



## HP XW4600 WORKSTATION

Affordable  
innovation with  
the power to  
do more

Combining next-generation performance technologies into a powerful, flexible, and reliable single processor socket workstation, the HP xw4600 Workstation gives you and your business a professional edge.

### **Decidedly powerful**

Gain a productivity advantage and do more faster with outstanding price/performance from this affordable workstation solution:

- Intel® X38 Express performance chipset with ECC memory support and workstation-class Dual and Quad-Core Intel processors<sup>1</sup>
- Dual PCIe x16 Gen2 graphics interfaces with up to twice the performance bandwidth of previous generation interfaces
- Professional 2D and 3D graphics cards drive up to four 3D or six 2D displays without compromise
- Conserve power and reduce energy costs with an 85% efficient power supply and ENERGY STAR® qualified options

### **Inherently flexible**

Maximize your investment and meet the demanding requirements of graphics and other data-intensive professional applications such as mechanical design, digital content creation, video editing, and more:

- Flexible workstation-class options and expandability and support for up to 16 GB of ECC memory<sup>2</sup>
- More ports and expandability simplify adding memory, peripherals, and storage as your future requirements change
- Tool-less chassis design enables simple serviceability
- Optional HP Remote Graphics Software helps make your work life easier by enabling real-time remote connections over a network
- See, share, and show your work across the world with built-in HP SkyRoom collaboration solution, which combines real-time 3D graphics sharing and video conferencing

### **Exceedingly reliable**

Focus on your priorities and be confident with the comprehensive support of HP and its global partner network backing your system.

- HP engineers work onsite with ISVs to test and certify applications, OS, and hardware configurations to help ensure that applications run better, faster, and with greater reliability
- HP Performance Tuning Framework (available free on Microsoft® Windows®-based systems) helps you optimize and deliver the highest levels of system performance and application power throughout the life of your HP Workstation



# HP XW4600 WORKSTATION

Windows®. Life without Walls™. HP recommends Windows 7.

