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 - › GMKtec K12 AMD Ryzen 7 H 255 Mini PC Instruction Manual

GMKtec K12

GMKtec K12 AMD Ryzen 7 H 255 Mini PC Instruction Manual

Model: K12

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1. PRODUCT OVERVIEW

The GMKtec K12 Mini PC is a compact desktop computer designed for various applications, including gaming, video editing, and everyday use. It features an AMD Ryzen 7 H 255 processor, 32GB DDR5 RAM, and a 2TB PCIe 4.0 SSD. This manual provides essential information for setting up, operating, maintaining, and troubleshooting your device.



Image: Front view of the GMKtec K12 Mini PC, showcasing its compact design and front ports.

Nucbox K12 AMD Ryzen 7 H 255 8C/16T 35-54W TDP 16MB Cache 4.9GHz Turbo Frequency	Compatible with Win 11 Pro, Linux, Ubuntu	2.5G LAN*2 WIFI 6E Bluetooth 5.2	
	TSMC 4nm Tech AMD Radeon 780M 2600MHz	Quad Screens 8K display HDMI2.1+DP1.4+USB4.0+Type-C	
	DDR5 RAM 5600MT/s Dual Channel (MAX. 128GB)	Dual Cooling Fans 13 Fan Mode RGB Light System	
	PCIe 4.0 M.2 2280 SSD PCIe 4.0 slot*3 (Max. 24TB)		

Image: An overview of the GMKtec K12 Mini PC's key features, including the AMD Ryzen 7 H 255 processor, Quad Screens 8K display support, PCIe 4.0 M.2 2280 SSD, DDR5 RAM, Dual 2.5G LAN, WiFi 6E, and Dual Cooling Fans.

Key Features:

- **Processor:** AMD Ryzen 7 H 255 (8 Cores/16 Threads, up to 4.9 GHz) with Radeon 780M iGPU.
- **Memory:** 32GB DDR5 5600MHz SO-DIMM RAM (expandable).
- **Storage:** 2TB PCIe 4.0 SSD with 3x M.2 2280 expansion slots (up to 8TB per slot, 24TB max).

- **Display Support:** Quad-screen 4K/8K output via HDMI 2.1, DisplayPort 1.4, and USB Type-C.
- **Connectivity:** Dual 2.5GbE LAN, Wi-Fi 6E, Bluetooth 5.2.
- **Expansion:** Oculink port for external GPU connectivity.
- **Cooling:** Triple cooling fans with 3 advanced heatpipes and 360° airflow.

2. SETUP GUIDE

2.1 Package Contents

Before proceeding with the setup, ensure all items listed below are present in the package:

- 1x GMKtec Nucbox K12 Mini PC
- 1x Power Adapter
- 1x VESA Mount with Screws
- 1x User Manual
- 1x HDMI Cable

