

*Nothing gets in the way of a good idea*



# IBM IntelliStation™ M Pro

## The Professional Workstation

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### Highlights

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#### **Fast Intel® Pentium® II processors with MMX™ technology**

*Peak multiprocessing performance at a searing 300MHz,<sup>1</sup> upgradable to two-way SMP. On-board 512KB L2 cache and SDRAM memory deliver superior application performance.*

#### **Application performance**

*IBM has teamed with leading software developers to maximize the IntelliStation's performance and compatibility with leading media creation, engineering, scientific, finance and general business applications.*

#### **Extreme graphics performance**

*For 2D/3D: PERMEDIA 2 with 8MB of video memory taps into the Accelerated Graphics Port (AGP) for super-crisp performance. For high-end 3D applications: Intergraph's Intense 3D Pro 2200/4T with 16MB frame buffer and 4MB texture memory for superb 3D response.*

#### **Two channel Wide Ultra SCSI**

*Dual 40MB/second data I/O channels RAIDport enabled (Level 0 and 1 support).<sup>2</sup>*

#### **Advanced manageability**

*Based on IBM's Wake on LAN technology. Gain proactive control over your networked IBM IntelliStations for tasks from CMOS setup and BIOS updates to asset tracking and remote problem resolution.*

#### **Lead the way with IntelliStation**

The world is spinning faster every day—there's more to do but less time to do it. You have two choices: try to keep up—with the tools you have—or lead the way with the new IBM IntelliStation M Pro. With power to inspire, these new Windows NT workstations from IBM devour complex calculations with dual Pentium II multiprocessor configurations at up to 300MHz. The supporting cast of technologies includes the next-generation Intel 440LX chipset and Accelerated Graphics Port

(AGP), high-bandwidth SDRAM, integrated 10/100 Ethernet with Wake on LAN, a choice of ultra-responsive 2D/3D graphics accelerators—even plug-and-go RAID capability. Armed with these potent technologies, the IBM IntelliStation is engineered to pump up your productivity, relieve the hardware headaches and give you back the time to be truly creative. With the IBM IntelliStation M Pro, you can concentrate on putting *your* spin on the world.



### Application-focused performance

Choosing a Windows NT workstation ultimately comes down to satisfying your top priority: to energize your specialized software with a tool of superlative performance and compatibility. The new IBM IntelliStation M Pro achieves that goal with its application-focused performance for peak productivity.

### Certified for success

Working in tandem with leading application developers, IBM provides technical expertise, long-lead prototypes—even code-level collaboration on problematic issues like driver compatibility—to prepare the IntelliStation M Pro for the superior application performance that you demand. These premiere vendors have tested the IBM IntelliStation M Pro to verify compatibility with their business-critical engineering, digital media content creation, financial and scientific applications. You can work confident that your IBM IntelliStation is accredited by the source you most trust: the companies that provide the software you rely on every working day. See our Web site at [www.pc.ibm.com/us/intellistation](http://www.pc.ibm.com/us/intellistation) for a complete list of certified applications.

### Extreme speed

From input to output, this new flagship of the IntelliStation series optimizes the most advanced industry-standard technologies. Powered by Pentium II processors at up to 300MHz, you'll see incredible integer performance rivaling UNIX/RISC workstations. Double your megahertz by adding a second Pentium II for symmetric multiprocessing. With dual Wide Ultra SCSI throughput up to 40MBps per channel, today's feature-rich applications launch and respond with enthusiasm. 7200rpm SCSI hard drives are available up to a cavernous 9.1GB<sup>3</sup> for fast access to your huge data, graphic and video files.

### Graphics: when you say jump . . .

IntelliStation offers a choice of leading graphics engines. For demanding 2D display and a wide range of 3D projects, the PERMEDIA 2 card takes advantage of the dedicated AGP. Features such as OpenGL support, 64-bit SGRAM, 16-bit Z-buffering—and much more—further enhance the GLINT-based power of the PERMEDIA 2.

For your most exacting 3D projects, the Intergraph Intense 3D 2200/4T paints 1.2 million 25 pixel triangles on-screen per second—lit and Gouraud shaded—for superb high-end 3D performance. Accelerated OpenGL-compliant drivers and the SDRAM frame buffer maximize screen response. Texture-mapping is accelerated in hardware with trilinear MIP-mapping of full 32-bit texels. Add the Intergraph Geometry Accelerator option with 7 digit signal processors (DSPs) to virtually double *that* impressive performance to near-light-speed. The IBM IntelliStation's ultra-responsive graphics eliminate the wait and let you create.

### Upgrade-friendly

The elegant exterior design of the IntelliStation M Pro is complemented by an uncluttered interior layout for easy upgradability. A massive 330-watt power supply provides ample current for a fleet of adapters and storage options. With 3 open DIMM slots, 5 free adapter slots and a total of 6 drive bays available, you can customize your IntelliStation as you see fit.

