

HP Z820 Workstation



Ultimate performance for ultimate projects

Built for high-end computing and visualization. The dual-processor HP Z820 Workstation delivers outstanding performance, award-winning industrial design, and tool-free serviceability in the industry's most expandable chassis. With next generation Intel® Xeon® processors, support for up to 16 processing cores, and the latest professional graphics, you'll tackle even the most demanding projects like never before.



HP recommends Windows.

Unmatched Design. Inside and Out.

- Easily access, customize and maintain system components with a tool-less and visually cable-free chassis—ideal for direct connections with drives and power supplies. Integrated side rails and front and back handles simplify movement.
- Maximize cooling and reduce acoustics with a highly streamlined form factor designed for optimized airflow.

Multitasking Made Easy.

- Expand your daily potential with the Intel® Xeon® processor E5-2600 v2 family¹. The HP Z820 can operate up to 24 processing cores, delivering the ultimate performance to help you accomplish more every minute.
- Featuring the C600 series chipset, LSI SAS 2308 controller, and dual Quick Path Interconnects between the processors, the two work together to help you work more effectively than ever before.
- Stay a step ahead with increased memory bandwidth and support up to 512 GB of the latest generation of DDR3 memory.²
- Connect in a flash with 4X USB 3.0 bandwidth on an optional high-performance Thunderbolt™ 2.0 port³ on the HP Z820.

Ultra-powerful visuals.

- Built to support next generation PCIe Gen3 graphics from AMD and NVIDIA, the HP Z820 Workstation currently offers a wide range of cards from Pro 2D to ultra-high-end 3D graphics to get the job done.⁴
- Drive multiple displays and multitask like a pro.⁵ Plus, get the highest performing GPU computing solutions available in the Z family, like NVIDIA's Maximus, on the HP Z820.⁴
- Access high-performance applications, including 2D and 3D video, on-site or from a remote location with HP Remote Graphics software⁶.

Space to Fill.

- This rackable system provides 7 expansion slots, 7 expansion bays and 4-channel integrated DDR3 memory with 16 slots and support for up to 512 GBs.²
- Customize and expand with a variety of storage and I/O options including a wide range of internal HDD/ODD and external SATA devices to increase flexibility.²

Complete Peace of Mind.

- With 115,000 hours of testing in the HP Total Test Process, the HP Z820 is reliable and ready for business.
- HP Performance Advisor⁷ configures your system with updated settings and drivers to help maximize performance.
- HP workstations offer low-halogen⁸ and ENERGY STAR[®] qualified configurations featuring efficient power supplies.
- Relax with a standard, 3-year limited warranty. Choose optional HP Care Pack Services⁹ to extend your service.

HP Z820 Workstation Specifications Table

HP recommends Windows.



