MT/MTC CRU Series

CRU HDD Duplicator and Sanitizer

User Manual v7.4

Index

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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 of its products (excluding cables, adapters, and other consumable items). An optional extended warranty is also available for an added cost. Telephone and email support are 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 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 a socket.
- Never turn off the power while the firmware is updating.
- Use only approved, stable power sources.
- 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 devices.
- Static electricity may cause duplication error. Please pay attention to the duplicator's environment while operating equipment. Purchasing electricity elimination equipment helps avoid shock.

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

The MT-CRU series is an ultra high speed duplicator and each SATA port is independent. That's why no matter how many targets are running it'll provide the same performance speed, far beyond PC-based duplicator capabilities.

The MT-CRU series device duplicator is specially designed for professional use. The smart Quick Copy mode supports FAT16/32/64, Windows NTFS, Linux ext2/3/4, and Mac HFS/HFS+/HFSX formats which can copy only data contained area that provides increased production efficiency. Furthermore, the innovative interface design allows for effortless device swapping during operation, which reduces time and effort throughout repairing.

Complies with the U.S. Department of Defense's erasing standard (DoD 5220.22 M) and Secure Erase (NIST 800-88). It is important to ensure that data contained on discarded devices cannot be retrieved and can be securely transferred.

Product Features

Operation Type

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

Controller Design

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

Bandwidth Performance

MT-GCRU speed transfers of up to 9.0GB/min., MTC-HCRU speed transfers of up to 15.0GB/min., MT-HCRU speed transfers of up to 18.0GB/min. All systems have dedicated bandwidth enables high volume replications without speed degradation.

Read Only Source Port

There is no option to disable this built-in feature, and it is integrated with all U-Reach duplicators.

Module Design

Modular ports effectively reduce downtime and are cost-effective for long term ownership.

Real-Time PC Monitoring

View live status for: writing/reading speeds, total capacity, current function progress per port.

Event Log Management

Exclusive Log management records details on each port such as serial number and source device flow for improved production control.

Hardware Overview

Front View

USB port for Log Report Outputs and Firmware Updates.

LCD Display

Control Buttons

Back View

Daisy-Chain Output Port

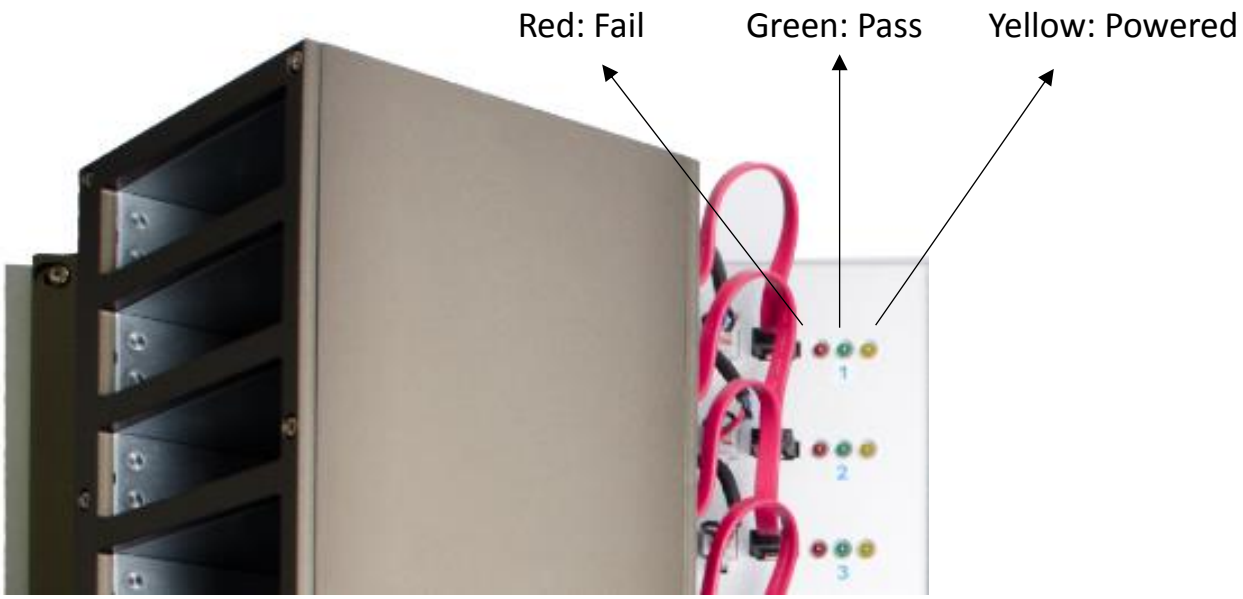
Daisy-Chain Input Port

USB Port for PC-Link

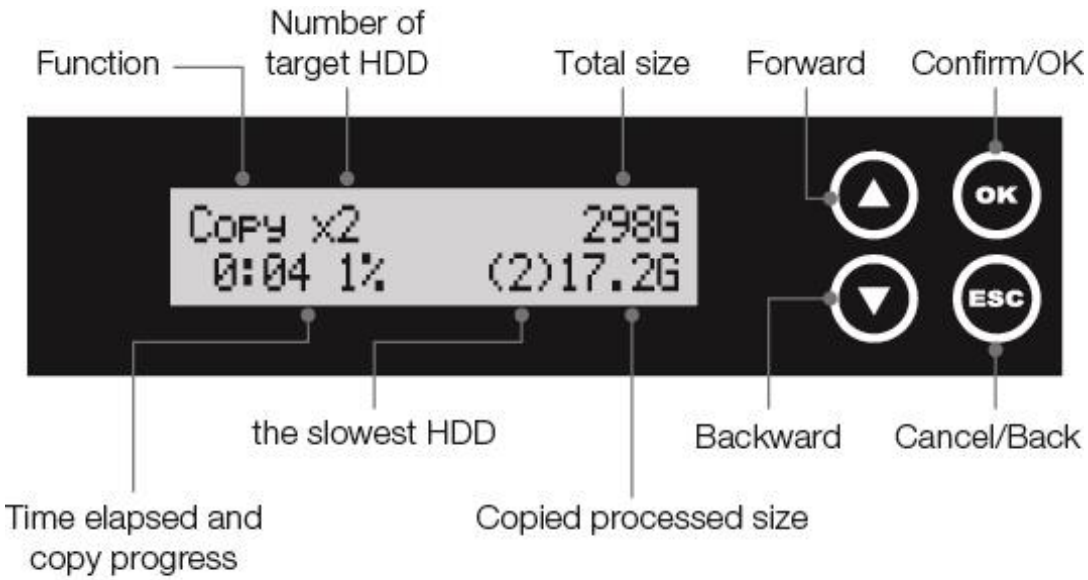
Grounding Port

Power Input

LED Indicator

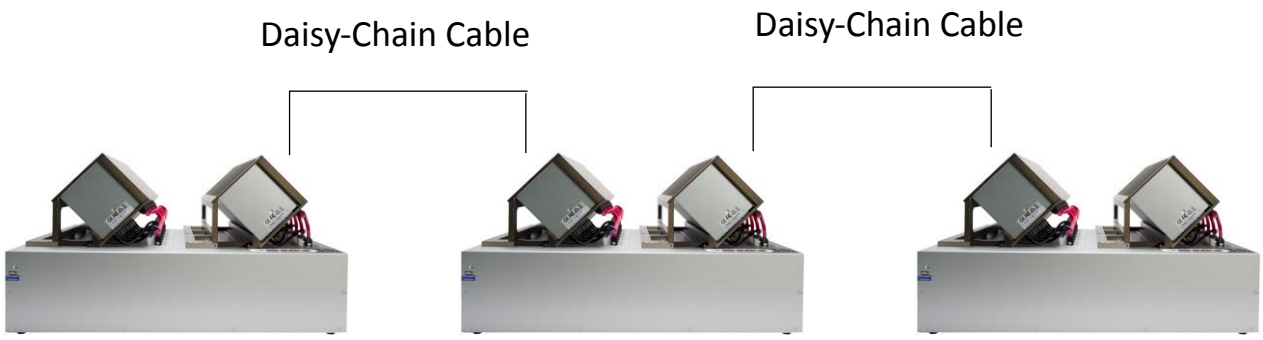


LCD Configuration



Daisy-Chain Connection (Available in MTC Series)

Front View



Back View

Caution	If the connection is successful, then the connected units will display “Networked Duplicator” on the LCD screen and will disable the control buttons.

