



PCIe Duplicator (NVMe M.2) User's Manual



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Things to know before using the duplicator

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 master disk, and the target storage device will be referred to as the target disk in this manual. The master disk and the target disk will be collectively referred to as disks.

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1. Product Introduction

This series of PCIe duplicators have a copy speed of up to 36GB/min. It adopts the latest NVMe and SATA3.0 (6Gbps) protocol design, and has excellent performance. By changing the fixture, it can support 1.8" and 2.5" SATA hard disk, or M.2 (SATA, NVMe) interface SSD duplication.

User can expand the number of interfaces through serial connection between multiple duplicators, and can also adjust the number of interfaces themselves according to capacity requirements, which greatly improves the production line work efficiency.

Supports multiple copy and erase modes to meet the needs of different usage scenarios.

Supports download and copy function through network mapping, you can connect to a PC via USB3.0 port, get network mapping file, and copy. It is available on certain model.

Supports real-time monitoring of the status of the hard disk, which can completely record all the duplicator's work status for easy analysis. It is available on certain model.

2. Product Features

- **Efficient and stable duplication speed**

Speed is up to 600 MB/s, which can achieve 36 GB/min copy efficiency.

- **Multiple duplication modes**

Fast Copy: After analyzing the data structure of the master disk, only the valid data area is copied (the capacity of the target disk is not less than the capacity of the master disk)

Full Copy: Does not analyze the data structure of the master disk, copies the entire master disk data to the target disk (the capacity of the target disk is not less than the capacity of the master disk)

Percent Copy: Do not analyze the data structure of the master disk, and copy the preset percentage data (requires setting the percentage to be copied in advance)

Fast + % Copy: The combination of Fast Copy and Percent Copy;

- **The most rigorous compare mode**

Supports the industry's most rigorous Bit to Bit data comparison and verification method to ensure that the copied data is 100% correct.

- **Multiple erase modes**

Full Erase: erase the entire hard drive data;

Fast Erase: Only the index table is erased, and the erasure time is short;

DoD Erasure: Erase in accordance with the US Department of Defense DOD 5220.22-M data erasure standard.

- **Expandable interfaces without limitation**

Supports multiple duplicators connected in series to achieve interface expansion, and the number of interfaces can be dynamically adjusted according to capacity requirements.

- **Supports maximum capacity of hard disk**

Supports all the largest hard drives on the market (using LBA 48bit addressing design).

- **Automatic power off mechanism**

In any working mode, set the delay time for automatic power off to ensure the normal power off of the hard disk. The default delay time is 3 seconds.

- **Network mapping upload / download / copy (available in certain model)**

The use of the network mapping function can reduce the management of the master disk, and the network mapping download and copy can be easily achieved by connecting with a PC through the USB3.0 port.

- **Real-time monitoring (available in certain model)**

Completely record all job information, including the hard disk serial number of the interface, working hours, amount of data copied, etc.

3. Product Series Introduction

There are 3 models of PCIe duplicator in this series as shown below.