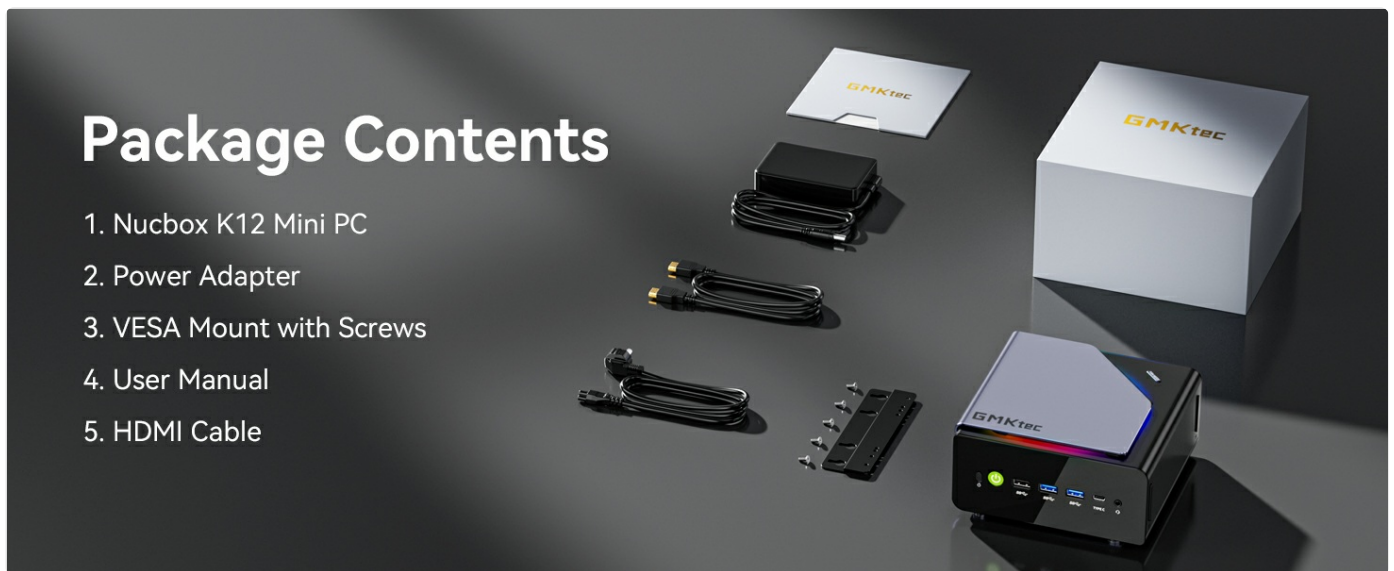


Image: Contents of the GMKtec K12 Mini PC package, including the mini PC, power adapter, VESA mount, user manual, and HDMI cable.

2.2 Initial Connection

1. **Connect Display:** Connect your monitor or television to the Mini PC using the provided HDMI cable or a DisplayPort/USB-C cable. The Mini PC supports HDMI 2.1 (8K@60Hz), DisplayPort 1.4 (4K@60Hz), and USB Type-C (PD3.0/DP1.4/DATA) for display output.
2. **Connect Peripherals:** Plug in your keyboard and mouse to the available USB ports.
3. **Connect Network:** For wired internet, connect an Ethernet cable to one of the 2.5GbE LAN ports. For wireless, ensure Wi-Fi 6E is enabled after initial setup.
4. **Connect Power:** Connect the power adapter to the DC-in port on the Mini PC, then plug the adapter into a power outlet.
5. **Power On:** Press the power button located on the front of the Mini PC.

