

NVIDIA 900-5G132-2540-000

NVIDIA RTX 5000 Ada Generation GPU User Manual

MODEL: 900-5G132-2540-000

1. Introduction

This user manual provides comprehensive instructions for the installation, operation, and maintenance of your NVIDIA RTX 5000 Ada Generation GPU. Designed for professional workflows, this GPU leverages the NVIDIA Ada Lovelace architecture to deliver exceptional performance for rendering, AI, graphics, and compute workloads. Please read this manual carefully before installing and using the product to ensure optimal performance and longevity.

2. Product Overview

The NVIDIA RTX 5000 Ada Generation GPU is a high-performance graphics card built for demanding professional applications. It features 100 third-generation RT Cores, 400 fourth-generation Tensor Cores, and 12,800 CUDA cores, coupled with 32 GB of GDDR6 graphics memory. This combination enables advanced AI graphics and petaFLOPS inferencing performance.

Key Features:

- NVIDIA GPUDirect remote direct memory access (RDMA) support
- NVIDIA Quadro Sync II compatibility
- 3D stereo support with stereo connector
- NVIDIA GPUDirect for Video support
- NVIDIA Mosaic technology

What's in the Box:

- NVIDIA 900-5G132-2540-000 RTX 5000 Ada Graphic Card - 32 GB GDDR6

Product Images:

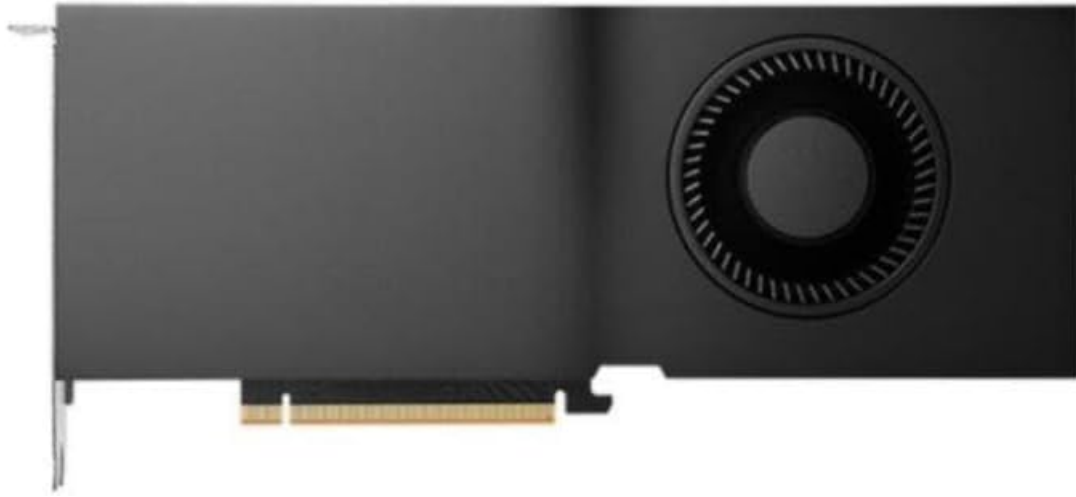


Figure 2.1: Top view of the NVIDIA RTX 5000 Ada Generation GPU, showing the cooling fan and shroud design.



Figure 2.2: Angled view of the NVIDIA RTX 5000 Ada Generation GPU, highlighting its compact form factor and professional aesthetic.



Figure 2.3: Rear view of the NVIDIA RTX 5000 Ada Generation GPU, displaying the multiple DisplayPort outputs for multi-monitor setups.

3. Setup and Installation

Proper installation is crucial for the performance and stability of your NVIDIA RTX 5000 Ada GPU. Ensure your system meets the minimum requirements before proceeding.

