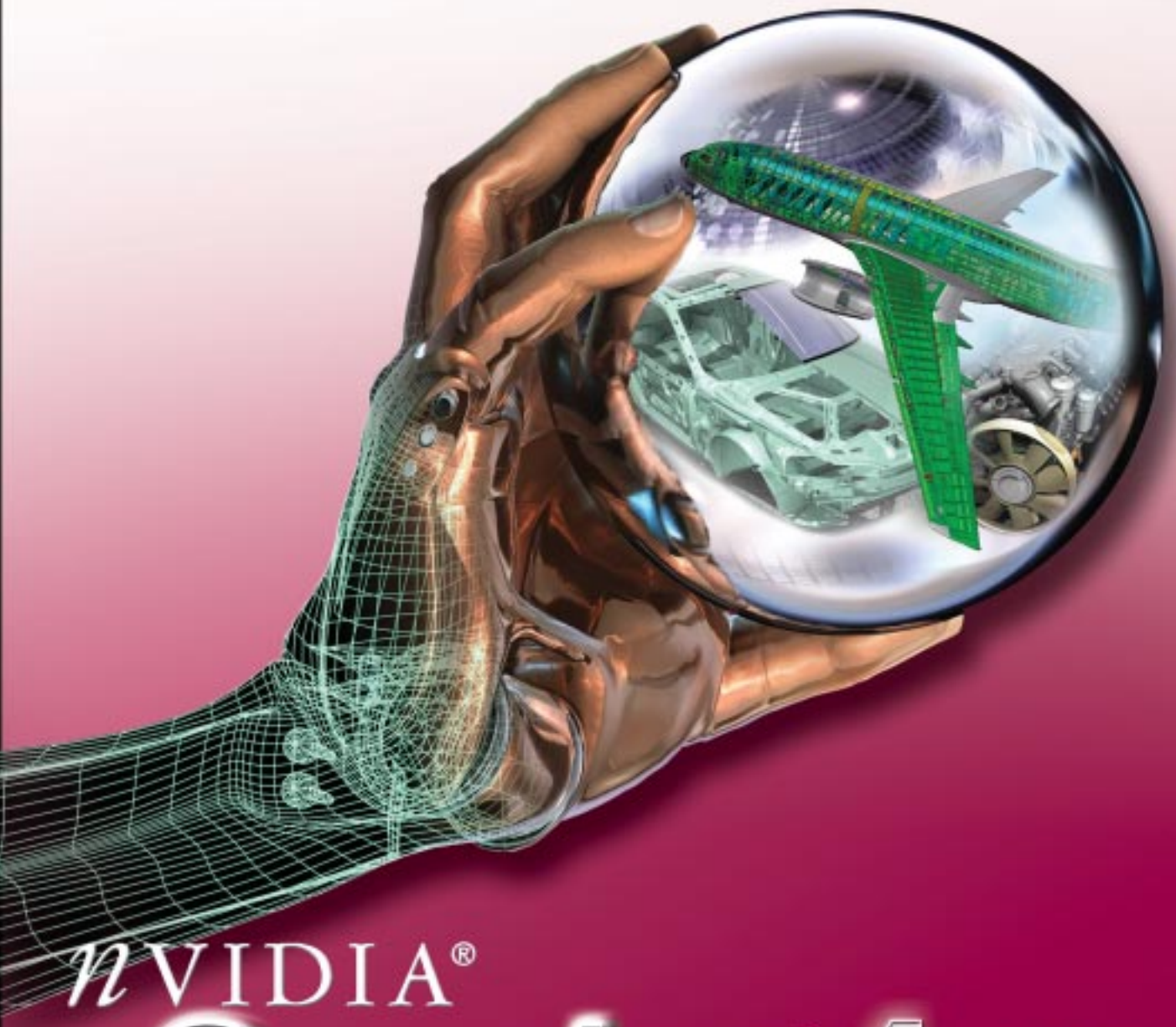
PNY TECHNOLOGIES®



nVIDIA®

Quadro®4 XGL

by PNY Technologies

380, 580, 750, 900, 980

Professional Graphics Solutions

WORKSTATION APPLICATIONS:

