

GMKtec M6 Ultra

GMKtec M6 Ultra Mini PC Instruction Manual

Brand: GMKtec | Model: M6 Ultra

1. INTRODUCTION

This manual provides essential information for setting up, operating, maintaining, and troubleshooting your GMKtec M6 Ultra Mini PC. This compact desktop computer is powered by the AMD Ryzen 5 7640HS processor, offering robust performance for various tasks from office work to creative projects and gaming. It features 16GB DDR5 RAM, a 512GB PCIe SSD, dual 2.5G LAN, WiFi 6E, USB4.0 connectivity, and supports triple 4K display output.



Figure 1: GMKtec M6 Ultra Mini PC, showcasing its compact design and various ports.

2. PACKAGE CONTENTS

Ensure all items are present in the package:

- GMKtec M6 Ultra Mini PC Unit
- Power Adapter
- HDMI Cable
- VESA Mount Bracket (with screws)
- Instruction Manual



Figure 2: All items included in the GMKtec M6 Ultra Mini PC package.

3. SETUP GUIDE

3.1 Initial Connection

1. **Connect Display:** Use the provided HDMI cable to connect your monitor to the HDMI port on the Mini PC. Alternatively, use a DisplayPort cable or a USB4.0 Type-C cable for compatible displays.
2. **Connect Peripherals:** Plug in your keyboard, mouse, and other USB devices into the available USB ports.
3. **Connect to Network:** For a wired connection, connect an Ethernet cable to one of the dual 2.5G LAN ports. For wireless, the device supports Wi-Fi 6E and Bluetooth 5.2, which can be configured after initial boot.
4. **Connect Power:** Connect the power adapter to the DC IN port on the Mini PC and then plug it into a power outlet.
5. **Power On:** Press the power button on the front of the Mini PC. The system will boot into Windows 11 Pro.

Nucbox M6 Ultra



AMD RYZEN 5 7640HS



6コア 16 MB L3 Cache 12スレッド MAX 50W TDP



三画面出力対応
HDMI2.0、DP、USB4.0対応



二重内部冷却
ファン構造



TSMC 4nm FinFET
AMD Radeon 760M
AMD RDNA3
8コア2600MHz

Win11 Pro、Linux、Ubuntuに対応





PCIe 3.0 M.2 2280 SSD 搭載
デュアルPCIe 4.0サポート (MAX 8TB)



DDR5 RAM 4800MT/s
SO-DIMM*2 (Max 128GB)

USB4.0
フル機能ポート





WIFI 6



Bluetooth 5.2

Figure 3: Connecting the GMKtec M6 Ultra Mini PC to a monitor and peripherals.

3.2 VESA Mount Installation

The Mini PC includes a VESA mount bracket for convenient installation behind a compatible monitor or TV, saving desk space.

1. Attach the VESA bracket to the back of your monitor using the provided screws.
2. Slide the Mini PC onto the VESA bracket until it clicks securely into place.

小型で持ち運びに便利なミニPC



Figure 4: VESA mount installation for space-saving setup.

4. OPERATING INSTRUCTIONS

4.1 Power On/Off

To power on the device, press the power button located on the front panel. To power off, use the standard Windows shutdown procedure or press and hold the power button for a few seconds.

4.2 Performance Modes

The GMKtec M6 Ultra offers three adjustable TDP (Thermal Design Power) modes to optimize performance and noise levels based on your needs:

- **Silent Mode (35W):** Ideal for everyday tasks and quiet environments, prioritizing low noise.
- **Balance Mode (45W):** A balanced setting for general use, offering good performance with moderate noise.
- **Performance Mode (50W):** Maximizes processing power for demanding applications, creative work, and gaming.

