NVIDIA PROFESSIONAL GRAPHICS SOLUTIONS

PNY®
Professional Solutions
NVIDIA Quadro® / NVIDIA Tesla® / NVIDIA Grid®/ SSDs

NVIDIA®

	Part Numbers	NVIDIA CUDA Processing cores	GPU Memory	Memory Bandwidth	Floating-Point Performance (Single Precision) (GigaFlops, Peak)	Error Correcting Code (ECC) Memory	Dual-Link DVI[2]	DisplayPort [1,2,3]	Maximum Active Displays[4]	Maximum Resolution Support @ 60 Hz	FSAA (Maximum)	NVIDIA FXAA Antialiasing	NVIDIA TXAA Antialiasing	NVIDIA Quadro Mosaic Technology	Maximum Power Consumption	NVIDIA Multi-OS Workstation Support	Vulkan Support	GPUDirect for Video	Graphics Syncronization[5]	NVIDIA 3D Vision@ 3D Vision Pro[6]	NVIDIA Multi GPU Technology Enabled[7]
NVIDIA QUADRO for Desktop Workstations																					
Quadro M6000 24GB NEW	VCQM6000-24GB-PB	3 072	24 GB	317 GB/s	7 000	√[8]	1	4	4	4096x2160	64x	√	√	√	250W	√	√	√	√	√	√
Quadro M6000	VCQM6000-PB	3 072	12 GB	317 GB/s	7 000	√[8]	1	4	4	4096x2160	64x	√	√	√	250W	√	√	√	√	√	√
Quadro M5000	VCQM5000-PB	2 048	8 GB	211 GB/s	4 200	√[8]	1	4	4	4096x2160	64x	√	√	√	150W	√	√	√	√	√	√
Quadro M4000	VCQM4000-PB	1 644	8 GB	192 GB/s	2 500		-	4	4	4096x2160	64x	√	√	√	108W		√	√	√	√	√
Quadro M2000 NEW	VCQM2000-PB	768	4 GB	106 GB/s	2 200		-	4	4	4096x2160	64x	√	√	√	75W		√			√	√
Quadro K2200	VCQK2200-PB	384	2 GB	64 GB/s			-	2	4[4]	4096x2160	64x	√	√	√	60W		√			√	√
Quadro K2000D	VCQK2000DVI-PB	384	2 GB	64 GB/s			2	1	3	3840x2160	64x	√	√	√	51W		√			√	√
Quadro K1200	VCQK1200DP-PB VCQK1200DVI-PB	512	4 GB	80 GB/s	1 000		-	4	4	4096x2160	64x	√	√	√	45W					√	√
Quadro K620	VCQK620-PB	384	2 GB	29 GB/s			1	1	2[4]	4096x2160	64x	√	√	√	41W		√			√	√
Quadro K420	VCQK420-2GB-PB	192	2 GB	29 GB/s			1	1	2[4]	3840x2160	64x	√	√	√	45W		√			√	√
NVIDIA TESLA for Desktop Workstations (Co-Processors)																					
Tesla K40	TCSK40CARD-PB	2 880	12 GB	288 GB/s	5 040[10]	√									235W	√	√	√			√
NVIDIA NVS for Desktop Workstations Graphics Boards																					
NVS 810 NEW	VCNVS810DP-PB VCNVS810DVI-PB	1024 512/GPU	4 GB 2 GB/GPU	28.8 GB/s			8[12]	8[11]	8	4096x2160[13]				√	68W		√				
NVS 510	VCNVS510DP-PB VCNVS510DVI-PB VCNVS510VGA-PB	192	2 GB	28.5 GB/s			4[12]	4[11]	4	3840x2160				√	35W		√				
NVS 315	VCNVS315DP-PB VCNVS315DVI-PB	48	1 GB	14 GB/s			2[12]	2[11]	2	2560x1600				√	19,5W		√				
NVS 310	VCNVS310DP-1GB-PB VCNVS310DVI-1GB-PB	48	1 GB	14 GB/s			2[12]	2	2	2560x1600				√	19,5W		√				

NVIDA Quadro Visual Computing Appliance (VCA)

GPUs: 8 High-End NVIDIA GPUs	**GPU Memory**: 12 GB per GPU	**CUDA Cores**: 24,576	**Network**: 2x 1GigE (SFP+), 1x InfiniBand	**Installed Software**: Linux CentOS 6.5, VCA Manager, Iray 2014.3.4 or newer, V-Ray 3.0 or newer
System Memory: 256 GB	**Storage**: 12 TB SSD	**CPU**: XEON E5 (2.8 GHz)	**CPU Cores**: 20 physical cores, 40 hyper-threaded	**Quadro VCA Accelerated Applications**: Autodesk 3ds Max, Autodesk Maya, Autodesk Revit, Cinema 4D, Dassault Systemes CATIA Live Rendering, Dassault Systemes SOLIDWORKS Visualize, Daz 3D Daz Studio, McNeel Rhinoceros

