ZOTAC ZT-D40810B-10P

ZOTAC GAMING GeForce RTX 4080 16GB AMP Extreme AIRO Graphics Card User Manual

Model: ZT-D40810B-10P | Brand: ZOTAC

1. Introduction

The ZOTAC GAMING GeForce RTX 4080 16GB AMP Extreme AIRO graphics card is engineered with an AIR-Optimized design, leveraging the NVIDIA Ada Lovelace architecture to deliver exceptional performance for gaming and demanding creative tasks. This manual provides essential information for installation, operation, maintenance, and troubleshooting to ensure optimal performance and longevity of your graphics card.

2. What's in the Box

Verify that all components listed below are included in your product package:

- ZOTAC GAMING GeForce RTX 4080 16GB AMP Extreme AIRO graphics card
- GPU Support Stand
- 3-pin RGB Header Cable
- 3x 8-pin-to-12VHPWR cable
- User Manual (this document)



Figure 2.1: Included accessories and the ZOTAC GAMING GeForce RTX 4080 16GB AMP Extreme AIRO graphics card.

3. Setup and Installation

Before installing your new graphics card, ensure your system's power supply meets the recommended requirements and that your motherboard has a compatible PCI Express 4.0 x16 slot. It is recommended to install the latest graphics drivers from the official ZOTAC or NVIDIA website after physical installation.

3.1 Power Requirements

A 750-watt power supply is recommended for stable operation. The card has a maximum power consumption of 320-watts and requires 1 x 12VHPWR power input. Use the provided 3x 8-pin-to-12VHPWR cable to connect your power supply to the graphics card.

3.2 Physical Installation

1. Power off your computer and disconnect all cables.
2. Open your computer case.
3. Locate an available PCI Express 4.0 x16 slot on your motherboard.
4. Remove any expansion slot covers that obstruct the installation.
5. Carefully align the graphics card with the PCIe slot and press down firmly until it is securely seated.
6. Secure the graphics card to the case with screws.
7. Connect the 12VHPWR power cable from your power supply to the graphics card.
8. Install the included GPU Support Stand to prevent sag, following its quick guide.
9. Close your computer case and reconnect all cables.



Figure 3.1: The ZOTAC GAMING GeForce RTX 4080 16GB AMP Extreme AIRO graphics card.

Video 3.1: An overview of the ZOTAC Gaming GeForce RTX 40 Series, showcasing key features and design elements relevant to installation and performance.

4. Operating Your Graphics Card

Once installed, your ZOTAC GAMING GeForce RTX 4080 16GB AMP Extreme AIRO graphics card is ready to deliver high-performance visuals. Ensure you have the latest Game Ready and NVIDIA Studio Drivers installed for optimal performance and stability.

4.1 Software Compatibility

- Game Ready and NVIDIA Studio Drivers
- PCI Express Gen 4
- Microsoft DirectX 12 Ultimate
- Vulkan RT APIs, Vulkan 1.3
- OpenGL 4.6
- Windows 11 / 10 (64-bit, April 2018 update or later)

4.2 Display Connections

The graphics card supports quad simultaneous display output:

- 3 x DisplayPort 1.4a (up to 7680x4320@60Hz)
- 1 x HDMI Connector (Supports 4K 120Hz HDR, 8K 60Hz HDR, and Variable Refresh Rate as specified in the HDMI 2.1a Specification)
- HDCP 2.3 support

