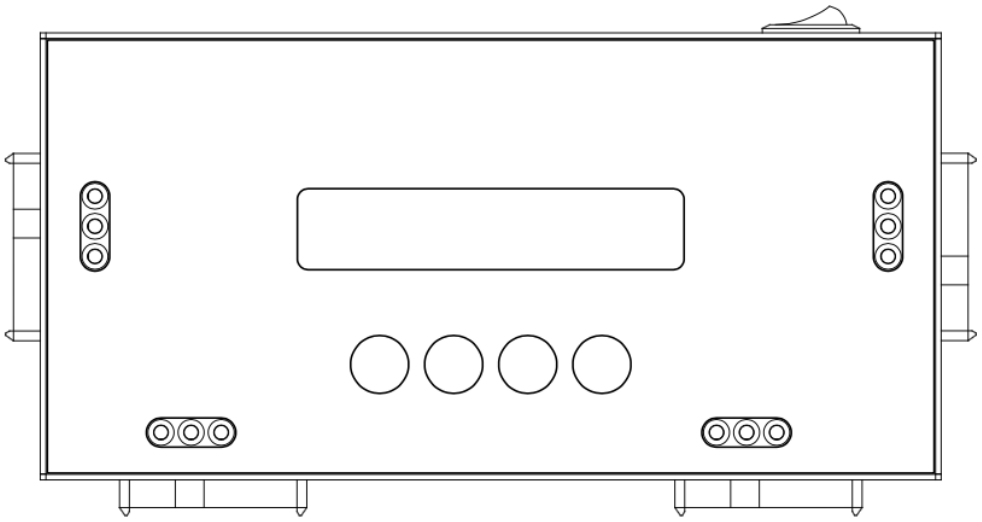
UReach

Mini SAS Series

1 to 3 SATA/SAS
Duplicator and Sanitizer

User Manual

v A.02



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Specifications and features subject to change without notice or obligation.

Warranty

U-Reach provides a basic one-year parts and labor warranty for all its products (excluding cables, adapters, and other consumable items). An optional extended warranty is also available for an added cost. Telephone and email support is available for the life of the product as defined by U-Reach.

All warranties will be restricted and defined by the market region from which customers purchased.

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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 our 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 sockets.
- Never turn off the power while the firmware updates.
- 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 discharging.
- 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 elimination 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.

Notice Symbols

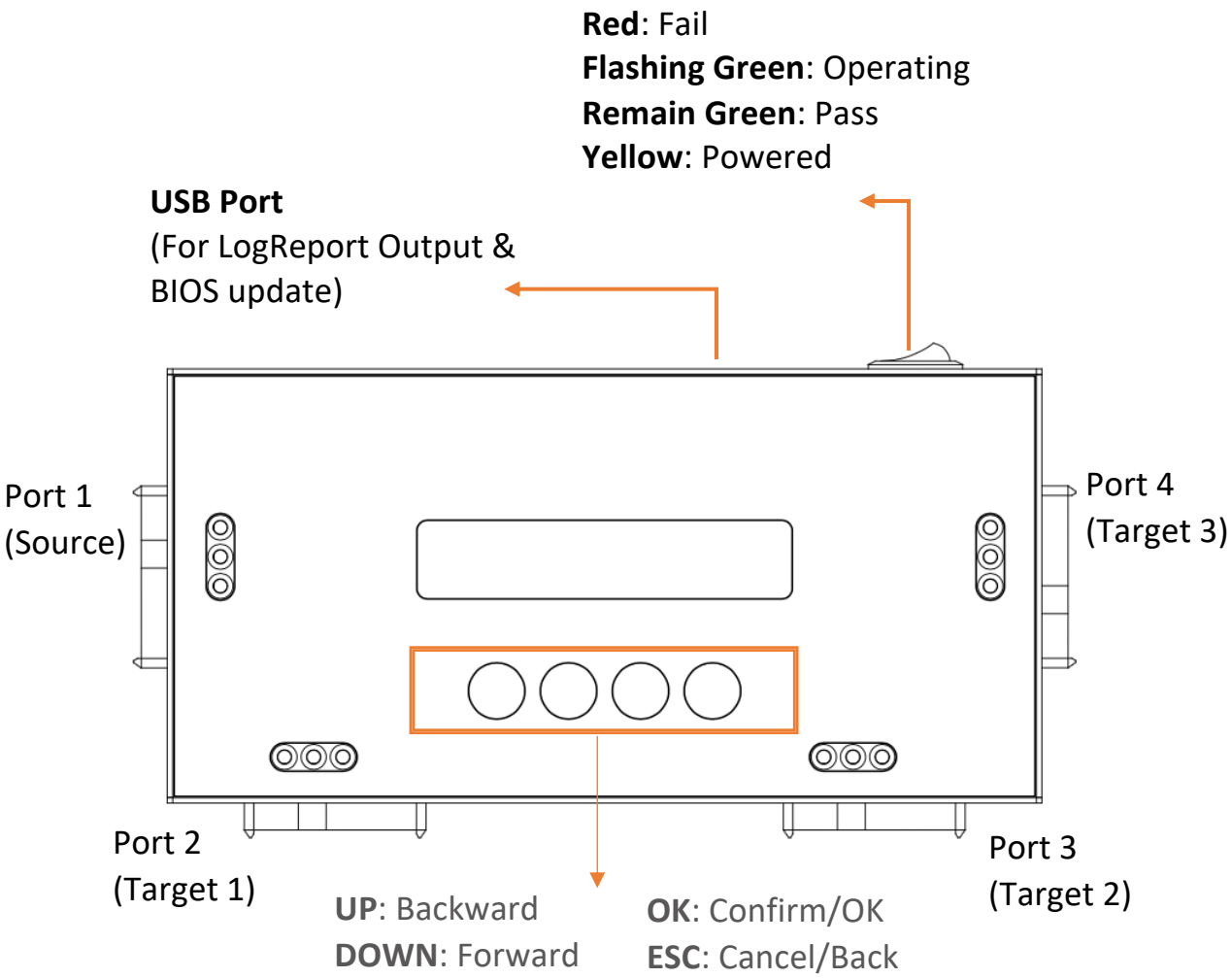
Special items, procedures, or notes to be observed prior to use:

