NVIDIA

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
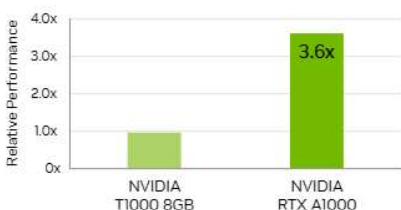
> NVIDIA Mosaic[1] technology

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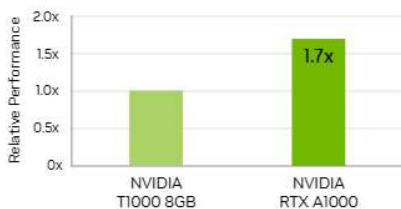
Tests run on an Intel Core i9-12900K Processor @ 3.2GHz (5.2GHz Turbo), 64GB RAM, Windows 11 Enterprise x64, SPECviewperf 2020, NVIDIA Driver 551.57. Relative speedup for 4K Maya score. Performance based on pre-release build, subject to change.

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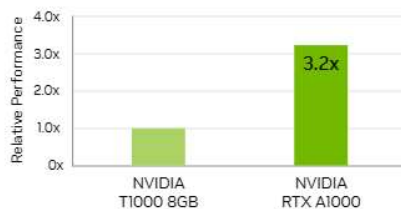
Tests run on an Intel Core i9-12900K Processor @ 3.2GHz (5.2GHz Turbo), 64GB RAM, Windows 11 Enterprise x64, NVIDIA Driver 551.57. Relative speedup for 1080p resolution Arnold render tests. Performance based on pre-release build, subject to change.

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 Core 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

GPU memory	8GB GDDR6
Memory interface	128-bit
Memory bandwidth	192GB/s
NVIDIA Ampere-based CUDA® Cores	2,304
NVIDIA third-generation Tensor Cores	72
NVIDIA second-generation RT Cores	18
Single-precision performance	6.7 TFLOPS[2]
RT Core performance	13.2 TFLOPS[2]
Tensor performance	53.8 TFLOPS[3]
System interface	PCIe 4.0 x8[4]
Power consumption	Total board power: 50W
Thermal solution	Active
Form factor	2.7" H x 6.4" L, single slot
Display connectors	4x Mini DisplayPort 1.4a
Max simultaneous displays	4x 4096 x 2160 @ 120Hz 4x 5120 x 2880 @ 60Hz 2x 7680 x 4320 @ 30Hz
Encode/decode engines	1x encode, 2x decode (+AV1 decode)
Graphics APIs	DirectX 12, Shader Model 6.6, OpenGL 4.6[5], Vulkan 1.3[5]
Compute APIs	CUDA 11.6, OpenCL 3.0, DirectCompute

Ready to get started?

To learn more about the NVIDIA RTX A1000, visit:
nvidia.com/rtx-A1000

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