1. CUDA parallel processing cores cannot be compared between GPU generations due to several important architectural differences that exist between designs.
2. Maximum display resolution: 330M Pixels/sec (ex 2560x1600 @ 60hz or 1920x1200@120Hz).
3. Adapters available for DVI-SL, DVI-DL, HDMI, and VGA. NVS 315 offers DP1.2 through the use of DMS-59 to DP1.2 cable.
4. Option to connect a third and/or fourth display using DisplayPort 1.2's new multi-streaming capabilities. 4 Displays require a supported DisplayPort 1.2 Multi-Stream capable hub.
5. Quadro K-series and M-series GPUs are compatible with NVIDIA Quadro Sync.
6. Requires 3D Vision-ready display. Visit www.nvidia.com/3dvision.
7. Quadro K-series and M-series GPUs are compatible with K40 for Desktop and Workstation
8. Ensures data integrity and reliability by eliminating soft errors on both GPU cache and on-board DRAM.

9. Ensures data integrity and reliability by eliminating soft errors on DRAM only.
10. The Single Precision theoretical peak performance is calculated for the highest GPU Boost level of 875MHz.
11. Using included adapters.
12. Using optional adapters.
13. 8 x 4096 x 2160 @ 30 HZ, 4 x 4096 x 2160 @ 60 Hz

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NVIDIA QUADRO BY PNY

ULTRA HIGH-END

		PACKAGE CONTENT	IDEAL FOR
	QUADRO M6000 24GB VCQM6000-24GB-PB [NEW]	3 × DP to DVI (SL) adapters 1 × DVI to VGA adapter 1 × Driver & Quick Installation Guide 1 × Stereo Connector Bracket 1 x Dual 6-pin to 8-pin power cable	Animation - Visualization Broadcast - Video Editing Design Oil & Gas Medical Imaging
	QUADRO M6000 VCQM6000-PB	3 × DP to DVI (SL) adapters 1 × DVI to VGA adapter 1 × Driver & Quick Installation Guide 1 × Stereo Connector Bracket 1 x Dual 6-pin to 8-pin power cable	Animation - Visualization Broadcast - Video Editing Design Oil & Gas Medical Imaging

HIGH-END

		PACKAGE CONTENT	IDEAL FOR
	QUADRO M5000 VCQM5000-PB	3 × DP to DVI (SL) adapters 1 × DVI to VGA adapter 1 × Driver & Quick Installation Guide 1 × Stereo Additional Connector	Animation - Visualization Broadcast - Video Editing Design Manufacturing – large models Medical Imaging
	QUADRO M4000 VCQM4000-PB	4 × DP to DVI (SL) adapter 1 × Stereo Connector Bracket 1 × Driver & Quick Installation Guide	Animation / Video Editing Design Manufacturing – med/large models Medical Imaging

MID-RANGE

		PACKAGE CONTENT	IDEAL FOR
	QUADRO M2000 VCQM2000-PB [NEW]	4 × DP to DVI (SL) adapter 1 × Driver & Quick Installation Guide	Animation / Video Editing Manufacturing – med/large models Medical Imaging
	QUADRO K2200 VCQK2200-PB	2 × DP to DVI (SL) adapter 1 × DVI to VGA adapter 1 × Driver & Quick Installation Guide	Animation Video Editing Manufacturing – medium models
	QUADRO K2000D VCQK2000DVI-PB	1 × mDP to DVI (SL) adapter 1 × DVI to VGA adapter 1 × mDP to DP adapter 1 × Driver & Quick Installation Guide	Animation Video Editing Manufacturing – medium models Medical Imaging
	QUADRO K1200 VCQK1200DP-PB VCQK1200DVI-PB	4 × mDP to DP adapter 4 × mDP to DVI (SL) adapter (DVI)[1] 1 × Driver & Quick Installation Guide 1 x Standard-Height Bracket	Animation Video Editing Manufacturing – medium models

ENTRY-LEVEL

		PACKAGE CONTENT	IDEAL FOR
	QUADRO K620 VCQK620-PB	1 × DP to DVI (SL) adapter 1 × DVI to VGA adapter 1 × Attached Standard-Height Bracket 1 × Unattached LP Bracket 1 × Driver & Quick Installation Guide	Video Editing Manufacturing – small / medium models
	QUADRO K420 VCQK420-2GB-PB	1 × DP to DVI (SL) adapter 1 × DVI to VGA adapter 1 × Attached LP Bracket 1 × Standard-Height Bracket 1 × Driver & Quick Installation Guide	Manufacturing – volume CAD

