



CFast Pantera User Manual



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The source port of duplicator is write-protected, and the settings and data content of any storage device in the source port will not be changed at all. Do not place the source storage device on the target port to avoid accidentally changing (deleting) of data. It has nothing to do with EZ Dupe if there is any mistake in correcting (deleting) the data by user. In addition, EZ Dupe is not responsible for the risks and data losses incurred as a result of duplication. By purchasing this product, the user accepts this statement and agrees to be bound by it.

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Before Use

1. Please read this manual carefully before operation to avoid any misconduct.
2. Make sure that the storage device you want to use is of good quality and can be used normally.
3. The capacity of target storage device must be greater than or equal to the capacity of source storage device to avoid incomplete data backup.
4. It is recommended to use the Copy + Compare function when backing up, to ensure that the backup data is 100% the same as the source data, because the target storage device may have write errors or damaged sectors.
5. When updating the firmware, please do not turn off the power. If the power is interrupted accidentally, the machine cannot be turned on, and it must be returned to the factory for processing.
6. Keep the duplicator used in a dry environment. Rain, moisture, liquid, etc. may corrode the circuit board and cause the machine to malfunction.
7. Avoid using the duplicator in dusty or dusty environments. Dust may cause bad contact with the port.
8. This product warranty does not apply to accident, man-made destruction, abuse, or improper use (such as using not in accordance with the product description, or intended to exceed the scope of use for which this product was designed, or improper use of fixtures, etc.)
9. If the duplicator performs normally, it is strongly recommended not to update the firmware, unless there is a problem in use or a new function is required.
10. For convenience, the source storage device will be referred to as the source device, and the target storage device will be referred to as the target device in this manual. The storage device used can be USB flash drive, SD or CF memory card based on the model of duplicator.

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I. Introduction

This duplicator system is designed and developed based on the FPGA from the world famous semiconductor company XILINX. Every processing channel is parallel to each other with its own control unit, therefore the duplicator will not sacrifice speed for the increasing number of targets loaded - always remain the same and fast copy speed. The duplicator supports fast copy with multiple file formats created by three major operating systems (Windows/Linux/MAC), and makes mirror copies of data efficiently. Furthermore, this duplicator has been fully tested with quality assurance before leaving our manufacturing facility.

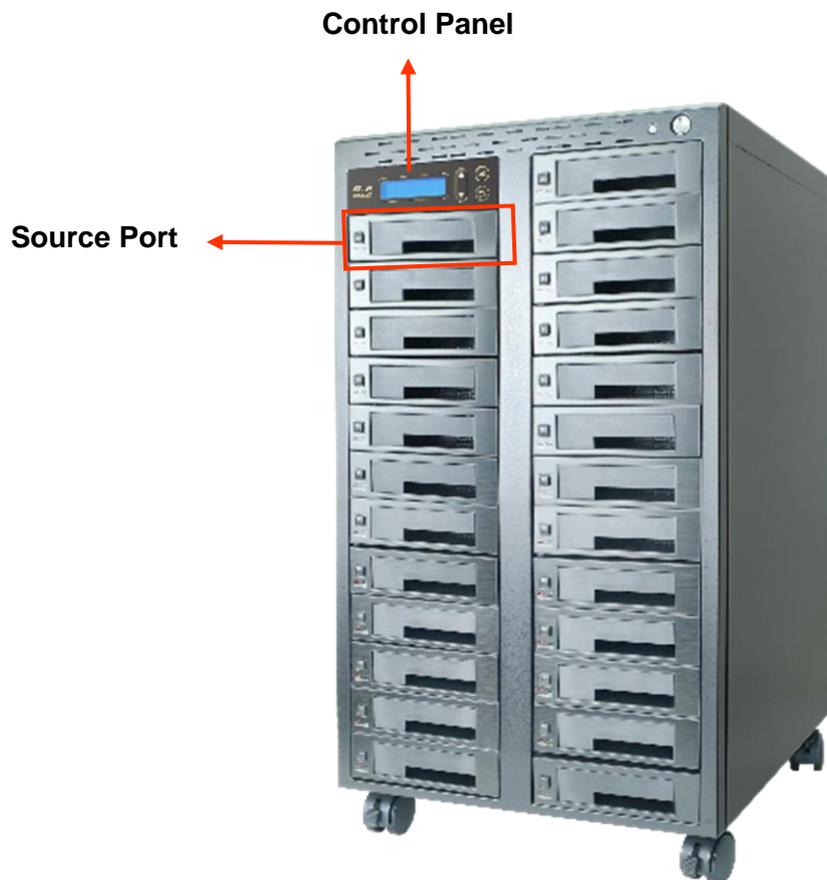
1. Features

- a. Each processing channel has its own control unit and operates independently with dedicated bandwidth of up to 300 MB per second.
- b. Standalone operation. No PC or software is required, minimizing possible computer virus infection.
- c. Instant power on and off, no warm-up or cool-down required.
- d. Easy-to-use One-Touch copy operation.
- e. Compare function available for verification of copy accuracy
- f. Menu options are user-friendly and easily accessed through the 4-button control panel. Use ▲ or ▼ button to scroll through the options and view the operation status of each channel on the 2-line backlit LCD display.
- g. Powerful 32-bit CRC checksum to assure data integrity.
- h. Heavy-duty hardware construction for commercial production or personal use.
- i. 115V and 230V switching power supply maximizes portability for operation anywhere.
- j. Designed to save users time and effort in creating multiple copies quickly and reliably.
- k. Unique source data analysis to copy data area only to achieve highest efficiency
- l. Supports multiple file formats: Windows: FAT 16/32、exFAT、NTFS, Linux: Ext 2/3/4, Mac: HFS/HFS+/HFSX.

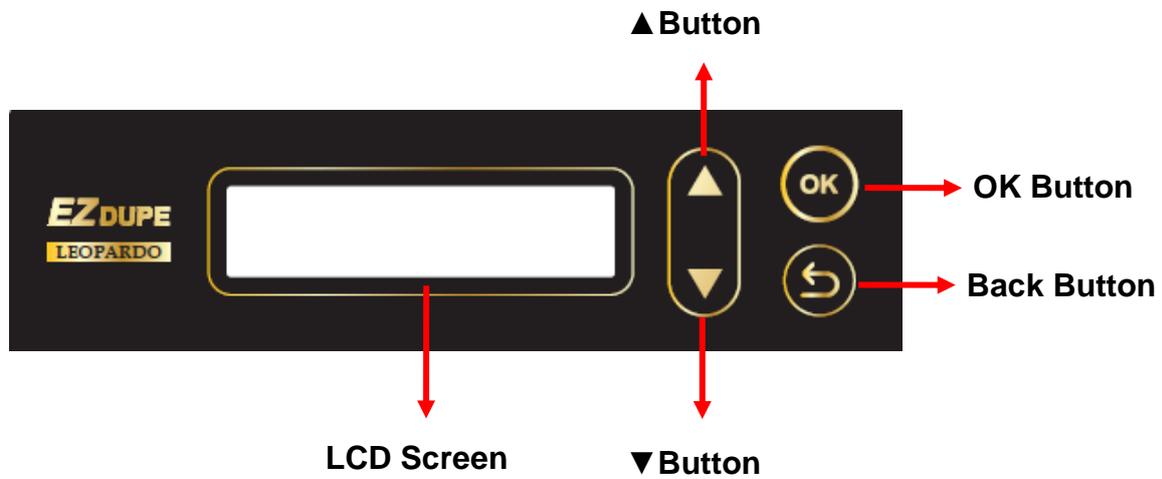
2. Duplicator Introduction

The following picture shows the 1-24 HDD Duplicator as an example. The source HDD port is at the upper left corner for master disk, and the rest are the ports for target disks. It is the same for all other duplicators with various number of ports. The appearance of the duplicator may be changed without notice.

