



# **IT-G/H/U Series SATA Hard Disk Duplicator and Sanitizer**

User Manual v A.04



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# **Product Disclaimer**

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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 is available for the life of the product as defined by U-Reach.

All warranties are specific to market region and will be defined per 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.
- 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 IT-G/H 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 IT-G/H 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

Standalone, 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

IT-G speed transfers of up to 9.0GB/min., IT-H speed transfers of up to 18.0GB/min, IT-U speed transfers of up to 30.0GB/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 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

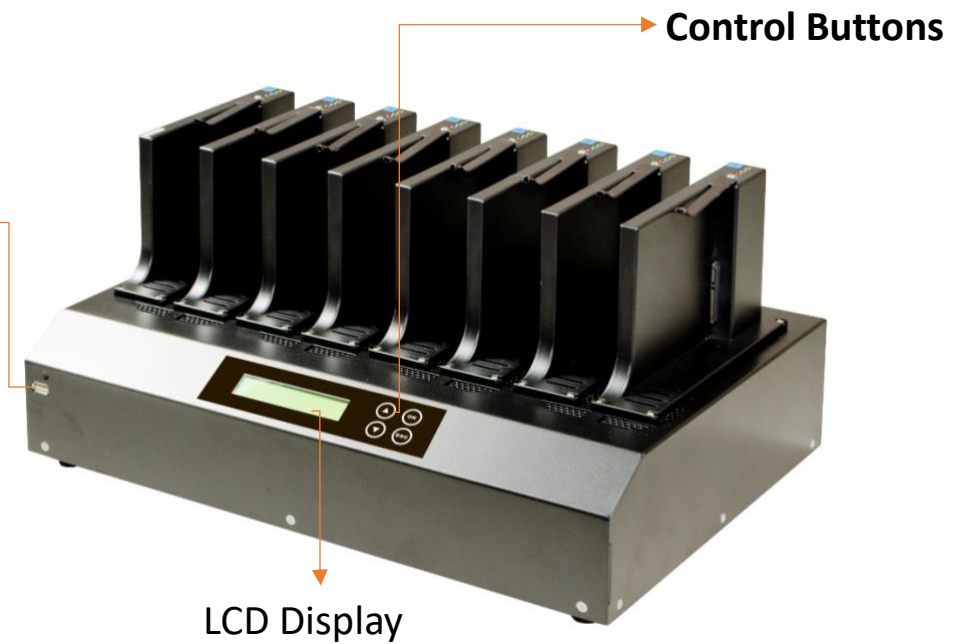
Exclusive Log management records details on each port such as serial number and source devices flow for improved production control.

