Auto-detect Dual-interfaces M.2/SATA SSD Duplicator

User Manual

v A.06

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Product Disclaimer

U-Reach is not accountable for any incidental or consequential damages, including, but not limited to property harm, loss of time or data from use of any U-Reach product, or any other damages attributable to product malfunction or failure of including without limitation, those attributed to reliance of the materials provided, costs of product replacement, loss of use, data or profits, delays or business interruptions, any principle of legal responsibility arising from or in reference to the use, overall performance, delays in servicing, or lack of ability to render service of any U-Reach product. U-Reach makes every effort to ensure proper function of all products. However, the customer is responsible for verifying that the output of U-Reach product meets the customer's quality requirement. The customer further acknowledges that improper use of U-Reach products, software program, and/or hardware issues can cause loss of data, defective formatting, or unreliable data loading. U-Reach will make efforts to resolve or repair any issues recognized by customer either within the warranty period or on a time and materials basis. Specifications and features are 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 extended warranty may be purchased. Telephone and email support are available for the life of the product as defined by U-Reach.

All warranties are specific to a market region and will be defined per the market region in which the product was purchased.

Piracy Statement

U-Reach accepts no responsibility for copyright infringement or misuse of any U-Reach equipment. Copying any form of data (audio, video, or software) without the permission of the copyright holder is illegal. It is the sole responsibility of the user to ensure that the legal copyrights of the copyright owners are respected.

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 U-Reach 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 the socket.
- Never turn off the power while the firmware 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 HDDs.
- Static electricity may cause duplication error. Please pay attention to the duplicator's environment and 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.

Functions Table

<table>
<tr><th>Functions</th><th colspan="2">Descriptions</th></tr>
<tr><td>1. Copy</td><td colspan="2">Copies data from source device to targets. (There are four copy modes in function "6.2 Copy Area")</td></tr>
<tr><td>2. Compare</td><td colspan="2">Verifies the targets to the source device to ensure copy accuracy.</td></tr>
<tr><td>3. Copy+Compare</td><td colspan="2">Automatically launches compare function after copy is completed.</td></tr>
<tr><td rowspan="5">4. Erase</td><td colspan="2">4.1 Quick Erase
Erases device(s)’ index table.</td></tr>
<tr><td colspan="2">4.2 Full Erase
Erases entire device(s) complying with NIST 800-88 Standards.</td></tr>
<tr><td colspan="2">4.3 DoD Erase
Erases device(s) complying with DoD 5220.22-M Standards.</td></tr>
<tr><td colspan="2">4.4 DoD EraseComp
Erase device(s) complying with DoD 5220.22-M Standards and verifies complete erasure.</td></tr>
<tr><td colspan="2">4.5 Secure Erase
Erases the non-loadable areas complying with NIST 800-88 Standards.</td></tr>
<tr><td>5. Utility</td><td colspan="2">4.6 Enhanced Secure Erase
Erases devices that support this feature.</td></tr>
<tr><td rowspan="4">5. Utility</td><td colspan="2">5.1 Show Device Info
Displays basic information such as device model, name, capacity, etc.</td></tr>
<tr><td rowspan="2">5.2 Update System
Updates system firmware through the USB port.</td><td>5.2.1 Update BIOS
Updates system firmware through the source port.</td></tr>
<tr><td>5.2.2 Create Update HDD
Prepares by formatting the device to a 2GB FAT partition to accept firmware file.</td></tr>
<tr><td colspan="2">5.3 System Info
Displays system information such as controller, model number, software version, etc.</td></tr>
<tr><td colspan="2">5.4 Calc. CRC64
Calculates the CRC64 value of the source device.</td></tr>
</table>

<table>
<tr><td rowspan="11">6. Setup</td><td colspan="3">6.1 Start-up Menu
Sets default function to display during equipment initialization.</td></tr>
<tr><td rowspan="4">6.2 Copy Area</td><td colspan="2">6.2.1 System and Files
Copies data and skips empty space. Only supports standard formats.</td></tr>
<tr><td colspan="2">6.2.2 All Partitions
Copies or skips HPA, DCO, unknown partitions, modified formats, etc. defined by settings.</td></tr>
<tr><td colspan="2">6.2.3 Whole HDD
Copies all source data, bit-by-bit.</td></tr>
<tr><td colspan="2">6.2.4 Percentage (%)
Sets percentage of source capacity to copy.</td></tr>
<tr><td colspan="3">6.3 Copy GPT Backup Area
Enable this function to copy the end GPT format.</td></tr>
<tr><td colspan="3">6.4 Skip Bad Sectors
Skips source bad sectors.</td></tr>
<tr><td colspan="3">6.5 Language
Sets preferred language.</td></tr>
<tr><td rowspan="6">6.6 Advanced Setup</td><td rowspan="2">6.6.1 Unknown Format</td><td>Copy Unknown
Copies unknown format(s).</td></tr>
<tr><td>Skip Unknown
Skips unknown format(s).</td></tr>
<tr><td rowspan="2">6.6.2 Erase Master</td><td>Disabled
Source port will be unable to erase.</td></tr>
<tr><td>Enabled
Source port will be able to erase.</td></tr>
<tr><td rowspan="2">6.6.3 Erase Pattern</td><td>One Byte
Random character written per byte.</td></tr>
<tr><td>Big Random Data
Random character written in a set of area.</td></tr>
</table>