The HDD port is numbered as port 0 for the source port, and the remaining HDD ports from left to right and from top to bottom are port 1, 2, 3, ..., and so on.



3. Control Panel Overview



▲ Button: Up, Backward: To navigate backward in the menu.

▼ Button: Down, Forward: To navigate forward in the menu.

OK Button: Enter, OK: Execute the function.

Back Button: Escape, Cancel: Go back to the previous level in the menu.

4. Specifications

Operation	Standalone (No PC or Software is required)
Target	3, 7, 11, 13, 16, 24
Transfer Speed	150MB/s (Pantera) or 300MB/S (Leopard)
Copy Mode	Synchronous
Copy Area	File and System, Percentage, All Partition, and Whole Media,
Supported Media	SATA 1, 2, 3 HDD
Supported File System Format (for Intelligent Copy)	Windows : FAT16/32, exFAT, NTFS Linux : Ext2/3/4 MAC : HFS/HFS+/HFSX
Display	2-line Backlit Monochrome LCD
Control Button	4 push-button control panel (OK, Back, UP, DOWN)
Memory	128MB DDR3

II. Warning

1. The duplicator tasks mentioned in this user's manual are as following: Copy, Compare, Copy + Compare, Capacity Check, Format and Erase.
2. Press and hold **Back** button during the execution process of a task will stop and exit the execution of the task.
3. DO NOT unplug HD drive from the duplicator during the execution process of a task. It may cause damage to the duplicator system and media.
4. It is strongly recommended that the targets device greater than or equal to the capacity of source storage device to avoid incomplete data backup.

III. Operation Overview

The duplicator will start to execute a task after the source and target devices have been inserted and the OK button is pressed. The task will begin and end at the same time for all target devices. Any other target device plugged in during the process of a task will not be executed with the task.

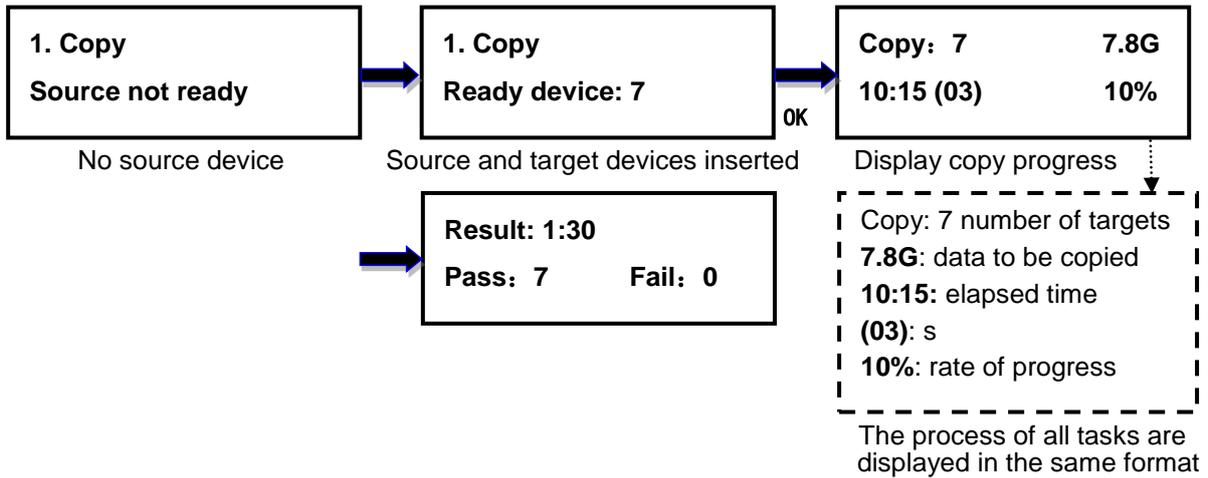
- a. Insert source media into the source channel and blank media into the target channels properly. The LCD display will show no source disk when source media is not plugged in yet, and show the number of target media inserted when source media plugged in.
- b. The **Ready device** on the LCD display will be increased one if the target device is plugged in properly.
- c. Select the task from menu, and press **OK** button to execute it.
- d. During the execution process, the status of each target device can be checked by using the ▲ and ▼ buttons.
- e. After the task is done, LCD display will show the number of successful and failed target(s), and execution time.
- f. If any target failed, LCD display will show the following information.
(The LCD will only show error message when all targets failed).

Pass 4 07:40 0X F : M_vvv-5vvv9	F: Failed M: Master _: the port # of unplugged target X=number: the port # of failed target v: stand for the port # of passed target ※The 2nd row in upper left square means port 1 has no HDD and port 05, 09 are fail. The 2nd row in bottom left square means port 10, 12, 17 are fail. Press ▼ can see the results of next 10 ports.
▼ 0X F : M_vvv-5vvv9 1X F : 0v2vv-vv7vv	

IV. Menu Overview

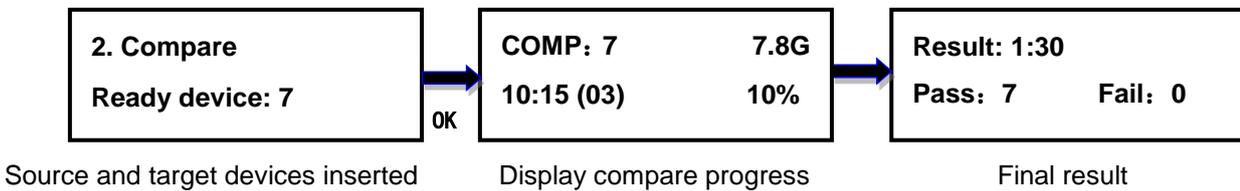
1. Copy

To copy from source device to target device(s), please go to **6.1 Copy Area** to select the setting first before this step.



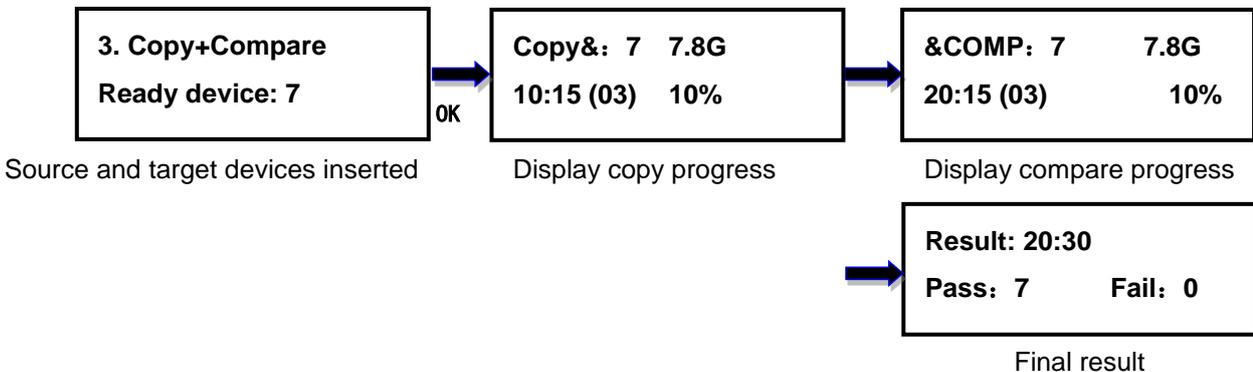
2. Compare

This command allows to compare the copied target devices against the source for accuracy.