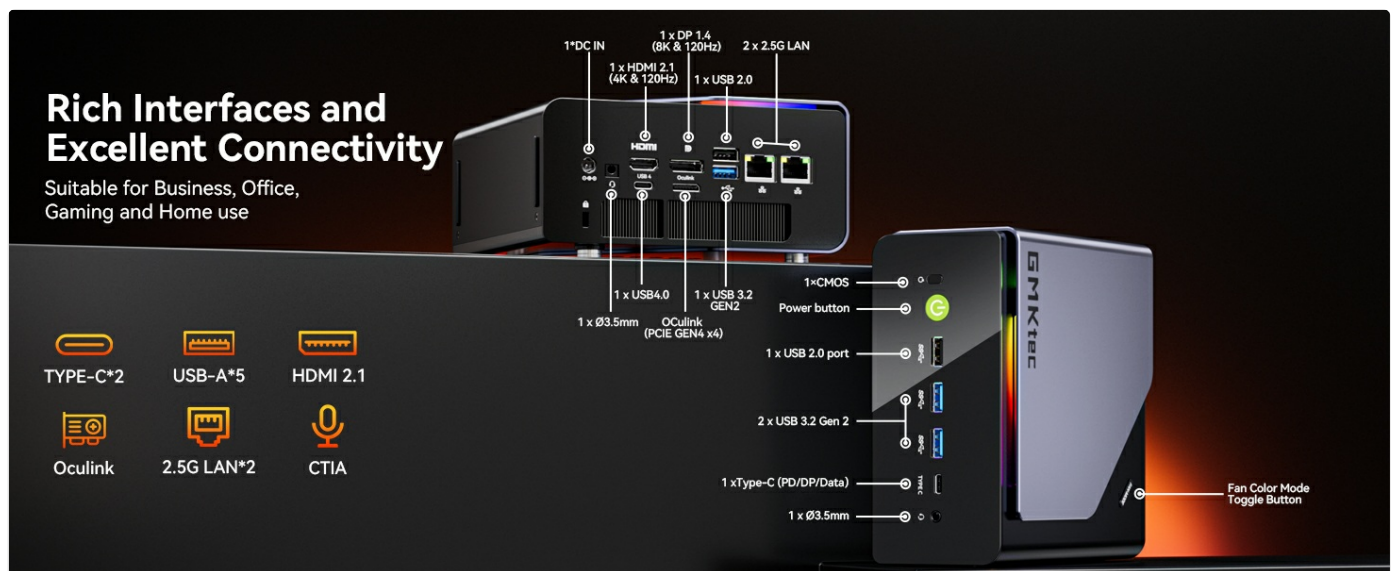


Image: Diagram illustrating the various ports and interfaces on the GMKtec K12 Mini PC, including USB4, USB 3.2 Gen2, HDMI 2.1, DisplayPort 1.4, 2.5G LAN, Oculink, and audio jack.

2.3 Storage and Memory Expansion

The K12 Mini PC features an easily disassembled design for convenient upgrades. It supports:

- **SSD:** Three M.2 2280 expansion slots, each supporting up to 8TB PCIe 4.0 SSD, for a maximum total of 24TB.
- **RAM:** Dual SO-DIMM slots for DDR5 5600MHz memory, supporting up to 128GB total RAM.

To upgrade, carefully open the chassis as per the instructions in the full user manual (not provided here) and install the components into the designated slots.



Image: Internal view of the GMKtec K12 Mini PC, highlighting the dual DDR5 RAM slots and three M.2 2280 SSD expansion slots for easy upgrades.

3. OPERATING INSTRUCTIONS

3.1 Power On/Off

- **Power On:** Press the power button on the front panel.
- **Power Off:** Access the operating system's shutdown menu or press and hold the power button for 5 seconds for a forced shutdown (not recommended for regular use).

3.2 Display Configuration

The K12 Mini PC supports up to four screens simultaneously with resolutions up to 8K. Connect your displays to the available HDMI 2.1, DisplayPort 1.4, and USB Type-C ports. Configure display settings through your operating system's display options.



Image: A multi-monitor setup powered by the GMKtec K12 Mini PC, demonstrating its capability to support up to four 8K displays simultaneously for an immersive visual experience.

3.3 Network and Wireless Connectivity

- **Wired:** Utilize the dual 2.5GbE LAN ports for high-speed wired network connections.
- **Wireless:** The Mini PC is equipped with Wi-Fi 6E for fast and stable wireless internet and Bluetooth 5.2 for connecting wireless peripherals.



Image: Illustration showing the GMKtec K12 Mini PC's support for Wi-Fi 6E and Bluetooth 5.2, highlighting improved speeds compared to previous generations.

