

BEELINK EX Mate Mini

BEELINK EX Mate Mini-B Dock & Stand User Manual

Model: Mate Mini

1. INTRODUCTION

Thank you for choosing the BEELINK EX Mate Mini-B Dock & Stand. This high-performance docking station is specifically designed to complement your Mac Mini M4/M4 Pro, expanding its connectivity and storage capabilities. With blazing-fast 80Gbps transfer speeds, extensive NVMe SSD expansion, and a comprehensive array of ports, the Mate Mini-B transforms your setup into a powerful workstation.

This manual provides detailed instructions for setting up, operating, maintaining, and troubleshooting your Mate Mini-B to ensure optimal performance and longevity.



Figure 1.1: The Mate Mini-B Dock & Stand seamlessly integrated with a Mac Mini.

2. KEY FEATURES

The Mate Mini-B Dock & Stand offers a robust set of features to enhance your computing experience:

- **80Gbps Blazing-fast Dock:** One USB-C port delivers blazing 80Gbps transfer speeds for Mac Mini M4 Pro, and 40Gbps transfer speeds for Mac Mini M4, enabling rapid data transfer for large files.
- **Massive 8TB Expandable Storage:** Features a single PCIe x4 slot, supporting M.2 2280 PCIe 3.0/4.0/5.0 SSDs, expandable up to 8TB (SSD not included).
- **High-Speed Connectivity Hub:** Transforms your Mac Mini into a workstation with 7 ports, including 80Gbps USB-C port (x1), USB 3.0 (x2), 2.5G LAN (x1), SD 4.0 (300MB/s) (x1), 3.5mm Audio Jack (x1), and Type-C (PD 3.0) (x1).
- **Built-in Quiet Fan & Supplementary Power Port:** A heat sink and 360° cooling vents ensure the Mate Mini remains cool under load. The Type-C PD 3.0 port supports an external PD adapter for peripherals requiring over 15W.
- **Seamless Integration:** Designed to match the Mac Mini M4/M4 Pro's dimensions (5x5x0.6 inches) and aesthetics with an aluminum alloy shell. Compatible with any mini PC, laptop, all-in-one, or desktop computer with a Thunderbolt 3/4/5 or USB 4 port.

80Gbps

Transfer Speed

2.5G

LAN

up to

8TB

NVMe SSD Expansion



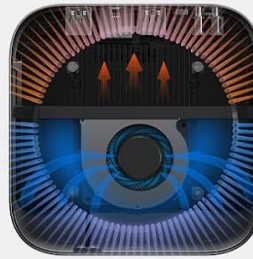
**Seamless Integration
with Mac Mini M4**

Size: 5*5*0.6 inch

up to

300MB/s

SD 4.0 Slot



Quiet Fan

Figure 2.1: Visual summary of the Mate Mini-B's core features.

High-speed M.2 SSD expansion

Features a high-speed M.2 2280 PCIe x4 slot, unleash the full potential of Thunderbolt 5, supports M.2 2280 PCIe 3.0/4.0/5.0 SSDs of up to 8TB



*SSD not included

Figure 2.2: Illustration of the high-speed M.2 SSD expansion capability.

Built-in SD4.0 Card Slot

Made for creators, experience ultra-fast photo and video transfer, empowering your creativity like never before!



Figure 2.3: The integrated SD4.0 card slot for creators.

Supplementary Power Port Ensuring Stable Operation of Power-hungry Peripherals

For Peripherals with total power demand
exceeding 15W: Use an external PD adapter for
power supply



*Mate mini can operate without external power; however, if connected peripherals require more than 15W in total, they may not function properly due to limited power availability.
*Mate mini for an extended period, it is recommended to connect it to an external power source. We suggest using a PD 3.0 Type-C power adapter with 15W or higher output (such as a smartphone charger).

Figure 2.4: Details on the 2.5G Ethernet port and 3.5mm audio jack.

Keep Cool Stay Productive

Equipped with a heat sink and 360° cooling vents, the Mate mini can stay cool and run at high speed for a long time



*The product does not include MAC MINI

Figure 2.5: The cooling system designed to maintain optimal performance.

Video 2.1: Official overview and unboxing of the Beelink EX Mate Mini for Mac Mini M4 Dock.

