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GMKtec NucBox K17

GMKtec K17 Mini PC Intel Core Ultra 5 226V User Manual

INTRODUCTION

This manual provides detailed instructions for setting up, operating, maintaining, and troubleshooting your GMKtec K17 Mini PC. Please read this manual thoroughly before using the product to ensure optimal performance and longevity.

The GMKtec K17 is a compact, high-performance mini PC designed for various applications, from business and multimedia to AI development. It features an Intel Core Ultra 5 226V processor, Intel Arc 130V Graphics, and a dedicated Neural Processing Unit (NPU) for advanced AI capabilities.

PACKAGE CONTENTS

Verify that all items listed below are included in your package. If any items are missing or damaged, please contact customer support.

パッケージ内容



1. NucBox K17 ミニPC本体

2. サービスカード

3. 電源アダプター&電源ケーブル

4. HDMIケーブル

5. 取扱説明書

6. VESAマウント（ネジ付き）

Image: Contents of the GMKtec K17 Mini PC package, including the mini PC unit, power adapter, HDMI cable, VESA mount, and user manual.

- GMKtec K17 Mini PC Unit
- Power Adapter and Power Cable
- HDMI Cable
- VESA Mount Bracket (with screws)
- User Manual (this document)

PRODUCT OVERVIEW

Familiarize yourself with the ports and components of your GMKtec K17 Mini PC.

- | | |
|------------------------------|-----------------------------|
| ① 電源ボタン | ⑥ USB 2.0 ×1 (480Mbps) |
| ② USB4 ×1 | ⑦ USB 3.2 (Gen1) ×3 (5Gbps) |
| ③ USB 3.2 (Gen2) ×1 (10Gbps) | ⑧ DC電源ポート ×1 |
| ④ USB 3.2 (Gen1) ×1 (5Gbps) | ⑨ 2.5G RJ45 LANポート ×1 |
| ⑤ 3.5mm CTIA オーディオジャック ×1 | ⑩ HDMI ×2 |



Image: Diagram showing the front and rear ports of the GMKtec K17 Mini PC.

Front Panel

- **(1) Power Button:** Press to power on/off the device.
- **(2) USB4 x 1:** High-speed USB port (40Gbps) with PD100W and DisplayPort support.
- **(3) USB 3.2 (Gen2) x 1:** High-speed USB port (10Gbps).
- **(4) USB 3.2 (Gen1) x 1:** USB port (5Gbps).
- **(5) 3.5mm CTIA Audio Jack x 1:** For headphones or microphones.

Rear Panel

- **(6) USB 2.0 x 1:** Standard USB port (480Mbps).
- **(7) USB 3.2 (Gen1) x 3:** USB ports (5Gbps).
- **(8) DC Power Port x 1:** Connect the power adapter here.
- **(9) 2.5G RJ45 LAN Port x 1:** For wired network connection.
- **(10) HDMI x 2:** Video output ports.

SETUP GUIDE

Follow these steps to set up your GMKtec K17 Mini PC for the first time.

1. **Connect to Power:** Connect the power adapter to the DC Power Port (8) on the rear panel and plug it into a power outlet.
2. **Connect to Display:** Connect your monitor(s) to the HDMI ports (10) or the USB4 port (2) using an appropriate cable. The device supports up to three displays simultaneously at 8K resolution.
3. **Connect Peripherals:** Connect your keyboard, mouse, and other USB devices to the available USB ports (2, 3, 4, 6, 7).
4. **Connect to Network:** For a wired connection, connect an Ethernet cable to the 2.5G RJ45 LAN Port (9). For wireless, the device supports WiFi 6E and Bluetooth 5.2, which can be configured after initial boot.
5. **Power On:** Press the Power Button (1) on the front panel to turn on the Mini PC.

OPERATING INSTRUCTIONS

This section covers basic operation of your GMKtec K17 Mini PC.

First Boot and Operating System

- The GMKtec K17 comes with Windows 11 Pro pre-installed.
- Upon first boot, follow the on-screen instructions to complete the Windows setup process, including language, region, network connection, and user account creation.
- Ensure all drivers are up to date for optimal performance.

Power Management

- **Power On:** Press the power button.
- **Shut Down:** From Windows, go to Start > Power > Shut down.
- **Restart:** From Windows, go to Start > Power > Restart.
- **Sleep:** From Windows, go to Start > Power > Sleep.
- The device supports Wake On LAN (WOL) and automatic power-on features, which can be configured in the BIOS settings.

Connecting to Networks

- **Wired Connection:** Plug an Ethernet cable into the 2.5G RJ45 port. The system should automatically detect the connection.
- **Wireless Connection (Wi-Fi):** After Windows setup, click the Wi-Fi icon in the taskbar, select your network, and enter the password. The device supports Wi-Fi 6E for high-speed wireless connectivity.

