



# **SSD HDD Duplicator & Eraser**

## **600MB/sec (36GB/min)**

User Manual

Version E

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# Product Disclaimer

The manufacturer 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 our 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 of our product. The manufacturer makes every effort to ensure proper function of all products. However, the customer is responsible to verify that the output of our product meets the customer's quality requirement. The customer further acknowledges that improper use of our products, software program, and/or hardware issues can cause loss of data, defective formatting, or unreliable data loading. The manufacturer 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

The manufacturer provides a basic one year parts and 3 years labor warranty for all its products, excluding cables, adapters, and other consumable items. An extended warranty may be purchased. Telephone and email support is available for the life of the product as defined by the supplier.

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

# Piracy Statement

The manufacturer accepts no responsibility for copyright infringement or misuse of any our 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

- To get highest copy speed, you need to carefully select your HDD/SSD that can also perform high speed in its read/write capability.
- Please 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 the manufacturer's 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 **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 and 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 SATA 3.0 HDD 4-Port Series is an ultra-high speed duplicator, and each SATA port is independent. That's why no matter how many targets are running, it has the same performance of transmission speed, far beyond PC-based duplicators.

The SATA 3.0 4-Port Series HDD duplicator is specially designed for professional use. The smart Quick Copy (System and Files) mode supports FAT16/32/64, NTFS(Windows), ext2/3/4(Linux), HFS/HFS+/HFSX (Mac) formats and can copy only data contained area, which therefore highly increases the production efficiency. Furthermore, the innovated design of interface can help you easily swap HDDs during operation and reduce the time and effort while repairing.

Complies with the U.S. Department of Defense's erasing standard (DoD5220.22 M) and Secure Erase (NIST800-88). It is important to make sure the data inside the disregarded HDD will not be retrieved and can be safely transferred.

# Product Features

## Auto Power Control System

Protect the HDD from any damage during the insertion and removal from the duplicator.

## Bandwidth Performance

The SATA 3.0 HDD Series transfer speed goes up to 36GB/min. (600MB/sec.) All systems have dedicated bandwidth which enables high volume replications without speed deceleration.

## Quick Copy Mode

Support FAT16/32/64, NTFS(Windows), ext2/3/4(Linux), HFS/HFS+/HFSX (Mac) formats. It will only copy the data and system area, which can highly enhance the copying efficiency.

## 4 Copy Areas Selection

Four copy modes to meet different requirements: Systems and Files, All Partition, Whole HDD, and Percentage Copy.

## 4 Erase Methods

Quick Erase, Full Erase, DoD Erase, DoD EraseCompare, 7-Pass Erase, Secure Erase, Enhanced Secure Erase

## Ultra High Speed Data "Compare"

The very special hardware bit-by-bit "Compare" function is the most secure way to guarantee 100% accuracy of data duplication.

# Functions Table

Function	Description
<b>1. Copy</b>	Copies data from source device to targets. (There are four copy modes in function "6.2 Copy Area")
<b>2. Compare</b>	Compares the source and targets to ensure copy accuracy.
<b>3. Copy + Compare</b>	Automatically launches compare function after copy is completed.
<b>4. Erase</b> Capable to enable/ disable erase of source HDD at function 6.4	<b>1. Quick Erase</b> Erases device(s)' index table.
	<b>2. Full Erase</b> Erases entire device(s), complying with NIST 800-88 Standards.
	<b>3. DoD Erase</b> Erases device(s), complying with DoD 5220.22-M Standards.
	<b>4. DoD EraseComp</b> Erases device(s), complying with DoD 5220.22M Standards and verifies complete erasure.
	<b>5. 7-Pass Erase</b> Erases device(s) 7 times complying with DoD 5220.22-M(ECE) Standards.
	<b>6. Secure Erase</b> Erases the non-loadable areas complying with NIST 800-88 Standards.
	<b>7. Enhanced Secure Erase</b> Erases devices that support this feature.
<b>5. Utility</b>	<b>1. Show Disk Info</b> Displays basic information such as device model, name, capacity, etc.
	<b>2. Update System</b> Updates system firmware by any device at the source port or through the USB port.

