



# HP Z840 Workstation

Push your computing boundaries with the HP Z840 Workstation that helps you keep up with your biggest projects. Built for high-end computing and visualization, it delivers outstanding performance in one of the industry's most expandable chassis.

HP recommends Windows 10 Pro.

- Windows 10 Pro<sup>1</sup>
- Intel® Xeon™ processors<sup>2</sup>



## Prepare to be spectacular

The HP Z840 Workstation, HP's highest performing workstation gets the best of HP Z DNA with incredible processing power, professional graphics, maximized memory, and internal storage capacity that helps you create work that makes a statement.

## Get going

Experience expansion like you never dreamed possible with 7 PCIe slots, up to 10 internal drive bays, and 16 memory slots supporting up to 1 TB of memory the HP Z840 can do it all. Ready to get going?

## Keep going

Reach your goals with the HP Z840 Workstation featuring uncompromised reliability, a tool-less chassis to facilitate upgrades, a rackable option<sup>3</sup> in addition to a desk side system, a lockable side panel, and handles to move the system around.

## Featuring:

- Achieve the performance you need with the ability to support two next generation Intel® Xeon® processors for up to 44 total processor cores in one system.<sup>2</sup>
- Take productivity up a notch with the ability to do more thanks to NVIDIA® professional graphics cards in 2D or 3D.<sup>4</sup>
- Get serious about graphics and reach peak productivity with access to a breadth of AMD professional graphics from entry to high-end 3D.<sup>4</sup>
- Maximize your time and increase your capabilities with USB and SATA ports, plus lightning-fast data transfers using optional Thunderbolt™ 2 technology.<sup>5</sup>
- A new tool-free chassis boasts low acoustics, dual integrated Gb Ethernet, aluminum side panels, handles for lifting, and is 5U rack mountable—all in an elegant industrial design.
- Reduce boot up, calculation, and graphics response and revolutionize how your HP Z840 handles large files with the HP Z Turbo Drive, a remarkably fast and innovative storage solution.
- Take multitasking to a new level with support for up to eight displays.<sup>6</sup>
- Optimize performance automatically with the with the most current settings and drivers.<sup>7</sup>
- Each HP Z840 Workstation works with HP Client Management Solutions.<sup>8</sup>

