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› GMKtec K6 Gaming Mini PC AMD Ryzen 7 7840HS 32GB DDR5 & 1TB SSD + AD-GP1 Oculink eGPU Dock with AMD Radeon 7600M XT Graphics Card User Manual

GMKtec K6

GMKtec K6 Gaming Mini PC & AD-GP1 Oculink eGPU Dock User Manual

Model: K6 & AD-GP1 | Brand: GMKtec

INTRODUCTION

This manual provides comprehensive instructions for the setup, operation, and maintenance of your GMKtec K6 Gaming Mini PC and AD-GP1 Oculink eGPU Dock. This powerful combination offers enhanced gaming and productivity performance, leveraging an AMD Ryzen 7 7840HS processor and an AMD Radeon 7600M XT Graphics Card.

PRODUCT OVERVIEW

The GMKtec K6 Gaming Mini PC is a compact desktop computer featuring an AMD Ryzen 7 7840HS processor, 32GB DDR5 RAM, and a 1TB PCIe 4.0 SSD. It is designed for high performance in a small form factor. The AD-GP1 eGPU Dock is an external graphics processing unit equipped with an AMD Radeon 7600M XT Graphics Card, significantly boosting graphical capabilities for demanding applications and games.



Figure 1: GMKtec K6 Mini PC (top) and AD-GP1 eGPU Dock (bottom).

This image displays the two primary components of your system: the compact GMKtec K6 Mini PC and the sleek AD-GP1 eGPU Dock. The Mini PC is designed for efficient processing, while the eGPU dock provides dedicated graphics power.

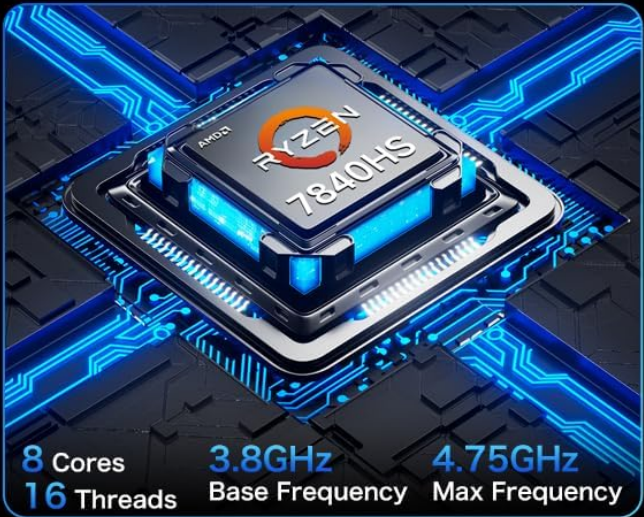
GMKtec K6 Mini PC Features:

- **Processor:** AMD Ryzen 7 7840HS (8 Cores, 16 Threads, up to 5.1 GHz)
- **Memory:** 32GB DDR5 5600MHz Dual Channel RAM (2x16GB), expandable up to 64GB.
- **Storage:** 1TB M.2 2280 PCIe 4.0 SSD, with dual slot expansion support up to 4TB.
- **Cooling:** Features a quiet cooling fan with dual copper heat pipes for efficient heat dissipation.
- **Operating System:** Pre-installed with Windows 11 Pro.

GMKtec

Nucbox K6

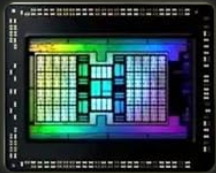
AMD Ryzen 7 7840HS





Triple Screen Display

HDMI + DP + Type-C (Thunderbolt 4)



Radeon 780M

Zen 4 (Phoenix)



PCIe GEN4.0

(Read Speed 5000MB/s)



Quiet Cooling Fan

(Dual Copper Heat Pipes)



DDR5 5600MHz

Dual Channel 32GB
(2*16GB RAM)



WiFi 6E

(Bluetooth 5.2)

Windows 11 Pro



Figure 2: Detailed features of the GMKtec K6 Mini PC, highlighting its internal components and capabilities.

This visual breakdown illustrates the core specifications of the K6 Mini PC, including its powerful AMD Ryzen 7 7840HS CPU, DDR5 memory, PCIe 4.0 SSD, and integrated cooling solution. It also shows its triple screen display support via HDMI, DisplayPort, and USB-C (Thunderbolt 4 compatible).