# Hardware Overview

## ◎ Front View

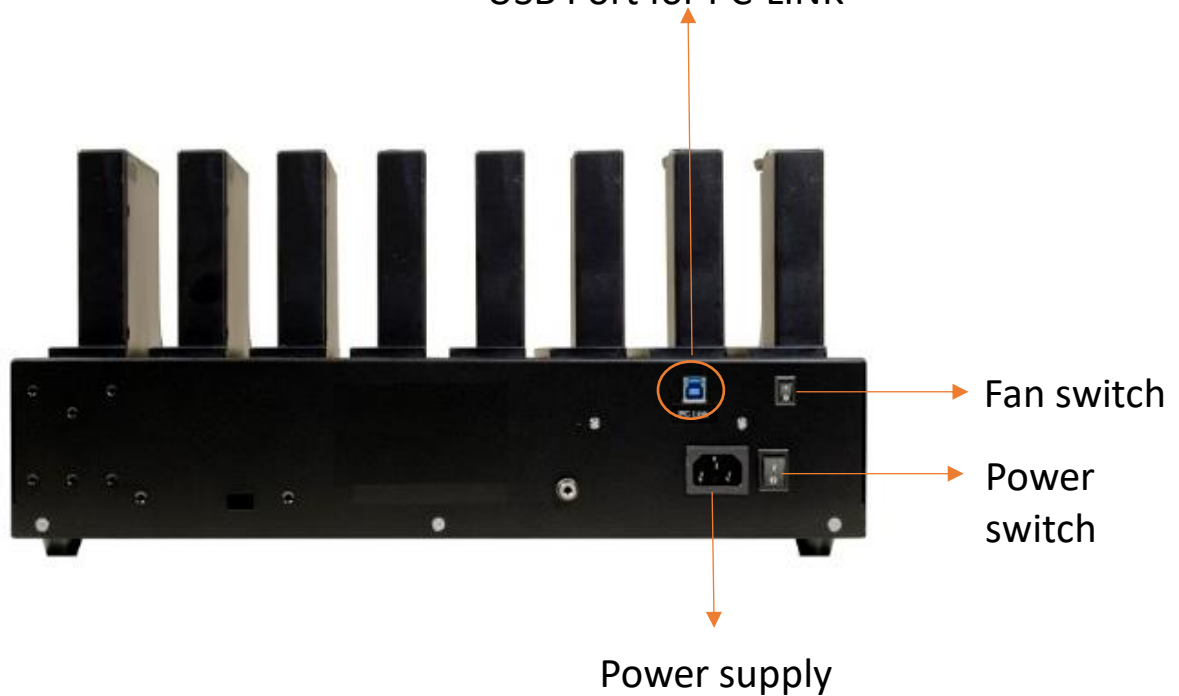
### USB port for

1. Output log report
2. Update FW

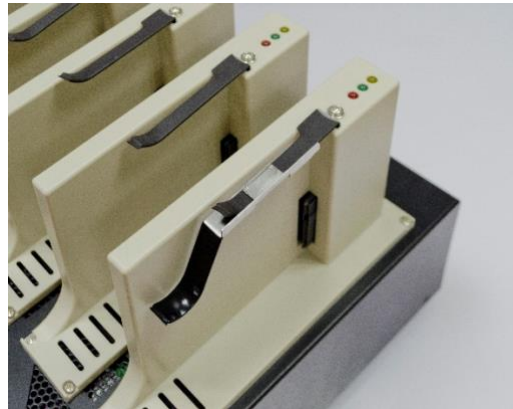


## ◎ Back View

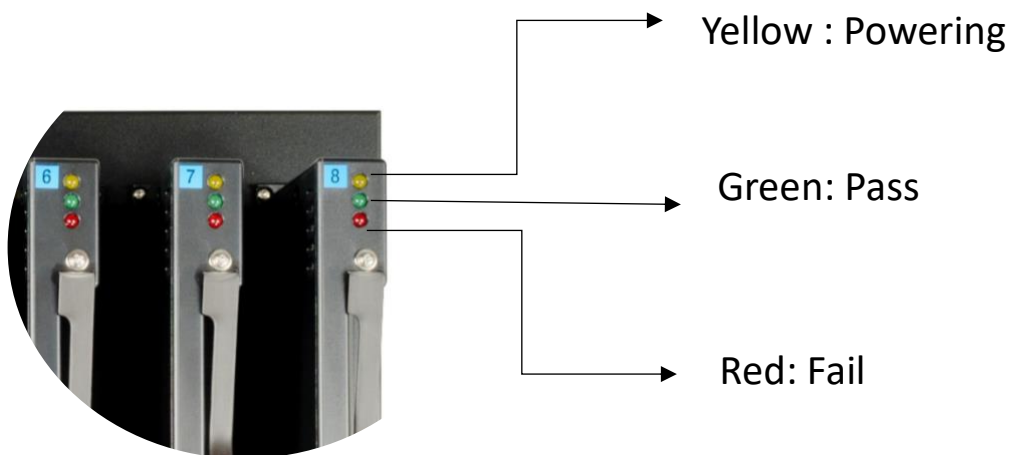
### USB Port for PC-LINK



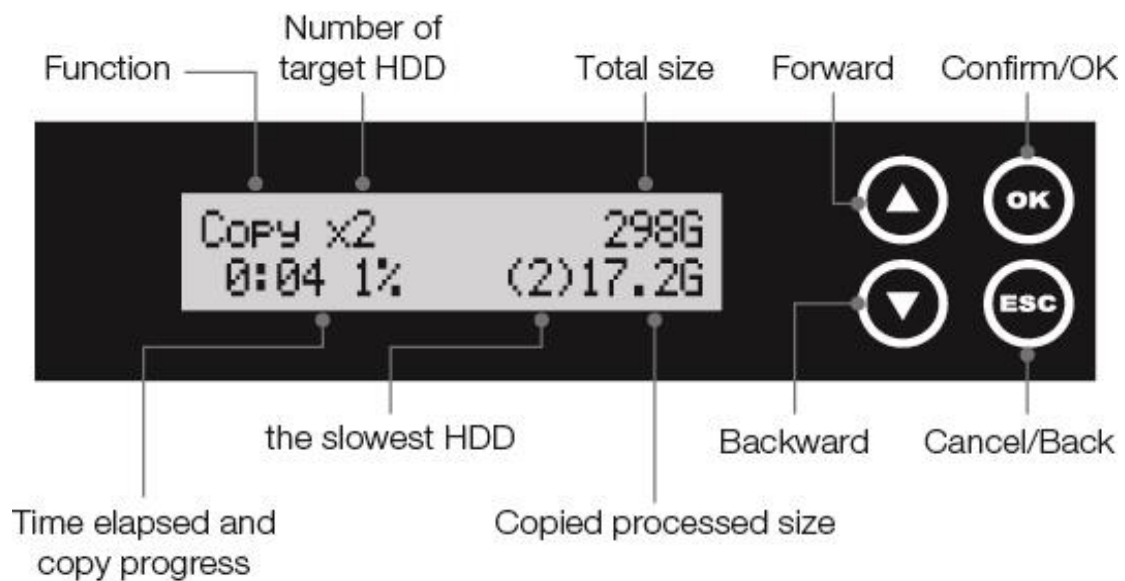
## ◎ Install 2.5" Module



## ◎ LED Indicator



## ◎ LCD Configuration





# Functions Table

| Function                | Descriptions  |
|-------------------------|---|
| <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>         | <b>4.1 Quick Erase</b><br>Erases device(s)' index table.  |
|                         | <b>4.2 Full Erase</b><br>Erases entire device(s), complying with NIST 800-88 Standards.                             |
|                         | <b>4.3 DoD Erase</b><br>Erases device(s), complying with DoD 5220.22-M Standards.                                   |
|                         | <b>4.4 DoD EraseComp</b><br>Erases device(s), complying with DoD 5220.22-M Standards and verifies complete erasure. |
|                         | <b>4.5 7-Pass Erase</b><br>Erases device(s) 7 times complying with DoD 5220.22-M(ECE) Standards.                    |
|                         | <b>4.6 Secure Erase</b><br>Erases the non-loadable areas complying with NIST 800-88 Standards.                      |
|                         | <b>4.7 Enhanced Secure Erase</b><br>Erases devices that support this feature.                                       |
|                         | <b>4.8 US Army AR 380-19</b><br>Erases device(s) complying with "Army Regulation 380-19" by the US Army.            |
| <b>5. Utility</b>       | <b>5.1 Show Device Info.</b><br>Displays basic information such as device model, name, capacity, etc.               |
|                         | <b>5.2 Update System</b><br>Updates system firmware by any device at the source port or through the USB port.       |
|                         | <b>5.3 System Info.</b><br>Displays system information such as controller, model number, software version, etc.     |

|          |   |  |
|----------|---|--|
| 6. Setup | <b>5.4 Verify HDD</b><br>Scans device for any bad sectors by reading and writing.   |  |
|          | <b>5.5 Strict Verify HDD</b><br>Scans device for any bad sectors by reading and writing two times.  |  |
|          | <b>6.1 Start-up Menu</b><br>Sets default function to display during equipment initialization.   |  |
|          | <b>6.2 Copy Area</b>  | System and Files<br>Copies data and skips empty space. Only supports standard formats.       |
|          |   | ALL Partitions<br>Copies all partitions and data, unallocated partitions not included.       |
|          |   | Whole HDD<br>Copies all source data, bit by bit.   |
|          |   | Percentage (%)<br>Sets percentage of source capacity to copy.                                |
|          | <b>6.3 Copy GPT Backup Area</b><br>Enable this function to copy the end GPT format.   |  |
|          | <b>6.4 Skip Bad Sectors</b><br>Skips bad sectors during Copy/Compare/Erase.   |  |
|          | <b>6.5 Minimum Speed</b><br>Allows user to disable or set minimum threshold speed during Copy/Compare/Erase.                              |  |
|          | <b>6.6 Check Source Minimum Speed</b><br>Allows user to enable or disable the 1 <sup>st</sup> port speed check during Copy/Compare/Erase. |  |
|          | <b>6.7 Language</b><br>Sets preferred language.   |  |
|          | <b>6.8 Advanced Setup</b>   | <b>6.8.1 Unknown Format</b><br>Allows user to copy or skip unknown format(s).                |
|          |   | <b>6.8.2 Erase Master</b><br>Allows user to erase the source port or not.                    |
|          |   | <b>6.8.3 Erase Pattern</b><br>Sets whether to overwrite data in one-byte or Big random data. |

|                       |  |  |   |
|-----------------------|--|--|---|
|                       | <b>6.8.4 Wait HDD Time</b><br>Sets device power-up buffer time when tasks are initiated. Able to set from 3 to 30 seconds. |  |   |
|                       | <b>6.8.5 Lock Key</b><br>After keys are locked, only “OK/ESC” buttons will function. (System reboot is required)           |  |   |
|                       | <b>6.8.6 Copy HPA Area</b>   | <b>Do Not Copy HPA</b>   | <b>Keep Target HPA</b><br>Does not copy HPA data, but keeps target device’s original HPA setting. |
|                       |  |  | <b>Clear Target HPA</b><br>Does not copy HPA data and clears target device’s HPA setting.         |
|                       |  | <b>Setting Target HPA</b><br>Copies HPA setting from source device to target.        |   |
|                       |  | <b>Copy and Setting</b><br>Copies HPA setting and data from source device to target. |   |
|                       |  | <b>6.8.7 Clear HPA at ERASE</b>  | <b>Clear HPA Setting</b><br>Clears HPA setting during erase.                                      |
|                       | <b>Keep HPA Setting</b><br>Keeps original HPA setting during erase.  |  |   |
|                       | <b>6.8.8 Mark after Erase</b><br>Creates watermark on the device(s) after erase job is completed.                          |  |   |
|                       | <b>6.8.9 Transfer Rate</b><br>Allows user to select from UDMA2 to UDMA7. The UDMA7 is the fastest.                         |  |   |
|                       | <b>6.8.10 Stop Motor Time</b><br>Sets device power down buffer time when tasks are completed.                              |  |   |
|                       | <b>6.8.11 Bytes Per Cmd</b><br>Sets the command size during writing.   |  |   |
|                       | <b>6.9 Restore Default</b><br>Reinstates manufacturer settings.  |  |   |
| <b>7. Log Manager</b> | <b>7.1 Out Today Report</b><br>Outputs today’s log data.   |  |   |