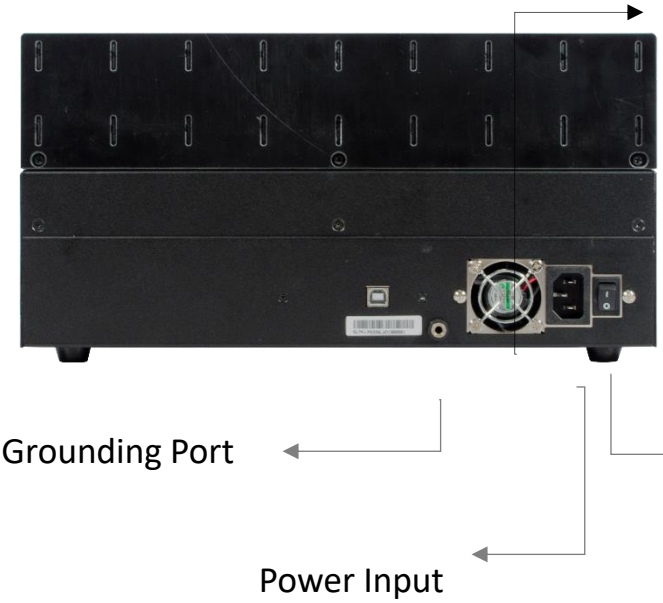
<table>
<tr><td rowspan="12"></td><td rowspan="12"></td><td colspan="2">6.6.4 Wait HDD Time
Sets device power up buffer time prior to copy, erase, etc.</td></tr>
<tr><td rowspan="2">6.6.5 Lock Key</td><td>Do Not Lock Key</td></tr>
<tr><td>Do Lock Key
Only down/up buttons are disabled. Reboot system for setting to be in effect.</td></tr>
<tr><td colspan="2">6.6.6 Stop Motor Time
Sets device power down buffer time prior to device disconnection.</td></tr>
<tr><td colspan="2">6.6.7 Boot Password
Sets up the login password.</td></tr>
<tr><td rowspan="2">6.6.8 Delete Disk Signature After Copy</td><td>No</td></tr>
<tr><td>Yes
Do not copy the disk signature onto target devices.</td></tr>
<tr><td colspan="2">6.6.9 PCIe Speed
Sets data transmission speed.</td></tr>
<tr><td colspan="2">6.6.10 Target Tolerance
Sets the capacity tolerance range between the source and target. The default setting is “No limit”.</td></tr>
<tr><td rowspan="2">6.6.11 Clean SSD Before Copy</td><td>No
The default setting is “No”.</td></tr>
<tr><td>Yes</td></tr>
<tr><td colspan="3">6.7 Restore Defaults
Reinstates manufacturer settings.</td></tr>
<tr><td rowspan="3">7. Log Manager
(Available in H Series)</td><td colspan="3">7.1 Today’s Log Report
Outputs today’s log data.</td></tr>
<tr><td colspan="3">7.2 Recent Log Report
Outputs recent log data.</td></tr>
<tr><td colspan="3">7.3 Custom Log Report
Outputs a set period of log data.</td></tr>
</table>

	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 Time/Date Change time and date.
		7.4.4 Add Watermark at text File Creates watermark on the log report.
8. Burn-In *(Available in H Series)*	**8.1 Run Burn-In** Automatically performs the Burn-in test on target ports.	
	8.2 Set Loop Count Sets the Burn-In test loop count. Each test loop contains a writing & comparing test.	
	8.3 Set Run Time Sets the Burn-In test duration.	
	8.4 Set Test Range Sets the flash card test range.	
	8.5 Set Data Pattern Sets the burn-in test writing pattern.	
	8.6 Set Bad Limit Sets the Burn-In test error tolerance.	
	8.7 Set Power Off Second Between Loop Sets the power off time between each loop.	
	8.8 Set Power Off Between Write And Read Sets the power off time between data writing and reading.	
	8.9 Output Report Output log report of Burn-In function.	
	8.10 Clear Burn-In Report Clear log report of Burn-In function.	