AD-GP1 Oculink eGPU Dock Features:

- **Graphics Card:** AMD Radeon 7600M XT (GDDR6 8G) with RDNA 3.0 architecture.
- **Clock Speeds:** Base clock 1500 MHz, Game clock 2300 MHz.

- **Connectivity:** 2x DisplayPort 2.0, 2x HDMI 2.1, Oculink port, USB4 port.
- **Power Delivery:** 240W power supply, providing 100W power back to the host device via USB4.
- **Cooling:** Air cooling with VL heat dissipation for optimal performance.









Half Precision: **42.84** TFLOPSP
Pixel Fill Rate: **166.9** GPixel/s
Texture Fill Rate: **334.7** GTexel/s
8GB GDDR6

Compute Units: **32**
Stream Processors: **2048**
Ray Tracing Cores: **32**

Memory Clock: **2250** MHz
Game Clock: **2300** MHz



2 * DP2.0 / 2 * HDMI2.1
(4K 120Hz、8K 60Hz)



Oculink in
(PCIE4.0x4)



240W Power Supply



100W USB-C Output
(USB4, External power supply 60W/100W)



Cooling Fans
Air cooling + VL heat dissipation
two-pronged approach



COMPATIBLE WITH Mini PC

Figure 3: Detailed features of the AD-GP1 eGPU Dock, showcasing its AMD Radeon RX 7600M XT GPU and extensive port selection.

This image highlights the powerful AMD Radeon RX 7600M XT GPU within the AD-GP1 dock, detailing its compute units, stream processors, and clock speeds. It also illustrates the various display outputs and the Oculink/USB4 connectivity options.

1. Connecting the Mini PC:

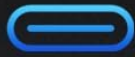
1. Connect the power adapter to the DC IN port on the Mini PC.
2. Connect your display(s) to the HDMI, DisplayPort, or USB-C (DisplayPort Alt Mode) ports.
3. Connect your keyboard and mouse to the available USB ports.
4. For internet access, connect an Ethernet cable to the 2.5G LAN port or connect via Wi-Fi 6E.