|   |   |
|---|---|
| <b>7.2 Out Recent Report</b><br>Outputs recent log data.        |   |
| <b>7.3 Out Period Date</b><br>Outputs a set period of log data. |   |
| <b>7.4 Advanced Function</b><br>Default password:<br>123456     | <b>7.4.1 Clear ALL Log</b><br>Clears all log records.                           |
|   | <b>7.4.2 Setup Password</b><br>Allows password change.                          |
|   | <b>7.4.3 Adjust Clock</b><br>Sets time and date.                                |
|   | <b>7.4.4 Add Watermark at TEXT file</b><br>Creates watermark on the log report. |

# 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.

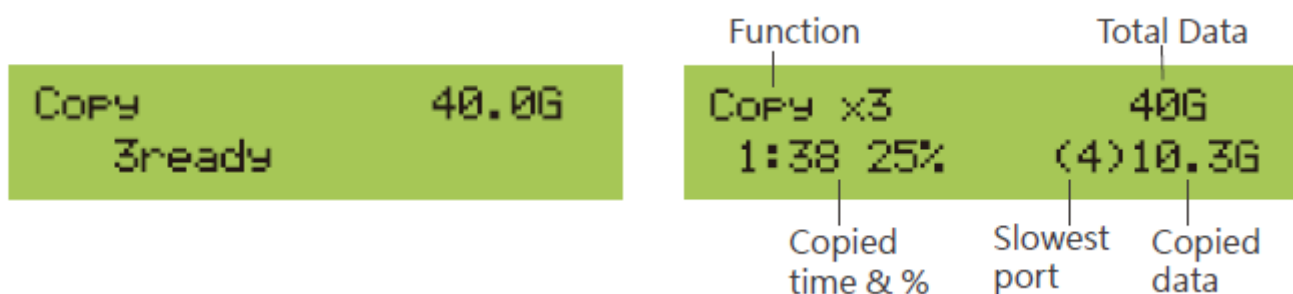
### Step 3: Proceed to copy.

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 jobs.

#### 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.

Pass:3 Fail:0 8:00  
CRC:7073923CEBDF7B58

#### 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 Device 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

### Step 1: Prepare a USB drive for update.

Connect a USB drive to a PC. Download the latest firmware provided by supplier's 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 Update System", 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 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.

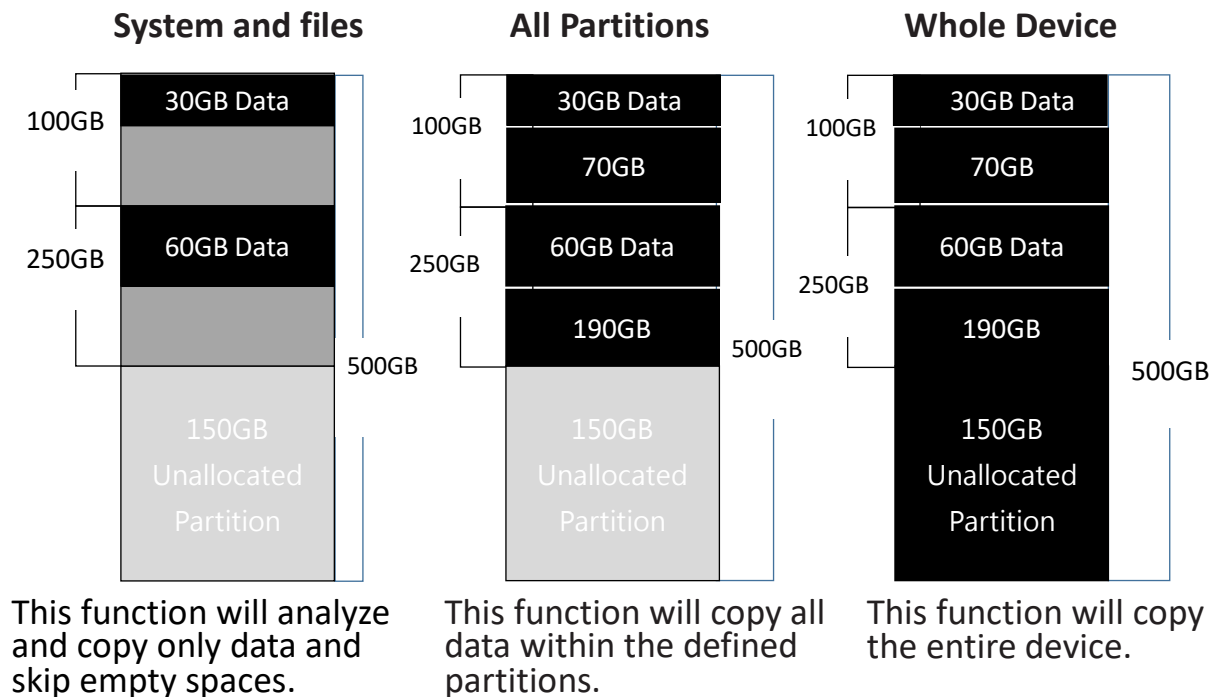
## 6.2 Copy Area

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.



### ● 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

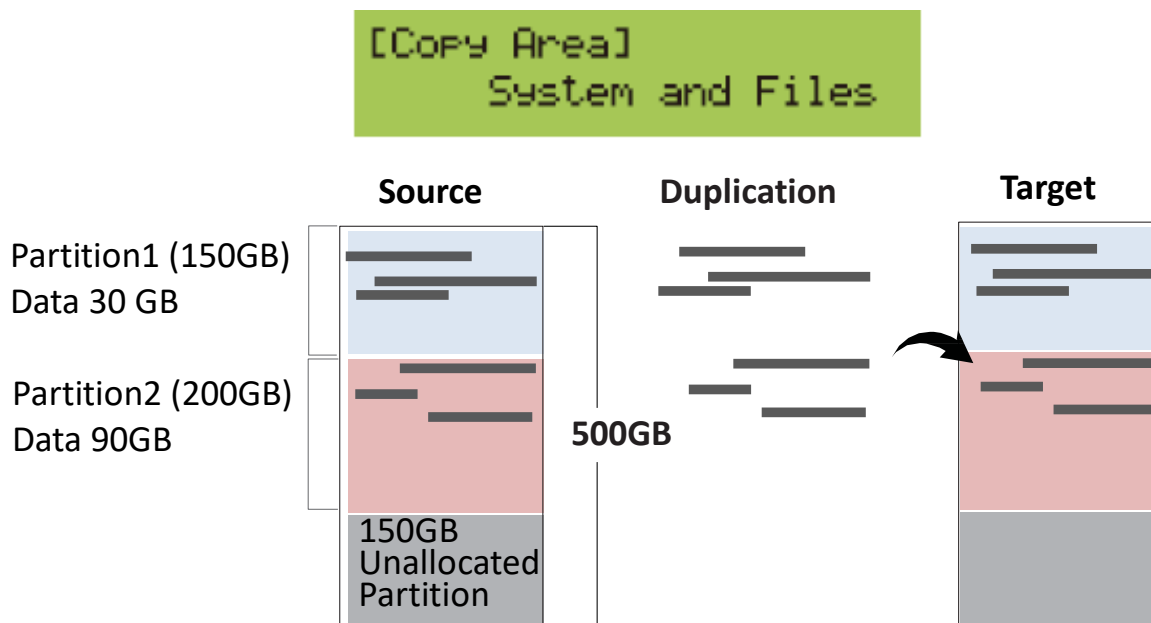
Using appropriate copy modes can greatly reduce operation time and increase efficiency. There are four copy modes with different copy methods.