## HP Z840 Workstation Specifications Table



<b>Form Factor</b>	Tower
<b>Operating System</b>	Windows 10 Pro 64 – HP recommends Windows 10 Pro. <sup>1</sup> Windows 10 Home 64 <sup>1</sup> Windows 7 Professional 64 (available through downgrade rights from Windows 10 Pro) <sup>2</sup> Windows 8.1 Pro 64 <sup>3</sup> HP Installer Kit for Linux <sup>®</sup> (HP Linux Installer Kit includes drivers for 64-bit versions of Red Hat <sup>®</sup> Enterprise Linux 6.7 and 7, SUSE Linux Enterprise Desktop 11 and Ubuntu 14.04. Red Hat Enterprise Linux (1-year paper license only) is available as a second operating system.)
<b>Processor Family</b>	Intel <sup>®</sup> Xeon <sup>®</sup> E5-2600 v4 processor; Intel <sup>®</sup> Xeon <sup>®</sup> E5-2600 v3 processor
<b>Processors<sup>5,6</sup></b>	Intel <sup>®</sup> Xeon <sup>®</sup> E5-2699 v4 (2.2 GHz, 55 MB cache, 22 cores, Intel <sup>®</sup> vPro™) Intel <sup>®</sup> Xeon <sup>®</sup> E5-2697 v4 (2.3 GHz, 45 MB cache, 18 cores, Intel <sup>®</sup> vPro™) Intel <sup>®</sup> Xeon <sup>®</sup> E5-2695 v4 (2.1 GHz, 45 MB cache, 18 cores, Intel <sup>®</sup> vPro™) Intel <sup>®</sup> Xeon <sup>®</sup> E5-2690 v4 (2.6 GHz, 35 MB cache, 14 cores, Intel <sup>®</sup> vPro™) Intel <sup>®</sup> Xeon <sup>®</sup> E5-2687W v4 (3 GHz, 30 MB cache, 12 cores, Intel <sup>®</sup> vPro™) Intel <sup>®</sup> Xeon <sup>®</sup> E5-2683 v4 (2.1 GHz, 40 MB cache, 16 cores, Intel <sup>®</sup> vPro™) Intel <sup>®</sup> Xeon <sup>®</sup> E5-2680 v4 (2.4 GHz, 35 MB cache, 14 cores, Intel <sup>®</sup> vPro™) Intel <sup>®</sup> Xeon <sup>®</sup> E5-2667 v4 (3.2 GHz, 25 MB cache, 8 cores, Intel <sup>®</sup> vPro™) Intel <sup>®</sup> Xeon <sup>®</sup> E5-2660 v4 (2 GHz, 35 MB cache, 14 cores, Intel <sup>®</sup> vPro™) Intel <sup>®</sup> Xeon <sup>®</sup> E5-2650 v4 (2.2 GHz, 30 MB cache, 12 cores, Intel <sup>®</sup> vPro™) Intel <sup>®</sup> Xeon <sup>®</sup> E5-2643 v4 (3.4 GHz, 20 MB cache, 6 cores, Intel <sup>®</sup> vPro™) Intel <sup>®</sup> Xeon <sup>®</sup> E5-2640 v4 (2.4 GHz, 25 MB cache, 10 cores, Intel <sup>®</sup> vPro™) Intel <sup>®</sup> Xeon <sup>®</sup> E5-2637 v4 (3.5 GHz, 15 MB cache, 4 cores, Intel <sup>®</sup> vPro™) Intel <sup>®</sup> Xeon <sup>®</sup> E5-2630 v4 (2.2 GHz, 25 MB cache, 10 cores, Intel <sup>®</sup> vPro™) Intel <sup>®</sup> Xeon <sup>®</sup> E5-2623 v4 (2.6 GHz, 10 MB cache, 4 cores, Intel <sup>®</sup> vPro™) Intel <sup>®</sup> Xeon <sup>®</sup> E5-2620 v4 (2.1 GHz, 20 MB cache, 8 cores, Intel <sup>®</sup> vPro™) Intel <sup>®</sup> Xeon <sup>®</sup> E5-2609 v4 (1.7 GHz, 20 MB cache, 8 cores, Intel <sup>®</sup> vPro™) Intel <sup>®</sup> Xeon <sup>®</sup> E5-2603 v4 (1.7 GHz, 15 MB cache, 6 cores, Intel <sup>®</sup> vPro™) Intel <sup>®</sup> Xeon <sup>®</sup> E5-2699 v3 (2.3 GHz, 45 MB cache, 18 cores, Intel <sup>®</sup> vPro™) Intel <sup>®</sup> Xeon <sup>®</sup> E5-2697 v3 (2.6 GHz, 35 MB cache, 14 cores, Intel <sup>®</sup> vPro™) Intel <sup>®</sup> Xeon <sup>®</sup> E5-2695 v3 (2.3 GHz, 35 MB cache, 14 cores, Intel <sup>®</sup> vPro™) Intel <sup>®</sup> Xeon <sup>®</sup> E5-2690 v3 (2.6 GHz, 30 MB cache, 12 cores, Intel <sup>®</sup> vPro™) Intel <sup>®</sup> Xeon <sup>®</sup> E5-2687W v3 (3.1 GHz, 25 MB cache, 10 cores, Intel <sup>®</sup> vPro™) Intel <sup>®</sup> Xeon <sup>®</sup> E5-2680 v3 (2.5 GHz, 30 MB cache, 12 cores, Intel <sup>®</sup> vPro™) Intel <sup>®</sup> Xeon <sup>®</sup> E5-2670 v3 (2.3 GHz, 30 MB cache, 12 cores, Intel <sup>®</sup> vPro™) Intel <sup>®</sup> Xeon <sup>®</sup> E5-2667 v3 (3.2 GHz, 20 MB cache, 8 cores, Intel <sup>®</sup> vPro™) Intel <sup>®</sup> Xeon <sup>®</sup> E5-2660 v3 (2.6 GHz, 25 MB cache, 10 cores, Intel <sup>®</sup> vPro™) Intel <sup>®</sup> Xeon <sup>®</sup> E5-2650 v3 (2.3 GHz, 25 MB cache, 10 cores, Intel <sup>®</sup> vPro™) Intel <sup>®</sup> Xeon <sup>®</sup> E5-2643 v3 (3.4 GHz, 20 MB cache, 6 cores, Intel <sup>®</sup> vPro™) Intel <sup>®</sup> Xeon <sup>®</sup> E5-2640 v3 (2.6 GHz, 20 MB cache, 8 cores, Intel <sup>®</sup> vPro™) Intel <sup>®</sup> Xeon <sup>®</sup> E5-2637 v3 (3.5 GHz, 15 MB cache, 4 cores, Intel <sup>®</sup> vPro™) Intel <sup>®</sup> Xeon <sup>®</sup> E5-2630 v3 (2.4 GHz, 20 MB cache, 8 cores, Intel <sup>®</sup> vPro™) Intel <sup>®</sup> Xeon <sup>®</sup> E5-2620 v3 (2.4 GHz, 15 MB cache, 6 cores, Intel <sup>®</sup> vPro™) Intel <sup>®</sup> Xeon <sup>®</sup> E5-2609 v3 (1.9 GHz, 15 MB cache, 6 cores, Intel <sup>®</sup> vPro™) Intel <sup>®</sup> Xeon <sup>®</sup> E5-2603 v3 (1.6 GHz, 15 MB cache, 6 cores, Intel <sup>®</sup> vPro™)
<b>Chipset</b>	Intel <sup>®</sup> C612
<b>Maximum Memory</b>	1 TB DDR4-2400 ECC registered SDRAM <sup>10</sup> (Transfer rates up to 2400 MT/s. Only registered and load-reduced memory is supported.)
<b>Memory Slots</b>	8 DIMM (with 1 processor) and 16 DIMM (with 2 processors)