Mechanical CAD, CAE, AEC • Digital Content Creation • 3D Animation • Game Development • Scientific Research

Achieve Your Creative Vision With Tremendous Graphics Power

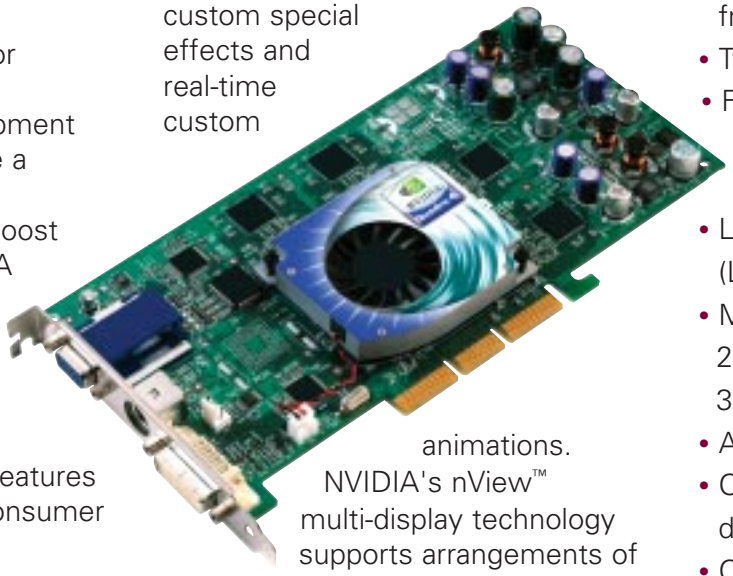
NVIDIA® Quadro®4 XGL by PNY® workstation graphics boards are the most powerful, feature-rich family of high-performance boards available to the professional design community. They provide end users with a top-to-bottom selection of boards designed to maximize productivity and creativity in a 2D/3D workstation environment. NVIDIA Quadro by PNY workstation graphics boards have been instrumental in creating innovative solutions to complex design engineering challenges worldwide. Professionals specify them for their powerful graphics capabilities, vibrant image quality and customized workspace design features. This creative latitude results in shortened lead times, enhanced productivity and profitability for the end user.

PROFESSIONAL FEATURES ENABLED

Not all graphics boards are created equal. NVIDIA Quadro4 XGL by PNY workstation boards are optimized for the professional workstation environment. They contain application-specific drivers for specialized CAD, DCC and sophisticated design/development software programs and have a unique hardware feature set professional users need to boost system performance. NVIDIA Quadro4 XGL by PNY provides unrestricted software compatibility and can manage even the most sophisticated professional applications – performance features that are not available with consumer graphics cards.

NVIDIA QUADRO4 XGL BY PNY OVERVIEW

The XGL family meets the specialized requirements of the professional community with a unique architecture delivering up to 60 million lit, shaded and tri-linear-textured triangles per second. The XGL series of workstation graphics boards is designed to accelerate professional DirectX® and OpenGL® applications. Advanced shading technology enables custom special effects and real-time custom animations. NVIDIA's nView™ multi-display technology supports arrangements of analog monitors and digital flat panel displays that can be combined to increase the user's desktop area. NVIDIA Lightspeed Memory Architecture II features advanced memory management techniques for amazing power in resource intensive applications.



AT A GLANCE

- Hardware overlay planes
- Hardware accelerated antialiased lines and points (a benefit for MCAD applications which use wire frame to render images)
- Two-sided lighting
- Full-scene antialiasing
  - 2nd-generation occlusion culling
- Lightspeed Memory Architecture (LMA) II
- Multi-display capabilities at 2048 x 1536 per display (dual 350MHz RAMDACs)
- Application Utilities
- OpenGL Quad-Buffered Stereo: For displaying stereoscopic 3D images
- Optimized and certified for OpenGL 1.3 and Microsoft® DirectX® 8 applications
- Programmable Vertex and Pixel processing (NVIDIA nfiniteFX II™ engine)

980 XGL (AGP 8X):
Provides all of the performance advantages of the 900 XGL at double the bandwidth, increasing data throughout for graphically intense applications. It provides fast application performance and high image quality. It is the first graphics board to exceed 100 in Pro CDRS-03 and 20 in UGS-02.

