**GIGABYTE GV-N5090AORUSM ICE-32GD**

# GIGABYTE AORUS GeForce RTX 5090 Master ICE 32G Graphics Card User Manual

**MODEL: GV-N5090AORUSM ICE-32GD**

## 1. Introduction

This manual provides essential information for the installation, operation, maintenance, and troubleshooting of your GIGABYTE AORUS GeForce RTX 5090 Master ICE 32G Graphics Card. This high-performance graphics card is powered by NVIDIA's new RTX architecture, designed to deliver stunning visuals, high frame rates, and AI acceleration for gaming and creative applications. It features enhanced RT Cores and Tensor Cores, along with a substantial 32 GB of GDDR7 memory.

**Key Features:**

- NVIDIA Blackwell architecture and DLSS 4
- Powered by GeForce RTX 5090
- Integrated with 32GB GDDR7 512bit memory interface
- PCIe 5.0 interface for high-speed data transfer
- WINDFORCE cooling system with Hawk Fan design

Figure 1: GIGABYTE AORUS GeForce RTX 5090 Master ICE 32G Graphics Card and its retail packaging.

## 2. Setup and Installation

Proper installation is crucial for optimal performance and system stability. Please follow these steps carefully.

### 2.1 Package Contents

Ensure all components are present in the box:

- GIGABYTE AORUS GeForce RTX 5090 Master ICE 32G Graphics Card
- 16-Pin Power Cable
- Documentation (Quick Start Guide, Warranty Information)

### 2.2 Hardware Installation

1. **Power Off System:** Turn off your computer and disconnect the power cable from the wall outlet.
2. **Open Case:** Remove the side panel of your computer case.
3. **Locate PCIe Slot:** Identify an available PCI Express x16 slot on your motherboard.
4. **Remove Slot Covers:** Remove the necessary expansion slot covers from your computer case.
5. **Insert Graphics Card:** Carefully align the graphics card with the PCIe slot and press it down firmly until it is securely seated. Ensure the retention clip on the PCIe slot locks into place.

6. **Secure Card:** Fasten the graphics card to the case using screws.
7. **Connect Power:** Connect the provided 16-pin power cable from your power supply to the graphics card. Ensure a secure connection to prevent power delivery issues.
8. **Close Case:** Replace the side panel of your computer case.

