FAMILY OF WORKSTATION SOLUTIONS

NVIDIA's Quadro™2 is the company's family of graphics solutions for the workstation market. NVIDIA's technology leadership combines the new Quadro2 workstation GPU with the NVIDIA Unified Driver Architecture (UDA), providing graphics and design professionals a complete solution for both development and deployment of leading-edge content.

NVIDIA offers four distinct implementations of Quadro2 workstation products. All deliver balanced high-end workstation performance and are optimized and certified for all the leading professional OpenGL® and Microsoft®Direct3D® applications. In addition, Quadro2 family products support OpenGL quad-buffered stereo for professional stereo applications. With a high-speed 256-bit memory bus, and up to 64MB of Double Data Rate (DDR) on-board memory, Quadro2 boosts the real-time interactivity of even the largest models and scenes.

QUADRO2 PRO

Quadro2 Pro is a robust and full-featured solution that delivers unprecedented 3D and 2D performance for the engineering and creative professional. With its unmatched 1.0G pixels/sec. rendering power and 31M triangles/sec. geometry processing power, the Quadro2 Pro is the professional's best choice for any high-performance design environment.

The Quadro2 Pro includes features such as a hardware antialiased line engine, 6.4GB/sec. bandwidth enabling work in fully textured mode while achieving real-time frame rates, and a 64MB unified frame buffer—providing ample room for high-resolution, 32-bit per pixel, fully textured visuals.

QUADRO2 MXR

The Quadro2 MXR delivers advanced workstation capabilities to the mainstream professional who values balanced features and performance to optimize his design workflow. This feature-packed solution includes NVIDIA's revolutionary TwinView™ display architecture, which provides support for multiple displays on a single GPU, Digital Vibrance Control, and the NVIDIA Shading Rasterizer™.

QUADRO2 EX

The Quadro2 EX is a high-value, entry-level workstation graphics solution that combines professional-strength 3D and 2D performance, comprehensive application support and industry-leading quality at an unprecedented price point.

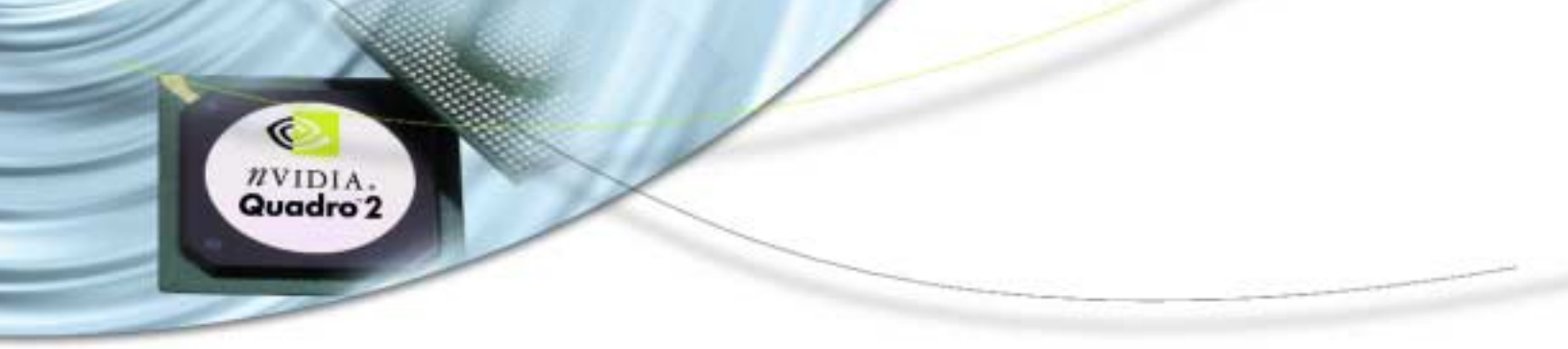
QUADRO2 GO

The Quadro2 GO is a full-featured mobile workstation GPU, unleashing the productivity of traveling professionals. This solution offers a full set of Quadro2 workstation features, hardware transform and lighting (T&L), accelerated AA lines, and OpenGL overlay support. In addition, OpenGL and Direct3D performance tuning ensures optimal performance and compatibility with the broadest range of professional applications.

UNIFIED DRIVER ARCHITECTURE

Through NVIDIA's unique Unified Driver Architecture (UDA), all Quadro2 family products share a backward and forward binary driver that is compatible with past, present, and future NVIDIA platforms, as well as all currently manufactured versions of NVIDIA's GPUs. Only NVIDIA offers this level of compatibility and manageability.

