DFMR240

User Manual
v A.01

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Before You Start

Important Notice

- Carefully read the entire manual before operating.
- Make sure the source device is correct and functioning.
- Equal capacity of source and target is recommended for guaranteed data consistency.
- Using the Copy+Compare function provides the most flawless duplication.
- Damage incurred due to non-compliance with Digifast operating instructions will void the warranty.
- Store the equipment safely when not in use and keep out of the reach of children.
- Please turn off duplicator before replacing a socket.
- Never turn off the power while the firmware is updating.
- Use only approved, stable power sources.
- The power supply has overload protection. When it is overloaded and shutdown, please unplug the power cord for 2 minutes for discharge.
- Use product only in a clean, dry, dust-free, and ventilated area. Liquids or foreign debris can severely damage your duplicator.
- It is typical for the machine to heat up during operation.
- While in use, do not move the duplicator or remove SSDs.
- Static electricity may cause duplication error. Please pay attention to the duplicator's environment while operating equipment. Purchasing electricity-eliminating equipment helps avoid shock.
- Devices will operate at high temperatures during selected tasks.
- Wear protective gloves to prevent burns when handling devices.
- Ensure machine and operator are properly grounded to prevent ESD.
- Do not turn off the machine during firmware update.

Notice Symbols

Special items, procedures, or notes to be observed prior to use.

Note	Refers to related duplicator operations, special details, tips, or suggestions for operational effectiveness.

Caution	Refers to procedures that need to be adhered to or precautions.

Product Overview

DFMR240 is the world's first RGB standalone duplicator, and it supports NVMe , AHCI and SATA protocol. It automatically detects device signal, and supports ultra-high speed duplication.

DFMR240 is specially designed for professional use. The smart Quick Copy (System and Files) mode supports FAT16/32/64, NTFS(Windows), ext2/3/4(Linux), HFS/HFS+/HFSX(Mac) formats and can copy only data contained areas, which greatly increases the production efficiency. Furthermore, the innovative interface design can help you easily swap M.2 sockets to reduce time and effort while repairing.

Securely transfer data with built-in exclusive design, and customize the look with five RGB LED pattern choices.

Product Features

Operation Type
Stand-alone, FPGA based operation (Non-PC based system design).

Five LED Pattern Choices
Exclusive design featuring five kinds of transmission LED.

Controller Design
Embedded controller is designed to support capacities over 18TB+. Constant improvement supports latest market-available devices.

Protocols Supported
Supports Native NVMe, Native AHCI, and SATA protocol.Automatically detects different signals for each port making it easy to copy from SATA to NVMe M.2 and vice versa.

Read-Only Source Port
There is no option to disable this built-in feature, and it is integrated with all Digifast duplicators.
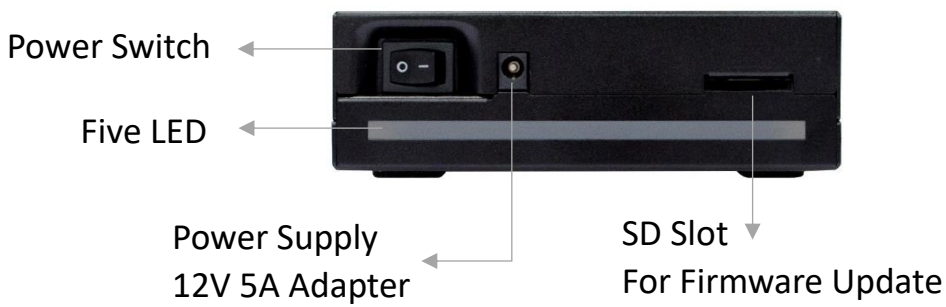
Module Design
Modular M.2 ports effectively reduce downtime and are cost-effective for long term ownership.
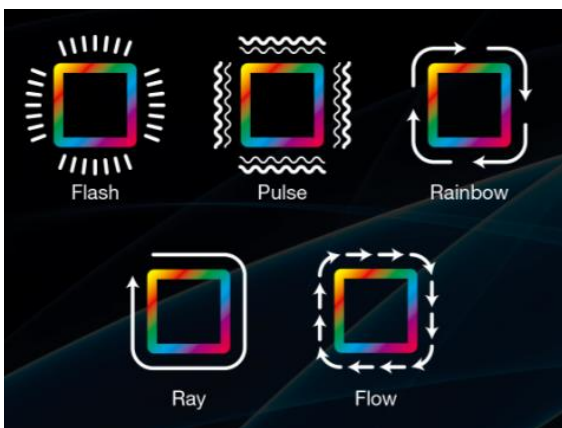
Hardware Overview

