GIGABYTE GV-N506TGAMING OC-16GD

GIGABYTE GeForce RTX 5060 Ti Gaming OC 16G Graphics Card User Manual

Model: GV-N506TGAMING OC-16GD

1. Introduction

This manual provides essential information for the installation, operation, and maintenance of your GIGABYTE GeForce RTX 5060 Ti Gaming OC 16G Graphics Card. Designed for optimal performance in gaming and creative applications, this graphics card features NVIDIA's latest architecture, enhanced RT Cores, Tensor Cores, and 16GB of GDDR7 memory. Please read this manual thoroughly before installation to ensure proper setup and to maximize your product's potential. The GIGABYTE GeForce RTX 5060 Ti Gaming OC 16G is powered by the NVIDIA Blackwell architecture and DLSS 4, offering superior visuals and accelerated performance. It integrates with a 16GB GDDR7 128-bit memory interface and supports PCIe 5.0, providing a robust platform for demanding tasks.

2. Package Contents

Please verify that all items listed below are present in your product package. If any items are missing or damaged, contact your retailer.

- Graphics Card
- Manual



Image: The GIGABYTE GeForce RTX 5060 Ti Gaming OC 16G Graphics Card alongside its packaging.

3. Product Overview

The GIGABYTE GeForce RTX 5060 Ti Gaming OC 16G Graphics Card is engineered for high-performance computing, featuring advanced cooling and robust construction.

3.1 Key Features

- **WINDFORCE Cooling System:** Features multiple fans for efficient heat dissipation, ensuring stable performance even under heavy loads.
- **16GB GDDR7 Memory:** Provides ample memory for high-resolution textures and complex scenes.
- **PCIe 5.0 Interface:** Offers high bandwidth for fast data transfer between the GPU and the motherboard.
- **NVIDIA Blackwell Architecture:** The latest GPU architecture for enhanced performance and power efficiency.
- **DLSS 4:** Utilizes AI to boost frame rates and generate stunning, sharp images.
- **Ray Tracing Cores:** Dedicated hardware for realistic lighting, shadows, and reflections.