3. SETUP GUIDE

3.1. Package Contents

Before you begin, please verify that all items are present in the package:

- BEELINK EX Mac Mini M4 Dock (Model: Mate Mini-B)
- 2*80Gbps USB-C Cables (use this cable to connect Mac Mini)
- User Manual

Multiple Ports for Effortless Connectivity

Built for powering your expansion

Right



Back



- | | | |
|-----------------------------|-------------------------|-----------------------------|
| 1 USB-A 3.0 Port (10Gbps) | 2 2.5Gbps Ethernet Port | 3 USB-A 3.0 Port (10Gbps) |
| 4 3.5mm Audio Jack | 5 80Gbps USB-C Port | 6 PD3.0 (power supply only) |
| 7 SD4.0 Card Slot (300MB/s) | | |

Figure 3.1: What's included in the Mate Mini-B package.

3.2. Physical Connection

1. Place your Mac Mini M4/M4 Pro directly on top of the Mate Mini-B Dock & Stand, ensuring proper alignment. The dock is designed to perfectly match the Mac Mini's footprint.
2. Connect one of the supplied 80Gbps USB-C cables from the 80Gbps USB-C port on the Mate Mini-B to a Thunderbolt/USB4 port on your Mac Mini. This single cable handles all data, video, and power passthrough.
3. Connect any desired peripherals (e.g., external drives, keyboard, mouse, monitor) to the available ports on the Mate Mini-B.
4. If connecting power-hungry peripherals (total power demand exceeding 15W), connect an external PD adapter (not included) to the Type-C (PD3.0) port on the Mate Mini-B for supplementary power.

Mac mini M4	Read Speed Test	Write Speed Test
Mate mini-B	3451MB/S	3310MB/S
Mac mini M4	1851MB/S	1995MB/S

Mac mini M4 Pro	Read Speed Test	Write Speed Test
Mate mini-B	6996MB/S	5069MB/S
Mac mini M4 Pro	5973MB/S	4250MB/S

Windows	Read Speed Test	Write Speed Test
Mate mini-B	6228MB/S	5885MB/S

*Mate mini-B tested with Crucial T700, 1TB PCIe M.2 SSD

*On Windows 11 systems, please enable "Write Caching" for the disk in Device Manager to ensure optimal read/write performance. For detailed steps, please refer to the user manual or contact customer support.

Figure 3.2: The Type-C PD3.0 port for supplementary power.

3.3. SSD Installation (Optional)

The Mate Mini-B supports a single M.2 2280 PCIe3.0/4.0/5.0 SSD up to 8TB for expanded storage. Follow these steps carefully:

1. **Preparation:** Power off and disconnect the Mate Mini-B from your Mac Mini and all peripherals.
2. **Accessing the SSD Bay:** Carefully remove the silicone pads on the bottom of the Mate Mini-B. You may need a thin tool like a razor blade to gently lift them. Be aware that this may damage the pads.
3. **Unscrewing the Base:** Remove the small screws securing the bottom panel of the Mate Mini-B. Keep track of all screws as they are tiny.
4. **Insert SSD:** Locate the M.2 slot inside. Gently insert your M.2 2280 SSD into the slot at an angle, then press it down.
5. **Secure SSD:** Secure the SSD with a screw to the interior post. **Note:** A screw for securing the SSD is typically not supplied with the Mate Mini-B. You may need to source a compatible M.2 screw separately.
6. **Reassemble:** Carefully reattach the bottom panel and secure it with the screws. Replace the silicone pads.

Important Note: The process of removing the silicone pads and handling the small screws can be challenging. Exercise

4. OPERATING INSTRUCTIONS

4.1. Port Overview

Multiple Ports for Effortless Connectivity

Built for powering your expansion

Right



Back



- | | | |
|-----------------------------|-------------------------|-----------------------------|
| 1 USB-A 3.0 Port (10Gbps) | 2 2.5Gbps Ethernet Port | 3 USB-A 3.0 Port (10Gbps) |
| 4 3.5mm Audio Jack | 5 80Gbps USB-C Port | 6 PD3.0 (power supply only) |
| 7 SD4.0 Card Slot (300MB/s) | | |

Figure 4.1: Detailed diagram of all available ports on the Mate Mini-B.