Functions Table

Function	Descriptions	
1. Copy	Copies data from source device to targets. (There are four copy modes in function "6.2 Copy Area")	
2. Compare	Compares the source and targets 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 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.	
	4.8 US Army AR 380-19 Erases device(s) complying with "Army Regulation 380-19" by the US Army.	
5. Utility	**5.1 Show Disk Info.** Displays basic information such as device model, name, capacity, etc.	
	5.2 Update System	**5.2.1 Update BIOS** Updates system firmware by any device at the source port or through the USB port.

			5.2.2 Create Update HDD Prepares by formatting the device to a 2GB FAT partition to accept firmware file.
	5.3 System Info. Displays system information such as controller, model number, software version, etc.		
	5.4 Verify HDD Scans device for any bad sectors by reading and writing.		
	5.5 Strict Verify HDD Scans device for any bad sectors by reading and writing two times.		
6. Setup	**6.1 Start-up Menu** Sets default function to display during equipment initialization.		
	6.2 Copy Area	System and Files Copies data and skips empty space. Only supports standard formats.	
		ALL Partitions Copies all partitions and data, unallocated partitions not included.	
		Whole HDD Copies all source data, bit by bit.	
		Percentage (%) Sets percentage of source capacity to copy.	
	6.3 Copy GPT Backup Area Enable this function to copy the end GPT format.		
	6.4 Skip Bad Sectors Skips bad sectors during Copy/Compare/Erase.		
	6.5 Minimum Speed Allows user to disable or set minimum threshold speed during Copy/Compare/Erase.		
	6.6 Check Source Minimum Speed Allows user to enable or disable the 1st port speed check during Copy/Compare/Erase.		
	6.7 Language Sets preferred language: English or Japanese.		

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Allows user to copy or skip unknown format(s).</td></tr>
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Allows user to erase the source port or not.</td></tr>
<tr><td colspan="3">6.8.3 Erase Pattern
Sets whether to overwrite data in one-byte or Big random data.</td></tr>
<tr><td colspan="3">6.8.4 Wait HDD Time
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<tr><td>Clear Target HPA
Does not copy HPA data and clears target device’s HPA setting.</td></tr>
<tr><td colspan="2">Setting Target HPA
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<tr><td colspan="2">Copy and Setting
Copies HPA setting and data from source device to target.</td></tr>
<tr><td rowspan="2">6.8.7 Clear HPA at ERASE</td><td colspan="2">Clear HPA Setting
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<tr><td colspan="2">Keep HPA Setting
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		6.8.10 Boot Password Sets password for bootup.
	6.9 Restore Default Reinstates manufacturer settings.	
7. Log Manager	**7.1 Out Today Report** Outputs today's 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 Log** Clears all log records.
		7.4.2 Setup Password Allows password change.
		7.4.3 Adjust Clock Sets time and date.

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.

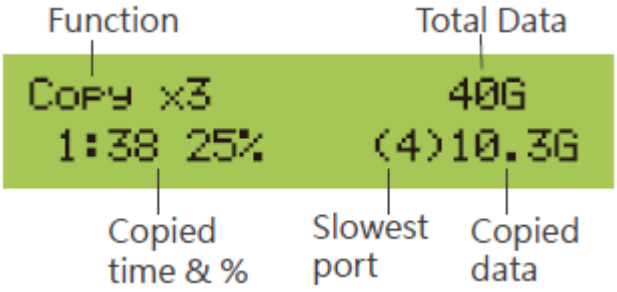
Step 2: Connect source and target devices.

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

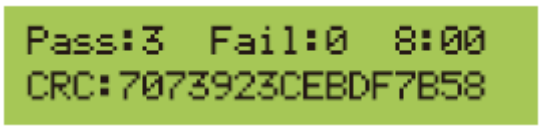


Note	● Press "▲▼" together for 5 seconds to stop operation on the slowest device. ● Press "ESC" for 5 seconds to stop all the copy process.

Caution	It is recommended to reboot the machine after manually stopping the copy.

Step 4: Copy Completed!

The quantity of passed or failed target device(s), the copied duration, and CRC64 will be displayed on the LCD after duplication completes.



Note	CRC64: During duplication, each port will simultaneously record written data and compare CRC64 between source and targets. The result will be conveyed with a green light (pass) or a red light (fail).

2. Compare

Proceed to verify device(s).

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.

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. Erase

There are 12 submenu modes.

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

Step 1: Connect device(s) for sanitizing.

Note	Source Port is disabled for erasing. Go to 6.8.2 to enable source port erasing.

Step 2: Enter function "4. Erase"

Scroll to select "4. Erase", then press "OK" to view the 8 erase modes.

Step 3: Select an Erase Function.

Here are a couple tips to see port details during erase:

- Press “▲” or “▼” to view real-time status of each port.
- Press “OK” to view the details of each port.

Step 4: Erase Completed

Here are a few tips to perform or stop an Erase job.

- Press “Asynchronous Erase Button” to start a new Erase job.
- Press “Asynchronous Erase Button” for 5 seconds to stop a single port.
- Press “ESC” for 5 seconds to stop all the erase jobs.

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 DoD Erase

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

Scroll to select "4.4 DoD EraseComp", then press "OK" to start the erasing and verifying 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.

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.
Scroll to select "4.7 Enhanced Secure Erase", then press "OK" to start the erasing process.

4.8 US Army AR 380-19

This function will erase device(s) complying with Army Regulation 380-19 by the US Army.
Scroll to select "4.8 US Army AR 380-19", then press "OK" to start the erasing process.

5. Utility

This menu contains submenus related to device information, system information and updates.
Scroll to "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 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 Update System

There are 2 system update methods.

❶ Through USB Port

Step 1: Prepare a USB drive for update.

Connect a USB drive to a PC. Download the latest firmware provided by U-Reach technical support, unzip the BIOS firmware, then 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 "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. U-Reach 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 BIOS Format”, 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 U-Reach 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. U-Reach will not be held responsible for any damages.

5.3 System Info

This function will display basic information such as controller, model number, software version, etc.

Scroll to select "5.3 System Info”, then press "OK" to view all information.

5.4 Verify HDD

This function scans device for any bad sectors by reading and writing.

Scroll to select "5.4 Verify HDD”, then press "OK" to initiate process. Then scroll through to view connected device(s) by port order.

5.5 Strict Verify HDD

This function scans device for any bad sectors by reading and writing two times.

Scroll to select "5.5 Strict Verify HDD”, then press "OK" to initiate process. Then scroll through to view connected device(s) by port order.