6. Setup	<b>3. System Info.</b> Displays system information such as controller, model number, software version, etc.	
	<b>1. Start-up Menu</b> It default function to display during equipment initialization.	
	<b>2. Copy Area</b>	<b>System and Files</b> Copies data and skips empty space. Only supports standard formats.
		<b>ALL Partitions</b> Copies all partitions and data, unallocated partitions not included.
		<b>Whole HDD</b> Copies all source data, bit-by-bit.
		<b>Percentage (%)</b> Its percentage of source capacity to copy.
	<b>3. Skip Bad Sectors</b> Stops bad sectors during Copy/Compare.	
	<b>4. Erase Master</b> Allows user to erase the source port or not.	
	<b>5. Erase Pattern</b> Overwrite data in one-byte or Big random data.	
	<b>6. Device Power-Down</b> Device power down buffer time when tasks are finished. Able to set from 1 to 20 seconds.	
	<b>7. Device Power-Up</b> The time tolerance for Device initialize. Able to set from 10 to 120 seconds.	
	<b>8. Copy HPA Area</b>	<b>Do Not Copy HPA</b>



	<b>9. Clear HPA at ERASE</b>	<b>Letting Target HPA</b> Copies HPA setting from source device to target.
		<b>Copy and Setting</b> Copies HPA setting and data from source device to target.
		<b>Clear HPA Setting</b> Clears HPA setting during erase.
		<b>Keep HPA Setting</b> Keeps original HPA setting during erase.
	<b>10. Language</b> English or Japanese.	
	<b>11. Restore Default</b> Reinstates manufacturer settings.	

# 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.

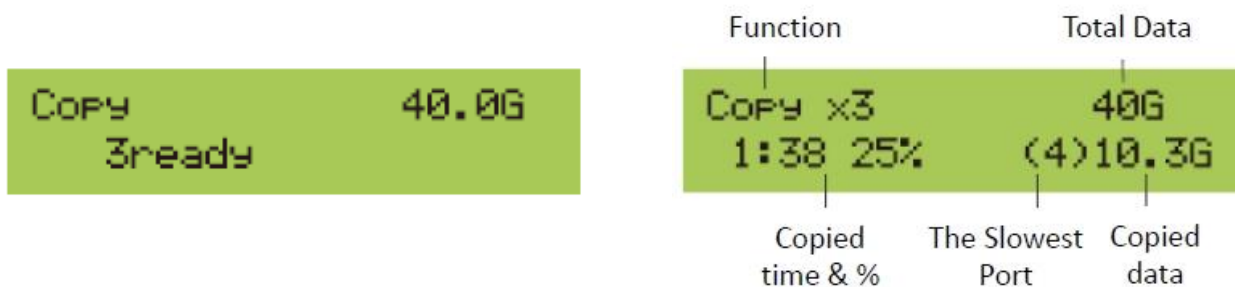
## Step 2: Connect source and target devices.

## 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.

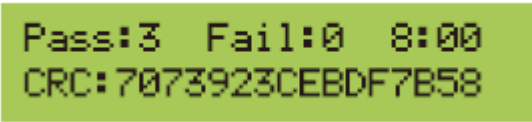
The information below states what is displayed on the LCD during duplication.



**Note** Press UP and DOWN together for 5 secs to stop operation on the slowest device. Press "ESC" for 5 seconds to stop all the copy jobs.

## 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 message and compare CRC64 between source and targets. The result will confirm a pass (green light) or fail (red light).

## 2. Compare

Step 1: 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, then Compare.

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

## 4. Erase

There are 7 submenu modes.

### 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 6.7.2 to enable source port erasing.

### Step 2: Enter function "4. Erase"

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

### Note

Press "ESC" for 5 seconds to stop all the erase jobs.

### 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 Pass

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

Scroll to select "4.3 DoD3 Pass", then press "OK" to start the erasing process.

### 4.4 DoD EraseComp

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

Scroll to select "4.4 DoD3 Pass+Compare", then press "OK" to start the erasing and verification process.

## **4.5 7-Pass Erase**

This function will erase device(s) 7 times complying with DoD 5220.22-M(ECE) Standards. Scroll to select "4.5 DoD7 Pass", then press "OK" to start the erasing process.

## **4.6 Secure Erase**

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

## **4.7 Enhanced Secure Erase**

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

## 5. Utility

This menu contains submenus related to device information, system information and updates.

Scroll to select "5. Utility", then press "OK" to view the submenus.

