The HP Workstation x4000 incorporates technologies that take Intel® architecture workstation performance to new levels. Configurable to meet your present and future needs, the HP x4000 offers optional dual processing, the latest Intel 860 chipset with 400MHz front side bus along with a host of scalability, manageability and reliability features. In addition, under the HP leadership graphics program, you can choose from a broad range of ISV certified 3D and 2D graphics solutions.

<table>
<thead>
<tr>
<th>HP Workstation x4000 Feature</th>
<th>Benefit</th>
<th>Advantage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Single or dual Intel Xeon™ processor at 1.8, 2.0, 2.2, 2.4 or 2.8GHz</td>
<td>Latest technology delivers larger caches and faster frequencies for more compute power and application performance</td>
<td>Higher frequencies and improved processor design provide increased floating point performance and compute power</td>
</tr>
<tr>
<td>Intel 860 chipset with 400MHz system bus</td>
<td>Enables dual processing and 64 PCI I/O; 3x the bandwidth of the Intel Pentium III system bus</td>
<td>Allows use of the entire memory subsystem bandwidth for greater system responsiveness and user interaction</td>
</tr>
<tr>
<td>Build-to-order</td>
<td>Configuration options allow you to add in hardware or graphics options</td>
<td>Can be tailored to the varying needs of HP workstation customers</td>
</tr>
<tr>
<td>Mass storage expandability; up to 292GB internal disk (with optional disk expansion kit A8038A for SCSI drives)</td>
<td>Provides hard disk space and performance needed to work with uncompressed digital video, large models and multiple designs</td>
<td>Ultra wide SCSI 3 high data throughput and up to 292GB of storage means greater productivity</td>
</tr>
<tr>
<td>Up to 4GB capacity RDRAM®</td>
<td>Large memory capacity for more demanding applications and complex designs</td>
<td>More design options; increased interactivity for faster insight; applications and workloads demanding large memory get a boost in performance</td>
</tr>
<tr>
<td>RAID (optional for Windows 2000 Professional)</td>
<td>Provides RAID 1 (disk mirroring) and RAID 0 (disk striping) support</td>
<td>Disk mirroring provides data redundancy for fault tolerance; disk striping provides high data bandwidth to and from a disk array for digital video, non-linear editing, and other applications requiring high bandwidth to disk</td>
</tr>
<tr>
<td>ISV qualification</td>
<td>HP's intimate relationships with top ISVs enable close collaboration, performance tuning, and hardware platform certification</td>
<td>Assurance that the software and the hardware are fine tuned to provided guaranteed compatibility, reliability and the best performance possible</td>
</tr>
<tr>
<td>HP Toptools manageability software</td>
<td>Advanced administration and management of system components and settings</td>
<td>Provides industry-leading remote and local net-based management and diagnostics</td>
</tr>
<tr>
<td>E-Diag tools</td>
<td>Provides preboot diagnostics, system configuration diagnostics and a complete test suite of the system hardware components; configurable to browse for BIOS or firmware</td>
<td>Allows advanced administration and management of system components and settings; increases reliability and provides hardware self-diagnosis</td>
</tr>
<tr>
<td>Serviceability</td>
<td>Efficient, open and easy to maintain chassis design and layout</td>
<td>Easier servicing, upgrading and maintenance</td>
</tr>
<tr>
<td>DVD+RW/+R/CD-RW combo drive (optional)</td>
<td>Combination drive allows a single drive to efficiently handle all CD-ROM, DVD, CD-RW and DVD+RW needs; enables distribution of high quality, professional projects</td>
<td>Provides immense 4.7GB data storage, backup and transfer; ability to create interactive media compatible with home DVD players</td>
</tr>
<tr>
<td>IEEE 1394 OHCI card (optional)</td>
<td>Optional factory-integrated solution for digital video connectivity</td>
<td>Easy, convenient, and fast connection to digital video devices</td>
</tr>
<tr>
<td>HP leadership graphics program</td>
<td>A wider range of graphics choices for applications that are fully supported on the platform</td>
<td>Faster access to the best graphics in the industry at varying performance and price points; backed by more than 20 years of HP graphics expertise</td>
</tr>
</tbody>
</table>
### HP Workstation x4000 Technical Specifications

#### Central Processor
- **Type:** Intel Xeon processor
- **Clock Frequency:** 1.8, 2.0, 2.2, 2.4 or 2.8GHz
- **Number of Processors:** 1 or 2

