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› PowerColor Red Devil AMD Radeon RX 9070 XT 16GB GDDR6 User Manual

PowerColor RX9070XT 16G-E/OC

PowerColor Red Devil AMD Radeon RX 9070 XT 16GB GDDR6 User Manual

Model: RX9070XT 16G-E/OC | Brand: PowerColor

1. INTRODUCTION

This user manual provides comprehensive instructions for the installation, operation, maintenance, and troubleshooting of your PowerColor Red Devil AMD Radeon RX 9070 XT 16GB GDDR6 graphics card. Please read this manual thoroughly before installation and retain it for future reference.

2. PACKAGE CONTENTS

Verify that all items are present in the package:

- PowerColor Red Devil AMD Radeon RX 9070 XT 16GB GDDR6 Graphics Card
- Graphics Card Holder
- Addressable RGB LED Cable
- Quick Installation Guide (this manual)



Figure 2.1: PowerColor Red Devil RX 9070 XT Graphics Card and Retail Box.

3. PRODUCT OVERVIEW

The PowerColor Red Devil AMD Radeon RX 9070 XT is a high-performance graphics card designed for demanding gaming and professional applications. It features 16GB of GDDR6 memory and a robust cooling solution.



Figure 3.1: Front view of the graphics card, showcasing the triple fan design.



Figure 3.2: Side view, highlighting the card's thickness and cooling fins.



Figure 3.3: Rear view, showing the robust backplate and ventilation.



Figure 3.4: Display output ports, including HDMI 2.1 and DisplayPort 2.1 connections.

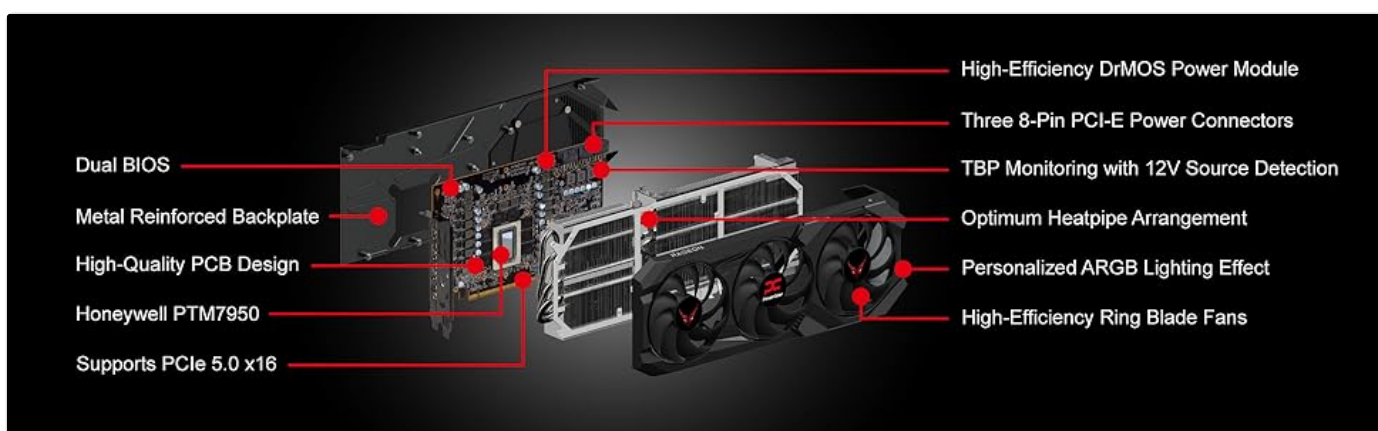


Figure 3.5: Exploded view illustrating key components such as the PCB, heatsink, fans, and backplate.



Figure 3.6: Dual BIOS switch for selecting between OC (Overclocking) and Silent modes.

4. SETUP AND INSTALLATION

4.1 System Requirements

- PCI Express x16 slot on motherboard
- Minimum 900W Power Supply Unit (PSU)
- Three 8-pin PCI Express power connectors from PSU
- Compatible operating system (Windows 10/11 64-bit recommended)
- Sufficient case clearance for card dimensions (340 x 132 x 69 mm)

4.2 Hardware Installation

1. **Prepare Your System:** Power off your computer and unplug all cables. Open your computer case.
2. **Locate PCIe Slot:** Identify an available PCI Express x16 slot on your motherboard. Remove any expansion slot covers that obstruct the installation.
3. **Install Graphics Card:** Carefully align the graphics card with the PCIe slot and press down firmly until it is securely seated. Ensure the retention clip on the motherboard clicks into place.
4. **Secure the Card:** Use screws to secure the graphics card to the computer case's expansion slot bracket.
5. **Connect Power Cables:** Connect three 8-pin PCI Express power cables from your PSU to the corresponding power connectors on the graphics card. Ensure a firm connection.
6. **Install Graphics Card Holder:** If desired, install the included graphics card holder to prevent GPU sag. Follow the instructions provided with the holder for proper installation.
7. **Connect RGB Cable (Optional):** If your motherboard supports Addressable RGB (ARGB), connect the included ARGB LED cable from the graphics card to the appropriate header on your motherboard.
8. **Close Case:** Close your computer case and reconnect all cables.