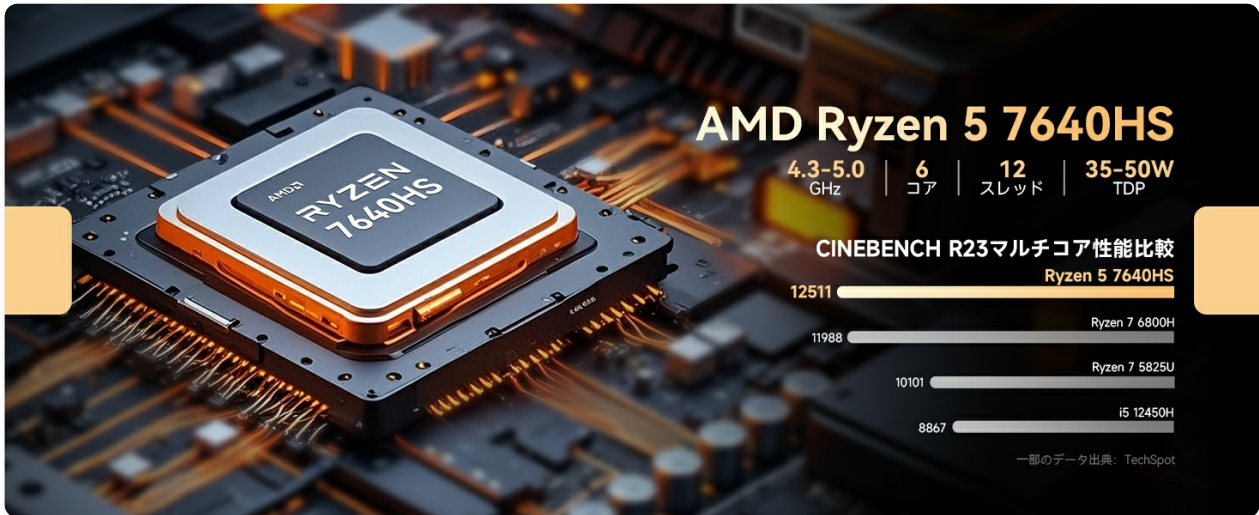


Figure 5: Selectable performance modes for optimized usage.

4.3 Multi-Display Output

The Mini PC supports up to three simultaneous displays, enhancing productivity and entertainment experiences. It features:

- 1x HDMI 2.0 (supports 4K@60Hz)
- 1x DisplayPort (supports up to 8K@60Hz)
- 1x USB4.0 (full-function, supports high-speed data transfer and display output up to 8K@60Hz)

簡単なインストール 分解設計

RAMとSSDのアップグレードが簡単で便利

PCIe3.0 M.2 2280 SSD

デュアルスロットSSD M2 2280*2
PCIe 4.0サポート

MAX容量: 8TB

DDR5 4800MT/s

デュアルチャネルSO-DIMM*2
各スロット最大64GB

MAX容量: 128GB



Figure 6: Triple display output capability for enhanced multitasking.

4.4 Network and Wireless Connectivity

The M6 Ultra provides robust network options:

- **Dual 2.5G LAN Ports:** For high-speed wired network connections, ideal for NAS setups or fast file transfers.
- **Wi-Fi 6E:** Supports the 6GHz band for stable and less congested wireless communication, perfect for online gaming, streaming, and remote work.

- **Bluetooth 5.2:** For connecting wireless peripherals such as keyboards, mice, and headphones.



Figure 7: Dual 2.5G LAN ports for high-speed wired networking.

5. MAINTENANCE AND UPGRADES

5.1 RAM and SSD Upgrade

The GMKtec M6 Ultra Mini PC is designed for easy upgrades of its memory and storage components. It supports up to 128GB DDR5 RAM and up to 8TB M.2 2280 PCIe 4.0 SSD storage.

1. **Power Off and Disconnect:** Ensure the Mini PC is completely powered off and all cables are disconnected.
2. **Remove Bottom Cover:** Carefully remove the rubber feet from the bottom of the unit to access the screws. Unscrew the bottom cover and gently lift it off.
3. **Access Components:** Once the cover is removed, you will see the internal components, including the M.2 SSD slots and DDR5 SO-DIMM slots.
4. **Install/Replace Components:** Follow the specific instructions for your new RAM modules or M.2 SSD. Secure them in their respective slots.
5. **Reassemble:** Carefully reattach the bottom cover and secure it with the screws. Replace the rubber feet.

