

NVIDIA 900-1G160-2550-000

NVIDIA GeForce RTX 2070 Founders Edition

USER MANUAL

1. Introduction

This manual provides comprehensive instructions for the installation, operation, and maintenance of your NVIDIA GeForce RTX 2070 Founders Edition graphics card. Please read this manual thoroughly before installation to ensure proper setup and optimal performance.

2. Safety Information

Always observe the following safety precautions:

- Ensure your computer system is powered off and unplugged from the wall outlet before installing or removing the graphics card.
- Discharge static electricity from your body by touching a grounded metal object (e.g., the computer chassis) before handling the card.
- Handle the graphics card by its edges to avoid touching sensitive components.
- Do not expose the card to moisture or extreme temperatures.
- Refer to your computer's power supply specifications to ensure it can provide adequate power for the graphics card.

3. Package Contents

Verify that all items are present in your NVIDIA GeForce RTX 2070 Founders Edition package:

- NVIDIA GeForce RTX 2070 Founders Edition Graphics Card
- Quick Start Guide (Digital version available online)
- Support and Warranty Information



Image: The NVIDIA GeForce RTX 2070 Founders Edition graphics card alongside its retail packaging.

4. Product Overview

The NVIDIA GeForce RTX 2070 Founders Edition is a high-performance graphics card designed for advanced gaming and creative applications. It features NVIDIA's Turing architecture, real-time ray tracing capabilities, and AI-enhanced graphics.

4.1 Key Features

- NVIDIA Turing Architecture
- Real-Time Ray Tracing
- NVIDIA DLSS (Deep Learning Super Sampling)
- 8 GB GDDR6 Memory
- Dual-Fan Cooling System

4.2 Ports and Connectors

Familiarize yourself with the various ports on the graphics card:



Image: Rear view of the graphics card, highlighting its display output ports.

- **DisplayPort (x3):** For connecting to modern monitors with DisplayPort inputs.
- **HDMI (x1):** For connecting to HDMI-compatible displays, TVs, or VR headsets.
- **USB-C (VirtualLink):** A single port for next-generation VR headsets, providing power, display, and data over a single cable.
- **DVI-D (x1):** For connecting to older monitors with DVI-D inputs.



Image: Top view of the graphics card, showcasing its dual-fan cooling system.

5. Setup and Installation

Follow these steps to properly install your NVIDIA GeForce RTX 2070 Founders Edition graphics card into your computer system.

1. Prepare Your System:

- Power off your computer and unplug the power cable from the wall outlet.
- Open your computer case.
- If you have an existing graphics card, carefully remove it.

2. **Locate PCIe Slot:** Identify an available PCIe x16 slot on your motherboard. This is typically the longest slot.
3. **Install the Card:**
 - Remove the metal bracket cover(s) from the back of your computer case corresponding to the PCIe slot.
 - Align the graphics card with the PCIe slot and press down firmly until it is securely seated. You should hear a click from the slot's retention clip.
 - Secure the card to the case with the screw(s) removed earlier.
4. **Connect Power Cables:**
 - The RTX 2070 Founders Edition requires one 8-pin PCIe power connector and one 6-pin PCIe power connector from your power supply.
 - Connect these cables firmly to the corresponding ports on the top edge of the graphics card.
5. **Close Case and Connect Peripherals:**
 - Close your computer case.
 - Connect your monitor(s) to the display output ports on the graphics card (DisplayPort, HDMI, or DVI-D).
 - Plug in your computer's power cable and turn on your system.

6. Operating Instructions

After physical installation, follow these steps to get your graphics card fully operational.

1. **Install Drivers:**
 - Upon first boot, Windows may install a basic display driver. For full functionality and performance, you must install the latest NVIDIA drivers.
 - Visit the official NVIDIA website (www.nvidia.com/drivers) and download the latest drivers for the GeForce RTX 2070.
 - Run the downloaded installer and follow the on-screen prompts. A system restart may be required.
2. **NVIDIA Control Panel:**
 - Once drivers are installed, you can access the NVIDIA Control Panel by right-clicking on your desktop.
 - This utility allows you to configure display settings, 3D settings, and other graphics card specific options.
3. **Software Updates:**
 - Regularly check for driver updates on the NVIDIA website to ensure optimal performance and compatibility with new games and applications.

7. Maintenance

Proper maintenance can extend the lifespan and maintain the performance of your graphics card.

- **Dust Removal:** Periodically clean dust from the card's fans and heatsink using compressed air. Ensure the system is powered off and unplugged before cleaning. Hold the fan blades gently to prevent them from spinning rapidly during cleaning.
- **Airflow:** Ensure good airflow within your computer case. Keep cables tidy and ensure case fans are functioning correctly to prevent heat buildup.
- **Driver Updates:** Keep your graphics drivers updated. New drivers often include performance optimizations and bug fixes.

8. Troubleshooting

If you encounter issues with your graphics card, refer to the following common problems and solutions:

Problem	Possible Cause	Solution
No display output	Card not seated correctly, power cables not connected, monitor cable loose, incorrect input selected on monitor.	Reseat the card, ensure power cables are firmly connected, check monitor cables and input selection.
Low performance in games	Outdated drivers, high in-game settings, insufficient power supply, overheating.	Update drivers, lower in-game graphics settings, verify PSU wattage, check cooling and airflow.
System crashes or freezes	Overheating, unstable drivers, power supply issues.	Monitor temperatures, update/reinstall drivers, ensure adequate power supply.
Fan noise is excessive	Dust buildup on fans, high temperatures causing fans to spin faster.	Clean fans and heatsink, improve case airflow.

9. Specifications

Technical specifications for the NVIDIA GeForce RTX 2070 Founders Edition:

Feature	Detail
Graphics Processor	NVIDIA GeForce RTX 2070
Architecture	NVIDIA Turing
Video Memory	8 GB GDDR6
Memory Interface	256-bit
Output Ports	3x DisplayPort, 1x HDMI, 1x USB-C (VirtualLink), 1x DVI-D
Recommended PSU	550W or greater
Power Connectors	1x 8-pin, 1x 6-pin
Dimensions (Approx.)	12.91 x 6.93 x 3.66 inches (Package)
Model Number	900-1G160-2550-000

10. Warranty and Support

NVIDIA provides a limited warranty for the GeForce RTX 2070 Founders Edition. For detailed warranty terms and conditions, please refer to the official NVIDIA website or the documentation included with your product.

For technical support, driver downloads, and frequently asked questions, please visit the NVIDIA support portal:

[NVIDIA Support Website](#)

When contacting support, please have your product model number (900-1G160-2550-000) and serial number ready.

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