3.2 Component Identification

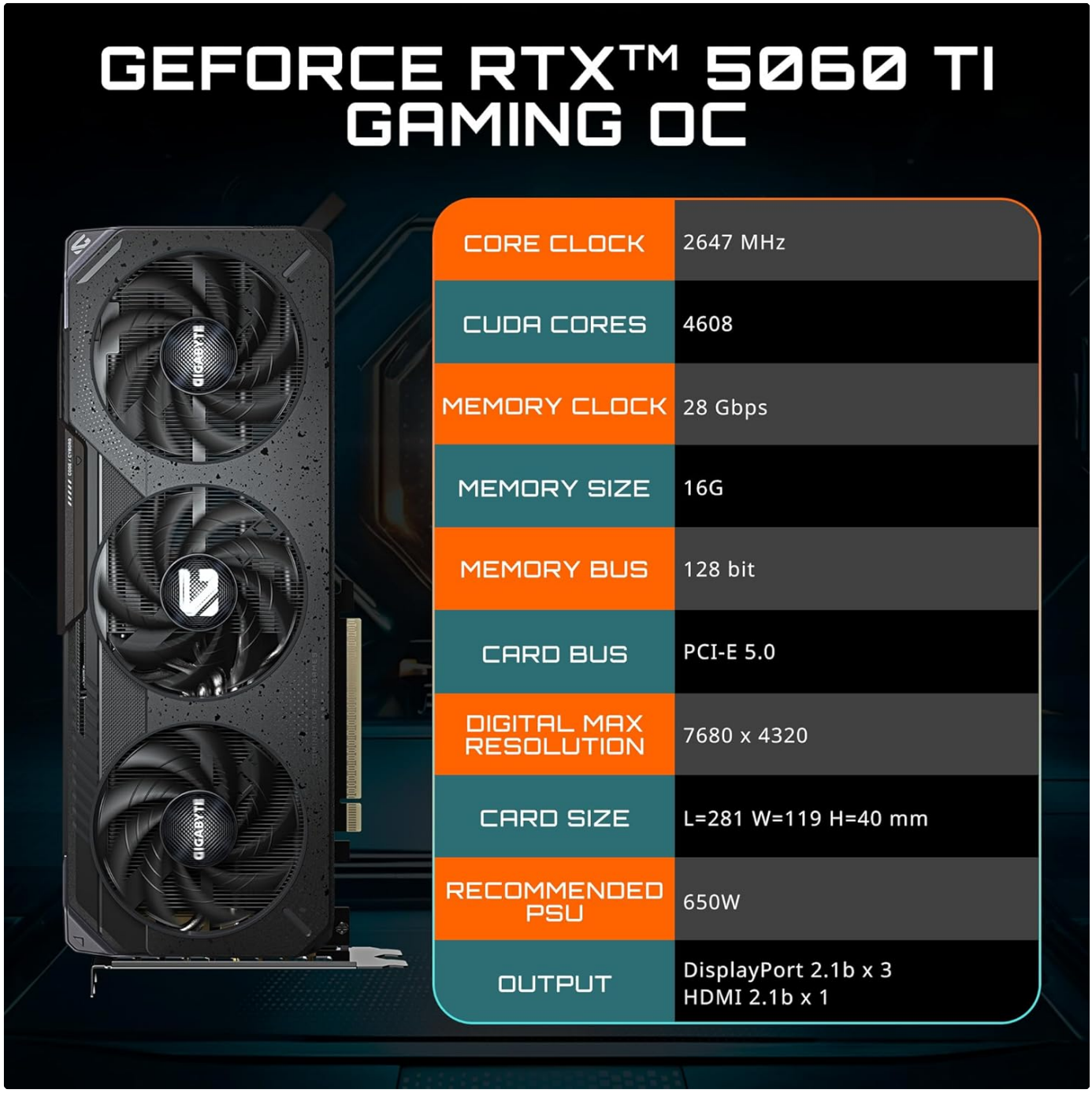


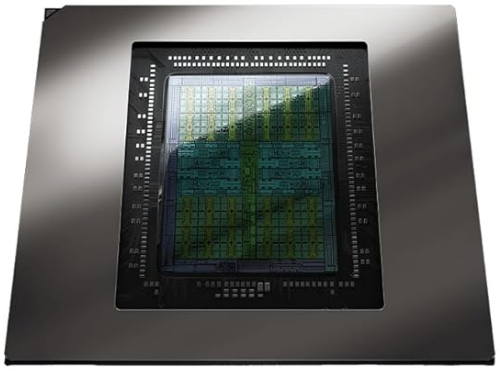
Image: Front view of the graphics card, showcasing the triple fan design.



Image: Side view of the graphics card, highlighting its thickness and cooling fins.

NVIDIA Blackwell Architecture

THE ULTIMATE PLATFORM FOR GAMERS AND CREATORS



Fifth-Gen Tensor Cores
Max AI performance with FP4 and DLSS 4

New Streaming Multiprocessors
Optimized for neural shaders

Fourth-Gen Ray Tracing Cores
Built for Mega Geometry

AI-Enhanced Graphics and Performance
NVIDIA DLSS 4 with Multi Frame Generation

Game-Winning Responsiveness
NVIDIA Reflex 2 with Frame Warp

True-to-Life Graphics
Full ray tracing with neural rendering

Digital Humans and AI Assistants
NVIDIA ACE

Accelerate Your Creativity
NVIDIA Studio creator tools and technology

Enhance Any Video with AI
NVIDIA Broadcast and ninth-gen NVIDIA Encoder

Performance and Reliability
NVIDIA app with Game Ready and Studio Drivers

The Ultimate Gaming Display Technologies
NVIDIA G-SYNC

Image: Rear view of the graphics card, showing the protective backplate.

NVIDIA DLSS 4

SUPREME SPEED. SUPERIOR VISUALS. POWERED BY AI.

DLSS is a revolutionary suite of neural rendering technologies that uses AI to boost FPS, reduce latency, and improve image quality. The latest breakthrough, DLSS 4, brings new Multi Frame Generation and enhanced Ray Reconstruction and Super Resolution, powered by GeForce RTX™ 50 Series GPUs and fifth-generation Tensor Cores. DLSS on GeForce RTX is the best way to play, backed by an NVIDIA AI supercomputer in the cloud constantly improving your PC's gaming capabilities.