4.3 Software Installation (Drivers)

1. **Power On:** Power on your computer. The system may boot into a low-resolution display.
2. **Download Drivers:** Visit the official AMD website (www.amd.com/en/support) or PowerColor's official website (www.powercolor.com/support) to download the latest AMD Radeon drivers for your specific graphics card model and operating system.
3. **Install Drivers:** Run the downloaded driver installer and follow the on-screen prompts. It is recommended to perform a clean installation.
4. **Restart System:** Restart your computer after the driver installation is complete.
5. **Verify Installation:** After restarting, verify the driver installation through your operating system's Device Manager or AMD Radeon Software.

5. OPERATING THE GRAPHICS CARD

5.1 AMD Radeon Software

The AMD Radeon Software provides a comprehensive interface for managing your graphics card settings. This includes:

- **Gaming:** Optimize game settings, monitor performance, and enable features like AMD FreeSync.
- **Performance:** Monitor GPU temperature, clock speeds, and fan speeds. You can also adjust fan curves and perform basic overclocking (use with caution).
- **Display:** Configure display resolutions, refresh rates, and color settings for connected monitors.
- **Graphics:** Adjust global graphics settings or create per-application profiles for optimal performance or visual quality.

5.2 Dual BIOS Switch

Your PowerColor Red Devil graphics card features a Dual BIOS switch, allowing you to select between two different BIOS profiles:

- **OC (Overclocking) Mode:** Provides higher clock speeds and a more aggressive fan curve for maximum performance. This mode may result in higher noise levels and power consumption.
- **Silent Mode:** Offers a quieter operation with a less aggressive fan curve and potentially slightly lower clock speeds. This mode prioritizes acoustics.

To switch between BIOS modes, ensure your computer is powered off. Locate the small switch on the side of the graphics card (refer to Figure 3.6). Toggle the switch to your desired mode. Power on your computer after making the change.

5.3 Addressable RGB (ARGB) Lighting

The graphics card features customizable ARGB lighting. If you connected the ARGB cable to your motherboard, you can control the lighting effects using your motherboard's RGB software (e.g., ASUS Aura Sync, MSI Mystic Light, GIGABYTE RGB Fusion, ASRock Polychrome Sync). Refer to your motherboard's manual for specific instructions on controlling ARGB devices.



Figure 5.1: Example of Addressable RGB lighting on the graphics card.

6. MAINTENANCE

Proper maintenance ensures the longevity and optimal performance of your graphics card.

- **Dust Removal:** Regularly clean dust from the fans and heatsink using compressed air. Ensure the system is powered off and unplugged before cleaning. Hold the fan blades gently to prevent them from spinning rapidly during cleaning.
- **Driver Updates:** Keep your graphics drivers updated to the latest version from the official AMD or PowerColor websites. Driver updates often include performance improvements, bug fixes, and new features.
- **Temperature Monitoring:** Use AMD Radeon Software or third-party tools to monitor GPU temperatures during operation. Ensure temperatures remain within safe operating limits, especially under heavy load.
- **System Airflow:** Ensure your computer case has adequate airflow to dissipate heat effectively. Proper cable management and fan placement can significantly improve cooling.

7. TROUBLESHOOTING

This section addresses common issues you might encounter with your graphics card.

Problem	Possible Cause	Solution
No display output / Black screen	Loose power cables Incorrect display cable connection Incorrect monitor input Outdated or corrupted drivers Insufficient PSU power	Ensure all 8-pin PCIe power connectors are firmly seated. Check display cable (HDMI/DisplayPort) connection at both GPU and monitor. Select correct input source on your monitor. Reinstall latest drivers from AMD/PowerColor website. Verify PSU meets minimum 900W requirement and provides stable power.

Problem	Possible Cause	Solution
Poor performance in games/applications	Outdated drivers Incorrect game settings Overheating Background applications	Update graphics drivers. Adjust in-game graphics settings. Ensure adequate cooling and clean dust from heatsink/fans. Close unnecessary background programs. Consider switching to OC BIOS mode if in Silent mode.
Fans not spinning or excessively loud	Zero RPM mode (fans off below certain temp) Dust accumulation BIOS mode setting	Fans may not spin until GPU reaches a certain temperature (usually 50-60°C). This is normal. Clean fans and heatsink. If too loud, switch to Silent BIOS mode. If not spinning when hot, check power connections and drivers.

If issues persist, contact PowerColor customer support or your retailer for further assistance.

8. SPECIFICATIONS

Feature	Detail
Graphics Coprocessor	AMD Radeon RX 9070 XT
Video Memory	16 GB GDDR6
Memory Speed	20 GHz
GPU Clock Speed	2520 MHz (Boost)
Power Connectors	Three 8-pin PCI Express
Minimum System Power	900W
Card Dimensions (LxWxH)	340 x 132 x 69 mm (13.86 x 5.87 x 0.1 inches)
Internal Card Length	340 mm
Display Connectors	1 x HDMI 2.1, 3 x DisplayPort 2.1
Weight	4.34 pounds
Model Number	RX9070XT 16G-E/OC

9. WARRANTY AND SUPPORT

For warranty information, please refer to the warranty card included with your product or visit the official PowerColor website. Warranty terms and conditions may vary by region and retailer.

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

[PowerColor Official Support](#)

When contacting support, please have your product model number (RX9070XT 16G-E/OC) and serial number ready.