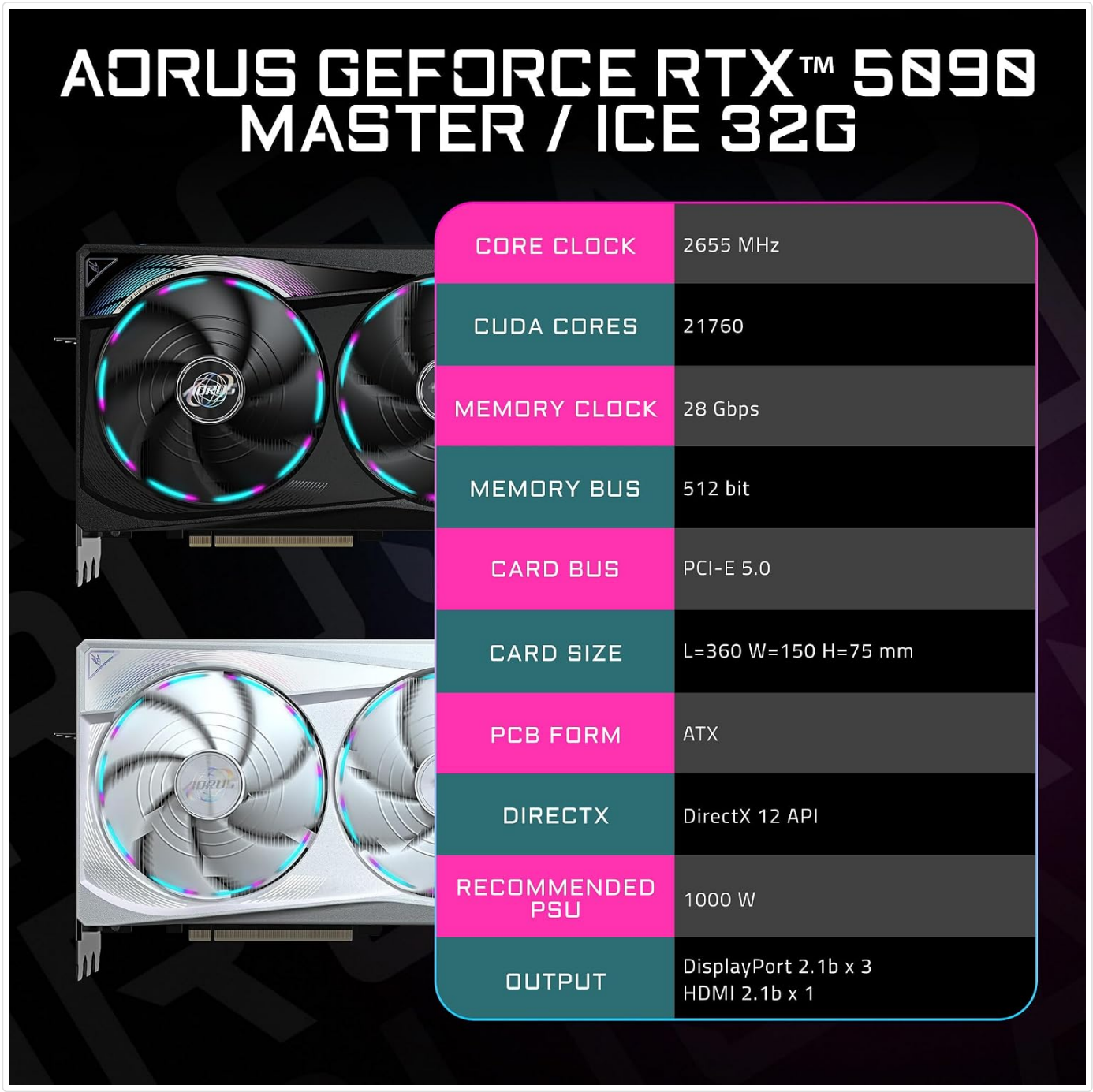


Figure 2: Front view of the graphics card, illustrating the triple-fan cooling system.