6. Setup

This menu contains 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

This function allows user to select the default function to display during equipment initialization.

Scroll to select "6.1 Start-up Menu”, then press "OK.” Then scroll through the available menus for startup.

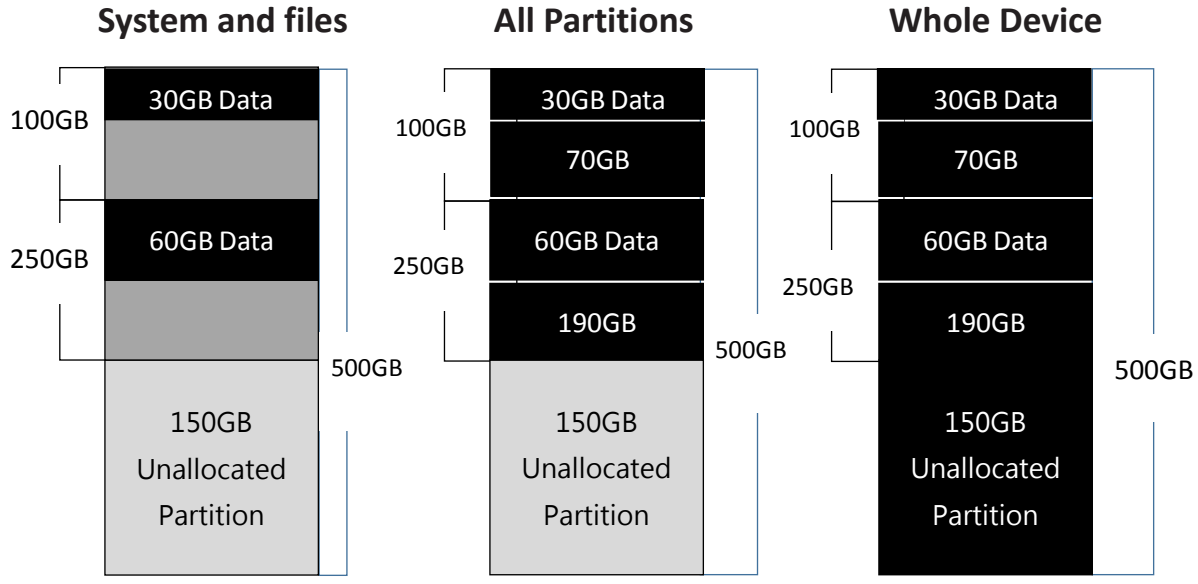
6.2 Copy Area

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

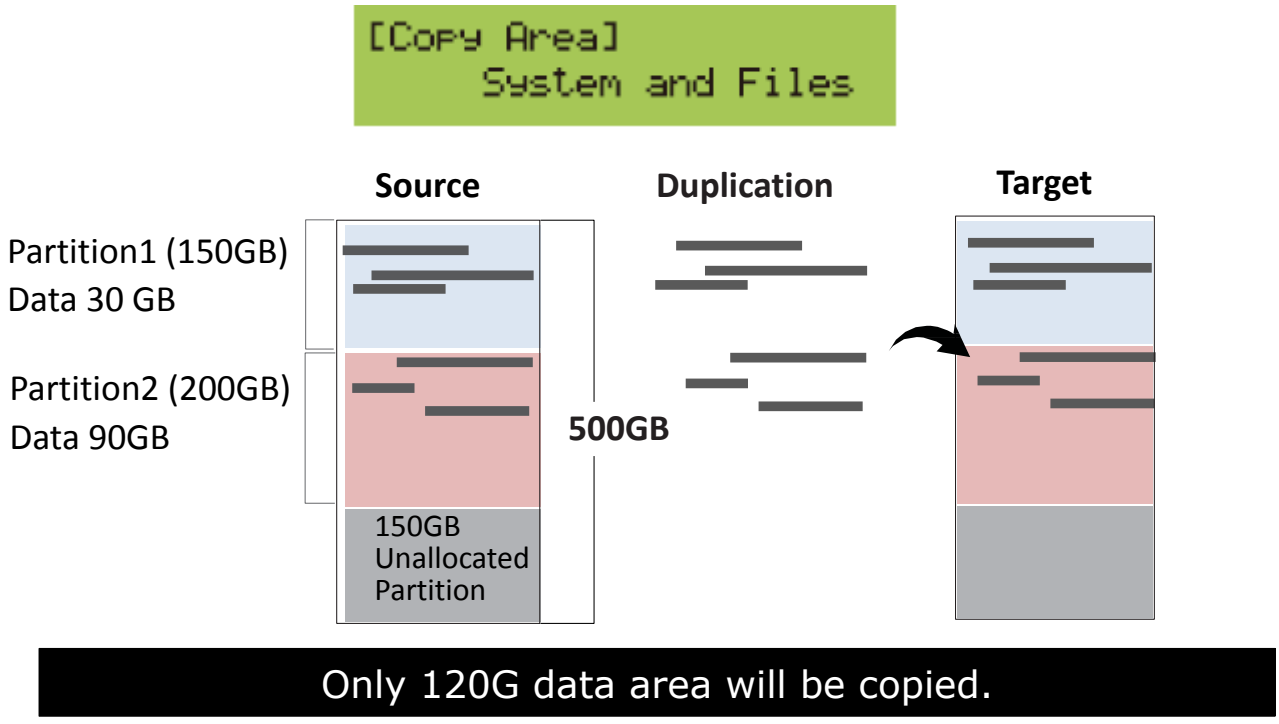
Please consider the following settings before proceeding with copy or compare:

- 6.2 Copy Area
- 6.4 Skip Bad Sectors
- 6.5 Minimum Speed
- 6.6 Check Source Minimum Speed
- 6.8.1 Unknown Format
- 6.8.6 Copy HPA Area

