GRAUGEAR 18110

GRAUGEAR NVMe M.2 SSD Duplicator Dual-Bay Offline Clone Tool-Free Instruction Manual

Model: 18110

1. Introduction

This manual provides detailed instructions for the GRAUGEAR NVMe M.2 SSD Duplicator Dual-Bay Offline Clone Tool-Free device. This product functions as both an offline SSD duplicator and a 20Gbps USB-C M.2 SSD docking station. It is designed for efficient data cloning and high-speed data transfer for M.2 NVMe SSDs.

2. Package Contents

Please verify that all items listed below are included in your package:

- 1 x GRAUGEAR NVMe M.2 SSD Duplicator (Model: G-M2DK-CL-20G)
- 1 x Power Supply (5V / 2A)
- 1 x USB Type-C to Type-C Cable
- 1 x USB Type-A to Type-C Cable
- 2 x Aluminum Heatsinks
- 2 x Thermal Pads
- 4 x Rubber Rims (Fixers)
- 1 x User Manual
- 1 x Service Card

Image: Diagram illustrating the GRAUGEAR NVMe M.2 SSD Duplicator and its accessories, including the power adapter, USB cables, heatsinks, thermal pads, rubber rims, user manual, and service card.

3. Product Overview

The GRAUGEAR NVMe M.2 SSD Duplicator is a compact and efficient device designed for managing M.2

NVMe SSDs. It features a dual-bay design, tool-free installation, and a built-in cooling system.

Image: The GRAUGEAR NVMe M.2 SSD Duplicator, a dark gray rectangular base with a clear cylindrical top housing two M.2 SSDs. Power adapter and USB-C cables are shown alongside the device.

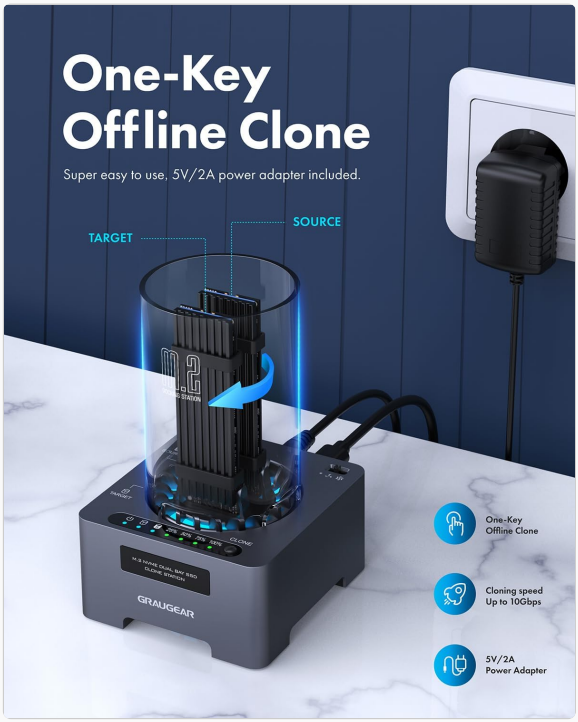

Image: An overview of the GRAUGEAR USB3.2 Gen2x2 Clone Station, highlighting its dual M.2 NVMe SSD support, 20Gbps transmission speed, one-key offline clone function, UASP & TRIM support, 60mm fan for heat dissipation, and 5V/2A power adapter.

Image: The duplicator in action, illustrating the 'One-Key Offline Clone' feature. It shows a 'SOURCE' SSD and a 'TARGET' SSD slot, with a power adapter connected. Indicators for cloning speed and power adapter are visible.

Image: An illustration demonstrating the built-in cooling fan of the GRAUGEAR duplicator. Red arrows indicate hot air being expelled, and blue arrows show cool air being drawn in, with a 3-speed adjustment switch visible.

Image: The duplicator connected to a laptop via USB-C, emphasizing its 20Gbps high-speed USB 3.2 Gen2x2 interface. A chart compares 20Gbps with 10Gbps (USB 3.2 Gen2) and 5Gbps (USB 3.1). Compatible devices and systems are also listed.

Image: An illustration of the device's 2-in-1 functionality: 1) Offline Clone with 10Gbps transmission speed, and 2) Dual-bay NVMe enclosure with 20Gbps transmission speed when connected to a computer.

Image: Details on M.2 NVMe SSD compatibility, specifically supporting M-Key NVMe/PCIe SSDs and various sizes (2230, 2242, 2260, 2280, 22110). It clarifies that M&B Key NGFF/SATA and B Key SSDs are not supported.

Image: A collage of four close-up images showing key features: an anti-slip pad on the base, the heatsink deck, the 60mm cooling fan, and the power switch.

Image: The duplicator with an overlay indicating an 'Auto Sleep' feature after 10 minutes of inactivity, designed to save power and prolong SSD life.