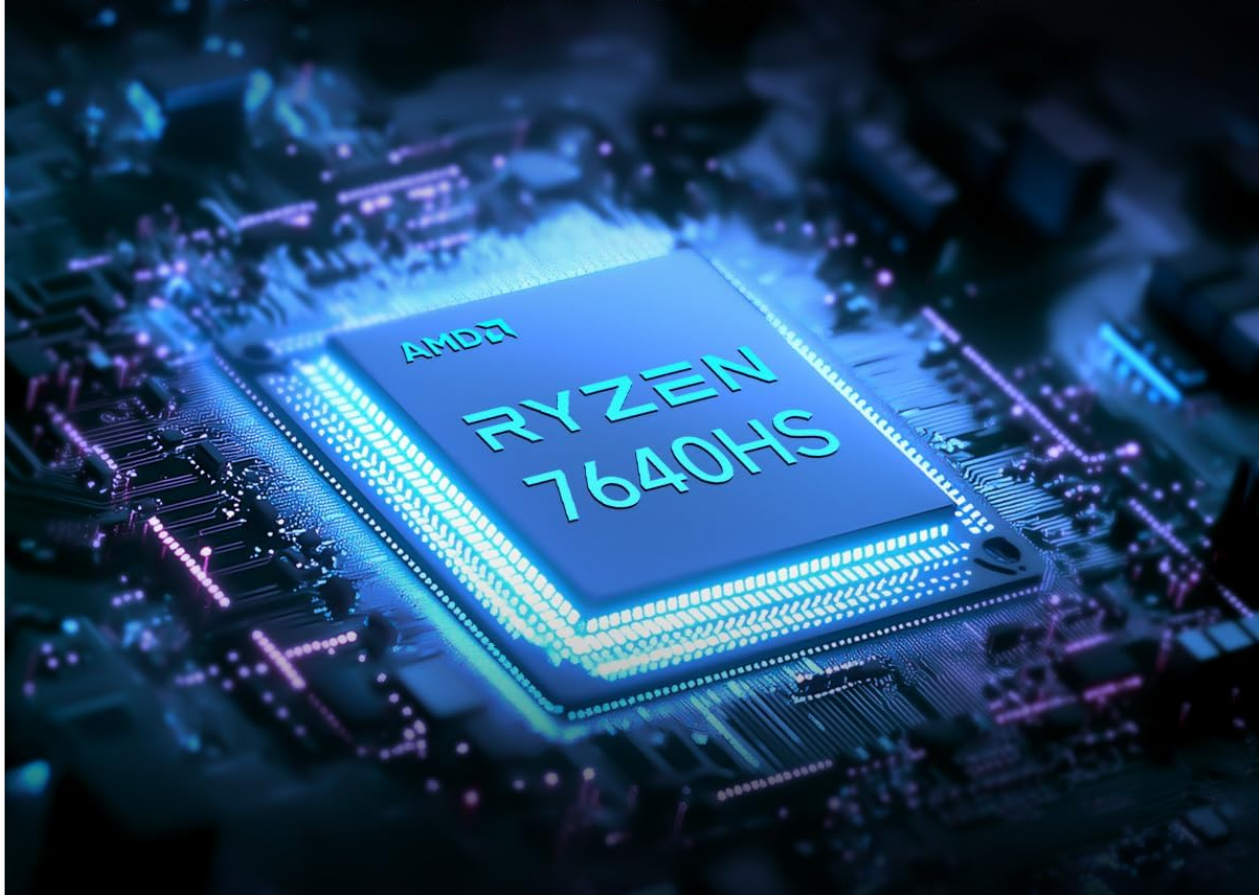
AMD Ryzen 5 7640HS

4.3-5.0
GHz

6
コア

12
スレッド

35-50W
TDP



マルチコア性能比較



Figure 8: Internal layout for RAM and SSD upgrades.

5.2 Cooling System Maintenance

The Mini PC features a dual-fan cooling system to maintain optimal operating temperatures. Regular cleaning of the fan and vents is recommended to ensure efficient heat dissipation.

Video: Disassembly and Maintenance Guide (GMKtec NucBox M8)

Video 1: This video demonstrates the disassembly and internal maintenance procedures for a similar GMKtec Mini PC model (NucBox M8). While not the exact M6 Ultra, the general steps for accessing internal components and cleaning the fan are applicable.

Video: SSD Installation Guide (GT68 Mini PC)

Video 2: This video illustrates the process of installing an SSD in a GT68 Mini PC. The general principles for M.2 SSD installation are similar for the M6 Ultra.