- ## Front View

Source Port

LCD Display

Control

- ## Back View

Power Switch

Five LED

Power Supply
12V 5A Adapter

SD Slot
For Firmware Update

- ## Five LED Pattern Choices

Flash

Pulse

Rainbow

Ray

Flow

- Package

Duplicator **1 pcs**	**Power Adapter** **1 pcs**	**Power Cord** **3 pcs (EU/UK/USA)**
SATA Cable **22pin (6cm)** **1 pcs**	**User Manual** **1 pcs**	**Gloves** **1 pair**
Pad **2 pcs**		

Functions Table

Functions	Descriptions	
1. Copy	Copies data from source device to target. (There are four copy modes in function "6.1 Copy Area")	
2. Compare	Compares the source and target to ensure copy accuracy.	
3. Copy + Compare	Automatically launches compare function after copy is completed.	
4. Erase	**4.1 Quick Erase** Erases device(s)' index table.	
	4.2 Full Erase Erases entire device(s), complying with NIST 800-88 Standards.	
	4.3 DoD3 Pass Erases device(s), complying with DoD 5220.22-M Standards.	
	4.4 DoD 3 Pass+Compare Erases device(s), complying with DoD 5220.22-M Standards and verifies complete erasure.	
	4.5 7-Pass Erase Erases device(s) 7 times complying with DoD 5220.22-M(ECE) Standards.	
	4.6 Secure Erase Erases the non-loadable areas complying with NIST 800-88 Standards.	
	4.7 Enhanced Secure Erase Erases devices that supports this feature.	
5. Utility	**5.1 Device Info** Displays basic information such as device model, name, capacity, etc.	
	5.2 System Update Updates system firmware at the rear SD port.	
	5.3 System Info Displays system information such as controller, model number, software version, etc.	
	5.4 Read Speed Calculate the device's read speed by reading.	
	5.5 Write Speed Calculate the device's write speed by writing. This function will change the device's content and format.	
6. Setup	**6.1 Copy Area**	**6.1.1 System and Files** Copies data and skips empty space. Only supports standard formats.

	6.1.2 All Partitions Copies all partitions and data, unallocated partitions not included.	
	6.1.3 Whole Device Copies all source data, bit-by-bit.	
	6.1.4 Percentage (%) Sets percentage of source capacity to copy.	
6.2 HPA Copy Mode	**Do Not Copy HPA**	**Keep Target HPA** Does not copy HPA data, but keeps target device's original HPA setting.
		Clear Target HPA Does not copy HPA data and clears target device's HPA setting.
	Setting Target HPA Copies HPA setting from source device to target.	
	Copy and Setting Copies HPA setting and data from source device to target.	
6.3 Skip Bad Sectors Skips source bad sectors.		
6.4 Erase Source Port Allows user to erase the source port or not.		
6.5 Unknown Format Allows user to copy or skip unknown format(s).		
6.6 Erase Pattern Sets whether to overwrite data in one-byte or big random data.		
6.7 Clear HPA at ERASE	**Clear HPA Setting** Clears HPA setting during erase.	
	Keep HPA Setting Keeps original HPA setting during erase.	
6.8 Language Sets preferred language: English or Chinese.		
6.9 Setting Flash LED	**1.LED Flash Type** Flash / Pulse / Rainbow / Ray / Flow	
	2.LED Flash Speed slow (speed: -2) / normal (speed: 0) faster (speed: 1) / fastest (speed: 2.5)	
6.10 Restore Defaults Reinstates manufacturer settings.		