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

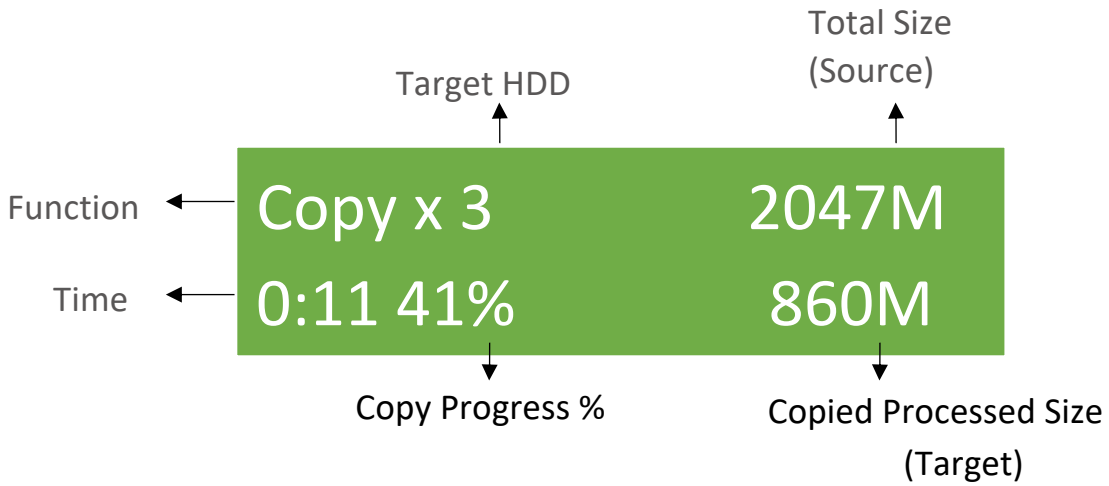
Caution	Refers to procedures that need to be adhered to or precautions.

Product Overview

A. System Overview



B. LCD Configuration



Function Table

Function	Item & Description
1. Copy	Copies source device to connected target device(s). Refer to function 6.1 Copy Area for 4 different copy modes.
2. Compare	Verifies target device(s) bit by bit to the master device.
3. Copy +Compare	Automates copy and compare by first duplicating and then verifying all the data, bit by bit.
4. Erase	**4.1 Quick Erase** Erases the index table only.
	4.2 Full Erase Erases the entire device capacity. Complies with NIST 800-88 Standards.
	4.3 DoD erase Erases device(s), complying with DoD 5220.22-M Standards.
	4.4 DoD EraseComp 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 support this feature.
5. Utility	**5.1 Show Disk info** Displays connected device(s) detail information.
	5.2 Update system Updates system firmware from source port.
	5.3 System Info Displays information of the duplicator system, including controller model number and firmware version.
6. Setup	**6.1 Start-up Menu** Sets default function to display during equipment initialization.

	6.2 Copy Area (Copy Modes)	**6.2.1 System and Files** Copies data and skips empty space. Only supports standard formats.	
		6.2.2 All Partitions Copies all partitions and data, unallocated partitions not included.	
		6.2.3 Whole HDD Copies all source data, bit by bit.	
		6.2.4 Percentage (%) Sets percentage of source capacity to copy.	
	6.3 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.
		Set Target HPA Copies HPA setting from source device to target.	
		Copy and Setting Copies HPA setting and data from source device to target.	
	6.4 Skip Bad Sectors Sets the number of bad sectors to skip. (0-65535 or unlimited)		
	6.5 Erase Master Allows user to erase the source port or not.		
	6.6 Unknow Format	**Copy Unknown** Copies unknown formats.	
		Skip Unknown Skips unknown formats.	
	6.7 Erase Pattern	**One Byte** Writes a random character per byte.	
		Big Random Data Writes a set of random characters into a set area.	
	6.8 Clear HPA at Erase	**Clear HPA Setting** Clears HPA setting during erase.	