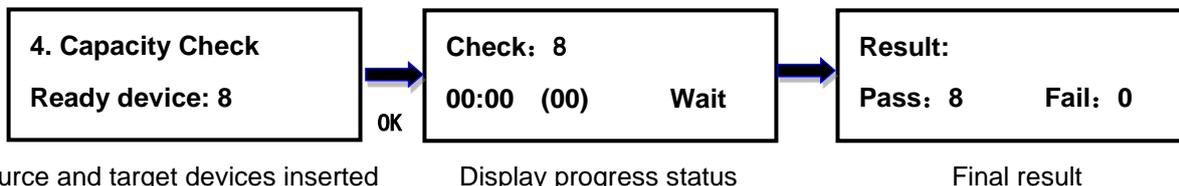
3. Copy + Compare

This command allows duplicator to start Copy process first, then follow with Compare process immediately.



4. Capacity Check

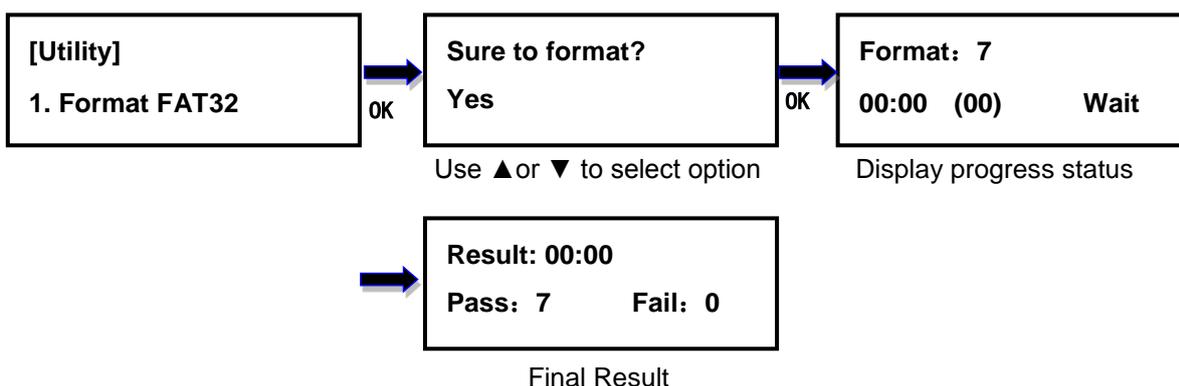
This command allows to verify the device capacity. It can detect the actual capacity of devices within 3 seconds.



5. Utility

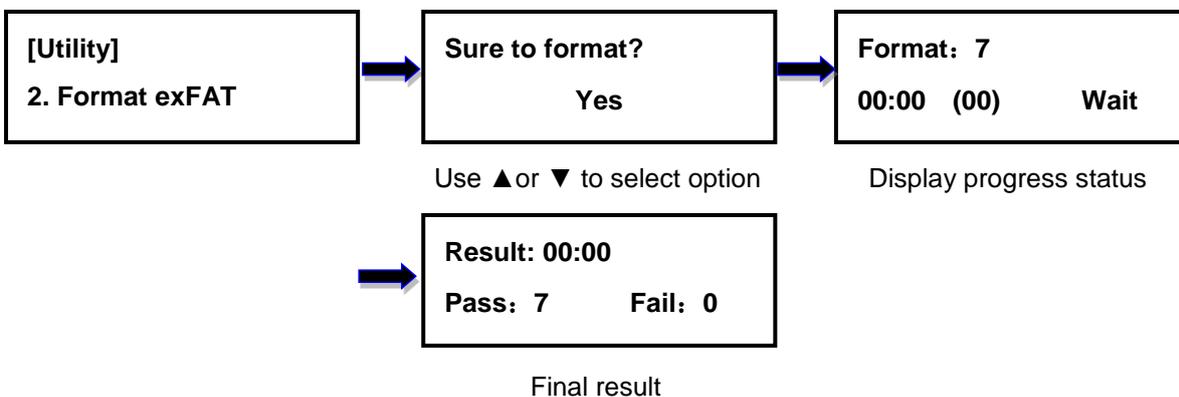
5.1 Format FAT32

This option allows to format the target device to FAT32 file format. It will not format the source device, avoiding accidentally erasing the original data content. User will be asked if it is sure to format the target devices before the Format process starts.



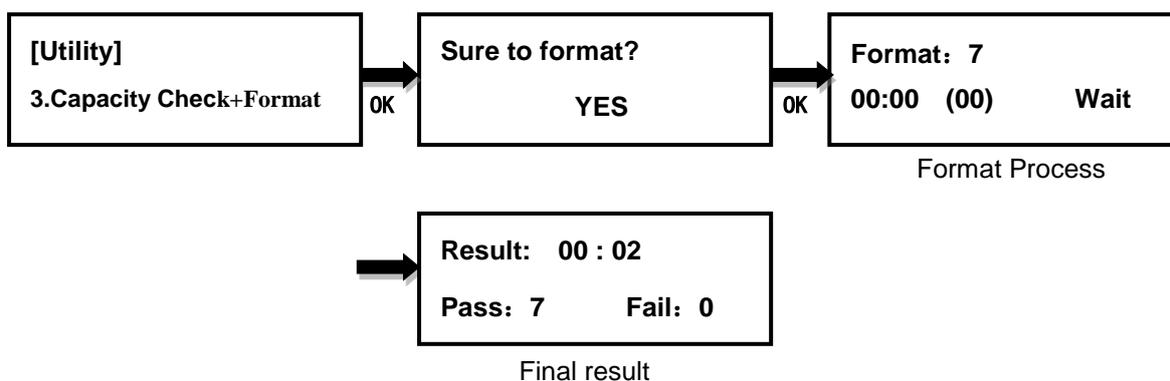
5.2 Format exFAT

This option allows to format the target device to exFAT file format. It will not format the source device, avoiding accidentally erasing the original data content. User will be asked if it is sure to format the target devices before the Format process starts.



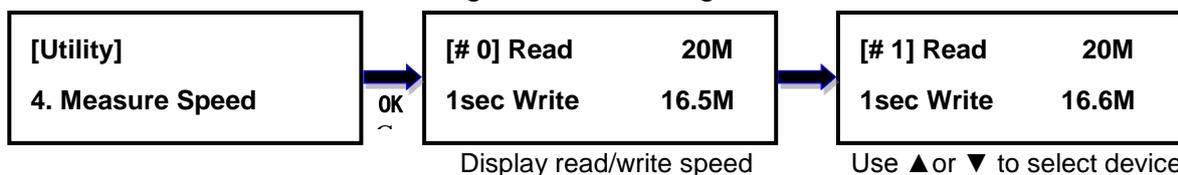
5.3 Capacity Check + Format

It will format the target devices to the file format according to the system Setup (please refer to 6.7 Set Format Type), then sort out target devices based on the capacity threshold (please refer to 6.8 Set Capacity Threshold). Duplicator will display the target device which is not in the capacity range and its red LED will flash. Press ▲ ▼ button to switch between the target devices with smaller capacity to check the data status. The ones without capacity issue will not be displayed to expedite the capacity check process. If Format and or Capacity Check is failed, the red LED will stay solid on.