900 XGL:
Includes the programmability of NVIDIA's second-generation nfiniteFX II engine, delivering real-time rendering of complex shading effects. This workstation graphics board is designed for power users in the professional workstation market.

980/900 XGL Includes:
- 128MB 128-bit DDR SDRAM
- Double the bandwidth 2.1GB/sec.(980 XGL)
- 256-bit graphics core (980 XGL)
- 128MB 128-bit DDR memory interface
- NVIDIA LMA II
- nfiniteFX II programmable GPU (vertex and pixel)
- nView multi-display software
- DVI-I (analog/digital) & DVI-I (analog/digital) connectors
- Highest performance for CAD and DCC applications
- Dual screen productivity

750 XGL:
Features the programmability of NVIDIA's second-generation nfiniteFX II engine to meet the needs of mid-range and high-end professional workstation users.

750 XGL Includes:
- 128MB DDR SDRAM
- NVIDIA LMA II
- nfiniteFX II programmable GPU (vertex and pixel)
- nView multi-display technology
- VGA (analog) & DVI (analog/digital) connector
- Excellent performance for CAD and DCC applications
- Dual screen productivity

580 XGL (AGP 8X):
For the entry-level to mid-range MCAD workstation professional this board provides the flexibility of dual-analog or dual-digital displays through a single LFH output connector. It delivers the ideal balance of price and performance.

580 XGL Includes:
- 64MB DDR SDRAM
- Double the bandwidth (2.1GB/sec.)
- 128-bit DDR memory interface
- nView multi-display technology
- Supports dual analog or dual digital display
- Low-profile form factor
- One LFH connector supporting dual VGA or dual DVI monitors

380 XGL:
The board features a VGA connector, DVI-I connector and TV-Out connector enabling professionals to customize their workspace and maximize

NVIDIA Quadro4 XGL by PNY Specification Chart

	380 XGL (AGP 8X)	580 XGL (AGP 8X) Low Profile	750 XGL	900 XGL	980 XGL (AGP 8X)
Memory	64MB	64MB	128MB	128MB	128MB
Outputs	VGA, DVI-I, TV Out	Dual DVI/VGA	VGA, DVI-I	Dual DVI-I	Dual DVI-I
Connector (Included)	DVI-I	2 VGA/2 DVI-I**	DVI-I to VGA	2 DVI-I to VGA	2 DVI-I to VGA
Max Displays	2	2	2	2	2
2D/3D	2D/3D	2D/3D	2D/3D	2D/3D	2D/3D
Programmability	No	nfiniteFX II	nfiniteFX II	nfiniteFX II	nfiniteFX II
Bus Connector	AGP 8X	AGP 8X	AGP 4X	AGP 4X	AGP 8X
Memory Type	DDR SDRAM	DDR SDRAM	DDR SDRAM	DDR SDRAM	DDR SDRAM
RAMDAC	Dual 350Mz	Dual 350Mz	Dual 350Mz	Dual 350Mz	Dual 350Mz
Stereo Goggles	No	3-pin mini din	3-pin mini din	3-pin mini din	3-pin mini din
2D/3D resolution (max)	2048x1536	2048X1536	2048X1536	2048X1536	2048X1536
Universal Driver	Yes	Yes	Yes	Yes	Yes
Warranty*	3	3	3	3	3

** Optional Cable

productivity with dual analog, dual-digital, or digital and analog plus TV displays.

380 XGL Includes:

- Double the graphics interface bandwidth (2.1GB/sec.)
- 128-bit DDR memory interface
- 64MB DDR SDRAM
- NVIDIA LMA II
- nView multi-display software
- VGA, DVI-I and TV-Out connector
- DVI-I adapter

PROFESSIONAL CERTIFICATIONS

NVIDIA Quadro4 XGL by PNY graphics boards are certified by more professional software applications than any other workstation graphics board in the industry. They are extensively tested to certify the highest reliability and performance in demanding workstation applications including:

MCAD:

- Autodesk® AutoCAD®
- Autodesk Inventor™
- Dassault CATIA®
- PTC® Pro/Engineer™
- SDRC I-DEAS® Master Series
- UGS® Solid Edge™
- SolidWorks®
- Unigraphics
- And many more....