[1] only included with VCQK1200DVI

NVIDIA TESLA BY PNY

HIGH-PERFORMANCE COMPUTING

	TESLA K80 TCSK80M-PB	- Server	SP Peak Performance: 8.74 Tflops DP Peak Performance: 2.91 Tflops
	TESLA M40 24GB TCSM40M-24GB-PB [NEW] TESLA M40 TCSM40M-PB	- Server	SP Peak Performance: 6.80 Tflops
	TESLA M4 TCSM4M-PB [NEW]	- Server	SP Peak Performance: 2.20 Tflops Power consumption below 75W
	TESLA K40 CARD TCSK40CARD-PB	- Workstation	SP Peak Performance: 4.29 Tflops DP Peak Performance: 1.43 Tflops
	TESLA K40 M TCSK40M-PB	- Server	

VIRTUALIZED GRAPHICS

	TESLA M60 TCSM60M-PB [NEW]	- 2 x High-End Maxwell GPUs	SP Peak Performance: 9.6 Tflops
	GRID K2 VCGRIDK2M-R2L-PB VCGRIDK2M-L2R-PB	2 x High-End Kepler GPUs	Designer / Engineer / Power User
	GRID K1 VCGRIDK1M-PB	4 x Entry Kepler GPUs	Knowledge Worker

NVIDIA NVS BY PNY

MULTI-DISPLAY BUSINESS GRAPHICS

	NVS 810 VCNVS810DP-PB VCNVS810DVI-PB [NEW]	Octa-Display	Financial Trading
	NVS 510 VCNVS510DP-PB VCNVS510DVI-PB VCNVS510VGA-PB	Quad-Display	Digital Signage Call Center
	NVS 315 VCNVS315DP-PB VCNVS315DVI-PB	Dual-Display	General Productivity Applications
	NVS 310 VCNVS310DP-1GB-PB VCNVS310DVI-1GB-PB	Dual-Display	Upgrade From Integrated Graphics

DESIGN / ENGINEERING / MANUFACTURING

Application	GOOD	BETTER	BEST
Altair® HyperWorks®	Quadro M2000	Quadro M4000	Quadro M5000
ANSYS Mechanical™	Multi-GPU Quadro M2000 + Tesla® K40	Multi-GPU Quadro M4000 + Tesla K40	Multi-GPU Quadro M5000 + Tesla K40
ANSYS Fluent®	Multi-GPU Quadro M2000 + Tesla® K40	Multi-GPU Quadro M4000 + Tesla K40	Multi-GPU Quadro M6000 24GB + Tesla K40
AutoCAD® Design Suite (AutoCad + Showcase + 3Ds Max)	Quadro M2000	Quadro M5000	Multi-GPU Quadro M5000 + Tesla K40
Autodesk® AutoCAD®	Quadro K620	Quadro M2000	Quadro M4000
Product Design Suite (Inventor + Showcase + 3Ds Max)	Quadro M2000	Quadro M5000	Multi-GPU Quadro M5000 + Tesla K40
Autodesk Inventor®	Quadro M2000	Quadro M4000	Quadro M5000
Autodesk MoldFlow®	Multi-GPU Quadro K620 + Tesla K40	Multi-GPU Quadro M2000 + Tesla K40	Multi-GPU Quadro M4000 + Tesla K40
Autodesk Mudbox™	Quadro M4000	Quadro M5000	Quadro M6000 24GB
Building Design Suites	Quadro M2000	Quadro M4000	Quadro M5000
Autodesk Revit®	Quadro K620	Quadro M2000	Quadro M4000
Autodesk Showcase™	Quadro M2000	Quadro M4000	Quadro M5000
Autodesk Inventor + 3ds Max®	Quadro M2000	Quadro M5000	Multi-GPU Quadro M5000 + Tesla K40
Autodesk Revit + 3ds Max	Quadro M2000	Quadro M5000	Multi-GPU Quadro M5000 + Tesla K40
Bunkspeed SHOT, PRO, DRIVE	Quadro M4000	Quadro M5000	Quadro M6000 24 GB
Dassault Systèmes SIMULIA Abaqus*	Multi-GPU Quadro M2000 + Tesla K40	Multi-GPU Quadro M4000 + Tesla K40	Multi-GPU Quadro M5000 + Tesla K40
Dassault Systèmes Catia V5 & V6	Quadro M2000	Quadro M4000	Quadro M5000
Dassault Systèmes Catia Live Rendering	Quadro M5000	Multi-GPU 2x Quadro M6000 24GB	Multi-GPU 3x Quadro M6000 24GB
Dassault Systèmes SOLIDWORKS	Quadro M2000	Quadro M4000	Quadro M5000
MathWorks MATLAB	Multi-GPU Quadro K620 + Tesla K40	Multi-GPU Quadro M4000 + Tesla K40	Multi-GPU Quadro M5000 + Tesla K40
MSC Nastran**	Multi-GPU Quadro M2000 + Tesla K40	Multi-GPU Quadro M4000 + Tesla K40	Multi-GPU Quadro M5000 + Tesla K40
PTC Creo	Quadro M2000	Quadro M4000	Quadro M5000
RTT DeltaGen/DeltaView/Delta-View+	Quadro M4000	Quadro M5000	Quadro M6000 24 GB
Siemens NX	Quadro M2000	Quadro M4000	Quadro M5000