		Keep HPA Setting Keeps original HPA setting during erase.
	6.9 Mark After Erase Creates watermark on the device(s) after erase job is completed.	
	6.10 Language Selects preferred language. English or Japanese	
	6.11 Restore Default Restores system back to factory defaults.	
7. Log Manager	**7.1 Out Today report** Outputs todays log data.	
	7.2 Out Recent report Outputs recent log data.	
	7.3 Out Period Date Outputs a set period of log data.	
	7.4 Advanced Function Default password: 123456	**7.4.1 Clear All Logs** Clear all log records.
		7.4.2 Password Setup Allows password change.
		7.4.3 Adjust Clock Change time and date.
		7.4.4 Add Watermark at text File Creates watermark on the log report.
8. Burn-in	**8.1 Run Burn-In** Automatically performs the Burn-in test on USB targets.	
	8.2 Set Burn Time Sets the Burn-In test duration.	
	8.3 Set Loop Count Sets the Burn-In test loop count. Each test loop contains a writing & comparing test.	
	8.4 Set Test Range Sets the flash card test range.	
	8.5 Set Bad Limit Sets the Burn-In test error tolerance.	
	8.6 Set Read Count Per Loop Sets the data reading count per loop.	
	8.7 Ser Power Off Second Between Loop Sets the power off seconds between each data writing and reading loop.	

	8.8 Set Power Off Between Write And Read Sets the power off counts between each data writing and reading loop.

***Above functions and features subject to change without notice.**

Functions

1. Copy

The copy function copies data from source HDD to target HDD. You can set following settings before copy. (You can check more detail in ”6. Setup”.)

I. Set Copy Area of Source HDD → 6.2 Copy Area
II. Set Copy Unknown Format Area → 6.6 Unknown Format

➢ Start to copy

Step 1: Prepare Source & Targets

Prepare a source HDD and target HDDs.
(It’s strongly recommended that the source and target are the same capacity.)

Caution	Various adapters are required to copy devices with different interfaces, e.g., eSATA, mSATA, M.2 SATA (NGFF) etc.

Step 2: Connect Source & Targets

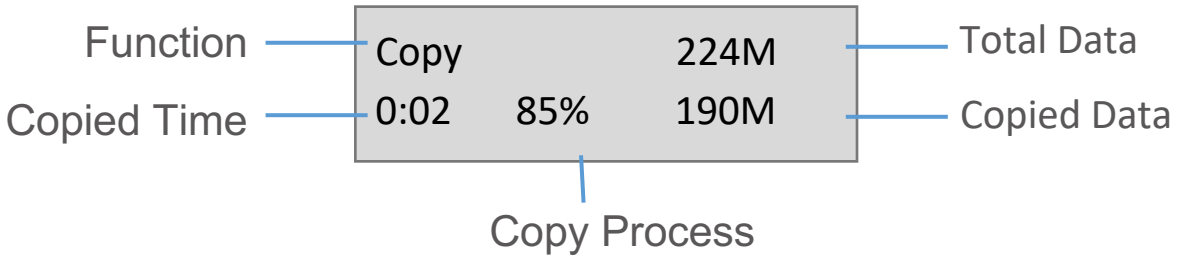
Connect source HDD to source port, target HDDs to Target ports.

Step 3: Enter Function "1.Copy"

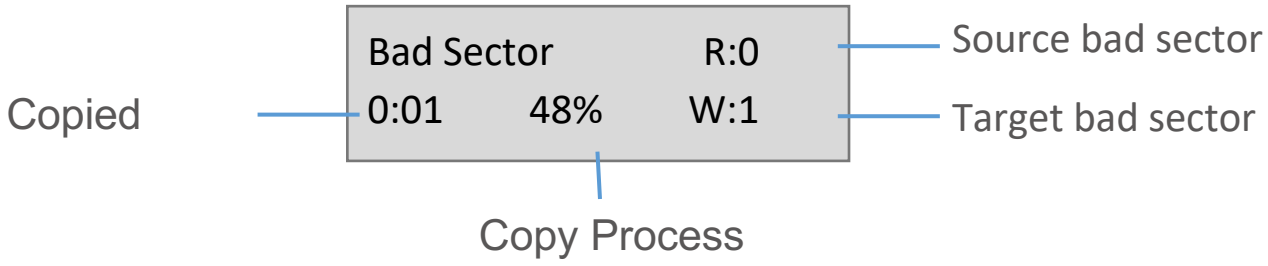
Use ▲▼ to select "1. Copy", and then press "OK". Duplication will start.

The information below shows on the LCD during duplication.

Copy Process



(if there is any bad sector)



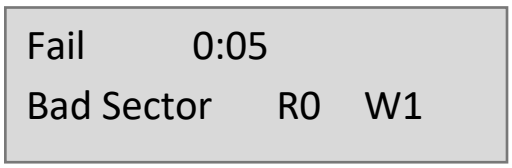
Step 4: Completion!

The copy result (Pass/Fail), total copy time and bad sectors will show on LCD.

Copy result

Pass

Fail



Note	The default setting of error counter is 0. If users want to adjust the accepted error sectors of the HDD, they can set "Skip Bad Sectors".

2. Compare

Proceed to verify device.

Caution	The user is responsible for verifying the targets' quality. Please pick a few completed targets for testing in a mass production environment for QC.

3. Copy+Compare

Sequentially automates from Function 1, Copy to Function 2, Compare.

Note	It is recommended to execute Compare after Copy to confirm the accuracy. Users can use the function "3. Copy+Compare".

4. Erase

Please choose the appropriate erase method when you like to dispose or re-use the HDDs.
You can set the following settings before erasing:
(You can check more detail in "6. Setup".)

