PRODUCTS

Comparison Chart

NVIDIA Quadro® FX 5600 SDI PCIE

Part No : VCQFX5600SDI-PCIE-PB

FEATURES

NVIDIA Quadro FX 5600 SDI by PNY Technologies provides an ultra-high-end programmable graphics solution that delivers unprecedented graphics performance and features along with a flexible SDI platform that delivers film, digital broadcast and video professionals the ability to customize the card to a particular solution or workflow.
On-air broadcast solutions can integrate the FX 5600 SDI into applications ranging from virtual sets, sports, and weather news systems to compositing live video footage onto virtual backgrounds and sending the result to live video for TV broadcast in SD or HD.

Film and video pre- and post-production workflows utilizing the FX 5600 SDI can preview, in real-time on HD broadcast monitors, the results of 3D compositing, editing, digital intermediates, and color grading.

NVIDIA Quadro SDI technology enables real-time 3D effects in HD or SD and allows direct connection to broadcast monitors, switchers, tape decks, or SDI HD displays or projectors. 2K HD and SD output, along with the new SMPTE-372M and HSDL standards are supported. Uncompressed 8-bit, 10-bit, or 12-bit SDI is available as 2 channels Fill or 1 Fill and 1 Key. YUV/RGB capabilities include 4:2:2 or 4:4:4 or 4:4:4:4. A full featured SDK is also provided.

The FX 5600 GPU features a revolutionary NVIDIA unified architecture that dynamically allocates compute, geometry, and shader processing power to efficiently deliver optimized performance. Featuring the industry's first 1.5GB frame buffer and memory bandwidth up to 76.8GB/sec , the NVIDIA Quadro FX 5600 SDI enables interactive visualization of the largest 64-bit datasets. Innovative NVIDIA CUDA™ technology provides a simplified computing platform for data-intensive applications using a standard C language interface to solve complex computational problems. The reference standard for Shader Model 4.0, the FX 5600 GPU enables next generation ultra-realistic, real-time visualization applications with unprecedented image quality.

Where To Buy

KEY FEATURES & BENEFITS

Uncompressed 8-, 10-, or 12-Bit SDI Output
Enables on-air broadcast, video production and post production professionals to composite and output live video and graphics to true, uncompressed 12-bit SDI in 2K, SD, or HD resolutions and allows direct connection to a broadcast monitor, switcher, tape deck, or SDI projector.
720p 23.98 Hz (SMPTE296)
720p 24.00 Hz (SMPTE296)
720p 25.00 Hz (SMPTE296)
720p 29.97 Hz (SMPTE296)
720p 30.00 Hz (SMPTE296)
720p 50.00 Hz (SMPTE296)
720p 59.94 Hz (SMPTE296)
720p 60.00 Hz (SMPTE296)
1035i 59.94 Hz (SMPTE260)
1035i 60.00 Hz (SMPTE260)
1080i 47.96 Hz (SMPTE274)
1080i 48.00 Hz (SMPTE274)
1080i 50.00 Hz (SMPTE274)
1080i 59.94 Hz (SMPTE274)
1080i 60.00 Hz (SMPTE274)
1080iPsF 23.976 Hz (SMPTE274)
1080iPsF 24.00 Hz (SMPTE274)
1080iPsF 25.00 Hz (SMPTE274)
1080iPsF 29.97 Hz (SMPTE274)
1080iPsF 30.00 Hz (SMPTE274)
1080p 23.976 Hz (SMPTE274)
1080p 24.00 Hz (SMPTE274)
1080p 25.00 Hz (SMPTE274)
1080p 29.97 Hz (SMPTE274)
1080p 30.00 Hz (SMPTE274)
2048x1080p 23.976 Hz (SMPTE372)
2048x1080p 24.00 Hz (SMPTE372)
2048x1080p 25.00 Hz (SMPTE372)
2048x1080p 29.97 Hz (SMPTE372)
2048x1080p 30.00 Hz (SMPTE372)
2048x1080 47.96 Hz (SMPTE372)
2048x1080 48.00 Hz (SMPTE372)
2048x1080 50.00 Hz (SMPTE372)
2048x1080 59.94 Hz (SMPTE372)
2048x1080 60.00 Hz (SMPTE372)
487i 59.94 Hz (SMPTE259) NTSC
576i 50.00 Hz (SMPTE259) PAL

Ancillary Data Support
Support for ancillary data channel (for audio, time code, etc) through an NVIDIA API. Support for the introduction of ancillary data into the out going SDI video is provided through an NVIDIA API. This ancillary data can include up to 16 channels of embedded 24-bit digital audio as defined by SMPTE 272M and SMPTE 299M as well as timecode.

2D Video Pass Through Compositing
2D Video Compositing enables incoming video to be passed through and alpha composited, luma keyed, or chroma keyed with the Quadro rendered graphics image on the outgoing SDI video.

