ASUS PRIME-RTX5070-12G

ASUS Prime GeForce RTX 5070 12GB GDDR7 Graphics Card Instruction Manual

1. Introduction

Welcome to the instruction manual for your ASUS Prime GeForce RTX 5070 12GB GDDR7 Graphics Card. This document provides essential information for the proper installation, operation, maintenance, and troubleshooting of your new graphics card. Designed for optimal performance and longevity, the ASUS Prime RTX 5070 features a 2.5-slot design, Axial-tech fans, Dual BIOS, and a premium phase-change GPU thermal pad to ensure superior thermal conductivity and enhanced heat dissipation.

2. Safety Information

Please read and follow these safety guidelines carefully to prevent damage to your product and ensure your personal safety:

- Always disconnect the power cable from your computer before installing or removing any components.
- Wear an anti-static wrist strap or frequently touch a grounded metal object to discharge static electricity before handling the graphics card.
- Handle the graphics card by its edges to avoid touching sensitive components.
- Ensure proper ventilation within your PC case to prevent overheating.
- Do not expose the graphics card to moisture or extreme temperatures.

3. Package Contents

Verify that your package contains the following items:

- ASUS Prime GeForce RTX 5070 12GB GDDR7 Graphics Card
- Speedsetup Manual
- ASUS Velcro Hook & Loop Cable Ties
- Thank You Card
- Adapter Cable (1 to 2)

4. Setup

4.1 System Requirements

- **Graphics Coprocessor:** NVIDIA GeForce RTX 5070
- **Graphics Card RAM Size:** 12 GB GDDR7
- **GPU Clock Speed:** 2542 MHz
- **Memory Speed:** 4000 MHz
- **Max Screen Resolution:** 7680x4320 Pixels
- **Video Output Interface:** HDCP support, Native DisplayPort 2.1b x3, Native HDMI 2.1b
- **Recommended Power Supply:** 750W - 850W (minimum)
- **PCIe Slot:** PCIe 5.0 x16 slot

4.2 Physical Installation

1. **Prepare Your System:** Power off your computer and disconnect all power cables.
2. **Open PC Case:** Remove the side panel of your computer case.
3. **Locate PCIe Slot:** Identify an available PCIe 5.0 x16 slot on your motherboard. Remove any expansion slot covers if necessary.
4. **Insert Graphics Card:** Carefully align the graphics card with the PCIe slot and press down firmly until it is securely seated. Ensure the retention clip clicks into place.
5. **Secure Card:** Fasten the graphics card to the PC case with screws.
6. **Connect Power Cables:** Connect the 16-pin power cable from your power supply to the graphics card. If your PSU does not have a native 16-pin connector, use the provided 1 to 2 adapter cable to connect two 8-pin PCIe power cables to the graphics card. Ensure all connections are secure.
7. **Close PC Case:** Reattach the side panel of your computer case.
8. **Connect Display Cables:** Connect your monitor(s) to the graphics card using HDMI or DisplayPort cables.



Figure 1: Front view of the ASUS Prime RTX 5070 Graphics Card, showing the triple Axial-tech fans.