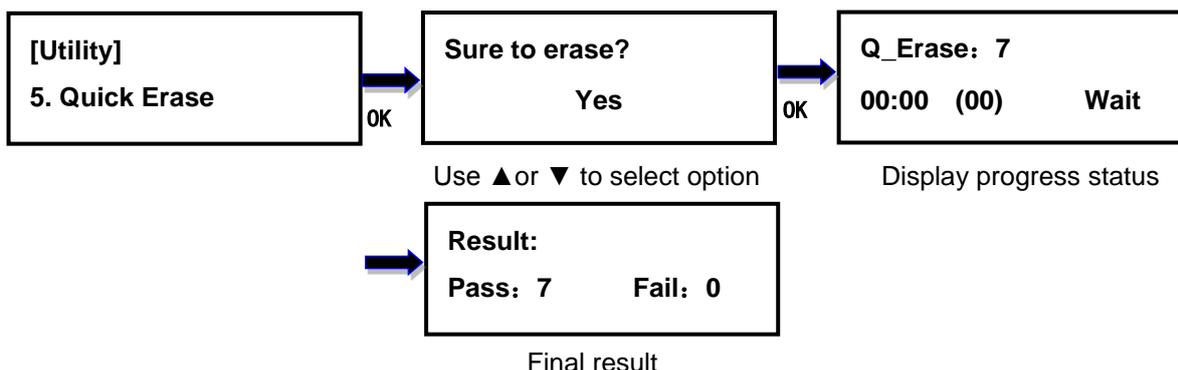
5.4 Measure Speed

This option allows to measure the actual Read and Write speed of the target device. This option will NOT alter or erase existing data on the target device.



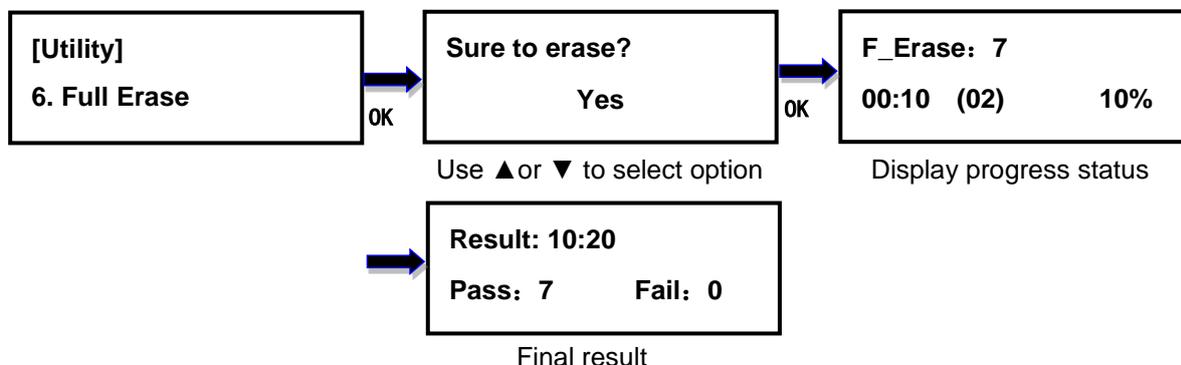
5.5 Quick Erase

This option erases the table of content of file system of the target device, so it is fast to do Quick Erase. There is chance that some files can be retrieved by software.



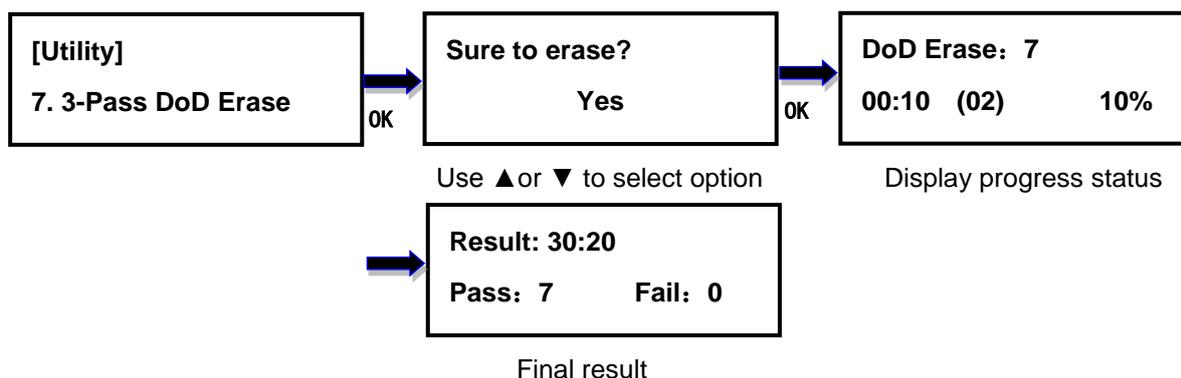
5.6 Full Erase

This option completely erases the content of target device. It takes longer time to erase and the content will not be retrieved by software.



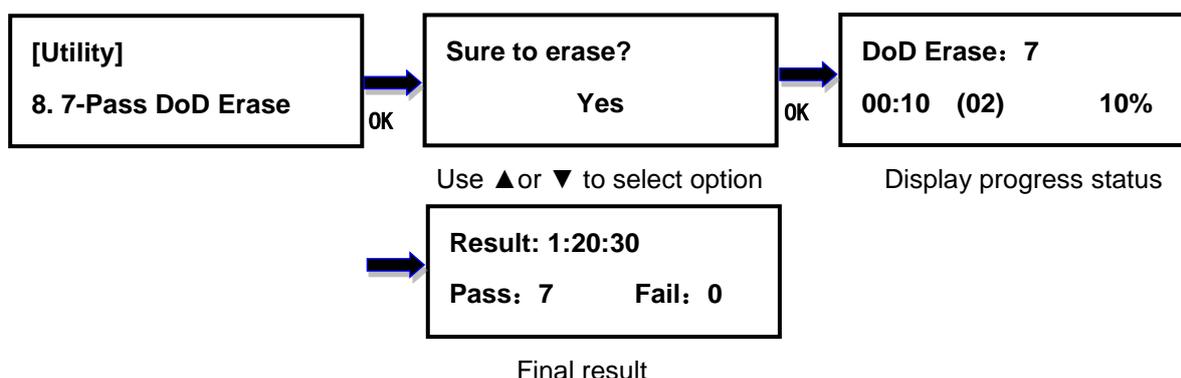
5.7 3-Pass DoD Erase

This is to comply with the U.S.A. Department of Defense (DoD 5220) standard to fully erase the media by rewriting bit by bit three times to guarantee the data to be permanently deleted. It takes long time to erase, and the content will not be retrieved by software.



