

CopyBox

SATA Hard Drive Duplicator



User Manual

v. 2.2

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Before You Start

Before You Start

Important Notice

- ◆ Read the complete operation instruction carefully contributes to better operation.
- ◆ Make sure the source device is correct and workable.
- ◆ To guarantee data consistency, strongly suggest the capacity of source and targets should be the same.
- ◆ It is strongly suggested to use [Copy+Compare] to achieve a perfect duplication.

Safety Precautions

- ◆ The warranty will expire if damage is incurred resulting from non-compliance with these operating instructions.
- ◆ Store the equipment out of the reach of children and infants.
- ◆ Please turn off the power before replace the socket.
- ◆ Never turn off the power while processing the firmware update.
- ◆ Use only approved power sources.
- ◆ The product is only suitable for operation in dry, dust free, clean environment.
- ◆ Do not allow liquids or foreign objects to enter. Failure to do so may severely damage your duplicator.

Function Table

Function	Description
1. Copy	Copies source HDD to multiple HDD. See Function [6.1 Copy area] to choose the copy mode you want.
2. Compare	Compares source and target data bit for bit.
3. Copy+ Compare	Performs both copy then compare when this function is selected.
4. Erase	4.1 Quick Erase Erases HDD's index table only.
	4.2 Full Erase Erase the whole HDD content.
	4.3 DoD Erase Erase HDDs three times complying with USA Department of Defense (DoD) standard.
	4.4 DoD EraseComp Erase HDDs three times complying with USA Department of Defense (DoD) standard and bit by bit to check if data is completely erased. It takes 4 times longer than full erase.
	4.5 Secure Erase The international authorized high standard Secure Erase function. It is able to erase the area which is not loadable.
5. Utility	5.1 Show Disk Info. Shows HDD's basic information such as HDD model name and capacity.
	5.2 Update System
	5.2.1 Update BIOS To update firmware on the system via the HDD.
	5.2.2 Create Update HDD To format the HDD with a 2GB FAT partition in order to quickly save firmware in the HDD.
	5.3 System Info. This function will show information of the duplicator system, including controller model number and software version.
5.4 Get Checksum This function will show caculation result of 16-digit code for each port.	

Function Table

6. Setup	6.1 Copy Area	6.1.1 System and Files Set to copy source HDD's data area only.		
		6.1.2 ALL Partitions Set to copy source HDD's all partitions.		
		6.1.3 Whole HDD Set to copy the whole source HDD.		
		6.1.4 Percentage (%) Set to copy percentage range of the source HDD.		
	6.2 Skip Error Set to ignore error of source HDD while copying.			
	6.3 Language English / Japanese			
	6.4 Advanced Setup	6.4.1 Unknown Format	6.4.1.1 Copy Unknown Copy unknown area which the device cannot identify the format.	
			6.4.1.2 Skip Unknown Skip copy unknown area when the duplicator cannot identify the format.	
		6.4.2 Erase Master Setup to erase source HDD or not.	6.4.2.1 Disable Disable erase source HDD.	
			6.4.2.2 Enable Enable erase source HDD.	

Function Table

6. Setup	6.4 Advanced Setup	6.4.3 Erase Pattern	6.4.3.1 ONE Byte A random character to be written into every byte.
			6.4.3.2 Big Random Data A set of random character to be written into a set of area.
		6.4.4 Wait HDD Time Auto start time after plugging in HDD.	
		6.4.5 Transfer Rate Select the proper transfer rate UDMA2~7.	
		6.4.6 Stop Motor Time Auto running time after stopping motor.	
	6.5 Restore Default Back to the original manufacturer setting.		

Chapter 2 - Function Introduction

01 Copy

It copies data from source HDD to target HDD. Please ensure you select the copy mode you require. Select the copy mode in function [\[6.1 Copy Area\]](#).

Copy Process

Copy x1	149G
17:00 63%	95.3G



Please Note:

- The default setting is the quick copy mode [System and Files].