I. Set Erase mode
II. Set Erase Master → 6.5 Erase Master
III. Set Erase Pattern → 6.7 Erase Pattern

Caution	lease backup all important data before using this function.

➢ Start to erase

Step 1: Prepare HDDs

Prepare HDDs for disposal.

Step 2: Place HDDs

Insert HDDs for disposal into target ports.

Note	Function "Erase Master" is to determine erase source HDD or not.

Step 3: Enter function "4. Erase"

Use ▲▼ to select the mode of erasing method, and then press "OK". Data Erase will proceed.

Note	During erasing, press ▲▼ to view the status of each port. Press “OK” to see the details for each port.

There are several erase methods:
(1) Quick Erase (2) Full Erase (3) DoD Erase (4) 7-Pass Erase
(5) Secure Erase (6) Enhanced Secure Erase

4.1 Quick Erase

This function will erase the index table from the connected device(s).

4.2 Full Erase

This function will erase the whole sectors on the connected device(s). It will take longer than quick erase. Complies with NIST800-88 Standards.

4.3 DoD Erase

This function will erase all data per DoD 5220.22-M Standards on the connected device(s).

4.4 DoD Erase & Compare

This function will erase all data per DoD 5220.22-M Standards, then compare erasure of the connected device(s).

4.5 7-Pass Erase

This function will erase device(s) 7 times complying with DoD 5220.22-M(ECE) Standards.

4.6 Secure Erase

This function erases the non-loadable areas complying with NIST 800-88 Standards.

Caution	If Secure Erase process is interrupted, the device will be locked. Please execute again and wait until it finishes.

4.7 Enhanced Secure Erase

This function erases devices that supports this feature.

5. Utility

5.1 Show Disk Info.

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

5.2 System Update

Step 1: Prepare a USB drive for update.

Connect a USB drive to PC. Download the latest firmware provided from our technical support, unzip the BIOS firmware, and save it to the root directory in the USB drive.

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

Step 2: Proceed to update firmware

Connect USB drive to the USB port in front of the duplicator. Scroll to select “Update BIOS”, then press “OK” to start the firmware update process.

[Update System]
1.Update BIOS

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. We 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).

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. We will not be held responsible for any damages.

5.3 System Info.

This function shows information about the duplicator including model name and firmware version.

6. Setup

6.1 Start-up Menu

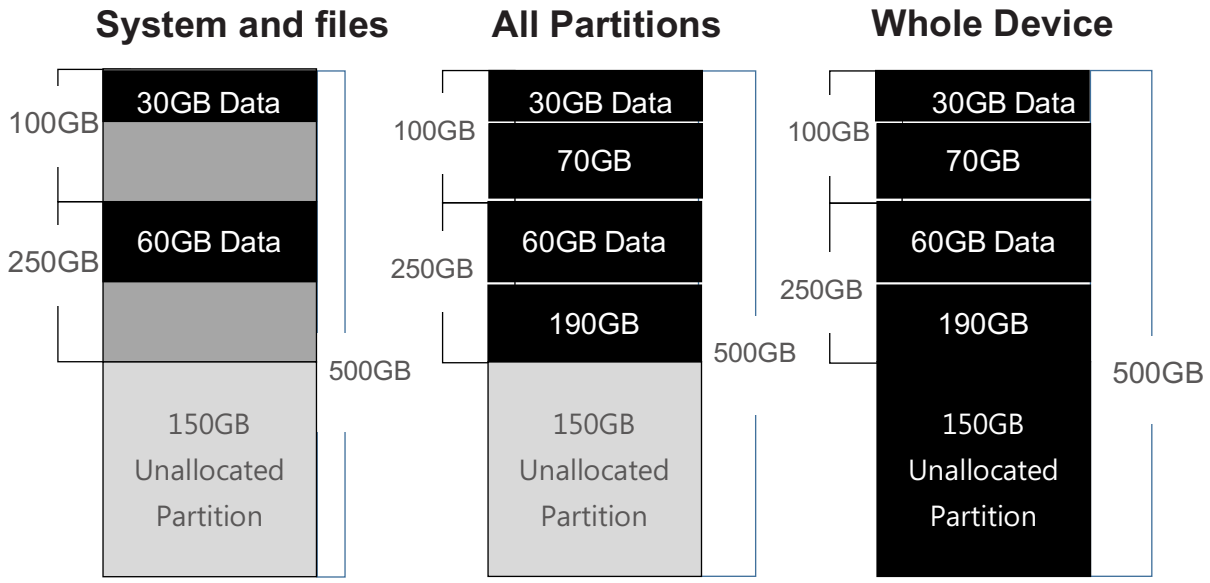
Sets which function is displayed powered on. The default setting is "1. Copy".

6.2 Copy Area

There are 5 submenu modes.
Scroll to select "6.2 Copy Area”, 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.