### ❶ System and Files

Copies data and skips empty space. Only supports standardized formats.

Allows user to copy source device's System and Files, instead of the entire device.

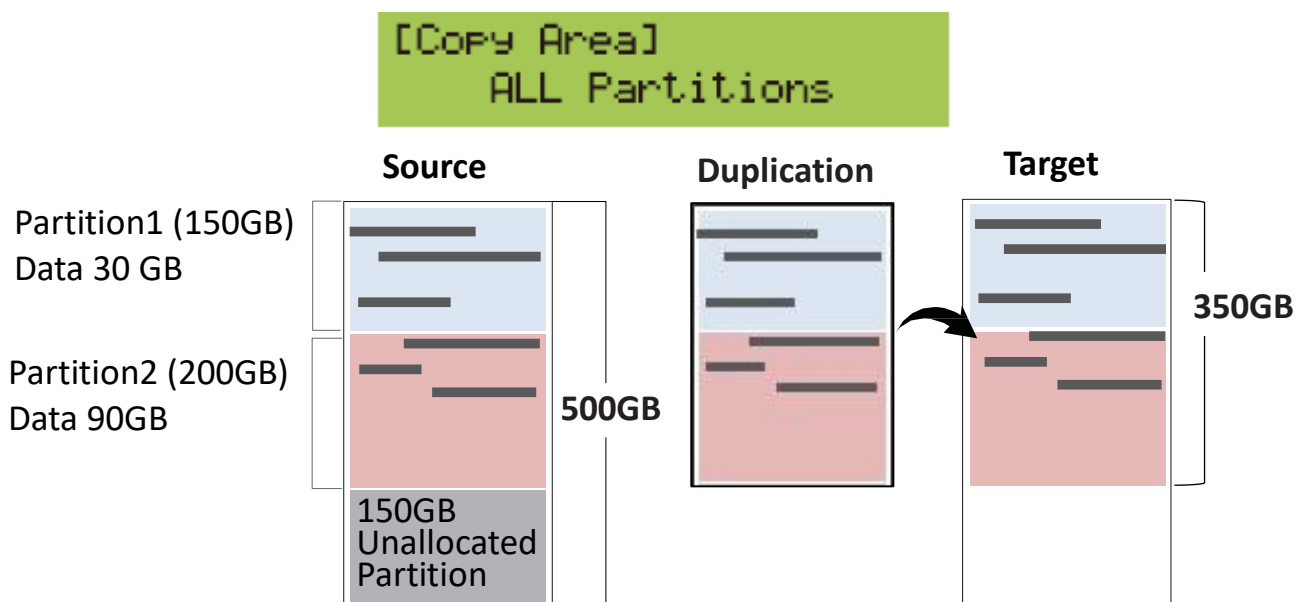
The system will analyze the source device and identify the data area to copy. If the source device's data is within the target device's capacity, the copy will be processed. FAT16/32/64, NTFS, EXT2/EXT3/EXT4, and HFS/HFS+/HFSX are supported in this copy mode.



Only 120G data area will be copied.

## ②All Partitions

Copies all partitions and data, unallocated partitions not included. The target device's capacity must be equal to or larger than the source device's capacity.

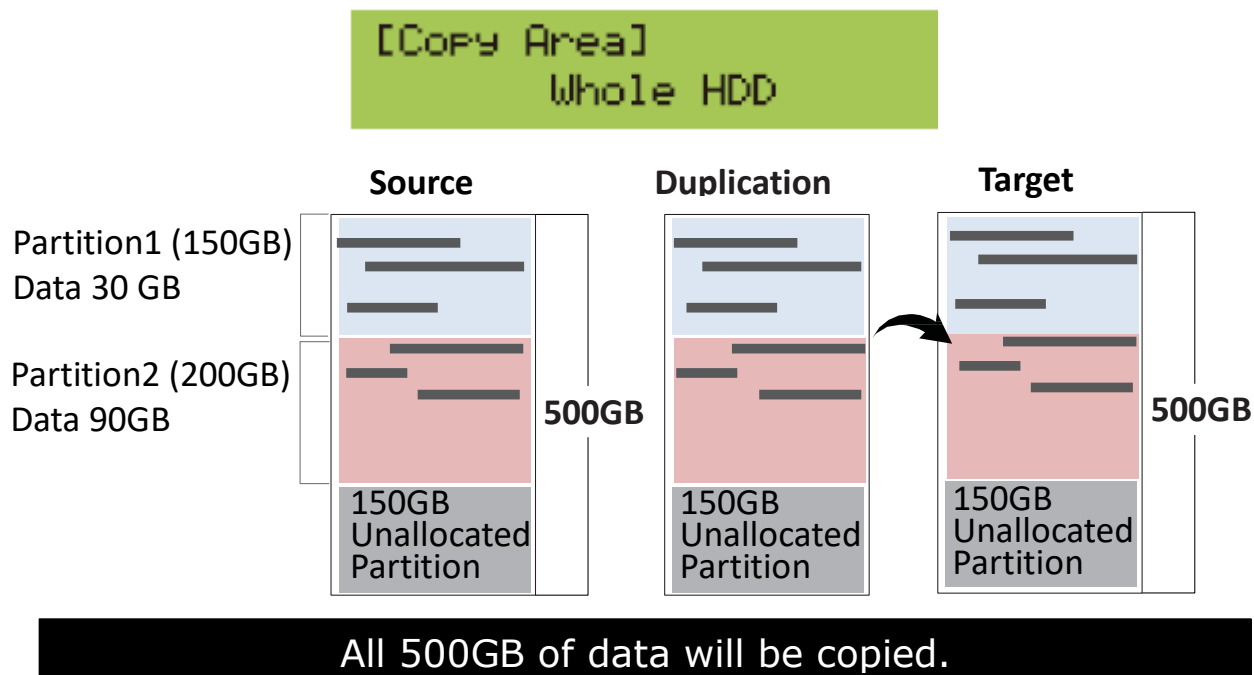


350GB of all Partitions along with its contents will be copied.

### ③ Whole Device

Copies all source data bit by bit.

