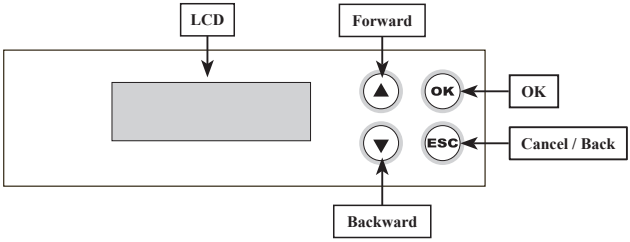
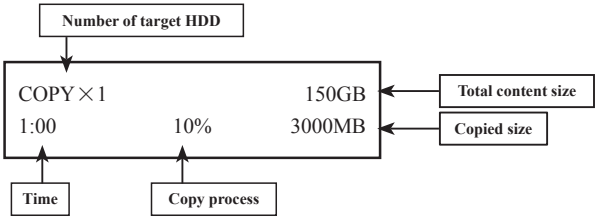
# HDD Duplicator
## Quick Guide

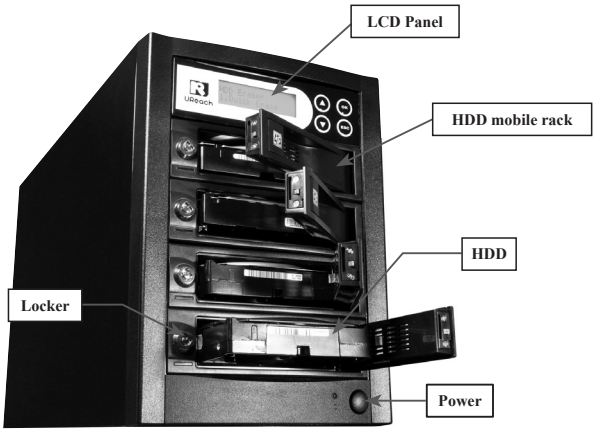
## HDD Duplicator Overview
### A. LCD and Buttons




### B. LCD Configuration




### C. System Overview




** Insert HDD into the rack slightly and close the door of rack.

** Instant power on and off. Easy to boot up without waiting time

# Function Overview

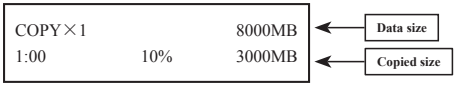
| Function | Description | |
|---|---|---|
| **1. Copy** | To copy source HDD to multiple target HDDs. Refer to function 6.Setup for 3 different copy mode options. | |
| **2. Compare** | To compare data bit by bit between source and target HDDs. | |
| **3. Copy+Compare** | The copy and compare function will perform the duplication and then compare duplicated HDDs with the source HDD. | |
| **4. Erase** | **4.1 Quick Erase**<br>Erase HDD's index table only, it takes a very short time to execute this function. | |
| | **4.2 Full Erase**<br>Erase the whole HDD content. (Note: Function 6.3 can select to erase source HDD or not) | |
| | **4.3 DoD erase**<br>Erase HDDs three times complying with USA Department of Defense (DoD) standard. | |
| | **4.4 DoD EraseComp**<br>Erase HDDs three times complying with USA Department of Defense (DoD) standard and check whole data has been deleted thoroughly. | |
| **5. Utility** | **5.1 Show HDD info**<br>Show HDD's basic information such as HDD model name and capacity | |
| | **5.2 Update System** | **5.2.1 Update BIOS**<br>To update the system firmware via the HDD.<br><br>**5.2.2 Format HDD**<br>To format the HDD with a 2GB FAT partition. |
| | **5.3 System Info**<br>This function will show information of the duplicator system, including controller model number, buffer memory capacity and software version. | |
| **6. Setup** | **6.1 Copy Area** | **6.1.1 Only Data**<br>Set to copy source HDD's data area only.<br><br>**6.1.2 ALL partition**<br>Set to copy source HDD's all partitions.<br><br>**6.1.3 Whole HDD**<br>Set to copy the whole source HDD. |
| | **6.2 Skip Error** | **6.2.1 0---100**<br>Set to ignore the error area of source HDD while copying. |
| | **6.3 Erase Master** | **6.3.1 Disable**<br>Disable erase source HDD<br><br>**6.3.2 Enable**<br>Enable erase source HDD |

# Before you start

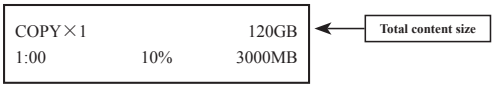
## 1. Copy

Please refer to function 6.1 Copy Area for selecting the copy mode:

- **Only Data:** It will copy source HDD's data area only instead of the whole HDD. 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 space, the copy will process.