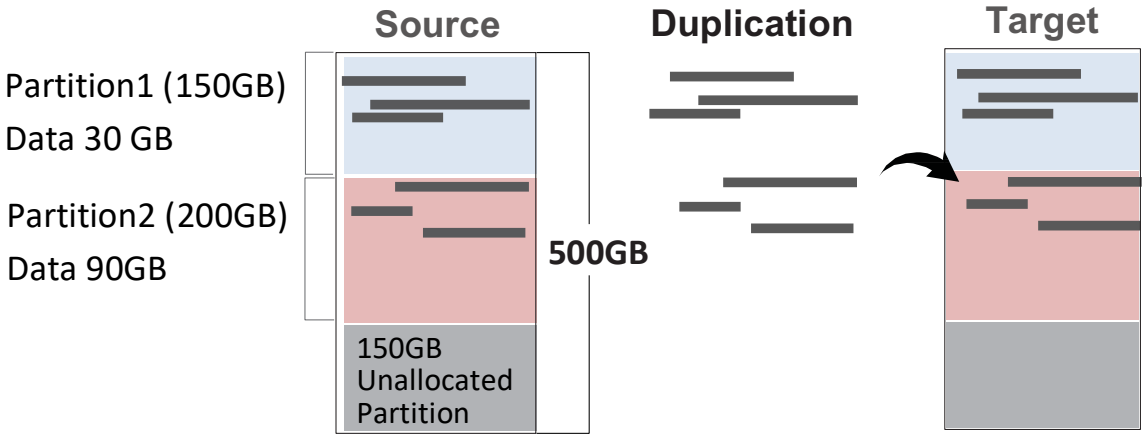
This function will analyze and copy only data and skip empty spaces.

This function will copy all data within the defined partitions.

This function will copy the entire device.

6.2.1 System and Files (Quick Copy data area only)

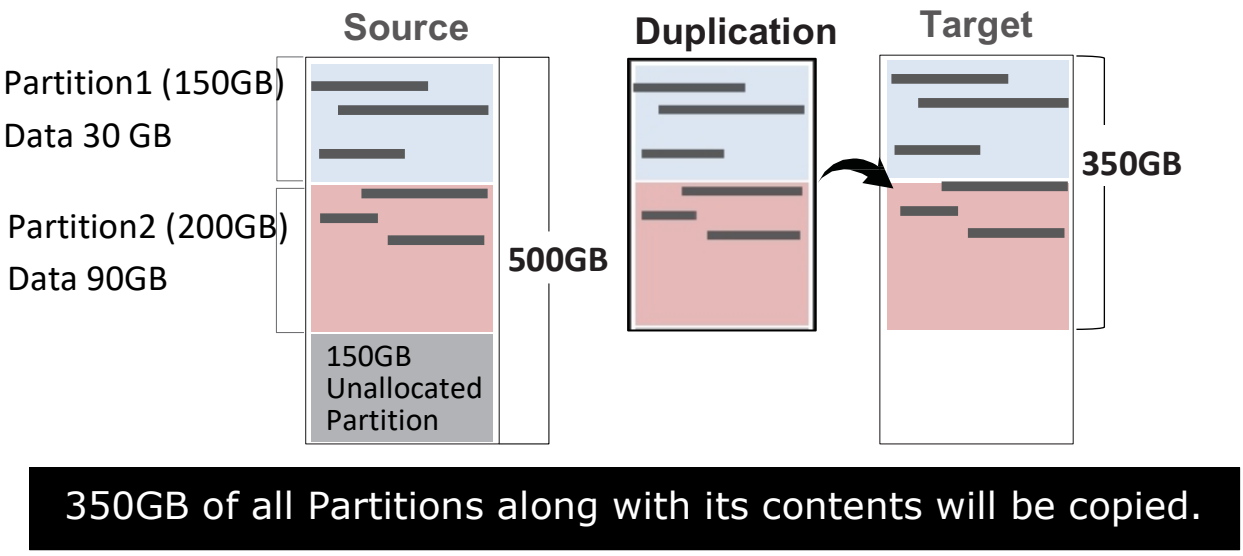
Copies data and skips empty space. Only supports standardized formats.
Scroll to select "System and Files", then press "OK" to save the copy method.
Allows user to copy source device's System and Files, instead of the entire device. The system will analyze the source device and identify the data area to copy. If the source device's data is within the target device's capacity, the copy will be processed. FAT16/32/exFAT, NTFS, EXT2/EXT3/EXT4/lvm, and HFS/HFS+/HFSX are supported in this copy mode.



Only 120G data area will be copied.

