ASUS ROG-STRIX-RTX4090-O24G-GAMING

ASUS ROG Strix GeForce RTX® 4090 OC Edition Gaming Graphics Card User Manual

Model: ROG-STRIX-RTX4090-O24G-GAMING

PRODUCT OVERVIEW

The ASUS ROG Strix GeForce RTX® 4090 OC Edition is a high-performance gaming graphics card engineered for enthusiasts and professionals. It leverages the NVIDIA Ada Lovelace architecture to deliver unparalleled gaming experiences, advanced content creation capabilities, and powerful AI acceleration.

Figure 1: ASUS ROG Strix GeForce RTX® 4090 OC Edition Gaming Graphics Card and Packaging.

Key Features:

- **NVIDIA Ada Lovelace Streaming Multiprocessors:** Offers up to 2x performance and power efficiency.
- **4th Generation Tensor Cores:** Provides up to 2X AI performance.
- **3rd Generation RT Cores:** Delivers up to 2X ray tracing performance for realistic lighting and shadows.
- **Axial-tech Fans:** Scaled up for 23% more airflow, ensuring efficient cooling.
- **Patented Vapor Chamber:** Features a milled heatspreader for lower GPU temperatures.
- **3.5-slot Design:** Incorporates a massive fin array optimized for airflow, with a diecast shroud, frame, and backplate for rigidity and enhanced heat dissipation.
- **Digital Power Control:** High-current power stages and 15K capacitors ensure maximum performance stability.
- **GPU Tweak III Software:** Provides intuitive performance tweaking, thermal controls, and system monitoring.

SETUP GUIDE

1. Unpacking and Inspection

Carefully remove the graphics card and all accessories from the packaging. Verify that all components listed in the "What's in the Box" section are present and inspect the card for any visible damage.

- ROG-STRIX-RTX4090-O24G-GAMING Graphics Card
- Collection card
- Speedsetup Manual
- Adapter Cable
- ROG Graphics card holder
- ROG Velcro Hook & Loop
- Thank you card

2. Hardware Installation

Before installation, ensure your system is powered off and unplugged from the wall outlet. Discharge any static electricity by touching a grounded metal object.

1. **Open PC Case:** Remove the side panel of your computer case to access the motherboard.
2. **Locate PCIe Slot:** Identify an available PCIe 4.0 x16 slot on your motherboard. This graphics card requires a 3.5-slot clearance.
3. **Remove Slot Covers:** Remove the necessary expansion slot covers from the back of your PC case to accommodate the card's display outputs.
4. **Insert Graphics Card:** Gently align the graphics card with the PCIe slot and press down firmly until it is securely seated. Ensure the retention clip on the PCIe slot locks into place.

Figure 2: Proper insertion of the graphics card into the PCIe slot.

5. **Connect Power Cables:** This card requires significant power. Connect the appropriate power cables from your power supply unit (PSU) to the graphics card's power connectors. The card requires three 8-pin power connectors. Ensure a minimum of an 850W PSU is used, with 1000W recommended for systems with multiple power-hungry components.

Figure 3: Power connector location on the graphics card.

6. **Install Graphics Card Holder:** Utilize the included ROG Graphics card holder to prevent sag and provide additional support for the card due to its weight and size.

7. **Close PC Case:** Secure the graphics card with screws and reattach the side panel of your PC case.

3. Driver and Software Installation

After hardware installation, connect your display to one of the graphics card's output ports (HDMI or DisplayPort) and power on your system.

1. **Download Drivers:** Visit the official ASUS support website or NVIDIA's official website to download the latest graphics drivers for the GeForce RTX 4090.

2. **Install Drivers:** Follow the on-screen instructions to install the drivers. A clean installation is recommended to avoid conflicts with previous drivers.

3. **Install GPU Tweak III:** Download and install the ASUS GPU Tweak III software from the ASUS support website. This utility allows for advanced monitoring, overclocking, and fan control.

OPERATING INSTRUCTIONS

1. Connecting Displays

The ASUS ROG Strix RTX 4090 OC Edition features multiple display outputs for versatile connectivity:

- 2 x HDMI 2.1a ports
- 3 x DisplayPort 1.4a outputs

Connect your monitor(s) using high-quality HDMI 2.1a or DisplayPort 1.4a cables to achieve maximum resolution and refresh rates (e.g., 4K at 120Hz or 8K at 60Hz).

