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› [ASRock AMD Radeon RX 9070 XT Steel Legend 16GB White GPU User Manual](#)

ASRock 90-GA5DZZ-00UANF

ASRock AMD Radeon RX 9070 XT Steel Legend 16GB White GPU User Manual

Model: 90-GA5DZZ-00UANF | Brand: ASRock

1. INTRODUCTION

The ASRock AMD Radeon RX 9070 XT Steel Legend 16GB White is a high-performance graphics card designed for demanding gaming and creative applications. This manual provides essential information for the proper installation, operation, maintenance, and troubleshooting of your graphics card, ensuring optimal performance and longevity.



Figure 1.1: ASRock AMD Radeon RX 9070 XT Steel Legend Graphics Card and its retail packaging.

2. KEY FEATURES

The ASRock AMD Radeon RX 9070 XT Steel Legend graphics card is equipped with advanced technologies to deliver superior performance:

- **AMD Radeon RX 9070 XT GPU:** Features 16GB GDDR6 on a 256-Bit Memory Bus with AMD RDNA 4 Architecture.
- **Advanced Compute Units:** Includes 64 Compute Units with 3rd Gen RT (Ray Tracing) and 2nd Gen AI Accelerators.
- **High Clock Speeds:** Boost Clock up to 2970 MHz / 20 Gbps and Game Clock at 2400 MHz / 20 Gbps.
- **PCI Express 5.0 Support:** Ensures high-bandwidth connectivity with compatible motherboards.
- **Multiple Display Outputs:** Equipped with 3x DisplayPort 2.1a and 1x HDMI 2.1b for versatile display connectivity.
- **Efficient Power Delivery:** Requires 2x 8-pin Power Connectors.
- **Polychrome SYNC:** Integrated ARGB LEDs for customizable lighting effects, synchronizable with ASRock motherboards.
- **Triple Fan Design:** Optimizes system cooling to reduce operating temperature.
- **Stylish Metal Backplate:** Designed to prevent PCB bending and enhance cooling with premium thermal pads.
- **0dB Silent Cooling:** Fans stop under light workloads for complete silence and spin up for optimal cooling under heavy workloads.
- **Air Deflecting Fin:** Guides airflow more regularly and quickly to enhance cooling efficiency.
- **Microsoft DirectX 12 Ultimate Support:** For enhanced gaming experiences.

3. WHAT'S IN THE BOX

Upon unboxing your ASRock AMD Radeon RX 9070 XT Steel Legend, you should find the following components:

- ASRock AMD Radeon RX 9070 XT Steel Legend Graphics Card
- Cooling Fan (integrated into the card)
- Documentation (User Manual, Quick Start Guide, etc.)

Note: This version of the graphics card does not include additional power cables. Please ensure your power supply has the necessary 2x 8-pin PCIe power connectors.

4. SETUP

4.1. Physical 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 5.0 x16 slot on your motherboard. This card is 2.9 slots wide, so ensure adequate space.
3. **Remove Slot Covers:** Remove the necessary expansion slot covers from your computer case.
4. **Install Graphics Card:** Carefully align the graphics card with the PCIe slot and press down firmly until it is securely seated. Ensure the protective rubber on the installation edge is removed prior to insertion.
5. **Secure the Card:** Fasten the graphics card to the case using the screws from the removed slot covers.
6. **Connect Power:** Connect two 8-pin PCIe power connectors from your power supply to the corresponding ports on the graphics card. Ensure a minimum 800W power supply for stable operation.

7. **Close Case:** Close your computer case and reconnect all cables.



Figure 4.1: Front view of the ASRock Radeon RX 9070 XT Steel Legend Graphics Card, showcasing its triple fan cooling system.



Figure 4.2: Top view of the graphics card, revealing the heat pipes that contribute to efficient thermal management.

4.2. Driver and Software Installation

1. **Power On:** Turn on your computer. Your operating system may automatically detect the new hardware.
2. **Download Drivers:** Visit the official ASRock website or AMD's official website to download the latest drivers for the Radeon RX 9070 XT.
3. **Install Drivers:** Follow the on-screen instructions to install the graphics drivers. A restart may be required.
4. **Install ASRock Polychrome SYNC:** Download and install the ASRock Polychrome SYNC software from the ASRock website to customize the RGB lighting effects of your graphics card.



Figure 4.3: The Polychrome SYNC feature allows for personalized RGB lighting on the graphics card.