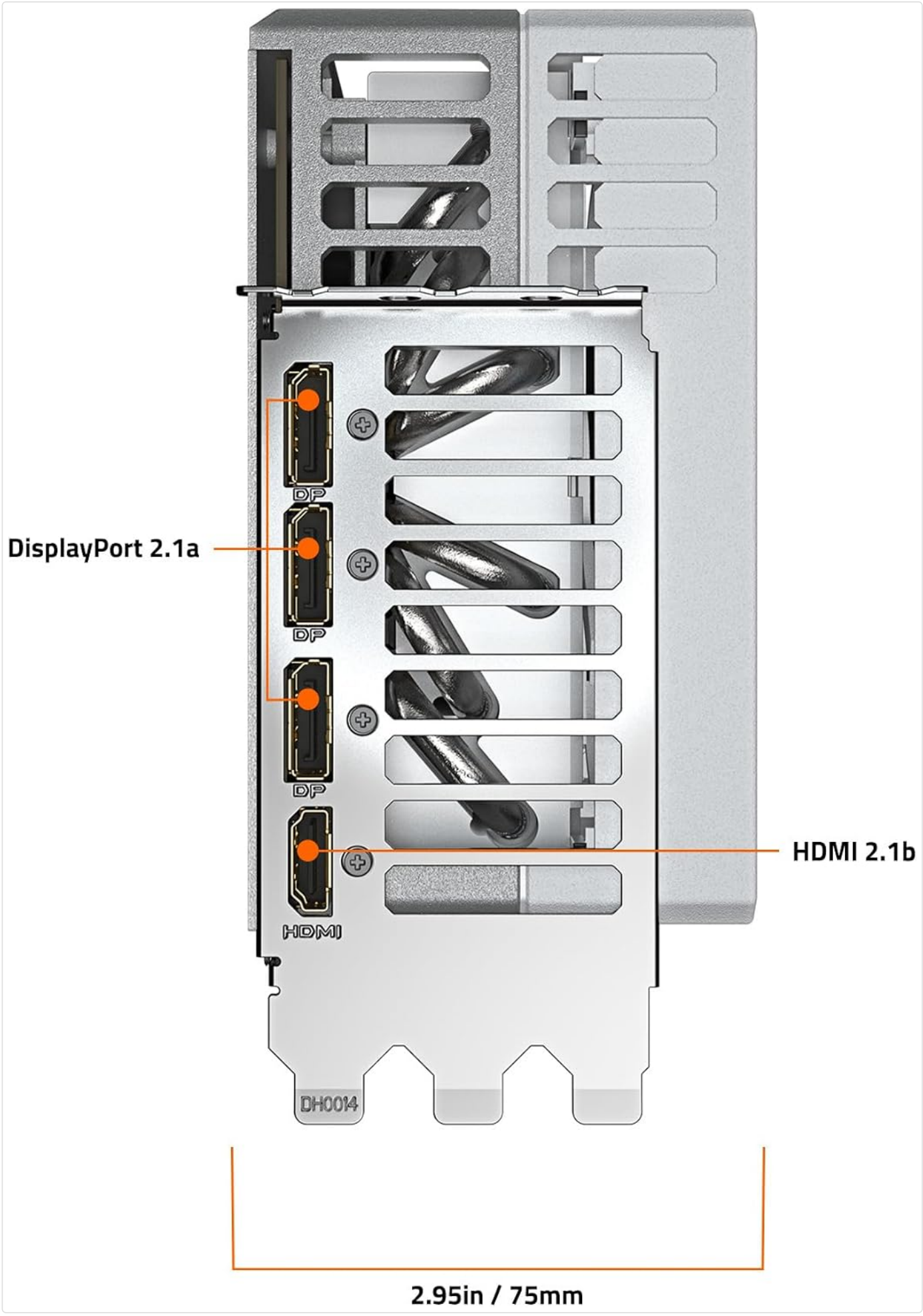


Figure 3: Video output interfaces, including DisplayPort and HDMI ports.

## 2.3 Driver Installation

After hardware installation, install the latest graphics drivers for optimal performance and compatibility.

1. **Power On System:** Connect your monitor to one of the graphics card's output ports (DisplayPort or HDMI) and power on your computer.
2. **Download Drivers:** Visit the official GIGABYTE support website or NVIDIA's driver download page to obtain the latest drivers for the GeForce RTX 5090.
3. **Install Drivers:** Follow the on-screen instructions to complete the driver installation. A system restart may be required.

## 3. Operating the Graphics Card

Your GIGABYTE AORUS GeForce RTX 5090 Master ICE 32G Graphics Card is designed for high-performance computing, gaming, and content creation.

### 3.1 Software Utilities

GIGABYTE provides software utilities to monitor and customize your graphics card:

- **GIGABYTE Control Center** / **AORUS Engine:** This software allows you to monitor GPU status, adjust clock speeds, fan curves, and customize RGB lighting effects. Download the latest version from the GIGABYTE website.