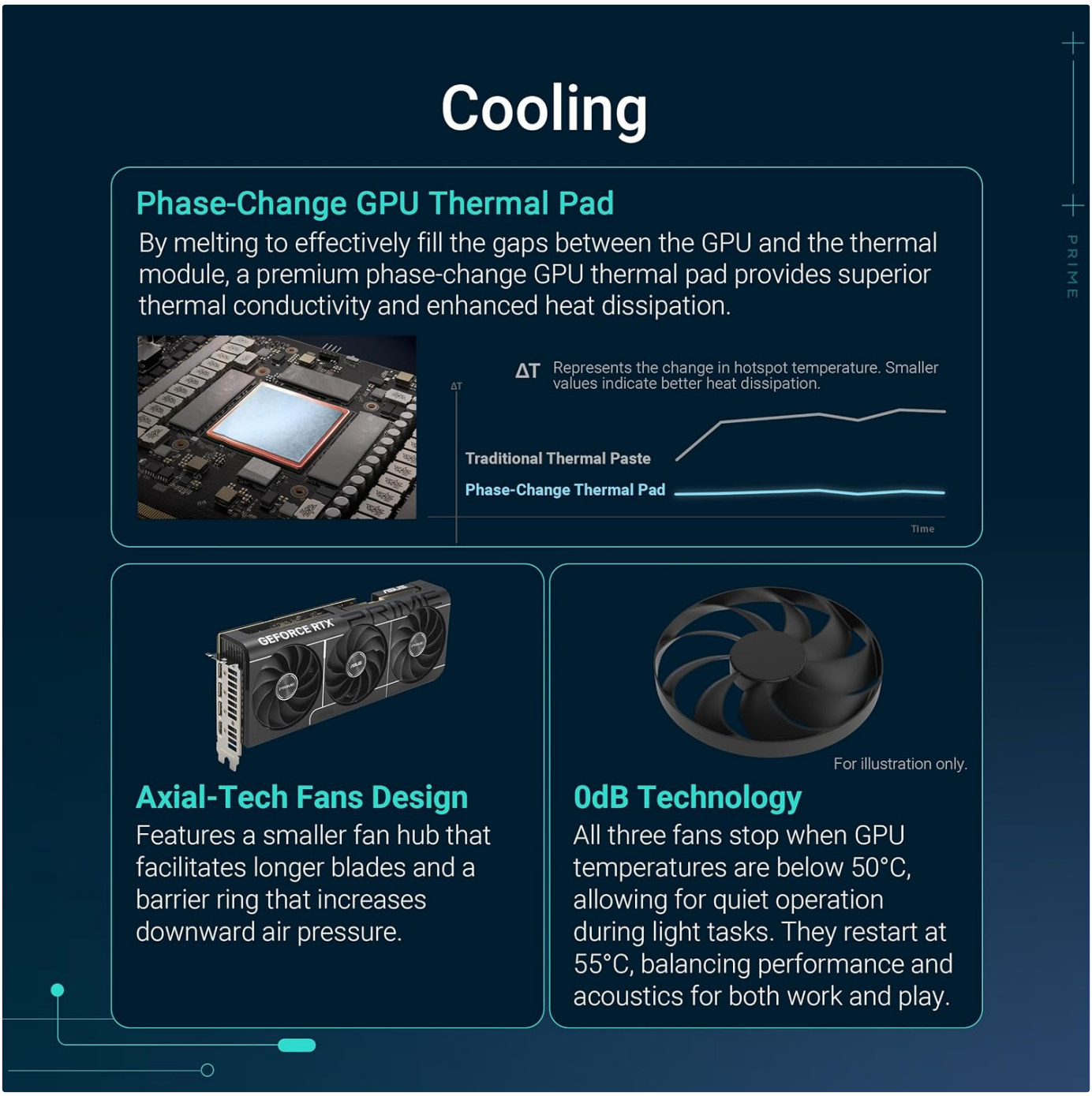


Figure 2: Back view of the ASUS Prime RTX 5070 Graphics Card, highlighting the protective backplate.

