



NVIDIA® Unified Architecture

- Unified shader architecture
- GigaThread™ technology
- Full support for Microsoft® DirectX® 10
 - Geometry shaders
 - Geometry instancing
 - Streamed output
 - Shader Model 4.0
- Full 128-bit floating point precision through the entire rendering pipeline

NVIDIA Lumenex™ Engine

- 16x full screen anti-aliasing
- Transparent multisampling and transparent supersampling
- 16x angle independent anisotropic filtering
- 128-bit floating point high dynamic-range (HDR) lighting with anti-aliasing
 - 32-bit per component floating point texture filtering and blending
- Advanced lossless compression algorithms for color, texture, and z-data
- Support for normal map compression
- Z-cull
- Early-Z

NVIDIA Quantum Effects™ Technology

- Advanced shader processors architected for physics computation
- Simulate and render physics effects on the graphics processor

NVIDIA® TurboCache™ Technology

- Combines the capacity and bandwidth of dedicated video memory with dynamically allocated system memory to dramatically turbocharge performance.

NVIDIA PureVideo™ HD Technology²

- Dedicated on-chip video processor
- High-definition H.264, VC-1, MPEG2 and WMV9 decode acceleration
- Advanced spatial-temporal de-interlacing

- HDCP capable³
- Spatial-Temporal De-Interlacing
- Noise Reduction
- Edge Enhancement
- Bad Edit Correction
- Inverse telecine (2:2 and 3:2 pull-down correction)
- High-quality scaling
- Video color correction
- Microsoft® Video Mixing Renderer (VMR) support

Advanced Display Functionality

- One single-link DVI outputs for digital flat panel display resolutions up to 1920x1200⁶
- Dual integrated 400MHz RAMDACs for analog display resolutions up to and including 2048x1536 at 85Hz
- Integrated HDTV encoder provides analog TV-output (Component/Composite/S-Video) up to 1080i resolution
- NVIDIA nView® multi-display technology capability
- 10-bit display processing

Built for Microsoft® Windows Vista™

- Full DirectX 10 support
- Dedicated graphics processor powers the new Windows Vista Aero 3D user interface
- VMR-based video architecture

High Speed Interfaces

- Designed for PCI Express® x16
- Designed for high-speed GDDR3 and DDR2 memory

Operating Systems

- Built for Microsoft Windows Vista
- Windows XP/Windows XP 64
- Linux

API Support

- Complete DirectX support, including Microsoft DirectX 10 Shader Model 4.0
- Full OpenGL® support, including OpenGL 2.0

² Feature requires supported video software. Features may vary by product.

³ Requires other compatible components that are also HDCP capable.

⁶ Feature available on GeForce 8400 GPUs only.

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