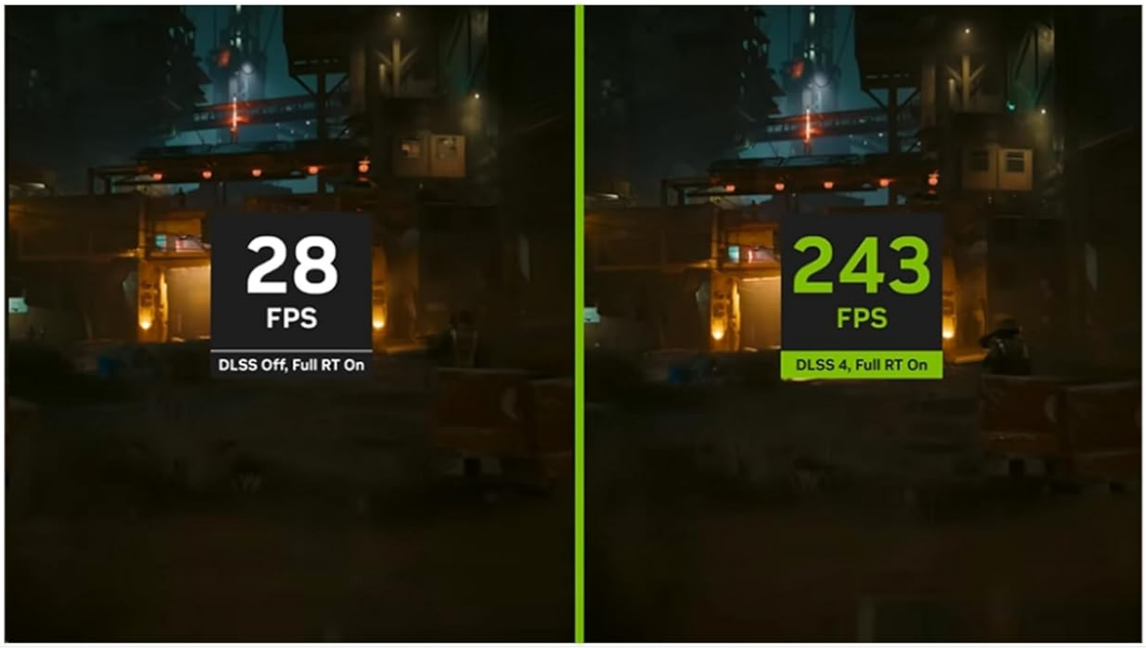


Image: Display output ports, including DisplayPort and HDMI connectors.



Image: Diagram detailing the WINDFORCE cooling system, including active cooling, screen cooling, RGB lighting, server-grade thermal conductive gel, copper plate, composite copper heat pipe, multi-layered visual, and sliding side plate.