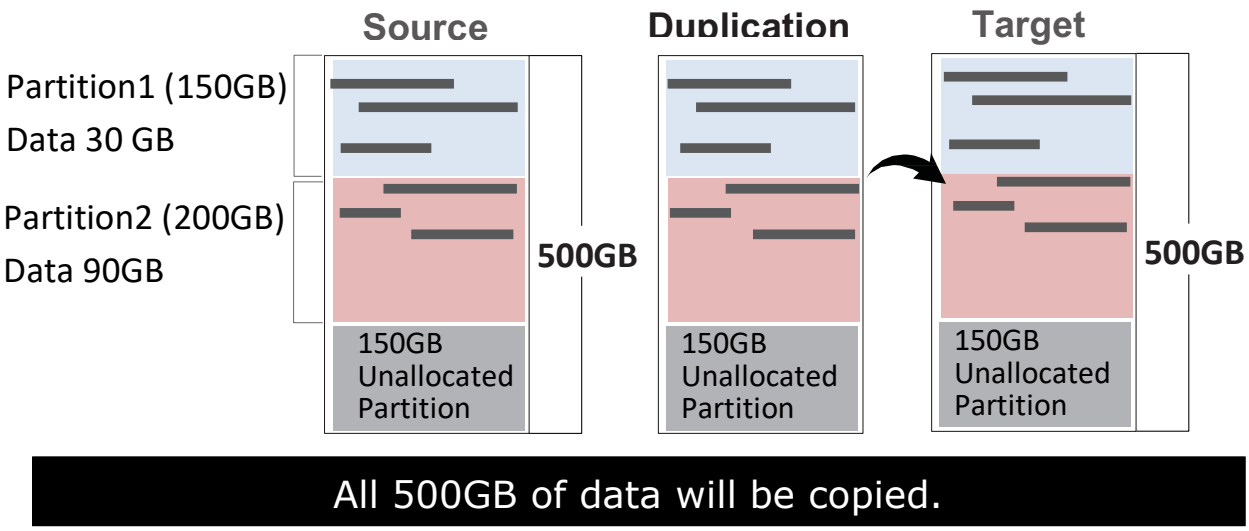
6.2.2 ALL Partitions

Copies all partitions and data, unallocated partitions not included.



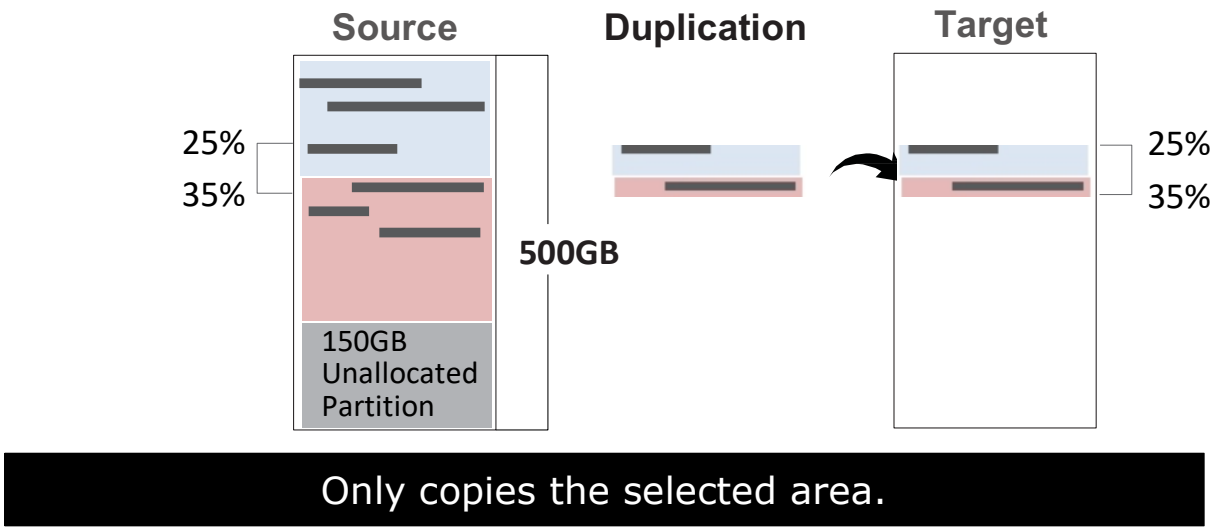
6.2.3 Whole HDD

Copies the whole source HDD, no matter the content, format, partition or empty space. This mode does not analyze the data.



6.1.4 Percentage (%)

Defines the selected percentage range of source HDD.



6.3 HPA Copy Mode

This menu contains submenus related to HPA Copy Modes.

❶ Do Not Copy HPA

Do not copy source device's HPA data and setting.

- **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.

❷ Set Target HPA

Do not copy the source device's HPA data but set the targets' HPA to be the same as the source HDD.

❸ Copy and Setting

Copy source HPA data and set to the target.

6.4 Skip Bad Sectors

This function sets the number of errors you would like to skip during copy / compare / erase process. The default is 0. You can choose 0-65535 or unlimited.

6.5 Erase Master

Setting to Enable allows erasure of source HDD. Please make sure this setting is correct before executing DoD erase. The default setting is" Disable".

❶ Disabled

Devices connected to source port cannot be erased.

❷ Enabled

Devices connected to source port can be erased.

6.6 Unknown Format

This function allows you to select whether to copy the unknown format areas. This function will only affect Quick Copy.

■ Copy Unknown

Copy all the unknown areas if device cannot identify the format during copy.

■ Skip Unknown

Skip the unknown areas if device cannot identify the format during copy.

6.7 Erase Pattern

Enable to select overwrite data pattern mode during erase.

■ ONE Byte

[00] or a fixed character will be written into every bite.

■ Big Random Data

A random character to be written into every bite.
It will show [4M] while erase.

6.8 Clear HPA at ERASE

■ Clear HPA Setting

Erase the existing HPA in the connected target device(s).

■ Keep HPA Setting

Retain all HPA in connected device(s) while erasing all non-HPA areas.

6.9 Mark after ERASE

Creates watermark on the device(s) after erase job is completed. This watermark will show when executing “5.1 Show Disk Info.”

6.10 Language

Select preferred language. You can select English or Japanese.

