PART NUMBER:
VCQM6000-24GB-PB

NVIDIA Quadro M6000 24 GB
REAL INTERACTIVE EXPRESSION

The NVIDIA M6000 24GB is the world's most powerful workstation graphics card, giving you the extreme performance and on-board memory to take on your biggest visualization challenges.

The World's Most Powerful Workstation Graphics Card

Artists, animators, and editors can now work in realtime on their most complex projects with multiple layers and advanced effects. Plus, product designers and engineers don't have to compromise on model complexity or image quality when working on large assemblies; they can now integrate interactive, physically based rendering and simulation to evaluate product design and functionality in entirely new ways. Geophysicists can also accelerate their time-to-insight in seismic exploration by holding substantially larger data sets in memory for faster processing and analysis.

Quadro cards are certified with a broad range of sophisticated professional applications, tested by leading workstation manufacturers, and backed by a global team of support specialists. This gives you the peace of mind to focus on doing your best work. Whether you're developing revolutionary products or telling spectacularly vivid visual stories, Quadro gives you the performance to do it brilliantly.

PNY provides unsurpassed service and commitment to its professional graphics customers. In addition, PNY delivers a complete solution that includes the appropriate adapters, cables, brackets, driver software installation disc, and documentation to ensure a quick and successful install.

PRODUCT SPECIFICATIONS

GPU MEMORY	24 GB GDDR5
MEMORY INTERFACE	384-bit
MEMORY BANDWIDTH	317 GB/s
GPU PROCESSING CORES	3072
SYSTEM INTERFACE	PCI Express 3.0 x16
MAX POWER CONSUMPTION	250 W
THERMAL SOLUTION	Ultra-quiet Active Fansink
FORM FACTOR	112.2 mm (H) x 266.7 mm (L) Dual Slot, Full Height
DISPLAY CONNECTORS	1 x DVI-I DL, 3D Stereo Support[1] 4 x DP1.2 (1 x DP with Audio)
MAX SIMULTANEOUS DISPLAYS	4 direct, 4 DP 1.2 Multi-Stream
MAX DP 1.2 RESOLUTION	4096 x 2160 @ 60 Hz
MAX DVI-I DL RESOLUTION	2560 x1600 @ 60 Hz 1920 x1200 @ 120 Hz
MAX DVI-I SL RESOLUTION	1920 x1200 @ 60 Hz[1]
MAX VGA RESOLUTION	2048 x 1536 at 85 Hz
GRAPHICS APIS	Shader Model 5.0, OpenGL 4.5[3], DirectX 12[4]
COMPUTE APIS	CUDA, DirectCompute, OpenCL
PART NUMBER	VCQM6000-24GB-PB
EAN NUMBER	3536403348236

FEATURES

- Support for any combination of four connected displays
- Four DisplayPort 1.2 Connectors
- DisplayPort with Audio
- One DVI-I Dual-Link Connector
- VGA Support[1]
- 3D Stereo Support[1]
- NVIDIA GPUDirect™ Support
- Quadro Sync Compatibility
- Stereo Connector[1]
- NVIDIA nView® multidisplay technology
- NVIDIA Mosaic[2]

PACKAGE CONTENTS

- NVIDIA Quadro M6000 24GB Professional Graphics Board
- Software Installation Disc
- Printed Quick Start Guide
- 8-Pin Auxiliary Power Cable
- Stereo Connector Bracket
- Three DisplayPort to DVI-D SL Adapters
- DVI to VGA Adapter

[1] Via supplied or optional adapter/connector/bracket [2] Windows 7, 8, 8.1, 10 and Linux
[3] Product is based on a published Khronos Specification, and is expected to pass the Khronos Conformance Testing Process when available. Current conformance status can be found at www.khronos.org/conformance
[4] GPU supports DX 12.0 API, Hardware Feature Level 12_1

Quadro M6000 24GB - TECHNICAL SPECIFICATIONS AND FEATURES

QUAD-DISPLAY SUPPORT	A new display engine drives up to four displays and DisplayPort 1.2 support for ultra-high resolutions up to 4096x2160 @ 60 Hz with 30-bit color. NVIDIA SYNC allows multiple displays to be frame-locked together.
REAL INTERACTIVE EXPRESSION	The NVIDIA Quadro M6000, accelerated by NVIDIA's Maxwell™ GPU architecture, lets you conquer your most challenging visualization workloads with ease and enjoy interactive physically based rendering of your work.
24 GB GDDR5 GPU MEMORY WITH ULTRA-FAST BANDWIDTH	24 GB of GDDR5 GPU memory with ultra-fast bandwidth allows you to create and render large, complex models and compute massive datasets.