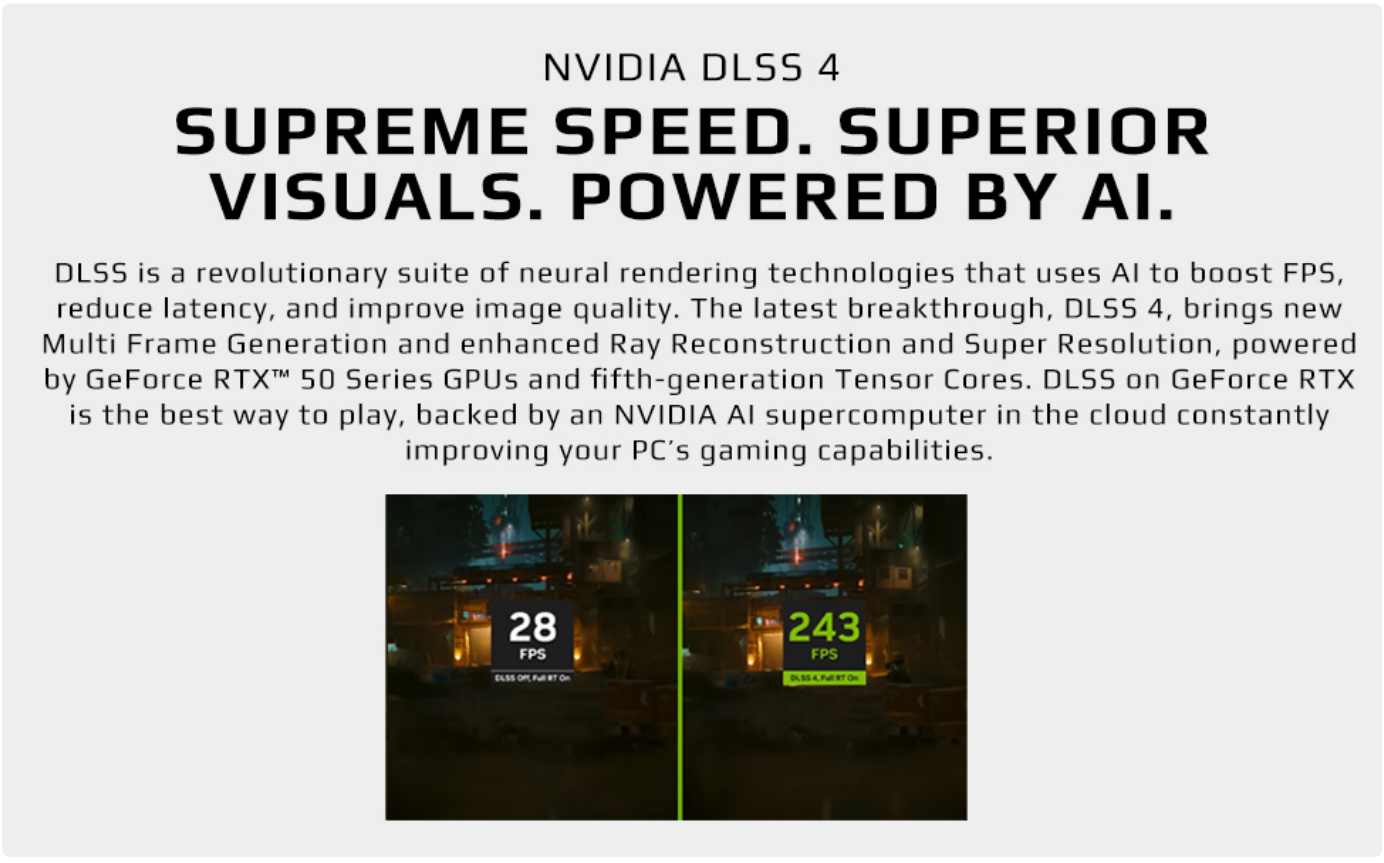


Image: Overview of NVIDIA Blackwell Architecture features, including Fifth-Gen Tensor Cores, New Streaming Multiprocessors, Fourth-Gen Ray Tracing Cores, AI-Enhanced Graphics and Performance, Game-Winning Responsiveness, True-to-Life Graphics, Digital Humans and AI Assistants, Accelerate Your Creativity, Enhance Any Video with AI, Performance and Reliability, and The Ultimate Gaming Display Technologies.

4. Specifications

Detailed technical specifications for the GIGABYTE GeForce RTX 5060 Ti Gaming OC 16G Graphics Card.

Feature	Specification
Graphics Coprocessor	RTX 5060TI
Memory Speed	28000 MHz
Graphics Card RAM Size	16 GB GDDR7
Chipset Brand	NVIDIA
Card Description	Dedicated
Max Screen Resolution	7680x4320 Pixels
GPU Clock Speed	2647 MHz
Video Output Interface	DisplayPort, HDMI
Item Model Number	GV-N506TGAMING OC-16GD
Item Weight	2.55 pounds
Product Dimensions	11.06 x 4.69 x 0.1 inches
Manufacturer	GIGABYTE
Country of Origin	Taiwan