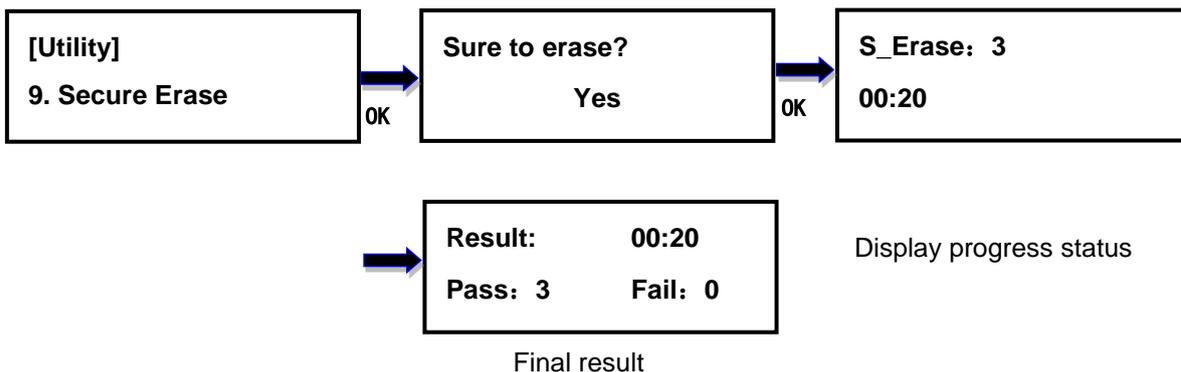
5.8 7-Pass DoD Erase

This is to comply with the U.S.A. Department of Defense (DoD 5220) standard to fully erase the media by rewriting bit by bit seven times to guarantee the data to be permanently deleted. It takes long time to erase, and the content will not be retrieved by software.



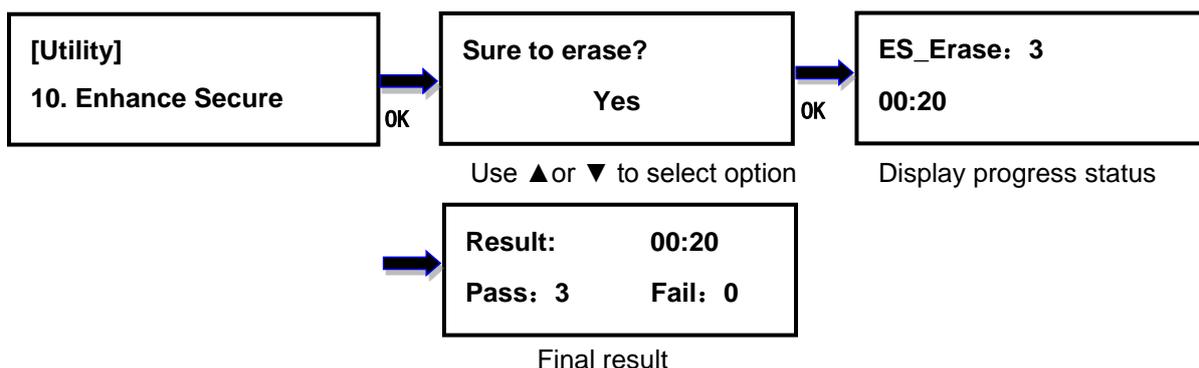
5.9 Secure Erase (Leopardo Only)

The Secure Erase is dedicated to erasing SSD. It resets all its storage cells as empty - restoring the SSD to factory default settings and write performance. Secure Erase is recognized by the US National Institute for Standards and Technology (NIST), as an effective and secure way to meet legal requirements data sanitization attacks against up to laboratory level. It only spends few seconds(the real time depends on drive) when used for SSD.



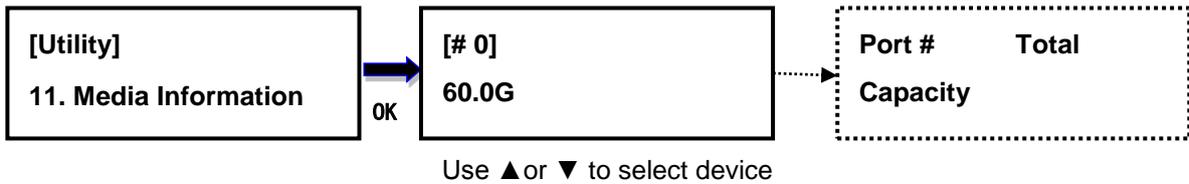
5.10 Enhance Secure Erase (Leopardo Only)

The Enhance Secure Erase is similar to Secure Erase. Beside the function of Secure Erase, it shall write predetermined data patterns to all user data areas. All previously written user data shall be overwritten, including sectors that are no longer in use due to reallocation.



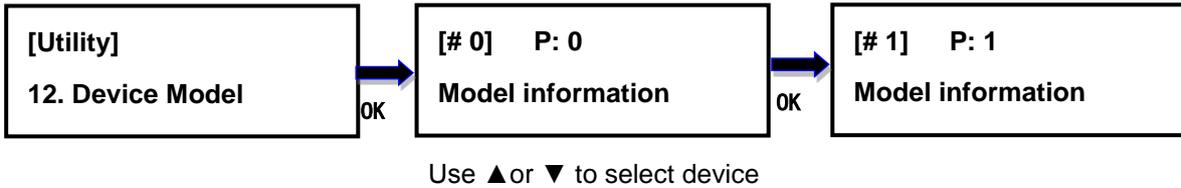
5.11 Media Information

This option displays the information of selected device media, such as total capacity, file format and the size of data content.



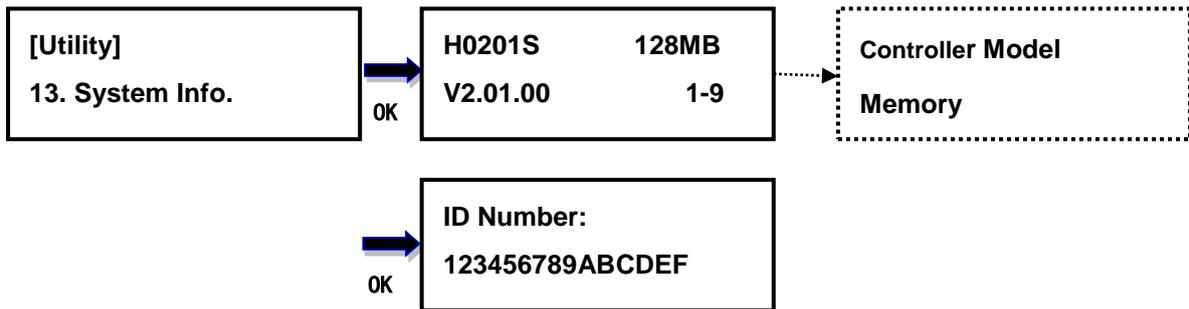
5.12 Device Model

This option displays the model information of selected device, such as device model, serial information and firmware version.



5.13 System Information

This option displays general information of the duplicator, including controller model, system memory size, firmware version, number of targets and ID Number.



5.14 System Update

This option allows user to update the firmware of duplicator when necessary. Please obtain the proper firmware file from manufacturer, and save the unzipped file under home folder on the flash device ([The file system of should be FAT32](#)). Insert the flash device containing the firmware into the source port of duplicator and press OK. It will update the system, reboot the duplicator automatically after update, active and operate under the new firmware. **Please do not reboot the duplicator manually.**



6. Setup

6.1 Copy Area

This option allows to select the area on the source device to copy onto the target devices. You may select **System and Files** to skip all the unoccupied area on the source device or **Percentage** · **All Partition** · **Whole Media**. By default, the copy area is set up as [System and Files](#).

System and Files

The duplicator first analyzes the file format of source device. You may copy only the system and files area to save overall copy time if the file format is FAT16, FAT32, exFAT, NTFS (Windows), EXT2, EXT3, EXT4 (Linux), and HFS/HFS+/HFSX (Mac). For instance, the source device has 8GB capacity but with only 50MB of data in FAT32 file format. The duplicator will copy only the 50MB of data area to the target device, hence shortening overall copy time.