1 – 4 PCIe Duplicator



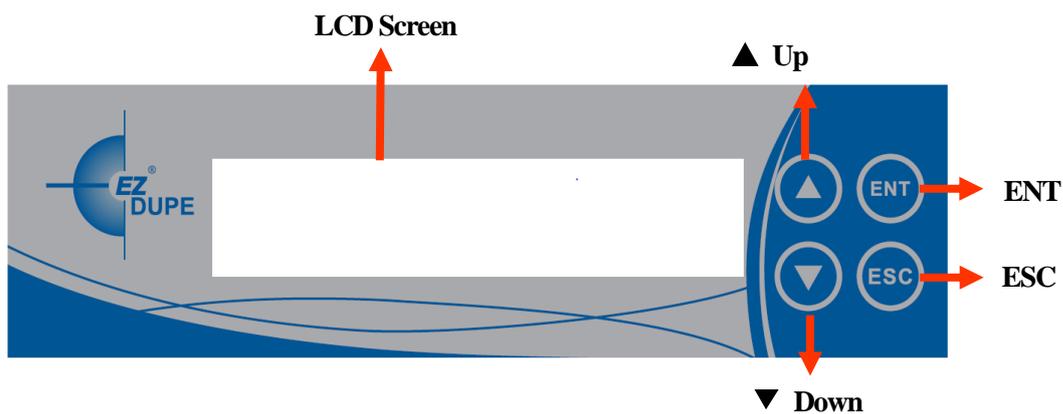
1 – 9 PCIe Duplicator



1 – 19 PCIe Duplicator

4 Operation Interface Overview

4.1 LCD Screen and Operation Buttons

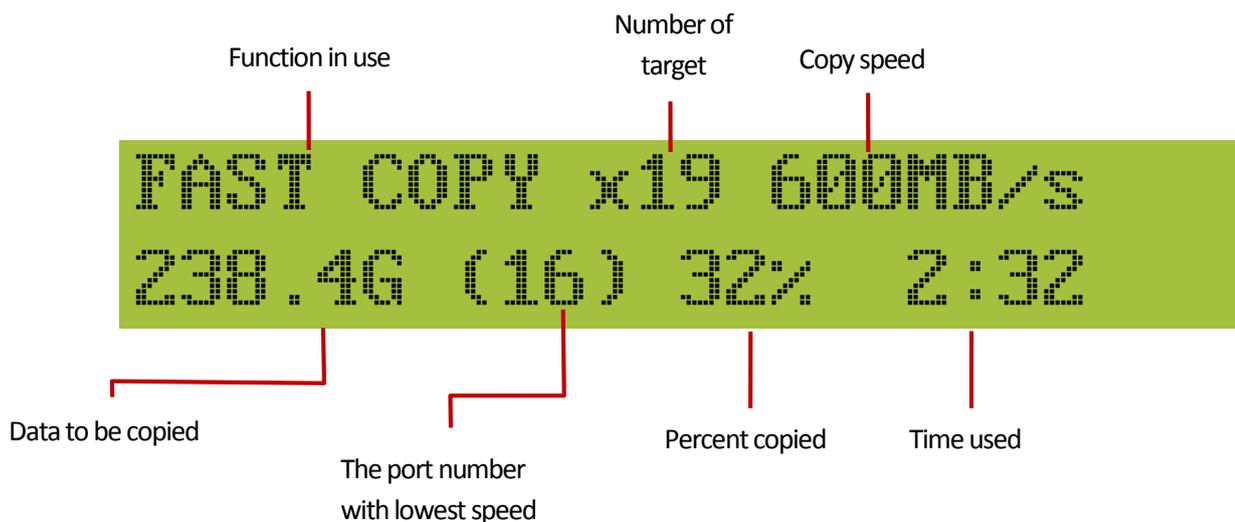


▲ **Up button:** to scroll upwards in the menu

▼ **Down button:** to scroll downwards in the menu

ENT button: OK, execute the function

ESC button: cancel, go back to the previous level in the menu



Start Button (OK button): to execute the function

4.2 LED status indication

Each port has a red and green LED to indicate the corresponding working status.

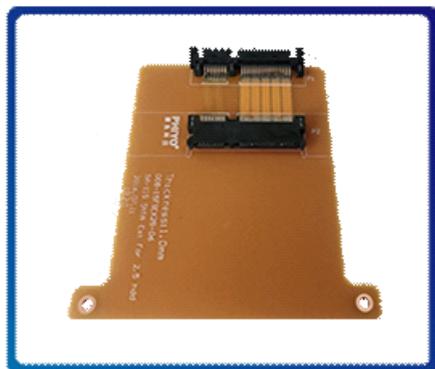


LED Lights	Working Status
Red light: always on Green Light: flashing	Hard drive identification
Red light: always on Green Light: always on	Hard drive identification is complete
Red light: off Green Light: flashing	Copy / Erase / Compare
Red light: always on Green Light: off	FAIL after Copy / Erase / Compare
Red light: off Green Light: always on	PASS after Copy / Erase / Compare

4.3 Adapter Board Connection Instructions

Consumables: SATA adapter board and M.2 SSD adapter board are consumables (as shown in the figure below). For the replacement method, please refer to “11. Appendix” ----- Adapter Board Replacement.

SATA adapter board is dedicated to 1-9 PCIe duplicator.



SATA adapter board



M.2 adapter board

5. Attention

- Please provide a stable AC power supply to the duplicator (in order to avoid loss due to accidental power failure, it is recommended to use UPS continuous power supply system), and use it in a dry and clean environment as much as possible, and avoid placing it in high temperature and humid environment.
- Ensure that the duplicator casing is reliably grounded to prevent the effects of ESD electrostatic discharge on the machine and hard disks.
- Do not remove or turn off the power, or remove and replace the hard disk while the duplicator is performing the task, to avoid damage to the duplicator and the hard disk.
- Do not disassemble the duplicator without the guidance and authorization from the manufacturer, otherwise the company will not responsible for the damage caused to the duplicator machine.
- The duplicator machine has functions such as data copying and erasing, and the company will not take legal responsibility for any unit or individual using these functions for piracy or other illegal acts.
- Please read this manual carefully before using the duplicator machine.

6. Quick start guide

6.1 Start-up and preparations

A. Connect the power cord of the duplicator and turn on the power switch. At this time, the red and green LED lights on each port light up at the same time. After boot up, the system automatically enters into the main

menu and all the LED lights are off. You can use the ▲ and ▼ keys to switch to the function you want to use, press the Start button (OK button) to start the function, and press ESC key to return to the previous menu.

B. Connect the source hard disk to the master disk (labeled "M") port, and the target disks to be copied to other target disk ports (recommended to use the same size of master disk and target disks).