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

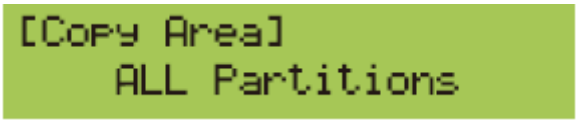
❶System and Files

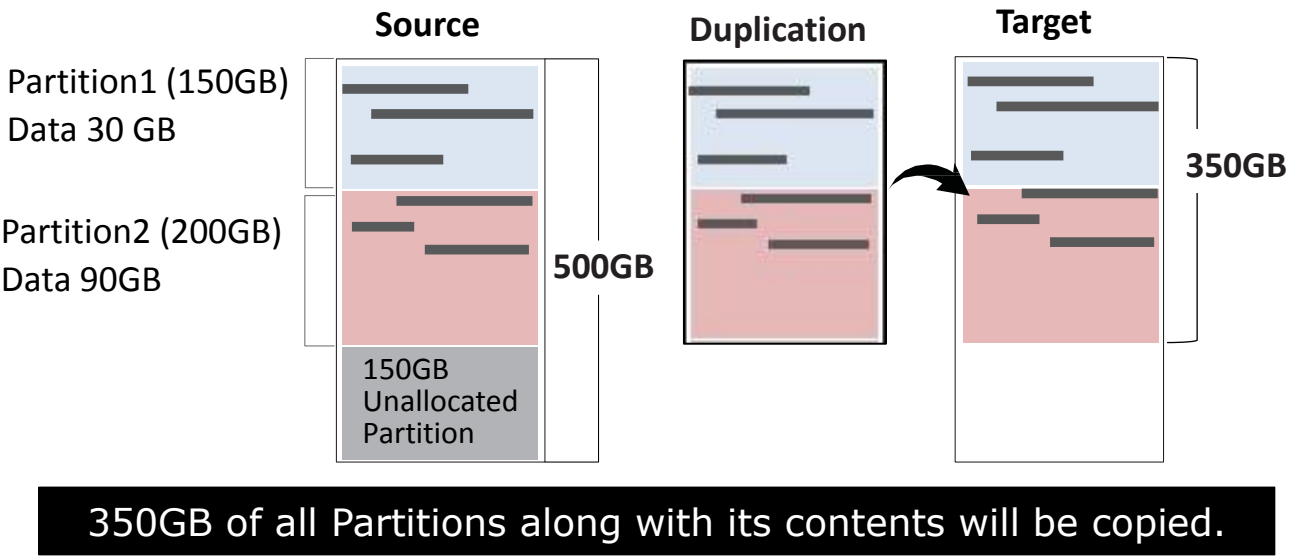
Copies data and skips empty space. Only supports standardized formats.
Scroll to select "System and Files", then press "OK" to save the copy method.
Allows user to copy source device's System and Files, instead of the entire device. The system will analyze the source device and identify the data area to copy. If the source device's data is within the target device's capacity, the copy will be processed. FAT16/32/64, NTFS, EXT2/EXT3/EXT4, and HFS/HFS+/HFSX are supported in this copy mode.



❷All Partitions

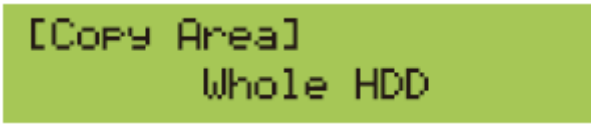
Copies all partitions and data, unallocated partitions not included.
Scroll to select "All Partitions”, then press "OK" to save the copy method.
The target device’s capacity must be equal to or larger than the source device’s capacity.

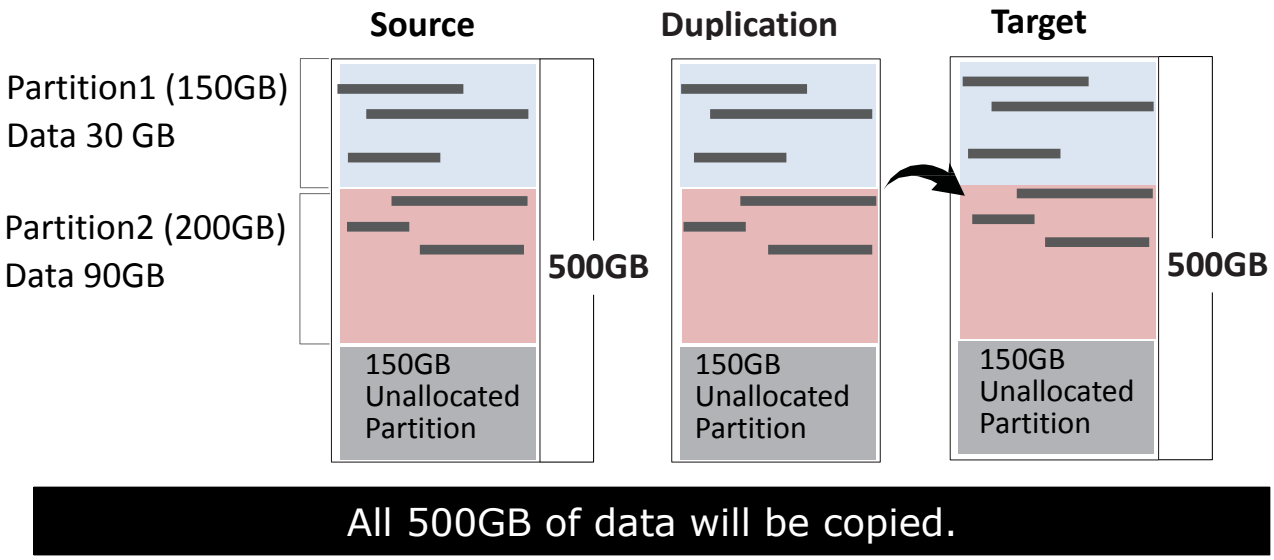




❸Whole Device

Copies all source data bit by bit.
Scroll to select "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.

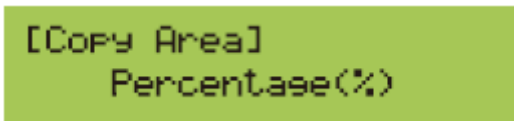


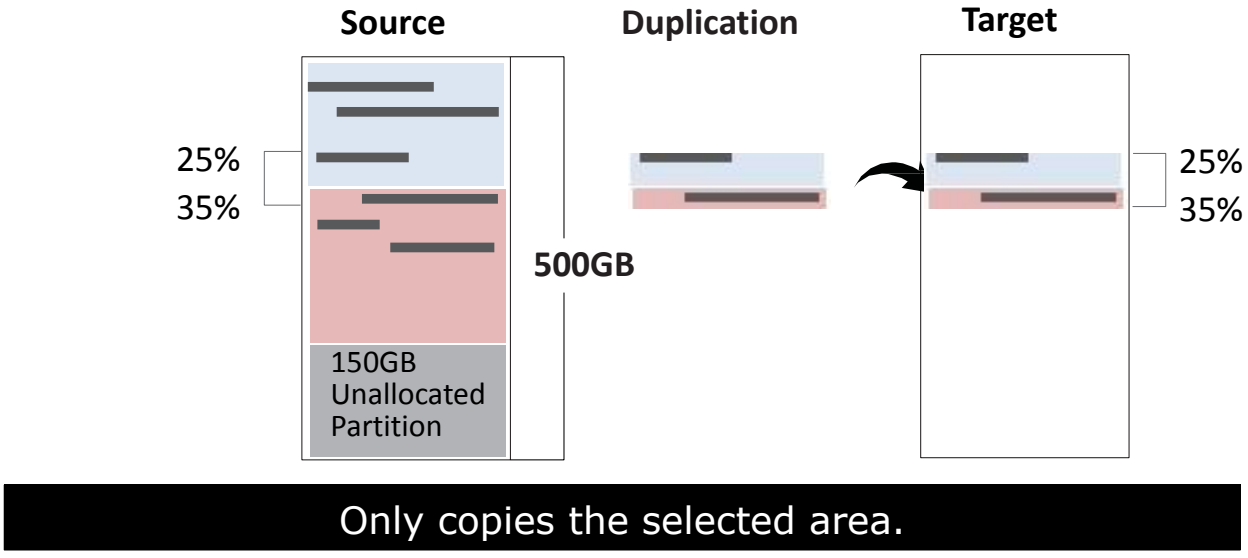


❹Percentage (%)

Select percentage of source capacity to copy.

Scroll to select "Percentage", set the upper and lower %, then press "OK" to save the copy method.

