NVIDIA Quadro

NVIDIA Quadro FX 1700

Exceptional Price/Performance for Professional Applications

The NVIDIA Quadro® FX 1700 graphics board delivers exceptional price/performance and quality for professional applications.

Featuring a revolutionary unified architecture, Quadro FX 1700 dynamically allocates geometry, shading, and compute processing power to deliver optimized GPU performance while enabling Energy Star power savings. The reference standard for Shader Model 4.0, Quadro FX 1700 solution enables next generation ultra-realistic, real-time OpenGL and Direct X 10 visualization applications. With two dual-link DVI-I connectors, NVIDIA Quadro FX 1700 offers superb image quality at resolutions up to 2560 x 1600 @ 60Hz.

The NVIDIA Quadro FX 1700 is the mid-range solution from the latest generation of unified architecture based product offerings. The entire NVIDIA Quadro family takes computer-aided-design (CAD), digital content creation (DCC), and visualization applications to a new level of interactivity by enabling unprecedented capabilities in programmability and precision. The industry's leading workstation applications leverage this architecture to enable hardware-accelerated features, performance, and quality not found in any other professional

graphics solutions. From Quadro FX 5600 at the ultra-high-end, and Quadro FX 4600 at the high-end, through Quadro FX 1700 at the mid-range, to Quadro FX 570 and 370 at the entry-level, Quadro delivers the productivity you need at every price point.
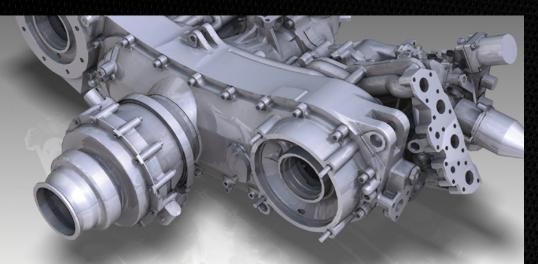
Product Specifications

Form Factor	ATX, 4.38"(H) x 6.6" (L)
Frame Buffer Memory	512MB DDR2
Memory Interface	128-bit
Memory Bandwidth	12.8GB/sec.
Max Power Consumption	42W
Graphics Bus	PCI Express x16
Display Connectors	Dual DVI-I, TV-Out
Dual Link DVI	Yes (2)
Auxiliary Power Connectors	No
Number of Slots	1
Thermal Solution	Active Fansink

Image Courtesy of Right Hemisphere

Features and Benefits

NVIDIA® Unified Architecture	Industry's first unified architecture designed to dynamically allocate geometry, shading, pixel, and compute processing power to deliver optimized GPU performance.
GPU Computing	NVIDIA CUDA™ provides a C language environment and tool suite that unleashes new capabilities to solve complex, visualization challenges such as real-time ray tracing and interactive volume rendering.
Next-Generation Vertex and Pixel Programmability Shader Model 4.0	Reference standard for shader model 4.0 enabling a higher level of performance and ultra-realistic effects for next generation OpenGL and DirectX 10 industry-leading professional applications.
Fast 3D Textures	Fast transfer and manipulation of 3D textures resulting in more interactive visualization of large volumetric dataset.
High Performance Display Outputs	Dual-link TMDS transmitter supports ultra-high-resolution panels (up to 2560 x 1600 @ 60Hz), which result in amazing image quality producing detailed photorealistic images.
nView® Multi-Display Technology[1]	The NVIDIA nView hardware and software technology combination delivers maximum flexibility for multi-display options, and provides unprecedented end-user control of the desktop experience.
Rotated-Grid Full-Scene Antialiasing (RG FSAA)	The rotated grid FSAA sampling algorithm introduces far greater sophistication in the sampling pattern, significantly increasing color accuracy and visual quality for edges and lines, reducing "jaggies" while maintaining performance.

Product Specifications

SUPPORTED PLATFORMS
- Microsoft® Windows Vista™ (64-bit and 32-bit)
- Microsoft Windows® XP (64-bit and 32-bit)
- Microsoft Windows 2000 (32-bit)
- Linux® - Full OpenGL® implementation, complete with NVIDIA and ARB extensions (64-bit and 32-bit)
- Solaris®
- AMD64, Intel EM64T

NVIDIA QUADRO FX 1700 ARCHITECTURE
- 128-bit color precision
- Unlimited fragment instruction
- Unlimited vertex instruction
- 3D volumetric texture support
- 12 pixels per clock rendering engine
- Hardware accelerated antialiased points & lines
- Hardware OpenGL overlay planes
- Hardware accelerated two-sided lighting
- Hardware accelerated clipping planes

- 3rd-generation occlusion culling
- 16 textures per pixel in fragment programs
- Window ID clipping functionality
- Hardware accelerated line stippling

SHADING ARCHITECTURE
- Full Shader Model 4.0 (OpenGL 2.1/ DirectX 10 class)
- Long fragment programs (unlimited instructions)
- Long vertex programs (unlimited instructions)
- Looping and subroutines (up to 256 loops per vertex program)
- Dynamic flow control
- Conditional execution

HIGH LEVEL SHADER LANGUAGES
- Optimized compiler for Cg and Microsoft HLSL
- OpenGL 2.1 and DirectX 10 support
- Open source compiler

HIGH-RESOLUTION ANTIALIASING
- Rotated Grid Full-Scene Antialiasing (RG FSAA)
- 32x FSAA dramatically reduces visual aliasing artifacts or "jaggies," resulting in highly realistic scenes

DISPLAY RESOLUTION SUPPORT
- Dual-link DVI-I outputs drive two digital displays at resolutions up to 2560 x 1600 @ 60Hz
- Internal 400 MHz DACs – Two analog displays up to 2048 x 1536 @ 85Hz

[1] NVIDIA nView will be available for Windows Vista Spring 2008

To learn more about NVIDIA Quadro, go to **www.nvidia.com**