

MINISFORUM DEG1

MINISFORUM DEG1 eGPU Dock User Manual

Model: DEG1

1. INTRODUCTION

The MINISFORUM DEG1 eGPU Dock is an external graphics card docking station designed to enhance the graphical performance of compatible Mini PCs and SFF desktops. It provides a direct Oculink 4i (PCIe 4.0x4) connection for high-bandwidth data transfer, allowing users to connect a dedicated graphics card for demanding applications such as gaming, video editing, and 3D rendering. This manual provides detailed instructions for setting up, operating, and maintaining your DEG1 eGPU Dock.

2. KEY FEATURES

- **High-Bandwidth Oculink Interface:** Features an Oculink 4i (PCIe 4.0x4) uplink and a PCIe x16 (PCIe 4.0x4) downlink, offering bandwidth up to 64GT/s for minimal performance loss.
- **Flexible Power Supply Support:** Compatible with both ATX and SFX standard power supplies, providing versatile power options.
- **Wide GPU Compatibility:** Supports a broad range of graphics cards, including high-end models like the NVIDIA RTX 4090 and AMD RX 7900 XTX, without length limitations due to its open-air design.
- **Follow-Start Function:** Enables the eGPU dock to power on automatically with compatible MINISFORUM Mini PCs (requires original cables).
- **Robust Construction:** Built with a solid aluminum design for durability and efficient heat dissipation.

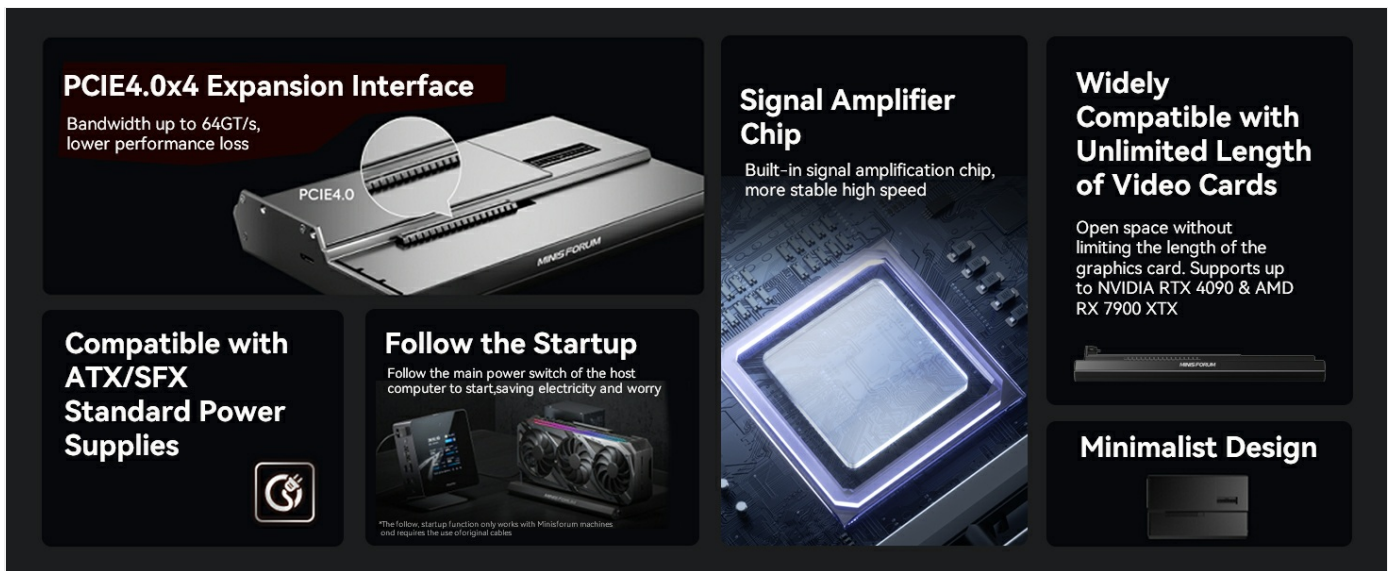


Figure 2.1: Overview of MINISFORUM DEG1 key features including PCIe 4.0x4 expansion, minimalist design, signal amplifier chip, ATX/SFX compatibility, wide video card compatibility, and follow-start function.

3. PACKAGE CONTENTS

Please check the package contents upon unboxing to ensure all items are present:

- MINISFORUM DEG1 eGPU Dock
- Oculink Cable (0.5 meter)
- GPU Support Brace
- Mounting Screws (5x)

Note: The graphics card and power supply are not included and must be purchased separately.

MINISFORUM

DEG1

Oculink Graphics Docking Station



*Graphics card and power supply are not included in this product

Figure 3.1: The MINISFORUM DEG1 eGPU Dock shown with an installed graphics card and power supply. These components are sold separately.

4. SETUP INSTRUCTIONS

Follow these steps to set up your MINISFORUM DEG1 eGPU Dock:

4.1. Install the Power Supply Unit (PSU)

1. Place the DEG1 dock on a stable, flat surface.
2. Insert your chosen ATX or SFX power supply into the designated slot on the DEG1 dock. Ensure it is seated firmly.
3. Secure the PSU using the provided screws and the tool (if necessary) at the appropriate mounting points (refer to the diagram for ATX/SFX specific screw locations).

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Video 4.1: This video demonstrates the unboxing and installation process for the MINISFORUM DEG1 eGPU Dock, including power supply and graphics card installation.

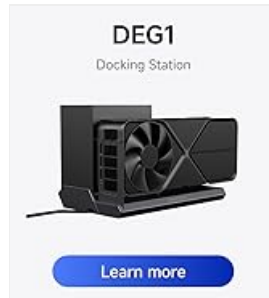


Figure 4.1: The DEG1 dock with a power supply and graphics card installed, showcasing its open-air design.

