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AOOSTAR GEM10

AOOSTAR GEM10 Mini PC User Manual

Model: GEM10 | Brand: AOOSTAR

1. INTRODUCTION

This manual provides essential information for setting up, operating, and maintaining your AOOSTAR GEM10 Mini PC. Please read it thoroughly before use to ensure optimal performance and longevity of your device.

Video: AOOSTAR GEM10 AMD R7 6800H Mini PC Overview. This video provides a general overview of the GEM10 Mini PC's features and design.

2. PACKAGE CONTENTS

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

- 1 x AOOSTAR GEM10 Mini PC (AMD Ryzen 7 6800H)
- 1 x Power Supply Adapter
- 1 x VESA Mount Bracket
- 1 x User Manual
- 1 x Mounting Screws Set
- 1 x HDMI Cable
- 2 x SSD Cooling Pads

3. PRODUCT OVERVIEW

The AOOSTAR GEM10 is a compact and powerful mini PC designed for various computing needs. It features a durable aluminum alloy CNC casing and efficient cooling.

3.1. Dimensions and Design

The device measures approximately 10.7cm x 10.7cm x 6cm, offering a compact footprint for space-saving placement.

ITS LENGTH AND WIDTH ARE ONLY TEN CENTIMETERS

Such a small size can really be called a mini computer.
Placing it on the desk can save more space.



Image: AOOSTAR GEM10 Mini PC showcasing its compact dimensions.

3.2. Front and Rear Ports

The GEM10 Mini PC offers a variety of ports for connectivity:

- **Front Ports:** 2 x USB3.2 Gen 2, 1 x OCuLink, 1 x USB4, 1 x 3.5mm Audio Jack, 1 x Power Button.
- **Rear Ports:** 1 x DC Power Input, 2 x 2.5G LAN, 2 x HDMI 2.1, 2 x USB3.2 Gen 2.

Full I/O ports solutions. Internet of Everything



Front

Button *1 Jack*1 USB3.2 Gen2*2 OCuLink*1 USB4*1

Be sure to turn off the computer when plugging in the oculink interface! Otherwise the motherboard will be damaged. If the motherboard is damaged due to incorrect use by you, this will not be covered by the warranty!

Back

DC*1 2.5G*2 DP*1 HDMI 2.1*1 USB3.2 Gen2*2

Image: Detailed view of the front and rear input/output ports on the AOOSTAR GEM10 Mini PC.

4. SETUP GUIDE

4.1. Initial Setup

1. Connect your monitor(s) to the HDMI 2.1 or USB4 ports.
2. Connect your keyboard and mouse to the available USB3.2 Gen 2 ports.
3. Connect the power supply adapter to the DC power input port.
4. Press the power button on the front of the Mini PC to turn it on.

4.2. Connecting to a Network

- **Wired Connection:** Connect an Ethernet cable to one of the two 2.5G LAN ports on the rear.
- **Wireless Connection:** The Mini PC supports WiFi 6. Ensure your WiFi network is active and connect through the operating system's network settings.

5. OPERATING INSTRUCTIONS

5.1. Power On/Off

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

5.2. BIOS Settings

The GEM10 features adjustable BIOS settings for TDP (28W/35W/45W) to optimize performance or power efficiency. Refer to the on-screen instructions during boot-up to access BIOS settings.

5.3. Multi-Display Setup

The Mini PC supports up to three 4K@120Hz displays simultaneously via its dual HDMI 2.1 ports and one USB4 port. The USB4 port also supports 8K output.



Image: Example of a triple monitor setup using the AOOSTAR GEM10 Mini PC.

Video: AOOSTAR GEM10 Application Scenarios. This video demonstrates various uses for the Mini PC, including multi-display setups.

6. STORAGE EXPANSION

The AOOSTAR GEM10 Mini PC offers extensive storage expansion capabilities with three M.2 2280 NVME slots (PCIe 4.0 X 4). This allows for significant storage upgrades and flexible RAID configurations.

6.1. Installing an SSD

To install an additional M.2 NVME SSD:

1. Power off the Mini PC and disconnect all cables.
2. Carefully open the chassis to access the M.2 slots.
3. Insert the M.2 NVME SSD into an available slot.
4. Secure the SSD with the provided screw.
5. Close the chassis and reconnect cables.

AMAZING EXPANSION CAPABILITIES YOU CAN INSTALL 3 SSDS

3 PCIe 4.0 x4 hard drive slots, Faster read and write speeds.
You can even use it as a pure SSD NAS.

PCIE 4.0x4 X 3



Image: Internal view of the AOOSTAR GEM10 Mini PC showing the three M.2 NVME SSD slots.

Video: How to Install SSD in GEM10 Mini PC. This video demonstrates the process of installing an SSD in the GEM10 Mini PC.