Bluetooth Devices

- The GMKtec K17 supports Bluetooth 5.2. To pair a Bluetooth device, go to Windows Settings > Bluetooth & devices, turn on Bluetooth, and select "Add device".

KEY FEATURES

The GMKtec K17 Mini PC offers a range of advanced features for enhanced performance and versatility.

High-Performance Processing with AI Capabilities

Intel Core Ultra 5 226V

MAX 97TOPS AIパフォーマンス

8コア / 8スレッド
4P+4E

2.1~4.5
GHz

8 MB
Intel Smart Cache

37W
MAX TDP



Geekbench 6 シングルコア

Intel Core Ultra 5 226V
2596

Intel Core Ultra 7 255U
2406

Core i5-13420H
2320

Intel Core i5-12450HX
2207

Intel i7-1280P
2167

Intel Core Ultra 5 125U
2148

Core i5-1235U
2089

Geekbench 6 マルチコア

Intel Core Ultra 5 226V
10021

Intel Core Ultra 7 255U
8160

Core i5-13420H
9755

Intel Core i5-12450HX
9230

Intel i7-1280P
9827

Intel Core Ultra 5 125U
8972

Core i5-1235U
6454

Image: Benchmarks comparing Intel Core Ultra 5 226V single-core and multi-core performance against other processors.

Equipped with the latest Intel Core Ultra 5 226V processor (up to 4.50GHz), the K17 delivers robust computing power. It integrates a dedicated Neural Processing Unit (NPU) providing 40TOPS and a GPU with 53TOPS, totaling 97TOPS of AI performance. This triple-AI architecture (NPU + GPU + CPU) enables real-time AI inference, high-speed local LLM processing, and smooth multitasking without relying on cloud services. It supports AI assistants, local LLMs, code generation, and content creation workflows.

Integrated Intel Arc 130V Graphics

Intel Arc 130V GPU (53TOPS) MAX 1.85GHz

レイトレーシング & XeSS対応
USB4による外部GPU拡張に対応
MAX 8K@60Hzのメディア再生をサポート



72FPS



327FPS



82FPS



184FPS



Image: Performance metrics for Intel Arc 130V GPU, showing frames per second in various games.

The integrated Intel Arc 130V GPU (up to 1.85GHz) offers up to 53TOPS of AI computing performance. It supports hardware ray tracing, XeSS AI upscaling, and AV1 encoding, providing significant graphical improvements over previous integrated GPUs. This allows for smooth performance in AAA games, 4K video editing, and real-time rendering, approaching the performance of discrete desktop GPUs like the GTX 1650 in a compact, power-efficient mini PC form factor.