02 Compare

It is used to check if the data on source HDD is identical to target HDD after duplication finished.

03 Copy+Compare

It will copy first and then compare the target copied with the source to check the correctness of duplication.

Please note:

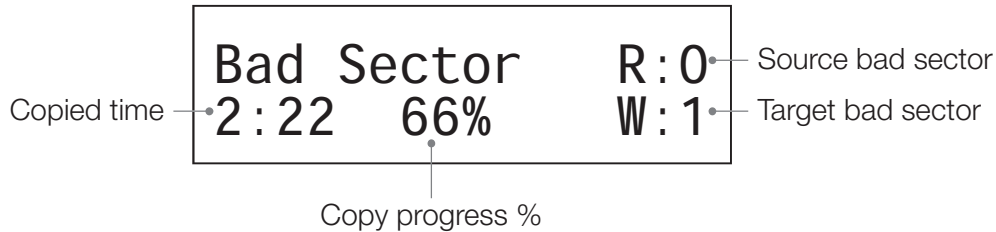
- ① LCD will show the quantity of bad sectors in Source and Target HDDs.

Copy Process

	Copy x1	149G	Total data capacity
Copied time	17:00 63%	95.3G	Copied data capacity
			Copy progress %

Function Introduction

Error Message (If there is any bad sector...)



Copy Result

Pass:2 Fail:0
Time 30:48



Please Note:

- The default setting of error counter is 0. You can increase the accepted error sectors of HDDs by using function 6.2 to setup [skip_error].

② Select the required copy mode in function [6.1 Copy Area], the default setting is quick copy mode [System and Files].



Please Note:

The special features of quick copy System and Files:

- Using this copy mode, the system will analyze the source's copy data area only, and only copy data and system files of the HDD. There is no need to copy the empty space.
- This function only supports FAT, NTFS and Linux (Ext2/Ext3/Ext4).
- We strongly recommend that you use the same capacity HDD for source and target.

04 Erase

There are Quick Erase, Full Erase, DoD Erase, DoD EraseComp, and Secure Erase, totally 5 kinds of erasing modes. Select one appropriate erase method when you would like to dispose or reuse the HDDs.



Please Note:

- Users can go to function [6.4.2 Erase Master] to select if erasing the source HDD. The default setting is [Disable] to erase the source HDD.
- The function can be stopped while processing by pressing <ESC> for about 3~4 seconds.

4.1 Quick Erase

This function only erases the HDD index to delete all data. It is the quickest way to erase HDD.

Please make sure you backup all important data before using this function because this function will delete the data in the HDD.

4.2 Full Erase

This function will erase all HDD sectors. It will take longer time than [\[4.1 Quick Erase\]](#).

Please make sure you backup all important data before using this function because this function will delete the data in the HDD

4.3 DoD Erase

This is to comply with the USA Department of Defense (DoD 5220) standard to fully erase the HDD. It uses the bit-for-bit method to rewrite the HDD and guarantee all data erased by three-time erasing process. Please make sure you backup all important data before using this function because this function will delete the data in the HDD.

Steps of Erase:

(1) This function will start executing DoD Erase after pressing <OK>.

**DoD Erase
Prepare Pattern**

Function Introduction

(2) Erasing...

```
Erasing HDD
DoD Erase    0:10
```

(Check each port by pressing ▲▼ buttons.)

```
Port No. [02]      149G
Erase [00]    14.2G
```