6.12 Restore Default

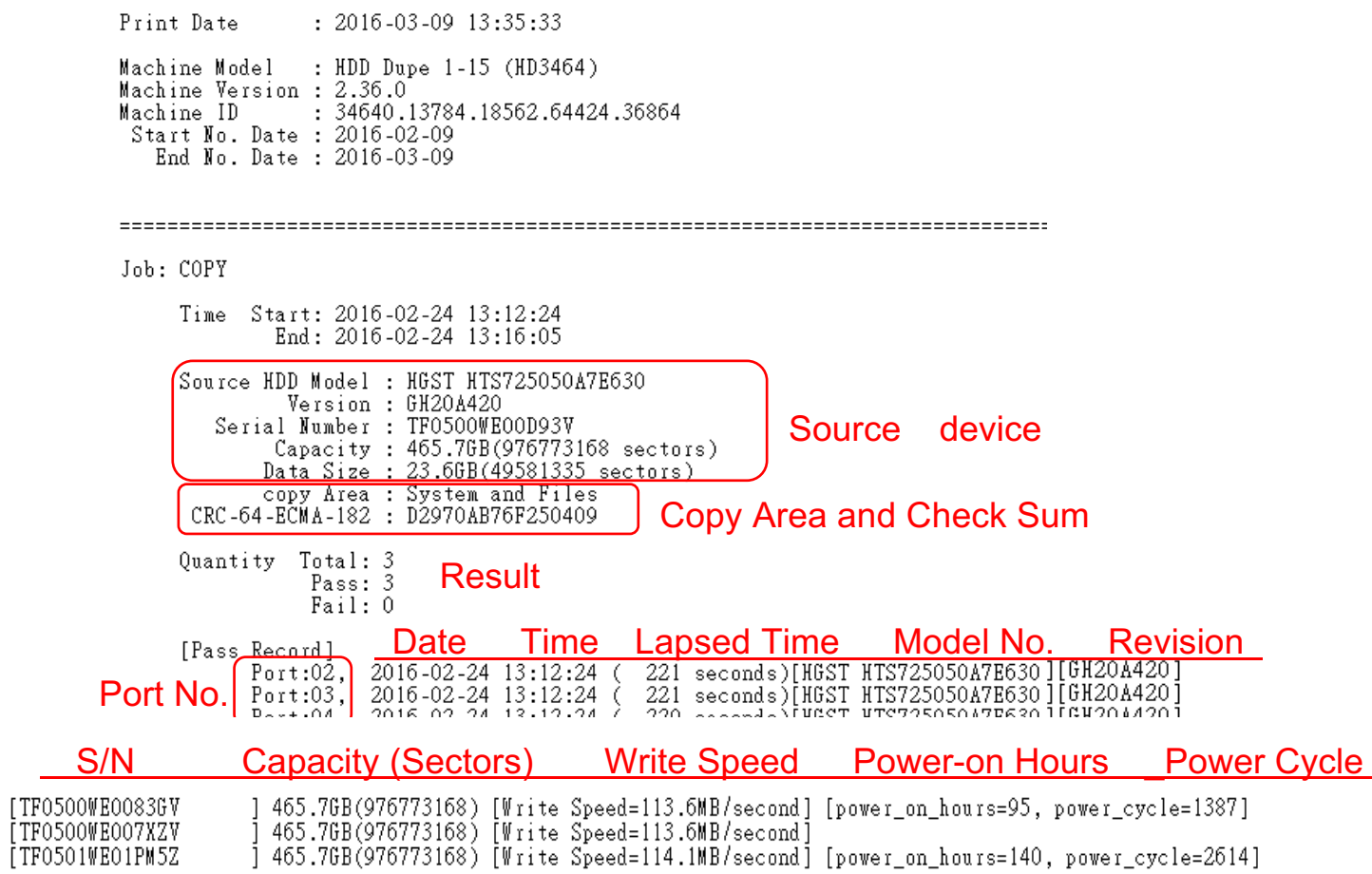
Select to go back to the manufacturer's default setting.

7. Log Manager

This menu allows users to access several submenus.

Scroll to select "7. Log Manager", then press "OK" access submenus.

I. Log Report Diagram



II. How to Export Log Reports

The Log Report Management Tool assists users with monitoring, recording, and managing the entire duplication process. By displaying detailed information for each port, this tool

helps to identify the slowest writing device that in turn, keeps the operation running efficiently.

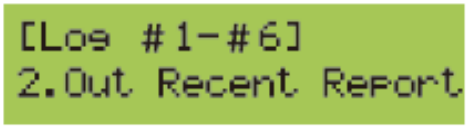
Note	1. The USB must be FAT16/FAT32 format. 2. The LCD will display the number of recorded logs. (E.g. #1-#6 means there are 6 logs.) 3. Outputs both .txt and .csv files.

❶ Export Today's Log Report

Export today's log report via USB port to a USB drive.

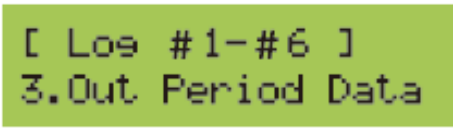
❷ Export Recent Log Report

Exports a recent log report (1-28 days) via USB port to a USB drive.



❸ Export Custom Log Report

Exports a specific time period's log report via USB port to a USB drive.