Quadro M6000 24GB - FEATURES

- DisplayPort 1.2
- DisplayPort with Audio
- DVI-D Dual-Link Connector
- VGA Support
- Professional 3D Support
- NVIDIA 3D Vision™ Pro
- Quadro Sync Compatibility
- HD SDI Capture/Output Compatibility

- NVIDIA GPUDirect™ Support
- NVIDIA nView® Desktop Management Software Compatibility
- Stereo Connector[1]
- HDCP Support
- NVIDIA Mosaic Mode
- Energy Star Enabling

QUADRO M6000 24 GB - TECHNICAL SPECIFICATIONS

SUPPORTED PLATFORMS
- Microsoft Windows 8.1 (64-bit and 32-bit)
- Microsoft Windows 8 (64-bit and 32-bit)
- Microsoft Windows 7 (64-bit and 32-bit)
- Linux® - Full OpenGL implementation, complete with NVIDIA and ARB extensions (64-bit and 32-bit))

3D GRAPHICS ARCHITECTURE
- Scalable geometry architecture
- Hardware tessellation engine
- NVIDIA® GigaThread™ engine with dual copy engines
- Shader Model 5.0 (OpenGL 4.5[2] and DirectX 12)
- Up to 16K x16K texture and render processing
- Transparent multisampling and super sampling
- 16x angle independent anisotropic filtering
- 128-bit floating point performance
- 32-bit per-component floating point texture filtering and blending
- 64x full scene antialiasing (FSAA)/128x FSAA in SLI Mode
- Decode acceleration for MPEG-2, MPEG-4 Part 2 Advanced Simple Profile, H.264, MVC, VC1, DivX (version 3.11 and later), and Flash (10.1 and later)
- Dedicated H.264 Encoder
- Blu-ray dual-stream hardware acceleration (supporting HD picture-in-picture playback)
- NVIDIA GPU Boost (Maximum application performance through automatic adjustment of the GPU clock rate within the specified power envelope in real-time))

PARALLEL COMPUTING CAPABILITIES
- SMX Architecture (streaming multi-processor design that delivers greater processing and efficiency)
- Hyper Q (allows multiple CPU cores to simultaneously utilize a single M6000 GPU to execute independent compute kernels)
- Dynamic Parallelism (GPU dynamically spawns new threads without going back to the CPU)

- API support includes: CUDA C, CUDA C++, DirectCompute 5.0, OpenCL, Java, Python, and Fortran
- NVIDIA® Parallel DataCache™ hierarchy (per SM L1 and unified L2 caches)
- Error correction codes (ECC) memory on graphics memory
- 96 KB of RAM (dedicated shared memory per SM)

ADVANCED DISPLAY FEATURES
- 30-bit color (10-bit per each red, green, blue channel)
- Support for any combination of four connected displays
- Dual DisplayPort 1.2 (supporting resolutions such as 4096x2160 @60 Hz)
- Dual-link DVI-I output (up to 2560 x1600 @ 60 Hz and 920x1200 @ 120 Hz)
- Internal 400 MHz DAC DVI-I output analog display up to 2048x1536 @ 85 Hz
- DisplayPort to VGA, DisplayPort to DVI (single-link and dual-link) and DisplayPort to HDMI cables (resolution support based on dongle specifications)
- HDCP support over DisplayPort, DVI and HDMI connectors
- 12-bit internal display processing (hardware support for 10-bit scanout for both windowed desktop and full screen, only available on Windows and Linux with Aero disabled)
- NVIDIA 3D Vision™ technology, 3D DLP, interleaved, and other 3D stereo format support
- Full OpenGL quad buffered stereo support
- Underscan/overscan compensation and hardware scaling
- Support for NVIDIA® nView® multi-display technology
- Support for large-scale, ultra-high resolution visualization using the Quadro SVS platform which includes NVIDIA® Mosaic, NVIDIA® Sync and NVIDIA® Warp/Blend technologies

DISPLAY PORT AND HDMI DIGITAL AUDIO
- Support for the following audio modes: Dolby Digital (AC3), DTS 5.1, Multichannel (7.1) LPCM, Dolby Digital Plus (DD+), and MPEG-2/MPEG-4 AAC
- Data rates of 44.1 KHz, 48 KHz, 88.2 KHz, 96 KHz, 176 KHz, and 192 KHz
- Word sizes of 16 bits, 20 bits, and 24 bits

PACKAGE CONTENT:

- 3 x DP to DVI (SL) adapter   P/N: **QSP-DPDVISL**
- 1 x DVI to VGA adapter   P/N: **QSP-DVIVGA**
- 1 x Stereo Connector   P/N: **QSP-STEREOQ4000-PB**
- Drivers + Installation Guide

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