Dedicated NPU for Local AI Processing

ローカルAI処理を高速化し、 高効率とプライバシー保護を両立

CPU + GPU + NPU。実用的なAIワークロードのために設計

MAX 97TOPSの総合AIパフォーマンス ◀

Intel AI Boost (NPU) 内蔵 ◀

ローカルLLMやAIエージェントの実行に対応 ◀

AI会議ノイズキャンセリング ◀

AI画像生成に対応 ◀

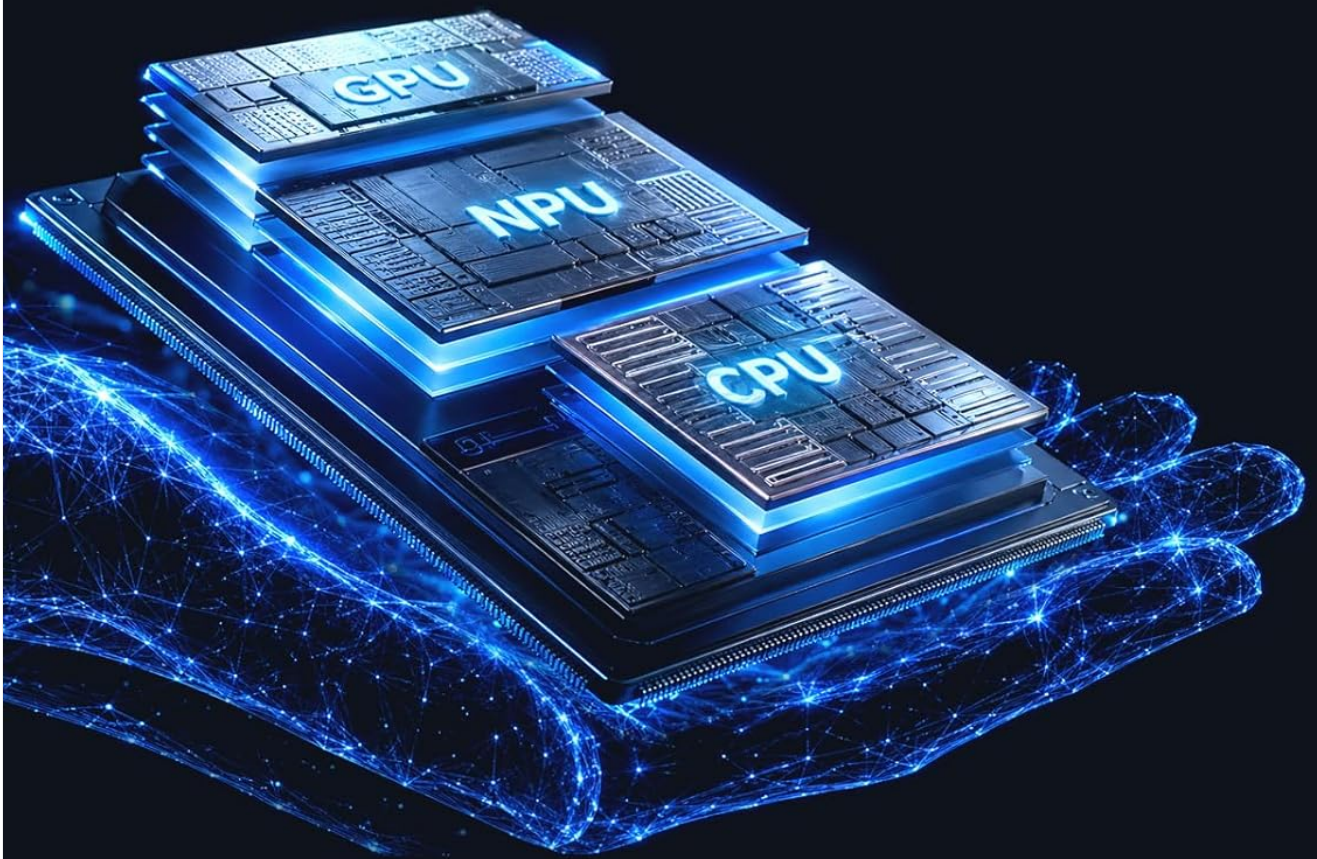


Image: Conceptual diagram illustrating the integrated CPU, GPU, and NPU for efficient AI processing.

The Intel AI Boost NPU (40TOPS) handles AI processing independently, conserving CPU and GPU resources. This enables high-speed, low-power AI tasks such as AI noise cancellation, real-time translation, local model deployment, and generative AI processing. Full local processing ensures low latency, high data privacy, and offline functionality, freeing users from cloud dependency for AI environments.

Ultra-High Speed LPDDR5X Memory

The K17 features 16GB of onboard LPDDR5X 8533MT/s memory. This ultra-high bandwidth memory significantly

outperforms traditional DDR4 systems, providing exceptional responsiveness for large-scale AI model processing, creative tasks, video editing, and multi-window environments. High-speed data transfer and stable large model loading ensure a smooth and lag-free AI workflow.

Dual M.2 SSD Support for Massive Storage

Equipped with dual M.2 2280 SSD slots (PCIe Gen5x4 + Gen4x2), the K17 supports storage expansion up to 16TB (8TB x 2). This allows for high-speed storage and management of AI models, large datasets, 4K/8K videos, game libraries, and virtual machine environments. Users can manage all data within a high-speed local environment without concerns about external storage or capacity limitations.

8K Triple Display Output



Image: The GMKtec K17 Mini PC connected to three external monitors, demonstrating its multi-display capability.

The K17 supports simultaneous output to three displays via two HDMI 2.1 ports and one USB4 port, achieving up to 8K@60Hz resolution. This enables the creation of ultra-high-definition, seamless multi-display environments for trading, coding, video editing, content creation, and multitasking. Experience a vast workspace with minimal latency and smooth operation.

Advanced Connectivity: USB4, 2.5G LAN, and WiFi 6E

フル機能対応 USB4.0ポート

データ転送 | MAX 100W給電 | 4K@60Hz映像出力 | eGPU対応



Image: A GMKtec K17 Mini PC on a desk, connected to a monitor and various peripherals, showcasing its versatile connectivity. The device features a 40Gbps USB4 port (supporting PD100W and DisplayPort), a 2.5G high-speed LAN port, and WiFi 6E. The USB4 port allows connection to eGPUs, high-speed SSDs, multiple monitors, and high-speed storage with a single cable. Low-latency, high-bandwidth communication is ideal for AI development, gaming, and creative applications.

