PART NUMBER:
VCQK6000-PB

PNY Quadro K6000
UNBEATABLE MEMORY AND GRAPHICS PERFORMANCE

The NVIDIA® Quadro® K6000 by PNY GPU leverages the new NVIDIA Kepler™ architecture to deliver the world's most compatible and power-efficient solution for accelerating professional applications.

The NVIDIA Quadro K6000 graphics card is the ultimate expression of NVIDIA's expertise in professional graphics, empowering artists, designers, and engineers to realize their biggest visions. It combines **12 GB of memory**, **2880 NVIDIA CUDA® parallel processing cores**, accelerated double-precision computation, plus the ability to **drive up to four ultra-high-resolution displays** or projectors. This makes the Quadro K6000 the superior choice to bring your largest and most complex projects to life.

Designed and built specifically for professional workstations, NVIDIA Quadro GPUs power more than 200 professional applications across a broad range of industries including manufacturing, media and entertainment, sciences, and energy. Professionals trust them to realize their most ambitious visions—whether it's product design, visualization and simulation, or spectacular visual storytelling—and get results to market faster.

NVIDIA Quadro by PNY GPUs are designed, built, and tested by NVIDIA specifically for professional workstations powering more than 150 professional applications across a broad range of industries, including manufacturing, media and entertainment, sciences, and energy.

For maximum application performance, add an NVIDIA Tesla® by PNY K20 co-processor to your workstation and experience the power of NVIDIA Maximus™ technology.

QUADRO K6000 - PRODUCT SPECIFICATIONS

GPU MEMORY	12 GB GDDR5
MEMORY INTERFACE	384-bit
MEMORY BANDWIDTH	288 GB/s
CUDA CORES	2880
SYSTEM INTERFACE	PCI Express 3.0 x16
MAX POWER CONSUMPTION	225 W
THERMAL SOLUTION	Ultra-quiet active fansink
FORM FACTOR	110 mm (H) x 265 mm (L) Dual Slot, Full Height
DISPLAY CONNECTORS	1 x DVI-I DL 1 x DVI-D DL 2 x DP1.2 1 x Stereo
MAX SIMULTANEOUS DISPLAYS	4
MAX DP 1.2 RESOLUTION	4096 x 2160 @ 60 Hz
MAX DVI-I DL RESOLUTION	2560 x1600 @ 60 Hz 1920 x1200 @ 120 Hz
MAX VGA RESOLUTION	2048 x 1536 at 85 Hz
GRAPHICS APIS	Shader Model 5.0, OpenGL 4.3, DirectX 11
COMPUTE APIS	CUDA, DirectCompute, OpenCL
PACKAGE CONTENT	- 2 x DP to DVI (SL) adapter P/N: QSP-DPDVISL - DVI to VGA adapter P/N: QSP-DVIVGA - Stereo Additional Connector P/N: QSP-STEREOQ4000-PB
PART NUMBER	VCQK6000-PB

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QUADRO K6000 - FEATURES

QUAD-DISPLAY SUPPORT	All-new display engine drives up to four displays simultaneously and fully supports the next-generation DisplayPort 1.2 standard capable of resolutions up to 3840x2160. This makes it easy to deploy multiple displays across a desktop, build an expansive digital signage wall, or create a sophisticated stereoscopic 3D CAVE environment.
BINDLESS TEXTURES	Dramatically increases the number of unique textures available to shaders at run-time, enabling vastly more materials and richer texture detail in scenes
NVIDIA SMX	Delivers more processing performance and efficiency through a new, innovative streaming multiprocessor design that allows a greater percentage of space to be applied to processing cores versus control logic
NVIDIA FXAA AND TXAA	Reduces visible aliasing and delivers higher image quality without the performance hit by harnessing the power of the GPU's CUDA cores and new film-style anti-aliasing techniques