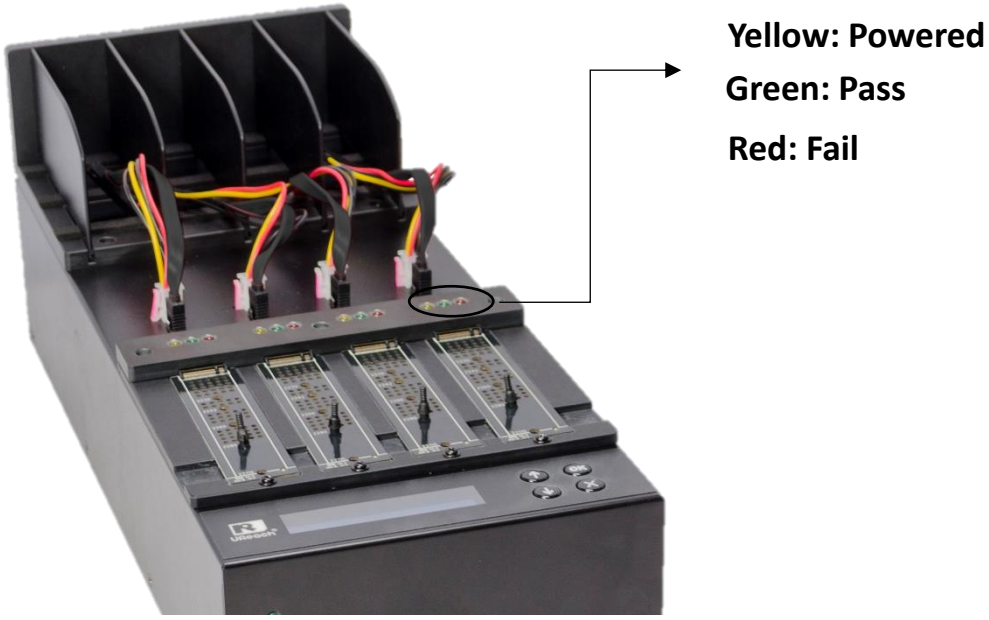
Product Overview

- Front View

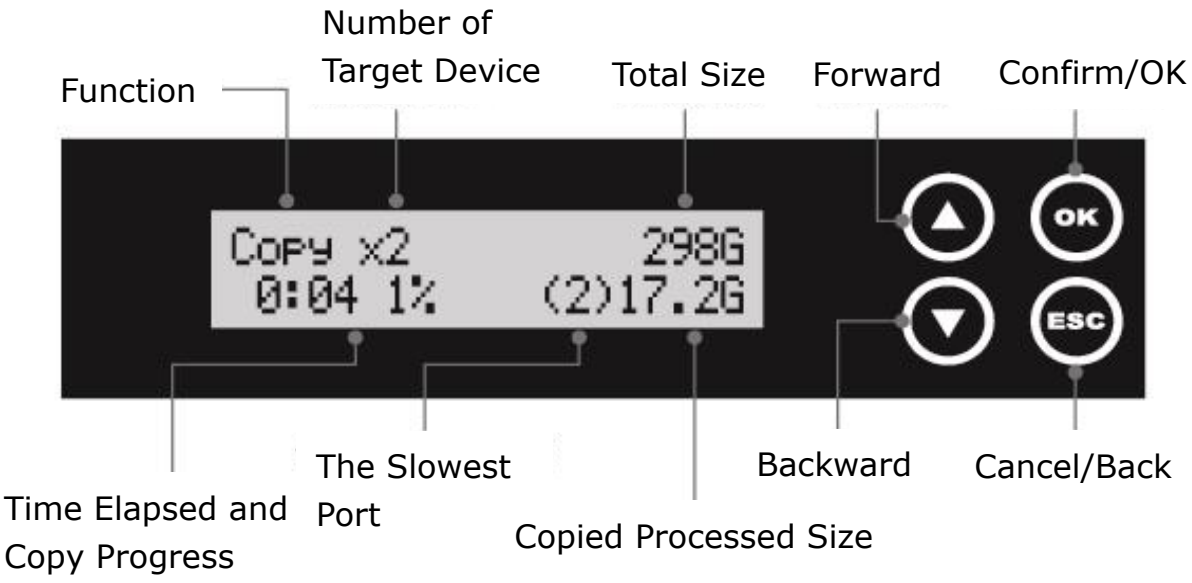
- Back View



- LED Status



- LCD Configuration



Functions

1.Copy

Step 1: Prepare source and target devices.

Note	Recommendation: Target device(s)' capacity must be equal to or larger than the source device capacity.

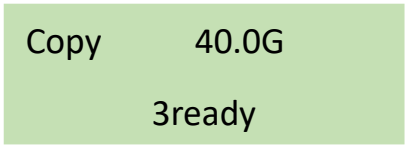
Step 2: Connect source and target devices.

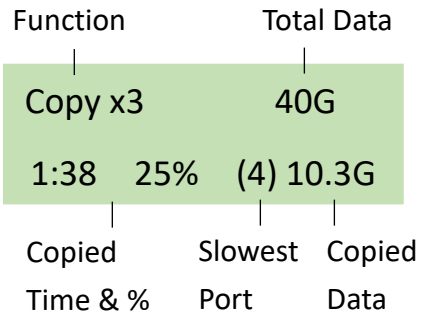
Step 3: Proceed to copy.