Functions Description

1. Copy

Step 1: Prepare source and target devices.

Note	1. Recommendation: Target device(s)' capacity must be equal to or larger than the source device capacity.
	2. The system accepts only one source and one target for each operation. If both M.2 and SATA port have device, it will detect SATA port first.

Step 2: Connect source and target devices.

Step 3: Proceed to copy.

Scroll to select "1. Copy", then press "OK" to start the duplication process.

Note	The number of working/connected targets will be displayed on LCD. Press "OK" to start.

The following information below states what is displayed on the LCD during duplication.

```
Copy        40.0G

        3ready
```

Function   Total Data

```
Copy x3              40G

1:38   25%  (4) 10.3G
```

Copied   Slowest   Copied
Time & %   Port   Data

Note	Press ▲▼ together for 5 seconds to stop operation on the slowest device.

Step 4: Copy Completed!

The quantity of passed or failed target device(s) and the copied duration will be displayed on the LCD after duplication completes.

2. Compare

Scroll to select "2. Compare", then press "OK" to start the verification process.

Note	The number of working/connected targets will be displayed on the LCD. Press "OK" to start.

3. Copy+Compare

Sequentially automates from Function 1, Copy to Function 2, Compare.
Scroll to select "3. Copy+Compare", then press "OK" to start the automated duplication and verification process.

4. Erase

Caution	Please back up all important data before using this function.

Step 1: Connect device(s) for sanitizing.

Step 2: Enter function "4. Erase"

Scroll to select "4. Erase", then press "OK" to view the 7 submenus.

Caution	User is responsible for verification of targets' quality. Testing a few completed targets in a mass production environment for quality control is recommended.

4.1 Quick Erase

This function will erase the index table from the connected device(s).
Scroll to select "4.1. Quick Erase", then press "OK" to start the erasing process.

4.2 Full Erase

This function will erase all data per NIST 800-88 Standards on the connected device(s).
Scroll to select "4.2 Full Erase", then press "OK" to start the erasing process.

4.3 DoD3 Pass

This function will erase all data per DoD 5220.22-M Standards on the connected device(s).
Scroll to select "4.3 DoD3 Pass", then press "OK" to start the erasing process.

4.4 DoD3 Pass+Compare

This function will erase all data per DoD 5220.22-M Standards, then verifies erasure of the connected device(s).
Scroll to select "4.4 DoD3 Pass+Compare", then press "OK" to start the erasing and verification process.

4.5 7-Pass Erase

This function will erase device(s) 7 times complying with DoD 5220.22-M(ECE) Standards.
Scroll to select "4.5 7-Pass Erase", then press "OK" to start the erasing process.

4.6 Secure Erase

This function erases the non-loadable areas complying with NIST 800-88 Standards.
Scroll to select "4.6 Secure Erase ", then press "OK" to start the erasing process.

4.7 Enhanced Secure Erase

This function erases devices that supports this feature.
Scroll to select "4.7 Enhanced Secure Erase", then press "OK" to start the erasing process.

5. Utility

This menu will reveal submenus related to device information, system information and updates.
Scroll to "5. Utility", then press "OK" to view the submenus.

5.1 Device Info

This function will display basic information such as device model, name, capacity, etc…
Scroll to select "5.1 Device Info", then press "OK" to view the connected device(s). Then through to view connected device(s) by port number order.

5.2 Update System

Step 1: Prepare a SD card for update.

Connect a SD card to a PC. Download the latest firmware provided by the supplier's technical support, unzip the BIOS firmware, and save it to the root directory of the device.

Note	The device's format must be: FAT16 or FAT32.

Step 2: Proceed to update firmware

Connect the SD card to the back of the duplicator. Scroll to select "1. Update BIOS", then press "OK" to start the firmware update process.

