GRAPHICS TO DRENCH YOUR SENSES

PC graphics such as photos, videos, and games require a lot of processing power. Without any help, the CPU must handle all of the system and graphics processing which can result in decreased system performance. The addition of a second processor in your PC dedicated to handling graphics—a graphics processing unit (GPU)—offloads the work from the CPU for dramatically improved system performance and stunning photos, videos, and games.

The groundbreaking **NVIDIA® GeForce™ 6** Series GPUs and their revolutionary technologies power the most vibrant, lifelike graphics, ever experienced on a PC and set new standards for performance, visual quality, realism, and video functionality. The GeForce 6 Series GPUs deliver powerful, elegant graphics to drench your senses, immersing you in unparalleled worlds of visual effects for the ultimate PC experience.

NVIDIA GEFORCE 6 SERIES SPECIFICATIONS

CINEFX 3.0 SHADING ARCHITECTURE
- Vertex Shaders
  - Support for Microsoft DirectX 9.0 Vertex Shader 3.0
  - Displacement mapping
  - Geometry instancing
  - Infinite length vertex programs
- Pixel Shaders
  - Support for DirectX 9.0 Pixel Shader 3.0
  - Full pixel branching support
  - Support for Multiple Render Targets (MRTs)
  - Infinite length pixel programs
- Next-Generation Texture Engine
  - Up to 16 textures per rendering pass
  - Support for 16-bit floating point format and 32-bit floating point format
  - Support for non-power of two textures
  - Support for sRGB texture format for gamma textures
  - DirectX and S3TC texture compression
- Full 128-bit studio-quality floating point precision through the entire rendering pipeline with native hardware support for 32bpp, 64bpp, and 128bpp rendering modes

64-BIT TEXTURE FILTERING AND BLENDING[1]
- Full floating point support throughout entire pipeline
- Floating point filtering improves the quality of images in motion
- Floating point texturing drives new levels of clarity and image detail
- Floating point frame buffer blending gives detail to special effects like motion blur and explosions

INTELLISAMPLE 3.0 TECHNOLOGY[2]
- Advanced 16x anisotropic filtering
- Blistering-fast antialiasing and compression performance
- New rotated-grid antialiasing removes jagged edges for incredible edge quality
- Support for advanced lossless compression algorithms for color, texture, and z-data at even higher resolutions and frame rates
- Fast z-clear
- High-resolution compression technology (HCT) increases performance at higher resolutions through advances in compression technology

ULTRASHADOW II TECHNOLOGY
- Designed to enhance the performance of shadow-intensive games, like id Software's *Doom 3*

TURBOCACHE TECHNOLOGY[3]
- Shares the capacity and bandwidth of dedicated video memory and dynamically available system memory for optimal system performance
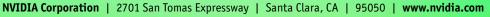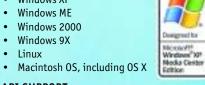
PUREVIDEO TECHNOLOGY[4]
- Adaptable programmable video processor
- High-definition MPEG-2 hardware acceleration
- High-quality video scaling and filtering
- DVD and HDTV-ready MPEG-2 decoding up to 1920x1080i resolution
- Display gamma correction
- Microsoft® Video Mixing Renderer (VMR) supports multiple video windows with full video quality and features in each window

ADVANCED DISPLAY FUNCTIONALITY
- Dual integrated 400MHz RAMDACs for display resolutions up to and including 2048x1536 at 85hz
- Dual DVO ports for interfacing to external TMDS transmitters and external TV encoders
- Full NVIDIA® nView® multi-display technology capability

ADVANCED ENGINEERING
- Designed for PCI Express x16
- Support for AGP 8X including Fast Writes and sideband addressing
- Designed for high-speed GDDR3 memory
- Advanced thermal management and thermal monitoring

NVIDIA® DIGITAL VIBRANCE CONTROL™ (DVC) 3.0
- DVC color controls
- DVC image sharpening controls

OPERATING SYSTEMS
- Windows XP
- Windows ME
- Windows 2000
- Windows 9X
- Linux
- Macintosh OS, including OS X

API SUPPORT
- Complete DirectX support, including the latest version of Microsoft DirectX 9.0 Shader Model 3.0
- Full OpenGL support, including OpenGL 1.5

GEFORCE 6 SERIES GPUS FEATURES COMPARISON

Feature	GeForce 6800 Models	GeForce 6600 Models	GeForce 6200 Models
Microsoft DirectX 9.0	SM 3.0	SM 3.0	SM 3.0
Graphics Bus Technology	AGP 8X/PCI Express	AGP 8X/PCI Express	PCI Express
NVIDIA® Intellisample™ Technology	3.0	3.0	3.0[2]
64-bit Texture Filtering and Blending	✔	✔	—
NVIDIA® SLI™ Technology	✔[5]	✔[5]	—
NVIDIA® TurboCache™ Technology	—	—	✔[3]
Effective Memory Interface	256-bit	128-bit	64-bit/128-bit
Memory	GDDR3[6] and DDR	GDDR3[6] and DDR	DDR
Process	0.13µ	0.11µ	0.11µ
RAMDACs	400 MHz	400 MHz	400 MHz

1 GeForce 6800 and 6600 models only.
2 GeForce 6200 models do not include compression technology.
3 Available on select GeForce 6200 models only.
4 Features may vary by product. Some features may require additional software.

5 Available on NVIDIA SLI certified GeForce 6800 Ultra, 6800 GT, 6800 and 6600 GT PCI Express GPUs only. Graphics cards must be from the same manufacturer and contain identical NVIDIA GPUs.
6 GeForce 6800 Ultra, 6800 GT, and 6600 GT only.