高速ネットワーク 環境のために設計

2.5Gbps 有線LAN対応
ギガビットLANのMAX 2.5倍の高速通信
NASやサーバー用途でも安定・低遅延を実現



NAS



ソフトルーター



サーバー

2.5G



Image: Close-up of the rear ports of the GMKtec K17 Mini PC, emphasizing the 2.5G LAN port for high-speed wired networking.

SPECIFICATIONS

Detailed technical specifications for the GMKtec K17 Mini PC.

Component	Detail
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Brand	GMKtec
Model Number	NucBox K17
Operating System	Windows 11 Pro
CPU Model	Intel Core Ultra 5 226V
CPU Speed	3.5 GHz (Base), 4.5 GHz (Max Boost)
Graphics Processor	Intel Arc 130V (Integrated)
Graphics Description	Integrated
RAM Memory Size	16 GB LPDDR5X
Memory Speed	8533 MT/s
Storage Capacity	512 GB SSD (Configurable up to 1TB, 2TB, etc. for specific variants)
Hard Disk Interface	PCIe x 4 (Dual M.2 2280 SSD slots: 1x Gen5x4, 1x Gen4x2)
Max Display Resolution	7680x4320 pixels (8K)
Video Output Interface	HDMI x 2, USB4 (DisplayPort Alt Mode)
USB Ports	1x USB4, 1x USB 3.2 Gen2, 4x USB 3.2 Gen1, 1x USB 2.0
LAN Port	1x 2.5G RJ45
Wireless Connectivity	WiFi 6E, Bluetooth 5.2
Audio Jack	1x 3.5mm CTIA
Power Consumption (TDP)	Max 37W
Included Accessories	Power Adapter, HDMI Cable, VESA Mount, User Manual

MAINTENANCE

Regular maintenance helps ensure the longevity and optimal performance of your GMKtec K17 Mini PC.

- **Cleaning:** Regularly clean the exterior of the Mini PC with a soft, dry cloth. Use compressed air to gently clear dust from ventilation grilles to prevent overheating. Ensure the device is powered off and unplugged before cleaning.
- **Software Updates:** Keep your operating system (Windows 11 Pro) and drivers updated. Windows Update will handle most OS updates, and GMKtec may provide specific driver updates on their support website.
- **Data Backup:** Regularly back up important data to an external drive or cloud storage to prevent data loss.
- **Environmental Conditions:** Operate the Mini PC in a well-ventilated area, away from direct sunlight, excessive heat, humidity, and dust.

TROUBLESHOOTING

This section provides solutions to common issues you might encounter with your GMKtec K17 Mini PC.

No Power

- **Check Power Connection:** Ensure the power adapter is securely connected to the Mini PC and the power outlet.
- **Verify Outlet:** Test the power outlet with another device to confirm it is working.
- **Power Button:** Press the power button firmly. If the power LED does not light up, contact support.

No Display Output

- **Cable Connection:** Ensure the HDMI or USB4 cable is securely connected to both the Mini PC and the monitor.
- **Monitor Input:** Verify that your monitor is set to the correct input source (e.g., HDMI 1, HDMI 2, DisplayPort).
- **Test with Another Monitor/Cable:** If possible, try a different monitor or display cable to rule out faulty equipment.
- **Restart:** Power cycle the Mini PC and monitor.

Network Connectivity Issues

- **Wired (LAN):** Check if the Ethernet cable is properly connected to the 2.5G RJ45 port and your router/modem. Verify router status.
- **Wireless (Wi-Fi):** Ensure Wi-Fi is enabled in Windows settings. Check if your Wi-Fi network is visible and enter the correct password. Restart your router/modem.
- **Driver Issues:** Ensure network drivers are installed and up to date in Device Manager.

Slow Performance

- **Resource Usage:** Check Task Manager (Ctrl+Shift+Esc) to see if any applications are consuming excessive CPU, memory, or disk resources.
- **Updates:** Ensure Windows and drivers are fully updated.
- **Storage Space:** Verify that your SSD has sufficient free space.
- **Overheating:** Ensure the Mini PC is in a well-ventilated area and its fans are not obstructed.

If these steps do not resolve your issue, please refer to the Warranty and Support section for further assistance.

WARRANTY AND SUPPORT

GMKtec provides a 1-year manufacturer's warranty for the K17 Mini PC. This warranty covers defects in materials and workmanship under normal use.

- **Warranty Period:** 1 year from the date of purchase.
- **Customer Support:** For technical assistance or warranty claims, please contact GMKtec customer support. They aim to respond to inquiries within 24 hours.
- **Contact Information:** Refer to the official GMKtec website or the contact details provided in your package for the most up-to-date support information.

Please retain your proof of purchase for warranty validation.