<b>Drive Controllers</b>	Integrated SATA 6.0 Gb/s; Integrated LSI SAS 2308 with RAID; LSI MegaRAID® 9270-8i SAS 6.0 Gb/s ROC RAID Card and iBBU09 Battery Backup Unit (optional); Factory integrated RAID available for SATA/SAS drives (RAID 0, 0 Data, 1, 5, and 10); Factory integrated RAID available for PCIe SSDs (RAID 0 Data)
<b>Internal Storage</b>	300 GB up to 1.2 TB SAS (10000 rpm) <sup>7</sup> 500 GB up to 4 TB SATA (7200 rpm) <sup>7</sup> 500 GB SATA SED (7200 rpm) <sup>7</sup> 128 GB up to 2 TB SATA SSD <sup>7</sup> 256 GB up to 512 GB SATA SED SSD <sup>7</sup> 1 TB (8 GB cache) SATA SSHD (7200 rpm) <sup>7</sup> 256 GB up to 1 TB HP Z Turbo Drive G2 (NVMe PCIe SSD) <sup>7</sup> 256 GB up to 4 TB HP Z Turbo Drive Quad Pro (PCIe SSD) <sup>7</sup> 256 GB up to 512 GB HP Z Turbo Drive G2 (PCIe SED SSD) <sup>7</sup> 256 GB up to 1 TB HP Z Turbo Drive G2 (TLC PCIe® SSD) <sup>7</sup>
<b>Optical Storage</b>	Slim SATA DVD-ROM; Slim SATA BDXL Blu-ray writer; Slim SATA DVD-Writer <sup>6,9</sup>
<b>Additional Storage</b>	15-in-1 media card reader (optional); HP DX115 Removable HDD Frame/Carrier (optional)
<b>Available Graphics</b>	Professional 2D: NVIDIA® NVS™ 310 (512 MB); NVIDIA® NVS™ 315 (1 GB); NVIDIA® NVS™ 510 (2 GB) Entry 3D: NVIDIA® Quadro® K420 (2 GB); NVIDIA® Quadro® K620 (2 GB); AMD FirePro™ W2100 (2 GB) Mid-range 3D: NVIDIA® Quadro® P2000 (5 GB); NVIDIA® Quadro® M2000 (4 GB); NVIDIA® Quadro® K2200 (4 GB); NVIDIA® Quadro® K1200 (4 GB); AMD FirePro™ W5100 (4 GB); AMD FirePro™ W4300 (4 GB) High-end 3D: AMD Radeon™ Pro WX 7100 (8 GB); AMD Radeon™ Pro WX 4100 (4 GB); NVIDIA® Quadro® P4000 (8 GB); NVIDIA® Quadro® P5000 (16 GB); NVIDIA® Quadro® P6000 (24 GB); NVIDIA® Quadro® M6000 (24 GB); NVIDIA® Quadro® M5000 (8 GB); NVIDIA® Quadro® M4000 (8 GB); AMD FirePro™ W7100 (8 GB) <sup>16</sup> High Performance GPU Computing: NVIDIA® Tesla® K40
<b>Audio</b>	Integrated IDT 92HD94 audio
<b>Networking</b>	Integrated Intel I210AT PCIe GbE; Integrated Intel I218LM PCIe GbE; Intel Ethernet I210-T1 PCIe NIC (optional); HP X540-T2 10 GbE Dual Port Adapter (optional); HP X520 10 GbE Dual Port Adapter (optional); HP 10 GbE SFP+SR Transceiver (optional); HP 361T PCIe Dual Port Gigabit NIC (optional); Intel 7260 802.11a/b/g/n PCIe WLAN (optional) <sup>11</sup>
<b>Expansion Slots</b>	2 PCIe Gen3 x16; 1 PCIe Gen3 x16 (when 2nd CPU installed); 1 PCIe Gen2 x4 (when 1 CPU installed) OR PCIe Gen3 x8 (when 2nd CPU installed); 1 PCIe Gen3 x8; 1 PCIe Gen3 x4; 1 PCIe Gen2 x1 (1 PCIe Gen2 x4 when 1 CPU is installed. Transforms to PCIe Gen3 x8 when 2nd CPU installed. The PCIe x8 connectors are open ended, allowing a PCIe x16 card to be seated in the slot.)
<b>Ports and Connectors</b>	Front: 4 USB 3.0; 1 combo headset; 1 microphone Back: 4 USB 3.0; 2 USB 2.0; 1 serial; 2 PS/2; 2 RJ-45; 1 audio line in; 1 audio line out Internal: 2 USB 2.0; 1 USB 3.0 (Internal USB 2.0 available by the 2x5 header. Internal USB 3.0 available by a shrouded 9-pin connector.)
<b>Drive Bays (Internal)</b>	Four 3.5"
<b>Drive Bays (External)</b>	Two 5.25"; One slim ODD
<b>Input Device</b>	HP USB SmartCard Keyboard; HP 2.4 GHz Wireless Keyboard & Mouse; HP PS/2 Keyboard; HP USB Keyboard; HP Wireless Business Slim Keyboard; HP USB Business Slim Keyboard; HP PS/2 Business Slim Keyboard <sup>12</sup> HP PS/2 Mouse; HP USB Optical Mouse; HP USB 1000 dpi Laser Mouse; HP SpaceExplorer 3D USB Controller; HP SpacePilot Pro 3D USB Intelligent Controller; 3Dconnexion CADMouse; HP USB Hardened Mouse <sup>12</sup>
<b>Software</b>	HP Performance Advisor; Cyberlink Media Suite & PowerDVD; Foxit PhantomPDF Express; Buy Office; HP Remote Graphics Software (RGS) <sup>15</sup>
<b>Security</b>	HP Chassis Intrusion Sensor; TPM 1.2 certified; HP Keyed Cable Lock (optional)
<b>Power</b>	850 W 88% efficient, wide-ranging, active PFC; 1125 W 90% efficient, wide-ranging, active PFC
<b>Dimensions (W x D x H)</b>	8 x 20.7 x 17.5 in 20.3 x 52.5 x 44.4 cm
<b>Weight</b>	46.7 lb 21.1 kg (Exact weight depends upon configuration.)
<b>Energy Efficiency Compliance</b>	ENERGY STAR® certified and EPEAT® registered configurations available <sup>13</sup>
<b>Environmental Certification</b>	Low halogen <sup>14</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> .