7.4 Advanced Function

This menu allows user to access several submenus.
Scroll to select "7.4 Advanced Function", then press "OK" access submenus.
Default password: 123456

7.4.1 Clear All Log

Clear all log records.
Scroll to select "7.4.1 Clear All logs", then press "OK" to clear all log records.

Caution	Before using function "Clear ALL Log" during PC connection, please observe the following steps: 1. Close the PC-Link software (LV07) or 2. Disconnect the duplicator from PC

	*The PC-Link software (LV07) is designed to continuously record log reports. If user executes “clear log records” on the duplicator while LV07 is still running, the conflict between LV07 and duplicator might lead a serious system error.

7.4.2 Password Setup

Allows password change.
Scroll to select "7.4.2 Password Setup”, then press "OK" to change to desired password.

Note	If you want to change your Log password, please keep your password in a safe place in case you lose it. Please understand that the manufacturer does not provide password reset service due to the consideration of personal privacy.

7.4.3 Adjust Clock

Change time and date.
Scroll to select "7.4.3 Adjust Time/Date”, then press "OK" to adjust the time and date.

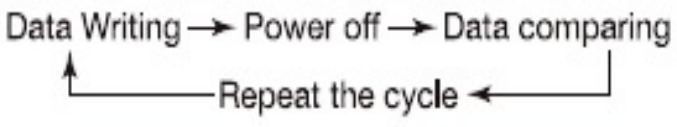
7.4.4 Add Watermark at text File

Creates watermark on the log report. The log report can be checked by software (iSecuLog.exe) to prevent modifying.

Note	Contact with supplier’s technical team for related software and operation details.

8. Burn-In

The Burn-In test contains three steps: data writing, power off, and data comparing (reading). Users can set writing loop, compare loop, power off time, and writing pattern as needed.



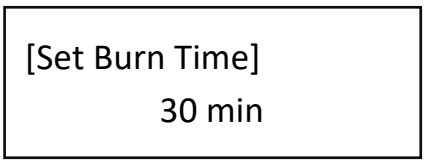
8.1 Run Burn-In

The Burn-In test on flash targets continually copies & compares source data. You could view related settings in the table below. The duplicator would abide by the last setting picked if users chose both “Burn Time” and “Loop Count.”

Note	This function does not require a source device.

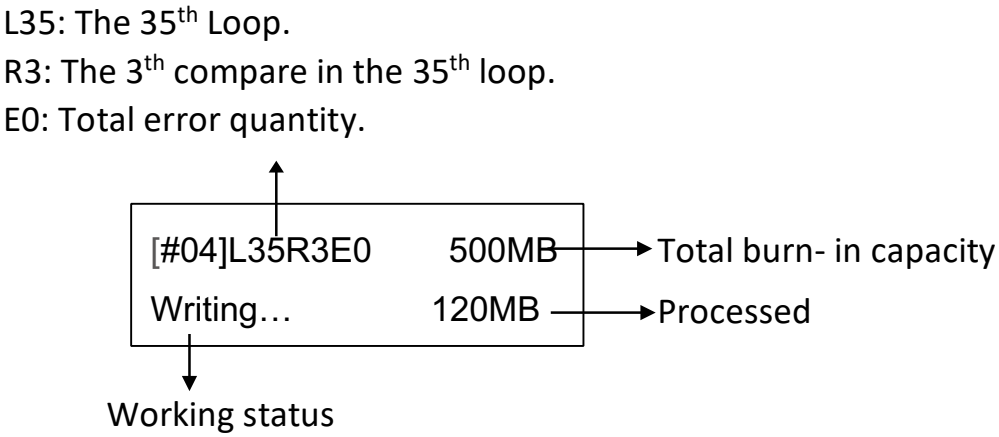
8.2 Set Burn Time

User can set the Burn-In test interval. The test time ranges from 30 mins to 30 days.



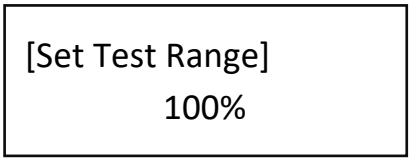
8.3 Set Loop Count

Sets the flash media's Burn-in test loop quantity. Each loop contains 3 processes: writing, power off, and comparing. The loop quantity can be set from 0 to 99999.



8.4 Set Test Range

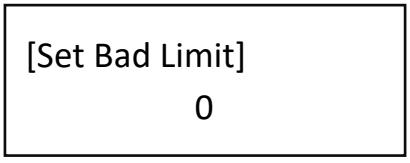
Sets the flash media test range. The range can be set from 1% to 100%.



Note	"Test Range" setting is only available in [8.1 Burn-In].

8.5 Set Bad Limit

Sets the error tolerance. Tolerance can be set from 1-10000 bad sectors. The system will count per whole test, not per loop.



8.6 Set Read Count Per Loop

Sets the Read count in each loop during Data burn-in test. The range can be set from 0~999. The default setting is 3 times test per loop.

Note	“Set Read Count Per Loop” setting is only available in [8.1 Burn-In].

8.7 Set Power Off Second Between Loop

Sets the power off time range between loops. This can be set from 0 to 9999 seconds. The default setting is 60 seconds.

8.8 Set Power Off Between Write And Read

Sets the power off counts between each data writing and reading loop.

Specifications subject to change without notice.