RICH INTERFACE

For Business, Office, Gaming, Home



2.5G LAN



TYPE-C



HDMI



USB



CTIA

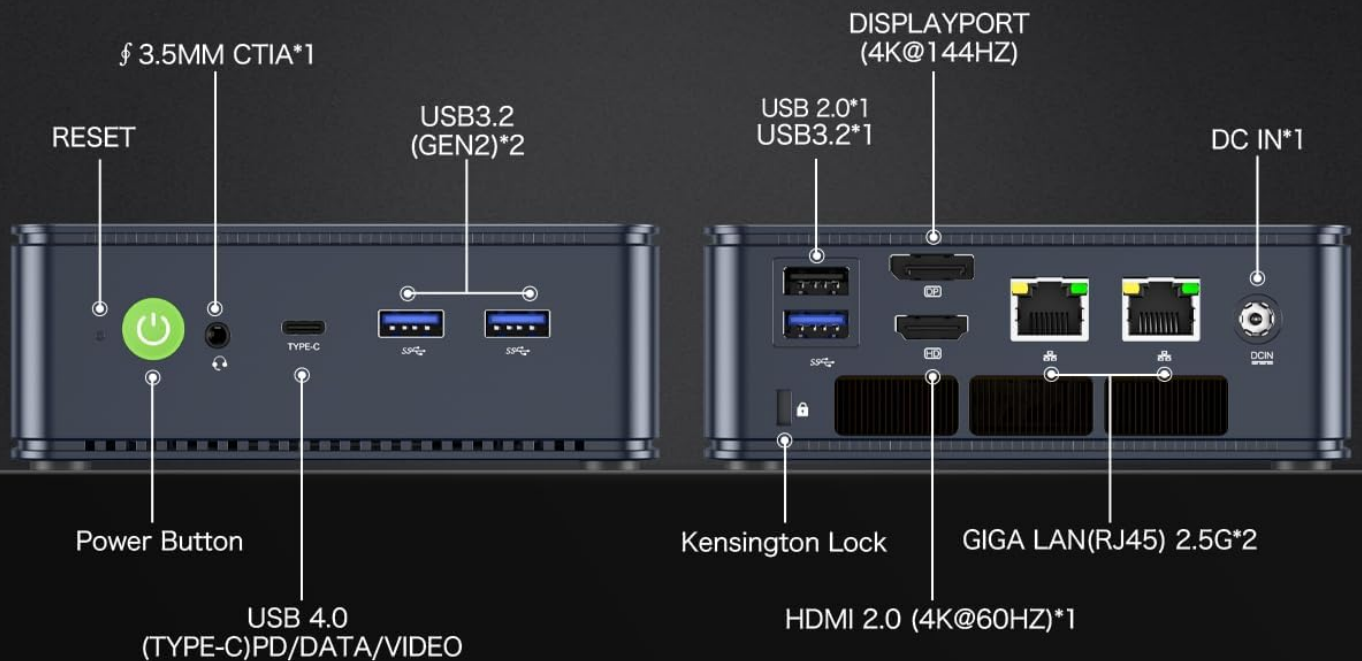


Figure 4: The rich interface of the GMKtec K6 Mini PC, showing various ports for connectivity.

This image provides a clear view of the Mini PC's extensive port selection, including 2.5G LAN, Type-C (USB4), HDMI, USB 3.2 (Gen2), USB 2.0, DisplayPort, and DC IN. These ports enable versatile connections for business, office, gaming, and home use.

2. Connecting the eGPU Dock:

The AD-GP1 eGPU Dock can be connected to your Mini PC or compatible laptop via two primary methods: USB4 or Oculink.

- **USB4 Connection:** Use a certified USB4 cable to connect the eGPU Dock's USB4 port to a compatible USB4 or Thunderbolt port on your host device. This connection supports up to 40 Gbps transfer speeds and 8K@60Hz display output. It also provides 100W power delivery to the host device.
- **Oculink Connection:** For the fastest possible connection, use an Oculink cable to connect the eGPU Dock's Oculink port to a compatible Oculink port on your host device. This method offers higher bandwidth and more stable transmission, directly accessing the PCIe bus for near-native performance.
- Connect your display(s) to the HDMI 2.1 or DisplayPort 2.0 outputs on the eGPU Dock.

GMKTEC AD-GP

Graphics card expansion dock



2 * DP2.0
(4K 120Hz, 8K 60Hz)

2 * HDMI2.1
(4K 120Hz, 8K 60Hz)

1 * Oculink in
(PCIe4.0x4)

1 * USB-C in
(USB4, External power supply
60W/100W)

1 * DC in



DGPU Connected Ports

Oculink: Higher bandwidth,
more stable transmissionSupport
higher power transmission

USB4.0

Universal connection port Support
reverse connection

Figure 5: The connectivity options on the GMKTEC AD-GP1 Graphics Card Expansion Dock.

This image details the rear ports of the AD-GP1 eGPU dock, including two DisplayPort 2.0, two HDMI 2.1, one Oculink, one USB4, and the DC IN port. It emphasizes the high bandwidth of the Oculink connection and the versatility of the USB4 port for data, video, and power.

OPERATING INSTRUCTIONS

Powering On/Off:

- Press the power button on the Mini PC to turn it on.
- To shut down, use the operating system's shutdown function.

Optimizing Performance with eGPU:

For optimal gaming and graphical performance, it is recommended to connect your display directly to the eGPU Dock's output ports (HDMI or DisplayPort) and disable the internal display of your laptop (if applicable). This ensures that the dedicated AMD Radeon 7600M XT GPU handles all graphical rendering, maximizing frame rates and visual quality. The eGPU's dedicated 8GB GDDR6 video RAM significantly enhances performance for graphically intensive tasks, including gaming, video editing, and local AI processing, by offloading these tasks from the system's main CPU and integrated graphics.

Network Connectivity:

The Mini PC supports dual 2.5G Gigabit Ethernet for high-speed wired network connections. For wireless connectivity, it features Super Speed Wi-Fi 6E and Bluetooth 5.2, providing fast and reliable wireless performance.