Erase it with writing 0

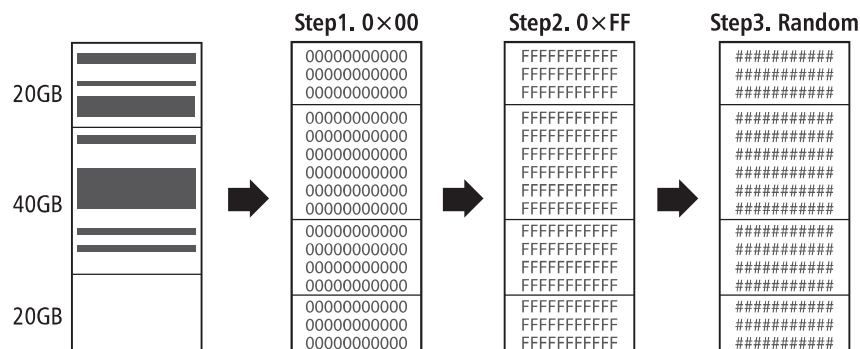
(3) The system will show the result when finish.

```
DoD Erase
Pass:5    Fail:1
```

4.4 DoD EraseComp

As well as DoD erase, this function will also execute compare function to make sure the random bit was correctly written. This function erases each sector of the HDD three times: the first time with zeros (0x00), second time with 0xFF and the third time with random characters, performs a bit by bit check to see if data is completely erased. It will damage the data in HDD, please make sure you backup all important data before using this function.

DOD Erase Method :



* The erasing time of DoD Erase mode is three times longer than Full Erase mode.

4.5 Secure Erase

The international authorized high standard Secure Erase function. It overwrites every single track on the hard drive with "00". Even PA/DCO or other data area which are not able to load, can be erased all together.



Please Note:

- Please do not disrupt during Secure Erase, otherwise it would cause irretrievable error on HDD, which turns the HDD unusable.

05 Utility

5.1 Show Disk Info.

This function will show HDD's basic information of both source and target HDDs.

Steps of showing HDD Info:

- ① Select function 5.1.

```
[5.Utility]
1.Show Disk Info.
```

- ② Press <OK> to show HDD information. Check each port by pressing ▲▼ buttons.

Port No.	[01]	149G	HDD Capacity
HDD Model No.	ST3160318AS		

Function Introduction

5.2 Update System

Please follow the steps below to update the system firmware.

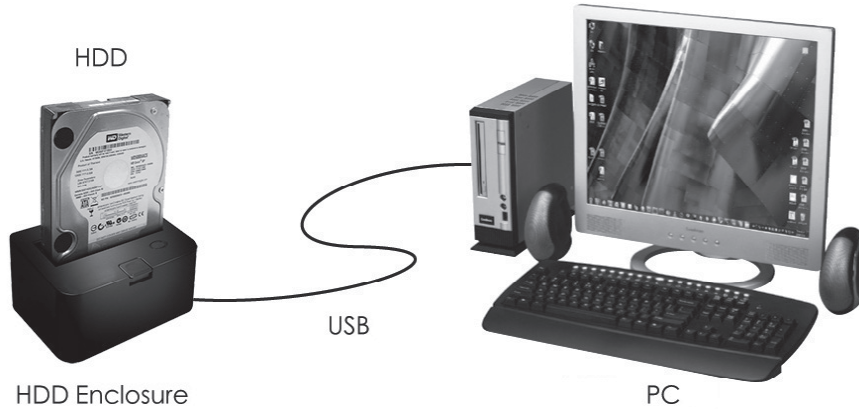
- Select Function [5.2.2 Create Update HDD].

[Update System]
2. Create Update

- Create Update HDD (create a 2GB FAT partition)
(The purpose is because 2GB FAT HDD Partition can speed up update process.)

Do FORMAT HDD#1
Confirm ?

- Download the BIOS from PC to your HDD.



- Plug the HDD into duplicator Port 1 Select function [5.2.1 Update BIOS], and waiting around 1 minute to finish the update process.

[Update System]
1. Update BIOS

5.3 System Info.

This function shows the duplicator information such as model name and firmware version.

BIOS version →

HDD DUPE 1-7 Ver: 2.33.1

5.4 Get Checksum

This function will calculate checksum of 16-digit code for each port. It will simultaneously record written message and calculate checksum code between source and targets.