- **80Gbps USB-C Port (x1):** Connects to your Mac Mini for primary data and power passthrough. Also supports high-speed peripherals.
- **USB-A 3.0 Ports (10Gbps, x2):** For connecting standard USB devices such as keyboards, mice, and external storage.
- **2.5G LAN Port (x1):** Provides high-speed wired network connectivity, up to 2.5 times faster than standard Gigabit Ethernet.
- **SD4.0 Card Reader (x1):** Supports ultra-fast data transfer from SD cards (up to 300MB/s), ideal for photographers and videographers.

- **3.5mm Audio Jack (x1):** For connecting headphones or speakers. Note that the Mac Mini's front port can be used for headphones, and the Mate Mini's rear port for speakers, allowing easy switching.
- **Type-C (PD3.0) Port (x1):** A power delivery port for connecting an external power adapter to supply additional power to the dock and connected peripherals, especially those exceeding 15W.

4.2. SSD Performance

Once an SSD is installed and recognized by your operating system, you can utilize it for high-speed storage. Performance will vary based on the SSD model and your Mac Mini/PC configuration.

Supplementary Power Port Ensuring Stable Operation of Power-hungry Peripherals

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Figure 4.2: Example read/write speed test results for Mate Mini-B across different systems.

5. MAINTENANCE

- **Cleaning:** Use a soft, dry cloth to wipe the exterior of the dock. Avoid liquid cleaners or abrasive materials.
- **Ventilation:** Ensure the cooling vents are not obstructed to allow for proper airflow and prevent

overheating. The built-in fan helps maintain optimal temperature.

- **Cable Management:** Keep cables organized and free from kinks or excessive bending to prevent damage.
- **Storage:** When not in use for extended periods, store the dock in a cool, dry place away from direct sunlight.

6. TROUBLESHOOTING

- **Device Not Recognized:**

- Ensure the 80Gbps USB-C cable is securely connected between the Mate Mini-B and your Mac Mini/PC.
- Try connecting to a different Thunderbolt/USB4 port on your computer.
- Restart your Mac Mini/PC.

- **SSD Not Detected After Installation:**

- Double-check that the SSD is correctly seated in the M.2 slot and secured.
- Verify that the SSD is compatible (M.2 2280 PCIe3.0/4.0/5.0).
- For Windows 11 systems, ensure "Write Caching" for the disk is enabled in Device Manager for optimal read/write performance. Refer to your operating system's documentation for detailed steps.
- Ensure the SSD is properly initialized and formatted in Disk Utility (macOS) or Disk Management (Windows).

- **Peripherals Not Functioning or Unstable:**

- If total power demand of peripherals exceeds 15W, connect an external PD adapter to the Type-C (PD3.0) port.
- Try connecting the peripheral directly to your Mac Mini/PC to rule out the peripheral itself.
- Ensure drivers for specific peripherals are up to date.

- **Slow Data Transfer Speeds:**

- Ensure you are using the provided 80Gbps USB-C cable.
- Verify that your Mac Mini/PC port supports Thunderbolt 3/4/5 or USB4 for maximum speeds.
- Check the specifications of your connected devices (e.g., external SSDs, USB drives) to ensure they support the desired speeds.

7. SPECIFICATIONS

Attribute	Value
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Attribute	Value
Product Dimensions	5 x 5 x 0.6 inches
Item Weight	8.8 ounces
ASIN	B0FHW8R4F2
Item model number	Mate Mini
Manufacturer	Shenzhen AZW Technology Co., Ltd.
Brand	BEELINK EX
Color	Frost Silver
Hardware Interface	3.5mm Audio, Ethernet, MicroSD, USB 3.0, USB Type C
Compatible Devices	Any mini PC, laptop, all-in-one, desktop PC equipped with Thunderbolt 3/4/5 or USB4 ports, Mac Mini M4/ M4 Pro
Total USB Ports	4

8. WARRANTY AND SUPPORT

For warranty information and technical support, please refer to the documentation included with your purchase or visit the official BEELINK EX website. Keep your proof of purchase for any warranty claims.

If you encounter issues not covered in this manual, please contact BEELINK EX customer support for assistance.