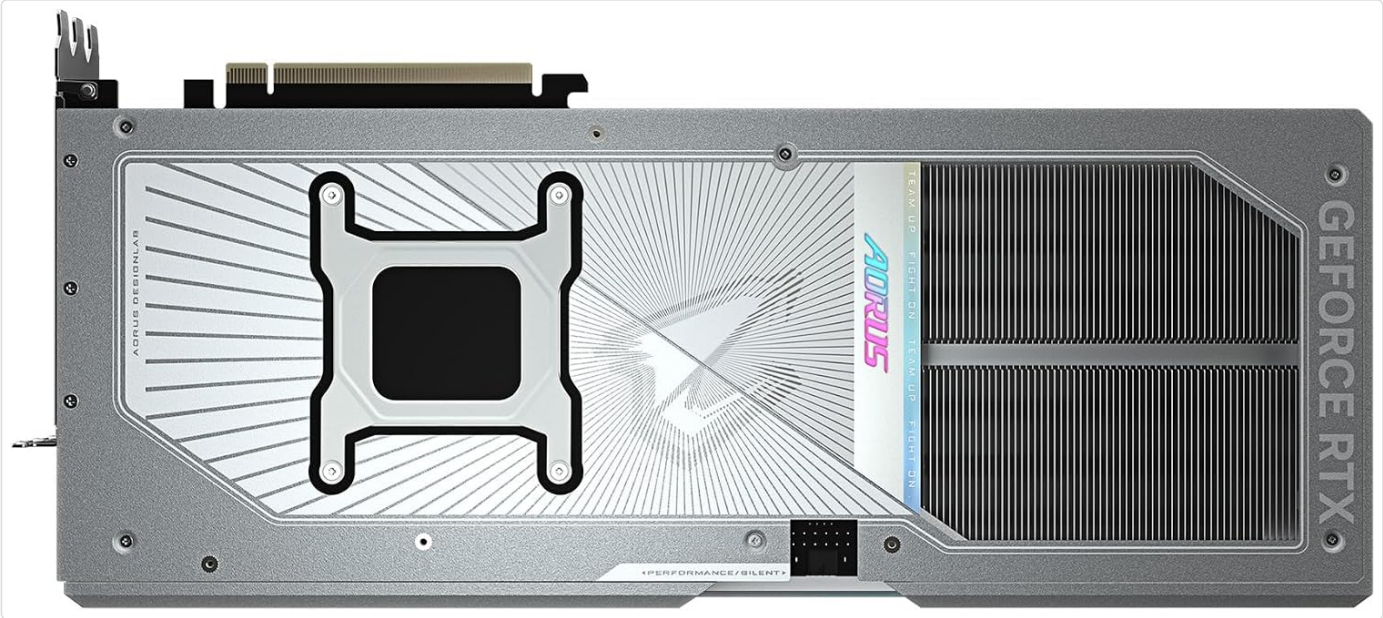


Figure 4: Illuminated AORUS logo on the side of the graphics card.

Figure 5: Top view of the graphics card fans with customizable RGB lighting.

### 3.2 Display Connections

Connect your display(s) to the available ports on the graphics card. This model typically includes DisplayPort and HDMI outputs.

- **DisplayPort:** For high-resolution and high-refresh-rate monitors.
- **HDMI:** For general display connections, including TVs and monitors.

## 4. Maintenance

Regular maintenance helps ensure the longevity and performance of your graphics card.

### 4.1 Cleaning

Dust accumulation can hinder cooling performance. Periodically clean your graphics card:

- **Power Off:** Always power off your computer and disconnect it from the power outlet before cleaning.
- **Dust Removal:** Use compressed air to gently blow dust from the fans and heatsink fins. Hold the fans in place to prevent over-spinning.
- **Surface Cleaning:** Wipe the exterior surfaces with a soft, dry, lint-free cloth. Avoid using liquid cleaners directly on the card.

Figure 6: Backplate view, showing the heatsink area for effective cooling.

### 4.2 Firmware Updates

Occasionally, GIGABYTE may release firmware updates for the graphics card to improve performance, stability, or add new features. Check the official GIGABYTE support website for any available updates and follow their instructions carefully.

## 5. Troubleshooting

If you encounter issues with your graphics card, refer to the following common troubleshooting 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.
  - Check that all power cables (including the 16-pin connector) are properly attached.
  - Test with a different monitor or cable if possible.