Form Factor	Rackable minitower
Operating System	Windows 8.1 Pro 64 Windows 7 Professional 64 (available through downgrade rights from Windows 8.1 Pro (National Academic only)) Windows 7 Professional 32 (available through downgrade rights from Windows 8.1 Pro (National Academic only)) Windows 7 Professional 64 (available through downgrade rights from Windows 8.1 Pro 64) Windows 7 Professional 32 (available through downgrade rights from Windows 8.1 Pro 64) Windows 7 Professional 64 Windows 7 Professional 32 SUSE Linux Enterprise Desktop 11 HP Installer Kit for Linux
Processor Family	Intel® Xeon® E5 processor
Processors	Intel® Xeon® E5-2697 v2 (2.7 GHz, 30 MB cache, 12 cores); Intel® Xeon® E5-2695 v2 (2.4 GHz, 30 MB cache, 12 cores); Intel® Xeon® E5-2690 v2 (3 GHz, 25 MB cache, 10 cores); Intel® Xeon® E5-2687W v2 (3.4 GHz, 20 MB cache, 8 cores); Intel® Xeon® E5-2680 v2 (2.8 GHz, 25 MB cache, 10 cores); Intel® Xeon® E5-2670 v2 (2.5 GHz, 25 MB cache, 10 cores); Intel® Xeon® E5-2667 v2 (3.3 GHz, 25 MB cache, 8 cores); Intel® Xeon® E5-2660 v2 (2.2 GHz, 25 MB cache, 10 cores); Intel® Xeon® E5-2650 v2 (2.6 GHz, 20 MB cache, 8 cores); Intel® Xeon® E5-2643 v2 (3.5 GHz, 25 MB cache, 6 cores); Intel® Xeon® E5-2640 v2 (2 GHz, 20 MB cache, 8 cores); Intel® Xeon® E5-2637 v2 (3.5 GHz, 15 MB cache, 4 cores); Intel® Xeon® E5-2630 v2 (2.6 GHz, 15 MB cache, 6 cores); Intel® Xeon® E5-2620 v2 (2.1 GHz, 15 MB cache, 6 cores); Intel® Xeon® E5-2609 v2 (2.5 GHz, 10 MB cache, 4 cores); Intel® Xeon® E5-2603 v2 (1.8 GHz, 10 MB cache, 4 cores); Intel® Xeon® E5-2643 (3.3 GHz, 10 MB cache, 4 cores); Intel® Xeon® E5-2620 (2 GHz, 15 MB cache, 6 cores)
Chipset	Intel® C602
Maximum Memory	Up to 512 GB 1333 MHz DDR3 Load-reduced SDRAM Up to 256 GB 1600 MHz DDR3 Registered SDRAM Up to 64 GB 1600 MHz DDR3 Unbuffered SDRAM Standard memory note: Actual memory speed dependent on processor. Registered, unbuffered and load-reduced DIMMS may not be mixed.
Memory Slots	16 DIMM
Drive Controllers	Integrated SATA 6.0 Gb/s; Integrated SATA 3.0 Gb/s; Integrated LSI SAS 2308 Controller; LSI MegaRAID 9260-Bi SAS 6Gb/s ROC RAID Card and iBBU08 Battery Backup Unit (optional); LSI MegaRAID 9270-Bi SAS 6Gb/s ROC RAID Card and iBBU09 Battery Backup Unit (optional)
Internal Storage	300 GB up to 600 GB SAS (15000 rpm) 300 GB up to 1.2 TB SAS (10000 rpm) 250 GB up to 3 TB SATA (7200 rpm) up to 500 GB SATA SED 180 GB up to 1 TB SATA SSD up to 256 GB SATA SE SSD
Optical Storage	SATA Blu-ray writer; SATA DVD-ROM; Slot-load SATA DVD+/-RW; SATA SuperMulti DVD+/-RW
Drive Bays (Internal)	Four 3.5"
Drive Bays (External)	Three 5.25"
Available Graphics	Professional 2D: NVIDIA NVS 300 (512 MB); NVIDIA NVS 310 (512 MB); NVIDIA NVS 315 (1 GB) Entry 3D: NVIDIA Quadro 410 (512 MB); NVIDIA Quadro K600 (1 GB); AMD FirePro V3900 (1 GB) Midrange 3D: NVIDIA Quadro K2000 (2 GB) High-end 3D: NVIDIA Quadro K4000 (3 GB); NVIDIA Quadro K5000 (4 GB); AMD FirePro W7000 (4 GB); NVIDIA Quadro K6000 (12 GB) High Performance GPU Computing: NVIDIA Tesla K20c; NVIDIA Tesla K40
Expansion Slots	3 PCIe Gen3 x16; 1 PCIe Gen3 x8; 1 PCIe Gen3 x4; 1 PCIe Gen2 x4; 1 PCI; 1 1.4-in-1 media card reader (optional) The PCIe x8 connectors are open ended, allowing a PCIe x16 card to be seated in the slot.
Ports and Connectors	4 USB 3.0; 5 USB 2.0; 2 IEEE 1394a; 2 microphone; 1 audio line out; 1 headphone; 1 audio line in; 1 serial; 2 PS/2 (keyboard & mouse); 2 RJ-45 to integrated Gigabit LAN HP Thunderbolt 2 1-port PCIe card (optional); HP IEEE 1394b FireWire PCIe card (optional); 6 internal USB 2.0 available by 3 separate 2x5 headers
Communications	Integrated Intel® 82579LM PCIe Dual GbE controller; Broadcom NetXtreme GbE Plus PCIe (optional); HP 361T PCIe dual-port gigabit (optional); HP X520 10 GbE dual-port (optional); HP 10 GbE SFP+ SR transceiver; Intel® Ethernet I210-T1 PCIe (optional)
Audio	Integrated High Definition Realtek ALC262; HP Thin USB Powered Speakers (optional)
Power	1125W 90% efficient, wide ranging, active PFC
Security	Cable Lock Support (standard - cable optional); Chassis Intrusion Sensor (standard); Serial, Parallel, USB, Audio, Network Enable/Disable (standard); Removable Media Write/Boot Control (standard); Power-On Password (standard); Setup Password (standard); Kensington Cable Lock (optional)
Software	HP Performance Advisor; HP Remote Graphics Software (RGS) V5; HP ProtectTools Security (available as configurable option); HP Power Assistant; CyberLink Power2Go/Power2Go; Office Home & Business 2013 (available as configurable option)
Dimensions	20.3 x 52.5 x 44.4 cm
Weight	21.1 kg Exact weight depends upon configuration.
Energy Efficiency Compliance	ENERGY STAR® qualified configurations available
Warranty	3-year limited warranty including 3 years of parts, labour, and next-business-day onsite service. Terms and conditions vary by country. Certain restrictions and exclusions apply.