MODELING / ANIMATION / VISUALIZATION / EFFECTS

Application	GOOD	BETTER	BEST
Autodesk 3ds Max	Quadro M2000	Quadro M4000	Quadro M5000
Autodesk 3ds Max for GPU Ray Tracing	Quadro M5000	Multi-GPU 2x Quadro M6000 24GB	Multi-GPU 3x Quadro M6000 24GB
Autodesk Maya®	Quadro M4000	Quadro M5000	Quadro M6000 24GB
Autodesk Maya for GPU Ray Tracing	Quadro M6000 24GB	Multi-GPU 2x Quadro M6000 24GB	Multi-GPU 3x Quadro M6000 24GB
Maxon CINEMA 4D	Quadro M2000	Quadro M4000	Quadro M5000
NewTek Lightwave™	Quadro M2000	Quadro M4000	Quadro M5000
Side Effects Houdini	Quadro M6000 24GB	Multi-GPU 2x Quadro M6000 24GB	Multi-GPU 3x Quadro M6000 24GB
Adobe After Effects CC	Quadro M4000	Multi-GPU Quadro M6000 24GB	Multi-GPU 3x Quadro M6000 24GB

VIDEO EDITING

Application	GOOD	BETTER	BEST
Adobe® Premiere Pro® CC	Quadro M2000	Quadro M5000	Multi-GPU 2x Quadro M6000 24GB
Avid® Media Composer®	Quadro M2000	Quadro M4000	-
Grass Valley Edius®	Quadro K620	Quadro M2000	Quadro M4000
Sony Vegas Pro™	Quadro K620	Quadro M2000	Quadro M4000

OIL & GAS

Application	GOOD	BETTER	BEST
Halliburton (Landmark) DecisionSpace®, GeoProbe®	Quadro M4000	Quadro M5000	Quadro M6000 24GB
Paradigm Geophysical VoxelGeo®	Quadro M5000	Quadro M6000 24GB	Multi-GPU 2x Quadro M6000 24GB
Paradigm Geophysical EarthStudy360®	Quadro M4000	Quadro M5000	Quadro M6000 24GB
Schlumberger Petrel	Quadro M4000	Quadro M5000	Quadro M6000 24GB
IHS KINGDOM	Quadro M2000	Quadro M4000	Quadro M5000

* Quadro is for Abaqus/CAE and Tesla is for Abaqus/Standard   ** Quadro is for MSC Patran and Tesla is for MSC Nastran

QUADRO HARDWARE IS BUILT FOR YEARS OF NON-STOP USE

> Quadro cards are built for 24 hours a day, 7 days a week use. Extended availability and support is offered for all professional cards (including bug fixes for professional applications). Quadro boards are built for workplace environments.

> Deployment can be for tens or hundreds of PCs in offices. That is why Quadro cards have more memory, smaller footprints, and consume less power.

> Application certified, meaning the board/driver combination has been tested to work flawlessly on 100% of the certified software features and views professionals use.

QUADRO CARDS COME WITH PROFESSIONAL MANAGEMENT TOOLS,LIKE

> **NVIDIA® nView®** for desktop management, allowing users to create grids and snap applications to them.

> **NVIDIA® Mosaic™** for combining multiple displays into one large display seamlessly without tearing.

> Advanced 3D stereo supports stereoscopic 3D display on HDMI 3D TVs, projectors and displays, allowing for viewing images and ultrasounds in 3D.

PNY ADVANTAGE

PNY PROVIDES UNSURPASSED SERVICE AND COMMITMENT TO ITS PROFESSIONAL GRAPHICS CUSTOMERS

- › 3 year standard warranty
- › Pre-sales support and system configuration assistance
- › Dedicated Field Application engineers
- › Direct tech support hot lines
- › Support escalation for prompt issue resolution
- › Certified software support and bug reporting
- › Published product support and training materials
- › Advanced replacement options for mission-critical deployments
- › Long product life cycles and availability
- › Loyalty partner channel programs

COMPATIBILITY & SUPPORT FOR ALL WORKSTATION BRANDS

PNY WARRANTY EXTENSION SERVICE

› To better protect your investment, PNY offers a comprehensive extended 5 Year warranty to your NVIDIA QUADRO, NVS, TESLA or GRID card from PNY.

Main features:

> **Additional 2 Year Extended Warranty Service** for your NVIDIA card by PNY
> **Advanced Product Replacement** *(for European Union countries, Norway and Switzerland)*

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