Percentage

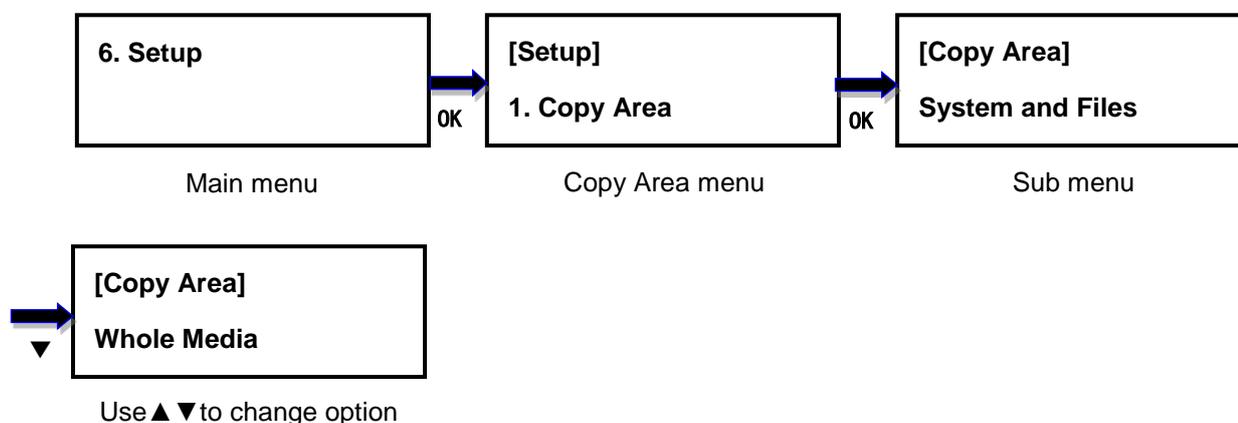
When selected, the duplicator copies the selected percentage range. Users can set copy percentage at this item. It has nothing with data or empty spaces.

All Partition

When select, the duplicator copies all partitions in the drive. It will not copy the area that have not been partitioned.

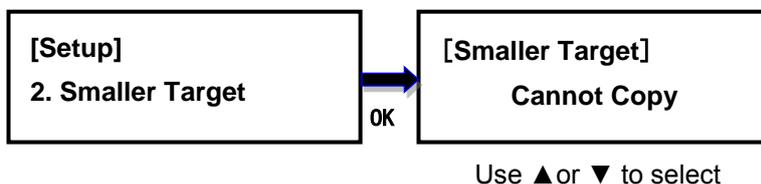
Whole Media

When selected, the duplicator copies the entire content on the source device, including both the data and empty spaces. This option is used when you have a source device with unknown file format. For instance a source device has 8GB capacity and 50MB of data with unknown file format, the duplicator will copy the whole 8GB of content to target device.



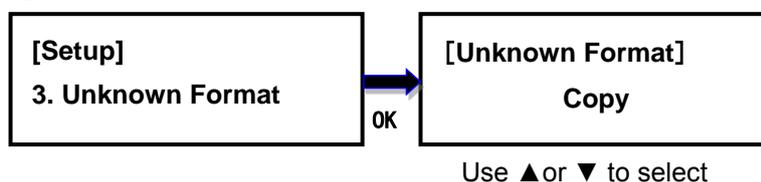
6.2 Smaller Target

If the capacity of the target device is smaller than the source device, the duplicator will partly copy or cannot copy. **Cannot Copy** is the default setting.



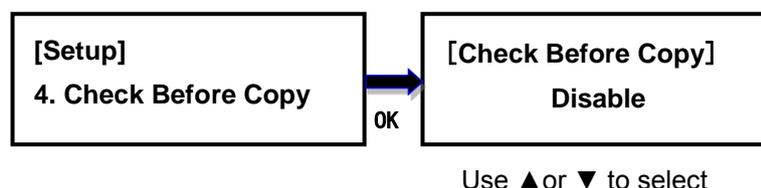
6.3 Unknown Format

This option allows you to Copy or Skip unknown format. If option Skip is selected here, the unknown format from source will not be copied during copy process. **Copy** unknown format is the default setting.



6.4 Check Before Copy

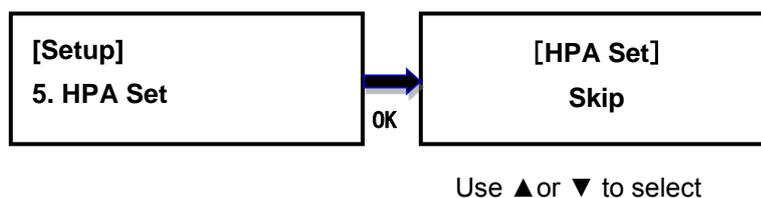
This option allows to check device real capacity before copying. By default this option is **Disabled**.



6.5 HPA Set (Leopardo Only)

HPA, Host Protected Area or Hidden Protected Area, is kept invisible space for booting area, recovery data or blocked bad-sector, etc. By creating HPA, it resets max sectors and keeps some space for HPA. It reduces the reported size of HDD.

There are 4 settings in this function. The HPA setting and data stored in HPA of source HDD will not be modified.



Skip (default)

Copy data from source to target except data stored in HPA and keep the target HPA setting during Copy.

Clear Target HPA without Copy

Copy data from source to target and remove the target HPA setting during Copy

Set Target HPA without Copy

Copy data from source to target and set the target HDD the same HPA setting as the source HDD during Copy.

Copy

Copy data from source to target including data stored in HPA.

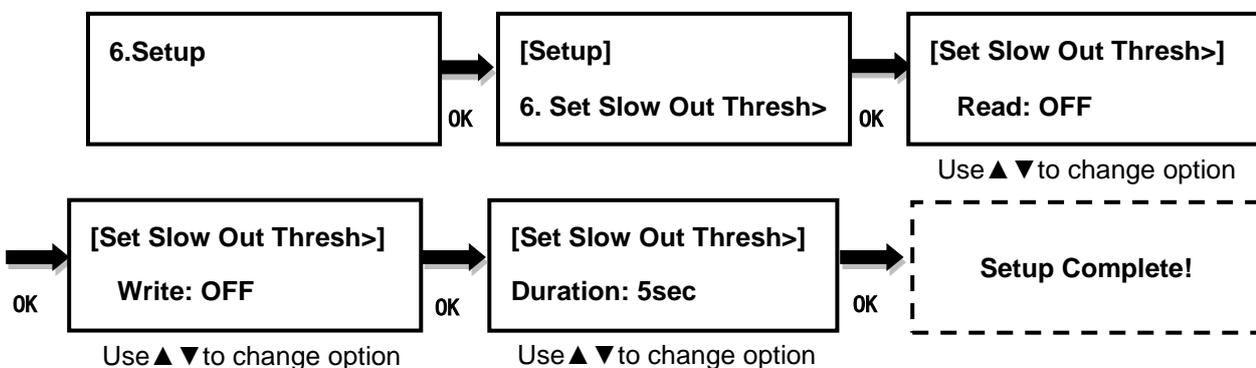
6.6 Set Slow Out Threshold

This function allows to set up read/write speed threshold for target devices. When the target device is causing the copy or compare process delay due to its lower read/write speed and the rest of the devices in the same batch have to wait for it, the Slow Out Threshold strategy will be applied as the following: the system will stop the copy or compare process for that particular target device when its read/write speed is below the threshold for continuing number of seconds based on the setting, and its red LED will flash to give warning. There are 3 settings to set up.

