Amplified Performance for Professionals

The NVIDIA RTX™ A6000, built on the NVIDIA Ampere architecture, delivers everything designers, engineers, scientists, and artists need to meet the most graphics and compute-intensive workflows. The RTX A6000 is equipped with the latest generation RT Cores, Tensor Cores, and CUDA® cores for unprecedented rendering, AI, graphics, and compute performance. 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, NVIDIA RTX is the visual computing solution of choice for demanding enterprise deployments.

**SPECIFICATIONS**

- **PNY Part Number**: VCNRTXA6000-TAA
- **GPU memory**: 48 GB GDDR6
- **Memory interface**: 384-bit
- **Memory bandwidth**: 768 GB/s
- **Error-correcting code (ECC)**: Yes
- **NVIDIA Ampere architecture-based CUDA Cores**: 10,752
- **NVIDIA third-generation Tensor Cores**: 336
- **NVIDIA second-generation RT Cores**: 84
- **Single-precision performance**: 38.7 TFLOPS
- **RT Core performance**: 75.6 TFLOPS
- **Tensor performance**: 309.7 TFLOPS
- **NVIDIA NVLink**: Connects two NVIDIA RTX A6000 GPUs
- **NVIDIA NVLink bandwidth**: 112.5 GB/s (bidirectional)
- **System interface**: PCI Express 4.0 x16
- **Power consumption**: Total board power: 300 W
- **Thermal solution**: Active
- **Form factor**: 4.4" H x 10.5" L, dual slot, full height
- **Display connectors**: 4x DisplayPort 1.4a
- **Max simultaneous displays**: 4x 4096 x 2160 @ 120 Hz, 4x 5120 x 2880 @ 60 Hz, 2x 7680 x 4320 @ 60 Hz
- **Power connector**: 1x 8-pin CPU
- **Encode/decode engines**: 1x encode, 2x decode (+AV1 decode)
- **VR ready**: Yes
- **vGPU software support**: NVIDIA vPC/vApps, NVIDIA RTX Virtual Workstation, NVIDIA Virtual Compute Server
- **vGPU profiles supported**: 1 GB, 2 GB, 3 GB, 4 GB, 6 GB, 8 GB, 12 GB, 16 GB, 24 GB, 48 GB
- **Graphics APIs**: DirectX 12.0™, Shader Model 5.1™, OpenGL 4.6™, Vulkan 1.1™
- **Compute APIs**: CUDA, DirectCompute, OpenCL™

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**Graphs**

- **Up to 40% Faster Graphics Performance**
- **Up to 2X Faster Rendering Performance**
- **Over 3X Higher Out-of-the-Box Performance with TF32 for AI Training**
Groundbreaking Innovations

**NVIDIA AMPERE ARCHITECTURE**
NVIDIA® RTX™ technology revolutionized professional visual computing forever. The NVIDIA Ampere architecture builds on the power of RTX to significantly enhance the performance of rendering, graphics, AI, and compute workloads. Engineered to perfection and featuring cutting-edge innovations, the NVIDIA Ampere architecture takes RTX to new heights for professional workloads.

**THIRD-GENERATION TENSOR CORES**
New Tensor Float 32 (TF32) precision provides up to 5X the training throughput over the previous generation to accelerate AI and data science model training without requiring any code changes. Hardware support for structural sparsity doubles the throughput for inferring. Tensor Cores also bring AI to graphics with capabilities like DLSS, AI denoising, and enhanced editing for select applications.

**SECOND-GENERATION RT CORES**
With up to 2X the throughput over the previous generation and the ability to concurrently run ray tracing with either shading or denoising capabilities, second-generation RT Cores deliver massive speedups for workloads like photorealistic rendering of movie content and virtual prototyping of product designs. This technology also speeds up the rendering of ray-traced motion blur for faster results with greater visual accuracy.

**PCI EXPRESS GEN 4.0**
NVIDIA Ampere architecture-based GPUs support PCI Express Gen 4.0 (PCIe Gen 4.0), which provides 2X the bandwidth of PCIe Gen 3.0. This improves data transfer speeds from CPU memory for data-intensive tasks such as AI and data science. Faster PCIe performance also accelerates GPU direct memory access (DMA) transfers, enabling faster video data transfers from GPUDirect® for video-enabled devices and faster input/output (I/O) with GPUDirect Storage.

**Features**
- TAA Compliant
- PCI Express Gen 4
- Four DisplayPort 1.4a connectors
- AV1 decode support
- DisplayPort with audio
- VGA support
- 3D stereo support with stereo connector
- NVIDIA GPU Direct® for Video support
- NVIDIA virtual GPU (vGPU) software support
- NVIDIA Quadro® Sync II™ compatibility
- NVIDIA Quadro Experience™
- Desktop Management Software
- NVIDIA RTX I/O support
- HDCP 2.2 support
- NVIDIA Mosaic technology

To learn more about the NVIDIA RTX A6000, visit [www.pny.com/nvidia-rtx](http://www.pny.com/nvidia-rtx)

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