6.2. RAID Configurations

The three NVME drives can be configured in RAID 0/1/5 for enhanced performance or data redundancy. Consult your operating system's documentation for RAID setup instructions.

Mini SSD NAS

Ensure worry data security.

RAID mode	Minimum number of disks	Capacity	Safety
RAID 0	2 		
RAID 1	2 		
RAID 3	3 		
RAID 5 (Preferred)	3 		

Image: Table illustrating different RAID modes (RAID 0, 1, 3, 5) with minimum disk requirements, capacity, and safety levels for Mini SSD NAS.

7. EXTERNAL GPU CONNECTION

The GEM10 Mini PC is equipped with an OCuLink port (64 Gbps) and a USB4 port, offering high-bandwidth connections for external graphics processing units (eGPUs).

7.1. OCuLink Port

- The OCuLink port operates on an independent channel, not occupying M.2 slots.
- It provides faster speeds and fewer transfer bottlenecks compared to TB4/USB4 for high-performance GPUs.
- **Note:** The OCuLink port does not support hot-swapping. Always power off the computer before plugging in or unplugging the OCuLink cable to prevent motherboard damage.

Oculink Does Not Occupy M.2 Slot!

Interface Specifications

PCIE 4.0×4

Note: The Oculink interface does not support hot-swapping, so please plug in and unplug it when the power is turned off. If the motherboard is damaged due to operation error, it will not be included in the warranty.



Image: AOOSTAR GEM10 Mini PC connected to an external monitor via OCuLink, highlighting its interface specifications.

7.2. USB4 Port

The USB4 port also supports external GPU solutions, offering versatility for connecting various high-speed peripherals.

8. MAINTENANCE

8.1. Cooling System

The GEM10 features a newly upgraded dual cooling system to maintain optimal operating temperatures for the processor and SSDs, preventing heat accumulation during long-term use.

“GLACIER 3.0” COOLING SYSTEM QUIETER DURING USE

The dual cooling system for the processor and SSD can reduce the computer's temperature. It won't accumulate heat even with long-term use.



Image: Exploded view of the AOOSTAR GEM10 Mini PC highlighting its dual cooling system components.

8.2. General Care

- Keep the device in a clean, dust-free environment.
- Avoid blocking ventilation openings to ensure proper airflow.
- Clean the exterior with a soft, dry cloth.

9. TROUBLESHOOTING

This section addresses common issues you might encounter with your AOOSTAR GEM10 Mini PC.

9.1. Slow Performance

- Ensure the Mini PC is placed in a well-ventilated area to prevent overheating.
- Check background applications and close unnecessary programs.
- Verify that the operating system and drivers are up to date.
- Consider adjusting the BIOS TDP setting to a higher wattage (e.g., 35W or 45W) for increased performance.

9.2. Network Connectivity Issues

- For wired connections, ensure the Ethernet cable is securely connected to both the Mini PC and the router/modem.
- For wireless connections, verify that WiFi is enabled and you are connected to the correct network. Restarting your router/modem may resolve some issues.
- Update network drivers if problems persist.

9.3. Display Issues

- Ensure display cables (HDMI, USB4) are securely connected.
- Verify that your monitor is set to the correct input source.
- Update graphics drivers.

10. SPECIFICATIONS

Detailed technical specifications for the AOOSTAR GEM10 Mini PC:

Feature	Specification
Processor	AMD Ryzen 7 6800H (8C/16T, up to 4.70GHz)
Graphics	AMD Radeon 680M (12 core 2200 MHz)
RAM	32GB LPDDR5 6400MT/s (Soldered)
Storage	1TB M.2 2280 PCIe4.0 SSD (3 x M.2 NVME slots total)
Display Output	2 x HDMI 2.1 (4K@120Hz), 1 x USB4 (4K@120Hz, 8K supported)
Network	WiFi 6, Bluetooth 5.2, 2 x 2.5G LAN
Front Ports	2 x USB3.2 Gen 2, 1 x OCuLink, 1 x USB4, 1 x 3.5mm Audio Jack, 1 x Power Button
Rear Ports	1 x DC Power Input, 2 x 2.5G LAN, 2 x HDMI 2.1, 2 x USB3.2 Gen 2
Dimensions	10.7cm x 10.7cm x 6cm
Operating System	PC (Windows 11 Pro pre-installed)
Certifications	CE, EMC, FCC, RoHS

11. WARRANTY AND SUPPORT

AOOSTAR provides a 12-month worry-free warranty and lifetime technical service for the GEM10 Mini PC. For any issues or inquiries, please contact AOOSTAR customer support.

The product has passed CE, EMC, FCC, and RoHS Certifications, ensuring compliance with international quality and safety standards.