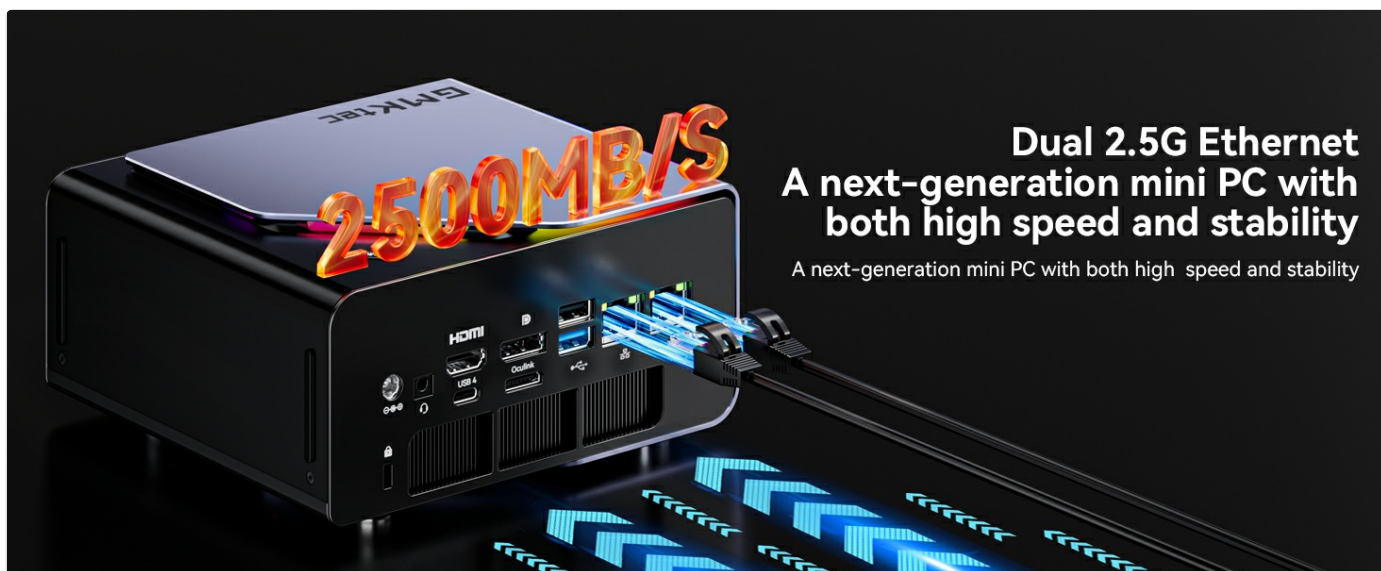


Image: Close-up of the GMKtec K12 Mini PC's dual 2.5G Ethernet ports, emphasizing high-speed network capabilities.

3.4 Oculink Port Usage

The Oculink port on the rear interface provides higher bandwidth for external graphics card (eGPU) setups, offering improved frame rates and lower latency compared to Thunderbolt. This is beneficial for gamers and content creators requiring enhanced graphical performance.

Important: The Oculink interface does not support hot-plugging. Ensure the computer is powered off before connecting or disconnecting any device from this port.

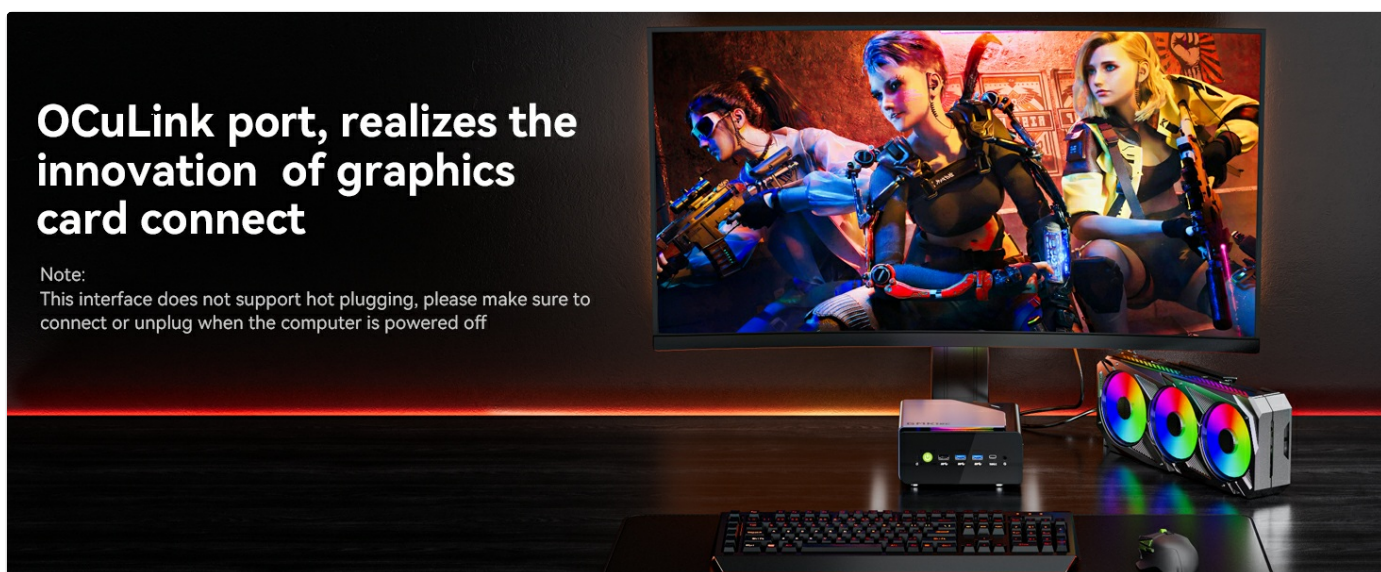


Image: The Oculink port on the GMKtec K12 Mini PC connected to an external graphics card enclosure, illustrating its use for enhanced graphics performance.