6.2 FAST COPY

A. Use the ▲ and ▼ keys to select "FAST COPY" in the main menu.

```
HARD DISK COPY
1 FAST COPY
```

B. Press the Start button (OK button) to start the fast copy operation, and the duplicator will start to recognize the hard disk.

```
FAST COPY
DETECT TARGETS ...
```

C. After the master disk is identified, effective data analysis of the master disk is started.

```
DATA ANALYSE
PARTITION #0 90%
```

D. Fast Copy begins after analysis.

```
FAST COPY x19 600MB/s
238.4G (16) 32% 2:32
```

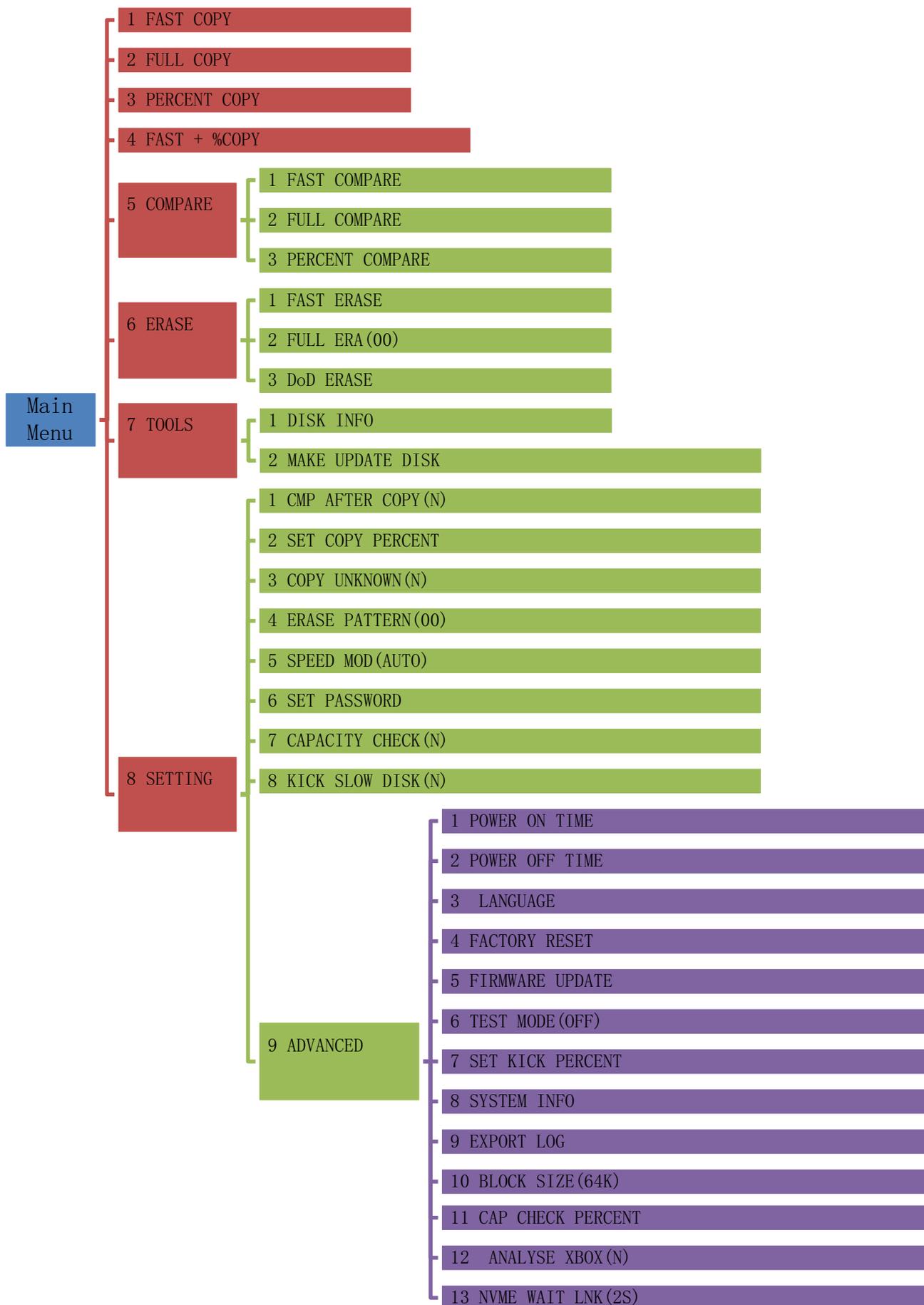
E. After the copying is completed, the LCD will display the number of copy success (PASS) and failure (FAIL), and copy time of this round. Press ESC key to exit the current round of copying. After replacing the targets to be copied, you can start the next round of copying.

```
FAST COPY x19 9:35
PASS:19 FAIL: 0
```

7. Functions

7.1 Function List

Note: The values in the brackets shown in the figure below are factory preset values.