6. TROUBLESHOOTING

6.1 No Power

- Ensure the power adapter is securely connected to both the Mini PC and a working power outlet.
- Verify the power outlet is functional by plugging in another device.
- Check the power adapter for any visible damage.

6.2 No Display Output

- Confirm the display cable (HDMI, DisplayPort, or USB4.0) is firmly connected to both the Mini PC and the monitor.
- Ensure the monitor is powered on and set to the correct input source.
- Try a different display cable or monitor to rule out hardware issues.

6.3 Network Connectivity Issues

- **Wired LAN:** Check if the Ethernet cable is properly connected to both the Mini PC and the router/modem. Verify router status.
- **Wi-Fi:** Ensure Wi-Fi is enabled in Windows settings. Check if the correct network is selected and the password is entered correctly. Restart your router/modem.
- **Bluetooth:** Ensure Bluetooth is enabled in Windows settings. Try re-pairing your Bluetooth devices.

6.4 Peripheral Recognition Issues (e.g., USB ports)

- Try connecting the peripheral to a different USB port.
- Ensure the peripheral's drivers are installed and up to date.
- Restart the Mini PC.

7. SPECIFICATIONS


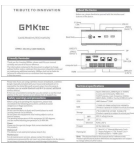




Feature	Specification
Brand	GMKtec
Model Number	JP-AMZ-M6 Ultra
Product Dimensions	12.88 x 12.7 x 4.78 cm
Item Weight	1.6 Kilograms
CPU Brand	AMD

Feature	Specification
CPU Type	AMD Ryzen 5 7640HS
CPU Speed	5 GHz
Processor Count	1
RAM Type	DDR5
Installed RAM Size	16 GB
Max Memory Supported	128 GB
Memory Clock Speed	4800 MHz
Hard Disk Type	SSD (PCIe 3.0 M.2 2280)
Graphics Coprocessor	AMD Radeon 660M 1900MHz
Graphics Card Type	Integrated
Connectivity	Bluetooth, Wi-Fi (2.4 GHz, 5 GHz, 5.8 GHz, 802.11ax)
USB 2.0 Ports	1
USB 3.0 Ports	3
HDMI Ports	1
Operating System	Windows 11 Pro
Resolution	3840 x 2160 (4K)

8. WARRANTY AND SUPPORT

The GMKtec M6 Ultra Mini PC comes with a **1-year manufacturer warranty**. For any technical assistance, product inquiries, or warranty claims, please contact GMKtec customer support. We offer **24-hour customer support** to ensure a smooth experience with your device.

Please refer to the official GMKtec website or your purchase documentation for specific contact details and warranty terms.

	<p><u>GMKtec M6 Mini PC User Manual</u></p> <p>Comprehensive user manual for the GMKtec M6 Mini PC, detailing specifications, setup, operation, and troubleshooting for this compact desktop computer powered by AMD R5 6600H.</p>
	<p><u>GMKtec M6 Ultra User Manual: Features, Specifications, and Setup Guide</u></p> <p>Comprehensive user manual for the GMKtec M6 Ultra Mini PC, detailing its features, technical specifications, safety precautions, connection steps, BIOS settings, power management, and compliance information.</p>
	<p><u>GMKtec Mini PC Instrukcja Obsługi i Specyfikacje Techniczne</u></p> <p>Kompleksowa instrukcja obsługi i przegląd specyfikacji technicznych dla serii komputerów GMKtec Mini PC, obejmująca modele takie jak NUCBOX, G-Series, M-Series, K-Series, Evo-Series i inne.</p>
	<p><u>GMKtec NUCBOX7/7S User Manual</u></p> <p>User manual for the GMKtec NUCBOX7 and NUCBOX7S mini PCs, detailing specifications, safety precautions, connection steps, and after-sales support.</p>
	<p><u>GMKtec NUCBOX M5 PLUS User Manual</u></p> <p>User manual for the GMKtec NUCBOX M5 PLUS mini PC, detailing its features, specifications, connection steps, and basic settings. Includes safety precautions and warranty information.</p>
	<p><u>GMKtec NUCBOX M5 PLUS User Manual and Safety Guide</u></p> <p>Comprehensive user manual for the GMKtec NUCBOX M5 PLUS mini PC, detailing setup, specifications, safety precautions, and warranty information. Learn how to connect your device, access BIOS, and ensure safe operation.</p>