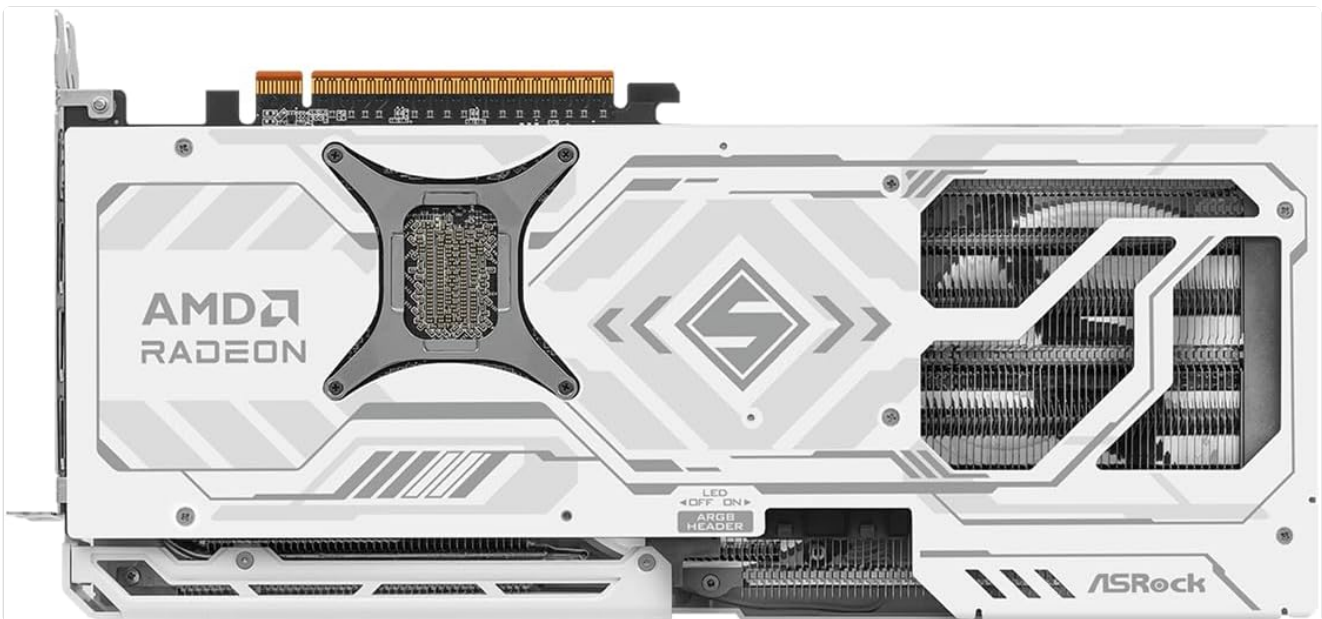


Figure 4.4: The metal backplate includes a physical switch to control the integrated RGB lighting.

5. OPERATING YOUR GRAPHICS CARD

5.1. Display Connections

Connect your display(s) to the graphics card using the available ports:

- 3x DisplayPort 2.1a
- 1x HDMI 2.1b

Ensure your display cables are securely connected to both the graphics card and your monitor(s).

5.2. Performance and Software Usage

Once drivers are installed, your graphics card is ready for use. For optimal performance in games and applications,

ensure your system meets the recommended specifications. Utilize AMD's software suite (e.g., AMD Software: Adrenalin Edition) for fine-tuning settings, monitoring performance, and accessing features like AMD FidelityFX. The card's Boost Clock can reach up to 2970 MHz and Game Clock up to 2400 MHz, providing high frame rates and smooth gameplay. The 16GB GDDR6 memory ensures ample VRAM for high-resolution textures and complex scenes.



Figure 5.1: The triple fan design is crucial for maintaining optimal operating temperatures during intense use.