7.2 Introduction to Main Functions

7.2.1 FAST COPY

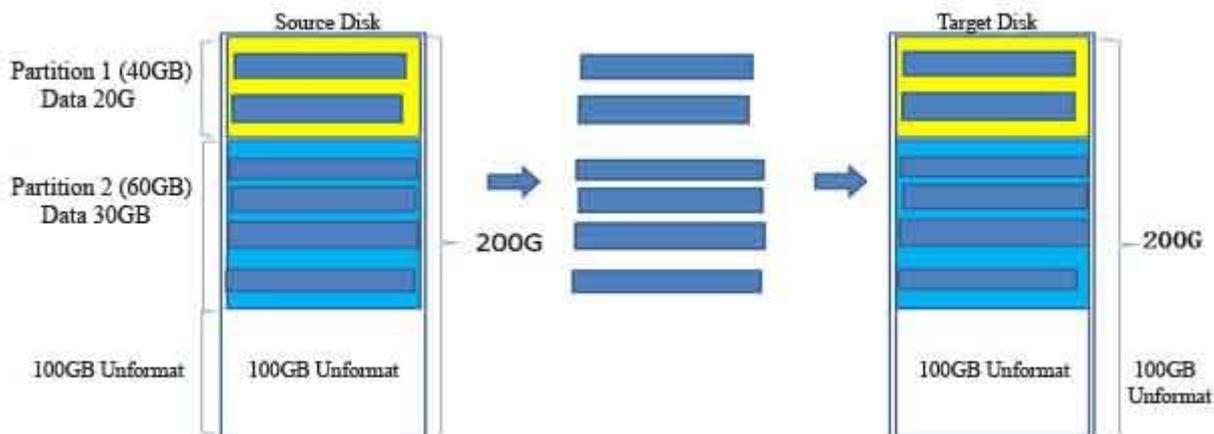
The duplicator will analyze the master disk data and only copy the valid data area, not the unused area. For example, a 500 GB system disk, the actual data is only 100 GB of used space. In this mode, only 100 GB of valid data is copied.

Note: This copy mode is applicable to the capacity of the target disk not less than the effective data area of the master disk, and the copied data of the target disk is completely consistent with the effective data area of the master disk. The effective data area of the master disk is not equal to the capacity of the effective data, because the data storage locations will not be completely continuous. The data valid area in the master disk represents the last position of valid data.

10																				
20																				
30																				
40																				
50																				
60																				
70																				
80																				
90																				
100																				

The hard disk shown in the figure above has a total of 100 GB, and red area represents valid data. The effective data capacity is 50 GB and the effective data area is 70 GB. Therefore, the capacity of the target disk must be greater than 70 GB.

Fast Copy Process:



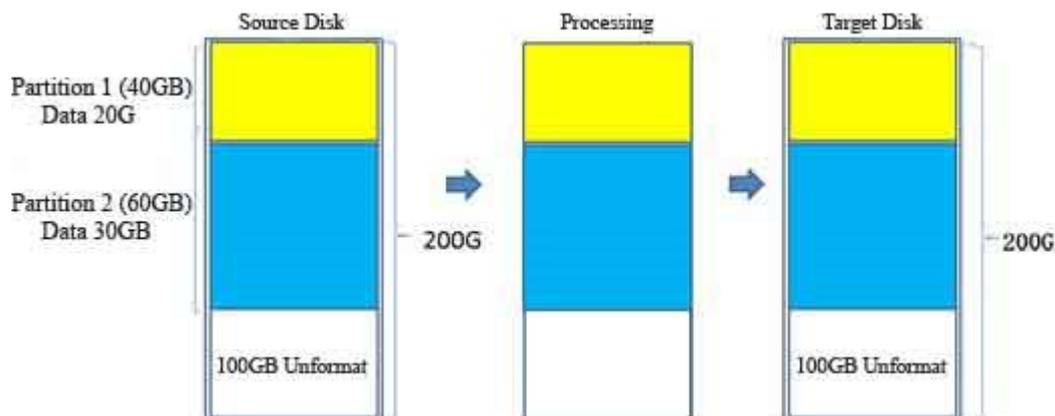
Analyze a total of 50 GB of valid data for Partition 1 and Partition 2, and the amount of copied data is 50 GB.

7.2.2 FULL COPY

In this mode, the duplicator does not perform data analysis on the data of the master disk, and completely copies all data areas of the entire master disk, including used and unused space.

Note: This copy mode is applicable to the case where the physical capacity of the target disk is not less than that of the master disk, and the data of the copied target disk is completely consistent with the data of the master disk. For the operation method, please refer to "6.2 FAST COPY" under "6. Quick Start Guide".

Full Copy Process:



7.2.3 PERCENT COPY

In this mode, the duplicator will not analyze the master disk data. Before using this copy mode, you must fully grasp the location and distribution of the master disk data, or only want to copy a specific area on the hard disk.

