



# IBM IntelliStation Pro

# Quick Reference Guide

## 32/64-bit workstations

Ultimate multiprocessor performance with AMD64



Scalable dual processor performance with Intel EM64T



Compelling price/performance with Intel EM64T



Monitors and SpaceBall® available separately.

	<b>A Pro 6217</b> Minitower (rack-mountable)	<b>Z Pro 6223</b> Minitower (rack-mountable)	<b>M Pro 6225</b> Minitower
<b>Processor(s)</b>	AMD® Opteron™ Model 250 2.4 GHz, Model 252 2.6 GHz, dual-capable Model 275 2.2 GHz, dual-core/dual-capable	Intel® Xeon™ up to 3.6 GHz, dual-capable	Intel Pentium® 4 to 3.8 GHz
<b>Cache</b>	1MB L2 cache	Up to 2MB L2 cache	Up to 2MB L2 cache
<b>Chipset</b>	AMD-8000™ with up to 2.6 GHz system bus AMD64 and HyperTransport™ Technology	Intel E7525 with 800 MHz system bus Intel Extended Memory 64 Technology	Intel 925X Express with 800 MHz system bus Intel Extended Memory 64 Technology
<b>Memory<sup>1</sup></b>	ECC DDR SDRAM std: 2, 4, 8GB (8 DIMMs) max: 16GB <sup>4</sup>	ECC DDR2 SDRAM std: 1GB, 2GB (6 DIMMs) max: 16GB <sup>5</sup>	ECC DDR2 SDRAM std: 512MB, 1GB (4 DIMMs) max: 4GB
<b>S.M.A.R.T.<sup>2</sup> Hard disk drives<sup>3</sup> (std/maximum per bay) Total System Storage<sup>3</sup></b>	Serial ATA: 80GB/7,200 rpm; 250GB U320 SCSI: 73GB/10K rpm; 146GB SATA: 1TB; SCSI: 584GB	SATA: 80GB/7,200 rpm; 250GB U320 SCSI: 73GB/10K rpm; 146GB HostRAID Level 0, 1 support integrated SATA: 1TB; SCSI: 584GB	Serial ATA: 40, 80GB/7,200 rpm; 250GB U320 SCSI: 73GB/10K rpm; 146GB SATA: 750GB; SCSI: 438GB
<b>Slots/Bays (total/open)</b>	6 slots: (1/0) PCI Express x16 (4/4) 100 MHz PCI-X 64-bit (1/1) 133 MHz PCI-X 64-bit  6 bays: (3/2) 3.5" internal (1/1) 3.5" external (diskette optional) (2/1) 5.25" external	6 slots: (1/0) PCI Express x16 (2/2) PCI 32-bit/33 MHz (2/2) PCI-X 64-bit/100 MHz (1/1) PCI-X 64-bit/133 MHz 6 bays: (3/2) 3.5" internal (1/1) 3.5" external (diskette optional) (2/1) 5.25" external	4 slots: (1/0) PCI Express x16 (1/1) PCI Express x1 (2/2) PCI 32-bit/33 MHz  5 bays: (1/0) 3.5" internal (2/2) 3.5" external (diskette optional) (2/1) 5.25" external
<b>Graphics solutions*</b>	2D: N-280 Advanced 3D: N-FX1400 High-Advanced 3D: N-FX3400 Xtrem 3D: Realizm 800	2D: N-280 Advanced 3D: N-FX1400 High-Advanced 3D: FGL-7100 Xtrem 3D: Realizm 800	2D: N-280 Value 3D: ATI-FGL3100 Advanced 3D: N-FX1400 High-Advanced 3D: FGL-7100 Xtrem 3D: Realizm 800
<b>Power supply</b>	530W	530W	400W
<b>Operating system preinstalled</b>	Red Hat® Enterprise Linux® 3 WS (64-bit) or Microsoft® Windows® XP Professional (32-bit)	Red Hat Enterprise Linux 3 WS (32-bit) or Microsoft Windows XP Professional (32-bit)	Red Hat Enterprise Linux 3 WS (32-bit) or Microsoft Windows XP Professional (32-bit)

