



HP xw9400 WORKSTATION

Uncompromised graphics performance and maximum expandability with AMD64; now with optional Liquid Cooling



The HP xw9400 Workstation delivers high-end personal workstation performance and visualization for the compute-intensive environments of scientists, analysts, engineers, designers and artists.

Supporting dual PCIe x16 graphics and Dual-Core¹ AMD Opteron™ processors, the HP xw9400 meets the combined needs for computational and visualization power and I/O performance while helping to lower total cost of ownership. Intelligently engineered, the HP xw9400 is delivered in a highly expandable dual-socket chassis featuring an efficient, easy to maintain, tool-less access design, and optional Liquid Cooling for improved acoustics.

A choice of operating environment

The HP xw9400 is available with preinstalled genuine Windows® XP Professional (32- or 64-bit), as well as Windows Vista® Business (32- or 64-bit).

It also supports Red Hat Enterprise Linux WS 4 (64-bit). The HP Installer Kit for Linux is available to ease installation and help create a custom operating system image. We also offer 32-bit or 64-bit Red Hat Linux, either pre-installed or through our HP Installer Kit for Linux, which ensures you have all the tested drivers you need for the install.

HP user-relevant innovations help you fine-tune your system for the utmost in personal productivity. HP Performance Tuning Framework (PTF), preinstalled on the HP xw9400 with Microsoft Windows XP, is an easy-to-use tool that guides workstation setup and custom configuration to help increase performance of selected applications and overall productivity. HP Cool Tools provide easy access to HP web pages that help streamline implementation. HP Remote Graphics

Software (sold separately) enables remote access of 3D graphics performance via conventional TCP I/P.

High-performance, power efficient

Improve your workflow efficiency with the HP xw9400. It delivers exceptional computational and visualization performance in power efficient 64-bit computing, supporting up to 64 GB of memory.

The HP xw9400 addresses and minimizes traditional system architecture bottlenecks. Memory and I/O are connected directly to the CPU, optimizing and balancing throughput performance.

Unmatched visualization capability

The HP xw9400's fully duplexed dual PCIe x16 ports support two high-end graphics cards, enabling up to four 3D graphics displays or true dual PCIe x16 NVIDIA SLI Technology enablement. The HP xw9400 provides cost-effective, scalable visualization capability for demanding high-performance graphics solutions such as parallel rendering or compositing.

Highly scalable and expandable

Implementation of the next generation of the NVIDIA nForce Professional chipset also enables excellent workstation expandability.

Uncompromising graphics bandwidth comes with the dual PCIe x16 graphics. I/O channels include 2 PCIe x8 slots and 2 PCI-X 100 slots, which can be configured as a single PCI-X 133 slot to meet some Independent Hardware Vendor requirements. Six channel Serial ATA and 8 channel Serial Attached SCSI (SAS) controllers are integrated, enabling the latest, highest performance storage options. The HP xw9400 also provides dual integrated Gigabit LAN-on-Motherboard.

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HP recommends Windows Vista® Business