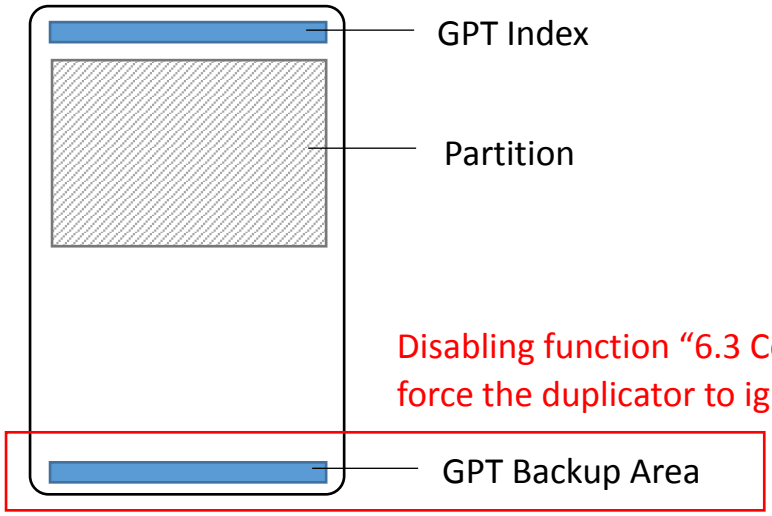




6.3 Copy GPT Backup Area

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

Skips bad sectors during Copy/ Compare/ Erase.
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 Error” 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 Minimum Speed

Allows user to disable or set minimum threshold speed during Copy/ Compare/ Erase.
Scroll to select "6.5 Minimum Speed”, then press "OK” to set desired minimum

threshold speed. The system will fail if any device does not achieve minimum speed. Users can choose “Don’t Care” or set the speed value amongst 10/20/40/60~300MB/second.

6.6 Check Source Minimum Speed

Allows user to enable or disable the 1st port speed check during Copy/ Compare/ Erase.
Scroll to select "6.6 Check Source Minimum Speed”, then press "OK to enable or disable speed analysis of the source port. This setting will follow the threshold speed defined in function "6.5 Minimum Speed."

6.7 Language

Select English or Japanese.
Scroll to select "6.7 Language”, then press "OK.” Then scroll through to select the desired language.

6.8 Advanced Setup

6.8.1 Unknown Format

This function only works with “6.2 Copy Area >> System and Files.”
Scroll to select "6.8.1 Unknown Format”, then press "OK”.
Unknown format includes all forms of modified and proprietary data and partitions.

❶ Copy Unknown

Copy unknown format(s).
Scroll to select "6.8.1 Unknown Format >> Copy Unknown”, then press "OK" to save this setting.

❷ Skip Unknown

Skip unknown format(s).
Scroll to select "6.8.1 Unknown Format >> Skip Unknown”, then press "OK" to save this setting.

6.8.2 Erase Master

This function allows user to enable or disable the source port for sanitization. Scroll to select "6.8.2 Erase Master”, then press "OK.” Then scroll through to select one of two settings.

❶ Disabled

Devices connected to source port cannot be erased.
Scroll to select "6.8.2 Erase Master >> Disabled”, then press "OK" to save this setting.

❷ Enabled

Devices connected to source port can be erased.
Scroll to select "6.8.2 Erase Master >> Enabled”, then press "OK" to save this setting.

6.8.3 Erase Pattern

Scroll to select "6.8.3 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 "6.8.3 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 "6.8.3 Erase Pattern >> Big Random Data”, then press "OK" to save this setting.

6.8.4 Wait HDD Time

Sets device power up buffer time prior to copy, erase, etc...
Scroll to select "6.8.4 Wait HDD Time”, then press "OK" to set buffer time from 3 to 30 seconds. The default is 15 seconds.

6.8.5 Lock Key

This function allows users to enable or disable the 4 control panel buttons.
Scroll to select "6.8.5 Lock Key”, then press "OK" to access available settings.

❶ Disabled

Scroll to select "6.8.5 Lock Key >> Do NOT Lock Key”, then press "OK" to save this setting.

❷ Enabled

Scroll to select "6.8.5 Lock Key >> Do Lock Key”, press "OK," then reboot the system to activate the setting.

**Only ▲▼ buttons are disabled.

**To unlock keys, press “▲▼ OK ESC” simultaneously for 5 seconds. The screen will show "UNLOCK KEY" and return to the main menu.

6.8.6 Copy HPA Area

This menu contains submenus related to HPA Copy Modes
Scroll to select "6.8.6 Copy HPA Area”, then press "OK" to view the submenus.
The default setting is: “Copy and Setting”.

❶ Do Not Copy HPA

This menu contains submenu settings from which users can select.
Scroll to select "6.8.6 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.

❷ Setting Target HPA

Copies HPA setting from source device to target.
Scroll to select "6.8.6 HPA Copy Modes >> Setting Target HPA", then press "OK" to save this setting.

❸ Copy and Setting

Copies HPA setting and data from source device to target.
Scroll to select "6.8.6 HPA Copy Modes >> Copy and Setting", 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 "6.8.7 Clear HPA at Erase >> Clear HPA Setting" and then execute "4. Erase."

6.8.7 Clear HPA at Erase

Sets to clear HPA setting during erase.
Scroll to select "6.8.7 Clear HPA at Erase", then press "OK" to save this setting.

❶ Clear HPA Setting

Clears HPA setting and data during erase.
Scroll to select "6.8.7 Clear HPA at Erase >> Clear HPA Setting”, then press "OK" to save this setting.

❷ Keep HPA Setting

Keeps original HPA setting and data during erase.
Scroll to select "6.8.7 Clear HPA at Erase >> Keep HPA Setting”, then press "OK" to save this setting.

6.8.8 Transfer Rate

Allows user to select the transfer rate.
Scroll to select "6.8.8 Transfer Rate”, then press "OK". Select the desired transfer mode from UDMA2 to 7. The default is UDMA7.

6.8.9 Stop Motor Time

Sets device power down buffer time when tasks are completed.
Scroll to select "6.8.9 Stop Motor Time”, then press "OK" to set buffer time from 1 to 20 seconds. The default is 5 seconds.

6.8.10 Boot Password

Sets password for bootup.
Scroll to select "6.8.10 Boot Password”, press "OK," and select the password by "▲,▼ and OK."