System Requirements:

- PCI Express x16 slot on motherboard
- Adequate power supply unit (PSU) with required PCIe power connectors (refer to GPU specifications for exact wattage)
- Compatible operating system (Windows, Linux)
- Minimum 8GB system memory (RAM)

Installation Steps:

1. **Prepare Your System:** Power off your computer and disconnect all cables. Open the computer case.
2. **Locate PCIe Slot:** Identify an available PCI Express x16 slot on your motherboard. Remove any expansion slot covers if necessary.
3. **Insert the GPU:** Carefully align the GPU with the PCIe slot and press down firmly until it is securely seated. Ensure the retention clip locks into place.
4. **Connect Power:** Connect the required PCIe power cables from your power supply to the GPU's power connectors.
5. **Secure the GPU:** Secure the GPU to the computer case using the screw or latch mechanism provided by your case.
6. **Close Case and Reconnect:** Close your computer case, reconnect all cables, and power on your system.
7. **Install Drivers:** Once the operating system loads, download and install the latest NVIDIA Quadro drivers from the official NVIDIA website (www.nvidia.com/drivers). Follow the on-screen instructions for driver installation.

4. Operating Instructions

After successful installation, your NVIDIA RTX 5000 Ada GPU is ready for operation. This section covers general usage and specific features.

NVIDIA Control Panel:

The NVIDIA Control Panel provides extensive options for configuring your GPU settings, including display resolution, refresh rates, 3D settings, and multi-display configurations. Access it by right-clicking on your desktop and selecting "NVIDIA Control Panel."

Multi-Display Setup (NVIDIA Mosaic Technology):

The NVIDIA RTX 5000 Ada supports multiple displays. Utilize NVIDIA Mosaic technology to seamlessly span applications across multiple high-resolution displays, creating a single large desktop. Refer to the NVIDIA Control Panel for Mosaic configuration options.

Professional Application Optimization:

For optimal performance in professional design, rendering, and simulation applications, ensure you are using the latest certified drivers. Many applications have specific GPU acceleration settings that can be configured within the application itself or via the NVIDIA Control Panel.

GPUDirect and Quadro Sync II:

Leverage NVIDIA GPUDirect for direct data transfer between GPUs and third-party devices, reducing CPU overhead. For advanced synchronization across multiple GPUs and displays, the RTX 5000 Ada is compatible with NVIDIA Quadro Sync II (sold separately).

5. Maintenance

Regular maintenance helps ensure the longevity and optimal performance of your GPU.

Driver Updates:

Periodically check the official NVIDIA website for the latest driver updates. Keeping your drivers current can improve performance, add new features, and resolve compatibility issues.

Cleaning:

- **Dust Removal:** Over time, dust can accumulate on the GPU's heatsink and fan, impeding cooling. With the system powered off and unplugged, use compressed air to gently clear dust from the fan blades and heatsink fins.
- **Surface Cleaning:** Use a soft, dry, lint-free cloth to wipe the exterior surfaces of the GPU. Avoid using liquid cleaners directly on the card.

6. Troubleshooting

This section addresses common issues you might encounter with your NVIDIA RTX 5000 Ada GPU.

No Display Output:

- Ensure the monitor cable is securely connected to both the GPU and the monitor.
- Verify that the GPU is fully seated in the PCIe slot and that all power connectors are properly attached.
- Test with a different display cable or monitor if possible.
- Check your BIOS/UEFI settings to ensure the correct primary display adapter is selected (PCIe/Discrete GPU).

Driver Installation Issues:

- Download the latest drivers directly from the official NVIDIA website.
- Temporarily disable antivirus software during driver installation.
- Use Display Driver Uninstaller (DDU) in Safe Mode to completely remove previous driver versions before attempting a clean installation.

Performance Problems or Crashes:

- Ensure your system's power supply unit (PSU) meets the recommended wattage for the GPU.

- Monitor GPU temperatures using monitoring software. Excessive heat can lead to throttling or instability. Ensure adequate case airflow.
- Verify that your operating system and applications are up to date.
- Run diagnostic tools (e.g., NVIDIA's built-in diagnostics or third-party stress tests) to identify potential hardware issues.

7. Specifications

The following table details the technical specifications of the NVIDIA RTX 5000 Ada Generation GPU.

