MINISFORUM 790S7

MINISFORUM 790S7 Mini PC User Manual

Model: 790S7

1. INTRODUCTION

This manual provides essential instructions for setting up, operating, maintaining, and troubleshooting your MINISFORUM 790S7 Mini PC. The 790S7 is a barebone mini PC featuring an AMD Ryzen 9 7940HX processor, designed for users who wish to customize their memory, storage, and graphics card.

Package Contents

Please verify that all items are present in your package:

- 1x MINISFORUM 790S7 PC (BD790i SE Motherboard + Case)
- 1x Power Cord
- 1x User Manual (this document)

Note: The barebone version does not include a WiFi card, SSD cooler, or dedicated RTX 4060 Graphics.
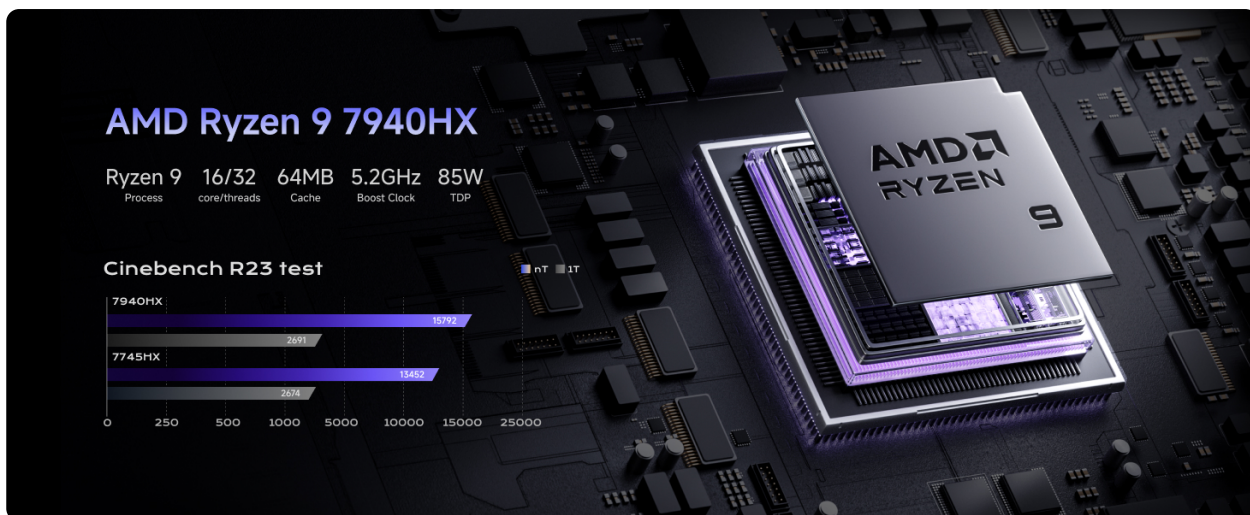

Image: Overview of the MINISFORUM 790S7 Mini PC and its core features.

2. Setup Guide

2.1 Unpacking and Preparation

Carefully remove the MINISFORUM 790S7 from its packaging. Place the unit on a stable, flat surface with adequate ventilation. Ensure you have a Phillips head screwdriver and anti-static precautions (e.g., an anti-static wrist strap) before proceeding with component installation.

2.2 Component Installation

The 790S7 is a barebone system, requiring the installation of memory and storage. An optional low-profile graphics card can also be installed.

Memory (RAM) Installation

The system supports up to 64GB of DDR5 SODIMM memory across two slots.

1. Locate the two DDR5 SODIMM slots on the motherboard.
2. Align the notch on the SODIMM module with the key in the slot.
3. Insert the module at a 45-degree angle and push down until the side clips snap into place.

Image: Illustration of installing DDR5 SODIMM memory modules into the designated slots.

Storage (M.2 SSD) Installation

The 790S7 features two M.2 2280 PCIe4.0 SSD slots for high-speed storage.

1. Locate the M.2 slots on the motherboard.
2. Insert the M.2 SSD into the slot at a slight angle.
3. Gently push down the SSD and secure it with the provided screw.

Recommendation: For PCIe Gen 5 SSDs, consider installing passive heatsinks to prevent thermal throttling, as these drives can generate significant heat.

790S7 Mini Tower PC is **Active in Various Scenes**

Monitors

Work From Home

Education

Digital Board

Games

Image: Diagram showing the installation process for M.2 PCIe 4.0 SSDs.

Optional Graphics Card Installation

The system includes a PCIe 5.0 x16 slot for a dedicated graphics card. Only low-profile, dual-slot graphics cards are compatible with the stock chassis.