6.9 Restore Defaults

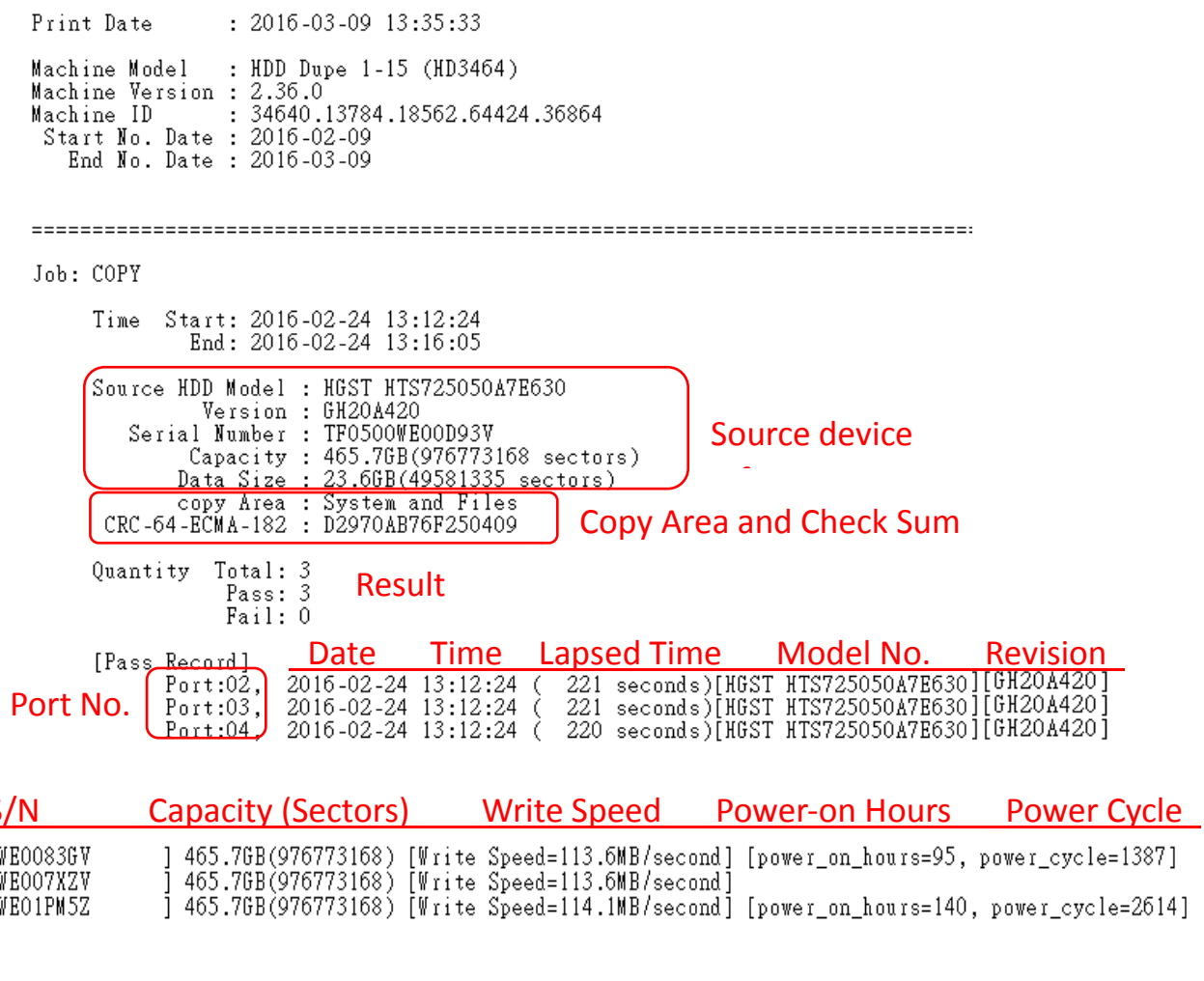
Restores all settings back to manufacturer defaults.
Scroll to select "6.9 Restore Defaults”, then press "OK" to restore settings back to manufacturer defaults.

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, which keeps the operation running efficiently.

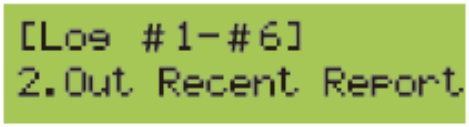
Note	1. The USB must be FAT16/FAT32 format. 2. The LCD will display the number of recorded logs. (E.g. #1-#6 means there are 6 logs.) 3. Outputs both .txt and .csv files.

❶ Export Today's Log Report

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

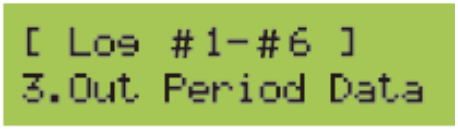
❷ Export Recent Log Report

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



❸ Export Custom Log Report

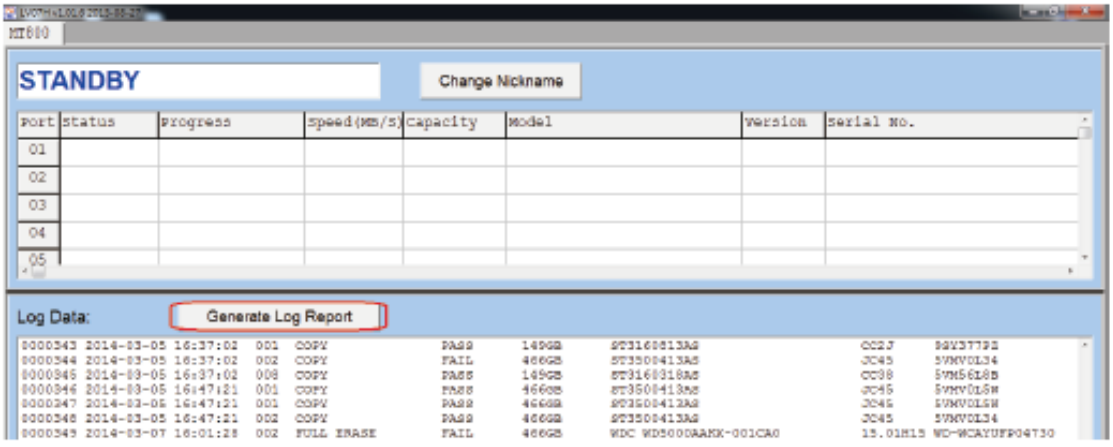
Exports a specific time period's log report via USB port to a USB drive.



III. Output Log Reports through LV07H Program.

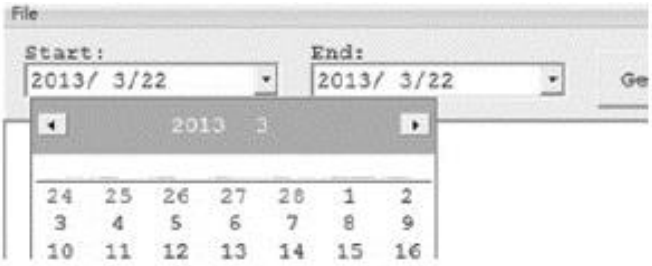
After finishing all tasks, press <ESC> key, the LV07H status will return to STANDBY.

Step 1: Click <Generate Log Report> in the field of LV07H screen <Log Data>.



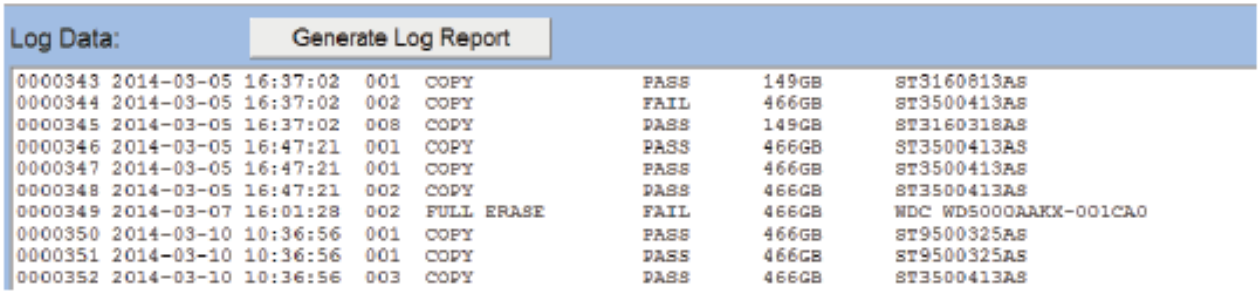
Step 2: Select Date Range.

After entering <Open Report>, select the date range for log report.



Step 3: Generate Report.