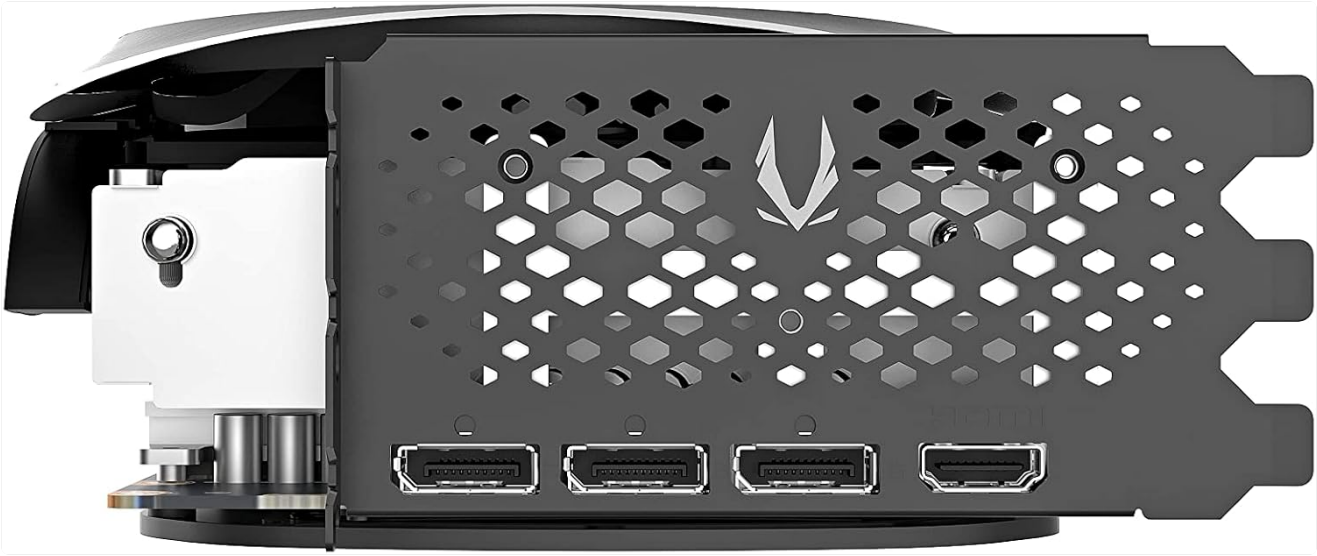


Figure 4.1: Display output ports.

5. Key Features

The ZOTAC GAMING GeForce RTX 4080 16GB AMP Extreme AIRO is packed with advanced features designed to enhance your computing and gaming experience:

- **NVIDIA Ada Lovelace Streaming Multiprocessors:** Up to 2x performance and power efficiency.
- **4th Generation Tensor Cores:** Up to 2X AI performance.
- **3rd Generation RT Cores:** Up to 2X ray tracing performance.
- **NVIDIA DLSS:** AI-powered rendering that boosts frame rates and generates beautiful, sharp images.
- **IceStorm 2.0 Advanced Cooling:** Ensures optimal thermal performance.
- **SPECTRA 2.0 ARGB Lighting:** Customizable RGB lighting for aesthetic personalization.
- **FREEZE Fan Stop:** Fans stop when the GPU is idle for silent operation.
- **Active Fan Control:** Independent fan speed control for optimized airflow.
- **Metal die-cast RGB LED Backplate:** Enhances durability and aesthetics.
- **Dual BIOS:** Provides a backup BIOS for recovery or different performance profiles.
- **Bundled GPU Support Stand:** Prevents card sag due to its size and weight.

6. Cooling System: IceStorm 2.0 Advanced Cooling

The IceStorm 2.0 Advanced Cooling system is designed to keep the ZOTAC GAMING GeForce RTX 4080 running at optimal temperatures, even under heavy loads. It features three 110mm dual ball bearing fans that provide robust airflow. The FREEZE Fan Stop feature ensures silent operation during low-load tasks by stopping the fans, while Active Fan Control allows for precise management of individual fan speeds.

