

## IBM IntelliStation A Pro with AMD Opteron processor



L200p monitor and SpaceBall® available separately.

### Highlights • A Pro 6224

- NEW!** ■ **Exceptional price/performance for both 32-bit and 64-bit solutions**
- NEW!** ■ **AMD Opteron™ 200 Series processors Models 244, 246, 248 (up to 2.2GHz) with 1MB L2 cache, dual-capable**
- NEW!** ■ **Up to 16GB<sup>1</sup> PC3200 ECC DDR memory, 128-bit controller**
- NEW!** ■ **HyperTransport™ Technology supports up to 19.2GB/s peak I/O bandwidth per processor**
- **8X AGP graphics, dual-head; Windows® and Linux® drivers**  
**Extreme 3D: NVIDIA® Quadro® FX 3000 with 256MB DDR SDRAM**  
**Advanced 3D: NVIDIA Quadro FX 1100 with 128MB DDR SDRAM**  
**Performance 2D: NVIDIA Quadro NVS 280 with 64MB DDR SDRAM**
- **Microsoft® Windows XP Professional (32-bit) or Red Hat® Enterprise Linux WS 3 (64-bit) preloaded**

### Revolutionary evolution

In a world of increasing complexity, it's rare to find a solution that actually simplifies your life. Engineers idealize it as "elegant design"—you might even call it common sense. We call it the versatile new IBM IntelliStation A Pro, the graphics workstation designed to evolve with your changing world.

### The platform of choice

Massive datasets are swamping digital designers, creators, and explorers, from electronic design automation to seismic imaging to genome sequencing. With 32-bit applications bound by yesterday's memory limits, the benefits of 64-bit computing are compelling. The IntelliStation A Pro with the AMD64 architecture breaks the 4GB memory barrier with available dual AMD Opteron 200 Series processors, each accessing up to 8GB of ECC memory under certified<sup>2</sup> 64-bit operating systems. Run your 32-bit applications efficiently,

transparently—and simultaneously—along with a growing portfolio of 64-bit software. Now you can optimize your 32-bit workflow with key 64-bit applications on *your* schedule. For shops standardized on Microsoft Windows XP, you'll enjoy robust performance and a straightforward transition to the forthcoming 64-bit Edition. The synergy of the A Pro and 64-bit Linux offers a significant price/performance advantage over proprietary UNIX® workstations, with rich configurations featuring dual processors and industry-leading 8X AGP graphics from NVIDIA. Factor in the cost savings of standards-based IBM manageability tools, and the IntelliStation A Pro becomes a natural bridge to the future of High Performance Computing.

### Service, support and more

The competitive IntelliStation price includes a wealth of productivity-enhancing advantages. A three-year limited warranty<sup>3</sup> on parts and onsite labor. An ongoing mission to tune, test and certify key applications. Plus Web-based help and support resources like *Ask IntelliStation* for online<sup>4</sup> application enablement advice direct from IBM system engineers.

Built on IBM's technical leadership, @server-inspired reliability and a real-world solution focus, the IntelliStation A Pro sets a bold new standard.

**Choose IBM today** | Go to **ibm.com** or call 1 888 SHOP IBM to buy direct, locate an IBM reseller or for more information.



## IBM IntelliStation A Pro with AMD Opteron™ processor technical specifications (model 6224)

<b>Processor</b>	AMD Opteron 200 Series processors: Models 244, 246, 248 (up to 2.2GHz), dual-capable
<b>Cache</b>	1MB L2 cache
<b>Core logic</b>	AMD-8000™ series with HyperTransport Technology
<b>Memory (std/max)</b>	1GB or 2GB/16GB <sup>1</sup> PC3200 ECC DDR SDRAM, 128-bit controller; 8 DIMM slots total
<b>Available graphics</b>	<b>Standard features:</b> 8X AGP (Pro110 slot), certified OpenGL drivers <sup>2</sup> , dual-display capable <b>Extreme 3D:</b> NVIDIA Quadro FX 3000, 256MB DDR SDRAM, 400MHz GPU core <b>Advanced 3D:</b> NVIDIA Quadro FX 1100, 128MB DDR SDRAM, 425MHz GPU core <b>Performance 2D:</b> NVIDIA Quadro NVS 280, 64MB DDR SDRAM, 275MHz GPU core
<b>Power supply</b>	530W; 3 temperature-controlled fans
<b>S.M.A.R.T.<sup>5</sup></b>	SATA: 80GB/7,200rpm; 160GB/7,200rpm (optional)
<b>Hard disk drives<sup>6</sup></b>	Ultra320 SCSI: 36.4GB/10K rpm; 73GB/10K, 15K rpm (optional), 146GB/10K rpm (optional)
<b>Controllers</b>	SATA integrated; dual-channel 64-bit Ultra320 integrated; HostRAID Level 0, 1 integrated
<b>Optical storage<sup>7, 8</sup></b>	One of the following standard: 48X-20X CD-ROM; up to 48X/24X/48X CD-RW; up to 48X/24X/48X/16X CD-RW/DVD-ROM combination drive
<b>Slots (total/open)</b>	6 slots: (1/0) 8X AGP Pro110, (1/1) 64-bit/133MHz PCI-X, (4/4) 64-bit/100MHz PCI-X
<b>Bays (total/open)</b>	6 bays: (3/2) 3.5" internal, (1/1) 3.5" external, (2/1) 5.25" external
<b>Network interface</b>	Integrated high-bandwidth Gigabit Ethernet with Wake on LAN <sup>9</sup>
<b>Ports</b>	5 USB 2.0 (2 front, 3 back); 2 IEEE 1394 (1 front, 1 back); 2 serial; 1 parallel
<b>Audio</b>	AC-97 audio, microphone in (front and back), line in, line out, integrated speaker
<b>Operating system</b>	Microsoft Windows XP Professional (32-bit) or Red Hat Enterprise Linux WS 3 (64-bit) preloaded
<b>Supported applications</b>	Visit <a href="http://ibm.com/pc/us/solutions/intellistation">ibm.com/pc/us/solutions/intellistation</a> for the latest list of engineering, electronic design automation, digital media, financial, geophysical and life science applications.
<b>Universal Manageability</b>	Visit <a href="http://ibm.com/pc/us/intellistation/benefit">ibm.com/pc/us/intellistation/benefit</a> for the latest information on Universal Manageability tools.
<b>Security</b>	Visit <a href="http://ibm.com/pc/ww/intellistation/security">ibm.com/pc/ww/intellistation/security</a> for the latest information on IBM client security.
<b>Options by IBM</b>	IBM IntelliStation Precision monitor: T221 High Resolution Flat Panel (22.2" TFT/9.2 Mpixel ) IBM ThinkVision™ Performance monitors: L200p (20.1" TFT), L190p (19" TFT), L180p <sup>9</sup> (18.1" TFT), C220p 22" CRT (20" VIS) (9503-DG3/DG5, 6736-HB0, 2704-HB7, 9180-HB9, 6735-60X) IBM Memory Kits: 512MB, 1GB, 2GB PC3200 ECC DDR SDRAM (73P3233, 73P3234, 73P3235) Second AMD Opteron processor: Model 244 (1.8GHz), Model 246 (2.0GHz), Model 248 (2.2GHz) (13N0740, 13N0741, 13N0742) IBM 48X/24X/48X CD-RW Internal IDE Drive <sup>8</sup> (22P6997); IBM 48X/24X/48X/16X max CD-RW/DVD combination drive (22P7031) Visit <a href="http://ibm.com/options">ibm.com/options</a> for a complete list of compatible options
<b>Rack-mount kit</b>	Rack Kit (09N4300), NetBAY™ Rack with perforated front door (9306420)
<b>Standards supported</b>	FCC Part 15, Class A; UL 1950 First Edition, CSA c22.2 No. 950; ISO 9241 capable; ANSI S1210