### Compatibility and connectivity

The IBM IntelliStation's integrated 10/100 Ethernet is ready to plug-and-go with your current network and interoperable with UNIX environments for the ultimate in cross-platform connectivity. For critical applications that have yet to migrate to Windows NT, the Hummingbird "Try-and-Buy" Software Suite is included for convenient UNIX emulation.

### Master your domain with advanced manageability

IBM maximizes system reliability by keeping you apace of the latest DMI-compliant technology. Pioneered by IBM, 10/100 Ethernet enabled with Wake on LAN makes it easy for administrators to rouse sleeping computers across the network for software installation, updating the BIOS, and system setup—all from a remote LANClient Control Manager (LCCM) console. Coupled with the award-winning tools of IBM Netfinity Manager or Intel's popular LANDesk, you're in control, from distant diagnosis to remote remedy.

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#### ViewPerf v5.0 OpenGL<sup>4</sup> graphics performance\* with Intergraph Intense 3D Pro 2200/4T

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CDRS, 03v1.1	41.41
Design Review, DRV-04 v4.0	4.11
IBM Visualization Data Explorer, DX-03 v1.0	5.81
Lightscape, Light-01 v1.0	.83
Alias/Wavefront, Adv Visualizer AWadv-01	9.69

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#### Business Graphics WinMark 97<sup>5</sup> with PERMEDIA 2

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Graphics Accelerator WinBench score	127
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\* Weighted frames/second

## IBM IntelliStation M Pro 6898 Technical Specifications

<b>Processor</b>	233MHz, 266MHz or 300MHz Pentium II processors, dual capable	
<b>L2 cache</b>	512KB on-board L2 cache	
<b>Core logic</b>	Intel 440LX chipset with Accelerated Graphics Port (AGP)	
<b>Memory std/max</b>	32, 64 or 128MB/512MB	
<b>Type/speed/total sockets</b>	SDRAM ECC/66MHz/4 DIMMs	
<b>Hard drive—capacity</b>	4.2GB/5400rpm ATA-33 EIDE with S.M.A.R.T. 6.4GB/5400rpm ATA-33 EIDE with S.M.A.R.T. 4.5GB/7200rpm Wide Ultra SCSI with S.M.A.R.T. Optional 9.1GB/7200rpm Wide Ultra SCSI with S.M.A.R.T.	
<b>Controllers</b>	Integrated two channel Adaptec 7895 Ultra Wide SCSI; 68/50-pin and ATA-33 EIDE support	
<b>Bays</b>	6 bays: (2) 3.5" internal; (2) 3.5" external; (2) 5.25" external	
<b>Slots—number/type</b>	6 slots: 3 PCI, 1 shared PCI/ISA, 1 ISA, 1 AGP (5 open slots)	
<b>Network interface</b>	Integrated 10/100 Ethernet with Wake on LAN	
<b>CD-ROM drive<sup>6</sup></b>	24X-10X variable speed	
<b>Audio</b>	Integrated 16 bit Sound Blaster Pro audio support, w/speaker	
<b>Supported OS</b>	<ul style="list-style-type: none"> <li>• Windows NT Workstation 4.0 preinstalled<sup>7</sup></li> <li>• Windows NT 3.51, Windows 95</li> </ul>	
<b>Productivity software/tools</b>	<ul style="list-style-type: none"> <li>• Lotus SmartSuite License<sup>8</sup></li> <li>• IBM Netfinity Manager software</li> <li>• IBM LANClient Control Manager</li> <li>• Intel LANDesk Client Manager</li> <li>• IBM AntiVirus for NT</li> </ul>	<ul style="list-style-type: none"> <li>• Hummingbird "Try and Buy" Software Suite CD</li> <li>• IBM Simply Speaking</li> <li>• Microsoft NetMeeting</li> <li>• Microsoft Internet Explorer</li> </ul>

<b>Graphics Engines</b>	<b>PERMEDIA 2</b>	<b>Intergraph Intense 3D Pro 2200/4T</b>
<b>Frame memory std/max</b>	8MB flexible allocation	16MB/16MB (SDRAM)
<b>Texture memory</b>	Part of frame buffer	4MB
<b>Max vertical refresh rate</b>	75Hz	85Hz
<b>Max resolution /colors</b>	1600x1200/16.7M	1280x1024/16.7M
<b>APIs supported</b>	OpenGL, Direct3D, Heidi	OpenGL, RenderGL, DirectDraw, Heidi
<b>Additional Features</b>	16-bit Z-buffer Double buffering Gouraud shading Bilinear MIP-mapping Stenciling Alpha blending Fog	24 or 32-bit Z-buffer 24-bit, double buffering Gouraud shading Trilinear MIP-mapping Stenciling Alpha blending Fog Anti-aliasing

## Form factor

- 6 x 6 Mini-tower with security lock

## Diskette drive

- 3.5-inch 1.44MB standard

## Standard I/O interfaces

- Two USB ports
- Two serial ports (16550)
- One enhanced parallel port (ECP/EPP)
- One 10/100 Ethernet RJ-45
- Enhanced IDE controller
- One 68-pin SCSI external connector
- Audio line in/out mini-jack