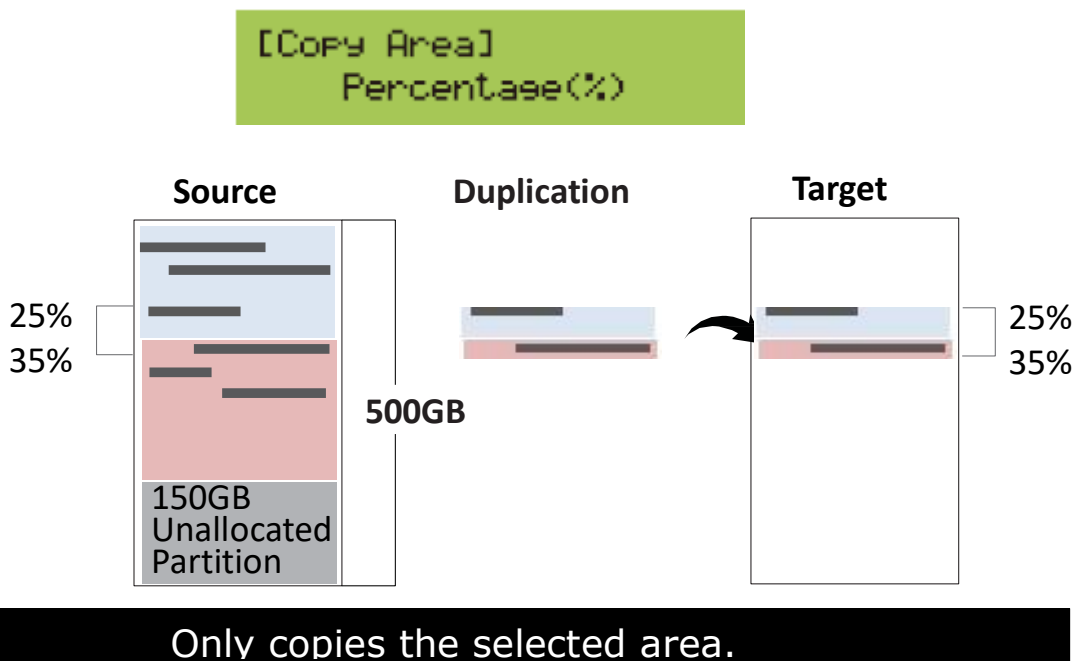
Copies the whole source device, irrespective of content, format, partition or empty space. This mode does not analyze the data.



### ④ Percentage (%)

Select percentage of source capacity to copy.

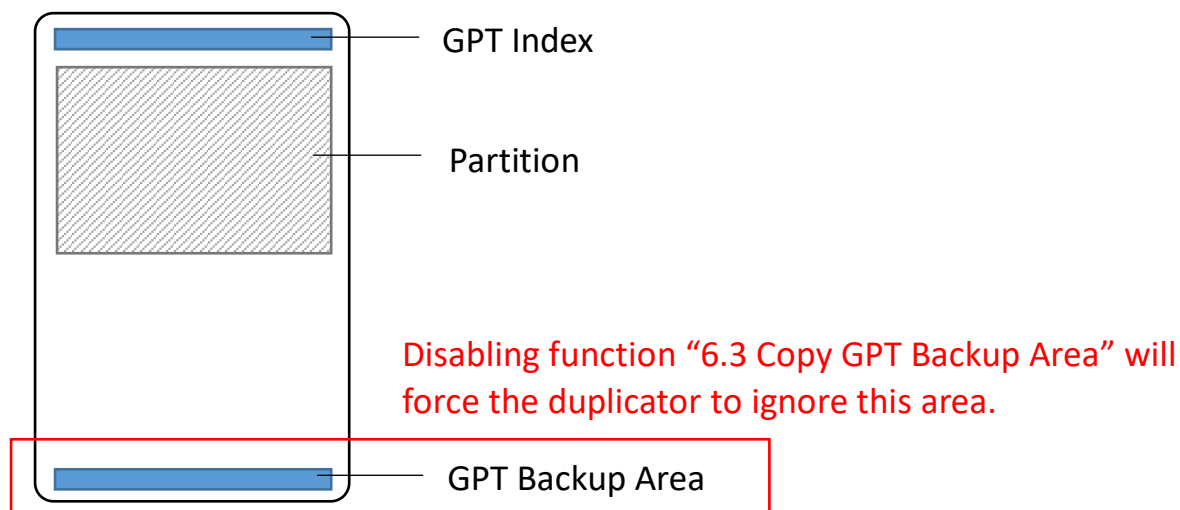
Scroll to select "Percentage", set the upper and lower %, then press "OK" to save the copy method.



### 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 1<sup>st</sup> 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, Japanese or Spanish.

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.

#### **① Copy Unknown**

Copy unknown format(s).

Scroll to select "6.8.1 Unknown Format >> Copy Unknown", then press "OK" to save this setting.

#### **② 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.

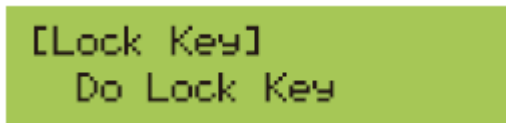
### ❶ Disabled

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

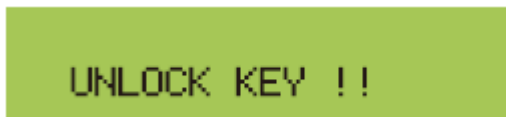
### ❷ Enabled

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.

- ② 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.

- ③ 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.

- ① 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.

- ② 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 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."

### 6.8.9 Transfer Rate

Allows user to select the transfer rate.

Scroll to select "6.8.9 Transfer Rate", then press "OK". Select the desired transfer mode from UDMA2 to 7. The default is UDMA7.

### 6.8.10 Stop Motor Time

Sets device power down buffer time when tasks are completed.

Scroll to select "6.8.10 Stop Motor Time", then press "OK" to set buffer time from 1 to 20 seconds. The default is 5 seconds.

### 6.8.11 Bytes Per Cmd

Sets the command size during writing.

Scroll to select "6.8.11 Bytes Per Cmd", press "OK," and select the command size from 64KB to 32MB.

#### Note

This function is designed for handling SMR disk.

