

# NVIDIA RTX A1000

Mighty performance. Minimal footprint.

## Small Size, Big Impact—The Ultimate Compact Power

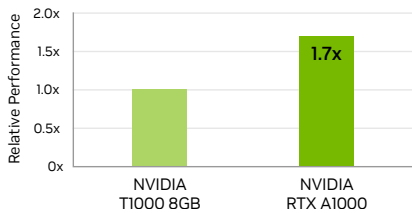
The NVIDIA RTX™ A1000 is a powerful, low-profile GPU that brings RTX-powered real time ray tracing and AI acceleration to a whole new audience. Built on the NVIDIA Ampere GPU architecture, it combines 2,304 CUDA® Cores, 72 third-generation Tensor Cores, and 18 second-generation RT Cores, and 8GB of GDDR6 graphics memory. With the RTX A1000, you can create more compelling visuals, explore new AI-powered workflows, and boost your productivity, all from a small-form-factor solution.

NVIDIA RTX professional graphics cards are certified for 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

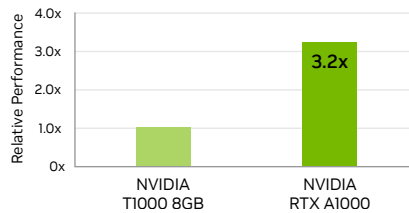
- > Second-generation RT Cores
- > Third-generation Tensor Cores
- > PCI Express Gen 4
- > Four Mini DisplayPort 1.4a
- > AV1 decode support
- > DisplayPort with audio
- > NVIDIA RTX Experience™
- > NVIDIA RTX Desktop Manager software
- > NVIDIA RTX IO support
- > HDCP 2.2 support
- > NVIDIA Mosaic<sup>1</sup> technology

### Graphics



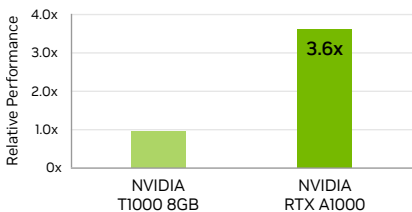
Tests run on an Intel Core i9-12900K Processor @ 3.2GHz (5.2GHz Turbo), 64GB RAM, Windows 11 Enterprise x64, SPECviewperf 2020, NVIDIA Driver 551.57. Relative speedup for 4K Maya score. Performance based on pre-release build, subject to change.

### Rendering



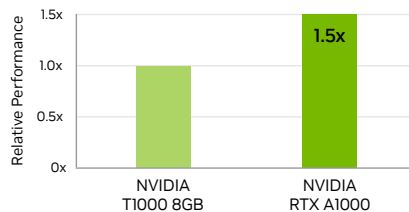
Tests run on an Intel Core i9-12900K Processor @ 3.2GHz (5.2GHz Turbo), 64GB RAM, Windows 11 Enterprise x64, NVIDIA Driver 551.57. Relative speedup for 1080p resolution Arnold render tests. Performance based on pre-release build, subject to change.

### Generative AI



Tests run on an Intel Core i9-12900K Processor @ 3.2GHz (5.2GHz Turbo), 64GB RAM, Windows 11 Enterprise x64, Stable Diffusion WebUI v1.7.0 with TensorRT extension, NVIDIA Driver 551.57. Average relative speedup for 512x512 image generation. Performance based on pre-release build, subject to change.

### CAD



Tests run on an Intel i9-12900K @ 3.2GHz, 5.20GHz Turbo, 64GB RAM, Windows 11 Enterprise x64, NVIDIA driver 551.57. Results based on SOLIDWORKS 2022 FSAA On, GPU composite scores. Preliminary results on pre-production hardware and software, final performance may vary.

## Specifications

<b>PNY Part Number</b>	VCNRTXA1000-PB
<b>EAN code</b>	3536403399467
<b>GPU memory</b>	8GB GDDR6
<b>Memory interface</b>	128-bit
<b>Memory bandwidth</b>	192GB/s
<b>NVIDIA Ampere-based CUDA® Cores</b>	2304
<b>NVIDIA third-generation Tensor Cores</b>	72
<b>NVIDIA second-generation RT Cores</b>	18
<b>Single-precision performance</b>	6.7 TFLOPS <sup>2</sup>
<b>RT Core performance</b>	13.2 TFLOPS <sup>2</sup>
<b>FP16 Tensor performance</b>	53.8 TFLOPS <sup>3</sup>
<b>Peak INT8 Tensor performance</b>	107.8 TOPS <sup>4</sup>
<b>System interface</b>	PCIe 4.0 x8 <sup>5</sup>
<b>Power consumption</b>	Total board power: 50W
<b>Thermal solution</b>	Active
<b>Form factor</b>	6,9 cm H x 16,3 cm L, single slot
<b>Display connectors</b>	4x Mini DisplayPort 1.4a
<b>Max simultaneous displays</b>	4x 4096 x 2160 @ 120Hz 4x 5120 x 2880 @ 60Hz 2x 7680 x 4320 @ 30Hz
<b>Encode/decode engines</b>	1x encode, 2x decode (+AV1 decode)
<b>Graphics APIs</b>	DirectX 12, Shader Model 6.6, OpenGL 4.6 <sup>6</sup> , Vulkan 1.3 <sup>6</sup>

## Ready to get started?

To learn more about the NVIDIA RTX A1000, visit:

[nvidia.com/rtx-A1000](https://www.nvidia.com/rtx-A1000)

<sup>1</sup> Windows 10 and Linux. | <sup>2</sup> Peak rates based on GPU Boost Clock. | <sup>3</sup> Effective FP16 teraFLOPS (TFLOPS) using the sparsity feature. | <sup>4</sup> Peak INT8 TOPS with sparsity. | <sup>5</sup> RTX A1000 utilizes a full-length PCIe Gen 4 x8 interface. | <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](https://www.khronos.org/conformance)

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