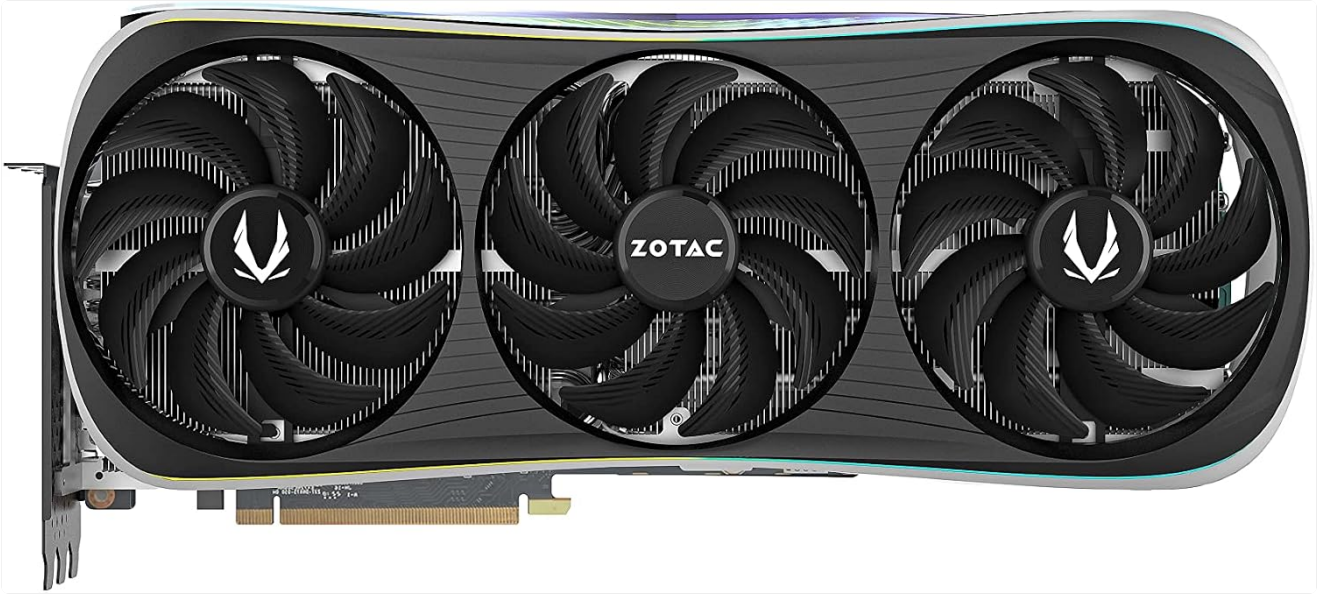


Figure 6.1: Three large fans of the IceStorm 2.0 Advanced Cooling system.