1. Open the chassis to access the PCIe 5.0 x16 slot.
2. Carefully insert the low-profile graphics card into the slot until it is fully seated.
3. Secure the graphics card with the retaining mechanism or screw.

MIC IN、LINE OUT、LINE IN
USB2.0 Type-A Port ×2
2.5G RJ45
CMOS Clear
USB3.2 Gen2 Type-C（Alt DP）
HDMI2.1
DP1.4
USB3.2 Gen1 Type-A ×2

Power Button
Reset Button
Audio Jack
USB-A 3.2 Gen1 (5Gbps)
USB-C 2.0 Gen1

Image: Close-up view of the PCIe 5.0 x16 slot, indicating where a low-profile GPU can be installed.

Wireless Module Installation (Optional)

The 790S7 includes an M.2 2230 Key E slot for a wireless LAN card. If you wish to add Wi-Fi and Bluetooth capabilities, you will need to purchase and install a compatible module separately.

1. Locate the M.2 2230 Key E slot.
2. Insert the wireless module and secure it with a screw.
3. Connect the antenna cables to the module (if applicable).

2.3 Connecting Peripherals

After installing internal components, connect your external devices.

1. **Monitors:** Connect your display(s) to the HDMI2.1, DP1.4, or USB-C (Alt DP) ports.
2. **Keyboard and Mouse:** Connect to any available USB-A ports.

3. **Network:** For wired internet, connect an Ethernet cable to the 2.5G RJ45 port.
4. **Audio:** Connect speakers or headphones to the Audio Jack, LINE OUT, or MIC IN ports as needed.
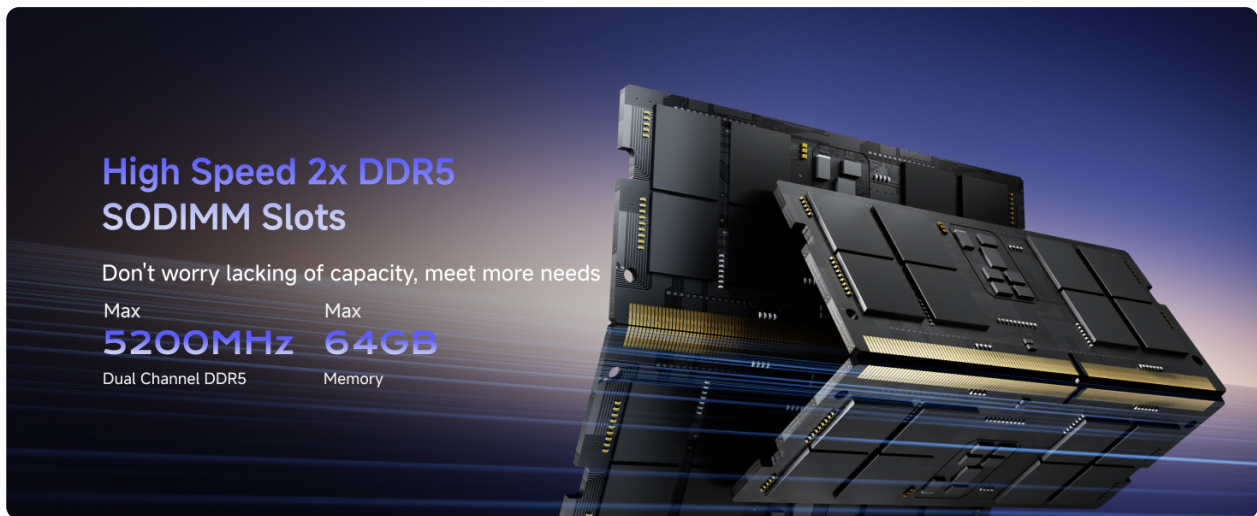5. **Power:** Connect the power cord to the PC and then to a power outlet.

Image: Detailed view of the front and rear input/output ports available on the MINISFORUM 790S7.

2.4 Operating System Installation

The MINISFORUM 790S7 supports Windows operating systems. You will need to install your preferred operating system onto your M.2 SSD. Refer to the operating system's installation guide for detailed steps, typically involving creating a bootable USB drive.

3. OPERATING INSTRUCTIONS

3.1 Power On/Off

- **Power On:** Press the Power Button located on the front of the chassis.
- **Power Off:** Initiate a shutdown from your operating system. Alternatively, press and hold the Power Button for 5 seconds to force a shutdown (use only when necessary).

3.2 Display Configuration

The 790S7 supports up to three independent displays simultaneously.

- **HDMI2.1:** Supports up to 4K@60Hz resolution.
- **DP1.4:** Supports up to 4K@60Hz resolution.
- **USB-C (Alt DP):** Supports up to 8K@60Hz resolution.