Note: Before starting Percent Copy, user needs to set the percentage of data to be copied in the system setting menu in advance.

※Percent Copy Process :

A. Use the ▲ and ▼ keys to select "8. Setting" in the main menu, and press ENT key.

B. Use the ▲ and ▼ keys to select "Set Copy Percent" under "8. Setting" menu, and press ENT key.

```
> SETTING
2 SET COPY PERCENT
```

C. Set percentage: use ▲ and ▼ keys to adjust the number (0 to 9) of each digit of percentage, and ENT key to change the digit of percentage. Press ESC key to return to the main menu after setting.

```
> SET COPY PERCENT
[1]2 . 1 %-> 52.2%
```

"2.1%-> 52.2%" in the figure above indicates that the copied area is from 2.1% to 52.2% of the capacity of the master disk.

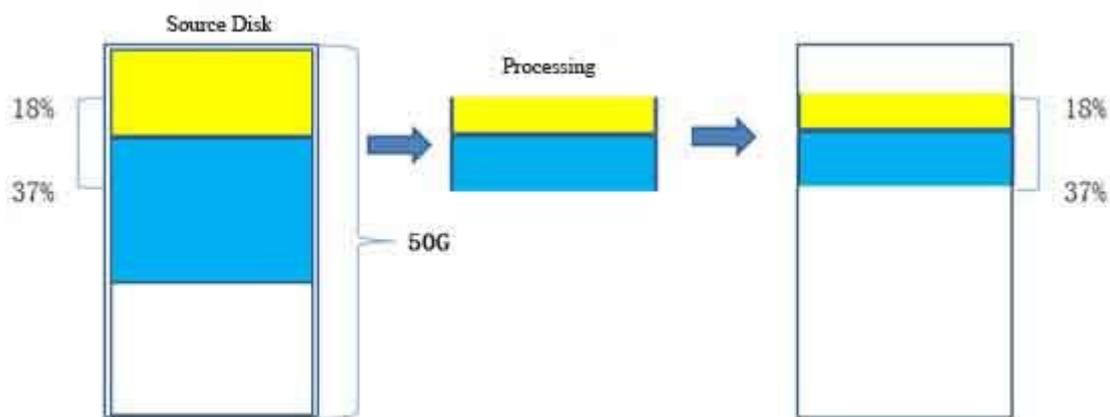
D. Use the ▲ and ▼ keys to select "Percent Copy" in the main menu.

E. Press Start button (OK button) to start Percent Copy

```
PCT. COPY x19 560MB/S
96.6G (12) 22% 0:46
```

Percent Copy Process:

(Use Copy Area from 18% to 37% as an example)



F. After the Percent Copy is completed, the LCD screen displays the current copy result and copy time.

```
PCT. COPY x19    1:30
PASS:19  FAIL:0
```

7.2.4 FAST + % COPY

This mode is a combination of Fast Copy and Percent Copy. After selecting this copy mode, the duplicator first executes the Fast Copy mode. After copying the data of the master disk to the target disks by Fast Copy, the duplicator then copies the data of a certain area of the master disk to the target disk according to the pre-set percentage;

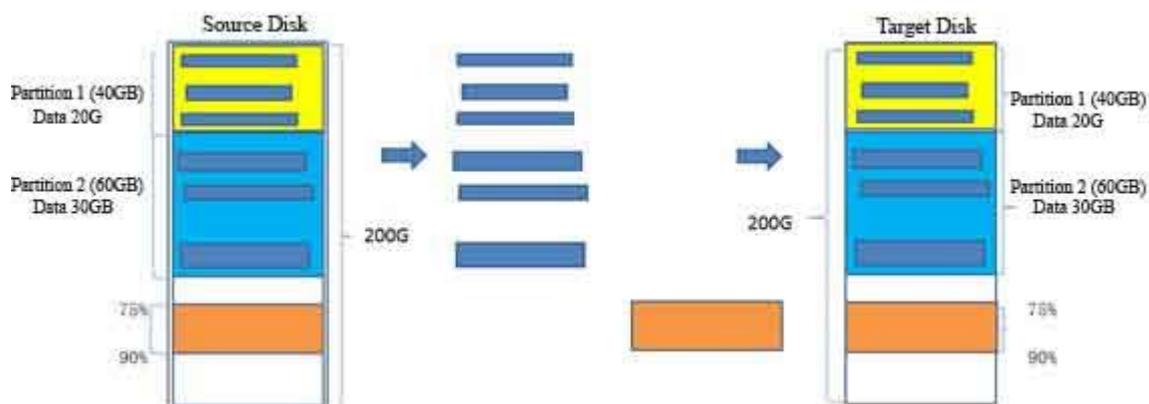
Note: The percentage of data to be copied needs to be set in advance. Please refer to “7.2.3 Percent Copy” operation method.

