



WORLD'S FIRST SHADING GPU

PRODUCT DESCRIPTION

The GeForce2™ family—including GeForce2 Ti, GeForce2 Ultra, GeForce2 Pro, and GeForce2 GTS—is the world's first real-time, per-pixel shading family of processors. Combined with NVIDIA's second-generation transform and lighting architecture, the GeForce2 family of GPUs delivers up to 31 million triangles/sec. transformed and lit, allowing stunning scene realism. GeForce2 Ti, the latest member of the GeForce2 family, redefines graphics for the mainstream computers, delivering 1 billion pixels/sec. and producing an amazing 6.4GB/sec. of bandwidth. The GeForce2 Ti provides consumers with unprecedented visual experiences at mainstream price points.

The GeForce2 family includes the NVIDIA Shading Rasterizer™ (NSR), ground-breaking technology that enables advanced per-pixel shading capabilities. The NSR allows per-pixel control of all the visual and material components used to create amazingly realistic scenes and objects, for example: color, shadow, light, reflectivity, and dirt. Another key feature of the GeForce2 family is its High-Definition Video Processor (HDVP), which enables a variety of crystal-clear HDTV solutions when combined with a mainstream CPU and a DTV receiver. The HDVP allows mainstream high-performance processors to support all 18 Advanced



Television Standards Committee (ATSC) formats with a simple, cost-effective DTV receiver card.

The GeForce2 family takes full advantage of NVIDIA's Unified Driver Architecture (UDA). The UDA driver is backward-and-forward compatible with past, present, and future NVIDIA GPUs, as well as top-to-bottom compatible with all currently manufactured versions of NVIDIA's graphics processors. This simplifies system administration.

For example, you could remove an NVIDIA TNT2™ from a system and replace it with any member of the GeForce2 family without changing the graphics software driver. Only NVIDIA offers this level of complete compatibility.

The GeForce2 family delivers the industry's fastest Microsoft® Direct3D® and SGI™ OpenGL® acceleration and continues NVIDIA's tradition of providing a leading-edge, single-chip solution, with integrated VGA, 2D, 3D, and high-definition digital video performance. This enables end users to enjoy a range of applications including: 3D games, HDTV, DVD, digital content creation, Internet browsing, and general productivity. In addition, the GeForce2 family fully accelerates Microsoft Windows® XP multimedia and user interfaces, making it the ideal Windows XP graphics solution.





GEFORCE2 FAMILY FEATURES

- Second-generation 256-bit GPU architecture
- 32-bit color
- 32-bit Z/stencil buffer
- Integrated hardware transform engine
- Integrated hardware lighting engine
 - 8 lights per rendering pass
 - Any combination of infinite, local, directional, or spot
 - Colored lights
- NVIDIA Shading Rasterizer
 - Real-time per-pixel effects
 - Dot3 bump mapping
 - Emboss bump mapping
 - BRDF
 - 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 S3 texture compression
- 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
 - 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
- Operating Systems
 - Windows XP
 - Windows 2000
 - Windows NT® (all)
 - Windows 98, 95
 - Linux
- API Support
 - OpenGL 1.2 and lower
 - DirectX 7 and lower

QUALITY

- NVIDIA Unified Driver Architecture
- Industry's first fully compliant professional OpenGL 1.2 support for all Linux and Windows operating systems
- WHQL-certified Windows XP, Windows 2000, Windows NT, Windows 3.5
- Complete Linux drivers, including full OpenGL

PERFORMANCE

- 4 anisotropic filtered pixels/clock
- 128-bit DDR memory interface

FEATURE	GEFORCE2 GTS	GEFORCE2 Pro	GEFORCE2 Ti	GEFORCE2 Ultra
FILL RATE	800 MILLION	800 MILLION	1 BILLION	1 BILLION
TRIANGLES/SEC.	25 MILLION	25 MILLION	31 MILLION	31 MILLION
MEMORY BANDWIDTH	5.3GB/SEC.	6.4GB/SEC.	6.4GB/SEC.	7.4GB/SEC.
MAXIMUM MEMORY	32MB	64MB	64MB	64MB



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