Connect your monitors to the desired ports. Your operating system's display settings will allow you to configure extended or duplicated desktop modes.
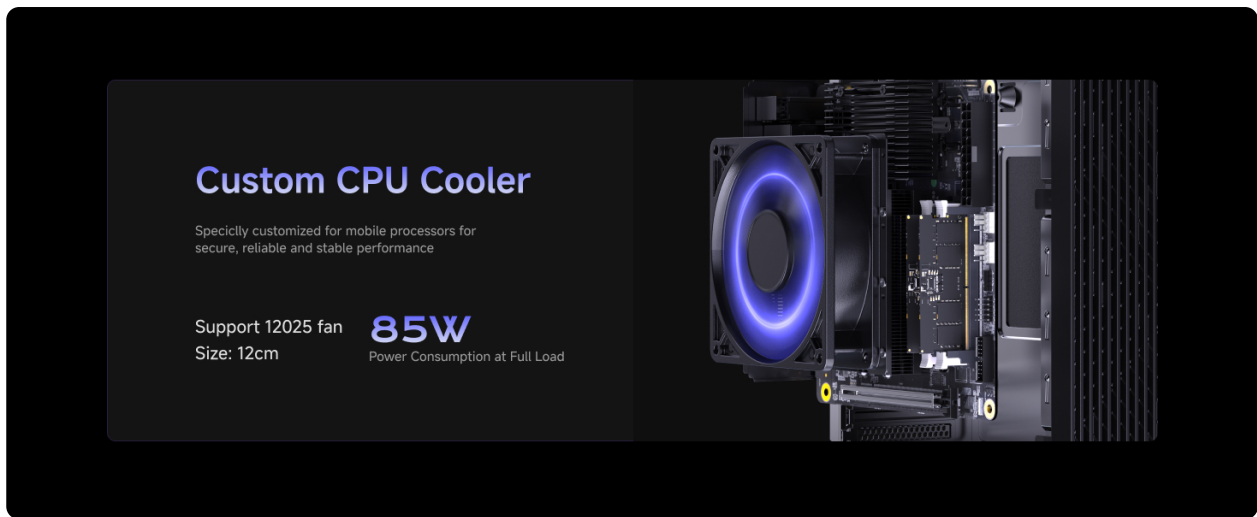
Image: The MINISFORUM 790S7 Mini PC connected to a triple monitor setup, demonstrating its multi-display capability.

3.3 Port Usage

Utilize the various ports for connecting peripherals:

- **USB 3.2 Gen2 Type-C (Alt DP):** High-speed data transfer and display output.
- **USB 3.2 Gen1 Type-A:** Standard high-speed USB for peripherals.
- **USB 2.0 Type-A:** For basic peripherals like keyboard and mouse.
- **2.5G RJ45:** High-speed wired network connection.
- **Audio Jack** / **LINE IN** / **LINE OUT** / **MIC IN:** For audio input and output devices.

3.4 BIOS Settings

To access the BIOS/UEFI settings, press the designated key (usually DEL or F2) repeatedly during startup. Within the BIOS, you can adjust various system parameters, including fan speeds for both the CPU and chassis fans.

4. Maintenance

4.1 Cleaning

Regular cleaning helps maintain optimal performance and extends the lifespan of your PC.

- Use a soft, dry cloth to wipe the exterior of the chassis.
- For internal dust, use compressed air to gently clear dust from fans and heatsinks. Ensure the PC is powered off and unplugged before cleaning internally.

4.2 Cooling System

The 790S7 features a custom CPU cooler and a mesh-designed case to enhance heat dissipation.

Image: Internal view highlighting the custom CPU cooler designed for efficient heat management.