Read: set up the lowest read speed, and options are OFF, 1MB/s~25MB/s. The default setting is **OFF**.

Write: set up the lowest write speed, and options are OFF, 1MB/s~25MB/s. The default setting is **OFF**.

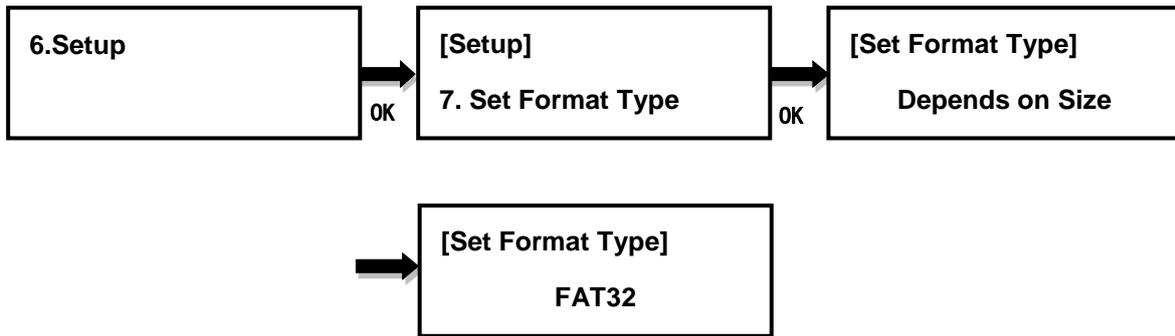
Duration: set up the period when read or write speed is lower than the threshold for continuing number of time, and options are 1~20second. The default is **5second**.



6.7 Set Format Type

This function allows to set up the target device format, and the setting will be applied by

Command **5.3 Capacity Check + Format** under the main menu. The options are FAT32, exFAT, and Depends on Size. The default setting is **Depends on Size**.



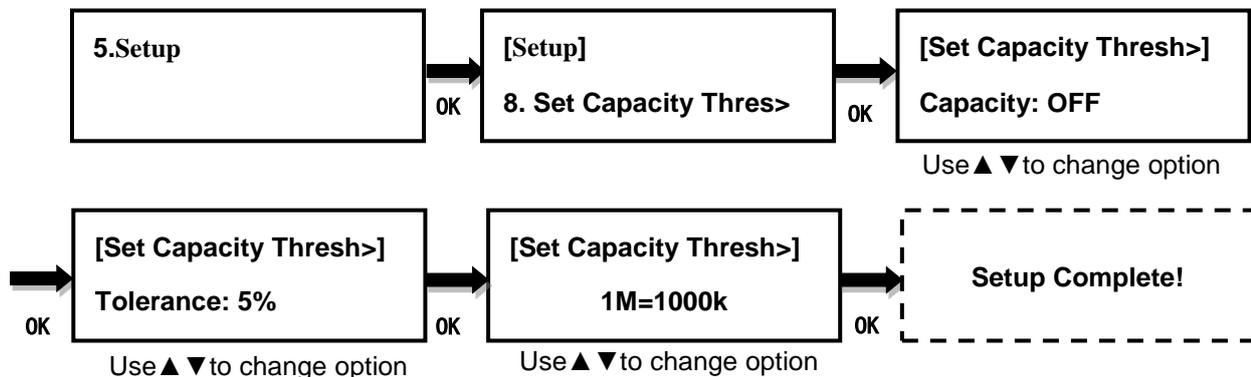
6.8 Set Capacity Threshold

This function allows to set up the capacity threshold for Command **5.3 Capacity Check+ Format** under main menu. It will be failed when the target device capacity is below the threshold range, and the red LED will flash to give warning. There are 3 settings.

Capacity: the size of device capacity which will be used for sorting, and options are OFF, 128M, 256M, 512M, 1G, 2G, 4G, 8G, 16G, 32G, 64G, 128G, 256G, 512G, 1T, 2T. The default is **OFF**.

Tolerance: the acceptable range of capacity for sorting, and options are OFF, 0~50%. The default setting is **5%**.

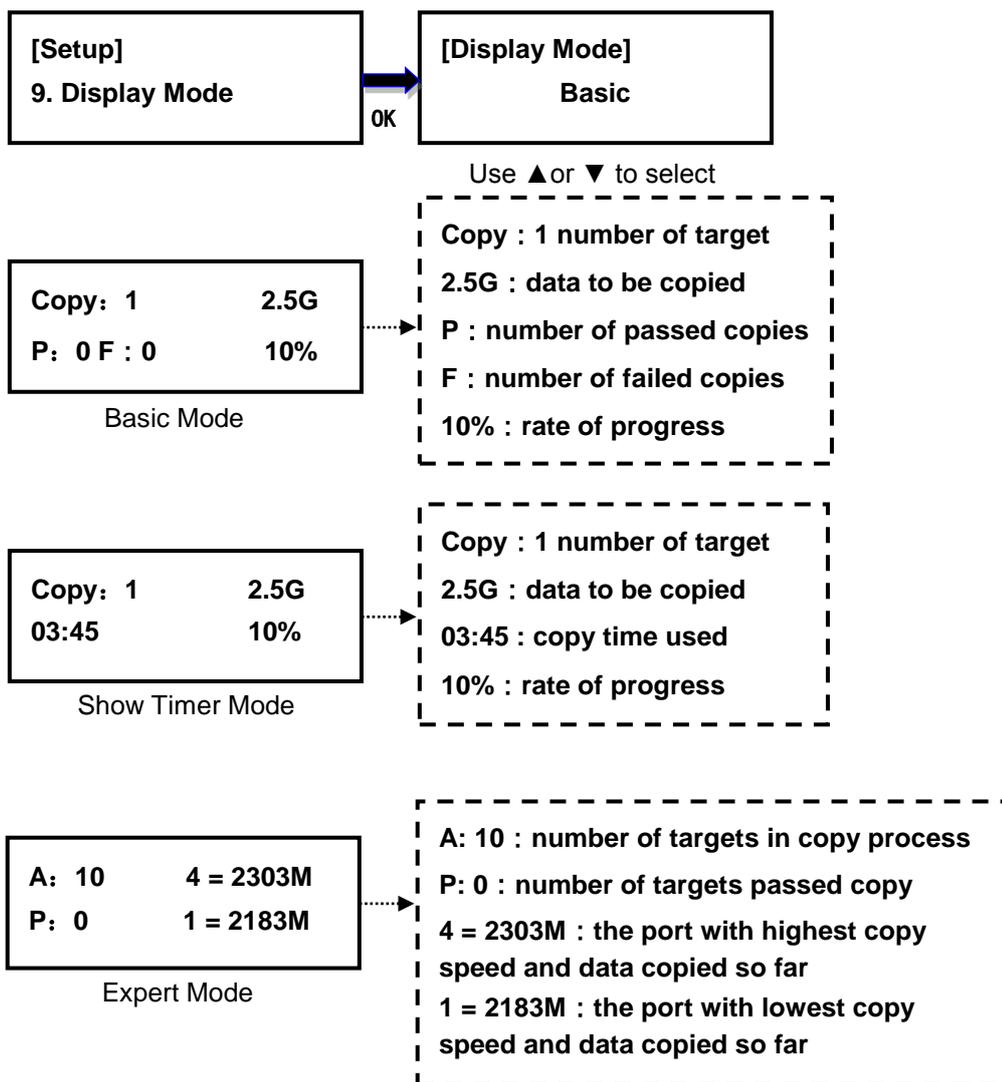
Capacity Definition: define the standard for capacity conversion. Options are 1MB=1000K and 1MB=1024K. The default is **1MB=1024K**.