### Need more information?

<b>World Wide Web</b>	<a href="http://ibm.com/intellistation">ibm.com/intellistation</a> (U.S.)	<a href="http://ibm.com/pc/ca/intellistation">ibm.com/pc/ca/intellistation</a> (Canada)
<b>Buy Direct</b>	1 888 SHOP IBM (U.S.)	1 800 465-7748 (Canada)
<b>General information</b>	1 800 IBM-7255 (U.S.)	
<b>Reseller locator</b>	1 800 IBM-7255 ext.4750 (U.S.)	1 800 IBM-2255 (Canada)

### IBM recommends Microsoft Windows XP Professional for Engineering

© Copyright IBM Corporation 2004

Produced in the United States of America  
3-04  
All Rights Reserved

- Maximum physical memory is 16GB running under select 64-bit Linux distributions; maximum physical memory is 4GB running under Microsoft Windows XP Professional 32-bit operating system; addressable capacity will be less.
- Certifications are issued by the supplier of the driver or operating system, and not IBM.
- Visit [www.ibm.com/pc/safecomputing](http://www.ibm.com/pc/safecomputing) periodically for the latest information on safe and effective computing. For a copy of applicable product warranties, write to: Warranty information, P.O. Box 12195, RTP, NC 27709, Attn: Dept. JDJA/B203. IBM makes no representation or warranty regarding third-party products or services. With respect to onsite services, a technician is sent after IBM attempts to resolve the problem remotely.
- Requires Internet access account; not included.
- Self-Monitoring, Analysis and Reporting Technology.
- GB equals 1,000,000,000 bytes when referring to hard disk drive capacity. Accessible capacity may be less.
- Variable read rate. Actual playback speed will vary and is often less than the maximum possible.
- Up to 48X CD-R write speed; up to 24X CD-RW rewrite speed; variable read rate 48X-20X. Actual playback speed will vary and is often less than the maximum possible. The read and write results of the CD-RW drive depend upon the quality and characteristics of the media used; results may vary between media suppliers.
- Not available in all geographical areas. Please contact your IBM sales representative.

IBM reserves the right to change specifications or other product information without prior notice. This publication could include technical inaccuracies or typographical errors. References herein to IBM products and services do not imply that IBM intends to make them available in other countries. IBM PROVIDES THIS PUBLICATION "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. SOME JURISDICTIONS DO NOT ALLOW DISCLAIMER OF EXPRESS OR IMPLIED WARRANTIES IN CERTAIN TRANSACTIONS; THEREFORE, THIS DISCLAIMER MAY NOT APPLY TO YOU.

IBM, the IBM logo, the e-business logo, NetBAY, IntelliStation and Wake on LAN are trademarks of IBM Corporation in the United States, other countries, or both. Microsoft and Windows are trademarks of Microsoft Corporation in the United States, other countries, or both. AMD and Opteron are trademarks of Advanced Micro Devices, Inc. HyperTransport is a trademark of the HyperTransport Technology Consortium. Linux is a registered trademark of Linus Torvalds. Red Hat is a registered trademark of Red Hat, Inc. in the United States and other countries. Other company, product and service names may be trademarks or service marks of others.

Made in Scotland, Japan, Mexico, Australia or Brazil or assembled in the U.S. of U.S. and non-U.S. components.

GM13-0519-00