

MSI V397-019R

MSI GeForce RTX 3060 GAMING X Graphics Card User Manual

Model: V397-019R

1. INTRODUCTION

This manual provides essential information for the installation, operation, maintenance, and troubleshooting of your MSI GeForce RTX 3060 GAMING X graphics card. Please read this manual thoroughly before installation to ensure proper setup and optimal performance. This graphics card is designed to deliver high-performance graphics for gaming and demanding applications.



Image 1.1: Front view of the MSI GeForce RTX 3060 GAMING X graphics card, showcasing its dual-fan cooling system and sleek design.

2. SAFETY INFORMATION

Observe the following safety precautions during installation and operation:

- Always disconnect the power cord from the wall outlet before touching any internal components of your computer.
- Wear an anti-static wrist strap or frequently touch a grounded metal object (e.g., the computer case) to discharge static electricity before handling the graphics card.
- Ensure your computer case has adequate ventilation to prevent overheating.
- Do not expose the graphics card to moisture or extreme temperatures.
- Handle the graphics card by its edges to avoid touching sensitive components.

3. PACKAGE CONTENTS

Verify that your package contains the following items:

- MSI GeForce RTX 3060 GAMING X Graphics Card (Model: V397-019R)
- Documentation (Quick Start Guide, User Manual link)

4. SETUP AND INSTALLATION

4.1. System Requirements

- PCI Express-compliant motherboard with one x16 graphics slot.
- Minimum 550W power supply with one 8-pin PCIe power connector.
- Minimum 8GB system memory (16GB recommended).
- Microsoft Windows 10 64-bit or later operating system.
- Internet connection for driver download.

4.2. Physical Installation

Preparation:

1. Power off your computer and disconnect the power cord from the wall outlet.
2. Open your computer case.
3. Discharge any static electricity by touching a grounded metal object.

Installing the Graphics Card:

1. Locate an available PCI Express x16 slot on your motherboard.
2. Remove the metal slot cover(s) corresponding to the chosen PCIe slot.
3. Carefully align the graphics card with the PCIe slot and press it firmly until it is securely seated. A click sound indicates proper seating.
4. Secure the graphics card to the computer case with screws.
5. Connect the 8-pin PCIe power connector from your power supply to the graphics card. Ensure a firm connection.



Image 4.1: Top view of the graphics card, highlighting the 8-pin power connector location for proper power supply connection.

4.3. Driver Installation

1. After physical installation, close your computer case and reconnect the power cord.
2. Power on your computer.
3. Download the latest graphics drivers from the official NVIDIA website (www.nvidia.com/drivers) or MSI website (www.msi.com/support/download).
4. Run the downloaded driver installer and follow the on-screen instructions to complete the installation.
5. Restart your computer after the driver installation is complete.

5. OPERATING INSTRUCTIONS

5.1. First Use

1. Connect your display monitor(s) to the graphics card's output ports using appropriate cables (HDMI or DisplayPort).
2. Power on your monitor(s) and computer.

3. Verify that the display is functioning correctly and that the installed drivers are recognized by your operating system.

5.2. Display Connections

The MSI GeForce RTX 3060 GAMING X provides multiple display output options:

- **DisplayPort 1.4a:** Supports up to 7680x4320 resolution at 60Hz.
- **HDMI 2.1:** Supports up to 7680x4320 resolution at 60Hz.