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HDMI

HDMI

Stainless Steel 304

Figure 4: Display output ports on the graphics card.

2. Performance Optimization with GPU Tweak III

The GPU Tweak III software provides comprehensive control over your graphics card's performance. Launch the application to access various settings:

- **OC Mode:** Boosts clock speeds for higher performance.
- **Gaming Mode:** Optimized settings for general gaming.
- **Silent Mode:** Prioritizes quiet operation by reducing fan speeds and clock frequencies.
- **User-Defined Mode:** Allows custom adjustment of GPU clock, memory clock, voltage, and fan curves.

Monitor real-time statistics such as GPU temperature, clock speeds, and fan RPM to ensure optimal operation.

3. Understanding Cooling System

The Axial-tech fan design ensures efficient cooling. The fans are designed to provide increased static pressure and airflow. During light loads, the 0dB technology allows the fans to stop completely for silent operation. They will automatically spin up when the GPU temperature reaches a certain threshold under heavier loads.

Figure 5: Axial-tech fan design for enhanced cooling.

MAINTENANCE

1. Cleaning the Graphics Card

Regular cleaning helps maintain optimal performance and extends the lifespan of your graphics card. Ensure your PC is powered off and unplugged before cleaning.

- Use compressed air to gently blow dust from the fans, heatsink fins, and other accessible areas. Hold the fans in place to prevent over-spinning.
- Wipe the exterior surfaces with a soft, lint-free cloth. Avoid using liquid cleaners directly on the card.
- Clean the PCIe connector with a soft eraser if necessary, then wipe away any residue.

2. Driver Updates

Periodically check for and install the latest NVIDIA drivers. Driver updates often include performance improvements, bug fixes, and support for new games and applications. You can check for updates through the NVIDIA GeForce Experience software or the official NVIDIA website.

TROUBLESHOOTING

This section provides solutions for common issues you might encounter with your graphics card.

No Display Output / Black Screen:

- Ensure the display cable is securely connected to both the graphics card and the monitor.
- Verify that the graphics card is fully seated in the PCIe slot.
- Check that all power cables from the PSU are correctly connected to the graphics card.
- Test with a different display cable or monitor if possible.
- Ensure your monitor is set to the correct input source.

Low Performance in Games/Applications:

- Confirm that the latest graphics drivers are installed.
- Check GPU temperatures using GPU Tweak III; high temperatures can lead to thermal throttling. Ensure adequate case airflow.
- Verify that your power supply unit (PSU) meets the recommended wattage for the RTX 4090.
- Ensure the game or application is utilizing the dedicated graphics card and not integrated graphics (if applicable).
- Adjust in-game graphics settings. Utilize NVIDIA DLSS technology for improved frame rates.

Fan Noise / Overheating:

- Clean dust from the fans and heatsink regularly.
- Ensure proper case ventilation and fan configuration.
- Adjust fan curves in GPU Tweak III to balance cooling and noise levels.
- Verify that the graphics card holder is installed correctly to prevent sag, which can affect cooling.

If issues persist, refer to the ASUS support website or contact customer service for further assistance.

SPECIFICATIONS

Feature	Detail
Brand	ASUS
Series	ROG-STRIX-RTX4090-O24G-GAMING
Item Model Number	ROG-STRIX-RTX4090-O24G-GAMING
Graphics Coprocessor	NVIDIA GeForce RTX 4090
Chipset Brand	NVIDIA
Graphics Card RAM Size	24 GB GDDR6X
Memory Speed	1400 MHz

Feature	Detail
Max Screen Resolution	7680x4320
Video Output Interface	DisplayPort, HDMI (2x HDMI 2.1a, 3x DisplayPort 1.4a)
Hardware Platform	PC
Item Weight	8.05 pounds
Product Dimensions (LxWxH)	14.1 x 5.9 x 0.1 inches
Date First Available	October 12, 2022

WARRANTY AND SUPPORT

This ASUS ROG Strix GeForce RTX® 4090 OC Edition Gaming Graphics Card is backed by ASUS's standard product warranty. For specific warranty terms and conditions, please refer to the documentation included with your product, such as the "Collection card" or "Thank you card," or visit the official ASUS support website.

For technical support, driver downloads, and frequently asked questions, please visit the ASUS Support Website.

Please retain your proof of purchase for warranty claims.