- **Performance Issues / Low Frame Rates:**
  - Ensure you have the latest graphics drivers installed.
  - Check GPU temperatures using monitoring software (e.g., GIGABYTE Control Center) to ensure it's not overheating.
  - Verify your system meets the recommended specifications for the applications or games you are running.
  - Close unnecessary background applications.
- **System Instability / Crashes:**
  - Ensure your power supply unit (PSU) meets the recommended wattage for the graphics card and your system.
  - Check for any loose connections within your PC.
  - If overclocking, revert to default settings to rule out instability caused by overclocks.

For further assistance, please visit the GIGABYTE support website or contact their customer service.

## 6. Specifications

Detailed technical specifications for the GIGABYTE AORUS GeForce RTX 5090 Master ICE 32G Graphics Card.

Figure 7: Key specifications of the AORUS GeForce RTX 5090 Master ICE 32G.

| Feature | Specification |
| --- | --- |
| Graphics Coprocessor | NVIDIA GeForce RTX 5090 |
| Graphics Card RAM Size | 32 GB GDDR7 |
| Memory Speed | 28000 MHz |
| Memory Bus | 512-bit |
| GPU Clock Speed | 2655 MHz |
| Max Screen Resolution | 7680x4320 Pixels |
| Video Output Interface | 3x DisplayPort 2.1b, 1x HDMI 2.1b |
| PCIe Interface | PCIe 5.0 |

| Feature | Specification |
| --- | --- |
| Item Model Number | GV-N5090AORUSM ICE-32GD |
| Product Dimensions (LxWxH) | 14.17 x 5.91 x 2.95 inches (360 x 150 x 75 mm) |
| Item Weight | 8.82 pounds |
| Color | White |
| Recommended PSU | 1000W (as per AORUS image) |