|                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|---------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Form factor</b>                    | Convertible minitower                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| <b>Operating systems</b>              | Genuine Windows® 7 Professional 32-bit*<br>Genuine Windows® 7 Professional 64-bit*<br>Genuine Windows® XP Professional 32-bit available through downgrade rights from Windows® 7 Professional 32-bit*,†<br>Genuine Windows® XP Professional 64-bit available through downgrade rights from Windows® 7 Professional 64-bit*,†<br>Genuine Windows Vista® Business 32-bit**<br>Genuine Windows Vista® Business 64-bit**<br>Genuine Windows® XP Professional 32-bit available through downgrade rights from Windows Vista® Business**,†<br>Genuine Windows® XP Professional 64-bit available through downgrade rights from Windows Vista® Business**,†<br>Genuine Windows Vista® Home Basic 32-bit**<br>HP Installer Kit for Linux (includes drivers for both 32-bit & 64-bit OS versions of Red Hat Enterprise Linux WS4 and WS5)<br>Novell Suse SLED 11                                                                           |
| <b>Available processors</b>           | Dual-Core¹ Intel® Pentium® E5200³ processor⁴/2.5 GHz, 2 MB L2 cache, 800 MHz FSB<br>Intel® Core™ 2 Duo¹ E7500³ processor⁵/2.93 GHz, 3 MB L2 cache, 1066 MHz FSB<br>Intel Core 2 Duo¹ E7600³ processor⁵/3.06 GHz, 3 MB L2 cache, 1066 MHz FSB<br>Intel Core 2 Duo¹ E8400³ processor⁵/3.00 GHz, 6 MB L2 cache, 1333 MHz FSB<br>Intel Core 2 Duo¹ E8500³ processor⁵/3.16 GHz, 6 MB L2 cache, 1333 MHz FSB<br>Intel Core 2 Duo¹ E8600³ processor⁵/ 3.33 GHz, 6 MB L2 cache, 1333 MHz FSB<br>Intel Core 2 Quad¹ Q8400³ processor⁵/2.66 GHz, 4 MB shared L2 cache, 1066 MHz FSB<br>Intel Core 2 Quad¹ Q9400³ processor⁵/2.66 GHz, 6 MB shared L2 cache, 1333 MHz FSB<br>Intel Core 2 Quad¹ Q950S³ processor⁵/2.83 GHz, 6 MB shared L2 cache, 1333 MHz FSB<br>Intel Core 2 Quad¹ Q9550³ processor⁵/2.83 GHz, 12 MB shared L2 cache, 1333 MHz FSB<br>Intel Core 2 Quad¹ Q9650³ processor⁵/3.00 GHz, 12 MB shared L2 cache, 1333 MHz FSB |
| <b>Chipset</b>                        | Intel X38 Express chipset                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| <b>Memory²,⁶</b>                      | Up to 16 GB DDR2 800 MHz ECC, up to 2 GB DDR2 800 MHz non-ECC; 4 DIMM slots                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| <b>Drive controllers</b>              | Integrated serial ATA controller (ICH10R) 3 Gb/s (NCQ with 5 SATA connectors) with RAID 0, 1, 5 and 10 capability⁷; removable boot drive option                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| <b>Hard drive(s)</b>                  | Up to 4 drives (will require optional expander kits), 4 TB max.; 80, 160 GB⁸ (10K rpm) SATA 3.0 Gb/s; or 300 GB⁸ (10K rpm) SATA 3.0 Gb/s NCQ; or 160, 250, 500 GB⁸, or 1 TB (7200 rpm) SATA 3.0 Gb/s NCQ; or 146, 300, 450 GB⁸ (15K rpm) SAS 3 Gb/s                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| <b>Optical drives</b>                 | DVD-ROM (SATA); DVD+/-RW Double Layer SuperMulti (SATA) with LightScribe Direct Disc Labeling (Microsoft Windows only, requires LightScribe media for labeling)⁹; 16-in-1 Media Card Reader (occupies lowest Optical Bay); Blu-Ray Writer (optional accessory)¹⁰                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| <b>Drive bays</b>                     | 3 external 5.25-inch bays (opt. CRU dataport enclosure enables 3.5-inch SATA hard drive to be added to 5.25-inch bay, not available in all regions), 2 internal 3.5-inch bays, 1 external 3.5-inch bay                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| <b>Slots</b>                          | 7 full length slots: PCI Express (PCIe) x16 Gen 2 graphics, 1 PCIe x8 (x4 electrical) slot, 1 PCIe x1 slot, 3 PCI slots                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <b>Graphics</b>                       | Professional 2D: NVIDIA Quadro NVS 290 (256 MB, up to two cards), NVIDIA Quadro NVS 295 (256 MB, up to two cards) and NVIDIA Quadro NVS 450 (512 MB, can be used in dual configuration with NVS 290 or NVS 295)<br>Entry 3D: NVIDIA Quadro FX 380 (256 MB, up to two cards), NVIDIA Quadro FX 580 (512 MB, up to two cards), and ATI FirePro V3700 (256 MB, up to two cards)<br>Mid-range 3D: ATI FireGL V5700 (512 MB, up to two cards), and NVIDIA Quadro FX 1800 (768 MB, up to two cards)<br>High-end 3D: NVIDIA Quadro FX 3800 (1 GB), ATI FireGL V7750 (1 GB), NVIDIA Quadro FX 4800 (1.5 GB), and Elemental Accelerator Software for NVIDIA Quadro                                                                                                                                                                                                                                                                       |
| <b>Audio</b>                          | Integrated high definition audio with jack retasking capability, opt. PCI Sound Blaster X-Fi XtremeGamer, opt. HP Thin USB Powered Speakers                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| <b>Network</b>                        | Integrated Broadcom 5755 NetXtreme Gigabit¹¹ PCIe, opt. Broadcom 5751 NetXtreme Gigabit¹¹ PCIe                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| <b>Ports</b>                          | Front: 2 USB 2.0, 1 headphone, 1 microphone, IEEE 1394 (optional)<br>Rear: 7 USB 2.0, 1 standard serial port (opt. 2⁹), 1 parallel, 2 PS/2, 1 external SATA 1.5 Gb/s, 1 RJ-45 to integrated Gigabit LAN, audio in, audio out, microphone<br>Internal: 3 USB 2.0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| <b>Input devices</b>                  | PS/2 standard keyboard, USB standard keyboard, USB Smart Card Keyboard, USB 2-button optical scroll mouse; USB 3-button optical mouse; USB SpaceExplorer; USB SpacePilot; USB Laser Scroll Mouse                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| <b>Dimensions (H x W x D)</b>         | 17.7 in (44.9cm) x 6.7 in (17.0cm) x 18.0 in (45.7cm)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| <b>Power supply</b>                   | 475W; active Power Factor Correction; 85% efficient; ENERGY STAR® qualified configurations                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| <b>Compliance and regulatory</b>      | 80 PLUS efficient; ENERGY STAR® qualified configurations                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| <b>Monitors (diagonally measured)</b> | HP LP1965 19-inch LCD Monitor; HP LP2065 20-inch LCD Monitor; HP LP2275w 22-inch Widescreen LCD Monitor; HP LP2475w 24-inch Widescreen LCD Monitor; HP DreamColor LP2480zx Professional Display (24-inch widescreen); HP LP3065 30-inch Widescreen LCD Monitor                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| <b>Warranty</b>                       | Limited three-year next business day, parts, labor and 24 x 7 phone support; Terms and conditions may vary, certain restrictions apply. HP Care Pack Services extend service contracts beyond the standard warranties. To choose the right level of service for your HP product, use the HP Care Pack Services Lookup Tool at <a href="http://www.hp.com/go/lookuptool">http://www.hp.com/go/lookuptool</a> . Additional HP Care Pack Services information by product is available at <a href="http://www.hp.com/hps/carepack">http://www.hp.com/hps/carepack</a> .                                                                                                                                                                                                                                                                                                                                                             |