The Quadro2 line is designed for use with professional applications such as **Alias|Wavefront™ Maya®** and **StudioTools®**, **Autodesk AutoCAD®**, **Dassault® CATIA®**, **Discreet® 3ds max™**, **Newtek® LightWave 3D™**, **PTC Pro/ENGINEER™**, **SOFTIMAGE®/XSI**, **Solidworks®**, **UGS® Solid Edge™** and **Unigraphics®**. Quadro2 products are also equipped with NVIDIA's suite of custom application drivers that provide features and performance enhancements to key applications such as **3ds max** (enhanced with ELSA® MAXtreme™), and **AutoCAD** (enhanced with ELSA POWERdraft™). In addition, NVIDIA's QuadroView™ provides 3D visualization for standard CAD and DCC model formats. Support for AGP 2X and true AGP 4X with Fast Writes offers unmatched Microsoft® Windows NT®, Windows 98, Windows® 2000 and Linux performance. The Quadro2 family is the professional's choice for any high-performance design environment.



PROFESSIONAL WORKSTATION FEATURES

- Optimized for professional OpenGL and DirectX workstation applications
  - 2nd generation 256-bit graphics processing unit architecture
  - 2nd generation hardware transform & lighting (T&L)
    - 8 lights per rendering pass
    - Any combination of infinite, local, directional or spot
    - Colored lights
  - Hardware accelerated anti-aliased points and lines
  - Accelerated OpenGL overlay support
  - Accelerated two-sided lighting
  - Advanced OpenGL window memory management
  - Professional quad-buffered stereo
  - 8 clip regions
  - 32-bit Z/Stencil Buffer
- Optimized for Intel® and AMD® workstation configurations
- Optimized for multi-processor configurations
- Enhanced customized application drivers for **3ds max** and **AutoCAD**

COMPATIBILITY

- Rigorous compatibility testing for professional applications
- Unrestricted application support
- Certified for all major professional applications
- NVIDIA Unified Driver Architecture (UDA)
  - Continuous support for the latest applications for legacy hardware
  - Continuous performance tuning for legacy hardware
- Fully-compliant professional OpenGL 1.2 support for all Linux and Windows operating systems
- WHQL-certified for Windows 2000, Windows NT, and Windows 98
- Complete Linux driver

ARCHITECTURAL FEATURES

- 32-bit color
- 2048x1536 @ 75Hz maximum resolution
- 350MHz DAC
- 8 texture-mapped, filtered, lit texels per clock cycle
- Single-pass multi-texturing
- High Quality Texture Filtering, including Anisotropic
- NVIDIA Shading Rasterizer (NSR)
  - Real-time per-pixel effects
  - Per-pixel dot3 bump mapping
  - Per-pixel lighting and shading
  - BRDF (Bi-Directional Reflectance Distribution Function)
  - Z-correct bump mapping
  - Emboss bump mapping
  - Multitexture and multipass
  - Procedural textures
  - Stencil
  - Stipple
  - Fog—radial or linear
  - Depth cueing
- Cube environment mapping
  - Reflection maps
  - Accurate, real-time environment reflections
- Microsoft DirectX and S3TC, texture compression
- TwinView architecture
  - Digital flat panel interface with scaling and filtering for flat panels up to 1280x1024
  - Dual independent display controllers support:
    - Showing same material on both displays for presentations
    - Showing different material on each display for an enlarged Windows desktop
    - LCD and CRT
    - LCD and DVI digital flat panel or projector
- Digital Vibrance Control (DVC)
- High-performance 2D rendering engine
  - Optimized for 32-, 24-, 16-, 15- and 8-bpp modes
  - True-color hardware cursor
  - Multi-buffering (double, triple, or quad) for smooth animation and video playback
- High-quality HDTV/DVD playback
  - DVD-ready motion compensation for MPEG-2
  - Supports VIP2.0 interface
  - High-definition video processor for full-screen, full-frame video playback of HDTV and DVD content
  - Independent hardware color controls for video overlay
  - Hardware color-space conversion (YUV 4:2:2 and 4:2:0)
  - Motion compensation
  - 5-tap horizontal by 3-tap vertical filtering
  - 8:1 up/down scaling
  - Per-pixel color keying
  - Multiple video windows supported for CSC and filtering
  - DVD sub-picture alpha-blended compositing

SPECIFICATIONS/PERFORMANCE	QUADRO2 PRO	QUADRO2 MXR	QUADRO2 EX	QUADRO2 GO
GRAPHICS CORE	256-bit	256-bit	256-bit	256-bit
PIXELS/SEC.	1.0 BILLION	400 MILLION	350 MILLION	286 MILLION
MEMORY BANDWIDTH	6.4GB/S	2.9GB/S	2.7GB/S	2.9GB/S
TRIANGLES/SEC.	31 MILLION	25 MILLION	21 MILLION	17 MILLION

NVIDIA

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