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.





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 select which source to verify from.

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, then Compare.
Scroll to select "3. Copy+Compare", then press "OK" to start the automated duplication and verification process.

4. Erase

Caution	Please backup all important data before using this function.

Step 1: Connect device(s) for sanitizing.

Note	Source Port is disabled for erasing. Go to “Erase Master” to enable source port erasing.

Step 2: Enter function “4. Erase”

Scroll to select “4. Erase”, then press “OK” to view the 5 submenus.

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 to the connected device(s).
Scroll to select “4.2 Full Erase”, then press “OK” to start the erasing process.

4.3 DoD Erase

This function will erase all data per DoD 5220.22-M Standards of the connected device(s).
Scroll to select “4.3 DoD Erase”, then press “OK” to start the erasing process.

4.4 DoD EraseComp

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

4.5 Secure Erase

This function erases the non-loadable areas complying with NIST 800-88 Standards.
Scroll to select "4.5 Secure Erase ", then press "OK" to start the erasing process.

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

4.6 Enhanced Secure Erase

This function erases devices that supports this feature.
Scroll to select "4.6 Enhanced Secure Erase", then press "OK" to start the erasing process.

Note	Although Secure Erase/ Enhanced Secure Erase is a command of the SATA-specification, not all SATA devices can support it. When a device that cannot be supported is encountered, the LCD will display Not Support!

5. Utility

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

5.1 Show Disk 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 System Update

There are 2 system update methods.

❶ Through USB port.

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. ● Ensure that the device does not have any bad sectors.

Step 2: Proceed to update firmware

Connect USB drive to the USB port in front of the duplicator. Scroll to select “5.2.1 Update BIOS”, then press “OK” to start the firmware update process.

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.

❷ Through Source port.

Step 1: Prepare a device for update.

Connect a device to the source port. Scroll to select "5.2.2 Create Update HDD”, then press "OK" to start the format process. This will format the device to a 2GB FAT32 Partition.

Step2: Download Firmware.

Connect this device to PC. Download the latest firmware provided by supplier’s technical support, unzip the BIOS firmware, then save it to the root directory in the device.

Note	Ensure that the device does not have any bad sectors.

Step3: Proceed to update firmware.

Connect this device to the source port. Scroll to select "5.2.1 Update BIOS”, then press "OK" to start the firmware update process.

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). Then scroll through to view all information.

5.4 Calc. CRC64

This function will count the CRC64 value for the source port. The CRC64 value is an easy way to double check the source data is correct.

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

6. Setup

This menu will reveal submenus related to device information, system information and updates.
Scroll to select "6. Utility", then press "OK" to view the submenus.

6.1 Start-up Menu

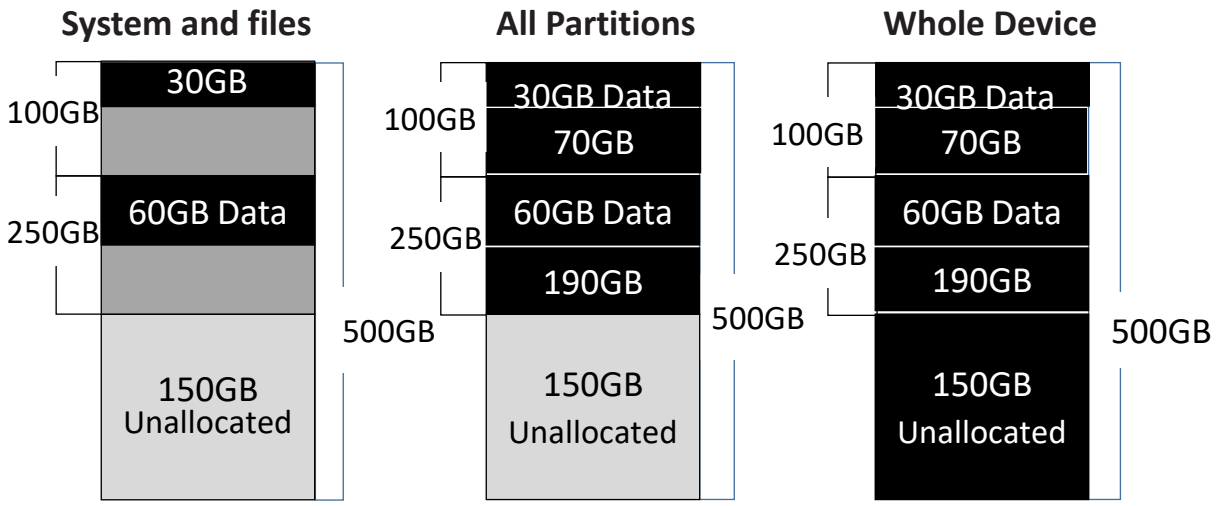
Sets which function is displayed powered on. The default setting is "1. Copy".