[Update System]
1. Update BIOS

Note	Ensure that the SD card does not have any bad sectors.
Caution	The firmware update process may take longer than 5 minutes. Please do not disrupt power or process during BIOS update. If interrupted, the system will become useless. When the update completes, a message will display on the LCD and ask to turn off the machine for 5 seconds. The manufacturer will not be held responsible for any damages.

5.3 System Info

This function will display basic information such as device model, name, capacity, etc... Scroll to select "5.3 System Info", then press "OK" to view the connected device(s). Then scroll through to view all information.

5.4 Read Speed

This function will calculate the read speed of the selected device. The device's original data will not be modified after checking. Scroll to select "5.4 Read Speed", then press "OK" to select the device, and then press "OK" to proceed.

5.5 Write Speed

This function will calculate the write speed of the selected device. The device's original data will be modified after checking. Scroll to select "5.5 Write Speed", then press "OK" to select the device, and then press "OK" to proceed.

6. Setup

This menu will reveal submenus related to copy area, skip bad sector, and setting language. Scroll to select "6. Utility", then press "OK" to view the submenus.
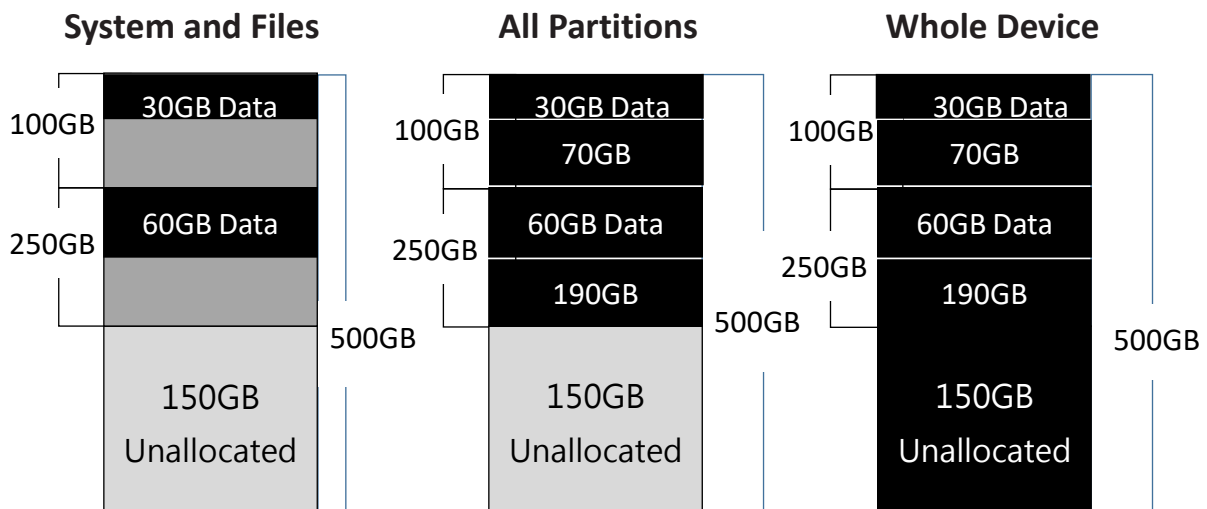
6.1 Copy Mode

There are 4 submenu modes.
Scroll to select "6.1 Copy Mode", then press "OK." Then scroll through to select one of the four copy methods.

● Selecting the Proper Copy Modes

Example: There are two defined partitions in a 500GB device. The charts below illustrate what portion would be duplicated.

System and Files	All Partitions	Whole Device

This function will analyze and copy only data and skip empty spaces.

This function will copy all data within the defined partitions.

This function will copy the entire device.

6.1.1 System and Files

Copies data and skips empty space. Only supports standard formats.
Scroll to select "6.1.1 System and Files", then press "OK" to save the copy method.