## 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

```
Print Date      : 2016-03-09 13:35:33
Machine Model   : HDD Dupe 1-15 (HD3464)
Machine Version : 2.36.0
Machine ID      : 34640.13784.18562.64424.36864
Start No. Date  : 2016-02-09
End No. Date    : 2016-03-09

=====
Job: COPY

Time Start: 2016-02-24 13:12:24
Time End: 2016-02-24 13:16:05

Source HDD Model : HGST HTS725050A7E630
Version          : GH20A420
Serial Number    : TF0500WE00D93V
Capacity         : 465.7GB(976773168 sectors)
Data Size        : 23.6GB(49581335 sectors)
Copy Area        : System and Files
CRC-64-ECMA-182 : D2970AB76F250409

Quantity Total: 3
Pass: 3
Fail: 0

[Pass Record]
Port No. Port:02, 2016-02-24 13:12:24 ( 221 seconds)[HGST HTS725050A7E630][GH20A420]
Port:03, 2016-02-24 13:12:24 ( 221 seconds)[HGST HTS725050A7E630][GH20A420]
Port:04, 2016-02-24 13:12:24 ( 220 seconds)[HGST HTS725050A7E630][GH20A420]

S/N Capacity (Sectors) Write Speed Power-on Hours Power Cycle
[TF0500WE0083GV] 465.7GB(976773168) [Write Speed=113.6MB/second] [power_on_hours=95, power_cycle=1387]
[TF0500WE007XZV] 465.7GB(976773168) [Write Speed=113.6MB/second]
[TF0501WE01PM5Z] 465.7GB(976773168) [Write Speed=114.1MB/second] [power_on_hours=140, power_cycle=2614]
```

**Source device**

**Copy Area and Check Sum**

**Result**

### 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.

```
[Log #1-#6]
1.Out Today Report
```

### ❷ Export Recent Log Report

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

```
[Log #1-#6]
2.Out Recent Report
```

### ❸ Export Custom Log Report

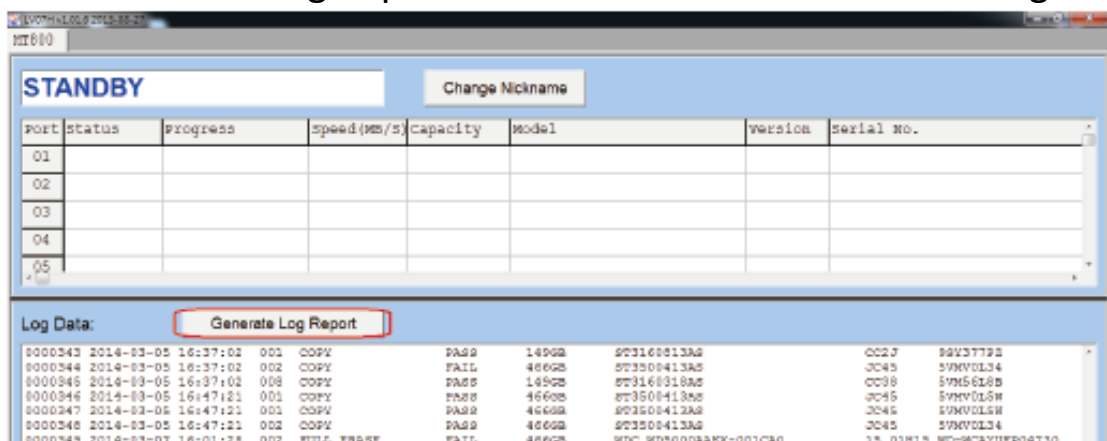
Exports a specific time period's log report via USB port to a USB drive.

```
[ Log #1-#6 ]
3.Out Period Data
```

## III. Output Log Reports through LV07H Program.

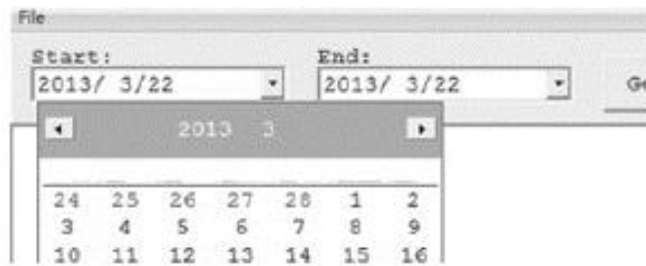
After finishing all tasks, press <ESC> key, the LV07H status will return to STANDBY.

**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.

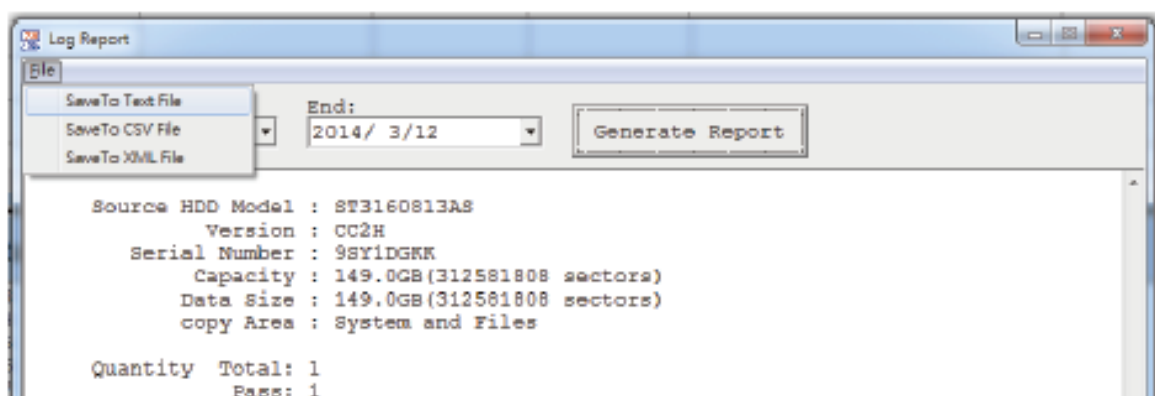
| Log Data: |                     | Generate Log Report |            |      |       |                       |  |
|-----------|---------------------|---------------------|------------|------|-------|-----------------------|--|
| 0000343   | 2014-03-05 16:37:02 | 001                 | COPY       | PASS | 149GB | ST3160813AS           |  |
| 0000344   | 2014-03-05 16:37:02 | 002                 | COPY       | FAIL | 466GB | ST3500413AS           |  |
| 0000345   | 2014-03-05 16:37:02 | 008                 | COPY       | PASS | 149GB | ST3160318AS           |  |
| 0000346   | 2014-03-05 16:47:21 | 001                 | COPY       | PASS | 466GB | ST3500413AS           |  |
| 0000347   | 2014-03-05 16:47:21 | 001                 | COPY       | PASS | 466GB | ST3500413AS           |  |
| 0000348   | 2014-03-05 16:47:21 | 002                 | COPY       | PASS | 466GB | ST3500413AS           |  |
| 0000349   | 2014-03-07 16:01:28 | 002                 | FULL ERASE | FAIL | 466GB | WDC WD5000AAKX-001CA0 |  |
| 0000350   | 2014-03-10 10:36:56 | 001                 | COPY       | PASS | 466GB | ST9500325AS           |  |
| 0000351   | 2014-03-10 10:36:56 | 001                 | COPY       | PASS | 466GB | ST9500325AS           |  |
| 0000352   | 2014-03-10 10:36:56 | 003                 | COPY       | PASS | 466GB | ST3500413AS           |  |

#### 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.

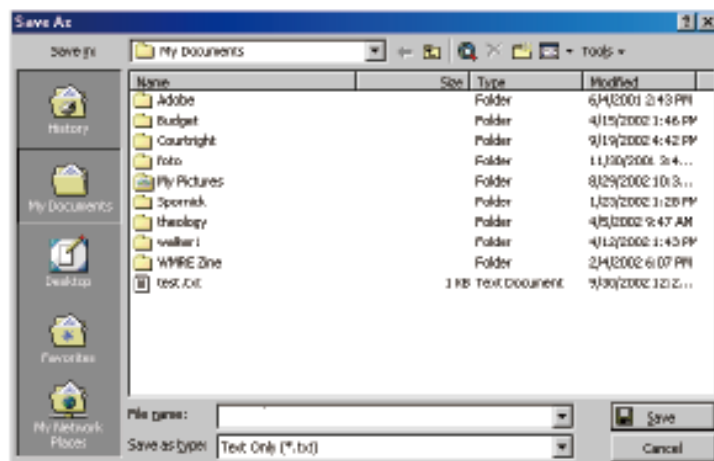
At the top-left of Log Data screen, select <File> then <Save to Text File>.



