



# NVIDIA RTX 6000 Ada Generation

Performance for endless possibilities.

## Powering the Next Era of Innovation

The NVIDIA RTX™ 6000 Ada Generation is the ultimate workstation graphics card designed for professionals who demand maximum performance and reliability to deliver their best work and breakthrough innovations across industries. The RTX 6000 provides the unmatched performance and capabilities essential for high-end design, real-time rendering, AI, and high-performance compute workflows.

Built on the NVIDIA Ada Lovelace architecture, the RTX 6000 combines 142 third-generation RT Cores, 568 fourth-generation Tensor Cores, and 18,176 CUDA® cores with 48GB of error correction code (ECC) graphics memory. This all helps deliver the next generation of AI graphics and petaflop inferencing performance for unprecedented speed-up in rendering, AI, graphics, and compute workloads.

NVIDIA RTX professional graphics cards are certified with a broad range of professional applications, tested by leading independent software vendors (ISVs) and workstation manufacturers, and backed by a global team of support specialists. Get the peace of mind to focus on what matters with the premier visual computing solution for mission-critical business.



## Key Features

- > PCIe Gen 4
- > Four DisplayPort 1.4a connectors
- > AV1 encode and decode support
- > DisplayPort with audio
- > 3D stereo support with stereo connector
- > NVIDIA GPUDirect® for Video support
- > NVIDIA GPUDirect Remote Direct Memory Access (RDMA) support
- > NVIDIA virtual GPU (vGPU) software support
- > NVIDIA Quadro® Sync II<sup>1</sup> compatibility
- > NVIDIA RTX Experience™
- > NVIDIA RTX Desktop Manager software
- > NVIDIA RTX IO support
- > HDCP 2.2 support
- > NVIDIA Mosaic<sup>2</sup> technology

## Technical Specifications

<b>PNY Part Number</b>	Retail: VCNRTX6000ADA-PB Single Bulk: VCNRTX6000ADA-SB Bulk: VCNRTX6000ADA-BLK Education: VCNRTX6000ADA-EDU
<b>GPU memory</b>	48GB GDDR6
<b>Memory interface</b>	384-bit
<b>Memory bandwidth</b>	960 GB/s
<b>Error correction code (ECC)</b>	Yes
<b>NVIDIA Ada Lovelace architecture-based CUDA Cores</b>	18,176
<b>NVIDIA third-generation Tensor Cores</b>	568
<b>NVIDIA second-generation RT Cores</b>	142
<b>Single-precision performance</b>	91.1 TFLOPS <sup>3</sup>
<b>RT Core performance</b>	210.6 TFLOPS <sup>3</sup>
<b>Tensor performance</b>	1457.0 TFLOPS <sup>4</sup>
<b>System interface</b>	PCIe 4.0 x16
<b>Power consumption</b>	Total board power: 300 W
<b>Thermal solution</b>	Active
<b>Form factor</b>	4.4" H x 10.5" L, dual slot, full height
<b>Display connectors</b>	4x DisplayPort 1.4a <sup>5</sup>
<b>Max simultaneous displays</b>	> 4x 4096 x 2160 @ 120 Hz > 4x 5120 x 2880 @ 60 Hz > 2x 7680 x 4320 @ 60 Hz
<b>Power connector</b>	1x PCIe CEM5 16-pin
<b>Encode/decode engines</b>	3x encode, 3x decode (+AV1 encode and decode)
<b>VR ready</b>	Yes
<b>vGPU software support<sup>5</sup></b>	> NVIDIA vPC/vApps > NVIDIA RTX Virtual Workstation
<b>vGPU profiles supported</b>	See the <a href="#">Virtual GPU Licensing Guide</a>
<b>Graphics APIs</b>	DirectX 12, Shader Model 6.6, OpenGL 4.6 <sup>6</sup> , Vulkan 1.3 <sup>6</sup>
<b>Compute APIs</b>	CUDA 11.6, OpenCL 3.0, DirectCompute
<b>NVIDIA NVLink<sup>®</sup></b>	No

## Ready to get started?

To learn more about RTX 6000 Ada Generation, visit [www.pny.com/nvidia-rtx-6000-ada](http://www.pny.com/nvidia-rtx-6000-ada)

<sup>1</sup> Quadro Sync II card sold separately. <sup>2</sup> Windows 10 and Linux. <sup>3</sup> Peak rates based on GPU Boost Clock. <sup>4</sup> Effective FP8 teraFLOPS (TFLOPS) using the new sparsity feature. <sup>5</sup> Display ports are on by default for RTX 6000. Display ports are not active when using vGPU software. vGPU software support is coming in vGPU 15.1 release. <sup>6</sup> 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](http://www.khronos.org/conformance)

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NVIDIA RTX 6000 Ada Generation | Datasheet | 2504660 DEC22