Allows user to copy source device's System and Files, instead of the entire device. The system will analyze the source device and identify the data area to copy. If the source device's data is within the target device's capacity, the copy will be processed. FAT16/32/64, NTFS, EXT2/EXT3/EXT4, and HFS/HFS+/HFSX are supported in this copy mode.
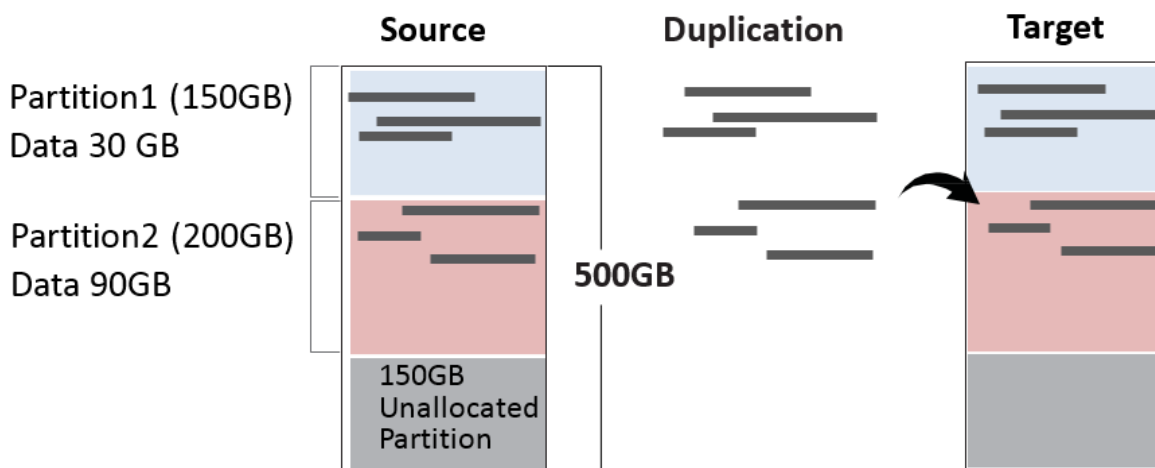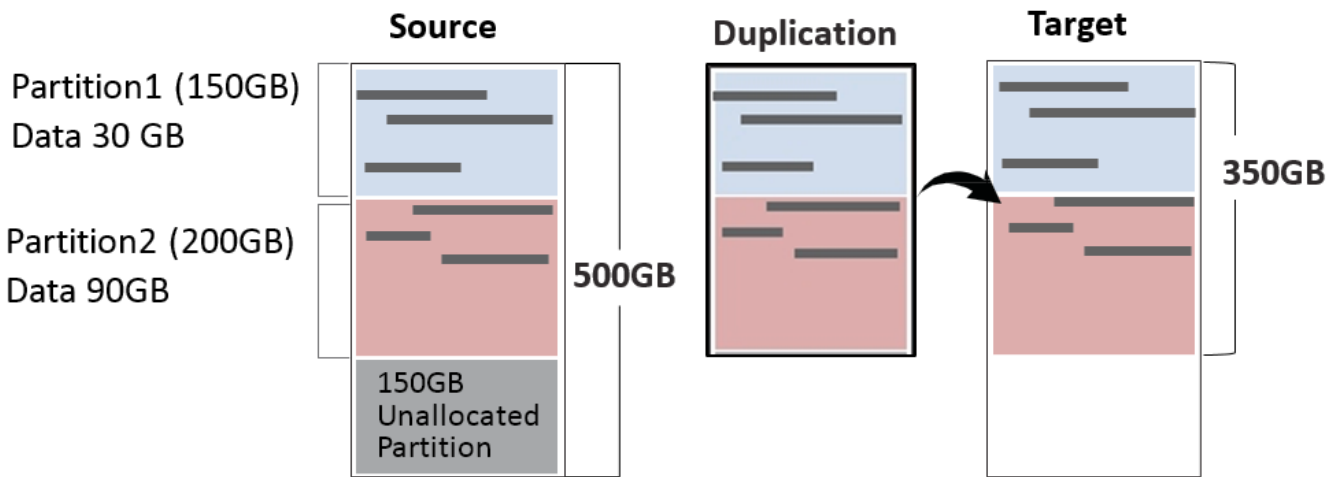

6.1.2 All Partitions

Copy or skip HPA, DCO, unknown partitions, modified formats, etc. defined by settings. Scroll to select "6.1.2 All Partitions", then press "OK" to save the copy method.

