

GMKtec K13

GMKtec K13 Mini PC User Manual

Model: K13 | Brand: GMKtec

1. INTRODUCTION

The GMKtec K13 Mini PC is a high-performance, ultra-compact computing solution designed for demanding tasks, including AI workloads, gaming, and content creation. Powered by the Intel Core Ultra 7 256V processor, it delivers significant AI performance with its triple-AI architecture (NPU + GPU) for fast prompt processing and seamless multitasking.

Equipped with an Intel Arc 140V GPU, this mini PC offers comparable or superior graphics performance to discrete desktop GPUs while consuming less power. Its compact design allows it to fit into any workspace, making it ideal for both home and professional environments.

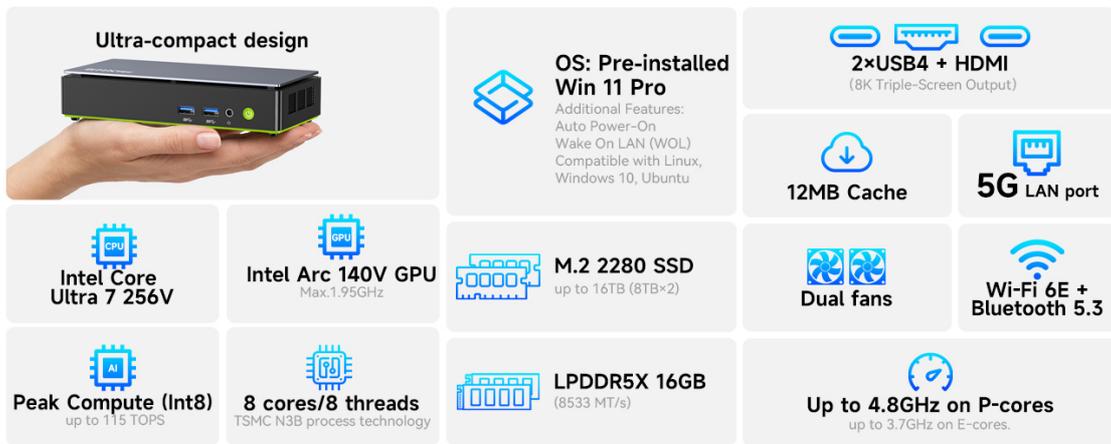


Figure 1: The GMKtec K13 Mini PC, showcasing its compact design and powerful Intel Core Ultra 7 256V processor.

2. PACKAGE CONTENTS

Verify that all items are present in the package before proceeding with setup:

- GMKtec NucBox K13 AI Mini PC Intel Ultra 7 256V Mini PC Computer
- Power Supply & Cable
- HDMI Cable
- User Manual

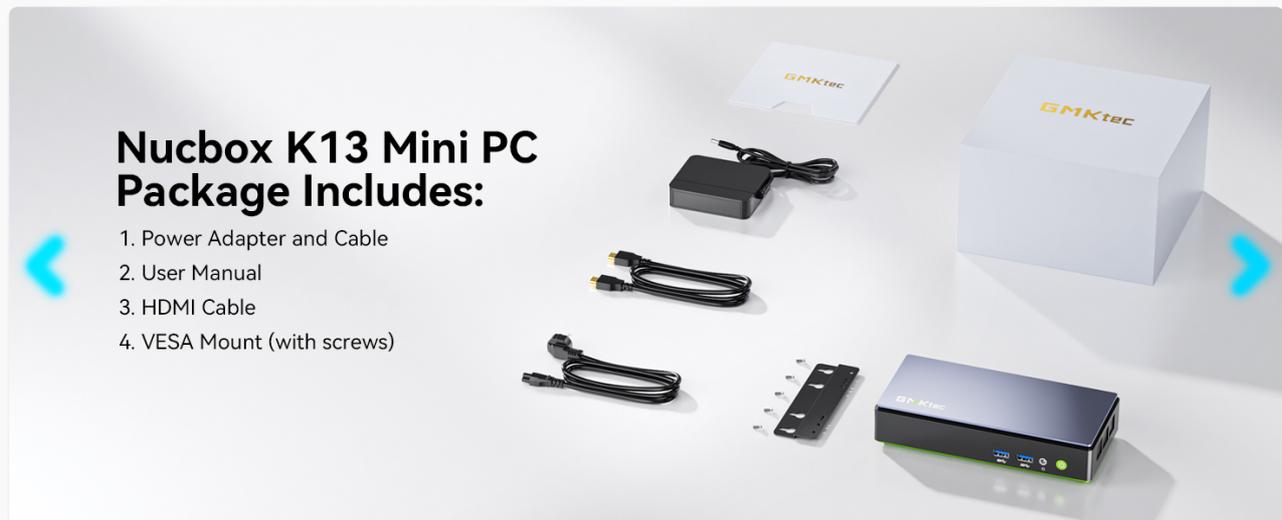


Figure 2: All components included in the GMKtec K13 Mini PC retail package.

