5</sup> Duplication of copyrighted material is strictly prohibited. Actual speeds may vary. Double Layer media compatibility will widely vary with some home DVD players and DVD-ROM drives. Note that DVD-RAM cannot read or write to 2.6GB Single Sided/5.2 Double Sided-Version 1.0 Media. No support for DVD RAM.
- <sup>6</sup> With Blu-Ray, certain disc, digital connection, compatibility and/or performance issues may arise, and do not constitute defects in the product. Flawless playback on all systems is not guaranteed. In order for some Blu-ray titles to play, they may require a DVI or HDMI digital connection and your display may require HDCP support. HD-DVD movies cannot be played on this Desktop PC.
- <sup>7</sup> HP VR Ready Configurations available.
- <sup>8</sup> For systems installed with Microsoft Windows 7 (Ultimate, Enterprise or Professional), the maximum accessible system memory is 192 GB. For systems installed with Microsoft Windows 8.x (Enterprise or Pro), the maximum accessible system memory is 512 GB.
- <sup>9</sup> Wireless access point and Internet access required. 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.
- <sup>10</sup> Optional or add-on feature.
- <sup>11</sup> EPEAT® registered where applicable. EPEAT registration varies by country. See [www.epeat.net](http://www.epeat.net) for registration status by country. Search keyword generator on HP's 3rd party option store for solar generator accessories at <http://www.hp.com/go/options> [www.hp.com/go/options](http://www.hp.com/go/options)
- <sup>12</sup> External power supplies, power cords, cables and peripherals are not low halogen. Service parts obtained after purchase may not be low halogen.
- <sup>13</sup> HP Remote Graphics Software requires a Windows, Linux®, or Mac® OS X 10.10 and newer operating system and network access.
- <sup>14</sup> HP Sure Start Gen3 is available on HP EliteBook, HP ZBook, and HP Z Workstation products equipped with Intel® 7th generation processors.
- <sup>15</sup> HP Secure Erase: For the methods outlined in the National Institute of Standards and Technology Special Publication 800-88. Supported on Elite platforms with BIOS version F.03 or higher.
- <sup>16</sup> Each bay is configurable to 2.5" or 3.5".
- <sup>17</sup> The AMD Radeon™ Pro WX 4100 Graphics is available only as an aftermarket option.
- <sup>18</sup> HP Keyed Cable Lock Kit is available only as an aftermarket option.
- <sup>19</sup> HP 10GBASE-T Dual NIC Z6/B G4 is sold separately or as an optional feature.
- <sup>20</sup> Available in the first half of 2018.
- <sup>21</sup> Windows 10 Pro is preinstalled. Windows 7 media is only available upon request from HP Customer Support. 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.
- <sup>22</sup> NOTE: 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>.

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