THE WORLD'S MOST POWERFUL GPU
NVIDIA® QUADRO® 6000

The NVIDIA® Quadro® 6000 professional graphics solution is a true technological breakthrough, delivering up to 5x faster performance across a broad range of design, animation and video applications.

Built on the innovative NVIDIA Fermi architecture, Quadro professional-class solutions are the first to integrate high performance computing capabilities with advanced visualization techniques, transforming modern workflows.

Featuring a new Scalable Geometry Engine™, Quadro 6000 can deliver up to an unheard of 1.3 billion triangles per second, shattering previous 3D performance benchmarks.[1]

Modern applications harness the latest NVIDIA® CUDA™ parallel processing architecture of Quadro GPU to deliver performance gains up to 8x faster compared to previous generations when running computationally intensive applications such as ray tracing, video processing and computational fluid dynamics. For high-precision, data sensitive applications, Quadro GPUs are the only professional graphics solution with ECC memory and

fast double precision capabilities to ensure the accuracy and fidelity of your results. From medical imaging to structural analysis applications, data integrity and precision is assured, without sacrificing performance.

Quadro 6000 is not only a graphics processor; it's an entire visual supercomputing platform, incorporating hardware and software that enables advanced capabilities such as stereoscopic 3D, scalable visualization and 3D high-definition broadcasting. The result is a visual supercomputer right at your desk, capable of changing the way you work every day.

PRODUCT SPECIFICATIONS

CUDA PARALLEL PROCESSING CORES
> 448

FRAME BUFFER MEMORY
> 6 GB GDDR5

MEMORY INTERFACE
> 384-bit

MEMORY BANDWIDTH
> 144 Gbps

MAX POWER CONSUMPTION
> 225 W

GRAPHICS BUS
> PCI Express 2.0 x16

DISPLAY CONNECTORS*
> Dual Link DVI-I (1), DisplayPort (2)

STEREO 3D CONNECTOR
> 3-pin mini DIN

3D VISION PRO SUPPORT
> 3-pin mini DIN or USB

FORM FACTOR
> 4.376" H x 9.75" L /Dual Slot

ECC MEMORY
> Yes

FAST DOUBLE PRECISION
> Yes

NVIDIA SLI TECHNOLOGY
> Available on Quadro SLI certified platforms

G-SYNC
> Compatible

HD SDI CAPTURE/OUTPUT
> Compatible

*Two out of any three connectors can be active at a time

[1]Raw throughput number calculated by graphics processing clusters, GPU clock rate, and triangle throughput.

NVIDIA® QUADRO® 6000

Features	Benefits
NVIDIA® Scalable Geometry Engine™	Dramatically improves geometry performance across a broad range of CAD, DCC and medical applications, enabling you to work interactively with models and scenes that are an order of magnitude more complex than ever before.
GPU Tessellation with Shader Model 5.0	Quadro Tessellation Engines automatically generate finely detailed geometry, for cinematic quality environments and scenes, without sacrificing performance.
6 GB of GDDR5 Memory with Ultra-Fast Bandwidth	Industry's first GPU with 6 GB of memory and memory bandwidth of 144 GB/sec for display of large models and complex scenes, as well as computation of massive datasets.
NVIDIA® GigaThread™ Engine	Provides up to 10x faster context switching compared to previous generation architectures, concurrent kernel execution, and improved thread block scheduling.
Dual Copy Engines	Enables the highest rates of parallel data processing and concurrent throughput between the GPU and host accelerating techniques such as ray tracing, color grading and physical simulation.
NVIDIA® Parallel DataCache™	Supports a true cache hierarchy combined with on-chip shared memory. L1 and L2 caches drive exceptional throughput, accelerating features such as real-time ray tracing, physics and texture filtering.
NVIDIA® SLI® Mosaic Technology	Enables transparent and tear-free scaling of any application, across up to four display channels, including support for 4K projection, while delivering full performance from a single SLI certified workstation. Available on Quadro SLI certified platforms only.

TECHNICAL SPECIFICATIONS

SUPPORTED PLATFORMS

> Support for two operating systems, from a Quadro SLI Multi-OS certified workstation, with each operating system assigned to a dedicated Quadro GPU
> Microsoft Windows 7 (64-bit and 32-bit)
> 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®

3D GRAPHICS ARCHITECTURE

> Scalable geometry architecture
> Hardware tessellation engine
> NVIDIA GigaThread engine with dual copy engines
> Shader Model 5.0 (OpenGL 4.0 and DirectX 11)
> Optimized compiler for Cg and Microsoft HLSL
> Up to 16K x 16K texture and render processing
> Transparent multi-sampling and super sampling
> 16x angle independent anisotropic filtering
> 128-bit floating point performance
> 32-bit per-component floating point

texture filtering and blending
> 64x full scene antialiasing (FSAA)/128x FSAA in SLI Mode
> Decode acceleration for MPEG-2, MPEG-4 Part 2 Advanced Simple Profile, h.264, MVC, VC1, DivX (version 3.11 and later), and Flash (10.1 and later)
> Blu-ray dual stream hardware acceleration (supporting HD picture-in-picture playback)

NVIDIA CUDA PARALLEL PROCESSING ARCHITECTURE

> API support includes: CUDA C, CUDA C++, DirectCompute 5.0, Java, Python and Fortran
> NVIDIA Parallel DataCache hierarchy (configurable L1 and unified L2 caches)
> 64 KB of RAM (configurable partitioning of shared memory and L1 cache)
> Full IEEE 754-2008 - 32-bit and high performance 64-bit double precision
> Dual Warp Scheduler (schedules and dispatches simultaneously instructions from two independent warps)

ADVANCED DISPLAY FEATURES

> 30-bit color (10-bit per each red, green, blue channel)
> Support for any combination of two connected displays
> Dual DisplayPort (up to 2560x1600 @ 60Hz and 1920x1200 @ 120Hz)
> Dual-link DVI-I output (up to 2560x1600

@ 60Hz and 1920x1200 @ 120Hz)
> Internal 400MHz DAC DVI-I output (analog display up to 2048x1536 @ 85Hz)
> DisplayPort to VGA, DisplayPort to DVI-D (single-link and dual-link) and DisplayPort to HDMI cables (resolution support based on cable specifications)
> DisplayPort 1.1a, HDMI 1.3a, and HDCP support
> 10-bit internal display processing (hardware support for 10-bit scanout for both windowed desktop and full screen, only available on Windows and Linux with Aero disabled)
> NVIDIA® 3D Vision™ technology, 3D DLP, Interleaved, and other 3D stereo format support
> Full OpenGL quad buffered stereo support
> Underscan/overscan compensation and hardware scaling
> NVIDIA® nView® multi-display technology
> NVIDIA® SLI® Mosaic Technology

DISPLAYPORT AND HDMI DIGITAL AUDIO

> Support for the following audio modes: Dolby Digital (AC3), DTS 5.1, Multi-channel (7.1) LPCM, Dolby Digital Plus (DD+), and MPEG-2/MPEG-4 AAC
> Data rates of 44.1KHz, 48KHz, 88.2KHz, 96KHz, 176KHz, and 192KHz
> Word sizes of 16-bit, 20-bit and 24-bit

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

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