Genlock (House Synchronization)
One genlock (Standard BNC) connector (digital or analog) provides connectivity to a video sync source for SMPTE standard (digital, black burst, tri-level) synchronization. Expanded cross sync functionality permits an incoming house signal to synchronize a much larger number of video output signal formats.

Flicker Filter
The Quadro FX 5600 GPU includes a built-in flicker filter for the high quality rendering of computer graphics images in interlaced formats.

Rotated-Grid Full-Scene Antialiasing (RG FSAA)
The rotated grid FSAA sampling algorithm introduces far greater sophistication in the sampling pattern, significantly increasing color accuracy and visual quality for edges and lines, reducing "jaggies" while maintaining performance.

1.5GB Ultra-Fast Graphics Frame Buffer Memory
Delivers high throughput for interactive visualization of large models and high-performance for real-time processing of large textures and frames and enables the highest quality and resolution full-scene antialiasing (FSAA).

8K Texture and Render Processing
The ability to texture from and render to 8K x 8K surfaces. Beneficial for applications that demand the highest resolution and quality image processing.

Fast 3D Texture Transfer
Fast transfer and manipulation of 3D textures resulting in more interactive visualization of large volumetric dataset.

Next-Generation Vertex and Pixel Programmability Shader Model 4.0
Reference standard for Shader Model 4.0 enabling a higher level of performance and ultra-realistic effects for OpenGL and next generation DirectX 10 industry-leading professional applications.

NVIDIA GPU Unified Architecture
Industry's first unified architecture designed to dynamically allocate compute, geometry, shading and pixel processing power to deliver optimized GPU performance. The NVIDIA UDA guarantees forward and backward compatibility with software drivers. Simplifies upgrading to a new NVIDIA product because all NVIDIA products work with the same driver software.

128-Bit Precision Graphics Pipeline
Enables sophisticated mathematical computations to maintain high accuracy, resulting in unmatched visual quality. Full IEEE 32-bit floating-point precision per color component (RGBA) delivers millions of color variations with the broadest dynamic range.

High Bandwidth GPU Memory
GPU memory acts as high performance level two cache enabling blistering data transfer to and from the GPU for operations such as, rendering, shading, and texturing, and general purpose computation. Supports the world's fastest graphics memory with lower power consumption than previous generation systems.

32-Bit Floating Point Precision for Filtering and Blending
Sets new standards for image clarity and quality through 32-bit floating point capabilities in shading, filtering, texturing, and blending. Enables unprecedented rendered image quality for visual effects processing.

Advanced Color Compression, Early Z-Cull
Improved pipeline color compression and early z-culling to increase effective bandwidth and improve rendering efficiency and performance.

Cg High-Level Graphics Shader Language
Cg—"C for graphics"—is a high-level, open-standard programming language that takes advantage of the power of programmable GPUs. NVIDIA Quadro FX programmable graphics pipelines leverage high-level shading languages to enable the creation and integration of real-time photorealistic effects into 3D models, scenes, and designs. This represents a key enabler for the creation of real-time, photo-realistic visuals within CAD, DCC, and scientific applications.

GPU Computing
NVIDIA CUDA provides a C language environment and tool suite in combination with high performance visualization unleashes new capabilities to solve highly complex challenges such as real-time ray tracing and interactive volume rendering.

NVIDIA Graphics API Extensions
NVIDIA provides a set of extensions to standard graphics APIs for Linux and Windows, enabling applications to take maximum advantage of state-of-the-art GPU capabilities.

Hardware 3D Window Clipping
Hardware accelerated clip regions (data transfer mechanism between a window and the frame buffer) improve overall graphics performance by increasing transfer speed between color buffer and frame buffer.

Hardware-Accelerated Pixel Read-Back
Up to 2.4GBps pixel read-back performance delivers massive host throughput.

Highest Workstation Application Performance
Next-generation architecture enables over 2x improvement in geometry and fill rates with the industry's highest performance for professional CAD, DCC, and scientific applications.

High-Performance Display Outputs
400 MHz RAMDACs and up to two dual-link DVI digital connectors drive the highest resolution digital displays available on the market.

NVIDIA High Precision High Dynamic Range (HDR) Technology
Sets new standards for image clarity and quality through floating point capabilities in shading, filtering, texturing, and blending. Enables unprecedented rendered image quality for visual effects processing.

NVIDIA PureVideo HD Technology
The ultimate high-definition movie experience on your PC by combining high-definition movie decode acceleration and post-processing on HDCP enabled platform, HDCP circuitry, and integration with HD movie players. It delivers superb picture quality for all video formats, as well as stunning HD DVD and Blu-ray movies—with low CPU utilization and power consumption.