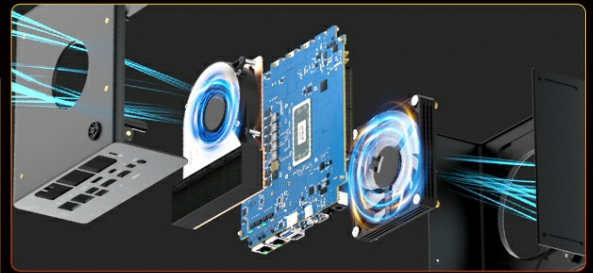
3.5 Performance Modes

The Mini PC offers three performance modes to balance power consumption, noise, and performance:

- **Quiet Mode (35W TDP):** Optimized for low noise and power efficiency, suitable for light tasks.
- **Balanced Mode (54W TDP):** Standard operating mode for everyday use, balancing performance and acoustics.
- **Performance Mode (70W TDP):** Maximizes CPU performance for demanding applications and gaming.

Switch between modes using the dedicated button or software utility (if available) to suit your current needs.

3 Performance Modes



Power	CPU (Celcius)	Noise (dB)
Quiet (35-40W TDP)	50	32-35
Normal (54-60W TDP)	65	36-37
Performance (65-70W)	75	39-40

Image: Visual representation of the three performance modes (Quiet, Balanced, Performance) available on the GMKtec K12 Mini PC, along with their respective TDP, CPU temperature, and noise levels.

4. MAINTENANCE

4.1 Cooling System

The GMKtec K12 Mini PC is equipped with a robust cooling system featuring dual turbo CPU fans and a dedicated DDR5/SSD cooling fan. Three advanced heatpipes and 360° airflow ensure efficient heat dissipation, maintaining optimal operating temperatures even under heavy loads.

- **Dust Removal:** Periodically clean dust from the fan vents using compressed air to ensure unobstructed airflow.
- **Operating Environment:** Ensure the Mini PC is placed in a well-ventilated area, away from direct sunlight or heat sources.