6.2 Copy Area

There are 4 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.

- Copy and Compare Preparations

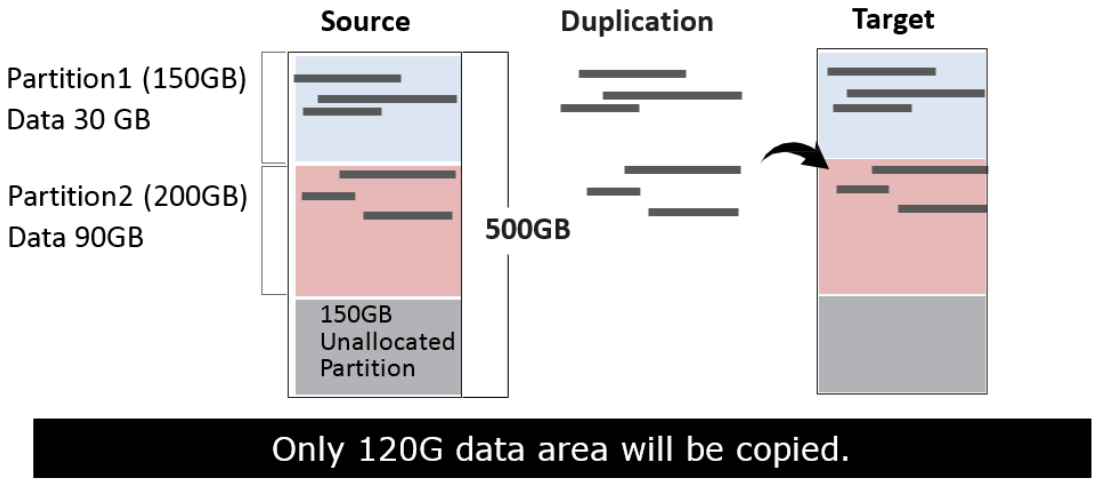
Please consider the following settings before proceeding with copy:
- Copy Area
- Copy GPT Back Area
- Skip Bad Sectors

Using appropriate copy modes can greatly reduce operation time and increase efficiency. There are four copy modes with different copy methods.

6.2.1 System and Files

Copies data and skips empty space. Only supports standard formats.
Scroll to select “6.2.1 System and Files”, then press “OK” to save the copy method.

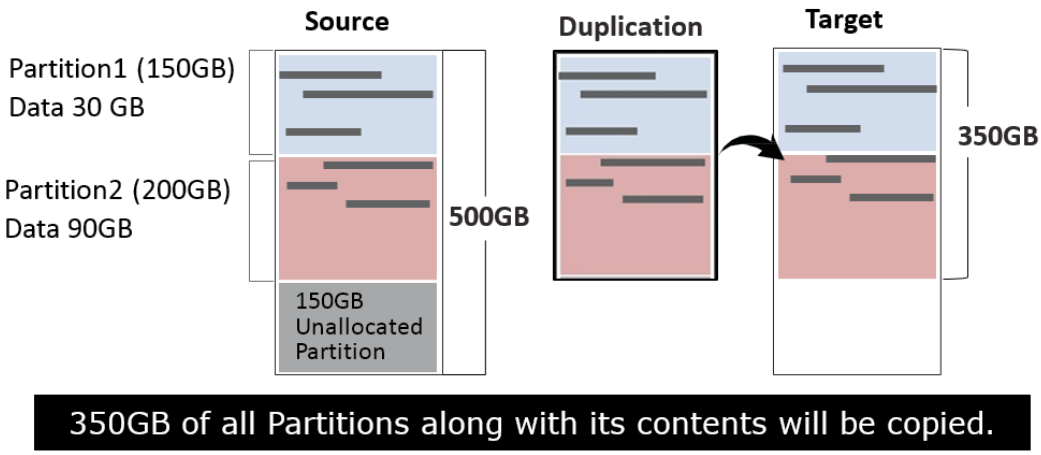
Allows user to copy source device’s System and Files, instead of the entire device. The system will analyze the source device and identify the data area to copy. If the source device’s data is within the target device’s capacity, the copy will be processed. FAT16/32/64, NTFS, EXT2/EXT3/EXT4/XFS/LVM,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



6.2.2 All Partitions

Copy or skip HPA, DCO, unknown partitions, modified formats, etc. defined by settings.
Scroll to select “6.2.2 All Partitions”, then press “OK” to save the copy method.