3. PRODUCT OVERVIEW

3.1 Physical Description and Ports

The K13 Mini PC features an ultra-portable design, measuring approximately 7.2" x 3.5" x 1.3" and weighing just 18.5 oz. It offers a comprehensive set of ports for versatile connectivity:

- **Front Ports:** 2x USB 3.2 Gen 2 (10Gbps), 1x 3.5mm Audio Jack, Power Button.
- **Rear Ports:** DC IN 100W, 2x USB4 (40Gbps, full-function with DisplayPort 1.4 and 100W Power Delivery), 1x HDMI 2.1 TMDS (4K@60Hz), 1x USB 2.0 (480Mbps), 1x 5GbE RJ45 Port, Kensington Lock, Reset Button.

Rich Interface — Ready for Any Scenario



Figure 3: Detailed view of the GMKtec K13 Mini PC's front and rear interfaces.

3.2 Internal Components

The K13 Mini PC comes with 16GB of LPDDR5X-8533 MT/s RAM and a 1TB PCIe 4.0 SSD. It supports massive storage expansion with two ultra-fast PCIe Gen4 SSD slots, each supporting up to 8TB for a total of 16TB. The primary Gen4x4 slot offers speeds over 7,000 MB/s, while the secondary Gen4x2 slot provides additional high-speed storage.

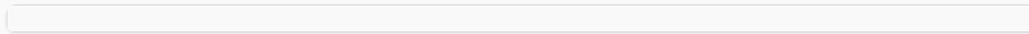


Figure 4: Internal layout highlighting the PCIe Gen4x4 SSD and LPDDR5X RAM.

4. SETUP

- Connect Power:** Plug the included power adapter into the DC IN port on the rear of the Mini PC and then into a power outlet. Alternatively, you can power the unit via one of the USB4 ports using a compatible 100W USB-C power source.
- Connect Display:** Connect your monitor(s) to the Mini PC using the HDMI 2.1 port or the dual USB4 ports. The device supports up to three 4K monitors at 60Hz.
- Connect Peripherals:** Plug in your keyboard, mouse, and other USB devices into the available USB ports.
- Network Connection:** For wired internet, connect an Ethernet cable to the 5GbE RJ45 port. For wireless, the device supports Wi-Fi 6E.
- Power On:** Press the power button on the front of the Mini PC.
- BIOS Configuration (Optional):** For optimal performance, it is recommended to enter the BIOS settings upon first boot (typically by pressing the 'Esc' key) and select 'High Performance' under 'Power Limit Select'. This ensures the Intel chip delivers its full potential.

5. OPERATING INSTRUCTIONS

The GMKtec K13 Mini PC comes pre-installed with Windows 11 Pro, offering a familiar and robust operating environment. It also supports Linux, Windows 10, and Ubuntu, providing flexibility for users.

5.1 Power Modes (TDP Adjustment)

The Mini PC features a three-step TDP (Thermal Design Power) adjustment in the BIOS to match performance with your task for optimal efficiency:

- **Quiet Mode (20W):** Silent and energy-efficient, perfect for daily office tasks and light workloads.
- **Balance Mode (25W):** Balances performance with quiet operation, ideal for everyday and moderate loads.
- **High Performance (37W):** Unlocks full power for demanding applications.

To switch modes, press F7 to enter BIOS, then select your preferred mode in "BIOS Setup."



Figure 5: BIOS interface for selecting power limit modes.

6. STORAGE EXPANSION

The K13 Mini PC offers significant storage flexibility. It includes two ultra-fast PCIe Gen4 SSD slots, each capable of supporting up to 8TB, for a staggering total of 16TB. The primary Gen4x4 slot provides blistering 7,000+ MB/s transfer speeds, ideal for large AI datasets and 8K video files. The secondary Gen4x2 slot is perfect for additional high-speed storage for backups and asset libraries.

To access the M.2 slots for expansion, simply remove the single screw on the bottom panel and gently snap off the cover. This allows for easy installation of additional NVMe SSDs.

7. CONNECTIVITY

7.1 USB4 Ports

The two full-function USB4 ports (40Gbps) offer unparalleled versatility. They can connect a stunning 4K monitor via DisplayPort 1.4, transfer massive files to an external SSD at blazing speeds (nearly 4x faster than USB 3.0), and simultaneously charge your laptop with 100W power delivery, all through a single cable. These ports also support daisy-chaining high-speed peripherals like external GPUs or multiple NVMe storage arrays.

Dual Full-Function USB4 Ports 40Gbps ultra-high-speed data transfer

PD support greatly expands connectivity
and extension capabilities

USB4



Figure 6: Illustrates the versatile connectivity options provided by the dual USB4 ports.

7.2 Network and Wireless

Experience blazing-fast networking with the 5GbE LAN port, offering twice the speed of standard 2.5GbE for near-instantaneous access to your NAS, rapid transfer of 4K/8K video files, and ultra-smooth backups. Wireless connectivity is provided by Wi-Fi 6E and Bluetooth 5.2, ensuring stable and high-speed connections for all your devices.



Figure 7: Comparison of 5GbE LAN performance versus 2.5GbE.



Figure 8: Overview of the Wi-Fi 6E and Bluetooth 5.2 capabilities.