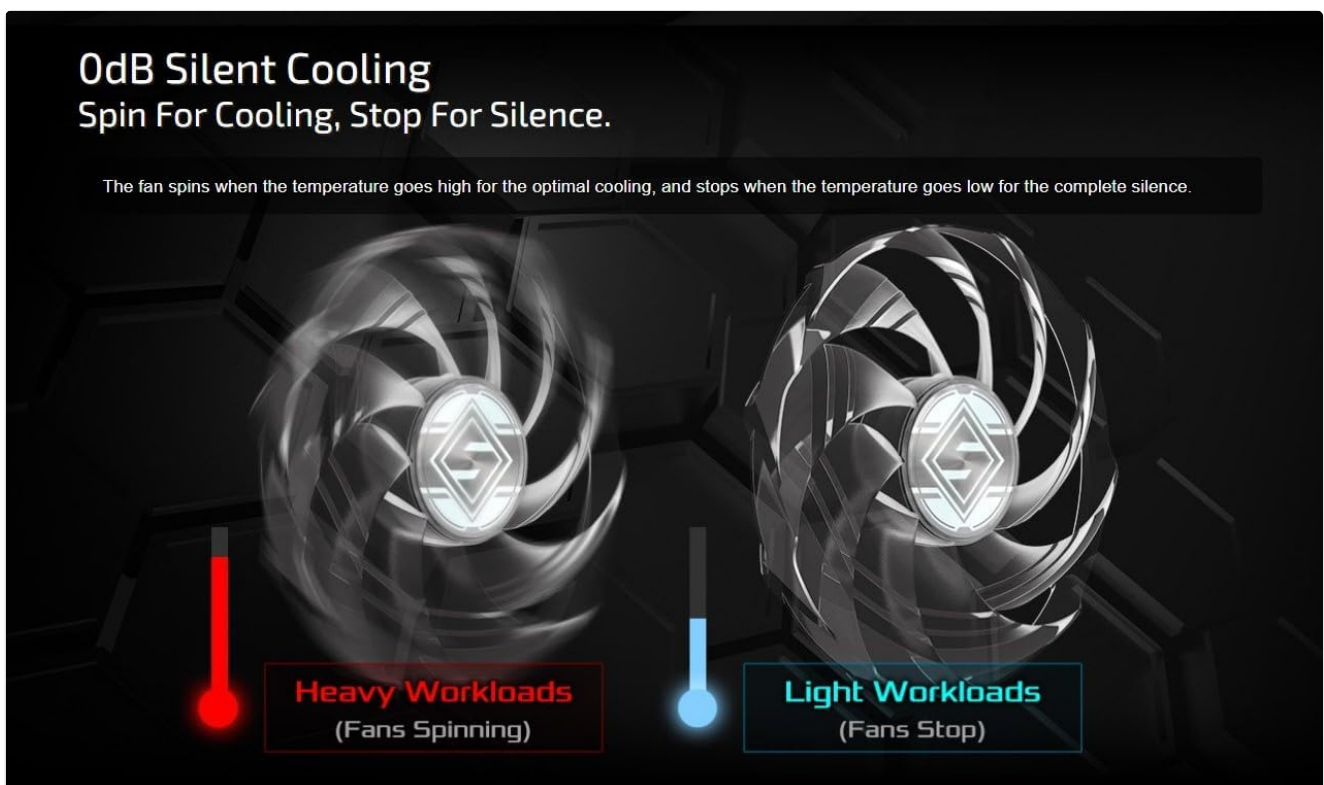


Figure 5.2: The 0dB Silent Cooling feature ensures quiet operation when the GPU temperature is low, with fans engaging only when

needed.



Figure 5.3: The Air Deflecting Fin design optimizes airflow through the heatsink for enhanced cooling performance.

6. MAINTENANCE

6.1. Cleaning

Regular cleaning helps maintain optimal performance and extends the lifespan of your graphics card:

- **Dust Removal:** Periodically use compressed air to remove dust from the fans, heatsink fins, and other components. Ensure the system is powered off and unplugged before cleaning.
- **Fan Blades:** Gently clean fan blades with a soft brush or cloth if dust accumulation is visible. Hold the fan blades in place while using compressed air to prevent over-spinning.

6.2. Cooling System Integrity

The ASRock Radeon RX 9070 XT Steel Legend features a robust cooling system. Ensure proper airflow within your PC case to maximize its effectiveness. Avoid obstructing the card's fans or heatsink. The stylish metal backplate not only provides structural rigidity but also aids in heat dissipation through its integrated thermal pads.

Stylish Metal Backplate Solid, Fancy, Cool.

Designed to avoid PCB bending. The fancy outlook makes the graphic card more legendary in visual. It also helps to enhance cooling with the premium thermal pads equipped backside.