## Input devices

- 104-key keyboard with palm rest
- IBM three-button mouse

## Advanced manageability

- Wake on LAN-enabled 10/100 Ethernet
- IBM Netfinity Manager software
- IBM LANClient Control Manager
- Intel LANDesk Client Manager
- Flash over LAN
- Setup over LAN
- CoSession
- DMI v2.0 (BIOS and Service Layer)

## AssetCare

- Laser-etched serialization
- Retainagroup Ltd. asset registration
- Manageability chip (thermal/voltage/tamper/ fan speed sensing)
- Enhanced Asset Information Area (EEPROM)
- Self Monitoring and Reporting Technology (S.M.A.R.T.)
- IBM AntiVirus for Windows NT
- Watergate PC Doctor Diagnostics
- ConfigSafe

## Customer support and service

- 3 years parts and 1 year labor limited warranty; International Warranty Service<sup>9</sup>
- Toll-free voice technical support 24 hours a day, 7 days a week<sup>10</sup>
- On-line support via CoSession
- Electronic support services via fax, BBS, Internet and commercial on-line services

**Your competitive edge:  
IBM SystemXtra**

IBM SystemXtra is designed to make the most of your IT investment by combining a host of technologies, services, and convenient financing to make your job easier. Available exclusively through IBM Business Partners, services include training, on-site recovery assistance and network maintenance. Combined with IBM's Technology Exchange—a flexible and affordable way to upgrade your leased computers after only two years—this resourceful program brings you the world-wide expertise of IBM Global Services, with the personal service of your trusted IBM Business Partner—all for a single monthly payment.

**Options by IBM**

SDRAM ECC DIMM:	
32MB	04K0073
64MB	04K0074
128MB	04K0075
Hard disk drive:	
Ultrastar 2XP 9.1GB	
Wide Ultra SCSI	76H2689
ISA 56K/33.6Kbps	
Plug & Play Data/Fax Modem	01K 1216

**Third Party Options<sup>12</sup>**

Intel 233MHz Pentium II Microprocessor	BX80522P233512
Intel 266MHz Pentium II Microprocessor	BX80522P266512
Intel 300MHz Pentium II Microprocessor	BX80522P300512E
Adaptec ARO 1130 CA-B RAIDport 2	1681100

**Standards supported**

- FCC Part 15, Class A; UL 1950 First Edition; CSA C22.2 No. 950; ANSI S12.10; GOP TUV-GS

**Need more information?**

**Reseller and general information**

1 800 IBM-7255 ext. 4750 (U.S.)  
1 800 IBM-2255 (Canada)

**IBM Fax Information Service**

1 800 IBM-3395  
Doc # 11167

**World Wide Web (U.S. only)**

www.pc.ibm.com/us/intellistation  
www.pc.ibm.com/us/options  
www.retainagroup.com

**IBM Professional Series Monitors**

	P70	P200	P201	9516 LCD
<b>Tube type</b>	Trinitron CRT	Trinitron CRT	Trinitron CRT	Active Matrix TFT
<b>CRT size/viewable image</b>	17" (15.9")	20" (19.1")	20" (19.1")	16.1" (16.1")
<b>Stripe pitch</b>	.26mm	.31mm	.26mm	.25 Dot pitch
<b>Horizontal scan range</b>	85KHz	96KHz	107KHz	64KHz
<b>Max NI addressability</b>	1280 x 1024	1600 x 1280	1800 x 1440	1280 x 1024
<b>Part number<sup>11</sup></b>	65546E3	65557E3	65558E3	9516-A23

<sup>1</sup> MHz only measures microprocessor internal clock speed, not application performance. Many factors affect application performance.  
<sup>2</sup> In a RAID configuration, improved performance is gained by interleaving reads and writes of data to different disks.  
<sup>3</sup> GB means billions of bytes when referring to hard drive capacity. Accessible capacity may vary.  
<sup>4</sup> IBM results using Viewperf 5.0; 1280x1024; 16.7 million colors, Windows NT 4.0. Benchmarks submitted to the OpenGL Performance Characterization Organization: www.specbench.org/GPC/OPC.static/  
<sup>5</sup> IBM results using WinBench 97 v1.0 Business Graphics WinMark 97; 1024x768; thousand of colors; Windows NT 4.0.  
<sup>6</sup> Average seek time is 95ms. Data transfer rate varies between 1500KBps to 3600KBps. Actual playback speed will vary depending on many factors.  
<sup>7</sup> Windows NT not included with custom configured models.  
<sup>8</sup> Diskettes and hard copy documentation available at extra charge.  
<sup>9</sup> International Warranty Service available in those countries where IBM or IBM resellers sell and service these IBM PC products (registration required). For terms and conditions or a copy of IBM's limited warranty, call 1 800 772-2227 in the U.S. or 1 800 465-7999 in Canada.  
<sup>10</sup> Excluding some holidays. Response time may vary.  
<sup>11</sup> Northern hemisphere part number.  
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Windows NT  
Windows 95

IBM  
IntelliStation  
Proven  
Tested, warranted and supported by manufacturer to IBM IntelliStation Compatibility Standards.



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