

Overview

Models

NVIDIA Quadro FX 4500 PCIe (512 MB) Graphics Controller

EA762AA

NVIDIA Quadro G-Sync Card (requires NVIDIA Quadro FX 4500 Controller to be installed)

ED0887AA

Introduction

The ultra-high end NVIDIA Quadro FX 4500 graphics card offers high-end workstation features and performance, including 512 MB of high-speed GDDR3 memory and dual card SLI support with HP's AMD Opteron-based workstation.

With NVIDIA High-Precision Dynamic-Range (HPDR) Technology, the Quadro FX 4500 sets new standards for image clarity and quality through full IEEE 32-bit floating point precision per color component in shading, filtering, texturing and blending. Performance and features include 512 MB GDDR3 memory, Rotated-Grid Full-Scene Antialiasing (FSAA) and performance optimized OpenGL and DirectX drivers. Features also include support of Scalable Link Interface (SLI) Technology which enables the FX 4500 to be linked together with other FX products via an intelligent communication protocol resulting in true graphics scaling to optimum levels of performance and quality. The Quadro FX 4500 Graphics Controller is a perfect solution for the ultra-high end CAD and professional DCC user communities requiring breakthrough application performance.

The NVIDIA Quadro FX 4500 graphics controller can be used alone or combined with the NVIDIA Quadro G-Sync card for advanced multisystem visualization and multi-device film and video environments.

The NVIDIA Quadro G-Sync is an option card that delivers Frame lock/Genlock functionality to unprecedented levels of industrial realism, visualization and collaborative capabilities. Frame lock allows the display channels from multiple workstations to be synchronized, thus creating one large "virtual display" that can be driven by a multisystem cluster for performance scalability, while Genlock allows the graphics output to be synchronized to an external source, typically for film and broadcast video applications. The NVIDIA Quadro G-Sync requires the installation of an NVIDIA Quadro FX 4500 graphics controller and an available expansion slot.

Key Benefits of the NVIDIA Quadro FX 4500

- 512 MB of GDDR3 graphics memory
- High-Precision Dynamic Range Imaging Technology
- Two dual-link DVI-I outputs
- SLI support
- Full support for Vertex and Shader Model 3.0
- Infinite length vertex and pixel programmability and dynamic flow control
- 12-bit subpixel precision
- Rotated-Grid Full-Scene antialiasing
- OpenGL quad-buffered stereo
- Advanced high-level shading language support for both OpenGL and DirectX
- Optimized and certified for OpenGL 2.0 and DirectX. 9.0c
- Multi-display productivity

Key Benefits of the NVIDIA Quadro G-Sync

- 2 RJ-45 connectors for Framelock synchronization of multiple systems in a cluster environment
- Genlock with a house provided sync signal (1 BNC connector)
- One G-Sync card will support up to two FX 4500 cards installed in the same system (as in xw9300)
- Two Internal ribbon cables included for connection to FX 4500 G-Sync card can be installed in any available slot (PCI or PCI Express). Slot is only used for mechanical stability, no electrical connection is needed.

Performance

The Quadro FX 4500 is optimized for High End 3D imaging, including CAD, DCC, medical, scientific, and oil & gas configurations. Add the NVIDIA Quadro G-Sync for advanced multi-system visualization and multi-device film and video environments.

Compatibility

The Quadro FX 4500 is supported on the following HP Personal Workstations: xw4300, xw4400, xw6400, xw8200, xw8400, xw9300 and xw9400.

The NVIDIA Quadro G-Sync is supported on HP Personal Workstations with a NVIDIA Quadro FX 4500 Graphics Controller installed.

Service and Support

The NVIDIA Quadro FX 4500 and G-Sync cards have a one-year limited warranty or the remainder of the warranty of the HP product in which it is installed. Technical support is available seven days a week, 24 hours a day by phone, as well as online support forums. Parts and labor are available on-site within the next business day. Telephone support is available for parts diagnosis and installation. Certain restrictions and exclusions apply.

Technical Specifications

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| Graphics Controller | NVIDIA Quadro FX 4500 Workstation GPU |
| Bus Type | PCI Express x16 |
| RAMDAC | Dual 400 MHz integrated |
| Memory | 512 MB GDDR3 SDRAM unified graphics memory |
| Connectors | 2 DVI-I analog/digital monitor outputs, 1 3-pin Mini DIN stereo output, DVI-I to VGA adapters included |
| Multi-monitor Support | Dual integrated display controllers supporting up to 2048x1536 @ 75Hz (analog) or 3840x2400 @ 41Hz (digital) on both displays |
| NVIDIA Quadro FX 4500 Architecture | 256-bit memory interface 35.2GB/sec. memory bandwidth Full 128-bit floating point color precision 12-bit subpixel precision 65,536 fragment instruction 65,536 vertex instruction 3D volumetric textures Single-system powerwall 12 pixels per clock rendering engine Hardware accelerated antialiased points & lines Hardware OpenGL® overlay planes Hardware accelerated two-sided lighting Hardware accelerated clipping planes Hardware two-sided lighting 3rd-generation occlusion culling OpenGL quad-buffered stereo Hardware-Accelerated Pixel Read-Back |
| Shading Architecture | 16 textures per pixel in fragment programs Window ID clipping functionality Hardware accelerated line stippling Fully programmable GPU (OpenGL2.0/DirectX 9.0c class) Long fragment programs (up to 65,536 instructions) Long vertex programs (up to 65,536 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 2.0 and DirectX 9.0c support Open source compiler |
| High-resolution Antialiasing | 12-bit subpixel sampling precision enhances AA quality Rotated-grid full-scene antialiasing (RG FSAA) 16x FSAA dramatically reduces visual aliasing artifacts or "jaggies" at resolution up to 1920x1200 |
| Display Resolution Support | Dual Dual Link DVI-I output-drives digital displays at resolutions up to 3840 x 2400 @ 41Hz Internal 400 MHz DACs – Two analog displays up to 2048x1536 @ 75 Hz each |
| nView Architecture | Advanced multi-display desktop & application management seamlessly integrated into Microsoft Windows®. |
| Supported Graphics APIs | OpenGL 2.0 ICD with immediate mode support for all OGL primitive types DirectX 9.0c |
| Available Graphics Drivers | Microsoft Windows XP Professional, Linux - Full Open GL implementation, complete with NVIDIA and ARB extensions. HP qualified drivers may be preloaded or available from the HP support web site: http://welcome.hp.com/country/us/eng/software_drivers.html |

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