DCC:

- Alias/Wavefront™ Maya®
- Discreet® 3ds max™
- Newtek Lightwave 3D™
- Side Effects Houdini
- And many more....

REVOLUTIONARY PERFORMANCE FEATURES

nfiniteFX™ II Engine

The latest workstation applications rely on the unique feature set and programmability of the XGL family of graphics solutions to fully enable the most advanced feature sets (such as OpenGL and DirectX shaders). This feature is enabled on the 750, 900, 980 models.

Lightspeed Memory Architecture™

LMA II optimally load balances memory across NVIDIA's patented crossbar memory controller, maximizing memory bandwidth utilization.

Unified Memory Architecture

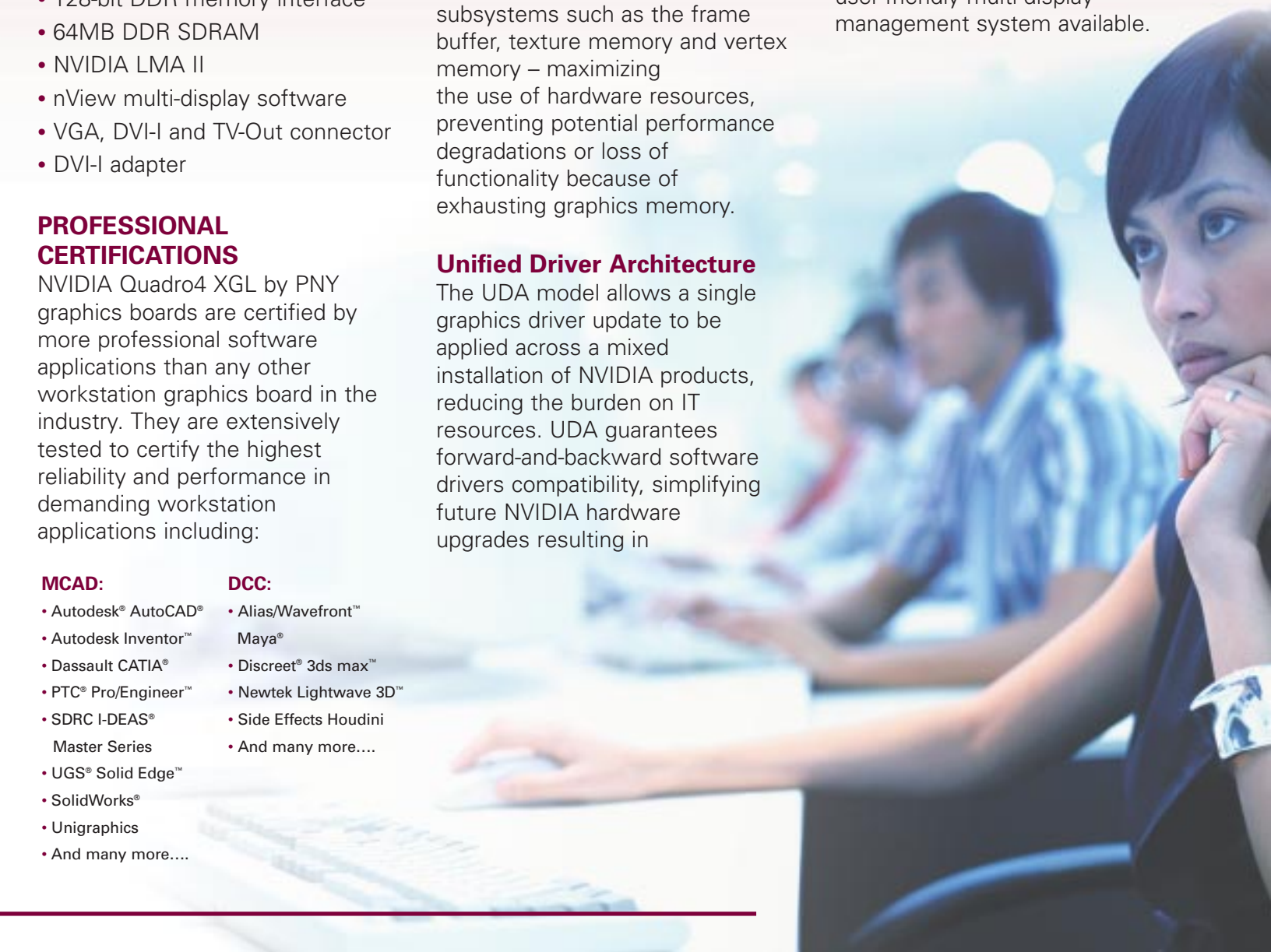
UMA dynamically allocates memory between graphics subsystems such as the frame buffer, texture memory and vertex memory – maximizing the use of hardware resources, preventing potential performance degradations or loss of functionality because of exhausting graphics memory.