GRAPHICS TO DRENCH YOUR SENSES

NVIDIA *Timbury* demo

SUPERCHARGING PERFORMANCE

The **GeForce 6 Series** GPUs are built to supercharge PC performance. Featuring groundbreaking technology innovations such as support for Microsoft® DirectX® 9.0 Shader Model 3.0, the GeForce 6 Series GPUs are built for screaming frame rates on next-generations games like Ubisoft's *Far Cry* and GSC Game's *S.T.A.L.K.E.R: Shadow of Chernobyl*. The GeForce 6 Series GPUs also feature NVIDIA® UltraShadow™ II technology to deliver 4x the shadow processing power of previous generation products and accelerate the performance of shadow-intensive games like id™ Software's *Doom 3*™. With a superscalar architecture and support for the world's fastest GDDR3 memory, these powerful GPUs arm you with everything you need to tear through your favorite games and applications at unbelievable frame rates.

The GeForce 6 Series GPUs also feature the revolutionary new NVIDIA® SLI™ technology which creates a new class of high-end gaming PCs. With NVIDIA SLI, gamers can combine two PCI Express®-based GeForce 6 Series GPUs in a single system to scale performance[1]. Taking full advantage of the increased bandwidth of the PCI Express bus architecture—up to 8GB/sec. of raw graphics performance—NVIDIA SLI features an intelligent hardware and software solution that allows multiple GPUs to efficiently work together to deliver earth-shattering performance. With NVIDIA SLI, PC gaming will never be the same.

For entry-level PCs, the innovative NVIDIA® TurboCache™ technology[2] utilizes PCI Express to share the capacity and bandwidth of dedicated video memory and dynamically available system memory for turbocharged performance and larger total graphics memory.

ULTRA-REALISTIC GAMES

Powered by the proven NVIDIA® CineFX™ 3.0 engine, the GeForce 6 Series GPUs enable unlimited programmability and infinite program length, allowing developers to create a new class of advanced visuals and effects. In addition, features such as displacement mapping enable the creation of unique 3D characters and objects, allowing developers to alter a 3D model's appearance on an individual vertex basis. Through this technique, developers can create ultra-realistic models that fully interact with the unique lighting of a particular environment. Through Microsoft DirectX 9.0 Shader Model 3.0 and the advanced CineFX 3.0 engine, game developers can also create complex lifelike effects like skin, hair, and shadows that fool the eye of even the most discriminating enthusiast. These incredible effects can all be experienced in real time—at blazing speeds—thanks to the power of the GeForce 6 Series GPUs.

Far Cry™/Ubisoft/Crytek

Battlefield Vietnam™/EA Games

Lord of the Rings™ The Battle for Middle-earth™/EA Games

BRINGING FILM RENDERING TECHNIQUES TO THE PC

The GeForce 6 Series GPUs are the first to implement 64-bit floating point texture filtering and blending technology, taking 3D graphics one step closer to film quality[3]. Fully compatible with the OpenEXR standard used by Industrial Light & Magic, NVIDIA's 64-bit texture implementation brings professional film rendering techniques—like full-speed, high dynamic-range (HDR) lighting effects—to today's games.

This new technology delivers full-floating point support throughout the entire pipeline—including floating point filtering, floating point texturing, and floating point blending. Additionally, the new rotated-grid antialiasing technique removes jagged edges from images by providing more subsample coverage values in both the vertical and horizontal direction. Further, 16x anisotropic filtering adds clarity to extreme geometry, allowing more texture samples to be applied to each pixel of an extreme polygon. All of these features raise the bar for image quality, clarity, and detail.

UNMATCHED VIDEO FUNCTIONALITY

Watching TV, DVDs, and high-definition video on the PC is quickly becoming commonplace amongst PC users. In addition to providing the horsepower and advanced features for an amazing gaming experience, the GeForce 6 Series GPUs also deliver unmatched video features and functionality through NVIDIA® PureVideo™ technology[4]. The combination of a hardware video processor and video decode software, NVIDIA PureVideo technology delivers stunning video to any display. NVIDIA PureVideo supercharges your PC experience with high-definition video and crystal-clear picture quality. Integrated HDTV-output allows you to connect your PC to a high-definition TV for direct-to-TV playback, turning your PC into a high-end home theater system. Further, the GeForce 6 Series GPUs accelerate applications such as video editing thanks to the increased bandwidth—over 4GB per second in both upstream and downstream data transfers—of the new PCI Express bus architecture.

A NO-COMPROMISE EXPERIENCE

The GeForce 6 Series GPUs leverage the NVIDIA® ForceWare™ unified software environment (USE) to unleash the full potential of your PC graphics experience while delivering industry-renowned stability and reliability. Boasting a cutting-edge software feature set, ForceWare delivers advanced graphics features including application profiles for creating custom image quality and performance settings for games and applications. Built on the foundation of the proven NVIDIA® Unified Driver Architecture (UDA), ForceWare delivers unmatched compatibility with the widest range of games and applications for the ultimate "install-and-play" experience. Equip yourself with an NVIDIA GeForce 6 Series GPU so you can play your game the way it's meant to be played.

1   Available on select NVIDIA SLI certified GeForce 6800 and 6600 models only.
2   Available on select GeForce 6200 models only.
3   GeForce 6800 and 6600 models only.
4   Features may vary by product. Some features may require additional software.

The way it's meant to be played™
nVIDIA.