Image: A close-up of the LED indicators on the duplicator, showing lights for power, access, and cloning progress (25%, 50%, 75%, 100%).

4. Setup Instructions

Follow these steps to set up your GRAUGEAR NVMe M.2 SSD Duplicator:

1. **Prepare the SSDs with Heatsinks (Optional but Recommended):**
   If your M.2 NVMe SSD does not have a pre-installed heatsink, it is recommended to use the provided aluminum heatsinks and thermal pads for optimal heat dissipation. Place the thermal pad on the SSD, then attach the heatsink. Secure the heatsink to the SSD using the rubber rims. This helps prevent overheating during operation, especially during cloning or extended use.
2. **Insert M.2 SSDs:**
   The duplicator features a tool-free design. Gently push the M.2 NVMe SSD (with or without heatsink) into the appropriate slot. The device supports M-Key NVMe SSDs of various lengths (2230, 2242, 2260, 2280, 22110). Ensure the SSD is firmly seated. The SSD fixation bracket will hold it in place. For protection, insert the transparent protective tube into the docking station after installing the SSDs.

Image: A close-up showing the SSD fixation bracket within the duplicator slot, designed to securely hold the M.2 SSD in place without tools.

Image: An illustration demonstrating the compatibility of the duplicator with M.2 SSDs equipped with various types of heatsinks, emphasizing tool-less and quick installation.

3. **Connect Power Adapter:**
   Connect the provided 5V/2A power adapter to the DC 5V port on the duplicator and plug it into a power outlet.
4. **Connect USB Data Cable (for Online Mode):**
   If you intend to use the device as a docking station connected to a computer, use one of the provided USB cables (Type-C to Type-C or Type-A to Type-C) to connect the duplicator to your computer's USB port.