※Operation Procedure:

- A. Use the ▲ and ▼ keys on the main menu to select “FAST + % COPY”.
- B. Press Start button (OK button) to start copying.

FAST + % COPY Process:

(Use Copy Area from 75% to 90% as an example)



C. After the copying is completed, the LCD screen displays the current copy result and copy time :

```
FAST% COPY x19    3:08
PASS:19  FAIL:0
```

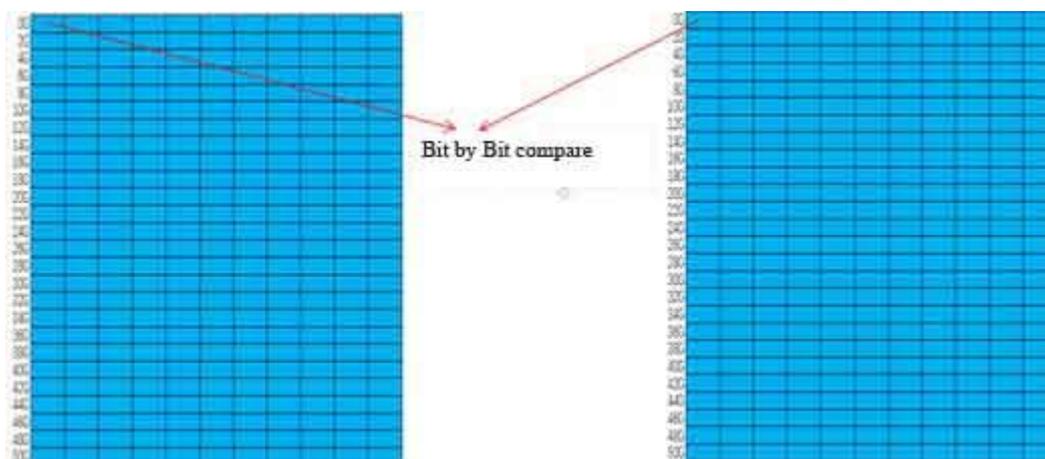
7.2.5 COMPARE

You can use this function when you need to check the data of the master disk and the target disk. Three data comparison methods are available for user to choose: 1. Fast Compare; 2. Full Compare; 3. Percent Compare. User can choose the corresponding comparison mode according to different needs. If you need to automatically compare the data after copying is complete, select "Yes" or "No" in "CMP After Copy" under the "Setting" sub-menu to enable or disable the comparison function.

Data Comparison:

Data on master disk

Data on target disk



※Operation procedure:

A. On the main menu, use the ▲ and ▼ keys to select "Compare" function and press the ENT key. Then use the ▲ and ▼ keys to select the corresponding comparison from "Fast Compare", "Full Compare", and "Percent Compare" as required.

B. Press Start button (OK button) to start comparison.

7.2.5.1 FAST COMPARE

In this mode, the duplicator will automatically analyze the data of the master disk, and only compare the valid data areas, not the unused areas. For example, a 500 GB system disk, the actual data is only 100 GB of used space. In this mode, only 100 GB valid data is compared. The method is similar to Fast Copy.

7.2.5.2 FULL COMPARE

In this mode, the duplicator does not need to analyze the master disk data, and it will compare all the regional data of the entire master disk against the target disks.

7.2.5.3 PERCENT COMPARE

In this mode, the duplicator does not need to analyze the master disk data. Before using this mode, you need to know the position and distribution of the master disk data, or simply want to compare a specific area.

Note: Before Percent Compare, you need to set the percentage of data to be compared in advance. The setting method is the same as "7.2.3 Percent Copy", please refer to section "Set Copy Percent".

7.2.6 Erase

This operation can erase the data of multiple target discs at the same time. Three erasing modes are available: Fast Erase, Full Erase, and DoD Erase.

※ **Operation procedure:**

A. In the main menu, use the ▲ and ▼ keys to select "Erase" function, and press ENT key to enter into the sub menu selection.



HARD DISK COPY
6 ERASE

B. Use ▲ and ▼ buttons to select "FAST ERASE", "FULL ERA (00)" and "DOD ERASE".

```
> ERASE
1 FAST ERASE
```

C. Press the Start button (OK button) to start the erase.

7.2.6.1 FAST ERASE

Erase some data in the file system (file system area).