#### 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, the report will be in the folder in 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.

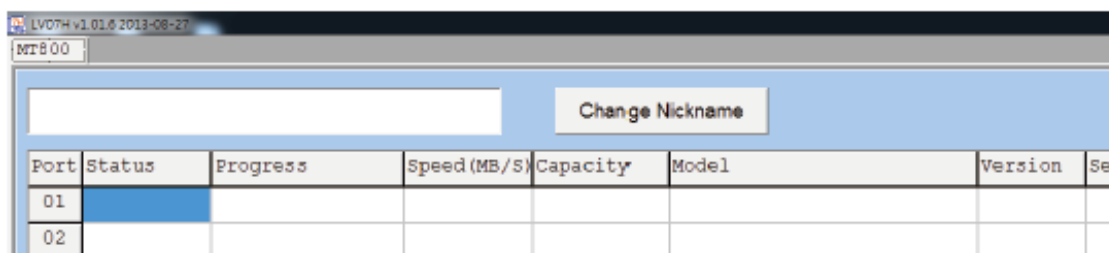
**Step 4:** Launch LV07H by double clicking on software icon "LV07H ". 



## 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 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

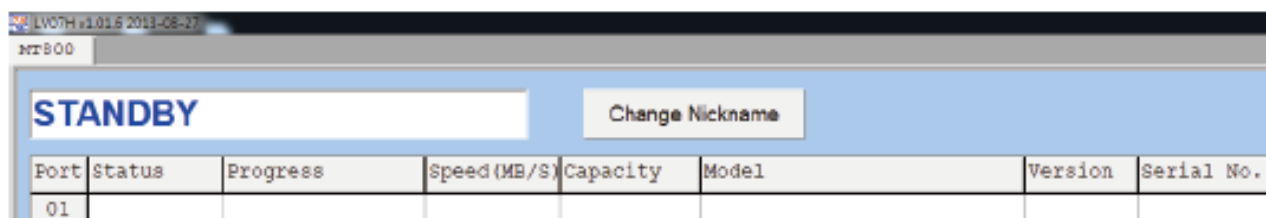
If the system requests “Run the program as an Administrator”, right click “LV07H”, then set it in “Properties” > “Compatibility”.

# 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".



The screenshot shows the 'STANDBY' status in a blue box. Below it is a table with columns: Port, Status, Progress, Speed (MB/S), Capacity, Model, Version, and Serial No. The first row shows Port 01 with Status 'STANDBY'.

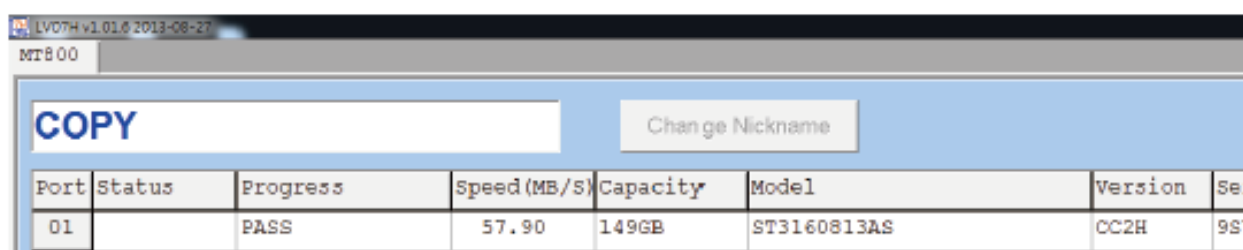
| Port | Status  | Progress | Speed (MB/S) | Capacity | Model | Version | Serial No. |
|------|---------|----------|--------------|----------|-------|---------|------------|
| 01   | STANDBY |          |              |          |       |         |            |

**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.

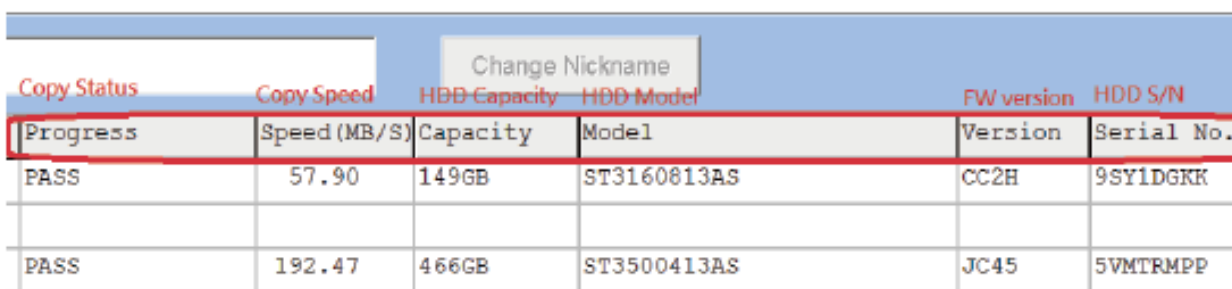
## Note

Copy speed varies during operation.



The screenshot shows the 'COPY' status in a blue box. Below it is a table with columns: Port, Status, Progress, Speed (MB/S), Capacity, Model, Version, and Serial No. The first row shows Port 01 with Status 'COPY' and Progress 'PASS'.

| Port | Status | Progress | Speed (MB/S) | Capacity | Model       | Version | Serial No. |
|------|--------|----------|--------------|----------|-------------|---------|------------|
| 01   | COPY   | PASS     | 57.90        | 149GB    | ST3160813AS | CC2H    | 9S1        |

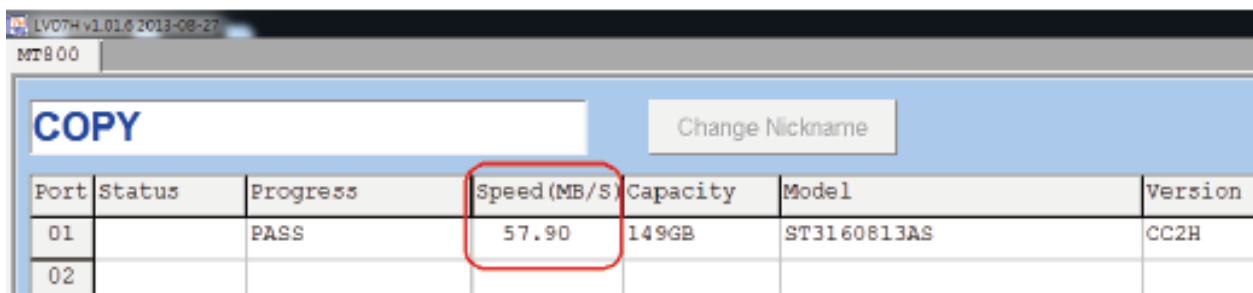


The screenshot shows a detailed view of the copy process. It includes a 'Copy Status' section with 'Copy Speed' and 'HDD Capacity' headers. Below this is a table with columns: Progress, Speed (MB/S), Capacity, Model, Version, and Serial No. The first row shows Progress 'PASS' and Speed '57.90'.

