



NVIDIA PROFESSIONAL GRAPHICS SOLUTIONS

You need to do great things. Create and collaborate from anywhere, on any device, without distractions like slow performance, poor stability, or incompatibility. NVIDIA Quadro is the technology that lets you unleash your vision and enjoy the ultimate creative freedom.

Whether you're developing revolutionary products, using AI to work smarter and faster, telling spectacularly vivid visual stories, designing groundbreaking architecture, or creating the most lifelike, immersive virtual experiences, NVIDIA Quadro gives you the performance to do it brilliantly. Support for NVIDIA deep learning SDKs and accelerated AI frameworks, multiple 8K displays, large graphics memory capacity, advanced physically based rendering, VR-specific features, and flexible multi-GPU configurations give you the power to tackle the most challenging visual computing tasks.



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® Multi-GPU Technology

NVIDIA® Multi-GPU Technology leverages multiple Quadro 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.



NVIDIA Volta GPU

The Quadro GV100 is reinventing the workstation with the latest GPU architecture, high bandwidth memory, AI, and display technologies to deliver the most advanced AI graphics and compute accelerator ever created for professional users. NVIDIA Tensor Cores let you train and execute the most advanced deep learning solutions. NVLink can connect two GV100s to double available memory to create the largest and most detailed designs, execute the largest simulations, use sophisticated HPC software, and view the results in the most life-like VR experiences possible.

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GPU SPECIFICATIONS				PERFORMANCE			DISPLAY TECHNOLOGY							VIRTUAL REALITY (VR)		OPTIONS					
NVIDIA® CUDA® Processing Cores ¹	Tensor Cores	GPU Memory	Peak Memory Bandwidth	Floating-Point Performance, Single Precision (TFLOPS, Peak)	Tensor Performance (TFLOPS, Peak) ²	Error Correcting Code (ECC) Memory	Dual-Link DVI or DVI-D ³	DisplayPort 1.2 and 1.4 ⁴	Maximum Active Displays	HDMI via Adaptors, HDMI	NVIDIA® NVLink®	NVIDIA® SLI ⁵	HDR - High Dynamic Range ⁶	NVIDIA Quadro® Mosaic Technology	VR Ready ⁷	Simultaneous Multi-Projection	GPUDirect™ for Video	Graphics Synchronization (Sync and Sync II) ⁷	Vulkan Support	3D Stereo	Encode / Decode ⁸

Quadro GV100 NEW	5,120	640	32 GB	870 GBps	14.8	118.5	• ⁹		4	4	4	•	•	•	•	•	•	•	•	•	•	•
Quadro GP100	3,584		16 GB	717 GBps	10.3		• ⁹	1	4	4	4	•	•	•	•	•	•	•	•	•	•	•
Quadro P6000	3,840		24 GB	432 GBps	12.6		• ¹⁰	1	4	4	4	•	•	•	•	•	•	•	•	•	•	•
Quadro P5000	2,560		16 GB	288 GBps	8.9		• ¹⁰	1	4	4	4	•	•	•	•	•	•	•	•	•	•	•
Quadro P4000	1,792		8 GB	256 GBps	5.3				4	4	4	•	•	•	•	•	•	•	•	•	•	•
Quadro P2000	1,024		5 GB	140 GBps	3.0				4	4	4		•	•	•	•	•	•	•	•	•	•
Quadro P1000	640		4 GB	80 GBps	1.8				4	4	4		•	•	•	•	•	•	•	•	•	•
Quadro P620 NEW	512		2 GB	80 GBps	1.3				4	4	4		•	•	•	•	•	•	•	•	•	•
Quadro P600	384		2 GB	64 GBps	1.1				4	4	4		•	•	•	•	•	•	•	•	•	•
Quadro P400	256		2 GB	32 GBps	0.6				3	3 ¹²	3		•	•	•	•	•	•	•	•	•	•
Quadro M6000 24GB	3,072		24 GB	317 GBps	6.8		• ¹⁰	1	4	4	4	•	•	•	•	•	•	•	•	•	•	• ¹¹
Quadro K6000	2,880		12 GB	288 GBps	5.1		• ⁹	2	2	4	4	•	•	•	•	•	•	•	•	•	•	• ¹¹
Quadro M5000	2,048		8 GB	211 GBps	4.2		• ¹⁰	1	4	4	4	•	•	•	•	•	•	•	•	•	•	• ¹¹
Quadro M4000	1,664		8 GB	192 GBps	2.5				4	4	4	•	•	•	•	•	•	•	•	•	•	• ¹¹
Quadro M2000	768		4 GB	106 GBps	1.8				4	4	4		•	•	•	•	•	•	•	•	•	• ¹¹
Quadro K2200	640		4 GB	80 GBps	1.4			1	2	4	3		•	•	•	•	•	•	•	•	•	• ¹¹
Quadro K1200	512		4 GB	80 GBps	1.0				4	4	4		•	•	•	•	•	•	•	•	•	• ¹¹
Quadro K620	384		2 GB	29 GBps				1	1	4	2		•	•	•	•	•	•	•	•	•	• ¹¹
Quadro K420	192		2 GB	29 GBps				1	1	4	2		•	•	•	•	•	•	•	•	•	• ¹¹

NVS for Desktop Workstations

NVS 810	1,024 ¹³		4 GB ¹³	29 GBps ¹³					8	8	8											•
NVS 510 ¹³	192		2 GB	29 GBps					4	4	4											•
NVS 315	48		1 GB	14 GBps				2	2 ⁴	2	2											•
NVS 310 ¹³	48		1 GB	14 GBps					2	2	2											•

1. CUDA parallel processing cores cannot be compared between GPU generations due to several important architectural differences that exist between streaming multiprocessor designs.
2. FP16 matrix multiply with FP16 or FP32 accumulate.
3. Maximum display resolution: 1050M Pixels/sec (32.4 Gbps) [ex 7680x4320 @ 60Hz or 5120x2880@ 60Hz]. Pascal GPUs support Dual-Link DVI-D.
4. GV100 and Pascal architecture support DP1.4. 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.

5. Supported adaptors required for HDMI.
6. VR Ready GPUs have the performance & features required for high-quality VR experiences.
7. Volta GP100 and Quadro Pascal GPUs are only compatible with Quadro Sync II. Quadro Kepler and Maxwell GPUs are only compatible with NVIDIA Quadro Sync.
8. For details on GPU specific video encode/decode format support, refer to, <https://developer.nvidia.com/video-encode-decode-gpu-support-matrix>

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. GPU support for H.264 decode only.
12. P400 can drive 4 displays via MST.
13. The NVS 810 is a dual GPU design, so half of this total number is per GPU.

For more information on NVIDIA NVS mobile solutions please visit, www.nvidia.com/object/notebook-nvs.html