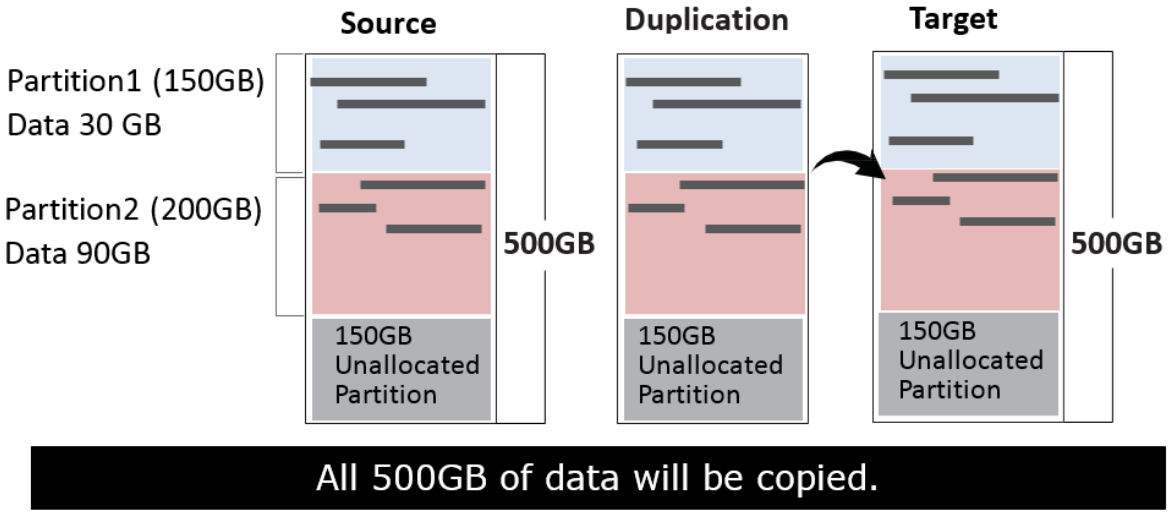
The target device’s capacity must be equal to or larger than the source device’s capacity.



6.2.3 Whole HDD

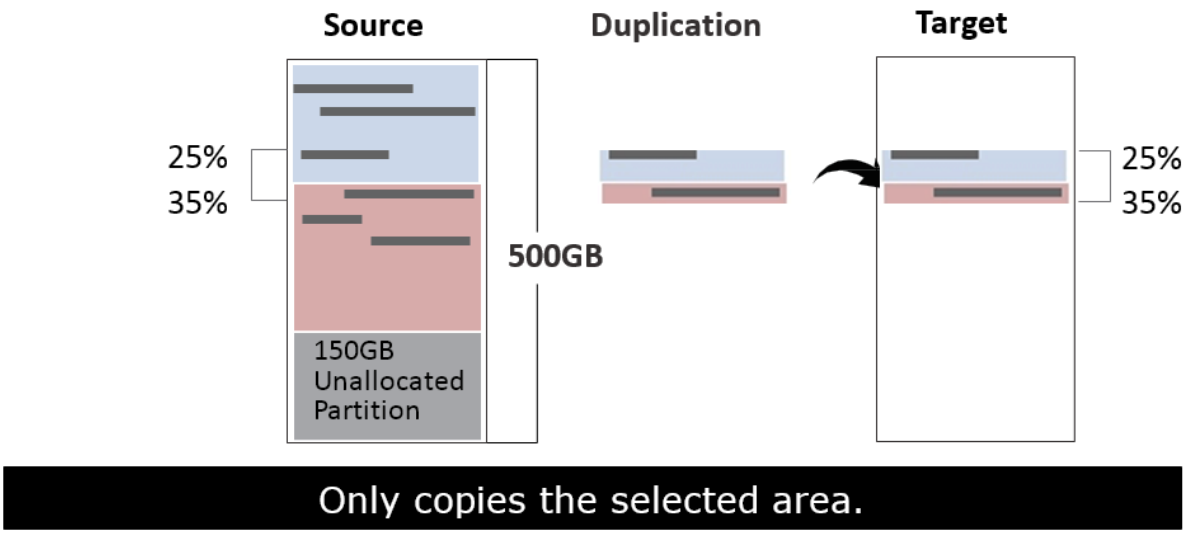
Copies all source data, bit-by-bit.
Scroll to select “6.2.3 Whole HDD”, then press “OK” to save the copy method.