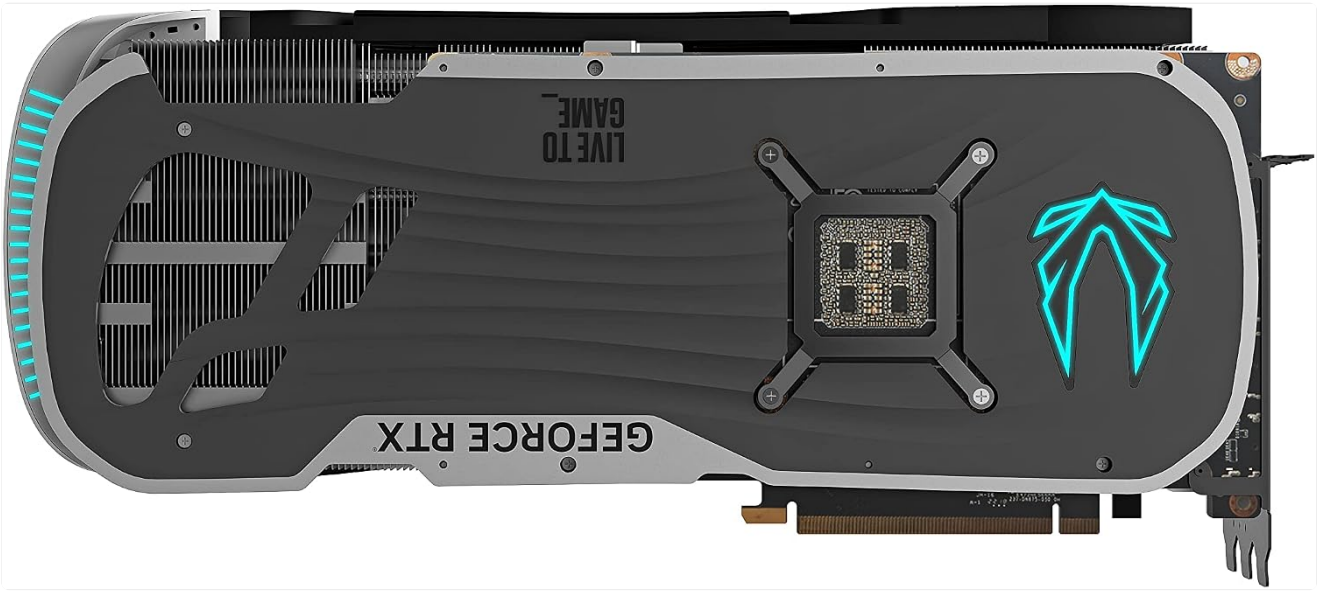


Figure 6.2: Metal die-cast backplate for enhanced cooling and structural integrity.

7. SPECTRA 2.0 RGB Lighting

Personalize your gaming setup with SPECTRA 2.0 RGB Lighting. This system offers dynamic RGB lighting effects across multiple zones on the graphics card, including the metal die-cast backplate. The lighting can be customized using the ZOTAC GAMING FireStorm Utility software, allowing you to synchronize effects with other compatible components or create unique lighting schemes.



Figure 7.1: SPECTRA 2.0 RGB Lighting in action.

8. SPECIFICATIONS

Specification	Detail
GPU	NVIDIA GeForce RTX 4080 16GB
CUDA Cores	9728
Video Memory	16GB GDDR6X
Memory Bus	256-bit
Engine Boost Clock	2565 MHz
Memory Clock	22.4 Gbps
PCI Express	4.0 16x
Display Outputs	3 x DisplayPort 1.4a, 1 x HDMI 2.1a
HDCP Support	2.3
Multi Display Capability	Quad simultaneous display capable
Recommended Power Supply	750W
Power Consumption	320W
Power Input	1 x 12VHPWR
Product Dimensions (L x H x W)	355.5mm (14in) x 149.6mm (5.9in) x 72.1mm (2.8in) (3.5 slot)
Item Weight	6.65 pounds

9. Maintenance

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

- **Dust Removal:** Periodically clean the fans and heatsink fins using compressed air to remove dust buildup. Ensure the system is powered off before cleaning.
- **Driver Updates:** Keep your graphics drivers updated to the latest version from NVIDIA's official website. Driver updates often include performance improvements, bug fixes, and compatibility enhancements for new games and applications.
- **System Airflow:** Ensure good airflow within your PC case to prevent heat buildup, which can affect the graphics card's performance and lifespan.

10. Troubleshooting

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

- **No Display Output:**
  - Ensure the graphics card is fully seated in the PCIe slot.
  - Verify that all power cables are securely connected to the graphics card and power supply.
  - Check your display cable connections (HDMI/DisplayPort) to both the card and monitor.
  - Try a different display output port on the graphics card or a different display cable.

- **System Instability/Crashes:**
  - Ensure your power supply meets the recommended wattage.
  - Update your graphics drivers to the latest stable version.
  - Monitor GPU temperatures using software like ZOTAC GAMING FireStorm Utility to ensure it's not overheating.
  - Check for any conflicting software or background applications.
- **Poor Performance in Games/Applications:**
  - Ensure your graphics drivers are up to date.
  - Check in-game settings; reduce resolution or graphics quality if necessary.
  - Verify that your system's CPU and RAM are not bottlenecking the GPU.
  - Ensure the card is receiving adequate power.

11. Warranty and Support

For detailed warranty information, please refer to the warranty card included with your product or visit the official ZOTAC website. For technical support, driver downloads, and utility software, please visit the ZOTAC support page.

- Official User Manual (PDF): Download PDF
- ZOTAC Official Store: Visit Store

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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

Answered questions about this manual

Are there thermal pad thickness diagrams and thermal paste recommendations for the ZOTAC GAMING GeForce RTX 4080 SUPER AMP Extreme AIRO?

The official user manual for the ZOTAC GAMING GeForce RTX 4080 16GB AMP Extreme AIRO (and its SUPER variant) does not provide a specific "millimeter diagram" or a detailed list of thermal pad thicknesses...

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