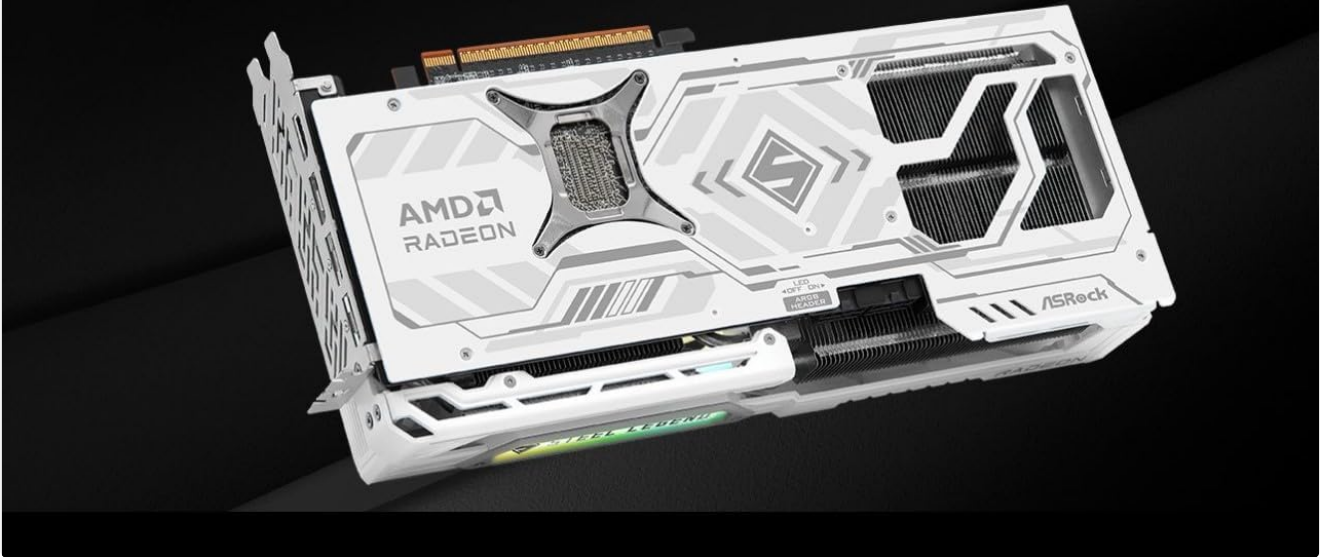


Figure 6.1: The stylish metal backplate provides structural support and assists in cooling.

7. TROUBLESHOOTING

If you encounter issues with your graphics card, consider the following common solutions:

- **No Display/Black Screen:**
 - Ensure the graphics card is fully seated in the PCIe slot.
 - Verify that all power connectors (2x 8-pin) are securely attached.
 - Check display cables and monitor input selection.
 - Ensure your power supply unit (PSU) meets the minimum 800W requirement.
- **System Instability/Crashes:**
 - Update to the latest graphics drivers from the ASRock or AMD website.
 - Monitor GPU temperatures during use to ensure it's not overheating.
 - Verify system compatibility; this card may not be compatible with all built-in computers or systems.
 - Ensure your Windows operating system is in CSM mode if experiencing persistent notifications or issues.
- **Performance Issues:**
 - Ensure your system's CPU and RAM are not bottlenecking the GPU.
 - Check in-game settings; reduce resolution or graphics quality if necessary.
 - Verify that the card is operating at its expected clock speeds using monitoring software.
- **RGB Lighting Not Working:**
 - Ensure the ASRock Polychrome SYNC software is installed and running.
 - Check the physical LED on/off switch on the backplate of the card.

For further assistance, please refer to the "Warranty and Support" section or contact ASRock customer service

directly.

8. SPECIFICATIONS

Feature	Detail
Brand	ASRock
Model Number	90-GA5DZZ-00UANF
Graphics Coprocessor	AMD Radeon RX 9070 XT
Graphics Processor Manufacturer	AMD
Graphics RAM Size	16 GB GDDR6
Memory Bus	256-Bit
Architecture	AMD RDNA 4
Compute Units	64 (3rd Gen RT + 2nd Gen AI Accelerators)
Boost Clock	Up to 2970 MHz / 20 Gbps
Game Clock	2400 MHz / 20 Gbps
PCI Express Support	PCIe 5.0
Power Connectors	2x 8-pin
Video Output Interface	3x DisplayPort 2.1a, 1x HDMI 2.1b
Product Dimensions	11.7 x 5.2 x 0.1 inches
Item Weight	3.45 pounds
Slot Width	2.9 Slot

9. WARRANTY AND SUPPORT

ASRock provides support for its products. For any questions regarding your ASRock AMD Radeon RX 9070 XT Steel Legend graphics card, please contact ASRock customer support. You may also find additional resources and FAQs on the official ASRock website.

Extended protection plans may be available for purchase, offering additional coverage beyond the standard manufacturer's warranty. Please check with your retailer or Amazon for details on 3-Year, 4-Year, or Complete Protect plans.

If any questions about the product, contact us on amazon.