The target device's capacity must be equal to or larger than the source device's capacity.

Source   **Duplication**   **Target**

Partition1 (150GB)
Data 30 GB

Partition2 (200GB)
Data 90GB

500GB

350GB

150GB
Unallocated
Partition

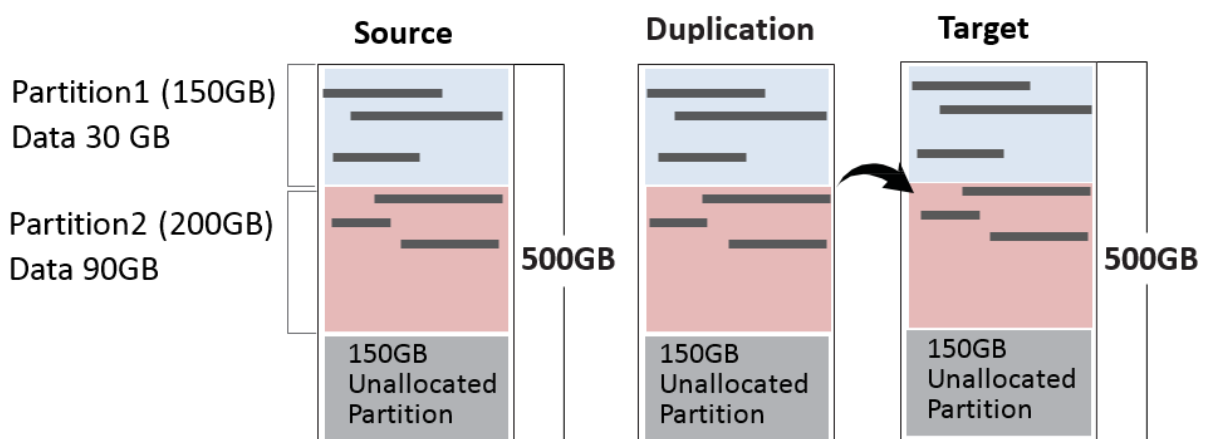**350GB of all Partitions along with its contents will be copied.**

6.1.3 Whole Device

Copies all source data, bit-by-bit.
Scroll to select "6.1.3 Whole Device", then press "OK" to save the copy method.

Copies the whole source device, irrespective of content, format, partition or empty space. This mode does not analyze the data.

[Copy Mode]
Whole Device

**Source**   **Duplication**   **Target**

Partition1 (150GB)
Data 30 GB

Partition2 (200GB)
Data 90GB

500GB   500GB

150GB
Unallocated
Partition

150GB
Unallocated
Partition

150GB
Unallocated
Partition

All 500GB of data will be copied.