8. COOLING AND THERMAL MANAGEMENT

The K13 Mini PC incorporates a Super-Conductive Copper Turbo Fan Cooling system, designed for quiet and highly efficient thermal performance. Its dust-resistant design helps prevent ingress for consistent cooling stability, ensuring reliable operation even under heavy loads. The system includes a silent turbo fan and a dedicated system cooling fan for extended operation with reliable heat dissipation.

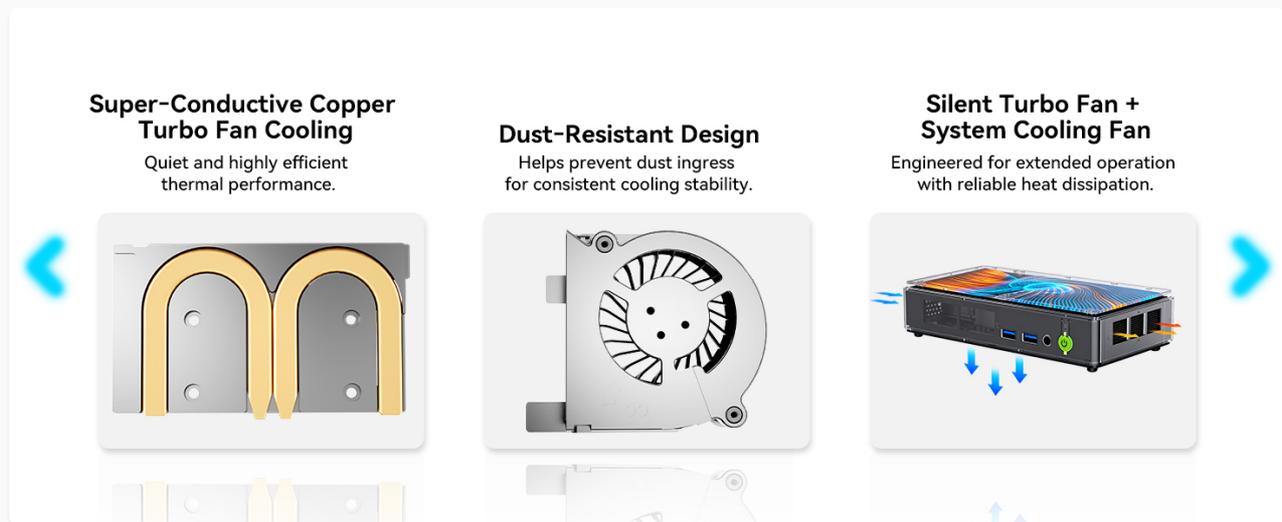


Figure 9: Exploded view of the Turbo Fan Cooling system.

9. MAINTENANCE

- **Keep Vents Clear:** Ensure that the ventilation openings on the sides and bottom of the Mini PC are not obstructed to allow for proper airflow and prevent overheating.
- **Regular Cleaning:** Periodically clean the exterior of the device with a soft, dry cloth. Use compressed air to gently clear dust from the vents.
- **Software Updates:** Keep your operating system and drivers updated to ensure optimal performance and security.

10. TROUBLESHOOTING

- **No Power:** Check if the power adapter is securely connected to both the Mini PC and the power outlet. If using USB4 for power, ensure the power source provides at least 100W.
- **No Display:** Verify that the HDMI or USB4 cables are correctly connected to both the Mini PC and the monitor. Try a different cable or monitor if possible. Ensure the monitor is set to the correct input source.
- **Slow Performance:** Check the power mode settings in the BIOS (refer to Section 5.1). Ensure there are no excessive background applications running. Verify sufficient free storage space.
- **Network Issues:** For wired connections, check the Ethernet cable and router status. For Wi-Fi, ensure the network is available and the password is correct. Restart your router and the Mini PC.
- **Overheating:** Ensure the Mini PC's vents are clear of obstructions. Operate the device in a well-ventilated

area.

11. SPECIFICATIONS

Feature	Specification
Brand	GMKtec
Model Name	K13
Operating System	Windows 11 Pro
CPU Model	Intel Core Ultra 7 256V
CPU Speed	Up to 4.8 GHz
Graphics Coprocessor	Intel Arc 140V GPU 2.35GHz
RAM Memory Installed	16 GB DDR5
Memory Speed	8533 MT/s
Hard Disk Description	PCIe 4.0 M.2 2280 SSD Triple Slots Max.12TB
Hardware Interface	3.5mm Audio, 802.11 ac/b/g/n, Bluetooth 5.2, DisplayPort, HDMI 2.1, USB 3.2 Gen 2, USB 4.0 Type C, 5GbE Ethernet
Total USB Ports	7
Total HDMI Ports	1
Display Resolution Maximum	7680x4320 Pixels (8K)
Power Consumption	37 Watts (Max)
Dimensions	7.2" x 3.5" x 1.3" (Approximate)

12. WARRANTY AND SUPPORT

GMKtec offers a 1-year limited warranty for each Mini PC, starting from the date of purchase. This warranty covers all defects due to design and workmanship. For any issues or support needs, please contact the professional after-sales team. You can find contact information on the official GMKtec website or through your purchase platform.

For further assistance, visit the [GMKtec Store on Amazon](#).



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