Feature	Specification
Brand	NVIDIA
Model Number	900-5G132-2540-000
Graphics Coprocessor	NVIDIA Quadro RTX 5000
Graphics Card Ram Size	32 GB GDDR6
Memory Speed	2000 MHz
GPU Clock Speed	2550 MHz
Max Screen Resolution	3840x2160
Video Output Interface	DisplayPort, HDMI
Item Weight	1.32 pounds
Color	Black
Date First Available	December 1, 2024

8. Warranty and Support

NVIDIA provides support for its products. For detailed warranty information and technical assistance, please refer to the official NVIDIA support resources.

Official Support:







- **NVIDIA Support Website:** For drivers, FAQs, and troubleshooting guides, visit www.nvidia.com/support.
- **Product Registration:** Register your product on the NVIDIA website to receive updates and facilitate warranty claims.

Extended Protection Plans:

Extended protection plans may be available for purchase to provide additional coverage beyond the standard manufacturer's warranty. Please check with your retailer or NVIDIA for details on available plans.

- 3-Year Protection Plan
- 4-Year Protection Plan
- Complete Protect (monthly plan)

Related Documents - 900-5G132-2540-000

 <p>NVIDIA AI Enterprise User Guide</p>	<p>NVIDIA AI Enterprise User Guide: Installation and Configuration</p> <p>Comprehensive user guide for NVIDIA AI Enterprise, detailing installation, configuration, and management of NVIDIA vGPU technology across VMware vSphere and Linux KVM environments.</p>
 <p>NVIDIA AI Enterprise User Guide</p>	<p>NVIDIA AI Enterprise User Guide: Installation, Configuration, and Management</p> <p>Comprehensive user guide for NVIDIA AI Enterprise, detailing installation, configuration, and management of NVIDIA vGPU, AI frameworks, and software components across various hypervisors and operating systems.</p>
 <p>HP Z Discrete Graphics Quick Reference Guide</p>	<p>HP Z Discrete Graphics Quick Reference Guide: Workstation & ZBook Specifications</p> <p>This guide provides a comprehensive overview of discrete graphics solutions for HP Z Workstations and HP ZBooks, detailing offerings and specifications for NVIDIA Quadro and AMD Radeon Pro graphics cards across various HP desktop and mobile platforms, including accessories. It covers Z Desktops, ZBooks, and VR Backpack/Z1 Entry Tower models.</p>
 <p>NVIDIA RTX Enterprise Release 470 Drivers, Version 471.68 For NVIDIA RTX, Quadro, NVS, and Data Center GPUs Windows 10 and Windows 11</p>	<p>NVIDIA RTX Enterprise Drivers Release 470 Version 471.68 Release Notes</p> <p>Official release notes for NVIDIA RTX Enterprise Drivers, Version 471.68, detailing new features, bug fixes, and known limitations for NVIDIA RTX, Quadro, NVS, and Data Center GPUs on Windows 10 and Windows 11.</p>
 <p>Lenovo ThinkSystem and ThinkAgile GPU Summary</p>	<p>Lenovo ThinkSystem & ThinkAgile GPU Compatibility Guide</p> <p>Explore GPU options for Lenovo ThinkSystem servers and ThinkAgile HX/VX appliances. This guide details NVIDIA and AMD GPU compatibility, technical specifications, and software solutions for AI, HPC, and graphics workloads.</p>
 <p>QUADRO RTX QUICK START GUIDE</p>	<p>NVIDIA Quadro RTX Quick Start Guide</p> <p>A quick start guide for installing and setting up NVIDIA Quadro RTX graphics cards, including minimum system requirements, included equipment, hardware installation steps, display connection, and software installation.</p>

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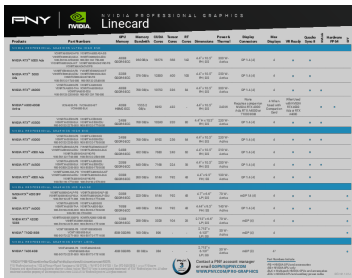
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NVIDIA PROFESSIONAL GRAPHICS Linecard NVLink SFF Products Part Numbers
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32GB GDDR6 ECC 576 GB/s 12800 400 100 900-5G132-1740-000 **900-5G132-2540-
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