6.1.4 Percentage (%)

Select percentage of source capacity to copy.
Scroll to select "6.1.4 Percentage", set the upper and lower %, then press "OK" to save the copy method.
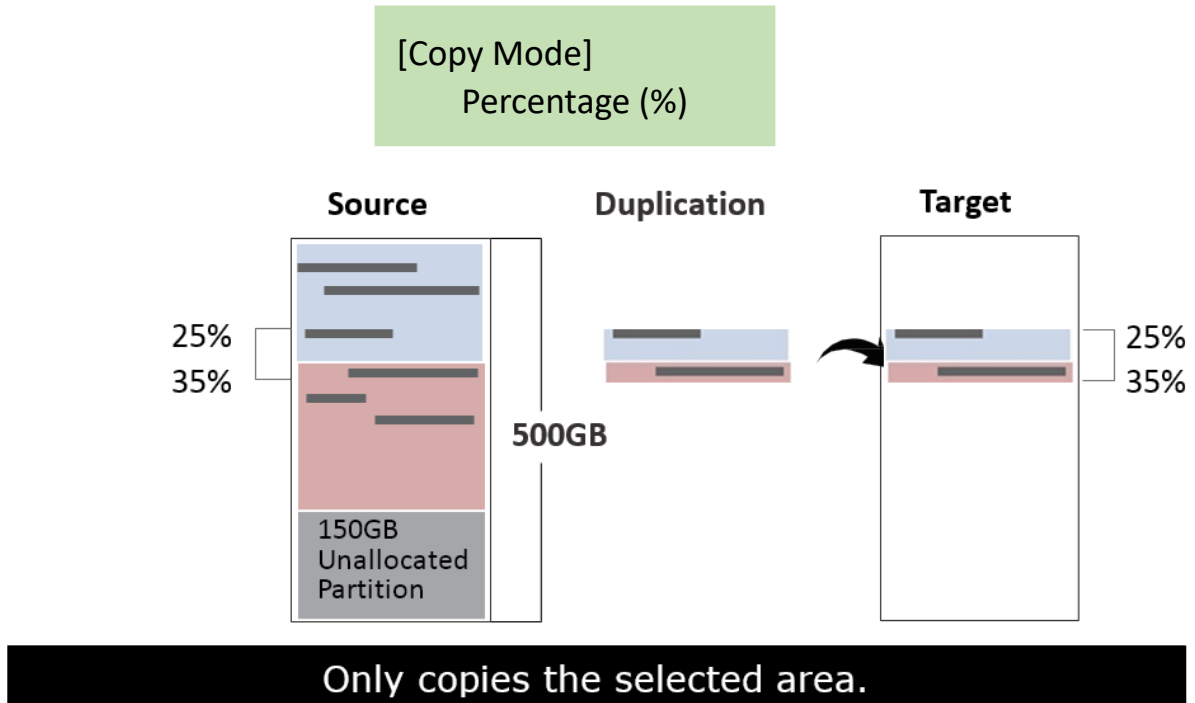
6.2 HPA Copy Mode

This menu contains submenus related to HPA Copy Modes
Scroll to select "6.2 HPA Copy Mode", then press "OK" to view the submenus.

6.2.1 Do Not Copy HPA

This menu contains submenu settings from which users can select.
Scroll to select "6.7.6 Copy HPA Area >> Do Not Copy HPA", then press "OK" view submenu settings.

● Keep Target HPA
Does not copy HPA data, but keeps target device 's original HPA setting.
Scroll to select "Keep Target HPA", then press "OK" to save this setting.
● Clear Target HPA
Does not copy HPA data and clears target device's HPA setting.
Scroll to select "Clear Target HPA", then press "OK" to save this setting.

6.2.2 Setting Target HPA

Copies HPA setting from source device to target.
Scroll to select "6.2 HPA Copy Modes >> Copy HPA Settings", then press "OK" to save this setting.

6.2.3 Copy and Setting

Copies HPA setting and data from source device to target.
Scroll to select "6.2 HPA Copy Modes >> Copy All HPA", then press "OK" to save this setting.

Caution	HPA function "Copy and Setting" may change the original parameter of target devices. To reset it, user must set "6.4 Clear HPA at Erase >> Clear HPA Setting" and then execute "4. Erase."

6.3 Skip Bad Sectors

Scroll to select "6.3 Skip Bad Sectors", then press "OK" to scroll through the available values for skipping bad sectors. If the device data is critical and needs to be a full clone, it is recommended to set "Skip Bad Sectors" at "0." Bad sectors can be set as unlimited or at a value from 0 to 65,535.

```
[Skip Bad Sectors]
       1000
```

Caution	The "Copy+Compare" function is advised for enhanced copy accuracy.

6.4 Erase Source Port

This function allows user to enable or disable the source port for sanitization.
Scroll to select "6.4 Erase Source Port", then press "OK." Then scroll through to select one of two settings.

❶ Disabled

Source port will not be affected by erase functions.
Scroll to select "6.4 Erase Source Port >> Disabled", then press "OK" to save this setting.