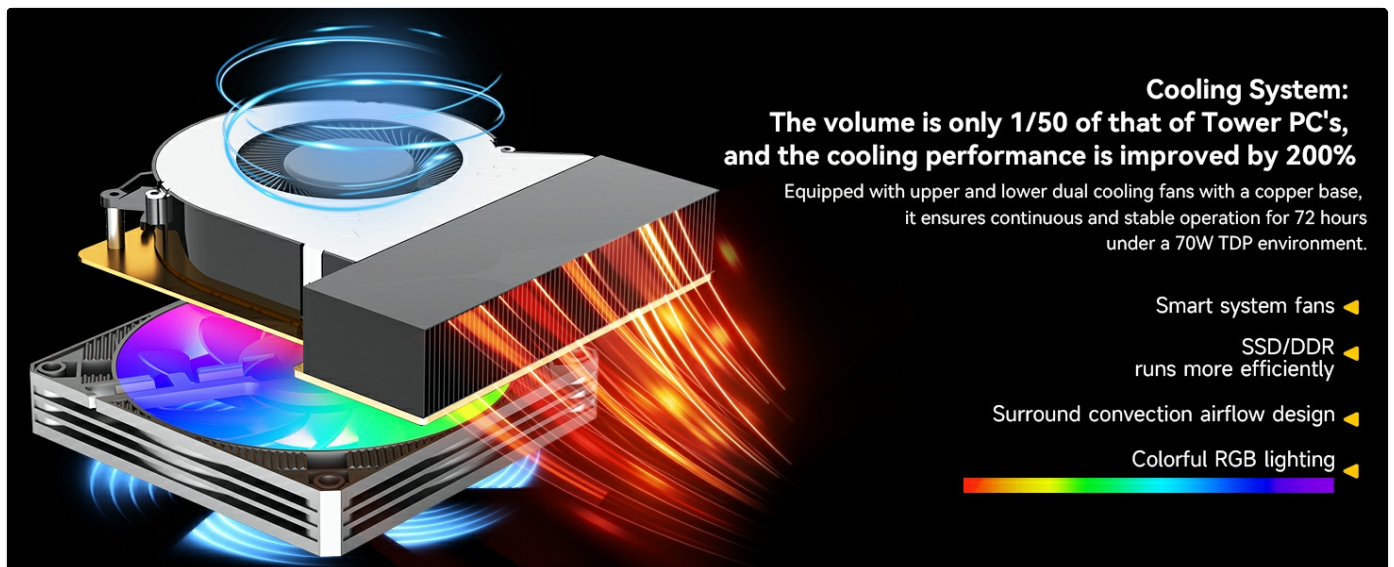


Image: Diagram illustrating the advanced cooling system of the GMKtec K12 Mini PC, featuring dual fans, copper base, and heatpipes for efficient thermal management.

4.2 Software Updates

Regularly update your operating system and drivers to ensure optimal performance, security, and compatibility. Visit the GMKtec official website for the latest driver and software packages specific to your K12 model.

5. TROUBLESHOOTING

5.1 No Display Output

- Ensure the monitor is powered on and correctly connected to the Mini PC's display ports (HDMI, DisplayPort, or USB-C).
- Try a different cable or display port.
- Verify the correct input source is selected on your monitor.

5.2 Peripherals Not Responding (e.g., Mouse Lag)

- Ensure USB devices are securely plugged into the ports.
- If experiencing lag with USB peripherals, especially mice, consider using a powered USB hub to mitigate potential interference, particularly with USB 3.0 ports.
- Test peripherals on different USB ports.
- Update USB drivers from the GMKtec website.

5.3 System Performance Issues

- Check the selected performance mode. Switch to "Performance Mode" for demanding tasks.
- Ensure the cooling vents are clear of obstructions and the Mini PC is not overheating.
- Verify that the operating system and drivers are up to date.
- Close unnecessary background applications.

5.4 Operating System Activation Issues

- If you encounter issues with Windows 11 activation, contact GMKtec customer support with your product details. They can provide troubleshooting steps or a new activation key if necessary.

6. TECHNICAL SPECIFICATIONS

Feature	Detail
Brand	GMKtec
Model Name	K12
CPU Model	AMD Ryzen 7 H 255 (8 Cores, 16 Threads)
CPU Speed	Up to 4.9 GHz
Graphics Coprocessor	AMD Radeon 780M (Integrated)
RAM Memory Installed	32 GB DDR5 (5600 MT/s)
RAM Memory Maximum Size	128 GB
Hard Disk Description	PCIe 4.0 M.2 2280 SSD (3 slots, Max. 24TB)
Operating System	Windows 11 Pro
Video Output Interface	HDMI 2.1, DisplayPort 1.4, USB Type-C
Max Display Resolution	7680x4320 Pixels (8K)

Feature	Detail
Connectivity Technology	Bluetooth 5.2, Ethernet (Dual 2.5GbE), HDMI 2.1, USB 4.0, Wi-Fi 6E
Total USB Ports	7 (Various types including USB4, USB 3.2 Gen 2)
Special Ports	Oculink (PCIe x4)
Power Consumption	35 Watts (Quiet Mode) to 70 Watts (Performance Mode)
Item Dimensions	5.94 x 2.9 x 6 inches



Image: Detailed specifications of the AMD Ryzen 7 H 255 processor, including turbo frequency, core count, threads, cache, TDP, and manufacturing process.



Image: Information on the AMD Radeon 780M integrated graphics card, highlighting its performance capabilities in various gaming scenarios.

7. WARRANTY AND SUPPORT

7.1 Product Warranty

GMKtec offers a **1-year limited warranty** for the K12 Mini PC, starting from the date of purchase. This warranty covers defects due to design and workmanship. For detailed terms and conditions, please refer to the warranty card included in your package or visit the official GMKtec website.

7.2 Customer Support

For technical assistance, troubleshooting, or warranty claims, please contact GMKtec customer support. They are available to help with any issues you may encounter.

- **Online Support:** Visit the official GMKtec website for FAQs, driver downloads, and contact information.
- **Seller Support:** If purchased through Amazon, you may also contact the seller "GMKtec-Shop" for assistance.

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

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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

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