

Fast, quiet workstation for demanding engineering applications



## IBM IntelliStation POWER 185 Express workstation



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### Highlights

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- **Support for both 32-bit and 64-bit MCAD 3D graphics applications**
- **Quiet operation in a desktide package**
- **Easy application install**
- **Designed for software development and software support environments**

The new IBM IntelliStation® POWER™ 185 Express workstation combines an affordable and small desktide package with design features for excellent performance and a quiet user experience. Use it for high-end Mechanical Computer Aided Design (MCAD), Computer Aided Engineering (CAE), 3D graphic processing and other business and technical applications. With 2D graphics accelerators, it is an excellent workstation for software development and support.

With leading-edge IBM PowerPC® 970 processor technology and the AltiVec™ performance enhancement, the very affordable 64-bit symmetric multiprocessing IntelliStation POWER 185 Express workstation offers significant price/performance benefits. It is the perfect complement to the IBM IntelliStation POWER 285 Express—offering a choice of performance and price. And running either the AIX 5L™ or Linux® operating system (OS), it's an easy install!

IntelliStation POWER workstations are the first engineering design workstations supporting 64-bit CATIA V5 for large engineering assemblies. For CATIA MCAD workloads, the POWER 185 Express provides higher performance than its predecessor<sup>1</sup>, the IBM IntelliStation POWER 275 1.0 GHz, while generating even less noise. By reducing the entry price, the POWER 185 Express lowers the hurdle to upgrade old, slower MCAD design and analysis workstations.

### **Graphics accelerators boost speed**

The IntelliStation POWER 185 Express supports the latest evolution of IBM 3D graphics technology: the POWER GXT4500P and GXT6500P Graphics Accelerators. These high-performance graphics accelerators operate even faster on the POWER 185 Express because of the low latency PCI-X slot included as standard on this workstation.

Both the GXT4500P and GXT6500P feature analog and digital output, a 128MB Unified Frame Buffer, 24-bit double buffering with resolutions up to 2048 x1536 at 60 Hz and application programming interface (API) support for OpenGL 1.2.1, graPHIGS and X11. Advanced 3D features include a 24-bit Z-buffer, 4/8-bit overlay, 8-bit double buffered Alpha, 8-bit stencil, Texture Mapping with up to 110MB texture memory, dual texture and 3D texture. The GXT6500P incorporates an additional geometry and lighting processor that helps to further increase performance.

The IntelliStation POWER 185 Express workstation supports a full range of graphics input/output devices including the USB SpaceBall® Plus 3D and USB SpaceMouse® Plus 3D input devices, the new T119 19-inch and T120 20-inch TFT flat panel monitors, and other keyboard, monitor and mouse devices.

### **Advanced POWER technology**

The IntelliStation POWER 185 Express harnesses the advantages of PowerPC 970 microprocessors by featuring one or two high-performance, highly reliable 64-bit 2.5 GHz processors with 1MB of L2 cache per processor. 64-bit addressing contributes to top performance by supporting large amounts of memory—allowing applications to keep more information accessible in high-speed memory, and enabling them to run faster by reducing the need to retrieve data from online storage.

Memory can be expanded from 512MB to 8GB. A dual ported Ethernet 10/100/1000 Mbps controller provides exceptional network connectivity and

flexibility. A dual channel Ultra320 SCSI controller also can offer high performance and direct access to internal storage and external SCSI devices. The integrated IDE controller supports a media drive such as DVD-ROM or DVD-RAM. Four USB ports are available; two in the front and two in the rear. These integrated controllers can eliminate the need for additional adapters saving space and cost.

The system provides a high level of internal expandability. The quiet desk-side package features five bays: three internal Ultra320 SCSI disk bays allowing a total of 0.9TB of internal disk storage and two 5¼-inch half-high media bays for DVD-ROM, DVD-RAM or a SCSI tape drive. Five adapter slots are available: two 64-bit 133 MHz slots, two 64-bit 100 MHz slots, and one 32-bit 33 MHz slot to provide backward compatibility for older 32-bit cards. A USB attached diskette drive is also available.

Its outstanding price/performance, along with IBM leadership and experience, make the IntelliStation POWER 185 Express an excellent choice for running the entire Dassault Systemes CATIA suite, as well as other MCAD design and analysis applications from ISVs such as UGS, PTC and Deneb. The POWER 185 Express is also an excellent choice for CAE applications such as MSC, ABAQUS, Patran, ANSYS, FLUENT and EnSight.

#### **Autonomic features for high availability**

Several innovations stemming from the IBM autonomic computing initiative—a blueprint for self-managing systems—contribute to the uncompromising IntelliStation POWER 185 Express reliability, manageability and serviceability features.

To boost availability, an integrated service processor—a computer within a computer—monitors system health. This feature can detect error conditions within the hardware and automatically place a service call to IBM, often before the problem becomes apparent to users. Then, if repairs are necessary,

the service processor can initiate dynamic reconfiguration, helping to reduce costly outages and administrative overhead and support costs.

IBM ECC memory technology allows detection of most multi-bit memory errors and correction of all single-bit memory errors. This technology helps prevent costly system memory crashes and improve workstation reliability.

To boost availability and manageability, all IntelliStation POWER 185 Express workstations incorporate technology placing LEDs near critical components in order to provide lighted guidance so that problems can be quickly diagnosed and resolved. This also helps prevent downtime by identifying key components that are in danger of failing.

