GRAPHICS INFERNO

The cinematic computing revolution continues with the introduction of the most powerful members of the NVIDIA® GeForce™ FX family—the GeForce FX 5900 graphics processing units (GPUs). Architected for blazing speeds and delivering unmatched visual quality, the GeForce FX 5900 GPUs ignite PC gaming. Powered by the second-generation NVIDIA CineFX™ engine with the industry's only true 128-bit precision processing—the GeForce FX 5900 GPUs take cinematic quality special effects to new levels while providing the industry's most compatible and reliable gaming platform.

ARCHITECTED FOR BLAZING SPEEDS

Continuing the NVIDIA tradition of incorporating only the best engineering process and design techniques, the GeForce FX 5900 GPUs take advantage of the most sophisticated 0.13 micron process technology. This enables higher performance through faster clock rates. The GeForce FX 5900 GPUs also introduce NVIDIA Intellisample™ high-resolution compression technology (HCT), which extends the experience of ultra-realistic visuals at lightning-fast speeds to higher resolutions and antialiasing levels.

Previous compression technology is brought to the next level with new algorithms that compress more texels, pixels, and z values than ever before. Combined with a 256-bit memory bus and with support for up to 256 MB, the GeForce FX 5900 GPUs deliver more memory bandwidth and efficiency to power today's most advanced games like *Doom III*™ from id Software at blistering frame rates.

UNMATCHED VISUAL QUALITY

In addition to performance enhancements, Intellisample HCT delivers the highest-quality antialiasing for ultra-realistic visuals with no jagged edges. Intellisample HCT includes an advanced anisotropic engine designed to deliver true anisotropic filtering for incredible image quality without performance degradation. The advanced antialiasing and anisotropic filtering techniques combined with the industry's only true 128-bit precision computation capabilities result in image quality unmatched by any other solution.

NEW GENERATION OF GAMING EFFECTS

Delivering a new level of advanced programmable techniques, the GeForce FX 5900 GPUs continue the shift of PC special effects toward cinematic quality. The GeForce FX 5900 GPUs introduce the revolutionary NVIDIA UltraShadow™ technology for shadow-intensive, next-generation games like *Doom III* and Contraband Entertainment's *Abducted*. Advanced pixel shaders in the new CineFX 2.0 engine deliver up to double the floating-point pixel shader power of previous-generation GPUs, allowing for faster, more efficient execution of even

Abducted image courtesy Contraband Entertainment.

the most complex pixel shading tasks. In addition, CineFX 2.0 continues to deliver the highest level of image quality and film-industry levels of precision through true 128-bit precision computing, enabling special effects on par with Hollywood films. With the most complete support for high-level shading languages like Cg and Microsoft® HLSL, the NVIDIA GeForce FX 5900 GPUs simplify access to all of these innovations, and facilitate a new generation of cinematic gaming.

THE ULTIMATE GAMING PLATFORM

The performance, compatibility, and reliability of NVIDIA GPUs make them the platform of choice for PC gamers worldwide. That's why today's hottest games are developed on NVIDIA, to be played on NVIDIA. With support for the latest APIs including Microsoft DirectX® 9.0 and OpenGL® 1.4, GeForce FX GPUs unleash stunning cinematic graphics and lifelike characters at blazing speeds. Look for the "NVIDIA®: The way it's meant to be played™" seal on games and PC hardware for the ultimate "install-and-play" experience. Equip yourself with an NVIDIA GeForce FX GPU so you can play your game the way it's meant to be played.

STALKER: Oblivion Lost image courtesy GSC Game World.

GEFORCE FX 5900 GPU SPECIFICATIONS

256-BIT ADVANCED MEMORY INTERFACE
- Wider memory data path with next generation controller technology for superior performance and throughput

NVIDIA CINEFX 2.0 ENGINE
- Advanced pixel shaders deliver 2x the floating-point shader pixel performance of previous generations
- Support for Microsoft® DirectX® 9.0 (DX9) pixel shader 2.0+
- Support for DX9 vertex shader 2.0+
- Long pixel programs up to 1,024 instructions
- Long vertex programs up to 256 static instructions with up to 65,536 instructions executed
- Dynamic, conditional execution and flow control
- Architected for Cg and Microsoft HLSL for maximum compatibility with next-generation content
- 128-bit, studio-quality, floating-point precision computation through the entire rendering pipeline
- Native hardware support for 32 bpp, 64 bpp and 128 bpp rendering modes
- Up to 12 pixel shader operations/clock
- Up to 16 textures per rendering pass
- Support for sRGB texture format for gamma textures
- DirectX and S3TC texture compression
- Optimized for 32-, 24-, 16-, 15- and 8-bpp modes
- True-color, 64x64 hardware cursor alpha
- Multibuffering (double, triple or quad) for smooth animation and video playback

INTELLISAMPLE HCT PERFORMANCE TECHNOLOGY
- Increased visual quality at higher resolutions through advances in compression, anisotropic filtering, and antialiasing technology
- Blistering-fast antialiasing and compression performance
- Support for advanced lossless compression algorithms for both color, texture, and z data at even higher resolutions and frame rates
- Fast z-clear

ULTRASHADOW TECHNOLOGY
- Accelerates shadow volumes for next-generation games
- Accurately maintains shadows while discarding non-useful information

ADVANCED DISPLAY PIPELINE WITH FULL NVIDIA NVIEW™ CAPABILITIES
- Integrated NTSC/PAL TV encoder supporting resolutions up to 1024x768 without the need for panning with built-in Macrovision copy protection
- DVD and HDTV-ready MPEG-2 decoding up to 1920x1080i resolutions
- Dual, integrated 400MHz RAMDACs for display resolutions up to and including 2048x1536@85Hz
- Dual DVO ports for interfacing to external TMDS transmitters
- Internal TV support
- VIP 1.1 interface support for Video In function
- Microsoft Video Mixing Renderer (VMR) support for multiple video windows with full video quality and features in each window

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

ADVANCED TECHNOLOGY
- AGP 8X including Fast Writes and sideband addressing
- 0.13-micron process technology for higher levels of integration and higher operating clock speeds
- Advanced thermal management and thermal monitoring
- 40 mmx40 mm, BGA 1309 flip-chip package

BROAD OPERATING SYSTEM SUPPORT
- Microsoft Windows® XP
- Windows ME
- Windows 2000
- Windows 9x
- Macintosh

API SUPPORT
- Comprehensive Microsoft DirectX 9.0 (and lower) support
- OpenGL 1.4 (and lower) support

COMPATIBILITY
- NVIDIA Unified Driver Architecture (UDA)
- Fully compliant professional OpenGL 1.4 API with NVIDIA extensions, on all Linux and Windows operating systems
- WHQL-certified for Windows XP, Windows Me, Windows 2000
- Complete Linux Xfree86 drivers