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Accessories and services (not included)

NVIDIA Quadro 5000 2.5GB Graphics Card



Transform your entire workflow with the newest NVIDIA Quadro 5000, the first professional graphics solution to integrate high-performance computing with advanced visualization. As the only professional-class GPU to feature the CUDA parallel processing architecture, ECC memory and fast double precision, the Quadro 5000 is designed to run computationally intensive applications such as ray tracing, video processing and computational fluid dynamics. NVIDIA's Quadro 5000 can process an unheard of 1.3 billion triangles per second, shattering previous 3D performance benchmarks.

Product number: WS096AA

NVIDIA Quadro 6000 6.0GB Graphics Card



The NVIDIA Quadro 6000, part of the newest NVIDIA® Quadro® professional solutions, is a true technological breakthrough, delivering up to 5X faster performance across a broad range of design, animation and video applications. Built on the innovative NVIDIA Fermi architecture, the latest Quadro offerings are the first professional-class GPUs to integrate high performance computing capabilities with advanced visualization techniques, transforming modern workflows. The result is a visual supercomputer right at your desk, capable of streamlining the way you work every day. With Quadro solutions, your work flows -- you can design, iterate and deliver higher quality projects in less time.

Product number: WS097AA

HP 300GB SATA X25-M Solid State Drive



Solid State Drives (SSDs) are fast becoming a real force with respect to storage in the computer industry. With no moving parts, storage is no longer bound by mechanical barriers to higher performance. HP SSDs for workstations offer overall performance typically beyond that of SAS 15k rpm HDDs (Hard Disk Drives).

Product number: LZ069AA

HP SpacePilot Pro USB 3D Input Device



Working in 3D has just become easier and more efficient with an HP SpacePilot Intelligent Controller, which combines refined sensing technology, extendable speed keys, and ergonomic design to give you 3D control, speeding up your design work -faster than you ever thought possible. When you intuitively push, tilt, or twist the control cap, the response is immediate. SpacePilot also features 21 speed keys that increase your efficiency and make working with your designs less stressful and more enjoyable, without the intrusive functionality of a mouse and keyboard alone.

Product number: WH343AA

HP ZR2740w 27-inch LED Backlit IPS Monitor



The HP ZR2740w 68,6 (27") LED Backlit IPS Monitor delivers massive 2560 x 1440 resolution, a 16:9 aspect ratio, and 3.7 million pixels in an ultra-modern and sleek design that perfectly complements HP Z Workstations.

Product number: XW476A4

5-year Next Business Day Onsite



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.

Product number: U7944E

Learn more at
www.hp.eu/hpoptions

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HP recommends Windows.

Messaging Footnotes:

¹ 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.

² Maximum memory capacities assume Windows 64-bit operating systems or Linux. With Windows 32-bit operating systems, memory above 3 GB may not all be available due to system resource requirements.

³ Thunderbolt is new technology. 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>. Thunderbolt™ 2.0 is planned to be available via an optional add-in card in early 2014.

⁴ Optional features sold separately or as add on features.

⁵ Support for external displays as a standard feature through integrated processor-based graphics is dependent upon the particular workstation configuration; the actual number of displays supported will vary. An optional graphics solution will be required for the support of additional displays. Additional cables required. HD (high-definition) content required to view HD images.

⁶ HP Remote Graphics Software requires Windows and an internet connection.

⁷ HP Performance Advisor requires Windows and an internet connection.

⁸ External power supplies, power cords, cables and peripherals are not Low Halogen. Service parts obtained after purchase may not be Low Halogen.

⁹ HP Care Pack services are sold separately. Service levels and response times for HP Care Pack Services may vary depending on your geographic location. Service starts from date of hardware purchase. Restrictions and limitations apply. See www.hp.com/go/cpc for details.

Learn more at

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