#### Cache (On-Chip)
- **L1:** 16KB code, 16KB data
- **L2:** 512KB

#### Main Memory
- **Bus Bandwidth:** 3.2GB/sec
- **RAM Type:** PC800 ECC Rambus®
- **Capacity:** 3.5GB
- **Memory Slots:** 8 RIMMs (4 pairs, dual channel)

#### Operating System Options
- Windows 2000 Professional
- Windows XP
- Red Hat Linux 7.1

#### Internal Storage Devices (2 Storage Bays)
- Dual channel U160 built into motherboard
- Choice of Ultra ATA/100 EIDE or Ultra 160 SCSI hard drives
  - Ultra ATA/100 EIDE hard drives:
    - up to 2 devices, 160GB maximum: 20GB (7200 RPM), 40GB (7200 RPM), 80GB (7200 RPM)
  - Ultra 160 SCSI hard drives:
    - Up to 4 devices, 292GB maximum: 18/36/73GB (10K rpm), 36GB (15K rpm)
- *Supported only on Windows 2000 Professional
- **RAID (Optional for Windows 2000):**
  - Ultra 160 SCSI RAID - single channel
  - Strip (2 or 3 HDD)
  - Mirror (2 or 4 HDD)

#### Expansion Slots
- PCI (full size - 5 slots available)
  - PCI 2.2 32b 33MHz (x3)
  - PCI 2.2 64b 66MHz (x2)
- AGP 4x Pro 50
  - 50 watt limit

#### SCSI Device Connectivity
- The integrated dual channel Ultra 160/SCSI card has 2 connectors
  - **Connector 1:** 68-pin connector for 2 internal LVD SCSI devices
  - **Connector 2:** 68-pin connector for external LVD SCSI devices

#### Removable Media
- **Floppy Drive:** 3.5" floppy drive
- **CD Drive(s):** up to 2 CD devices
  - 48X CD-ROM
  - 24X/10X/40X CD-RW
  - 16X DVD
  - DVD+/R+/RW/+R/CD-RW

#### Networking (Integrated)
- **RJ45:** yes
- **LAN Data Rate:** 10/100Mbps

#### Built-in I/O
- **Serial Interface:** 9-pin DIN 2 ports
- **Parallel Interface:** 25-pin DIN 1 port
- **USB (Universal Serial Bus):** Series A 2 ports

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#### Storage Bays
- 2.5-inch external
- 3.25-inch external
- 3.5-inch internal

#### Audio
- **Type:** 16-bit stereo full-duplex

#### Monitors
- 18" Flat Panel LCD
- 19" Flat Screen
- 21" Flat Screen
- 24" Flat Screen

#### Environmental Specifications
- **Altitude:**
  - Operating: 3048m (10000 ft.) max
  - Storage: 4600m (15000 ft.) max
- **Temperature:**
  - Operating: +5°C to +35°C (+41°F to +95°F)
  - Non-Operating: -40°C to +70°C (-40°F to +158°F)
- **Humidity:**
  - Operating: 15% to 80% (relative)

#### Physical Dimensions
- **Height:** 49cm (19.30 in)
- **Width:** 21cm (8.26 in)
- **Depth:** 47cm (18.50 in)

#### Net Weight
- Minimum Configuration: 18.21Kg (40.2lbs)

#### Power Requirements
- **Input Current:** 5.0 A @ 100V Vac
- **Line Frequency:** 50Hz to 60Hz
- **Maximum Power Input:** 500W

#### Professional 2D Graphics
- **ATI RADEON 7000:** RADEON 7000 graphics controller
  - 32MB DDR SDRAM memory

#### Professional 3D Graphics
- **Entry 3D:**
  - NVIDIA Quadro2 EX Single, integrated geometry engine
  - 32MB unified SDR graphics memory
- **Mid-Range 3D:**
  - ATI Fire GL 8800
  - ATI R200 graphics controller
  - 128MB unified graphics memory
- **High-End 3D:**
  - NVIDIA Quadro4 900 XGL
  - 128MB DDR memory to deliver outstanding graphics performance
- **Extreme 3D:**
  - 3Dlabs Wildcat III 6110
  - 6 geometry engines to deliver ultimate performance and the largest models
  - 192MB graphics memory

www.hp.com/go/leadershipgraphics

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HP PCs use genuine Windows® Operating Systems
www.Microsoft.com/piracy/howtotell

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Printed in the USA
02/06/03
5980-5348EN Rev. 1