PCI Express Certified
PCI Express is an Intel bus architecture that doubles the bandwidth of the AGP 8X bus, delivering greater than 2GBps in both upstream and downstream data transfers.

Single Dual-Link Digital Display Connector
Dual-link TMDS transmitter supports ultra-high-resolution panels (up to 3840 x 2400 @24Hz) —which result in amazing image quality producing detailed photorealistic images.

Ultra quiet design.
Accoustics lower than most desktops at sub 40dB for a quiet desktop environment.

Compatible with Industry Standard Architectures
Compatible with x86 32 and 64-bit microprocessor architectures and operating systems from Intel/AMD and Microsoft/Linux.

Unmatched Color Precision
Full 128-bit precision graphics pipeline enables sophisticated mathematical computations to maintain high accuracy, resulting in unmatched visual quality. Full IEEE 32-bit floating-point precision per color component (RGBA) delivers millions of color variations with the broadest dynamic range.

NVIDIA Quadro FX 5600 by PNY Architecture
- 128-bit color precision
- Unlimited fragment instruction
- Unlimited vertex instruction
- 3D volumetric texture support
- Single-system power-wall
- 12 pixels per clock rendering engine
- Hardware accelerated antialiased points and lines
- Hardware OpenGL overlay planes
- Hardware accelerated two-sided lighting
- Hardware accelerated clipping planes
- 3rd generation occlusion culling
- 16 textures per pixel in fragment programs
- Window ID clipping functionality
- Hardware accelerated line stippling

Shading Architecture
- Full Shader Model 4.0 (Open GL 2.1,DirectX 10 class)
- Long fragment programs (unlimited instructions)
- Long vertex programs (unlimited instructions)
- Looping and subroutines (up to 256 loops per vertex program)
- Dynamic flow control
- Conditional execution

High Level Shader Languages
- Optimized compiler for Cg and Microsoft HLSL
- OpenGL 2.1 and DirectX 10 support
- Open source compiler

High-Resolution Antialiasing
- 12-bit subpixel sampling precision enhances antialiasing quality
- Rotated Grid Full-Scene Antialiasing (RG FSAA)
- 32x FSAA dramatically reduces visual aliasing artifacts or "jaggies" at resolutions up to 1920 x 1200

Display Resolution Support
- Single dual link DVI-I output drives a digital display at resolutions up to 3840 x 2400 at 24Hz
- Internal 400MHz DAC drives an analog display up to 2048 x 1536 at 75Hz

NVIDIA nView Architecture
- Advanced multi-display desktop and application management seamlessly integrated into Microsoft Windows

Product Specifications
- Physical dimensions (FX 5600): ATX form factor, 4.38 inches x 12.28 inches
- Physical dimensions (SDI Option Card): ATX form factor, 3.875 inches x 6.60 inches
- Frame buffer memory: 1.5GB GDDR 3
- Memory interface: 384-bit
- Memory bandwidth: 76.8GB/sec.
- Maximum power consumption (FX 5600): 171W
- Maximum power consumption (SDI Option Card): 20W
- Graphics bus (FX 5600): PCI Express x16
- Display connectors (FX 5600):DVI-I dual link, stereo
- Connectors (SDI Option Card): BNC IN, BNC key, BNC input (sync)
- Auxiliary power connectors (FX 5600): Yes (2)
- Auxiliary power connectors (SDI Option Card): Yes (1)
- Number of slots: 3 (FX 5600 dual slot width, SDI Option Card single slot)
- Thermal solution: Active transiink

Package Contains
- NVIDIA Quadro FX 5600 by PNY graphics board
- NVIDIA Quadro SDI Option by PNY daughter board
- DVI-I to VGA adapter
- Auxiliary power connector cables (3)
- SDI crossover cable and ribbon connector cable
- Drivers for Windows® XP and 2000
- Detailed Installation Guide
- Quickstart Installation Guide
- Quadro Application Utilities on CD-ROM (MAXtreme™, POWERdraft™)

Supported Operating Systems
- Microsoft® Windows® XP (64-bit and 32-bit)
- Microsoft Windows 2000 (32-bit)
- Linux - full OpenGL implementation with NVIDIA and ARB extensions (64-bit and 32-bit) AMD64, Intel EM64T

Minimum System Requirements
- PC compatible with Intel Pentium® 4/Xeon® or AMD Opteron® class processor or higher
- Open PCI Express x16 lane slot and adjacent vacant slot (for FX 5600)
- Open PCI Express or PCI slot (for SDI Option Card)
- Microsoft Windows Vista, XP, 2000, or Linux
- 1GB system memory
- 100MB of available disk space for full installation
- CD-ROM or DVD-ROM drive
- VGA or DVI-I compatible display
- 750W power supply

SKUs and EAN
- Retail: VCQFX5600SDI-PCIE-PB
- EAN: 3536403333867

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