HEWLETT PACKARD

HP VISUALIZE X-Class Personal Workstations

HP VISUALIZE WORKSTATIONS

The world's fastest Windows NT-based visualization performance

Image courtesy of Alias | Wavefront

The Power to VISUALIZE Your Solution – Now

Award-winning performance. Hot graphics systems. Leading edge technology. Unique manageability. Great Value. That's the story of the HP VISUALIZE X500 and X550 Personal Workstations.

These systems have it all. They give you the high-end graphics capabilities of Hewlett-Packard's market-leading UNIX 3D workstations – including the new HP VISUALIZE-*fx*$^{6+}$ graphics subsystem. HP VISUALIZE Personal Workstations bring you the superior performance of single or dual Intel Pentium III Xeon Processors running at 500MHz or 550MHz. They support up to 2 GB of system memory, and they include many HP innovations for enhanced reliability and manageability.

Put it all together and you have the world's fastest Windows NT-based graphics performance and the power to VISUALIZE your solution now.

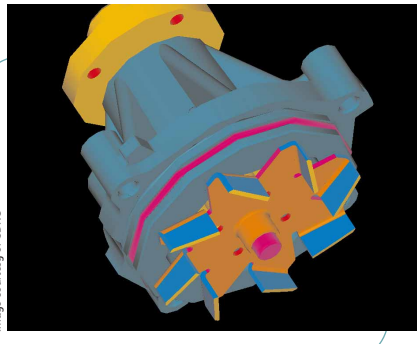

Image courtesy of SDRC

Engineered for the Professional Designer

The HP VISUALIZE X500 and X550 Personal Workstations are designed for the professional user who performs simulations, virtual prototyping, complex modeling and high-end visualization tasks on the Windows NT operating system.

Whether you're an engineer, designer, scientist or creative artist, these systems are ideal for bringing your ideas to life quickly and vividly. They provide the extreme graphics performance and leading edge processing power you need to work faster and achieve more in today's competitive business environment. HP VISUALIZE Personal Workstations are the ultimate design machines.

HP VISUALIZE Personal Workstations: System Power

Available leading edge system features include single or dual Intel Pentium III Xeon 500 MHz or 550 MHz processors, the Intel 440GX chip set, dual Ultra Wide SCSI channels with single or dual 10K RPM disk drives. AGP-2X (133 MHz) support and DMA (Direct Memory Access) support are standard.

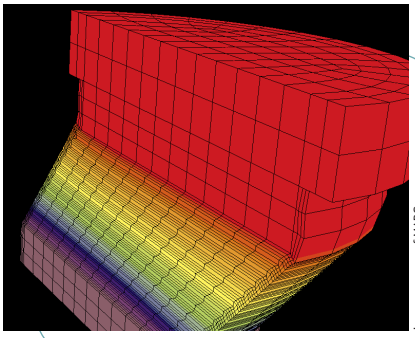

Image courtesy of MARC

HP Industry Leading Manageability and Reliability

HP's innovations build on the robust system features by adding tools for increased reliability and manageability. These include HP FastRAID for enhanced mass storage performance, HP TopTools for industry leading network based management, HP MaxiLife for hardware self-diagnosis and investment protection, and HP UltraFlow for advanced, thermally controlled cooling.

HP VISUALIZE-fx^{+} Graphics: 3D Power

HP VISUALIZE Personal Workstations put the breakthrough power of HP's VISUALIZE-*fx*$^{+}$ graphics subsystems behind your work. The X-Class systems are powered by HP's highest-performance graphics subsystem – the new HP VISUALIZE-*fx*$^{6+}$ subsystem, as well as the new HP VISUALIZE-*fx*$^{2+}$ and *fx*$^{4+}$ and the available ELSA GLoria Synergy^{+}.

Across the board, these highly scalable subsystems enable you to express your ideas and gain insight more quickly than ever before. They have it all: new full-scene anti-aliasing, 2D and 3D texture mapping, 3D geometry acceleration, hardware occlusion culling and new hardware shadow casting.

With breakthrough *fx*$^{+}$ graphics on your side, you'll have the power to VISUALIZE any design you can imagine.

HP Maximum Application Performance and Quality

HP adds increased value to VISUALIZE-*fx*$^{+}$ graphics with industry leading driver technology. For enhanced application performance and quality, HP works closely with leading independent software vendors to tune applications for the highest performance on HP systems. This cooperative work helps ensure that the applications you count on will deliver their best performance on HP VISUALIZE Personal Workstations.

Interoperability in the Windows NT/UNIX Environment

You can count on HP to give you systems that work in a heterogeneous Windows NT-UNIX environment. HP VISUALIZE Personal Workstations are bundled with tools to enable integration into UNIX environments, including NFS and trial software for X Window and UNIX command utilities.