**\*IntelliStation® Pro graphics All graphics adapters support dual displays; 3D accelerators support OpenGL**

	A Pro 6217	Z Pro 6223	M Pro 6225
<b>Performance 2D</b>	N-280	NVIDIA® Quadro® NVS 280, 64MB DDR SDRAM, 250 MHz core clock	PCI Express x16
<b>Value 3D</b>	FGL-3100	ATI® FireGL™ V3100, 128MB DDR SDRAM, 391 MHz core clock	PCI Express x16
<b>Advanced 3D</b>	N-FX1400	NVIDIA Quadro FX 1400, 128MB DDR SDRAM, 350 MHz core clock	PCI Express x16
<b>High-Advanced 3D</b>	N-FX3400 FGL-7100	NVIDIA Quadro FX 3400, 256MB DDR3 SDRAM, 350 MHz core clock ATI FireGL V7100, 256MB GDDR3 SDRAM, 493 MHz core clock	PCI Express x16 PCI Express x16
<b>Extreme 3D</b>	Realizm 800	3Dlabs® Wildcat™ Realizm® 800, 640MB GDDR3 SDRAM (512MB unified, 128 Direct Burst)	PCI Express x16

**IntelliStation T221 Flat Panel Monitor**

**Model 9503-DG5**



<b>TFT LCD viewing area</b>	22.2" (564mm); cinematic 16:10 aspect ratio 204 pixels/inch; 9.2 million pixels total
<b>Color</b>	24-bit color support (up to 16.7 million colors) Select color matching systems supported
<b>Resolution</b>	3840x2400 (QUXGA-W) maximum addressability Also supports UXGA, SXGA, XGA, SVGA, VGA modes
<b>Ergonomics</b>	Polarizing non-glare coating; 400:1 contrast ratio; 235 cd/m <sup>2</sup> brightness; 170 degree viewing angle; IBM/NVIDIA HRS technology (magnifies GUI)
<b>IntelliStation-supported graphics adapters</b>	NVIDIA Quadro FX 1000/1100/1300/1400/2000/3000/3400/4000, Quadro4 900/980 XGL; ATI FireGL V7100; 3Dlabs Wildcat Realizm 800



**Standard features on IntelliStation Pro workstations**

<b>Network interface</b>	Gigabit Ethernet with Wake on LAN®
<b>Certified* operating systems</b>	Microsoft® Windows® XP Professional or Red Hat® Enterprise Linux® WS 3 32-bit (64-bit on select systems) available preinstalled
<b>Audio</b>	AC '97, microphone in, line in, line out, headphone jack, integrated speaker
<b>Warranty*</b>	Three-year limited warranty on parts and onsite labor
<b>IBM Universal Manageability</b>	Visit <a href="http://www-1.ibm.com/servers/eserver/xseries/systems_management/director_4.html">www-1.ibm.com/servers/eserver/xseries/systems_management/director_4.html</a> for the latest information on IBM tools
<b>Ask IntelliStation</b>	On-line application enablement advice from IntelliStation Systems engineers. Visit <a href="http://www-1.ibm.com/servers/eserver/xseries/systems_management/director_4.html">www-1.ibm.com/servers/eserver/xseries/systems_management/director_4.html</a> for the latest information on IBM

**Selected certified\* or compatibility-tested applications<sup>6,8</sup>**

<p><b>Digital media</b>  <b>3D Modeling-Animation-Effects:</b> • Alias: Maya, StudioTools • Discreet: 3ds max • Side Effects: Houdini • Softimage: XSI  <b>Video Editing-Compositing-Effects:</b> • Avid: XpressDV Pro • Digital Rapids: StreamZHD • Discreet: Smoke, Lustre, Combustion, Flint • Leitch: VelocityHD, Digital Fusion • Linux Media Arts: Cinelerra • Matrox: RT.X100, Matrox Axio HD with Adobe Premiere Pro • VizRT: vizrt</p>
<p><b>Engineering</b>                  • IBM/Dassault Systèmes: CATIA Version 5 • ANSYS: ANSYS • Autodesk, Inc.: AutoCAD, Inventor • ColCreate: OneSpace Designer • MSC: MSC.Nastran • PTC: Pro/ENGINEER • UGS: NX, I-deas NX Series • SolidWorks Corporation: SolidWorks</p>
<p><b>Electronic Design Automation</b> (portfolios)                  • Cadence Design Systems • Mentor Graphics • Synopsys</p>
<p><b>Life Science</b>                  • Accelrys: Discovery Studio, Catalyst, Insight II • Tripos: Sybyl • CCG: MOE</p>
<p><b>Petroleum Exploration &amp; Production</b> (portfolios)                  • Landmark Graphics: Desktop Linux Suite, GeoProbe • Schlumberger: GeoFrame • Paradigm Geophysical: VoxelGeo</p>