- \* Windows 7 systems may require upgraded and/or separately purchased hardware and/or a DVD drive to install the Windows 7 software and take full advantage of Windows 7 functionality. See <http://www.microsoft.com/windows/windows7/> for details.
- \*\* Certain Windows Vista product features require advanced or additional hardware. See <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>.
- † To qualify for this downgrade end user must be a business (including governmental or educational institutions) and is expected to order at least 25 customer systems with the same custom image.
- ¹ Quad-Core and Dual-Core are designed to improve performance of multithreaded software products and hardware-aware multitasking operating systems and may require appropriate operating system software for full benefits; check with software provider to determine suitability; Not all customers or software applications will necessarily benefit from use of these technologies.
- ² Maximum memory capacities assume 64-bit operating systems. Microsoft® Windows® XP (32-bit) supports 4 GB (with Microsoft 32-bit, the amount of usable memory will be dependent upon your system configuration. It may be less than 4 GB); 32-bit Linux can support up to 8 GB.
- ³ Intel's numbering is not a measurement of higher performance
- ⁴ 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. See <http://www.intel.com/info/em64t> for more information.
- ⁵ This workstation does not support the Intel Core 2 Extreme processor over-clocking feature.
- ⁶ Dual Channel is only supported when the system is configured with DDR2 symmetric memory (i.e. 2 x 256).
- ⁷ 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.
- ⁸ For hard drives, 1 GB = 1 billion bytes. TB = 1 trillion bytes. Actual formatted capacity is less. Up to 8 GB of hard drive (or system disk) is reserved for the system recovery software (XP and XP Pro). Up to 12 GB of system disk is reserved for system recovery software. (Vista).
- ⁹ 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.
- ¹⁰ As Blu-Ray is a new format containing new technologies, 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 workstation.
- ¹¹ 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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