4.2. Install the Graphics Card

4. Carefully insert your graphics card vertically into the PCIe x16 slot on the DEG1 dock. Ensure it is fully seated.
5. Attach the provided GPU support brace to prevent sag and secure the graphics card. Use the included screws to fasten the brace to the PSU and the graphics card.

4.3. Connect Power and Data Cables

6. Connect the 24-pin power cable from your PSU to the corresponding POWER connector on the DEG1 dock.
7. Connect any required 6-pin or 8-pin PCIe power cables from your PSU to your graphics card.
8. Plug the provided Oculink cable into the Oculink port on the DEG1 dock.
9. Connect the other end of the Oculink cable to the Oculink port on your compatible Mini PC or SFF desktop.
10. Connect your display cable (HDMI, DisplayPort, etc.) from your graphics card to your monitor.

Important: Oculink interfaces do not support hot-plugging. Always ensure both the Mini PC and the DEG1 dock are powered off before connecting or disconnecting the Oculink cable.

5. OPERATING INSTRUCTIONS

Once all connections are secure, you can begin using your DEG1 eGPU Dock:

1. Ensure the power switch on your PSU is in the ON position.
2. Press the power button on the DEG1 dock to turn it on.
3. Power on your Mini PC. The operating system should detect the external graphics card automatically.
4. Install the latest graphics drivers for your specific GPU from the manufacturer's website (NVIDIA or AMD).

Follow-Start Function: If using a compatible MINISFORUM Mini PC with original cables, the DEG1 dock may power on automatically when the Mini PC is started. This feature helps save electricity and simplifies operation.

6. PERFORMANCE OVERVIEW

The Oculink 4i (PCIe 4.0x4) interface provides a theoretical bandwidth of 64 Gbps, which translates to excellent real-world

performance, often surpassing Thunderbolt 4 solutions. This direct PCIe connection minimizes latency and maximizes throughput, allowing your external GPU to perform close to its native capabilities in a desktop environment.

The DEG1 is optimized for mid-to-high-end GPUs, offering true desktop-class FPS and smooth gameplay for AAA titles and esports. While it supports high-end GPUs, the PCIe 4.0x4 lane configuration may become a bottleneck for the absolute top-tier flagship cards (e.g., RTX 5090 Ti or RX 9080), where the full potential might not be unlocked.

7. THERMAL MANAGEMENT

The MINISFORUM DEG1 features an open-air design, which significantly aids in thermal management. Without an enclosed chassis, graphics cards benefit from excellent airflow, leading to lower operating temperatures and quieter fan operation, especially under lighter loads. This design ensures minimal thermal bottlenecks, allowing your GPU to maintain optimal performance without overheating.

Noise levels are primarily dependent on the chosen GPU and PSU. Many modern GPUs can operate fanless under low loads in this open configuration, contributing to a quieter computing experience.

8. LIMITATIONS

- **Open-Air Design Considerations:** While beneficial for cooling, the open design means components are exposed, increasing the risk of dust accumulation and accidental damage.
- **PCIe Lane Cap:** The PCIe 4.0x4 interface, while fast, may limit the absolute maximum performance of ultra-high-end flagship GPUs.
- **Not Portable:** Due to its open design and the need for an external PSU and GPU, the DEG1 is not designed for portability.
- **Oculink Requirement:** The dock exclusively uses Oculink for connection and does not support Thunderbolt or other USB-C based eGPU solutions.
- **Compatibility:** Primarily designed for Oculink-ready Mini PCs and some SFF desktops. Intel Macs with Metal may recognize it, but Apple Silicon systems are not supported.

9. SPECIFICATIONS

Feature	Detail
Brand	MINISFORUM
Model	DEG1
Color	Black
Hardware Interface	PCI Express 4.0
Uplink	Oculink 4i (PCIe 4.0x4)
Downlink	PCIe x16 (PCIe 4.0x4)
Compatible Devices	RTX 4090, AMD RX 7900 XTX (and other PCIe GPUs)
Power Supply Support	ATX, SFX Standard Power Supplies
Product Dimensions (L x W x H)	10.64" x 6.87" x 1.6"
Item Weight	2.64 Pounds

10. TROUBLESHOOTING

- **No Display Output:**

- Ensure all power cables (24-pin, PCIe to GPU) are securely connected.
- Verify the Oculink cable is firmly connected to both the dock and the Mini PC.
- Confirm the display cable is connected to the graphics card, not the Mini PC's integrated graphics ports.
- Check if the PSU is powered on and functioning.
- Ensure the DEG1 dock's power button has been pressed.

- **Graphics Card Not Detected:**

- Power off both the Mini PC and the DEG1 dock, then reconnect the Oculink cable and power everything back on.
- Ensure the graphics card is fully seated in the PCIe slot.
- Update your Mini PC's BIOS/UEFI to the latest version.
- Install the latest drivers for your graphics card from the manufacturer's official website.
- Verify your Mini PC is Oculink-ready and compatible with external GPUs.

- **Performance Issues:**

- Ensure the latest graphics drivers are installed.
- Check for any background applications consuming system resources.
- Monitor GPU temperatures to ensure it's not throttling due to overheating (unlikely with open-air design, but possible if fans are obstructed).
- Confirm your Mini PC's CPU and RAM are not bottlenecking the GPU.

- **Oculink Cable Disconnection:**

- Always power off the system before connecting or disconnecting the Oculink cable to prevent damage.

11. WARRANTY AND SUPPORT

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

MINISFORUM Official Website: www.minisforum.com