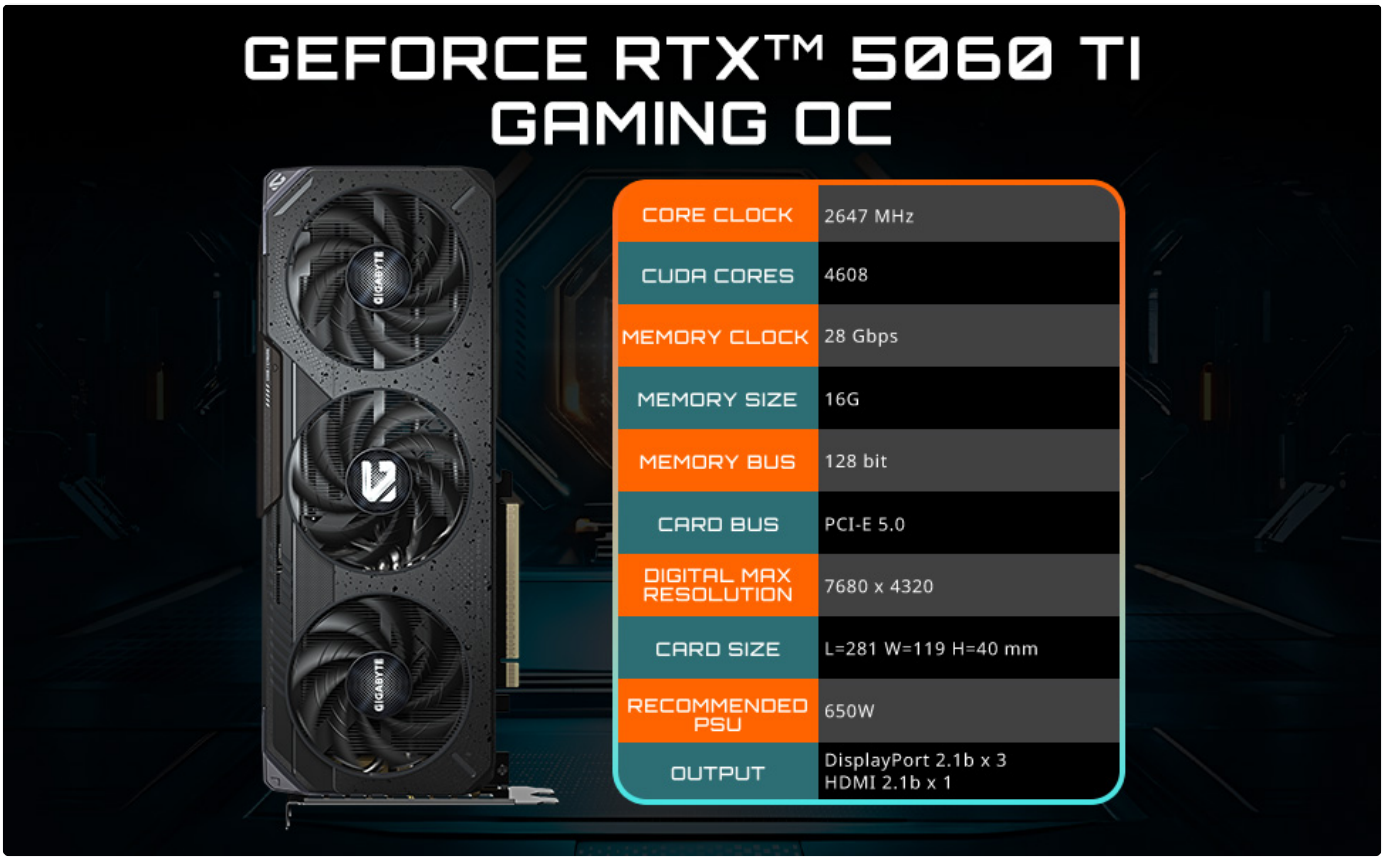


Image: Visual representation of the graphics card's core specifications, including clock speed, CUDA cores, memory, bus, card bus, digital max resolution, card size, recommended PSU, and output ports.

5. Setup and Installation

Follow these steps to properly install your GIGABYTE graphics card into your computer system.

1. **Preparation:**
    - Turn off your computer and disconnect the power cable.
    - Open your computer case.
    - Ground yourself to discharge any static electricity.
2. **Locate PCIe Slot:** Identify an available PCIe 5.0 x16 slot on your motherboard.
3. **Remove Old Graphics Card (if applicable):**
    - Unscrew any retaining screws or release clips.
    - Gently pull the old card out of the slot.
4. **Install New Graphics Card:**
    - Align the graphics card with the PCIe slot.
    - Press down firmly until the card is securely seated and the retaining clip clicks into place.
    - Secure the card with screws to the computer case.