[#01]Checksum: A8E6F6DB23687994

06 Setup

6.1 Copy Area

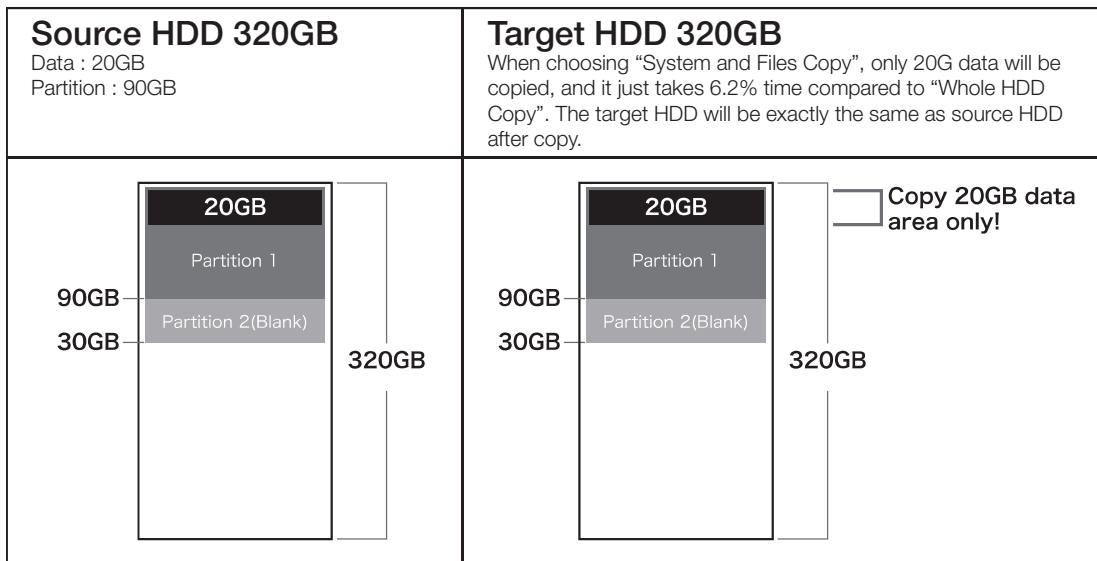
This setting is to select the copy mode you would like to use.

6.1.1 System and Files

It copies the source HDD's [System and Files]. The system will analyze the source HDD and identify the data area to copy. As long as the source HDD's data within the target HDD's free space, the copy will be processed.

[Copy Area] System and Files

Function Introduction



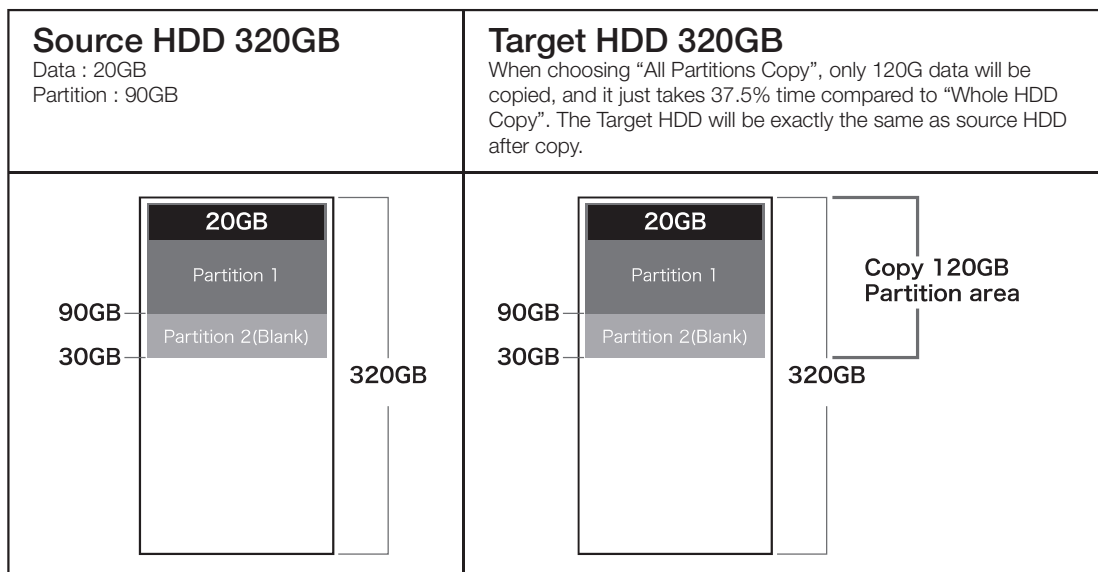
Please Note:

- System and Files only supports FAT, NTFS and Ext2/ Ext3/ Ext4 for quick copy.

6.1.2 All Partitions

This mode will copy all of the partitions bit by bit including the free space. The capacity of target HDD has to be larger than all the partitions.

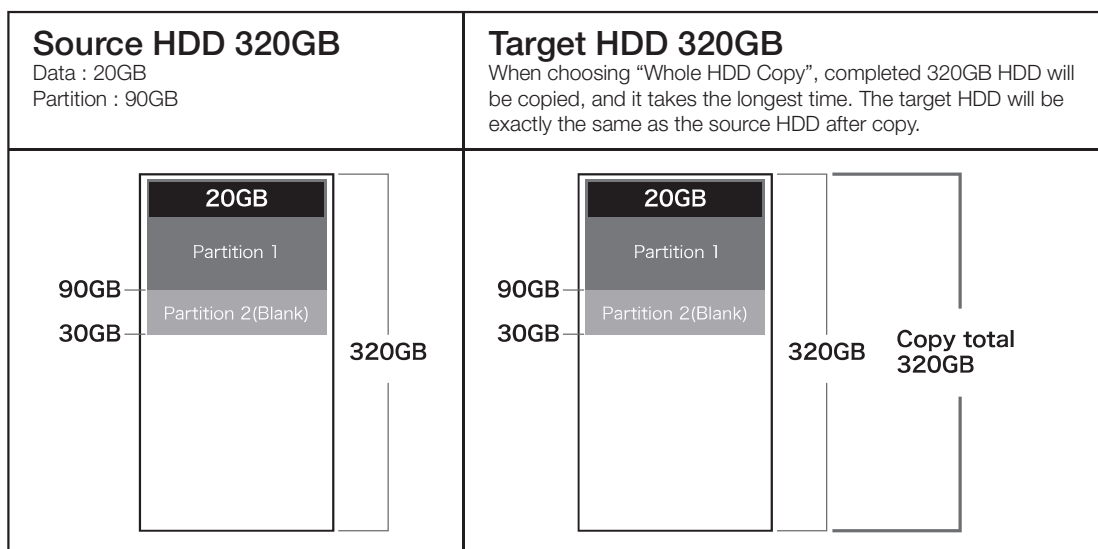
[Copy Area]
ALL Partitions



6.1.3 Whole HDD

This mode will copy the entire HDD, regardless of content, format, partition or free space. This mode will take much more time to duplicate the source HDD completely.

[Copy Area]
Whole HDD



Please Note:

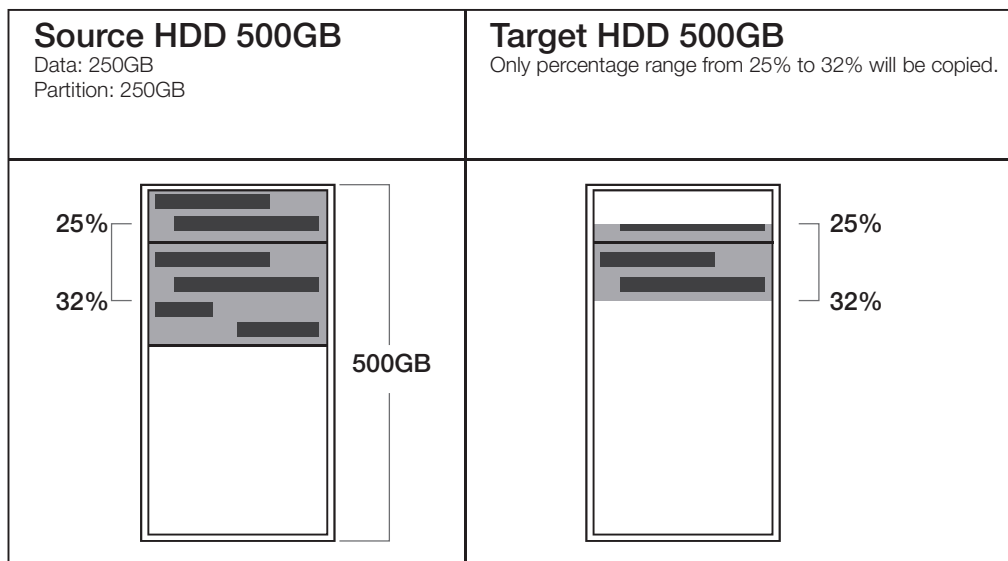
- After copy, the remaining space in the copied HDD can be used by PC for further partitioning.

6.1.4 Percentage(%)

This mode will copy the percentage selected of source HDD. Only copy the selected area, other area or data will not be copied. Duplication time is affected by [Transfer Rate] of HDD.

[Copy Area]
Percentage(%)

Function Introduction



6.2 Skip Error

This function sets the number of errors that is acceptable to skip during the copy process. (0-65535 or Unlimited)

[Skip Error]
0



Please Note:

- If it's critical that there are no errors on the HDD, then the error counter should be set to 0.

6.3 Language

Select preferred language. English and Japanese are available for selection.

6.4 Advanced Setup

6.4.1 Unknown Format

This function allows you to copy or skip any partitions with an unknown format.

6.4.1.1 Copy Unknown

The setting copies all the unknown partitions even if the format is not identified.

[Unknown Format]
Copy Unknown

6.4.1.2 Skip Unknown

The setting skips the unknown format partitions during copy process.

[Unknown Format]
Skip Unknown

6.4.2 Erase Master

This function allows if erasing the source HDD or not when executing erasing function. The default setting is [Disable] to avoid erasing important source data.

[Erase Master]
Disable

[Erase Master]
Enable

6.4.3 Erase Pattern

Select erase methods for the third time written data for functions [\[4.3 DoD Erase\]](#) and [\[4.4 DoD EraseComp\]](#).

Function Introduction

6.4.3.1 ONE Byte

A random character is written into every byte.

```
3737373737  
3737373737  
3737373737  
3737373737  
3737373737  
3737373737  
3737373737  
3737373737
```

```
[Erase Pattern]  
ONE Byte
```

6.4.3.2 Big Random Data

A set of random data is written into a set of area. This erase pattern method is safer for preventing from data recovered.

```
26A5C8781  
BF51337E81  
AA9641D3B  
5CDA756B1  
3BAFF21FF4  
1FBAC4C99  
7EDAF1237  
7F51C59C3
```

```
[Erase Pattern]  
Big Random Data
```

6.4.4 Wait HDD Time

You can select auto-start time after plugging in HDD, able to set the waiting time from 3 to 30 seconds.

```
[Wait HDD Time]  
15 Seconds
```

6.4.5 Transfer Rate

You can select the best transfer rate from UDMA 2 to UDMA7 for your HDD duplication process. UDMA7 is the fastest. If you are not confident on the HDD quality or you find a high failure rate on [copy] or [compare]. It is recommended to slow down the UDMA mode.

[Transfer Rate]
UDMA 5

6.4.6 Stop Motor Time

When the system finishes executing functions, the motor won't stop running immediately. This function is used to set the time of motor stopping after finishing function executing from 1 to 20 seconds.

[Stop Motor Tim]
5 Seconds

6.5 Restore Default

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