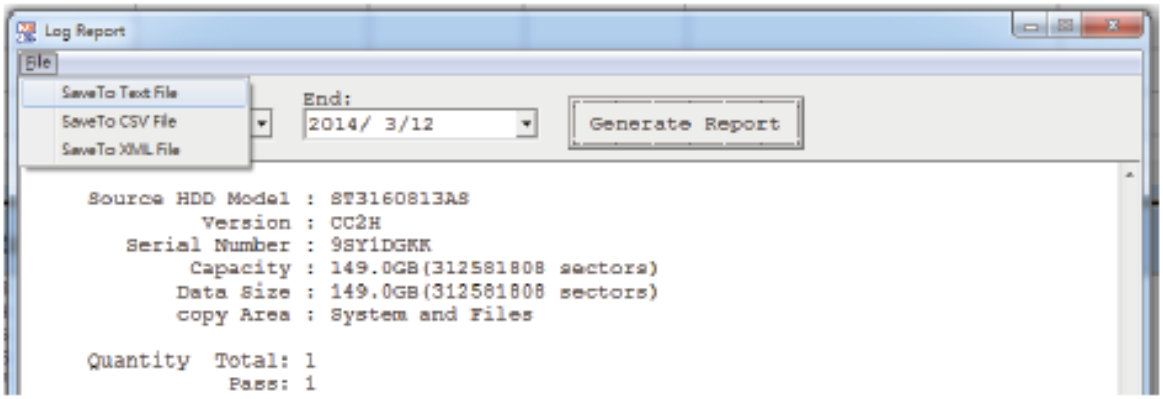
After selecting the date range, click <Generate Report> to generate log report. The duplicator can record up to 30,000 records of operational information off the device. Each device operation is saved as one record. For example, 26 records will be recorded if data is copied from 1 device to 25 devices.



Note	If there is no record saved on the selected date, or record has been wiped out, the program would show "No match records!"

Step 4: Save Log as Text File.

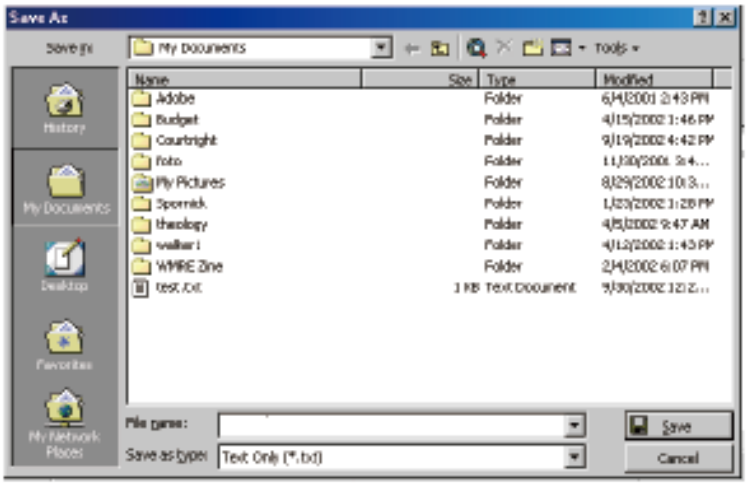
At the top-left of Log Data screen, select <File> then <Save to Text File>.



Note	There are 4 files types to choose from when saving a Log Report: .txt, .csv, .xml, or .pdf.

Step 5: Save Log to the Specific Location.

Specify a name and location to save the log.



Step 6: To Complete Output Log Reports.

After successfully creating and saving the log report, then it will be in the folder which it was saved.

Caution	30,000 logs can be saved at one time. One device record is equal to one recorded log. (E.g. duplication from 1 device to 21 devices will be recorded to 21 logs.)

Real time PC-Monitoring

Real time PC-Monitoring is a convenient tool to monitor real-time status of each working port, such as duplication progress, testing results, and operation log. These can all be viewed on your computer screen.

How to Launch PC-Monitoring:

Step 1: Copy “LV07H” to your PC.

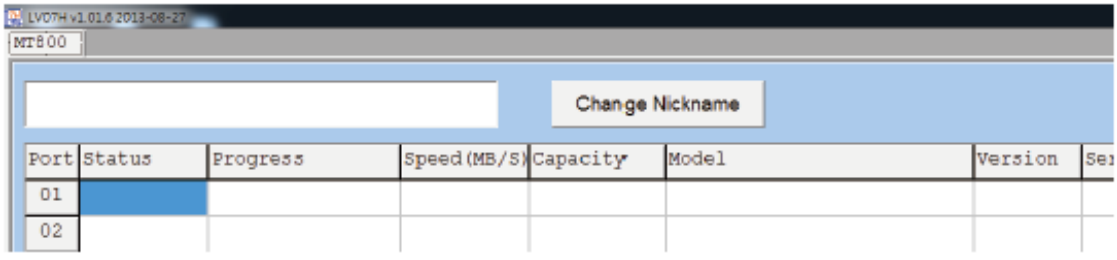
Step 2: Connect USB cable from computer to the duplicator.

Step 3: Power On the duplicator.

Step 4: Launch LV07H by double clicking on software icon "LV07H ".

Caution	1. Before Step 4, make sure the duplicator has completed boot-up. 2. There are configuration files when launching LV07H. Make sure you are launching the .exe file on the PC, and not with the provided U-Reach mini-CD software.

Step 5: When the below screen is shown, the duplicator has linked to the computer successfully and is ready to use real-time monitoring function.



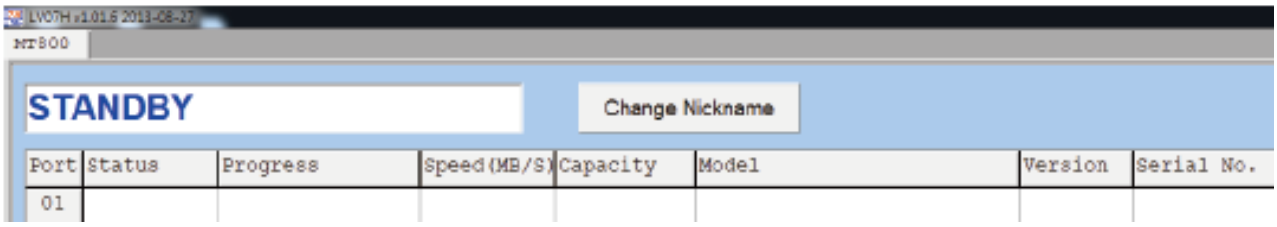
Step 6: If the screen above does not appear, please repeat steps 1 thru 4.

Note	If the system requests “Run the program as an Administrator”, right click “LV07H”, then set it in “Properties” > “Compatibility”.

Using the PC-Monitoring Feature

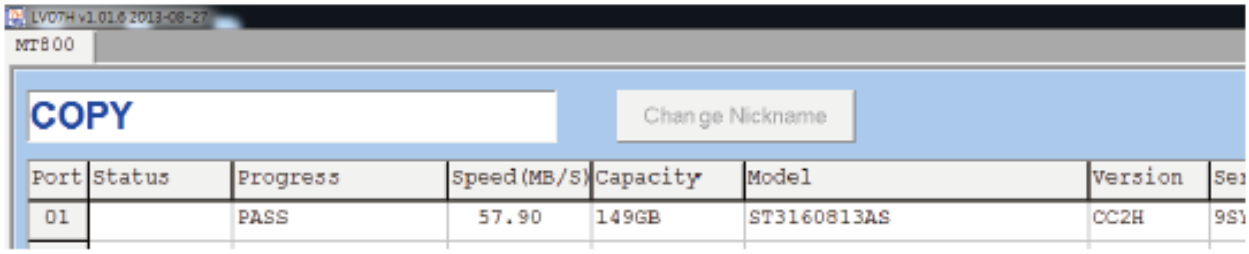
Note	Please select only one computer to do all PC-Monitoring. This will prevent PC from operating other tasks simultaneously as PC-Monitoring information can rapidly synchronize.

