NVIDIA 900-1G141-2544-000

NVIDIA GeForce RTX 4070 Founder's Edition Graphics Card User Manual

Model: 900-1G141-2544-000

1. INTRODUCTION

This manual provides essential information for the installation, operation, and maintenance of your NVIDIA GeForce RTX 4070 Founder's Edition Graphics Card. This product is designed to deliver advanced graphics performance for computing tasks. Please read this manual thoroughly before installation and retain it for future reference.

2. PACKAGE CONTENTS

Verify that all components are present in the package:

- NVIDIA GeForce RTX 4070 Founder's Edition Graphics Card
- Documentation (this manual or similar)
- Power adapter cable (if applicable, depending on specific model and power supply requirements)

Image: The NVIDIA GeForce RTX 4070 Founder's Edition Graphics Card displayed next to its black retail packaging, featuring the NVIDIA logo and "GEFORCE RTX 4070" text.

3. SYSTEM REQUIREMENTS

- PCI Express-compliant motherboard with one dual-width x16 graphics slot.
- Minimum 550W or greater system power supply with one 8-pin PCIe power connector (or 12VHPWR adapter if included).
- Minimum 8GB system memory (16GB recommended).
- Microsoft Windows 10 64-bit (April 2018 Update or later) or Windows 11 64-bit, or Linux 64-bit.
- Internet connection for driver installation.

4. INSTALLATION

4.1. Physical Installation

1. **Prepare your system:** Power off your computer and disconnect all cables. Open the computer case.
2. **Locate the PCIe slot:** Identify an available PCI Express x16 slot on your motherboard. Remove any expansion slot covers that obstruct the installation.
3. **Install the graphics card:** Carefully align the graphics card with the PCIe slot and press it firmly until it is securely seated. Ensure the retention clip locks into place.
4. **Secure the card:** Fasten the graphics card to the computer case using the screw(s) from the removed expansion slot covers.
5. **Connect power:** Connect the required PCIe power connector(s) from your power supply to the graphics card. The RTX 4070 FE typically uses a 12VHPWR connector, which may require an adapter depending on your power supply.
6. **Close the case:** Replace the computer case cover and reconnect all cables.

Image: A top-down view of the NVIDIA GeForce RTX 4070 Founder's Edition Graphics Card, showcasing its dual-fan cooling system and metallic shroud.

4.2. Driver Installation

1. **Power on:** Turn on your computer.
2. **Download drivers:** Navigate to the official NVIDIA website (www.nvidia.com/drivers) using a web browser.
3. **Select your product:** Choose "GeForce", "GeForce RTX 40 Series", and "GeForce RTX 4070" from the dropdown menus. Select your operating system.

4. **Download and install:** Download the latest recommended drivers. Run the installer and follow the on-screen instructions. A system restart may be required.

5. OPERATION

Once installed and drivers are updated, your NVIDIA GeForce RTX 4070 Founder's Edition Graphics Card is ready for use. It leverages the NVIDIA Ada Lovelace architecture for enhanced performance.

5.1. Key Technologies

- **NVIDIA CUDA Cores:** Parallel processing cores for general-purpose computing and graphics rendering.
- **Dedicated Ray Tracing Cores:** Hardware acceleration for realistic lighting, shadows, and reflections.
- **Dedicated Tensor Cores:** Specialized cores for AI and machine learning workloads, including NVIDIA DLSS.
- **NVIDIA DLSS (Deep Learning Super Sampling):** AI-powered rendering technology that boosts frame rates while maintaining image quality.
- **NVIDIA G-SYNC:** Synchronizes display refresh rates to the GPU, eliminating screen tearing and minimizing display stutter and input lag.

5.2. Connectivity

The graphics card features multiple display outputs:

- **DisplayPort:** For high-resolution and high-refresh-rate monitors.
- **HDMI:** For compatibility with a wide range of displays, including TVs.

Connect your monitor(s) to the appropriate ports on the graphics card.

6. MAINTENANCE

6.1. Cleaning

Regular cleaning helps maintain optimal performance and longevity:

- Ensure the computer is powered off and unplugged before cleaning.
- Use compressed air to gently remove dust from the fans and heatsink fins.
- Avoid touching the circuit board components directly.

6.2. Driver Updates

Periodically check the NVIDIA website for updated drivers. Keeping your drivers current ensures access to performance optimizations, new features, and bug fixes.

7. TROUBLESHOOTING

If you encounter issues, consider the following steps:

- **No display output:**
  - Ensure the monitor cable is securely connected to both the graphics card and the monitor.
  - Verify the graphics card is fully seated in the PCIe slot and power connectors are attached.
  - Check if your monitor is set to the correct input source.
- **Performance issues:**

- Ensure you have the latest NVIDIA drivers installed.
- Check system temperatures to prevent thermal throttling.
- Verify your power supply meets the minimum wattage requirement.

- **Driver installation problems:**

  - Temporarily disable antivirus software during installation.
  - Download the driver again to ensure the file is not corrupted.
  - Use Display Driver Uninstaller (DDU) in Safe Mode to remove old drivers before installing new ones.

For further assistance, refer to the NVIDIA support website or contact their customer service.

8. SPECIFICATIONS

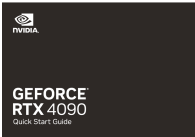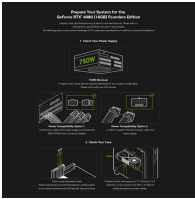| Feature	Detail
Graphics Processing Unit (GPU)	NVIDIA GeForce RTX 4070
Boost Clock Speed	2.48 GHz
On-board Memory	12GB GDDR6X
Interface Compatibility	PCI Express 4.0 (backward compatible with 3.0)
NVIDIA CUDA Cores	5,888
Video Output Interface	DisplayPort, HDMI
Product Dimensions	9.6 x 4.4 x 0.04 inches
Item Weight	7.19 pounds
Model Number	900-1G141-2544-000

9. WARRANTY AND SUPPORT

NVIDIA products are covered by a limited warranty. For detailed warranty information, including terms and conditions, please visit the official NVIDIA website's support section.

For technical support, driver downloads, and frequently asked questions, please visit: www.nvidia.com/support

Related Documents - 900-1G141-2544-000

NVIDIA GeForce RTX 4070 Quick Start Guide

A quick start guide for installing and setting up the NVIDIA GeForce RTX 4070 graphics card, including system specifications, hardware installation, and software configuration.

	NVIDIA GeForce RTX 4090 Quick Start Guide: Installation, Setup, and Drivers Get your NVIDIA GeForce RTX 4090 graphics card up and running with this comprehensive Quick Start Guide. Learn about system requirements, hardware installation, display connections, and software setup with GeForce Experience.
	GeForce RTX 4080 (16GB) Founders Edition System Preparation Guide Prepare your PC system for the NVIDIA GeForce RTX 4080 (16GB) Founders Edition graphics card by checking power supply and case compatibility requirements. This guide outlines PSU wattage, connector types, and physical space needed.
	NVIDIA Quadro RTX Quick Start Guide 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.
	NVIDIA GeForce RTX 4060 Ti Quick Start Guide: Installation and Setup Comprehensive guide to installing and setting up your NVIDIA GeForce RTX 4060 Ti graphics card, including system requirements, hardware installation, and software configuration.
	NVIDIA TITAN X User Guide: Installation, Features, and Compliance Comprehensive user guide for the NVIDIA TITAN X graphics card, covering hardware installation, software setup with GeForce Experience, SLI configuration, HDMI audio, key features, and regulatory compliances.