### 5.1 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

#### Through Source Port

##### Step 1: Prepare a device for update.

This will format the device to a 2GB FAT32 Partition.

##### Step2: Download Firmware

Connect this device to PC. Download the latest firmware provided by Systor 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. The manufacturer will not be held responsible for any damages.

### 5.3 System Info

This function will display basic information such as device model, name, capacity, etc...

Scroll to select "5.3 Disk Info", then press "OK" to view the connected device(s). Then scroll through to view all information.

## 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.

- **Copy and Compare Preparations**

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

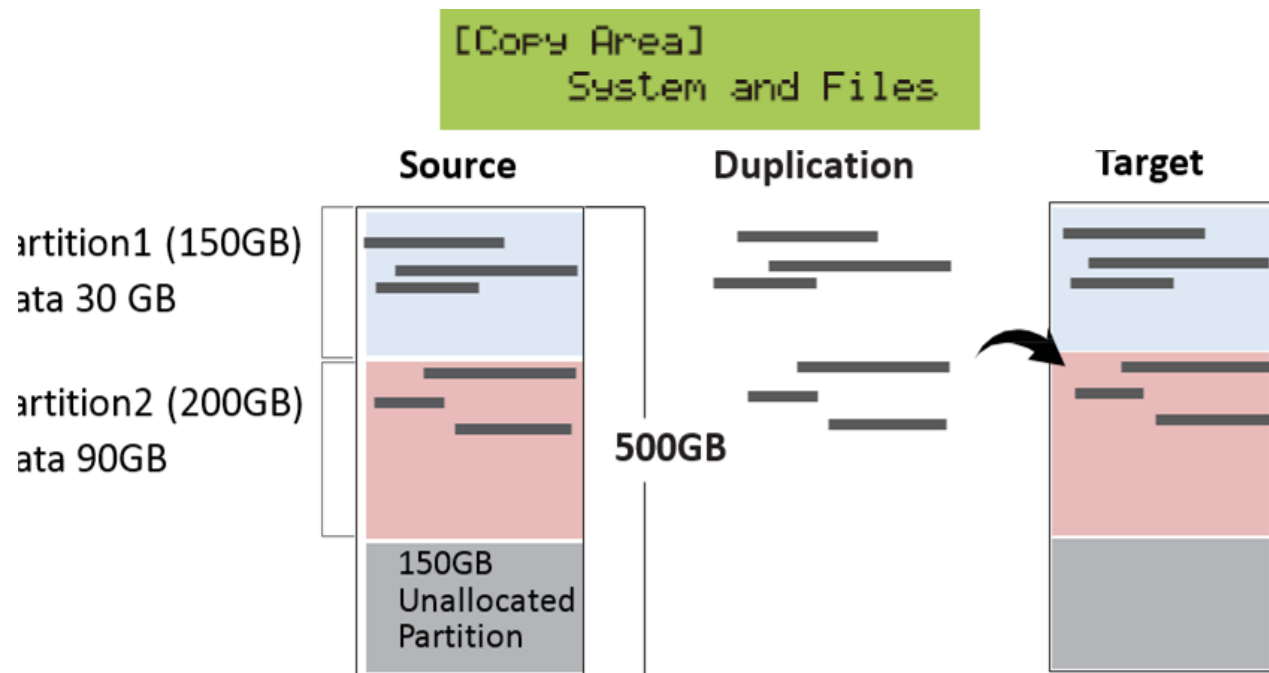
- 6.2 Copy Area
- 6.3 Skip Bad Sectors

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

## 1 System 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.

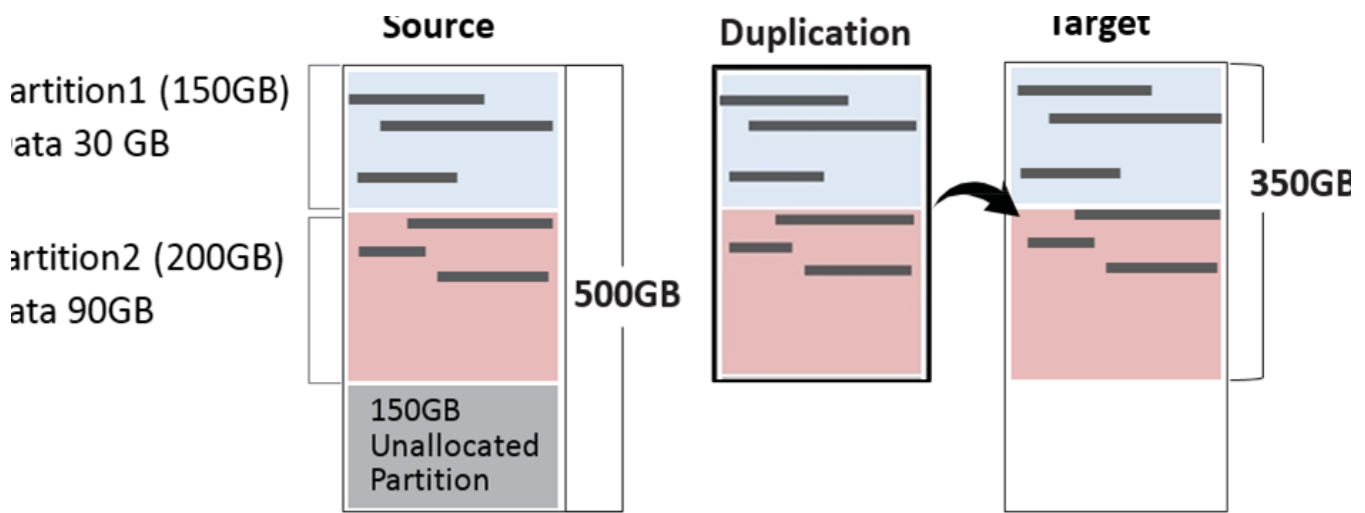
Allows user to copy source device's System and Files, instead of the entire device. The system will analyze the source device and identify the data area to copy. If the source device's data is within the target device's capacity, the copy will be processed. FAT16/32/64, NTFS, EXT2/EXT3/EXT4, and HFS/HFS+/HFSX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



## 2 All Partitions

Copy or skip HPA, DCO, unknown partitions, modified formats, etc. defined by settings. 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.