| Copy Status | Copy Speed   | HDD Capacity | HDD Model   | FW version | HDD S/N    |
|-------------|--------------|--------------|-------------|------------|------------|
| Progress    | Speed (MB/S) | Capacity     | Model       | Version    | Serial No. |
| PASS        | 57.90        | 149GB        | ST3160813AS | CC2H       | 9SY1DGKK   |
| PASS        | 192.47       | 466GB        | ST3500413AS | JC45       | 5VMTRMPP   |

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





| Port | Status | Progress | Speed (MB/S) | Capacity | Model       | Version |
|------|--------|----------|--------------|----------|-------------|---------|
| 01   |        | PASS     | 57.90        | 149GB    | ST3160813AS | CC2H    |
| 02   |        |          |              |          |             |         |

## 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.

### 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 U-Reach support team for related software and operation details. |
|------|---|

# IT-G/IT-H/IT-U Series Datasheet

## Product Features

| Features                           | Descriptions   |
|------------------------------------|--|
| <b>Operation Type</b>              | Standalone, FPGA based operation (Non-PC based system design).   |
| <b>Controller Design</b>           | <ul style="list-style-type: none"> <li>• Embedded controller is designed to support capacities over 18TB+.</li> <li>• Constant improvement supports latest market available devices.</li> </ul>  |
| <b>Patented Daisy-Chain Design</b> | A scalable and modular system enables expansive ownership flexibilities.   |
| <b>Bandwidth Performance</b>       | <ul style="list-style-type: none"> <li>• IT-G speed transfers of up to 9.0GB/min. (150MB/sec.)</li> <li>• IT-H speed transfers of up to 18.0GB/min. (300MB/sec.)</li> <li>• IT-U speed transfers of up to 30.0GB/min. (500MB/sec.)</li> <li>• Dedicated bandwidth enables high volume replications without speed degradation.</li> </ul>                     |
| <b>Read-Only Source Port</b>       | There is no option to disable this built-in feature and it is integrated with all U-Reach duplicators.   |
| <b>Modular Cabling Design</b>      | Modular designed ports effectively reduce downtime and is cost effective for long term ownership.  |
| <b>Real Time PC-Monitoring</b>     | View live status for: writing/reading speeds, total capacity, current function progress per port.  |
| <b>Event Log Management</b>        | <ul style="list-style-type: none"> <li>• Records operating durations, individual port copy progressions, connected device models, capacities, serial numbers, and PASS or FAIL results.</li> <li>• Device writing/reading speeds are recorded.</li> <li>• Log report files are generated through the front USB port and are saved to USB devices.</li> </ul> |

## Product Functions

| Functions                         | Descriptions  |
|-----------------------------------|---|
| <b>4 Copy Modes</b>               | <ul style="list-style-type: none"> <li>• <u>Quick Copy (Data &amp; System)</u>: Supports Windows, Mac, and Linux.</li> <li>• <u>All Partitions</u>: Users can skip HPA or unknown partitions.</li> <li>• <u>Whole Device</u>: Copies bit-by-bit from the master device.</li> <li>• <u>Percentage Copy</u>: Users can set percentages of capacity to be copied.</li> </ul> |
| <b>Compare (Verification)</b>     | <ul style="list-style-type: none"> <li>• Bit-by-bit data comparison from the source device to target device(s).</li> </ul>  |
| <b>8 Sanitization Modes</b>       | <ul style="list-style-type: none"> <li>• Quick Erase</li> <li>• Full Erase (NIST 800-88)</li> <li>• DoD3 Pass (DoD 5220.22-M)</li> <li>• DoD3 Pass+Compare (DoD 5220.22-M)</li> <li>• DoD7 Pass</li> <li>• Secure Erase (NIST 800-88)</li> <li>• Enhanced Secure Erase</li> <li>• NSA Erase</li> </ul>  |
| <b>Bad Sector Scan</b>            | Scans device for any bad sectors by reading and writing.  |
| <b>Thorough Sector Scan</b>       | Scans device for any bad sectors by reading and writing two times.  |
| <b>Skip Bad Sectors</b>           | <ul style="list-style-type: none"> <li>• Choose the number of bad sectors to skip.</li> </ul>   |
| <b>Minimum Speed</b>              | Disable or set minimum threshold speed to drop the slowest device.  |
| <b>Check Source Minimum Speed</b> | Allows user to enable or disable the source speed check.  |
| <b>Unknown Format</b>             | Choose to copy or skip unknown formats.   |
| <b>Erase Source Port</b>          | Enable or disable source port from being erased.  |
| <b>Device Power-up</b>            | Choose time to wait for the device to power up prior to copy, erase, etc.   |
| <b>Device Power-down</b>          | Choose time to wait for the device to power down prior to disconnection.  |
| <b>Scroll Lock</b>                | Disable or enable ▲ and ▼ buttons on the control panel.   |
| <b>HPA Copy Modes</b>             | Allows user to choose various HPA replication methods.  |
| <b>Clear HPA at Erase</b>         | Keep or clear HPA settings during sanitization process.   |
| <b>Language</b>                   | English or Japanese.  |
| <b>Transfer Modes</b>             | Allows user to select the transfer rate.  |
| <b>Log Manager</b>                | Manage and export log reports.  |

## Product Compatibilities

| Compatibilities                                    | Descriptions   |
|--|--|
| Compatible Devices                                 | 1.8"/2.5"/3.5" eSATA/SATA HDDs and SSDs  |
| Compatible Devices<br>(Requires Optional Adapters) | 2.5"/3.5" IDE, iVDR, mSATA SSD, MicroSATA, M.2 (NGFF), CFast,  |
| Supported Formats                                  | <ul style="list-style-type: none"> <li>• Quick Copy Function: FAT16/32/64, Windows (NTFS), Linux (Ext2/Ext3/Ext4), and Mac (HFS, HFS+, HFSX).</li> <li>• Whole Device Copy Function: All Formats, including proprietary formats.</li> <li>• GPT, MBR, and Advanced Formats.</li> </ul> |
| 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:<br>Yellow (Power), Green (Pass), and Red (Fail)                       |
| Control Panel               | 4 Push Buttons (▲, ▼, OK, ESC)   |
| Power Requirements          | <u>Universal Power</u> : 115VAC or 230VAC, 50/60Hz   |
| Operational Temperature     | 5°C ~ 45°C ( <b>41°F ~ 113°F</b> )   |
| Non-operational Temperature | -20°C ~85°C ( <b>-4°F ~ 185°F</b> )  |
| Humidity                    | <u>Operating</u> : 20% ~ 80%, non-condensing<br><u>Non-operating</u> : 5% to 95%, non-condensing |
| Physical Dimensions (L×W×H) | <u>Please refer to model-specific datasheets</u>   |
| Product Weight              | <u>Please refer to model-specific datasheets</u>   |
| Certifications              | FCC, CE, RoHS  |

*Specifications are subject to change without notice.*