

MSI V397-031R

MSI GeForce RTX 3060 Ventus 3X 12G OC Graphics Card User Manual

Model: V397-031R

1. INTRODUCTION

This manual provides detailed instructions for the installation, operation, and maintenance of your MSI GeForce RTX 3060 Ventus 3X 12G OC graphics card. Please read this manual thoroughly before installation to ensure proper setup and optimal performance. This graphics card is designed to enhance your computer's visual processing capabilities, supporting high-resolution gaming and demanding applications.

2. SAFETY INFORMATION

- Always disconnect the power cable from your computer before installing or removing any hardware components.
- Wear an anti-static wrist strap or frequently touch a grounded metal object (like the computer case) to discharge static electricity, which can damage electronic components.
- Handle the graphics card by its edges to avoid touching sensitive components.
- Ensure proper ventilation within your computer case to prevent overheating.
- Keep the graphics card away from moisture and extreme temperatures.

3. PACKAGE CONTENTS

Verify that all items are present in the package:

- MSI GeForce RTX 3060 Ventus 3X 12G OC Graphics Card
- Quick Start Guide (may vary by region)
- Driver CD (or download instructions)

4. PRODUCT OVERVIEW

The MSI GeForce RTX 3060 Ventus 3X 12G OC features a robust cooling system and multiple display outputs for

versatile connectivity.



Figure 1: MSI GeForce RTX 3060 Ventus 3X 12G OC Graphics Card. This image displays the graphics card from an angled perspective, highlighting its triple-fan cooling system and overall design.

4.1 Key Features

- **NVIDIA Ampere Architecture:** Provides strong performance with NVIDIA GeForce RTX 3060.
- **12GB GDDR6 Memory:** Ample memory for demanding games and applications.
- **Ray Tracing and DLSS Support:** Enhances visual fidelity and performance in supported titles.
- **Triple-Fan Cooling:** Three fans combined with a large heatsink ensure efficient heat dissipation.
- **MSI TORX Fan 3.0:** Designed for high static pressure and effective cooling.

4.2 Display Outputs

- 3 x DisplayPort v1.4a
- 1 x HDMI 2.1

5. INSTALLATION GUIDE

5.1 System Requirements

- PCI Express-compliant motherboard with one x16 graphics slot.
- Minimum 650W power supply with one 8-pin PCIe power connector.
- Operating System: Windows 10 64-bit or later.
- Minimum 8GB system memory (16GB recommended).

5.2 Physical Installation

1. **Prepare Your System:** Turn off your computer and disconnect the power cable. Open the computer case.
2. **Locate PCIe Slot:** Identify an available PCI Express x16 slot on your motherboard. Remove any expansion slot covers that block the slot.
3. **Install the Graphics Card:** Carefully align the graphics card with the PCIe slot. Press down firmly and evenly until the card is securely seated. Ensure the retention clip on the PCIe slot locks into place.
4. **Secure the Card:** Use a screw to secure the graphics card bracket to the computer case.
5. **Connect Power:** Connect the 8-pin PCIe power connector from your power supply to the corresponding port on the graphics card. Ensure a firm connection.
6. **Close Case and Reconnect:** Close your computer case and reconnect all cables, including the power cable and display cables.



Figure 2: MSI GeForce RTX 3060 Ventus 3X 12G OC Graphics Card and its packaging. This image shows the product as it would appear new in its box, providing a visual reference for identification.

5.3 Driver Installation

1. **Power On:** Turn on your computer. It may boot into a basic display mode.

2. **Download Drivers:** Visit the official MSI website (www.msi.com) or NVIDIA's website (www.nvidia.com/drivers) to download the latest drivers for the GeForce RTX 3060.
3. **Install Drivers:** Run the downloaded driver installer and follow the on-screen instructions. A restart may be required after installation.
4. **Verify Installation:** After restarting, you can verify the driver installation through your operating system's Device Manager or NVIDIA Control Panel.

6. OPERATION

6.1 Connecting Displays

Connect your monitor(s) to the DisplayPort or HDMI outputs on the graphics card. The card supports up to four displays simultaneously. Ensure your display cables are securely connected.

6.2 MSI Dragon Center Software

MSI Dragon Center is a utility that allows you to monitor and optimize your graphics card's performance. It provides features such as:

- Real-time system monitoring (temperatures, clock speeds, fan speeds).
- Performance tuning and overclocking profiles.
- Fan control customization.
- Game Mode optimization.

Download MSI Dragon Center from the official MSI website.

6.3 Key Performance Features

- **NVIDIA Ray Tracing:** Experience realistic lighting, shadows, and reflections in supported games.
- **NVIDIA DLSS (Deep Learning Super Sampling):** AI-powered rendering technology that boosts frame rates while delivering sharp image quality.

7. MAINTENANCE

7.1 Cleaning

- Regularly clean dust from the graphics card's heatsink and fans 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, which can damage the bearings.

7.2 Fan Care

The TORX Fan 3.0 design is built for durability. If you notice unusual fan noise or reduced cooling performance, inspect the fans for obstructions. Do not attempt to lubricate or disassemble the fans.

8. TROUBLESHOOTING

- **No Display Output:**
 - Ensure the graphics card is fully seated in the PCIe slot.

- Verify that the 8-pin PCIe power connector is securely attached.
 - Check that your monitor cable is connected to the graphics card, not the motherboard's integrated graphics port.
 - Test with a different display cable or monitor if possible.
- **Driver Installation Issues:**
 - Download the latest drivers directly from the NVIDIA or MSI website.
 - Use Display Driver Uninstaller (DDU) in Safe Mode to remove old drivers before installing new ones.
- **Poor Performance in Games/Applications:**
 - Ensure you have the latest graphics drivers installed.
 - Check your system's temperatures using MSI Dragon Center or other monitoring software to rule out thermal throttling.
 - Verify that your power supply meets the minimum wattage requirement.
 - Close unnecessary background applications.
- **System Crashes or Freezes:**
 - Ensure all power connectors are firmly seated.
 - Check for system stability with default settings (no overclocking).
 - Monitor temperatures to prevent overheating.

9. SPECIFICATIONS

Feature	Specification
Graphics Processing Unit	NVIDIA GeForce RTX 3060
Video Memory	12 GB GDDR6
Memory Speed	1807 MHz
Max Resolution	7680x4320 Pixels
Display Outputs	3x DisplayPort v1.4a, 1x HDMI 2.1
Recommended PSU	650W
Power Connectors	1x 8-pin
Dimensions (LxWxH)	12.44 x 1.65 x 0.1 inches
Item Weight	1.66 pounds
Model Number	V397-031R

10. WARRANTY AND SUPPORT

MSI products are covered by a limited warranty. For detailed warranty terms and conditions, please refer to the warranty card included with your product or visit the official MSI website.

10.1 Technical Support

If you encounter issues that cannot be resolved using the troubleshooting steps in this manual, please contact MSI

technical support. You can find support contact information and FAQs on the official MSI website:

- **MSI Official Website:** www.msi.com
- **Product Registration:** Register your product on the MSI website to receive better service and support.