The world's fastest Windows NT-based visualization performance

X Class

	feature what you get	benefit how it helps you	advantage how it's unique
HP VISUALIZE Graphics	*fx*⁶⁺ graphics subsystem	Provides excellent application performance for the largest, most complex visualization tasks	Delivers the industry's fastest graphics performance on Windows NT with 6 PA-RISC geometry engines
	*fx*⁴⁺ graphics subsystem	Provides excellent application performance for larger, complex visualization tasks	Delivers exceptional graphics performance with 4 PA-RISC geometry engines
	*fx*²⁺ graphics subsystem	Provides excellent application performance for small to mid-size visualization tasks	Delivers exceptional graphics performance with 2 PA-RISC geometry engines
	Full-scene anti-aliasing	Particularly useful for industrial styling applications where surface detail is crucial to the design process	Enhances image quality by eliminating jagged edges in the full scene, allows for more accurate display of very small features
	Occlusion culling	Delivers up to 2X performance with visualization applications	Improves rendering performance by eliminating the drawing of hidden objects
	Hardware accumulation buffer	Provides soft shadows, motion blur and image processing	Advanced feature previously available only on UNIX graphics super-workstations
	Hardware shadow casting	Creates photo-realistic shadows and allows object self-shadowing	As with hardware accumulation, plus a feature that is offered exclusively by HP for Windows-based workstations
	Optional texture mapping engine	Increased photo-realism, visual analysis, simulation and animation performance	Allows for the added functionality of hardware shadow casting and hardware accumulation buffer
HP VISUALIZE Personal Workstation Systems	Single or Dual Intel Pentium III Xeon Processors: 500MHz or 550MHz	Puts increased power and efficiency behind demanding applications	Provides superior computing performance with Intel's 70 new processor instructions
	Scalability to 2 GB system memory	Enhances application performance, supports work with large models and 3D animation rendering	Facilitates seamless designing, modeling and/or rendering of large, complex visualization tasks
	HP FastRAID and mass storage expandability: up to 36 GB internal disk	Provides hard disk space and performance needed to work on large models and multiple designs	Ultra Wide SCSI's high data throughput and 36GB of storage mean greater productivity
	NFS software: for UNIX connectivity, trial X-Window emulation and UNIX commands	Supports integration and interoperability between UNIX and Windows NT systems	Optimizes cross-platform workflow and use of tools on both operating systems
	HP TopTools	Advanced administration and management of system components and settings	Provides industry leading remote and local net-based management and diagnostics
	HP MaxiLife	Increases reliability and provides hardware self-diagnosis	Integrated with TopTools for remote administration and monitoring
	HP UltraFlow	Keeps components cool, increases reliability, decreases total cost of ownership	Advanced cooling system with four thermally controlled fans

HEWLETT PACKARD

Class X

technical specifications

Package
- Expandable mid-tower package
- HP Multifunction Ergonomic Keyboard with programmable application shortcut buttons
- HP 3-Button Mouse
- Support for two 10K RPM Ultra Wide SCSI hard disk drives
- HP UltraFlow cooling system for optimal PC Workstation cooling
- HP MaxiLife system diagnostics with front-panel LCD message display

Processor
- Single or dual Intel Pentium III Xeon 500MHz and 550MHz processors:
  - Intel 440GX AGP chipset
  - 100MHz front side bus (FSB) system bus
- Support for Intel Multiprocessor Specification (MPS) 1.1 for dual-processor technology

Processor Cache
- 32K non-blocking level 1 cache and 512K or 1MB non-blocking level 2 cache for fast access to priority data
  - Operates at full system speed (100MHz)

Graphics Subsystems
- VISUALIZE-*fx*$^{6+}$: The industry's fastest graphics performance on Windows NT using six dedicated floating-point processors based on PA-RISC technology
- VISUALIZE-*fx*$^{4+}$: World-class geometry engines using four dedicated floating-point processors based on PA-RISC technology
- VISUALIZE-*fx*$^{2+}$: World-class geometry engines using two dedicated floating-point processors based on PA-RISC technology
- 18 MB SGRAM frame and Z buffer memory – on *fx*$^{+}$ graphics subsystems only
- ELSA GLoria Synergy^{+} graphics subsystem with 8 MB SGRAM

Texture Acceleration and Memory Option
- 1-2 Dedicated texture acceleration processor(s)*
- 16-32 MB SDRAM dedicated texture memory*
- Point-sampled, bilinear, and trilinear MIP mapping
- 3D texture mapping
- Shadow texture mapping

System Memory
- 128 MB DIMM, 256 MB DIMM and 512 MB DIMM 100MHz ECC synchronous dynamic RAM (SDRAM) DIMM
- Expandable to 2 GB through four DIMM slots
- Error checking and correcting (ECC) for detection and correction of 1-bit errors and detection of 2-bit errors

Hard Disk Storage
- 9.0 GB 10K Ultra Wide SCSI
- 18.0 GB 10K Ultra Wide SCSI

Hard disk controller
- Dual, integrated, independent PCI Ultra Wide SCSI controllers with support for internal and external SCSI peripherals
- Optional HP FastRAID
  - Disk caching and hardware striping solution based on Adaptec's RAIDport technology
  - Boosts disk I/O performance up to 80%

Removable Media
- Integrated 1.44 MB floppy disk drive
- PCI Bus Master Ultra ATA/33 interfaces for up to two internal IDE devices
- 32X CD-ROM Drive
- DVD Drive
- CD-R/RW Drive
- ZIP IDE Drive

Operating system
- HP-supported operating system: Windows NT® Workstation 4.0

Networking and I/O
- 10/100 Ethernet LAN interface with 32-bit auto-sensing HP NightDirector and LAN remote power on/off
- Two USB ports
- One 25 pin parallel port
- Two 9 pin serial ports

* *fx*$^{2+}$/*fx*$^{4+}$: 1 accelerator, 16 MB texture memory
fx^{6+}: 2 accelerators, 32 MB texture SDRAM

The latest information about HP VISUALIZE Workstation products is available on the World Wide Web at *http://www.hp.com/visualize.*

Information in this document is subject to change without notice.

Printed in the USA
5968-4832E

Cover screen image courtesy of PTC. Inside screen image courtesy of SoftImage.

POWERED BY HP VISUALIZE
World's Fastest Graphics on Windows NT