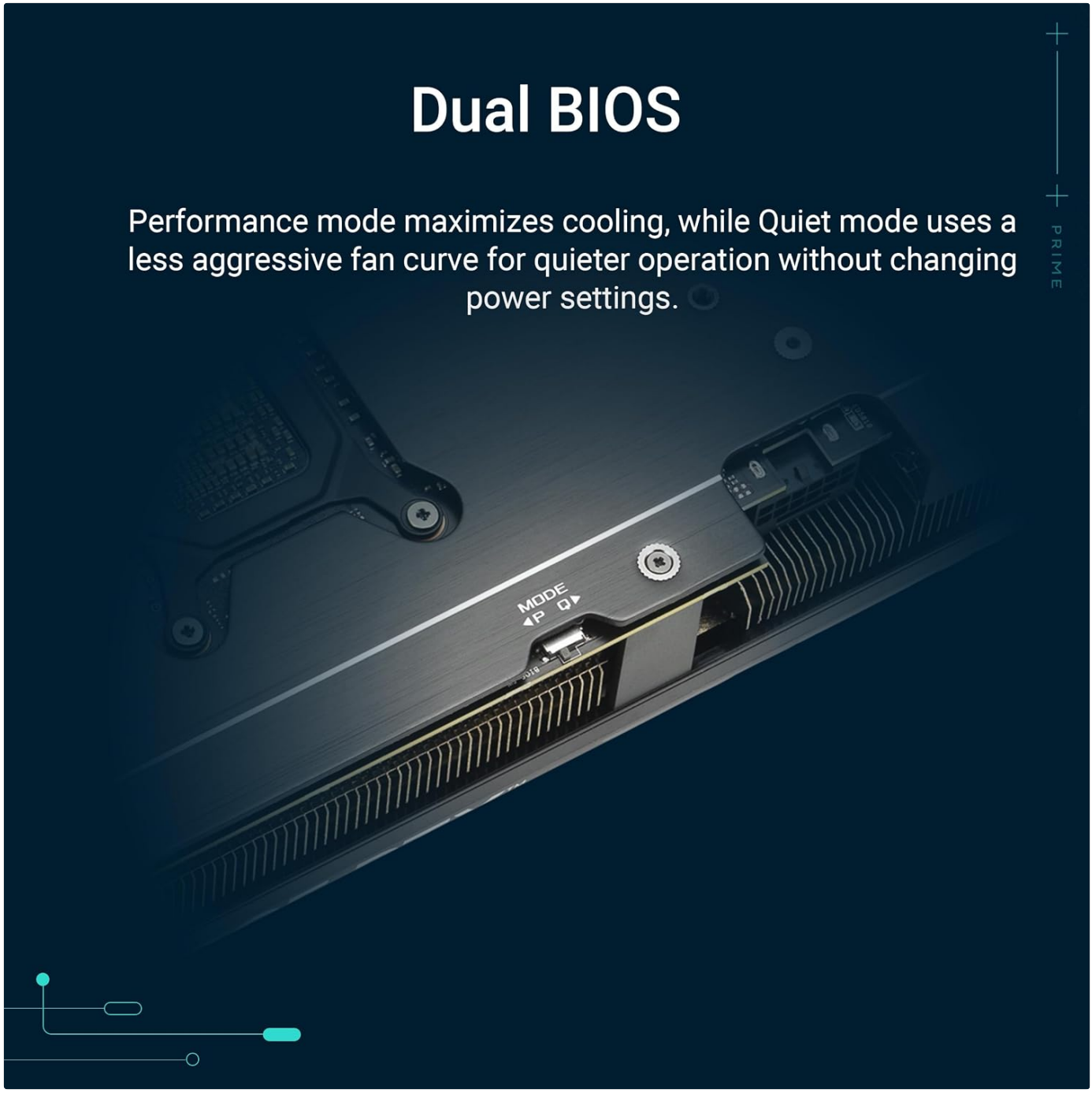


Figure 3: Display output ports on the ASUS Prime RTX 5070 Graphics Card, including HDMI and DisplayPort.

Video 1: An overview of the ASUS Prime RTX 5070 Graphics Card, showcasing its design and features.

5. Operating

5.1 Driver Installation

After physical installation, you must install the latest graphics drivers for optimal performance and stability:

1. Power on your computer.
2. Visit the official ASUS support website or NVIDIA's GeForce driver download page.

3. Download the latest drivers compatible with your operating system and the GeForce RTX 5070.
4. Run the installer and follow the on-screen instructions. A system restart may be required.

5.2 Software Utilities

Enhance your graphics card experience with ASUS software utilities:

- **GPU Tweak III:** This ultimate GPU tuning tool allows you to monitor, overclock, and control cooling settings for your graphics card. Download from the ASUS support website.
- **MuseTree:** An AI-powered image-generation application designed to spark creativity and manage visual ideas.



Figure 4: Screenshot of the GPU Tweak III interface for graphics card tuning.