The case's mesh design promotes airflow, contributing to excellent cooling performance, typically maintaining temperatures below 60°C during operation and under 45dB at full load.
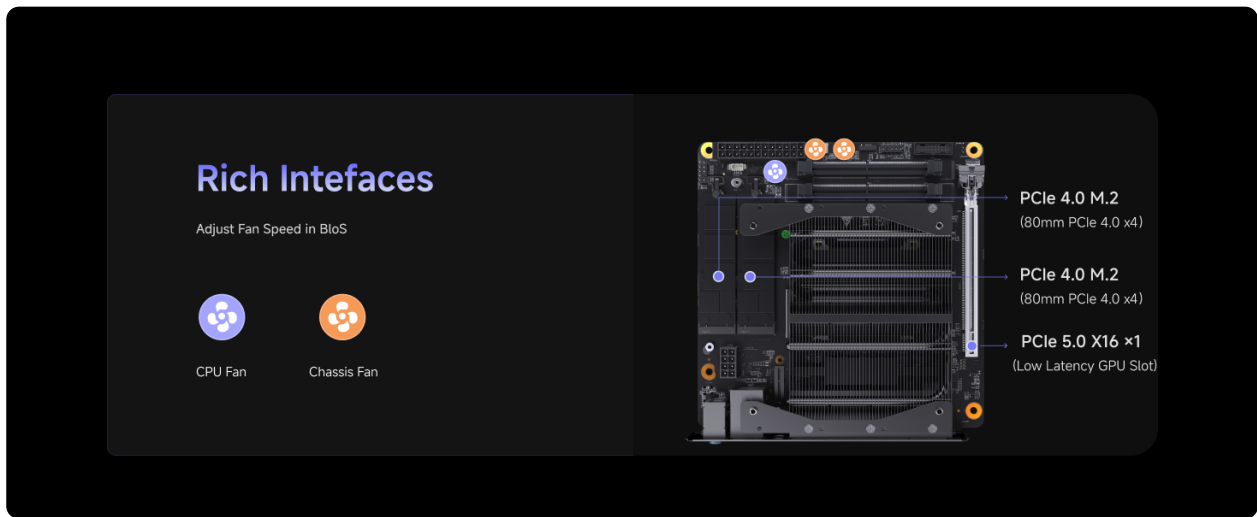
Image: Diagram showing the airflow path and cooling efficiency metrics of the 790S7 chassis.

4.3 Storage Cooling

High-performance M.2 SSDs, especially PCIe Gen 5 models, can generate significant heat. Installing passive heatsinks on your M.2 SSDs is recommended to prevent thermal throttling and ensure consistent performance.

5. TROUBLESHOOTING

5.1 Common Issues

- **No Power:** Ensure the power cord is securely connected to both the PC and the power outlet. Verify the power outlet is functional.
- **No Display:** Check all monitor cables and ensure they are securely connected. Confirm the monitor is powered on and set to the correct input source. If a dedicated GPU is installed, ensure the monitor is connected to the GPU's output, not the motherboard's integrated graphics ports.
- **System Instability:** Verify that RAM and SSDs are correctly seated. Ensure adequate cooling and consider updating drivers.

5.2 CMOS Reset

If you encounter boot issues or incorrect BIOS settings, you can reset the CMOS (Complementary Metal-Oxide-Semiconductor) to default settings.

- Locate the CMOS Clear button on the rear I/O panel.
- With the PC powered off and unplugged, press and hold the CMOS Clear button for 5-10 seconds.
- Reconnect power and attempt to boot the system.

5.3 Further Assistance

If troubleshooting steps do not resolve your issue, please refer to the support section for contact information.

6. PRODUCT SPECIFICATIONS

Detailed technical specifications for the MINISFORUM 790S7 Mini PC:

Component	Specification
Processor	AMD Ryzen 9 7940HX (16 Cores/32 Threads, up to 5.2GHz)
Graphics	AMD Radeon 610M (Integrated, Graphics Frequency 2200MHz)
Memory	2x DDR5 SODIMM Slots, up to 5200 MT/s, Max 64GB
Storage	2x M.2 2280 PCIe4.0 SSD Slots
Expansion Slot	1x PCIe 5.0 x16 Slot (for low-profile GPU)
Wireless Slot	1x M.2 2230 Key E Slot (for WiFi module)
Ethernet	1x RJ45 2.5G LAN Port
Video Outputs	1x HDMI2.1 (4K@60Hz), 1x DP1.4 (4K@60Hz), 1x USB-C (Alt DP, 8K@60Hz)
Front I/O Ports	1x Power Button, 1x Reset Button, 1x Audio Jack, 1x USB-A 3.2 Gen1 (5Gbps), 1x USB-C 2.0
Rear I/O Ports	1x HDMI2.1, 1x DP1.4, 1x USB3.2 Gen2 Type-C (Alt DP), 2x USB3.2 Gen1 Type-A, 2x USB2.0 Type-A, 1x LINE IN, 1x LINE OUT, 1x MIC IN, 1x Audio Jack, 1x 2.5G RJ45, 1x CMOS Clear Button
Power Supply	TFX 400W
Dimensions (LWH)	298 x 225 x 95 mm (11.7 x 8.8 x 3.8 inches)
Operating System Support	Windows

UM560 XT

AMD Ryzen 5 5600H

Learn more

Image: A summary table of the MINISFORUM 790S7's key specifications.

7. WARRANTY AND SUPPORT

7.1 Warranty Information

MINISFORUM products typically come with a limited warranty. Please refer to the official MINISFORUM website or your purchase documentation for specific warranty terms and conditions applicable to your region and product model. Keep your proof of purchase for warranty claims.

7.2 Technical Support

For technical assistance, driver downloads, or further inquiries, please visit the official MINISFORUM support website:

MINISFORUM Official Support

You may also find helpful resources and community forums on the MINISFORUM website.