Form factor	Rackable minitower
Operating systems	Genuine Windows® XP Professional 32-bit Genuine Windows XP Professional x64 Genuine Windows Vista® Business 32-bit Genuine Windows Vista® Business 64-bit Genuine Windows Vista® Business 32-bit downgrade to Genuine Microsoft® Windows® XP Professional 32-bit ² Genuine Windows Vista® Business 64-bit downgrade to Genuine Microsoft® Windows® XP Professional x64 ² Enterprise Linux™ WS 4 64-bit HP Installer Kit for Linux (includes drivers for both 32-bit & 64-bit OS versions of Red Hat Enterprise Linux 3 and 4) Certified on Novell Linux Desktop 9
Available processors	One or two Dual-Core ¹ AMD Opteron™ 2000 series ³ processors 2210 (1.80 GHz), 2212 (2.00 GHz), 2214 (2.20 GHz), 2216 (2.40 GHz), 2218 (2.60 GHz), 2220 (2.80 GHz), 2222 SE (3.00 GHz), and 2224 SE (3.2 GHz) with AMD64 Technology ³ , 1 MB of L2 cache per core and 1 GHz AMD HyperTransport™ technology ⁴
Chipset	NVIDIA nForce Professional 3600 and NVIDIA nForce Pro 3050
Memory	Up to 64 GB of ECC registered DDR-2 667 MHz and 533 MHz SDRAM, with 8 GB DIMMs (August 2007) in 8 DIMM slots (with dual processor configurations)
Drive controllers	Integrated SATA 3 Gb/s controller (6 channels) with RAID 0, 1, 5 and 10 capability ⁵ ; Integrated SAS controller (8 channels) with opt. external connector and RAID 0, 1, and 10 ⁵
Hard drive(s)⁶	Up to 5 SATA drives supported natively (3.75 TB max.); 80, 160 GB (10K rpm) SATA 1.5 Gb/s or 80 GB (7200 rpm) SATA 3 Gb/s, 160, 250, 500, 750 GB SATA 3 Gb/s NCG; or up to 5 Serial Attached SCSI (SAS) drives supported natively (1.5 TB max.); 146, 300 GB (10K rpm) or 73, 146, 300 GB (15k rpm) SAS drives.
Optical drives	CD-ROM, DVD-ROM, SATA CD-RW/DVD combo, Dual-layer DVD+/- RW with LightScribe Direct Disc Labeling (Microsoft Windows only, requires LightScribe media for labeling) ⁷ , SATA DVD+/- RW SuperMulti
Drive bays	3 external 5.25-inch bays (opt. StorCase enclosure enables 3.5-inch SATA drive to be added to 5.25-inch bay), 5 internal 3.5-inch bays
Slots	7 slots: 2 PCI Express (PCIe) x16 graphics, 2 PCIe x16 (x8 bandwidth) I/O; 2 PCI-X at 100 MHz or 1 PCI-X at 133 MHz, exclusive; 1 full-length PCI
Graphics	Professional 2D: NVIDIA Quadro NVS 285 (128 MB, up to 2 cards supported) Entry 3D: NVIDIA Quadro FX 560 (128 MB, up to 2 cards supported) Mid-range 3D: NVIDIA Quadro FX 1500 (256 MB, up to 2 cards supported) High-end 3D: (up to 2 cards supported) NVIDIA Quadro FX 3500 (256 MB), NVIDIA Quadro FX 4600 (768 MB), NVIDIA Quadro FX 5500 (1 GB with opt. Quadro G-Sync card) SLI for NVIDIA Quadro supported on FX 3500, FX 4600, and FX 5500
Audio	Integrated High Definition audio with jack retasking capability, opt. PCI Sound Blaster X-Fi XtremeMusic
Network⁸	Dual NVIDIA Gigabit LAN-On-Motherboard, opt. Broadcom 5751 NetXtreme Gigabit PCIe NIC, opt. Intel Pro/1000 GT Gigabit PCIe NIC
Ports	Front: 2 USB 2.0, IEEE 1394a, Microphone In, Audio Out Rear: 6 USB 2.0, IEEE 1394a, 1 standard serial port, PS/2 keyboard and mouse, 2 RJ-45 to integrated Gigabit LAN, Audio In, Audio Out, Mic In Internal: 2 USB 2.0 (1 std. connector, 2nd requires "Internal USB" Kit for connect to USB device)
Input devices	PS/2 Scroll Mouse; USB Optical Scroll Mouse; USB 3-Button Optical Mouse; USB SpaceMouse; USB SpaceBall; USB SpacePilot
Dimensions (H x W x D)	17.9 in (45.5 cm) x 8.3 in (21.0 cm) x 20.7 in (52.5 cm)
Power	800 watts, active Power Factor Correction
Monitors (diagonally measured)	19-inch HP LP1965 Flat Panel Monitor, 20.1-inch HP LP2065 Flat Panel Monitor, 24-inch HP LP2465 Flat Panel Monitor, 30-inch HP LP3065 Flat Panel Monitor
Warranty	Basic three years next business day, parts, labor, and 8x5 phone support; terms and conditions may vary, certain restrictions apply. Service levels and response times for HP Care Packs may vary depending on your geographic location. Restrictions and limitations apply. For details, visit www.hp.com/go/carepack .

Certain Windows Vista product features require advanced or additional hardware. See <http://www.microsoft.com/windowsvista/getready/hardwarereq.mspx> and <http://www.microsoft.com/windowsvista/getready/capable.mspx> for details. Windows Vista Upgrade Advisor can help you determine which features of Windows Vista will run on your computer. To download the tool, visit <http://www.windowsvista.com/upgradeadvisor>. All HP Personal Workstations are capable of running Genuine Windows Vista Business.

¹ Dual-Core is a new technology designed to improve performance of multithreaded software products and hardware-aware multitasking operating systems and may require appropriate operating system software for full benefit; check with software provider to determine suitability; Not all customers or software applications will necessarily benefit from use of this technology.

² Available for end user customers that are a business (including governmental or educational institutions) who are expected to annually order at least 25 Customer Systems with the same Custom Image.

³ AMD's numbering is not a measurement of clock speed.

⁴ Actual bus clock rate is less. Listed bus speed represents the effective data transfer rate.

⁵ Hardware RAID is not supported on Linux systems. The Linux kernel, with built-in software RAID, provides excellent functionality and performance. It is a good alternative to hardware-based RAID. Please visit <http://h20000.www2.hp.com/bc/docs/support/SupportManual/c00060684/c00060684.pdf> for RAID capabilities with Linux.

⁶ 1 GB = 1 billion bytes. Actual formatted capacity is less. Up to 8 GB of hard drive (or system disk) is reserved for system recovery software (XP and XP Pro). Up to 12 GB of system disk is reserved for system recovery software. (Vista)

⁷ Actual speeds may vary. Does not permit copying of commercially available DVD movies or other copy-right protected materials. Intended for creation and storage of your original material and other lawful uses. Double Layer discs can store more data than single layer discs. However, double-layer discs burned with this drive may not be compatible with many existing single-layer DVD drives and players. LightScribe creates a monochrome image. LightScribe media required and sold separately.

⁸ The term "10/100/1000" or "Gigabit" Ethernet indicates compliance with IEEE standard 802.3ab for Gigabit Ethernet, and does not connote actual operating speed of 1 Gb/sec. For high speed transmission, connection to a Gigabit Ethernet server and network infrastructure is required.

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For more information, visit www.hp.com/go/workstations

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