



## NVIDIA PROFESSIONAL GRAPHICS SOLUTIONS

Take on your most challenging digital prototyping, visual effects, and geophysical or architectural visualization workloads with the graphics horsepower, realism, and interactivity that only NVIDIA® Quadro® can deliver. It's powered by the latest NVIDIA technologies, features large ultra-fast memory, and supports four displays natively with resolutions of true 4K. Enjoy exceptional accuracy and photorealism in your creative workflow by using NVIDIA Iray® technology\* to reach new levels of interactive, physically based rendering.



### NVIDIA® Quadro® 3D Workstation Professional Graphics Solutions

Designed and built specifically for artists, designers, and engineers, NVIDIA Quadro GPUs power more than 100 professional applications across a broad range of industries. Professionals trust them to enable their best work using applications such as Adobe® Creative Cloud, Avid Media Composer, Autodesk Suites, Dassault Systemes, CATIA and SOLIDWORKS, Siemens NX, PTC Creo, and many more.



### NVIDIA® Tesla® Co-Processors

NVIDIA Tesla GPU parallel processors are tailored to provide high-performance NVIDIA CUDA® acceleration for your workflow. Designed for professional systems and demanding professional applications, Tesla GPUs perform the complex calculations required for CAE/CFD calculations, seismic processing, ray-traced rendering, compositing, image processing, physics, and effects many times faster than a CPU.



### NVIDIA® Multi-GPU Technology

NVIDIA® Multi-GPU Technology leverages combinations of Quadro and Tesla GPUs to intelligently scale the performance of your application and dramatically speed up your workflow. This delivers significant business impact across industries such as Manufacturing, Media and Entertainment, and Energy Exploration.



### Quadro® Visual Computing Appliance (VCA)

This is a powerful, turnkey, network-attached appliance that harnesses the power of the highest performing NVIDIA Quadro GPUs. It's accessible to anyone on the network, is easily integrated into design workflows, and can scale to deliver noiseless, interactive global illumination.

\*NVIDIA Iray plugins are available separately for select applications. Learn more at [www.nvidia.com/iray](http://www.nvidia.com/iray)

# NVIDIA PROFESSIONAL GRAPHICS SOLUTIONS

GPU SPECIFICATIONS			PERFORMANCE		DISPLAY TECHNOLOGY								OPTIONS				
NVIDIA® CUDA® Processing Cores <sup>1</sup>	GPU Memory	Memory Bandwidth	Floating-Point Performance- Single Precision (Tflops, Peak)	Error Correcting Code (ECC) Memory	Dual-Link DVI <sup>2</sup>	DisplayPort 1.2 <sup>3</sup>	HDMI Via Adaptors	Maximum Active Displays <sup>4</sup>	FSAA (Maximum)	NVIDIA® FXAA™ Antialiasing	NVIDIA® TXAA™ Antialiasing	NVIDIA® SLI®	NVIDIA Quadro® Mosaic Technology	GPUDirect™ for Video	Graphics Synchronization <sup>5</sup>	NVIDIA 3D Vision® /3D Vision Pro <sup>6</sup>	NVIDIA Multi-GPU Technology -Enabled <sup>7</sup>