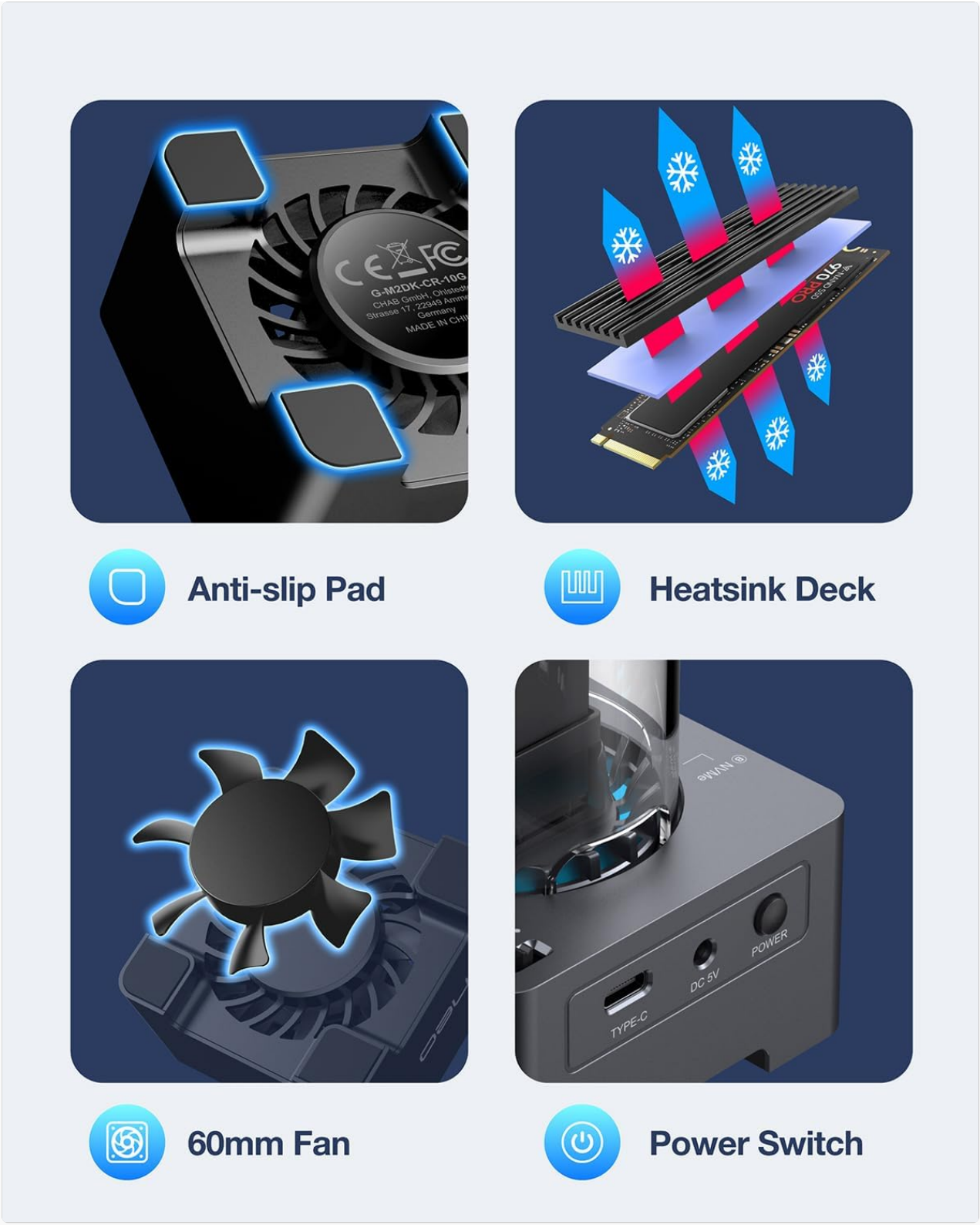

Image: A four-step visual guide for easy installation: 1) Install thermal silicon, M.2 SSD, and heatsink. 2) Put two rubber rims around the SSD. 3) Insert M.2 SSD into the slot and transparent protective tube. 4) Connect power adapter and USB data cable.

5. Operating Instructions

5.1. Offline Clone Function

The offline clone function allows you to duplicate an SSD without connecting the device to a computer. This is

ideal for system migration or data backup.

1. **Preparation:**
   Ensure the duplicator is powered on and **not connected to any computer**. Insert the **Source SSD** (the drive you want to clone from) into the 'SOURCE' slot and the **Target SSD** (the drive you want to clone to) into the 'TARGET' slot.
2. **Important Note:** The Target SSD **must have a larger or equal capacity** than the Source SSD. If the Target SSD is smaller, the cloning process will not work.
3. **Initiate Clone:**
   Press and hold the 'CLONE' button for 3-5 seconds until the indicator lights (25%, 50%, 75%, 100%) begin to flash.
4. **Start Cloning:**
   Release the 'CLONE' button, then press it again briefly to start the cloning process. The indicator lights will illuminate sequentially to show the cloning progress (25%, 50%, 75%, 100%).
5. **Completion:**
   Once all indicator lights are solid, the cloning process is complete. The M.2 Cloner can clone a 256GB SSD to 2TB in approximately 3 minutes, with actual times varying based on SSD speed and data volume.

5.2. Online Mode (Docking Station)

When connected to a computer, the device functions as a dual-bay M.2 NVMe SSD docking station, allowing you to access both SSDs simultaneously.

1. **Connect to Computer:**
   Ensure SSDs are inserted. Connect the duplicator to your computer using the appropriate USB cable (Type-C to Type-C for 20Gbps, or Type-A to Type-C for backward compatible speeds).
2. **Access SSDs:**
   The computer should automatically detect the connected SSDs. They will appear as external drives. You can then perform data transfer, formatting, or other disk management tasks.
3. **High-Speed Transfer:**
   The USB 3.2 Gen2x2 interface supports data transfer speeds up to 20Gbps, provided your computer's USB port also supports this standard. Backward compatibility with USB 3.1 and 3.0 is supported at their respective speed limits.

5.3. Cooling Fan Operation

The built-in cooling fan helps maintain optimal operating temperatures for your SSDs.

- Use the fan speed adjustment switch located on the side of the device to select between Power Off, Low Speed, or High Speed.
- It is recommended to use the fan, especially during prolonged operations like cloning or large data transfers, to prevent thermal throttling and ensure stable performance.

6. Maintenance

To ensure the longevity and optimal performance of your GRAUGEAR NVMe M.2 SSD Duplicator, follow these maintenance guidelines:

- **Cleaning:** Regularly clean the device with a soft, dry cloth. Avoid using liquid cleaners or solvents.

Ensure the fan vents are free from dust and debris to maintain effective airflow.

- **Storage:** Store the device in a cool, dry place away from direct sunlight and extreme temperatures.
- **Handling:** Handle the device with care. Avoid dropping it or subjecting it to strong impacts.
- **Heatsinks:** Periodically check the thermal pads and heatsinks on your SSDs to ensure they are properly seated and functioning. Replace thermal pads if they appear worn or damaged.