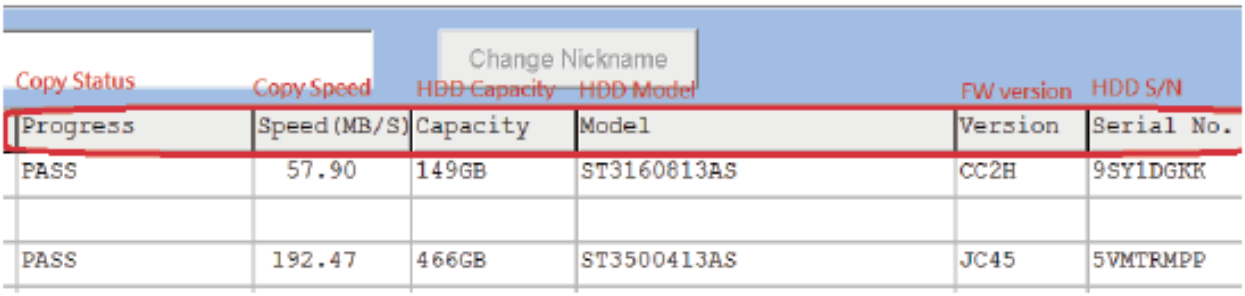
Step 1: When duplicator status indicates it's online, open the monitoring screen. The program is ready to work when the status displays "STANDBY".



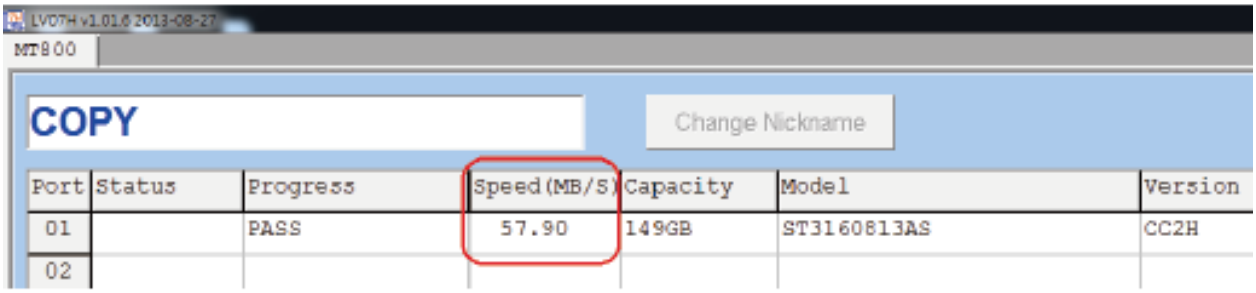
Step 2: Execute a "Copy/Compare" on the duplicator.
After connecting source & target devices to the duplicator and executing a task, the program will display all related device information. It captures detailed information from each device via PC-Monitoring, e.g. device model, S/N, copy speed, etc. It also records all operational progress.

Note	Copy speed varies during operation.





Step 3: After duplication, the program will display the average speed of each device.



7.1 Out Today Report

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

7.2 Out Recent Report

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

7.3 Out Period Report

Outputs recent log report
Scroll to select "7.3 Out Period 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 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” when connected to PC, 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.

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.

Datasheet

⦿ Product Features

Features	Descriptions
Operation Type	Stand-alone, FPGA based operation (Non-PC based system design).
Controller Design	• Embedded controller is designed to support capacities over 18TB. • Constant improvement supports latest market available devices.
Patented Daisy-Chain Design	A scalable and modular system enables expansive ownership flexibilities.
Bandwidth Performance	• MT-GCRU speed transfers of up to 9.0GB/min. (150MB/sec.) • MTC-HCRU speed transfers of up to 15.0GB/min. (250MB/sec.) • MT-HCRU speed transfers of up to 18.0GB/min. (300MB/sec.) • Dedicated bandwidth enables high volume replications without speed degradation.
Read-Only Source Port	There is no option to disable this built-in feature and it is integrated with all U-Reach duplicators.
Modular Cabling Design	Modular designed ports effectively reduce downtime and is cost effective for long term ownership.
Real Time PC-Monitoring	View live status for: writing/reading speeds, total capacity, current function progress per port.
Event Log Management	• Records operating durations, individual port copy progressions, connected device models, capacities, serial numbers, and PASS or FAIL results. • Device writing/reading speeds are recorded. • Log report files are generated through the front USB port and are saved to USB devices.

⦿ Product Functions

Functions	Descriptions
4 Copy Modes	• Quick Copy (Data & System): Supports Windows, Mac, and Linux. • All Partitions: Users can skip HPA or unknown partitions. • Whole Device: Copies bit-by-bit from the master device. • Percentage Copy: Users can set percentages of capacity to be copied.
Compare (Verification)	Bit-by-bit data comparison from the source device to target device(s).
8 Sanitization Modes	• Quick Erase • Full Erase (NIST 800-88) • DoD3 Pass (DoD 5220.22-M) • DoD3 Pass+Compare (DoD 5220.22-M) • DoD7 Pass • Secure Erase (NIST 800-88) • Enhanced Secure Erase • US Army AR 380-19
Bad Sector Scan	Scans device for any bad sectors by reading and writing.
Thorough Sector Scan	Scans device for any bad sectors by reading and writing two times.
Skip Bad Sectors	Choose the number of bad sectors to skip.
Minimum Speed	Disable or set minimum threshold speed to drop the slowest device.
Check Source Minimum Speed	Allows user to enable or disable the source speed check.
Unknown Format	Choose to copy or skip unknown formats.
Erase Source Port	Enable or disable source port from being erased.
Device Power-up	Choose time to wait for the device to power up prior to copy, erase, etc.
Device Power-down	Choose time to wait for the device to power down prior to disconnection.
Scroll Lock	Disable or enable ▲ and ▼ buttons on the control panel.
HPA Copy Modes	Allows user to choose various HPA replication methods.
Clear HPA at Erase	Keep or clear HPA settings during sanitization process.
Language	English or Japanese.
Transfer Modes	Allows user to select the transfer rate.
Log Manager	Manage and export log reports.

⦿ Product Compatibilities

Compatibilities	Descriptions
Compatible Devices	CRU HDD
Supported Formats	• Quick Copy Function: FAT16/32/64, Windows (NTFS), Linux (Ext2/Ext3/Ext4), and Mac (HFS, HFS+, HFSX). • Whole Device Copy Function: All Formats, including proprietary formats. • GPT, MBR, and Advanced Formats.
Compatibilities	**Descriptions**
Supported O/S	All (Windows, Mac, Linux, and other proprietary systems).

⦿ Product Specifications

Specifications	Descriptions
LCD Display	Backlit Monochrome LCD Display
LEDs	3 LED Indicators per Port: Yellow (Power), Green (Pass), and Red (Fail)
Control Panel	4 Push Buttons (▲, ▼, OK, ESC)
Power Requirements	Universal Power: 115VAC or 230VAC, 50/60Hz
Operational Temperature	5°C ~ 45°C **(41°F ~ 113°F)**
Non-operational Temperature	-20°C ~85°C **(-4°F ~ 185°F)**
Humidity	Operating: 20% ~ 80%, non-condensing Non-operating: 5% to 95%, non-condensing
Physical Dimensions (L×W×H)	Please refer to model-specific datasheets
Product Weight	Please refer to model-specific datasheets
Certifications	FCC, CE, RoHS

7.3.1

Specifications are subject to change without notice.