DUAL LAN 2.5G HIGH SPEED ETHERNET

2X 2.5GbE RJ45 GIGABIT NETWORK

Read/Write Speed

2.5Gbps LAN



2.5x



1000Mbps LAN



2500 MB/S



Figure 6: Illustration of the Dual LAN 2.5G High Speed Ethernet capability of the Mini PC.

This image visually represents the 2.5Gbps LAN speed, which is 2.5 times faster than standard 1000Mbps LAN, ensuring high-speed data transfer for online gaming and large file transfers.

SUPER SPEED WI-FI 6E



SUPER SPEED WIFI 6E

	Wi-Fi 6	Wi-Fi 6E
Frequency bands	2.4GHz and 5GHz	6GHz
Number of channels	80MHz and 160MHz	80MHz, 160MHz and 320MHz
Compatibility	devices not compatible with Wi-Fi 6E networks	backward compatible with Wi-Fi 6 and Wi-Fi 5 devices
Security	WPA3	WPA2 and WPA3

Figure 7: Overview of the Super Speed Wi-Fi 6E and Bluetooth 5.2 capabilities.

This graphic details the wireless connectivity features, including frequency bands, number of channels, compatibility, and security protocols for both Wi-Fi 6 and Wi-Fi 6E, along with Bluetooth 5.2.

MAINTENANCE

- **Cleaning:** Regularly clean the exterior of the Mini PC and eGPU Dock with a soft, dry cloth. Ensure ventilation grilles are free from dust to maintain optimal airflow.

- **Software Updates:** Keep your operating system, graphics drivers, and other software up to date to ensure stability, security, and performance improvements.
- **Storage Management:** Periodically check your SSD storage usage and delete unnecessary files to maintain system responsiveness.
- **Hardware Upgrades:** The Mini PC features an easy installation design for upgrading RAM and SSD.

EASY INSTALLATION

Disassembled design, upgrade RAM and SSD easy and convenient

DDR5 5600

Dual Channel SO-DIMM*2
MAX CAPACITY: 64GB

MAX 64GB

SSD M.2 2280

DUAL SLOT SSD M.2 2280*2
MAX CAPACITY: 4TB

MAX 4TB



Figure 8: Internal view showing easy access for RAM and SSD upgrades.

This image demonstrates the disassembled design of the Mini PC, allowing for convenient upgrades of DDR5 SO-DIMM RAM (up to 64GB) and M.2 2280 PCIe SSDs (dual slot, up to 4TB).

TROUBLESHOOTING

- **No Display:**
 - Ensure all display cables (HDMI, DisplayPort, USB-C) are securely connected to both the device and the monitor.
 - Verify the monitor input source is correctly selected.
 - If using the eGPU, ensure the display is connected to the eGPU's output ports.
- **Performance Issues:**
 - Confirm that the eGPU is properly connected and recognized by the operating system.
 - Update graphics drivers to the latest version.
 - Ensure the host device's USB4 or Oculink port is functioning correctly and supports the required bandwidth (40 Gbps for USB4).
 - For laptops, disable the internal display when using the eGPU for maximum performance.
- **Device Not Powering On:**
 - Check that the power adapter is securely connected to both the device and a working power outlet.
 - Verify the power outlet is active.

SPECIFICATIONS

Feature	Specification
Brand	GMKtec
Model Name	K6
Processor	AMD Ryzen 7 7840HS (8 Cores, 5100 MHz)
RAM	32 GB DDR5 RAM (5600 MHz)
Storage	1 TB SSD (PCIe x 4)
Graphics Coprocessor	AMD Radeon 7600M XT
Graphics Card RAM Size	8 GB
Max Screen Resolution	7680x4320
Included Components	eGPU Dock

WARRANTY AND SUPPORT

For warranty information and technical support, please refer to the official GMKtec website or contact their customer service. Keep your purchase receipt for warranty claims.

ASK A QUESTION ABOUT THIS MANUAL

Ask about setup, troubleshooting, compatibility, parts, safety, or missing instructions. Manuals+ will review the question and use this page’s manual context to help answer it.

Name

Anonymous

Email

you@example.com

After a successful submission, we securely hash the supplied account or form email before sending it to Microsoft Advertising for conversion attribution. [Privacy details](#).

Question

Example: How do I reset this device or fix this error?

Details

Model number, symptoms, what you tried, or the section of the manual you are using.

Submit question