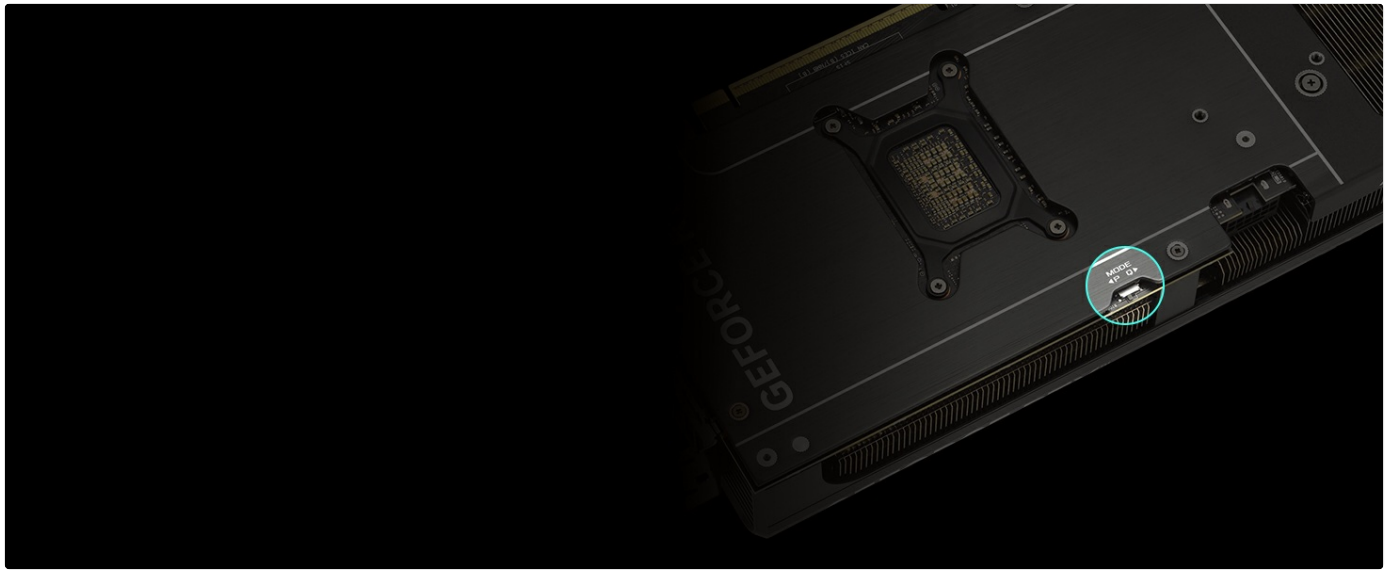


Figure 5: An example of the MuseTree AI-powered image generation software in action.

5.3 Dual BIOS Mode

The ASUS Prime RTX 5070 features a Dual BIOS switch, allowing you to select between two operating modes:

- **Performance (P) Mode:** Maximizes cooling performance for demanding tasks and gaming.
- **Quiet (Q) Mode:** Utilizes a less aggressive fan curve for quieter operation, ideal for light workloads or when noise reduction is preferred.

To switch modes, locate the physical switch on the graphics card and toggle it to your desired setting. Ensure your

system is powered off before changing the BIOS mode.