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



6.2.4 Percentage (%)

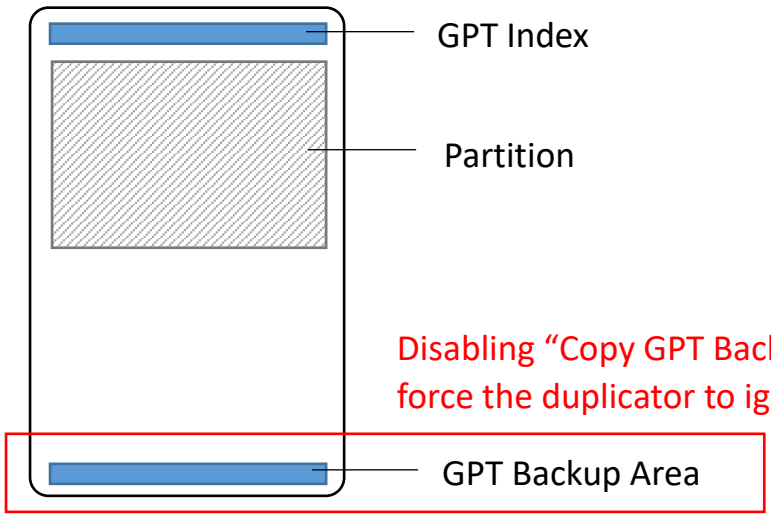
Select percentage of source capacity to copy.
Scroll to select “6.2.4 Percentage”, then press “OK” to save the copy method.



6.3 Copy GPT Backup Area

Disabling this function allows the duplicator to copy from big capacity device to small capacity device(s).

Note	The partition size of the source HDD must be smaller than target capacity.



Caution	If function is disabled, the target HDD will reconstruct the GPT Backup Area by Windows system. It may require the HDD to restart in order to work.

6.4 Skip Bad Sectors

Skip source bad sectors.

Scroll to select “6.4 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.

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

6.5 Language

Select English, Japanese, Spanish.
Scroll to select “6.5 Language”, then press “OK.” Then scroll through select the desired language.

6.6 Advanced Setup

This function contains settings to fine tune copy and erase functions.
Scroll to select “6.6 Advanced Setup”, then press “OK” to view the submenus.

6.6.1 Unknown Format

This function only works with copy functions: “System and Files” and “All Partition”.
Scroll to select “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.

■ Copy Unknown

Copy unknown format(s).
Scroll to select “Copy Unknown”, then press “OK” to save this setting.

■ Skip Unknown

Skip unknown format(s).
Scroll to select “Skip Unknown”, then press “OK” to save this setting.

6.6.2 Erase Master

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

■ Disabled

Source port will not be allowed to erase.
Scroll to select “Disabled”, then press “OK” to save this setting.

■ Enabled

Source port will be allowed to erase.
Scroll to select “Enabled”, then press “OK” to save this setting.

6.6.3 Erase Pattern

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

- One Byte

Random character written per byte.
Scroll to select “One Byte”, then press “OK” to save this setting.

- Big Random Data

Random character written in a set of area.
Scroll to select “Big Random Data”, then press “OK” to save this setting.

6.6.4 Wait HDD Time

Set device power up buffer time prior to copy, erase, etc…
Scroll to select “Device Power Up”, then press “OK” to set buffer time.

6.6.5 Lock Key

This function allows users to enable or disable the 4 control panel buttons.
Scroll to select "Lock Key”, then press "OK" to access available settings.

❶ Disabled
Scroll to select "Lock Key >> Do NOT Lock Key”, then press "OK" to save this setting.

❷ Enabled
Scroll to select "Lock Key >> Do Lock Key”, press "OK," then reboot the system to activate the setting.

6.6.6 Stop Motor Time

Set device power down buffer time prior to device disconnection.
Scroll to select “6.6.6 Stop Motor Time”, then press “OK” to set buffer time.

6.6.7 Boot Password

Sets up the login password for system.

- Disabled
  No need password to start-up the system.
- Enabled
  Requires the password to start-up the system.

Caution	The system has to be sent back for reset if the password is forgotten.

6.6.8 Delete Disk Signature After Copy

Set at “Yes” means do not copy the disk signature part.
This function is for Windows only. Windows will only recognize one device if you connect two or more with the same disk signature.

Caution	“Compare” function will always Fail if “Delete Disk Signature After Copy” is set at “Yes.”

6.6.9 PCIe Speed

Sets data transmission speed at “Normal” or “Low Speed.”

6.6.10 Target Tolerance

This function sets the capacities tolerance range between the source and target device. If the capacity is outside the tolerance range, the copy will fail.

6.6.11 Clean SSD Before Copy

Sets to clear SSD before copy function. The default setting is “No”.