\* Supported IntelliStation models vary; see application vendor for details.

For a complete list of certified and compatible applications, visit: [www-1.ibm.com/servers/intellistation/pro/isw/index.html](http://www-1.ibm.com/servers/intellistation/pro/isw/index.html).

**IBM IntelliStation accessories and upgrades<sup>9</sup>**

<b>IBM precision monitor</b>	T221 22.2" TFT flat panel display (9.2 Megapixel)
<b>IBM performance monitors in business black</b>	ThinkVision™ monitors: L200p 20.1" TFT, L191p 19" TFT
<b>ECC DDR memory</b>	
A Pro 6217	512MB, 1GB, 2GB PC-3200 CL3 ECC DDR SDRAM
Z Pro 6223	512MB, 1GB, 2GB PC2-3200 ECC DDR2 SDRAM
M Pro 6225	512MB, 1GB PC2-3200 ECC DDR2 SDRAM
<b>Second processor</b>	
A Pro 6217	AMD Opteron Model 250 at 2.4 GHz, 252 at 2.6 GHz, 275 dual-core at 2.2 GHz with AMD64
Z Pro 6223	Intel Xeon at 3.4, 3.6 GHz with Intel EM64T
<b>Hard disk drives<sup>9</sup></b>	73 or 146GB 10K rpm Ultra320 SCSI 250GB 7,200 rpm Serial ATA
<b>3D pointing device</b>	IBM SpaceBall® 4000
<b>Rack mount kit</b>	Rack mount kit for IntelliStation A Pro, Z Pro
For a complete list of custom components and accessories for your IBM IntelliStation, visit <a href="http://ibm.com/pc/us/accessories/intellistation/">ibm.com/pc/us/accessories/intellistation/</a>	

Visit [ibm.com/intellistation](http://ibm.com/intellistation) for more information.  
**IBM recommends Microsoft Windows XP Professional for Engineering.**

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- Maximum memory may require replacement of standard memory with optional maximum memory module.
- Self-Monitoring, Analysis and Reporting Technology.
- MB, GB and TB = 1,000,000, 1,000,000, 000, and 1,000,000, 000, 000 bytes respectively, when referring to storage capacity. Accessible capacity is less; up to 3GB is used in service partition. Actual storage capacity will vary based upon many factors and may be less than stated. Maximum internal hard disk drive capacity assumes the replacement of any standard hard disk drive and the population of all hard disk drive bays with the largest currently supported drives available from IBM.
- Maximum physical memory is 8GB per processor socket (16GB total) running under select 64-bit Linux distributions; addressable capacity is less. Maximum physical memory is 4GB running under Microsoft Windows XP Professional 32-bit operating system; addressable capacity is less.
- Maximum physical memory is currently 16GB contingent on general availability of 4GB memory modules, running under select 64-bit Linux distributions; addressable capacity is less. Under select 32-bit Linux distributions, maximum physical memory is 16GB contingent on general availability of 4GB memory modules, with a maximum of 3GB allocated per thread. Maximum physical memory is 4GB running under Microsoft Windows XP Professional operating system; addressable capacity is less.
- Certifications are issued by the supplier of the operating system, device driver, or application, and not IBM.
- For information regarding the IBM statement of limited warranty, please call 1 800 772-2227 or contact your reseller. With respect to onsite service, a technician is sent after IBM attempts to diagnose and resolve the problem remotely.
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