#### **Operating system flexibility**

The IntelliStation POWER 185 Express is matched with the AIX 5L OS to provide real value in reliability, security and usability. AIX 5L, IBM's industrial-strength UNIX® OS, provides excellent

systems and network management. It also includes a choice of graphics application programming interfaces (APIs)—OpenGL and graPHIGS—allowing applications to be tuned for 2D and 3D graphics performance.

The Linux OS is also available for use in non-3D graphics environments. Linux is known for its extensive set of open source applications and ability to rapidly deploy new or customized solutions. Linux distributions from Red Hat, Inc. and SUSE Linux are supported.

#### **Easy to acquire**

The IntelliStation POWER 185 Express workstation is available as part of the IBM Express Portfolio™ of offerings and is designed with features and functionality needed in many engineering design environments. Specially priced packages—Express Editions—are easy to order as pre-configured options and offer financial incentives on the hardware as well as the ability to order a discounted operating system. The IntelliStation POWER 185 Express, AIX 5L Edition includes a workstation with a 3D graphics accelerator and an

AIX 5L OS license. Additional memory, disk drives or adapters—or monitors or external storage—can be easily added to the workstation without impacting the original savings.

### **Backed by IBM**

Not only do you benefit from IBM technology at affordable prices when selecting an IntelliStation POWER 185 Express workstation, but your investment is supported by worldwide service and support from IBM. The end-to-end, one-year limited warranty includes hardware fixes, manned phone hardware support and call tracking.

The hardware warranty provides 8 A.M. to 5 P.M., next-business-day service. Many components are customer replaceable units (CRU) enabling rapid recovery in the unlikely occurrence of a

hardware failure. Service upgrades, including 24x7x365 coverage, are available. The service warranty terms and conditions may be different in some countries. Please consult your local IBM marketing representative or IBM Business Partner for country-specific terms and conditions.

IBM Global Services experts can help with business and IT consulting, business transformation and total systems management services. In addition, IBM Global Financing offers a wide range of financing options to help manage the bottom line. A new IGF financing program, IBM Financing Advantage, is designed for small- and mid-sized businesses. For more information, go to [ibm.com/financing](http://ibm.com/financing).

### **Pick the right IntelliStation POWER workstation**

Both the IntelliStation POWER 185 and 285 Express workstations provide legendary POWER processor performance at the right price with high reliability and availability features. Quiet operation and autonomic functions are standard in both workstations. The choice is yours based on specific processing requirements.

When the ultimate in performance is required, especially executing massive floating-point computations or for applications needing very large memory, the IntelliStation POWER 285 Express is the better choice. When performance needs are less demanding, the IntelliStation POWER 185 Express will be the better workstation to select. Both systems are designed with the unique features needed to take back control of your processing environment!

## IBM IntelliStation POWER 185 Express at a glance

### Standard configurations

Microprocessors	One or two 2.5 GHz PowerPC 970 processors with AltiVec vector extensions
Level 2 (L2) cache	1MB per processor
RAM (memory)	512MB to 8GB of 333 MHz DDR SDRAM; ECC
Internal disk storage	Up to 0.9TB Ultra320 SCSI
Internal SCSI disk bays	Three (10K rpm disks)
Media bays	Two half-high
Expansion slots	Four PCI-X: 2—64-bit 133 MHz; 2—64-bit 100 MHz; One PCI: 32-bit 33 MHz

### Standard features

I/O ports	Dual ported Ethernet 10/100/1000 Mbps controller Dual channel Ultra320 SCSI controller (internal and external) Four USB ports (two front and two rear) Two serial ports
Graphics accelerator	One of the graphics accelerators listed below

### Optional features

Graphics accelerators	2D graphics: GXT135P (16MB frame buffer) 3D graphics: GXT4500P (128MB unified frame buffer, texture mapping) GXT6500P (128MB unified frame buffer, texture mapping, lighting and geometry processor)
Displays	T120 20-inch TFT flat panel monitor T119 19-inch TFT flat panel monitor T117 17-inch TFT flat panel monitor T115 15-inch TFT flat panel monitor (for use with 2D adapter only)
Graphics input devices	SpaceBall Plus 3D SpaceMouse Plus 3D
Media devices	Diskette (external attached via USB) DVD-ROM, DVD-RAM Tape drive

### Operating systems

AIX 5L Edition: AIX 5L V5.2 or later SUSE Linux Enterprise Server 9 for POWER (SLES 9) or later Red Hat Enterprise Linux AS 4 for POWER (RHEL AS 4) or later

### Power requirements

100 v to 127 v or 200 v to 240 v AC (auto-ranging)

### System dimensions

18.5"H x 8.5"W x 25.2"D (469mm x 215mm x 640mm); weight: 55.0 lb (25.0 kg)<sup>2</sup>

### Warranty

8 A.M to 5 P.M. next-business-day for one year (limited) at no additional cost; on-site for selected components, CRU for all others; warranty service and maintenance upgrades are available

## For more information

To learn more about the IBM IntelliStation POWER 185 Express workstation, contact your IBM marketing representative or IBM Business Partner or visit the following Web sites:

- [ibm.com/servers/intellistation/power/](http://ibm.com/servers/intellistation/power/)
- [ibm.com/servers/aix](http://ibm.com/servers/aix)
- [ibm.com/linux/power](http://ibm.com/linux/power)
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When referring to storage capacity, 1TB equals total GB divided by 1000; accessible capacity may be less.

<sup>1</sup> Based on SPECcpu2000 benchmark tests as of February 14, 2006 submitted to Standard Performance Evaluation Corporation and to be available at [www.spec.org](http://www.spec.org).

<sup>2</sup> Weight will vary when disks, adapters and peripherals are installed