7.2.6.2 FULL ERA (00)

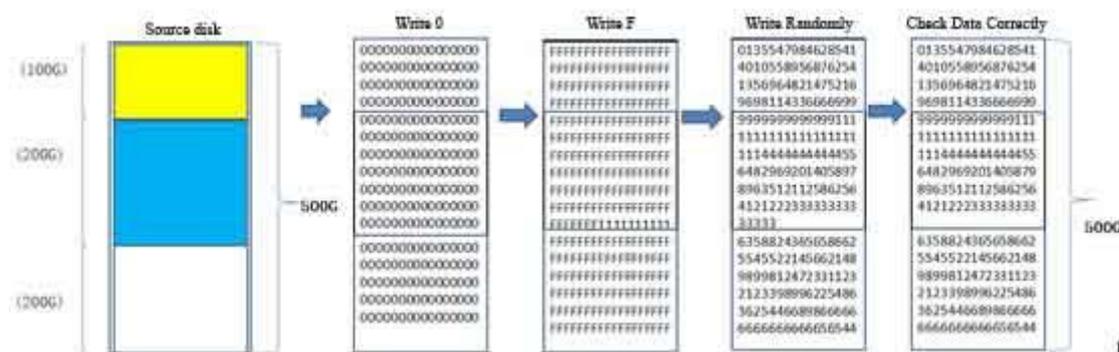
Erase all the data on the hard disk. You can choose to fill it with 00, 5A, A5, AA, FF, RDM (random value) (the default value is 00). The format of the erase data can be found in "Setting". For details, please refer to "7.2.8.4 Erase Pattern".

7.2.6.3 DoD ERASE

This function erases data according to the US Department of Defense DOD 5220.22-M data erasure standard.

It erases all sectors of the hard disk three times. The erasing time is equivalent to three full erasing times: erasing in (00), (FF), and (RDM) formats respectively.

DOD erase procedure:



Note: If it takes 1 hour for a complete erase, it will take 3 hours for DOD erase.

7.2.7 TOOLS

The "Tools" menu allows you to view hard drive information or create an upgrade disc for updating the duplicator software.

7.2.7.1 DISK INFO

Under this menu, you can view the hard drive capacity, brand/model and serial number.

※ **Operation Procedure:**

A. Use the ▲ and ▼ keys on the main menu to select the “Tools” menu.

B. Select "Disk Info" under the "Tools" sub-menu, and press ENT key.



```
> TOOLS
1 DISK INFO
```

C. Use the ▲ and ▼ keys to select different hard disk, and press ENT key to view the hard disk related information;

For example, the following figure shows the information of the first hard disk:



```
[ 112706114525    238G
PLEXTOR PX-256MBPeY
```

7.2.7.2 MAKE UPDATE DISK

Create an upgrade disk for upgrading the duplicator software.

※ **Operation procedure:**

See "8. System Software Upgrade" Steps (1).

7.2.8 SETTING

The system settings include the duplicator's working parameter settings. Generally, the factory default settings can be used. If you really need to modify the system settings, be sure to confirm the setting change.

7.2.8.1 CMP AFTER COPY (N)

This option is used to set whether to perform data comparison after copying is completed. If set to "Yes", the data comparison will be started automatically after the duplicator completes the copy task; if set to "No", the comparison will not be performed automatically after the copying. The default is "No".



```
> SETTING
1 CMP AFTER COPY(N)
```

7.2.8.2 SET COPY PERCENT

This option is used in combination with "Percent Copy" and "Percent Compare". You need to set the required percentage before Percent Copy or Percent Compare.

```
> SETTING
2 SET COPY PERCENT
```

7.2.8.3 COPY UNKNOWN (N)

This setting is used in some special areas when it is impossible to perform comprehensive data analysis. If you select "Yes", the partitions of valid data cannot be analyzed in the quick copy, and the contents will be copied. If you select No, the copy fails (the default is No).

```
> SETTING
3 COPY UNKNOWN(N)
```

7.2.8.4 ERASE PATTERN(00)

This setting is used to set the erase data format of the full-disk erase function. Different data such as 00, 5A, A5, AA, FF, RDM (random value) can be selected to write to the target disks (the default value is 00).

```
> SETTING
4 ERASE PATTERN(00)
```

7.2.8.5 SPEED MOD (AUTO)

Set the mode of the duplicator speed based on the hard disks used, which is 3Gb, 6Gb, and AUTO respectively. It is recommended to select the AUTO mode for automatic matching (default is AUTO).

```
> SETTING
>5 SPEED MOD(AUTO)
```

3Gb: for slower hard disks

6Gb: for higher speed hard disks

AUTO: The duplicator will automatically recognize the hard disk and use the right mode

7.2.8.6 SET PASSWORD

Password settings for the duplicator to prevent operators from randomly setting parameters and causing duplication errors.

```
> SETTING
6 SET PASSWORD
```

※Operation Procedure:

- A. Press ENT key to enter into the password setting sub-menu.
- B. Press the ▲ and ▼ keys to set the corresponding passwords respectively.
- C. Press ESC key to exit and save password settings.

```
> SET PASSWORD
[1]2 3 4
```

7.2.8.7 CAPACITY CHECK (N)

Whether to check the capacity of the target disk when copying, you can select "Yes" or "No" (the default is "No"). You need to combine the "Capacity Check Score" setting. When this function is turned on, the hard disc with a large difference from the average capacity of the target disk will be removed.

```
> SETTING
7 CAPACITY CHECK(N)
```

7.2.8.8 KICK SLOW DISK (N)

You can select "Yes" or "No" to turn this function on or off (the default is "No"). After this function is turned on, the disk with slow speed will be kicked out during copying. The slow speed ratio can be set, and the hard disk will be removed if its speed is lower than the setting.