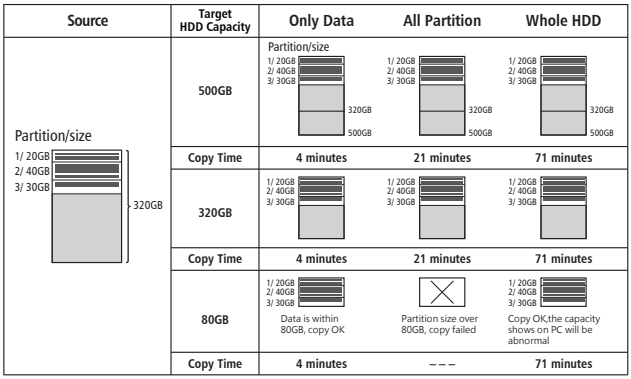

- **All Partition:** [6.1.2 All Partition] mode will bit by bit copy all of the partitions no matter there is data exist or not. The capacity of target HDD has to be bigger than the partition required capacity.




- **Whole HDD:** This function will copy the whole source HDD, no matter of the content, format, partition or empty space. This mode will take much more time to duplicate the source HDD completely.


** *Please refer to illustration 1 of copy scenario example for three copy modes among different source and target HDD capacity combinations.*

**Illustration 1. Copy Scenario Table**




** The copyrate is around 60~100MB/Sec.
** The copy time shown on this chart is based on 75MB/Sec.

** *When source HDD capacity is SMALLER or EQUAL to target HDD, for example: source 320GB to target 500GB, the result of copy will success. The rest space of target HDD still can be use after duplication.*

** *When source HDD capacity is BIGGER then target HDD capacity, for example source 320GB to target 80GB, there are two different results:*

*a. When the content is within the target HDD capacity, the duplication will success.*

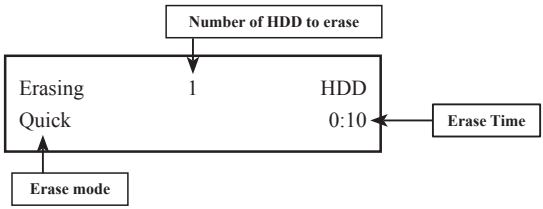
*b. When the content is located beyond the target HDD capacity, the duplication will fail due to the duplicator will copy whatever the data is, it will not change the data's location.*

## 2. Erase

Please choose the appropriate erase method when you like to dispose or re-use the HDDs.

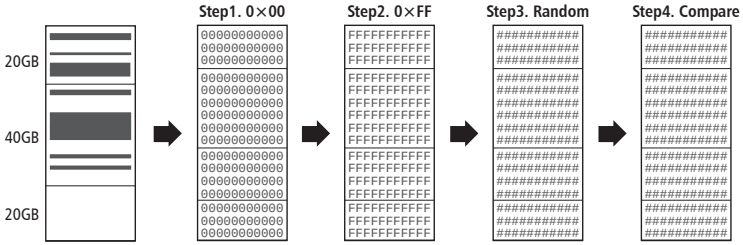
- **Quick Erase:** The function will ONLY erase the index of the HDD. It is the quickest way to erase HDD, but it doesn't delete the data in HDD.
- **Full Erase:** The function will erase the whole sectors on the target HDD. It will take longer time than quick erase.
- **DoD Erase:** This is to comply with the U.S. Department of Defense (DoD 5220) standard to fully erase the HDD three times bit by bit rewrite HDD to guarantee the data was deleted.
- **DoD EraseComp:** Besides DoD erase, this function will also execute compare function to make sure the random bit was correctly written.

**The erasing status is shown as below:**




**The way of DoD EraseComp:** It erases HDD over each sector three times. The first time with zeros (0x00), second time with 0xFF and the third time with random characters. There is one final pass to compare random characters by reading.

**DoD EraseComp Method:**




**The erasing time of DoD Erase mode is three times longer than Full Erase mode, and the time of DoD EraseComp is four times longer than Full Erase mode.

# 3. Update BIOS

**You can follow the 3 steps to update system firmware:**

1. Place a HDD into the duplicator and execute function [5.2.2 Format HDD] the HDD will be formatted to have a 2GB FAT partition. This purpose is to quickly save firmware into this HDD.
2. Connect the formatted HDD to PC to download un-zipped firmware.
3. Put the HDD back to the duplicator. Execute function [5.2.1 BIOS Update] to start writing new firmware to the duplicator system.