[Copy Area]  
ALL Partitions

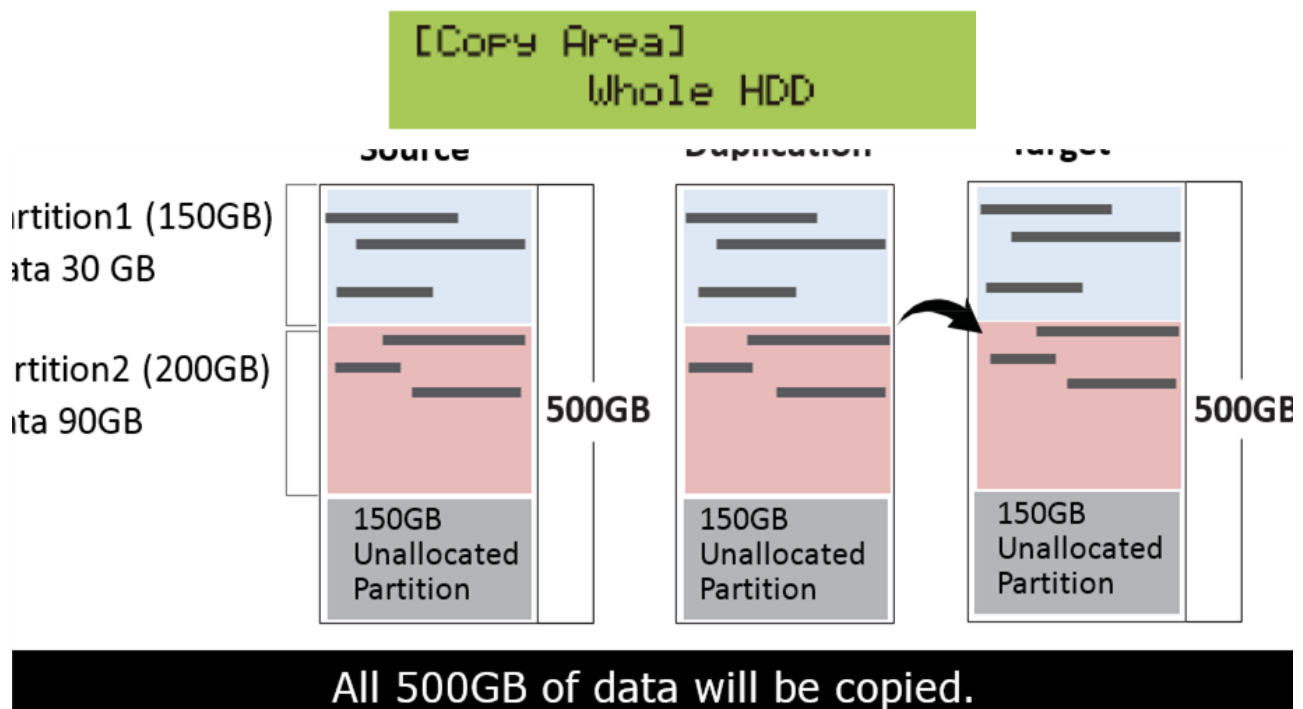


### ③ Whole Device

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.



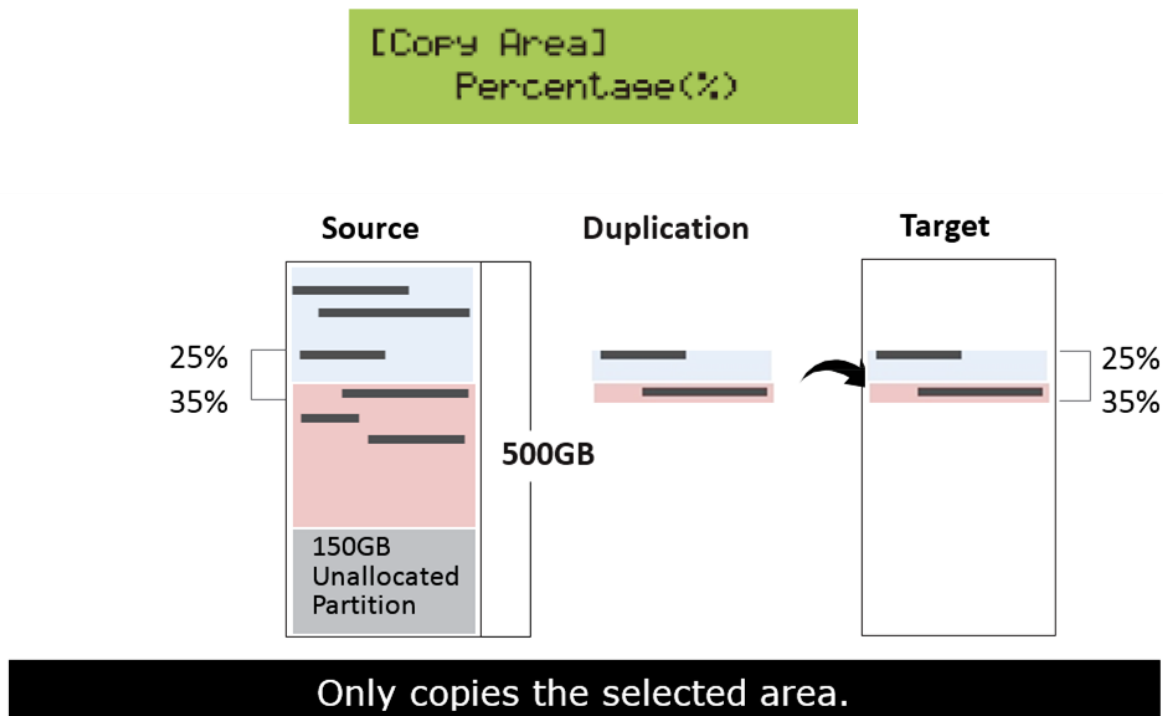
### ④ Percentage (%)

Select percentage of source capacity to copy.

Scroll to select "6.2.4 Percentage", then press "OK" to save the copy method.

Copies the selected percentage range of the source's total capacity, starting from the initial sector.





## 6.3 Skip Bad Sectors

Skip source bad sectors.

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

[Skip Error]  
1000

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

## 6.4 Erase Master

This function allows user to enable or disable the source port for sanitization.

Scroll to select "6.4 Erase Master", then press "OK." Then scroll through to select one of two settings.

### ① Disabled

Source port will be unable to erase.

Scroll to select "6.4.2 Erase Master >> Disabled", then press "OK" to save this setting.

### ② Enabled

Source port will be able to erase.

Scroll to select "6.4.2 Erase Master >> Enabled", then press "OK" to save this setting.