7. Troubleshooting

If you encounter issues with your GRAUGEAR NVMe M.2 SSD Duplicator, refer to the following common problems and solutions:

- **SSD Not Recognized in Online Mode:**
  - Ensure the USB cable is securely connected to both the duplicator and the computer.
  - Try a different USB port on your computer.
  - Verify that the SSD is properly inserted into its slot.
  - Check if the SSD is initialized and formatted in your computer's Disk Management (Windows) or Disk Utility (macOS). New SSDs often need to be initialized before use.
  - Confirm the SSD is an M-Key NVMe type. The device does not support B-Key or M&B-Key SATA SSDs.
- **Offline Clone Fails or Does Not Start:**
  - **Crucial:** Ensure the Target SSD has a **larger or equal capacity** than the Source SSD. This is a common reason for clone failure.
  - Ensure the duplicator is **not connected to any computer** during the offline cloning process.
  - Verify both Source and Target SSDs are correctly inserted.
  - Follow the cloning steps precisely: press and hold the CLONE button until lights flash, then release and press again briefly to start.
  - If the target drive is not formatted, it will be overwritten during the cloning process.
- **Slow Data Transfer Speeds:**
  - Ensure your computer's USB port supports USB 3.2 Gen2x2 (20Gbps) for maximum speed. If connected to a lower-speed port (e.g., USB 3.0/3.1 Gen1 5Gbps or USB 3.1 Gen2 10Gbps), speeds will be limited accordingly.
  - Use the provided high-quality USB-C to USB-C cable for optimal performance.
  - Ensure the cooling fan is active, especially during large transfers. Overheating can cause thermal throttling, reducing speeds.
- **Device Overheating:**
  - Ensure the built-in cooling fan is set to Low or High speed.
  - Verify that heatsinks and thermal pads are correctly applied to the SSDs.
  - Ensure adequate ventilation around the device.

8. Specifications

Feature	Detail
Product Dimensions	3 x 3.23 x 5.23 inches (7.62 x 8.20 x 13.28 cm)
Item Weight	5.6 ounces (159 Grams)
Model Number	18110 (G-M2DK-CL-20G)
Brand	GRAUGEAR
Color	Black
Hardware Interface	USB 3.2 Gen 2x2 (20Gbps)
Compatible Devices	Laptop, PC, PlayStation, Xbox, Smart TV, Router
Total USB Ports	1 (USB-C)
Number of M.2 Slots	2 (Dual-Bay)
SSD Compatibility	M.2 NVMe SSDs (M-Key) sizes 2230, 2242, 2260, 2280, 22110
Offline Clone Speed	Up to 10Gbps (internal cloning speed)
Cooling System	Built-in 60mm fan with 3-speed adjustment, aluminum heatsinks
Power Supply	5V / 2A (10W)
Features	One-Key Offline Clone, Tool-Free Installation, UASP & TRIM Support, Multi-Protection (short-circuit, over-current)

9. Warranty and Support

Your GRAUGEAR NVMe M.2 SSD Duplicator comes with a service card. Please refer to the information on this card for details regarding warranty coverage and customer support.
For further assistance, you may visit the official GRAUGEAR website:www.graugear.de
You can also contact GRAUGEAR USA through their Amazon store page:GRAUGEAR USA Store

Related Documents - 18110

	GrauGear USB 3.2 Gen2x2 Clone Station for 2x M.2 NVMe SSD - User Manual This document provides instructions and safety information for the GrauGear USB 3.2 Gen2x2 Clone Station, a device designed for cloning M.2 NVMe SSDs. It covers setup, standalone cloning, PC/Notebook mode, and important safety precautions.
	GRAUGEAR G-M2DK-AC-10G M.2 NVMe/NGFF SSD Docking Station User Manual User manual and specifications for the GRAUGEAR G-M2DK-AC-10G M.2 NVMe/NGFF SSD Docking Station. Features USB 3.2 Gen2 10Gbps connectivity, active cooling with a 50mm fan, and support for various M.2 SSD sizes (2230-22110). Includes installation guide and safety information.
	GRAUGEAR G-M2HS08-F Heat Pipe Cooler for M.2 2280 SSD - Installation and Safety Guide Comprehensive guide for the GRAUGEAR G-M2HS08-F Heat Pipe Cooler, detailing package contents, features, specifications, installation steps, and essential safety information for M.2 2280 SSDs.
	GRAUGEAR G-M2HS03-F Heat Pipe Cooler for M.2 2280 SSD Enhance your M.2 2280 SSD performance and longevity with the GRAUGEAR G-M2HS03-F Heat Pipe Cooler. This guide provides installation steps, key features, specifications, and essential safety information for optimal cooling of your SSD.
	GRAUGEAR M.2 2280 SSD Heat Pipe Cooler Installation and Safety Guide Comprehensive guide for the GRAUGEAR M.2 2280 SSD Heat Pipe Cooler, covering package contents, features, specifications, installation steps, and essential safety information.
	GRAUGEAR G-CV-M2T25 M.2 NGFF SSD to 2.5" SATA Adapter: Features and Installation Comprehensive guide for the GRAUGEAR G-CV-M2T25 adapter, detailing its features, installation process for M.2 NGFF SSDs (2230, 2242, 2260, 2280) into a 2.5" SATA form factor, and essential safety information.