FEATURES

>> DisplayPort 1.2
>> DisplayPort with Audio
>> DVI-D Single-Link Connector
>> VGA Support[1]
>> Professional 3D Support[1]
>> NVIDIA 3D Vision™ Pro[1]
>> Quadro Sync Compatibility
>> HD SDI Capture/Output Compatibility
>> NVIDIA GPUDirect™ Support[1]
>> NVIDIA nView® Desktop Management Software Compatibility
>> Stereo Connector
>> HDCP Support
>> NVIDIA Mosaic Mode[2]
>> Energy Star Enabling

QUADRO K6000 - TECHNICAL SPECIFICATIONS

SUPPORTED PLATFORMS

>> Microsoft Windows 8 (64-bit and 32-bit)
>> Microsoft Windows 7 (64-bit and 32-bit)
>> Microsoft Windows Vista (64-bit and 32-bit)
>> Microsoft Windows XP (64-bit and 32-bit)
>> Linux® - Full OpenGL implementation, complete with NVIDIA and ARB

3D GRAPHICS ARCHITECTURE

>> Hardware tessellation engine
>> NVIDIA® GigaThread™ engine with dual copy engines
>> Shader Model 5.0 (OpenGL 4.3 and DirectX 11)
>> 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
>> FXAA and TXAA full scene antialiasing
>> 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 CUDA PARALLEL PROCESSING ARCHITECTURE

>> SMX architecture (streaming multiprocessordesign that delivers greater processing and efficiency)
>> API support, including:
> CUDA C, CUDA C++, DirectCompute 5.0, OpenCL, Java, Python, and Fortran
>> NVIDIA Parallel DataCache hierarchy (configurable L1 and unified L2 caches)
>> Error-correction codes (ECC) memory
>> 64 KB of RAM (configurable partitioning of shared memory and L1 cache)
>> Dual Warp Scheduler (schedules and dispatches simultaneously instructions from two independent warps)

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 **3840x2160 @60 Hz**)
>> Dual-link DVI-I/DVI-D outputs (up to **2560 x1600 @ 60 Hz** and **1920x1200 @ 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)
>> DisplayPort 1.2, HDMI, and HDCP support
>> 10-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
>> NVIDIA nView® multi-display technology
>> Support for large-scale, ultra-high resolution visualization using the Quadro SVS platformwhich includes Quadro Mosaic, Quadro Sync and 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+), andMPEG-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:

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


QSP-DPDVISL


QSP-DVIVGA


QSP-STEREOQ4000-PB

PNY PROFESSIONAL RANGE OF PRODUCTS

PNY Professional Solutions NVIDIA Quadro® / NVIDIA Tesla® / Prevail SSDs	QUADRO 410 	QUADRO K600 	QUADRO K2000 	QUADRO K2000D 	QUADRO K4000 	QUADRO K5000 MAC 	QUADRO K5000 	QUADRO K6000 
CUDA PARALLEL PROCESSING CORES	192	192	384	384	768	1536	1536	**2880**
FRAME BUFFER MEMORY	512 Mo DDR3	1 GB DDR3	2 GB GDDR5	2 GB GDDR5	3 GB GDDR5	4 GB GDDR5	4 GB GDDR5	**12 GB GDDR5**
MEMORY INTERFACE	64-bit	128-bit	128-bit	128-bit	192-bit	256-bit	256-bit	**384-bit**
MEMORY BANDWIDTH	14 GB/s	29 GB/s	64 GB/s	64 GB/s	134 GB/s	173 GB/s	173 GB/s	**288 GB/s**
MAX POWER CONSUMPTION	38 W	41 W	51 W	51 W	80 W	122 W	122 W	**225 W**
GRAPHICS BUS	PCI Express 2.0 x16	PCI Express 2.0 x16	PCI Express 2.0 x16	PCI Express 2.0 x16	PCI Express 2.0 x16	PCI Express 3.0 x16	PCI Express 3.0 x16	**PCI Express 3.0 x16**
DISPLAY CONNECTORS	(1) DVI-I (1) DP 1.2	(1) DVI-I (1) DP 1.2	(1) DVI-I (2) DP 1.2	(1) DVI-I (1) DVI-D (1) mDP 1.2	(1) DVI-I (2) DP 1.2	(1) DVI-I (1) DVI-D (2) DP 1.2 (1) Optional Stereo	(1) DVI-I (1) DVI-D (2) DP 1.2 (1) Optional Stereo	**(1) DVI-I (1) DVI-D (2) DP 1.2 (1) Optional Stereo**
FORM FACTOR	69 mm (H) x 160 mm (L) Single Slot	69 mm (H) x 160 mm (L) Single Slot	110 mm (H) x 200 mm (L) Single Slot	110 mm (H) x 200 mm (L) Single Slot	110 mm (H) x 240 mm (L) Single Slot	110 mm (H) x 265 mm (L) Dual Slot	110 mm (H) x 265 mm (L) Dual Slot	**110 mm (H) x 265 mm (L) Dual Slot**
THERMAL SOLUTION	Active	Active	Active	Active	Active	Active	Active	**Active**
NVIDIA® 3D VISION® AND 3D VISION PRO	Support via USB	Support via USB connection to 3D Vision Hub	Support via USB connection to 3D Vision Hub	Support via USB connection to 3D Vision Hub	3D Vision and 3D Vision Pro via USB and optional 3-pin connection to 3D Vision Pro hubs	Support via 3 pin mini DIN	Support via 3 pin mini DIN	**Support via 3 pin mini DIN**
LOW PROFILE	Yes	Yes	Yes	No	No	No	No	**No**
PART NUMBERS	VCQ410-PB	VCQK600-PB	VCQK2000-PB	VCQK2000DVI-PB	VCQK4000-PB	VCQK5000MAC-PB	VCQK5000-PB	**VCQK6000-PB**
EAN	3536403341299	3536403342173	3536403342098	3536403342135	3536403342050	3536403341770	3536403341503	3536403342869

PNY Professional Solutions NVIDIA Quadro® / NVIDIA Tesla® / Prevail SSDs	QUADRO SYNC 	QUADRO SDI CAPTURE 	QUADRO SDI OUTPUT 
ADD-ON CARD FOR	Quadro K4000 Quadro K5000	Quadro K4000 Quadro K5000	Quadro K4000 Quadro K5000
BUS TYPE	-	PCI-E 2.0 x8	-
CONNECTORS	2x RJ-45 1x BNC	5x BNC	3x BNC 1x DVI-D In
FEATURES	Genlock Frame Lock Swap Lock Synchronization of several workstations, visualisation clusters, caves, videowalls	4x HD-SDI Capture 1x HD-SDI Output 8-Bit, 10-Bit, 12-Bit Ancillary Data SDI capture and postprocessing in realtime. Genlock Preview output	2x HD-SDI Output 8-Bit, 10-Bit, 12-Bit Ancillary Data SDI output and postprocessing in realtime. Genlock

PNY Professional Solutions NVIDIA Quadro® / NVIDIA Tesla® / Prevail SSDs	TESLA C2075 	TESLA K20 
PEAK DOUBLE PRECISION FLOATING POINT PERFORMANCE	515 Gflops	1.17 Tflops
PEAK SINGLE PRECISION FLOATING POINT PERFORMANCE	1030 Gflops	3.52 Tflops
MEMORY BANDWIDTH (ECC OFF)	148 GB/sec	208 GB/sec
MEMORY SIZE (GDDR5)	6 GB	5 GB
CUDA CORES	448	2496
PART NUMBERS	TCS2075-PB	TCSK20CARD-PB
EAN	3536403340193	3536403341695

PNY PROFESSIONAL SSDs	PREVAIL 3K 	PREVAIL 5K 	PREVAIL ELITE 
120 GB	SSD9SC120GCDA-PB	SSDPREV120G5K01-PB	SSD9SC120GEDA-PB
240 GB	SSD9SC240GCDA-PB	SSDPREV240G5K01-PB	SSD9SC240GEDA-PB
480 GB	SSD9SC480GCDA-PB	SSDPREV480G5K01-PB	SSD9SC480GEDA-PB

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