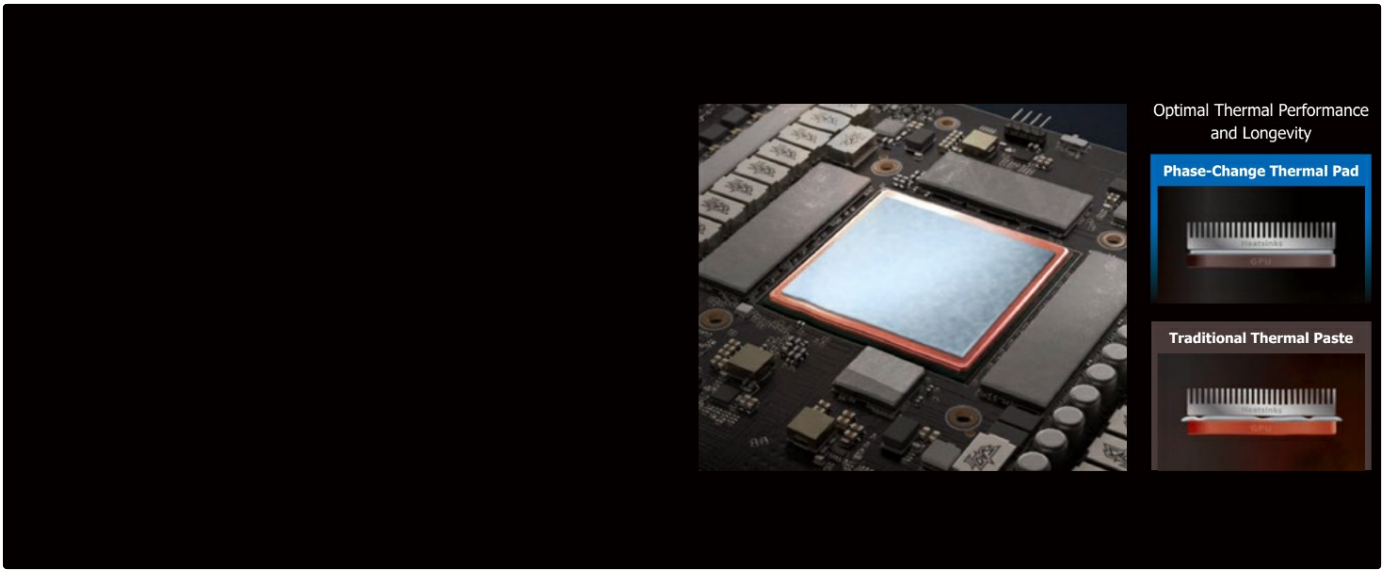


Figure 6: Close-up of the Dual BIOS switch on the ASUS Prime RTX 5070 Graphics Card.

6. Maintenance

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

- **Dust Removal:** Periodically clean dust from the graphics card's fans and heatsink using compressed air. Ensure the fans are held stationary during cleaning to prevent damage.
- **Thermal Management:** Monitor your GPU temperatures using software like GPU Tweak III. Ensure your PC case has adequate airflow and that case fans are functioning correctly to maintain optimal operating temperatures.
- **Firmware Updates:** Check the ASUS support website regularly for any available BIOS or firmware updates for your graphics card. Follow the provided instructions carefully when performing updates.



Figure 7: Illustration of the cooling technologies, including the phase-change GPU thermal pad and Axial-tech fans.

7. Troubleshooting

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

- **No Display Output:**
  - Ensure all power cables are securely connected to the graphics card and power supply.
  - Verify that the monitor cable is correctly connected to the graphics card and the monitor.
  - Try a different display output port on the graphics card or a different monitor cable.
  - Re-seat the graphics card firmly into its PCIe slot.
- **Poor Performance/Low FPS:**
  - Ensure you have the latest graphics drivers installed.
  - Check in-game graphics settings and reduce them if necessary.
  - Monitor GPU temperatures to ensure the card is not throttling due to overheating.
  - Verify that your power supply meets the recommended wattage.
- **Excessive Fan Noise/Overheating:**
  - Clean dust from the fans and heatsink.
  - Ensure adequate airflow within your PC case.
  - Switch to Quiet (Q) BIOS mode if noise is a primary concern and performance impact is acceptable.
  - Adjust fan curves using GPU Tweak III for a balance between cooling and noise.

8. Specifications

Feature	Specification
Brand	ASUS
Series	PRIME-RTX5070-12G
Graphics Coprocessor	NVIDIA GeForce RTX 5070
Graphics Card RAM Size	12 GB GDDR7
Memory Speed	4000 MHz
GPU Clock Speed	2542 MHz
Max Screen Resolution	7680x4320 Pixels
Video Output Interface	HDCP support, Native DisplayPort 2.1b x3, Native HDMI 2.1b
Item Weight	3.52 pounds

Product Dimensions	12 x 5 x 2 inches
Slot Design	2.5-Slot
Cooling Technology	Axial-tech Fans, Phase-Change GPU Thermal Pad, 0dB Technology
BIOS Features	Dual BIOS (Performance/Quiet modes)

9. Warranty and Support

For detailed warranty information and technical support, please refer to the official ASUS website:

- **ASUS Support:** https://www.asus.com/support/
- **Product Registration:** Register your product on the ASUS website to receive the latest updates and support.

© 2025 ASUS. All rights reserved.

Ask a question about this manual

Ask about setup, troubleshooting, compatibility, parts, safety, or missing instructions. Manuals+ will review the question and use this page's manual context to help answer it.

Name

Anonymous

Email

you@example.com

After a successful submission, we securely hash the supplied account or form email before sending it to Microsoft Advertising for conversion attribution. Privacy details.

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