## Quadro for Desktop Workstations

LATEST	GPU SPECIFICATIONS			PERFORMANCE		DISPLAY TECHNOLOGY								OPTIONS				
	NVIDIA® CUDA® Processing Cores <sup>1</sup>	GPU Memory	Memory Bandwidth	Floating-Point Performance- Single Precision (Tflops, Peak)	Error Correcting Code (ECC) Memory	Dual-Link DVI <sup>2</sup>	DisplayPort 1.2 <sup>3</sup>	HDMI Via Adaptors	Maximum Active Displays <sup>4</sup>	FSAA (Maximum)	NVIDIA® FXAA™ Antialiasing	NVIDIA® TXAA™ Antialiasing	NVIDIA® SLI®	NVIDIA Quadro® Mosaic Technology	GPUDirect™ for Video	Graphics Synchronization <sup>5</sup>	NVIDIA 3D Vision® /3D Vision Pro <sup>6</sup>	NVIDIA Multi-GPU Technology -Enabled <sup>7</sup>
Quadro M6000 <b>NEW</b>	3,072	12 GB	317 GBps	7	• <sup>9</sup>	1	4	4	4	64x	•	•	•	•	•	•	•	•
Quadro M5000 <b>NEW</b>	2,048	8 GB	211 GBps	4.2	• <sup>9</sup>	1	4	4	4	64x	•	•	•	•	•	•	•	•
Quadro M4000 <b>NEW</b>	1,664	8 GB	192 GBps	2.5			4	4	4	64x	•	•	•	•	•	•	•	•
Quadro K2200	640	4 GB	80 GBps	1.4		1	2	3	4	64x	•	•	•	•	•	•	•	•
Quadro K1200 <sup>10</sup> <b>NEW</b>	512	4 GB	80 GBps	1			4	4	4	64x	•	•	•	•	•	•	•	•
Quadro K620	384	2 GB	29 GBps			1	1	2	4	64x	•	•	•	•	•	•	•	•
Quadro K420	192	1 GB / 2 GB	29 GBps			1	1	2	4	64x	•	•	•	•	•	•	•	•
Quadro K6000	2,880	12 GB	288 GBps	5.1	• <sup>8</sup>	2	2	4	4	64x	•	•	•	•	•	•	•	•
Quadro K5200	2,304	8 GB	192 GBps	3.5	• <sup>8</sup>	2	2	4	4	64x	•	•	•	•	•	•	•	•
Quadro K5000	1,536	4 GB	173 GBps	2.1	• <sup>9</sup>	2	2	4	4	64x	•	•	•	•	•	•	•	•
Quadro K5000 for Mac	1,536	4 GB	173 GBps	2.1	• <sup>9</sup>	2	2 <sup>11</sup>	4	4	64x	•	•	•	•	•	•	•	•
Quadro K4200	1,344	4 GB	173 GBps	2.1		1	2	3	4	64x	•	•	•	•	•	•	•	•
Quadro K4000	768	3 GB	134 GBps	1.2		1	2	3	4	64x	•	•	•	•	•	•	•	•
Quadro K2000	384	2 GB	64 GBps			1	2	3	4	64x	•	•	•	•	•	•	•	•
Quadro K2000D	384	2 GB	64 GBps			2	1	3	4	64x	•	•	•	•	•	•	•	•
Quadro K600	192	1 GB	29 GBps			1	1	2	2	64x	•	•	•	•	•	•	•	•
Quadro 410	192	512 MB	14 GBps			1	1	2	2	32x	•	•	•	•	•	•	•	•

## Tesla for Desktop Workstations (Co-Processors)

Tesla K40	2,880	12 GB	288 GBps	5 <sup>12</sup>	•													•
Tesla K20	2,496	5 GB	208 GBps	3.5	•													•

## NVS for Desktop Workstations

NVS 510	192	2 GB	29 GBps				4	4	4									•
NVS 315	48	1 GB	14 GBps				2	2	2									•
NVS 310	48	0.5 / 1 GB	14 GBps				2	2	2									•

## Quadro Visual Computing Appliance (VCA)

<b>GPUs:</b> 8 High-End NVIDIA GPUs	<b>GPU Memory:</b> 12 GB per GPU	<b>CUDA Cores:</b> 24,576	<b>Network:</b> 2 x 1GigE, 2 x 10GigE (SFP+), 1 x InfiniBand	<b>Quadro VCA Accelerated Applications:</b> Autodesk 3ds Max, Autodesk Maya, Autodesk Revit, McNeel Rhinoceros	<b>Installed Software:</b> Linux CentOS 6.5, VCA Manager, Iray 2014.3.4 or newer; V-Ray 3.0 or newer
<b>System Memory:</b> 256 GB	<b>Storage:</b> 2 TB SSD	<b>CPU:</b> Xeon E5 (2.8 GHz)	<b>CPU Cores:</b> 20 physical cores, 40 hyper-threaded		

1. CUDA parallel processing cores cannot be compared between GPU generations due to several important architectural differences that exist between streaming multiprocessor designs.

2. Maximum display resolution: 330M Pixels/sec (ex 2560x1600@60Hz or 1920x1200@120Hz).

3. Adaptors 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. Quadro K4200, K4000, K2200, K2000, and K2000D are equipped with 3 on-board display connectors, while K620, K600 and K420 have 2 on-board display connectors with the 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 or displays.

5. Quadro K-series GPUs are only compatible with NVIDIA Quadro Sync. Other GPUs listed are compatible only with Quadro G-Sync II.

6. Requires 3D Vision-ready display. Visit [www.nvidia.com/3dvision](http://www.nvidia.com/3dvision).

7. Quadro K-series GPUs are only compatible with Tesla K20 and K40.

8. Other GPUs listed are compatible only with Tesla C2075.

9. Ensures data integrity and reliability by eliminating soft errors on both GPU cache and on-board DRAM.

10. Ensures data integrity and reliability by eliminating soft errors on DRAM only.

11. Available in Low Profile (half height) form factor only. No ATX version.

12. On Mac OSX, DisplayPort 1.2 multi-streaming feature is currently not supported. Also available for All-in-One workstations.

13. The Single Precision theoretical peak performance for Tesla K40 is calculated for the highest GPU Boost level of 875MHz. For more information on Tesla K40 and GPU Boost visit, [www.nvidia.com/tesla](http://www.nvidia.com/tesla)