## 6.5 Erase Pattern

Scroll to select "6.7.3 Erase Pattern", then press "OK". Then scroll through to select one of two settings.

### ① One Byte

Random character written per byte.

Scroll to select "6.7.3 Erase Pattern >> One Byte", then press "OK" to save this setting.

### ② Big Random Data

Random character written in a set of area.

Scroll to select "6.7.3 Erase Pattern >> Big Random Data", then press "OK" to save this setting.

## 6.6 Stop Motor Time

Set device power down buffer time prior to device disconnection.

Scroll to select "6.7.9 Stop Motor Time", then press "OK" to set buffer time from 1 to 20 seconds. The default is 5 seconds.

## 6.7 Wait HDD Time

Sets device power up buffer time prior to copy, erase, etc...

Scroll to select "6.7.4 Wait HDD Time", then press "OK" to set buffer time from 3 to 30 seconds. The default is 15 seconds.

## 6.8 Copy HPA Area

This menu contains submenus related to HPA Copy Modes

Scroll to select "6.7.6 Copy HPA Area", then press "OK" to view the submenus.

### ① Do Not Copy HPA

This menu contains submenu settings for users to default to.

Scroll to select "6.7.6 Copy HPA Area >> Do Not Copy HPA", then press "OK" view submenu settings.

#### ● Keep Target HPA

Does not copy HPA data, but keeps target device's original HPA setting.

Scroll to select "Keep Target HPA", then press "OK" to save this setting.

#### ● Clear Target HPA

Does not copy HPA data and clears target device's HPA setting.

Scroll to select "Clear Target HPA", then press "OK" to save this setting.

### ② Setting Target HPA

Copies HPA setting from source device to target.

Scroll to select "6.7.6 HPA Copy Modes >> Copy HPA Settings", then press "OK" save this setting.

### ③ Copy and Setting

Copies HPA setting and data from source device to target.

Scroll to select "6.7.6 HPA Copy Modes >> Copy All HPA", then press "OK" to save this setting.

## 6.9 Clear HPA at Erase

Sets to clear HPA setting during erase.

Scroll to select "6.7.7 Clear HPA at Erase", then press "OK" to save this setting.

### ① Release

Clears HPA setting and data during erase.

Scroll to select "6.7.7 Clear HPA at Erase >> Release", then press "OK" to save this setting.

### ② No Release

Keeps original HPA setting and data during erase.

Scroll to select "6.7.7 Clear HPA at Erase >> No Release", then press "OK" to save this setting.

## 6.10 Language

Select English or Japanese.

Scroll to select "6.6 Language", then press "OK." Then scroll through select the desired language.

## 6.11 Restore Defaults

Restores all settings back to manufacturer defaults.

Scroll to select "6.8 Restore Defaults", then press "OK" to restore settings back to manufacture defaults.

# ⌘ Specification Table

Series	SATA 3.0 4-Port Series SATA HDD Duplicator	
Compatible HDD Interface	Interface without adapter: 3.5" SATA HDD	
	Interface via optional adapter: SSD and 2.5" SATA HDD	
	HDD compatible: All major HDDs brands, 2.5"/3.5" SATA SSD	
OS	OS supported: All (Windows, Linux, RAID, other stand-alone systems)	
Operation Type	Stand-alone operation	
Display	Backlight monochrome LCD display	
Status LED	LED(Red/Blue) on each slot	
Keys	4 push keys ( ▲/ UP, ▼/ Down, OK/ Confirm, ESC/ Exit)	
Copy Function	Quick Copy (System & Files area): Support FAT16/32/64, NTFS, Linux (EXT2/ EXT3/ EXT4), Mac (HFS/HFS+/HFSX), GPT, Dynamic	
	ALL Partitions/ Whole HDD/ Percentage Copy: support all formats	
Compare	High speed bit-by-bit data comparison	
Erase	Quick Erase, Full Erase, DoD Erase, DoD EraseCompare, 7-Pass Erase, Secure Erase, Enhanced Secure Erase	
Temperature	Working temperature	5°C~45°C (41°F~113°F)
	Storage temperature	-20°C~85°C (-4°F~185°F)
Humidity	Working humidity: 20%~80%; Storage humidity: 5%~95%	
Certification	FCC, CE, RoHS	

\*Specifications subject to change without notice.