

Overview

NVIDIA Quadro M4000 8GB Graphics



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M6V52AA

INTRODUCTION

The NVIDIA Quadro M4000, now based on the new Maxwell GPU architecture, delivers incredible 3D application performance and capability, allowing you to take advantage of dual copy-engines for seamless data movement within GPU memory—all in a flexible, single-slot form factor. 8 GB of GDDR5 GPU memory with ultra-fast bandwidth is ideal for creating and rendering large, complex models. An enhanced display engine drives up to four displays via 4 DisplayPort 1.2 connectors, each connector supporting ultra-high resolutions up to 4096 x 2160 @ 60 Hz with 30-bit color. Plus, NVIDIA Sync (sold separately) allows you to frame-lock multiple displays together and take advantage of SDI video input/output.

The NVIDIA Quadro M4000 is an excellent choice for the most demanding product design challenges. It can also easily handle most media and entertainment needs.

Overview

PERFORMANCE AND FEATURES

- Powerful high end GPU based on the NVIDIA Maxwell GPU architecture in a single slot form factor
 - Large 8GB ultra-fast GDDR5 memory accommodates larger models and datasets
 - Dual copy-engines for fast and efficient data movement within GPU memory
 - Quad-display support that can drive ultra-high resolutions up to 4096 x 2160 @ 60Hz with 30-bit color depth
 - Support for NVIDIA® Quadro® Mosaic, NVIDIA® nView® multi-display technology
 - Professional 3D Stereo Synchronization (sold separately) enables robust control of stereo effect through a dedicated three-pin mini-din connection to directly synchronize 3D stereo hardware to Quadro graphics card.
 - NVIDIA® GPU Boost automatically maximizes application performance in real time while staying within the power and thermal envelope of the card
 - 1664 CUDA parallel processing cores providing up to 2.6 TFlops (single precision) is well suited to accelerate single precision computing workflows
 - Comprehensive set of ISV application certifications
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COMPATIBILITY

The NVIDIA Quadro M4000 is supported in the following HP Z Workstations:

- Z240 Tower, Z440, Z640, Z840

SERVICE AND SUPPORT

The NVIDIA Quadro M4000 has 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

TECHNICAL SPECIFICATIONS

Form Factor	Dimensions: 4.4" H x 9.5" L Single Slot, Full Height Cooling: Active Weight: 475 grams (without extender)
Graphics Controller	NVIDIA Quadro M4000 GPU: GM204 with 1664 CUDA cores Power: 120 Watts
Bus Type	PCI Express 3.0 x16
Memory	Size: 8GB GDDR5 Memory Bandwidth: 192 GB/s Memory Width: 256-bit
Connectors	4 DisplayPort 1.2a Factory configured Option: No video cable adapter included After market option kit: No video cable adapter included Additional DisplayPort-to-VGA or DisplayPort-to-DVI adapters are available as accessories
Maximum Resolution	DisplayPort: - single DisplayPort up to 4096 x 2160 x 30 bpp @ 60Hz - supports High Bit Rate 2 (HBR2) and Multi-Stream Transport (MST) DL-DVI(I) output: - up to 2560 x 1600 x 32 bpp @ 60Hz Single Link-DVI(I) output: - up to 1920 x 1200 x 32 bpp @ 60Hz VGA (via adapter cable): - 2048 x 1536 x 32 bpp at 85 Hz
Image Quality Features	12-bit internal display pipeline (hardware support for 12-bit scanout on supported panels, applications and connection) NVIDIA® 3D Vision™ technology, 3D DLP, Interleaved, and other 3D stereo format support Full OpenGL quad buffered stereo support Support for large-scale, ultra-high resolution visualization using the NVIDIA® SVS platform which includes NVIDIA® Mosaic, NVIDIA® Sync and NVIDIA® Warp/Blend technologies

Technical Specifications

Display Output

Maximum number of displays

- 4 direct attached monitors
- 4 using DP 1.2a with MST and HBR2 enabled monitors

Maximum number of DisplayPort displays possible:

- 4 1920x1200
- 4 2560x1600
- 4 4096x2160
- 2 5120x2880 (requires dual DP input capable 5k displays)

Maximum number of monitors across all available Quadro M4000 outputs is 4.

Shading Architecture

Shader Model 5.0

Supported Graphics APIs

OpenGL 4.5
DirectX 12

API support includes:
CUDA C, CUDA C++, DirectCompute 5.0, OpenCL, Java, Python, and Fortran

Available Graphics Drivers

Microsoft Windows 10
Microsoft Windows 8.1
Microsoft Windows 8
Microsoft Windows 7
Linux - Full OpenGL 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/en/support.html>

Notes

1. Configurations using the Quadro M4000 graphics card in HP Z440 Workstation require the HP Z440 Fan and Front Card Guide Kit, configurable from the factory (CTO PN: G8T99AV) or as an Aftermarket Option (AMO PN: J9P80AA).

Summary of Changes

Date of change:	Version History:		Description of change:
	From v1 to v2		

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