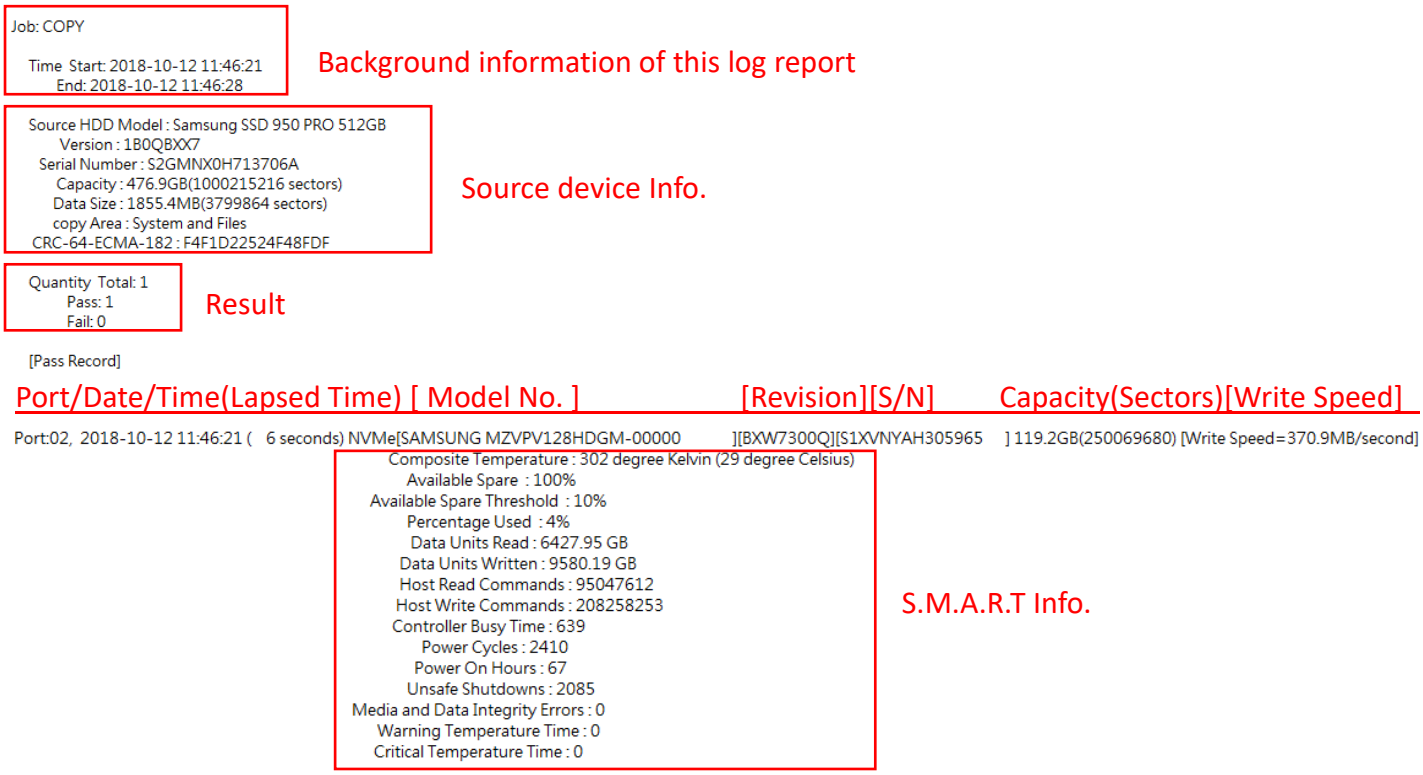
6.7 Restore Defaults

Restores all setting to manufacture defaults. Scroll to select “Restore Defaults”, then press “OK” to restore settings back to manufacture defaults.

7. Log Manager *(Available in H Series)*

This menu allows user 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.)

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.

7.1 Today's Log Report

Outputs current day log report
Scroll to select "7.1 Today's Log Report", then press "OK" to output log report to a USB drive.

7.2 Recent Log Report

Outputs recent log report
Scroll to select "7.2 Recent Log Report", then press "OK" to output log report to a USB drive.

7.3 Custom Log Report

Outputs recent log report
Scroll to select "7.3 Custom Log Report", then press "OK" to output log report 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 Logs

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

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 Time/Date

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 to text File

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

Note	Contact our technical team for details.

8. Burn-In *(Available in H Series)*

8.1 Run Burn-In

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

8.2 Set Loop Count

Sets the media's Burn-in test loop quantity. Each loop contains 3 processes: writing, power off, and comparing. The loop quantity can be set from 1 to 99999.

8.3 Set Run Time

User can set the Burn-In test interval. The test time ranges from 1 to 99999 hours.

8.4 Set Test Range

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

8.5 Set Data Pattern

Sets the Burn-In test writing value. There are two data patterns:

- Auto Pattern

The default value will be used during burn-in test. Default value is random repetition of FF and 00.

- User Defined

Users can manually indicate which value to use during burn-in test. The setting is only 1 byte.

8.6 Set Bad Limit

Sets the error tolerance. Tolerance can be set from 1-34463 bad sectors. The system will count per whole test, not per loop.

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. Default is 60 seconds.

8.8 Set Power Off Between Write and Read

Sets the power off time range between writing and reading. This can be set from 0 to 9999 seconds. Default is 0 second.

8.9 Output Report

Output log report of Burn-In function to the USB port. It records the setting of burn-in test and the S.M.A.R.T. Info of each device.

Note	Please note this function can only output the latest 3 records of the devices.

8.10 Clear Burn-In Report

Clear all log report of Burn-In function.

Specifications subject to change without notice.