6.9 Display Mode

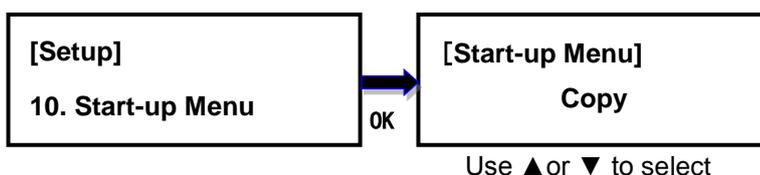
There are four display modes: **Basic**, **Show Timer**, and **Expert**. **Basic** shows the copy progress in general; **Show Timer** displays the time used for the task; **Expert** shows the

devices with highest copy speed and lowest copy speed and their copy progress respectively.



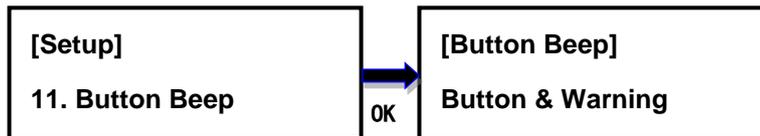
6.10 Start-up Menu

Choose one of the following as the default start-up function: Copy, Compare, Copy+Compare, Capacity Check, Utility and Setup. The default start-up function is **Copy**.



6.11 Button Beep

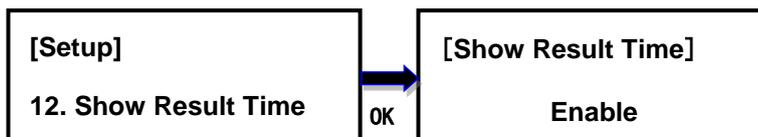
This option allows to set up button sound from the following options: Button & Warning, OFF, Warning only. The default setting is **Button & Warning**.



Use ▲ or ▼ to select

6.12 Show Result Time

This option allows to enable or disable the display of copy time after finishing the copy process. The default setting is [Enable](#).



Use ▲ or ▼ to select

6.13 Boot Password

This option allows to set up password for system boot up to prevent from the unauthorized use of the duplicator. The password must be 6 characters.



Use ▲ or ▼ to select

Use ▲ or ▼ to select,
Press OK to confirm

6.14 Setup Password

This option allows to set up password for Setup function to prevent from the change of system settings on the duplicator. The password must be 6 characters.

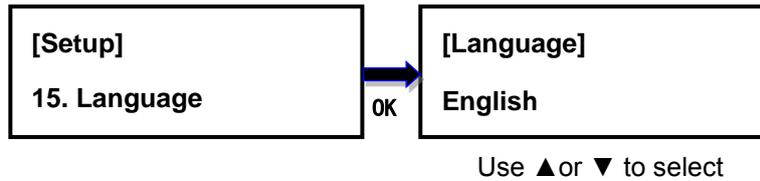


Use ▲ or ▼ to select

Use ▲ or ▼ to select,
Press OK to confirm

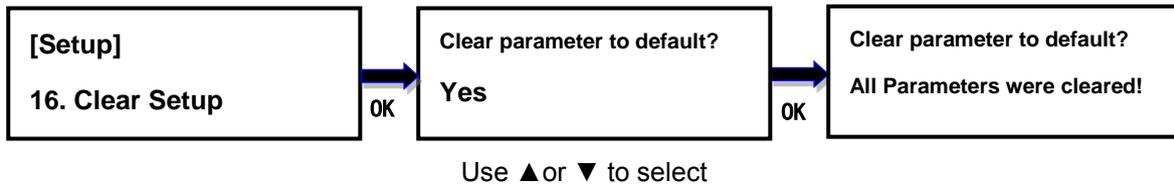
6.15 Language

This option allows to choose the language for display: English, Spanish, Portuguese, and Japanese. [English](#) is the default language.



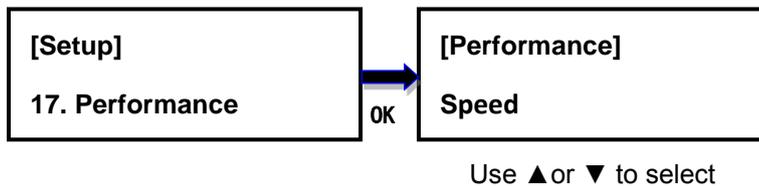
6.16 Clear Setup

This option resets the duplicator back to factory default settings.



6.17 Performance

This option allows to set up the performance for Copy function based on the following modes: Speed, Balance, and Compatibility. Speed mode is to execute the Copy function at the fastest speed, but may have compatibility issue with certain brands flash media. Balance mode is to execute the Copy function at stable speed, and have less compatibility issue with certain brands flash media. Compatibility mode is to execute the Copy function at the most stable speed, and almost have no compatible issue with flash media. The default mode is [Speed](#).



v. Troubleshooting

When the duplicator malfunctions or you have questions about using the duplicator, you can first check the following related problems and eliminate them. If you still have problems, you can contact the EZ Dupe technical support department. The contact information is listed at www.ezdupe.com.

Q1 : Why there is no display and nothing happens when the power switch is turned on?

1. Please make sure that the power cord is tightly connected to the duplicator, and the power outlet works normally.
2. Please check whether the duplicator power voltage selection switch is in the correct position 110V or 220V. Please adjust it according to the local voltage.
3. Make sure that the power cord is not damaged.

Q2 : Why can't the duplicator recognize the media device?

1. Please check if the media device can be used normally on a computer.
2. Please insert the media device into different ports for testing. If some ports can recognize the media device and some cannot, it may be that some ports have been used for too long, resulting in poor connection. Please send duplicator in for repair. If all of the ports are unrecognized, it may be the compatibility issue. Please set the Performance mode to Compatibility in 6. Setup -> 17. Performance in the main menu. If it is still unrecognizable, the media device may be of poor quality and not compatible with this duplicator. Please replace the media device with another brand.

Q3 : Why is the copy failure rate high?

1. The media device quality may be poor, please change it to other brands with better quality.
2. The duplicator has been used for a long time, resulting in poor port contact with media device. Please send it to the manufacturer for inspection.

Q4 : Why is the copy speed slow?

1. The copy speed depends on the writing speed of the media device. When the writing speed of the media device is slow, the copy speed becomes slow.
2. There may be a slower media device in the batch of media. Remove it (press the up and down keys at the same time to remove the slowest media device during copy process) to speed up.

Q5 : Why the media device cannot be used normally after copying?

During the copying process, the duplicator reads the data from the source media device and then writes to the target media device. An error may occur during the writing process, or the target media device has bad sectors and cannot be written normally. It is recommended to use the Compare function to ensure that the data copied to the target media device is 100% the same as the source media device.

Q6 : Why is copy failed?

1. Data on the source media device cannot be read normally. The source media device may be of poor quality or has bad sectors. The copying process to all target media devices will stop.
2. Target media device cannot be written normally. The target media device may be of poor quality or has bad sectors. The copying process of this target media device will stop, and others will continue to copy.

Q7 : Why can't I update the firmware?

1. Different duplicators have different update files, please make sure your update files are correct.
2. Please make sure that the media file system is FAT32, the update file is uncompressed (the file extension is .BIN) and saved on the root directory of the media device.