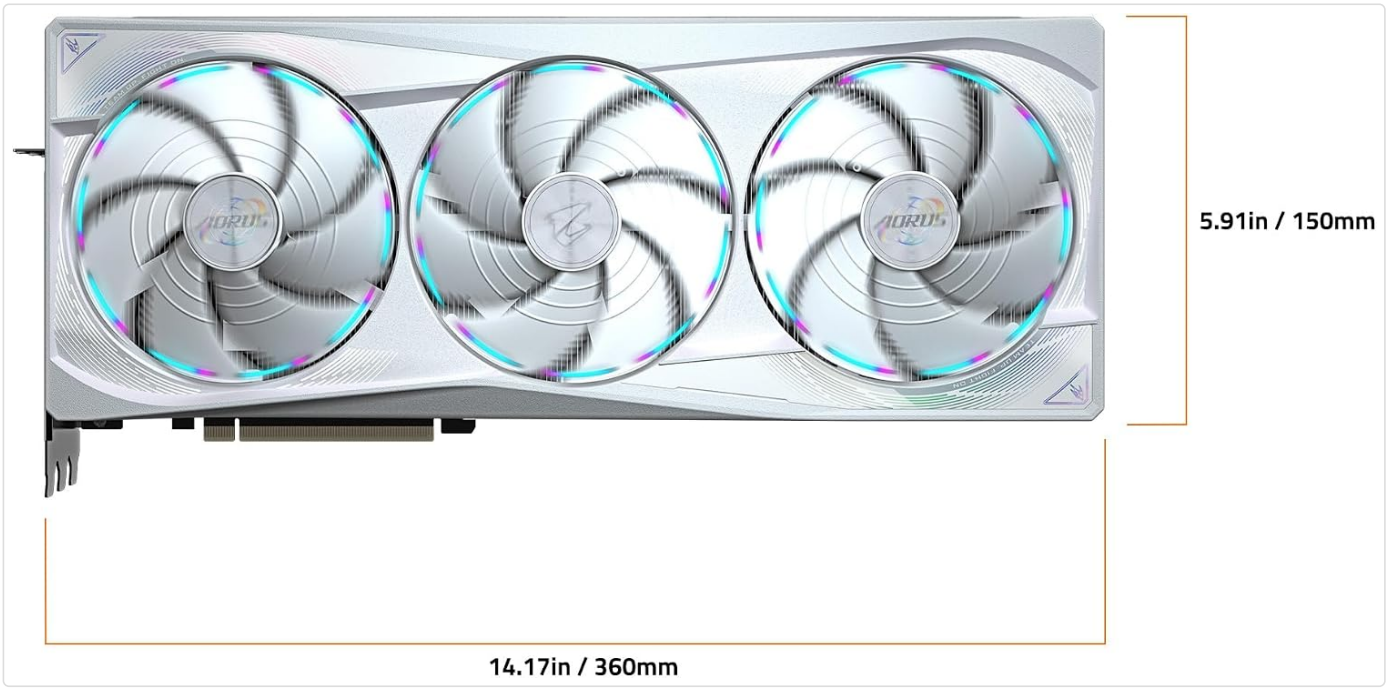


Figure 8: Graphics card dimensions for compatibility checks.

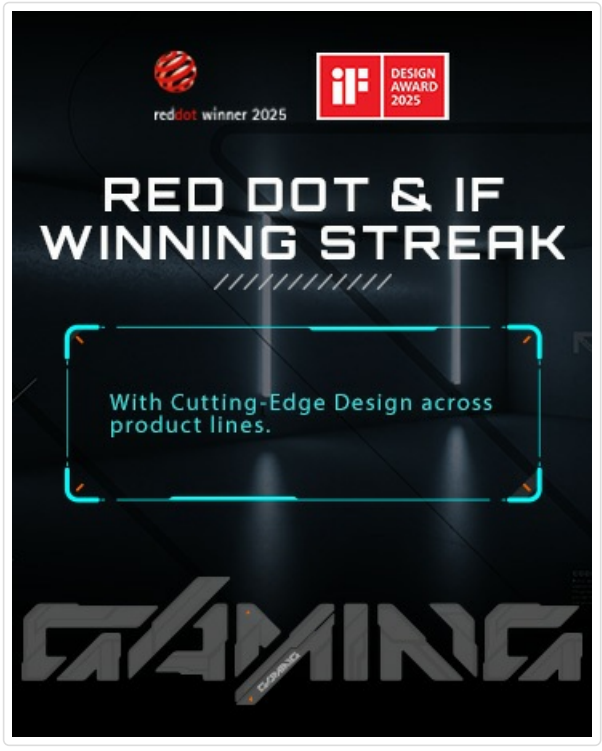


Figure 9: Detailed view of card dimensions and port configuration.

## 7. Warranty and Support

GIGABYTE stands behind the quality of its products. Your GIGABYTE AORUS GeForce RTX 5090 Master ICE 32G Graphics Card comes with a **4-year warranty** (OC Edition, as indicated on packaging).

For detailed warranty terms, technical support, driver downloads, and FAQs, please visit the official GIGABYTE support website:

**GIGABYTE Support Website**

Always refer to the official website for the most up-to-date information.

## 8. Official Product Video

Watch the official trailer for the GIGABYTE GeForce RTX 50 Series Graphics Cards to learn more about their features and capabilities.

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Video 1: GIGABYTE GeForce RTX 50 Series - Official Trailer. This video showcases the design and features of the RTX 50 series graphics cards, including RGB lighting and cooling systems.


### Ask a question about this manual

Ask about setup, troubleshooting, compatibility, parts, safety, or missing instructions. Manuals+ will review the question and use this page's manual context to help answer it.

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After a successful submission, we securely hash the supplied account or form email before sending it to Microsoft Advertising for conversion attribution. Privacy details.

**Question**

Example: How do I reset this device or fix this error?

**Details**

Model number, symptoms, what you tried, or the section of the manual you are using.

Submit question