Unified Driver Architecture

The UDA model allows a single graphics driver update to be applied across a mixed installation of NVIDIA products, reducing the burden on IT resources. UDA guarantees forward-and-backward software drivers compatibility, simplifying future NVIDIA hardware upgrades resulting in performance enhancements throughout the product life cycle. Updated drivers can be downloaded from PNY and NVIDIA's websites.

nView™ Multi-Display Technology

nView multi-display functionality increases productivity by enabling professionals to customize their workspace with a combination of digital flat panels and analog monitors. nView delivers unprecedented stability, image quality and performance across multiple monitors, maximizing on-screen real estate. Features such as smart Windows® management enhancements and the ability to name and save up to 32 desktop configurations make nView the most advanced, flexible, user-friendly multi-display management system available.



QUAD-BUFFERED STEREO

This feature enables professional users to view models or scenes stereoscopically in three dimensions using stereo goggles. The application generates separate images from the left and right eye perspective and both are alternately displayed.

APPLICATION UTILITIES OPTIMIZE PERFORMANCE

The NVIDIA suite of Quadro Application Utilities adds features and performance enhancements for workstation applications.

- POWERdraft – enhanced performance, productivity and features for AutoCAD®
- MAXtreme – Real-time viewport rendering features and enhanced performance for 3ds max™
- QuadroView – Feature-rich, multi-threaded OpenGL 3D viewer

MINIMUM SYSTEM REQUIREMENTS

- IBM® or 100% PC compatible with genuine Pentium® III or AMD Athlon® class processor or higher
- One available AGP 2.0 compliant slot
- Windows® XP, 2000 or Windows® NT4.0. (Service Pack 5 or 6)
- 128MB system memory
- 20MB of available disk space for full installation
- CD-ROM or DVD-ROM drive
- VGA or DVI-I compatible monitor

WARRANTY*

PNY offers a comprehensive three year warranty (one year standard plus two additional years upon completion of product registration on PNY's website).

World Class Performance

PNY Technologies, Inc., an ISO 9000 registered company, is a world-class leader in computer memory upgrade modules (desktop, notebook & server), flash media (Compact Flash™, SmartMedia ™, MMC™, SD™) and accessories, Verto® consumer graphics cards and NVIDIA Quadro® by PNY Professional Workstation Graphics Boards.

Since its inception in 1985 the company has earned a reputation as a leading supplier of top quality products for a wide range of computer and digital storage applications, and its memory products currently account for a majority share of all retail sales in the U.S. and Europe. In response to tremendous success in its core memory business, PNY continues to strategically expand the breadth of its product line to meet customer demand. PNY products are specified by consumers, original equipment manufacturers, add-in-card manufacturers and systems builders worldwide. The company has worked hard to earn a reputation for performance excellence in providing top quality, innovative solutions for everything in and around the computer.

Headquartered in Parsippany, NJ, PNY maintains facilities in North America (Parsippany, New Jersey and Santa Clara, California), Europe (France, Germany and the United Kingdom) and Asia. For additional information, please visit the PNY web site at www.pny.com.

VISIT THE PNY WEBSITE
WWW.PNY.COM/QUADRO

Information about the family of NVIDIA Quadro by PNY Workstation products is as close as your personal computer. You can access product and technical information. Download the latest drivers. View a list of leading distributors, system integrators and value-added resellers who carry the NVIDIA Quadro by PNY line. These business partners can answer your question about which product is best for your particular application.

Professional Graphics Solutions

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