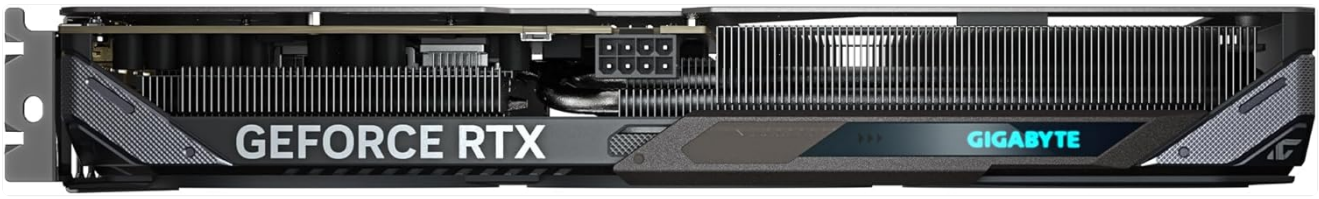


Image: Top view of the graphics card, indicating the location of the power connectors.

5. **Connect Power Cables:** Connect the appropriate PCIe power cables from your power supply unit (PSU) to the graphics card. A recommended PSU of 650W is suggested for optimal performance.
6. **Close Case and Reconnect:** Close your computer case, reconnect all peripherals, and the power cable.
7. **First Boot:** Power on your computer. The system may boot into a lower resolution initially.

6. Operating Instructions

After physical installation, software setup is crucial for the graphics card to function correctly and deliver its full performance.

1. **Driver Installation:**
    - Download the latest graphics drivers from the official GIGABYTE or NVIDIA website. Ensure you select the correct model (RTX 5060 Ti) and operating system.
    - Run the installer and follow the on-screen prompts. A restart may be required.
2. **Software Configuration:**
    - Install NVIDIA GeForce Experience (optional, but recommended for optimal gaming settings and driver updates).
    - Utilize the NVIDIA Control Panel for advanced display settings, 3D settings, and resolution adjustments.
3. **Display Connection:** Connect your monitor(s) to the graphics card's DisplayPort or HDMI outputs.



Image: A visual comparison demonstrating the performance improvement with NVIDIA DLSS 4 enabled, showing a significant increase in frames per second.

7. Maintenance

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

- **Driver Updates:** Periodically check for and install the latest graphics drivers from GIGABYTE or NVIDIA. Driver updates often include performance improvements, bug fixes, and new feature support.
- **Dust Cleaning:** Over time, dust can accumulate on the fans and heatsink, reducing cooling efficiency.
    - Turn off and unplug your computer before cleaning.
    - Use compressed air to gently blow dust out of the heatsink fins and fan blades. Hold the fan blades in place to prevent over-spinning.
    - Do not use liquid cleaners directly on the card.
- **System Airflow:** Ensure your PC case has adequate airflow to prevent heat buildup. Keep cables tidy and ensure intake/exhaust fans are clear.
- **Temperature Monitoring:** Use monitoring software (e.g., GPU-Z, MSI Afterburner) to keep an eye on your GPU temperatures during heavy loads. Excessive temperatures can indicate cooling issues.

8. 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 that the graphics card is fully seated in the PCIe slot.
    - Check that all necessary power cables are connected from the PSU to the graphics card.
    - Try connecting the monitor to a different display output port on the card.

- Test with a different monitor or cable if possible.

- **Driver Issues / Crashes:**
  - Perform a clean installation of the graphics drivers. Use a tool like Display Driver Uninstaller (DDU) in Safe Mode to remove old drivers completely before installing new ones.
  - Ensure your operating system is up to date.
- **Overheating:**
  - Check for dust buildup on the fans and heatsink and clean if necessary.
  - Ensure proper airflow within your PC case.
  - Verify that the fans on the graphics card are spinning correctly.
- **Performance Issues (Low FPS, Stuttering):**
  - Ensure you have the latest drivers installed.
  - Check in-game graphics settings; reduce settings if necessary.
  - Monitor GPU usage and temperature to identify bottlenecks.
  - Ensure your power supply unit (PSU) meets the recommended wattage (650W for this model).

9. Warranty and Support

For warranty information, technical support, or further assistance, please refer to the official GIGABYTE website or contact their customer service.

- **Official GIGABYTE Website:** Visit www.gigabyte.com for product registration, driver downloads, FAQs, and support resources.
- **GIGABYTE Store on Amazon:** For product information and other GIGABYTE products, you can visit the official GIGABYTE store on Amazon: GIGABYTE Store.
- **Customer Service:** Refer to your product's packaging or the GIGABYTE website for specific contact information for your region.

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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.

Name

Anonymous

Email

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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