❷ Enabled

Source port will be affected by erase functions.
Scroll to select "6.4 Erase Source Port >> Enabled", then press "OK" to save this setting.

6.5 Unknown Format

This function only works with "6.1 Copy Mode >> System and Files."
Scroll to select "6.5 Unknown", then press "OK". Then scroll through to select one of two settings.
Unknown format includes all forms of modified and proprietary data and partitions.

❶ Copy Unknown

Copy unknown format(s).
Scroll to select "6.5 Unknown Format >> Copy Unknown", then press "OK" to save this setting.

❷ Skip Unknown

Skip unknown format(s).
Scroll to select "6.5 Unknown Format >> Skip Unknown", then press "OK" to save this setting.

6.6 Erase Pattern

Scroll to select "6.6 Erase Pattern", then press "OK". Then scroll through to select one of two settings.

❶ One Byte

Random character written per byte.
Scroll to select "6.6 Erase Pattern >> One Byte", then press "OK" to save this setting.

❷ Big Random Data

Random character written in a set of area.
Scroll to select "6.6 Erase Pattern >> Big Random Data", then press "OK" to save this setting.

6.7 Clear HPA on Erase

Sets to clear HPA setting during erase.
Scroll to select "6.7 Clear HPA at Erase", then press "OK" to save this setting.

6.7.1 Release

Clears HPA setting and data during erase.
Scroll to select "6.4Clear HPA at Erase >> Release", then press "OK" to save this setting.

6.7.2 No Release

Keeps original HPA setting and data during erase.
Scroll to select "6.7 Clear HPA at Erase >> No Release", then press "OK" to save this setting.

6.8 Language

Select English or Japanese.
Scroll to select "6.8 Language", then press "OK." Then scroll through select the desired language.

6.9 Setting Flash LED

1.LED Flash Type
Exclusive design of five customizable patterns:

2.LED Flash Speed
Exclusive design of 4 speed variations: slow (speed: -2) / normal (speed: 0) / faster (speed: 1) / fastest (speed: 2.5)

6.10 Restore Defaults

Restores all settings to manufacture defaults.
Scroll to select "6.9 Restore Defaults", then press "OK" to restore settings back to manufacturer defaults.

Maintenance Guide

Steps to replace M.2 socket(s)

1 .Turn off power

Caution	For your safety, please turn off the power before inspecting or replacing the socket.

2 . Remove the faceplate screws, Remove the cover plate.

Caution	Please use extreme caution while using a screwdriver to remove the screws as it can easily slip and damage the surrounding area.

3 . Replace the socket(s).

4 . Replace and secure the cover plate.

Specifications

● Specifications

Bandwidth Performance	DFMR240 *Actual performance is dependent on device transfer speeds*
Supported Formats	Quick Copy (System and Files): FAT16/32/64，NTFS, Linux(Ext2/Ext3/Ext4), Mac(HFS/HFS+/HFSX) Whole Device Copy: All formats, including proprietary formats.
Supported OS	All (Windows, Mac, Linux, and other proprietary systems)
Operation Mode	Standalone, FPGA-based Operation
OLED Display	2x20 OLED Display
Others	Supports GPT, MBR, and Advanced Formats.
Control Panel	4 Push Buttons (▲, ▼, OK, ESC)
Power Requirements	12V 5A Power Adaptor
Physical Dimensions	180mm X 156mm X 34mm
Product Weight	800g

● Compatibilities & Functions

Copy Modes	Quick Copy (System and Files) / All Partitions / Whole Device / Percentage Copy
Sanitization Modes	Quick Erase, Full Erase (NIST 800-88), DoD Erase(DoD5220), Secure Erase
LED Pattern Choices	Flash/Pulse/Rainbow/Ray/Flow
Others	Bit-by-bit Comparison, Count of Bad Sector, Skip Bad Sectors.
Compatible Device	SATA and M.2(NGFF) M Key & B+M Key.
Compatible Signal	NVMe, AHCI, SATA

**Specifications subject to change without notice.