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### Recommended accessories and services (not included)

#### HP Z24n 24-inch Narrow Bezel IPS Display

Create a seamless 16:10 multi-display<sup>1</sup> setup with the HP Z24n Narrow Bezel IPS Display, which has a virtually borderless screen for maximum impact imagery, factory color calibration to ensure optimal color accuracy, and flexible connectivity for all of your devices.

**Product number: K7B99A8**

#### NVIDIA Tesla K40 Compute Processor



The NVIDIA Tesla™ K40 represents the latest and most advanced Kepler GPU architecture from NVIDIA. Based on the new GK110B GPU, new levels of supercomputing processing capability is now available in a wide range of HP Z-workstations. Based on the massively parallel re-worked CUDA architecture, it features many "must have" HPC capabilities including 12GB ECC memory and an L1/L2 cache design for improved bandwidth and data sharing. The Tesla K40 features innovative technologies like SMX, Hyper-Q, and Dynamic Parallelism.

**Product number: F4A88AA**

#### HP Z Turbo Drive 512GB PCIe Solid State Drive



Reduce boot up, calculation, and graphics response times (even with 4K video) and revolutionize how your HP Z Workstation handles large files with the HP Z Turbo Drive PCIe Solid State Drive, a remarkably affordable and innovative storage solution.

**Product number: G3G89AA**

#### HP 4TB SATA 7200 Hard Drive



Expand your workstation storage with the HP 4 TB SATA 7200 HDD,<sup>1</sup> an excellent solution for high capacity applications.

**Product number: K4T76AA**

#### HP Thunderbolt 2-Port AiO Module



Ultra-fast backup, editing, and file sharing, while reducing your time on tasks on select HP Z Workstations<sup>1</sup> with this 2-port module driven by Thunderbolt™ 2 technology.<sup>2</sup> Power through projects with data transfer speeds nearly 4x that of USB 3.0.

**Product number: E5Z73AA**

#### HP 5 year Next Business Day Onsite with Defective Media Retention



Defective Media Retention (DMR) allows you to keep your hard drive if it is defective and requires replacement while under warranty. You maintain control of your sensitive data, and dispose of the defective media in a way that meets your security standards

**Product number: UE344E**

## 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.microsoft.com>.
- <sup>2</sup> 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 system required. Performance will vary depending on your hardware and software configurations. Intel's numbering is not a measurement of higher performance.
- <sup>3</sup> Sold separately or as optional features.
- <sup>5</sup> Thunderbolt is an optional or add-on feature. Thunderbolt cable and Thunderbolt device (sold separately) must be compatible with Windows. To determine whether your device is Thunderbolt Certified for Windows, see <https://thunderbolttechnology.net/products>.
- <sup>6</sup> Support for up to eight displays requires purchase of two graphics cards that support up to 4 displays simultaneously. Displays sold separately.
- <sup>7</sup> HP Performance Advisor requires Windows and Internet access.
- <sup>8</sup> Requires Windows operating system.
- <sup>9</sup> Third party management software sold separately.

## 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.microsoft.com>.
- <sup>2</sup> This system is preinstalled with Windows 7 Professional 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 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>3</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. See <http://www.microsoft.com>.
- <sup>5</sup> 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 system required. Performance will vary depending on your hardware and software configurations. Intel's numbering is not a measurement of higher performance.
- <sup>6</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>7</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>8</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.
- <sup>9</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>10</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>11</sup> Wireless cards are optional or add-on features and requires separately purchased wireless access point and internet service. Availability of public wireless access points limited.
- <sup>12</sup> Optional or add-on feature
- <sup>13</sup> EPEAT® registered where applicable. EPEAT registration varies by country. See [www.epeat.net](http://www.epeat.net) for registration status by country.
- <sup>14</sup> External power supplies, power cords, cables and peripherals are not low halogen. Service parts obtained after purchase may not be low halogen.
- <sup>15</sup> HP Performance Advisor and HP Remote Graphics Software requires Windows and an internet connection.
- <sup>16</sup> HP VR Ready Configurations available

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