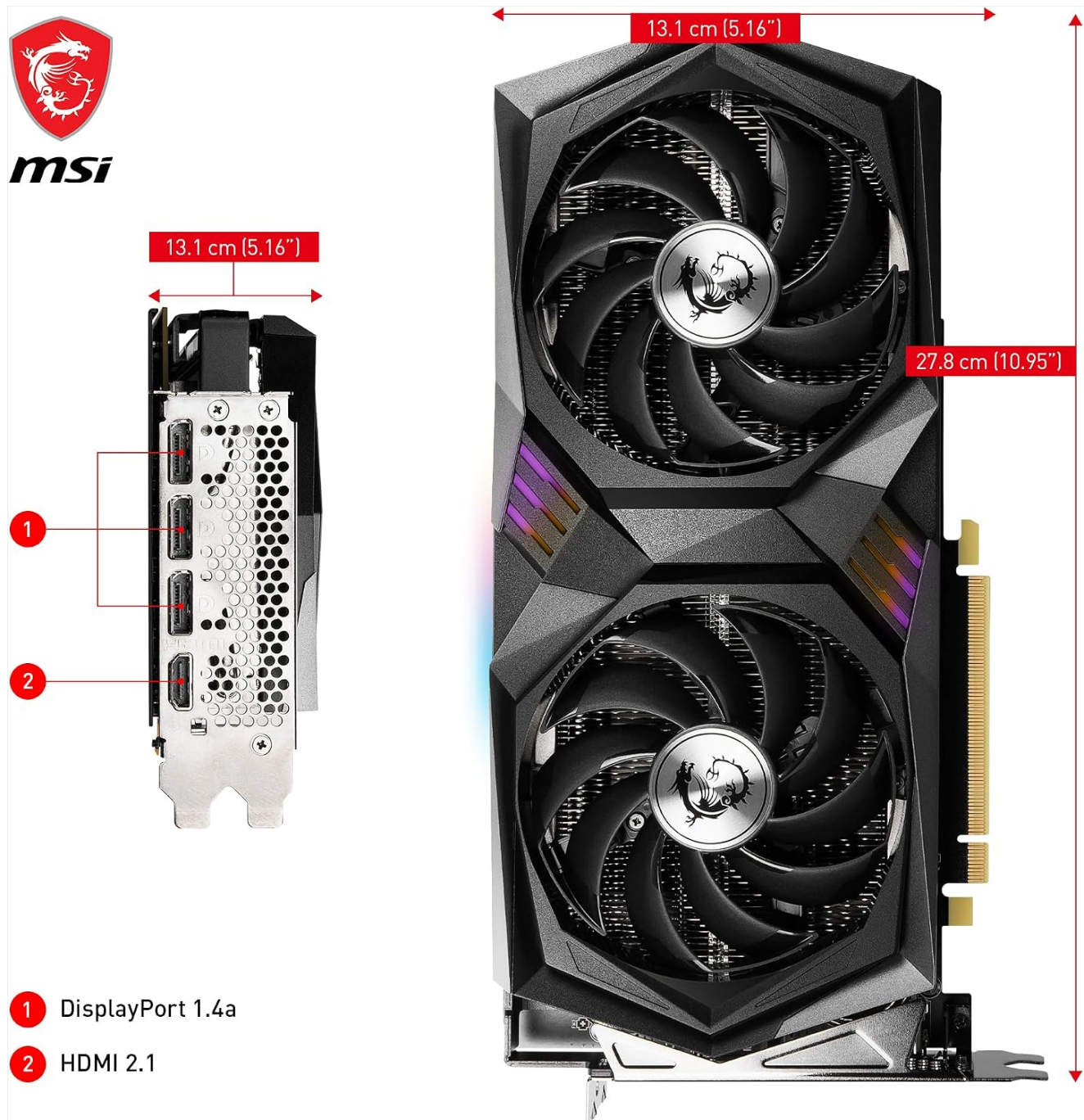


Image 5.1: Diagram showing the graphics card's dimensions and available display output ports (DisplayPort 1.4a and HDMI 2.1).

5.3. Software Utilities

MSI offers various software utilities to enhance your graphics card experience:

- **MSI Center:** A unified software platform for monitoring, optimizing, and customizing your MSI products, including Mystic Light RGB control and Game Mode.
- **MSI Afterburner:** A renowned utility for graphics card overclocking, monitoring hardware in real-time, and customizing fan profiles.

These utilities can be downloaded from the official MSI website.

6. MAINTENANCE

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

- **Cleaning:** Periodically clean dust from the graphics card's fans and heatsink using compressed air. Ensure the computer is powered off and unplugged before cleaning. Hold the fan blades gently to prevent them from spinning rapidly during cleaning.
- **Airflow:** Ensure your computer case has good airflow to prevent dust buildup and maintain optimal operating temperatures.



Image 6.1: Illustration of the graphics card's cooling system, emphasizing the importance of clear fans for efficient heat dissipation.

7. TROUBLESHOOTING

If you encounter issues with your graphics card, refer to the following common troubleshooting steps:

- **No Display Output:**

- Ensure all display cables are securely connected to both the graphics card and the monitor.
- Verify that the monitor is set to the correct input source.
- Check that the graphics card is fully seated in the PCIe slot and the 8-pin power connector is firmly attached.
- Test with a different display cable or monitor if possible.

- **Driver Issues:**

- Uninstall existing graphics drivers using Display Driver Uninstaller (DDU) in Safe Mode, then perform a clean installation of the latest drivers from NVIDIA's website.
- Ensure your operating system is up to date.

- **Overheating:**

- Check fan operation on the graphics card; ensure they are spinning.
- Clean any dust buildup from the heatsink and fans.
- Improve case airflow by ensuring proper fan configuration and cable management.
- Monitor temperatures using MSI Afterburner or similar software.

- **Performance Issues:**

- Ensure you have the latest graphics drivers installed.
- Check for background applications consuming system resources.
- Verify that your system meets the recommended specifications for the applications or games you are running.

8. TECHNICAL SPECIFICATIONS

Feature	Specification
Graphics Processing Unit	NVIDIA GeForce RTX 3060
Video Memory	12GB GDDR6
Memory Interface	192-bit
Boost Clock	1837 MHz
Max Resolution	7680x4320
Output Ports	3x DisplayPort 1.4a, 1x HDMI 2.1
Dimensions (LxW)	10.95 x 5.16 inches (27.8 x 13.1 cm)
Weight	2.2 pounds
Power Connectors	1x 8-pin
Recommended PSU	550W
Model Number	V397-019R

9. WARRANTY AND SUPPORT

For detailed warranty information, please refer to the official MSI website or the warranty card included with your product.

Warranty terms and conditions may vary by region.

For technical support, driver downloads, and frequently asked questions, please visit the MSI support page:

www.msi.com/support