Note: The kick-off reference value is set in the "Setting-> Advanced-> Set Kick Percent" menu.

```
> SETTING
8 KICK SLOW DISK(N)
```

7.2.8.9 ADVANCED

This menu is mainly used for setting advanced system parameters.

7.2.8.9.1 POWER ON TIME

This is to set the hard disk startup time before the copy starts, which can ensure the normal rotation of the hard disk head. It can be set to 1 to 30 seconds (the default value is 6S).

```
> ADVANCED
1 POWER ON TIME
```

※Operation Procedure

- A. Press ENT key to enter into the Power On Time setting.
- B. Use the ▲ and ▼ keys to adjust the time.

```
> POWER ON TIME
  6s
```

7.2.8.9.2 POWER OFF TIME

This is to set the time to wait for the hard disk to stop after copy / compare is completed. It can be set to 1 to 20 seconds (the default value is 3S)

```
> ADVANCED
  2 POWER OFF TIME
```

※Operation Procedure

- A. Press ENT key to enter into the Power Off Time setting.
- B. Use the ▲ and ▼ keys to adjust the time.

```
> POWER OFF TIME
  3s
```

7.2.8.9.3 LANGUAGE

Set the system display language to Chinese or English.

```
> ADVANCED
  3 LANGUAGE
```

※Operation Procedure:

- A. Press the ENT key to enter into the Language setting;
- B. Use ▲ and ▼ keys to change the display language to Chinese or English (English default);

7.2.8.9.4 FACTORY RESET

User can restore the duplicator settings to the factory default settings.

```
> ADVANCED
4 FACTORY RESET
```

※Operation Procedure:

- A. Press the ENT key to enter into the factory reset menu;
- B. If you need to restore the factory settings, press ENT to continue;
- C. If you do not need to restore the factory settings, press ESC to cancel;

7.2.8.9.5 FIRMWARE UPDATE

It is used to update and upgrade duplicator control software. This function will only be used when special software needs to be upgraded.

```
> ADVANCED
5 FIRMWARE UPDATE
```

※Operation Procedure

See "8. System software upgrade" steps (3).

7.2.8.9.6 TEST MODE(OFF)

This is for aging test scenarios. After turning on this option, return to the main menu and select any copy function. Then the duplicator will perform that copy function repeatedly in a loop until the user cancels the operation. The default is off.

```
> ADVANCED
6 TEST MODE(OFF)
```

7.2.8.9.7 SET KICK PERCENT

This setting is to remove hard disks with slow speed in work. If you need to remove the hard disk, you can set the removal percentage here, which can be set from 1% to 100% (the default value is 50%).

```
> ADVANCED
7 SET KICK PERCENT
```

Set as below:

```
> SET KICK PERCENT
50%
```

Figure above indicates the disks with below 50% of the average speed will be eliminated.

※ Operation Procedure

A. Press ENT key to enter into the Set Kick Percent sub-menu;

B. Use ▲ and ▼ keys to set the percentage value;

7.2.8.9.8 SYSTEM INFO

In this menu, you can view the current system information of the duplicator.

```
> ADVANCED
8 SYSTEM INFO
```

Number of ports available for duplication

```
> SYSTEM INFO
HARD DISK COPY 1-19
```

Current firmware version of the duplicator

```
> SYSTEM INFO
FW VER      :0.01.14
```

Release date of current firmware version:

```
> SYSTEM INFO
DATE       :AUG  1 2019
```

Duplicator serial number:

```
> SYSTEM INFO
SN :E8E6150102530000
```

※Operation Procedure

Press ENT key to enter into the System Info sub-menu;

Use ▲ and ▼ keys to view the corresponding system information;

7.2.8.9.9 EXPORT LOG

This is to export all the work log information of the duplicator.

```
> ADVANCED
9 EXPORT LOG
```

7.2.8.9.10 BLOCK SIZE (64K)

There are 5 options for setting the data transmission amount of a single system command, which are 128K, 64K, 32K, 16K and 8K (the default value is 64K).

```
> ADVANCED
10BLOCK SIZE ( 64K)
```

※Operation Procedure

A. Press the ENT key to enter into Block Size sub-menu.

B. Use ▲ and ▼ keys to select the value.

7.2.8.9.11 CAP CHECK PERCENT

This is to set the maximum difference allowed between the capacity of the master disk and the target disks. The setting range is 0% -100% (default is 0%).

```
> ADVANCED
11CAP CHECK PERCENT
```

※Operation Procedure

A. Press ENT key to enter into the "CAP Check Percent" sub-menu.

B. Use ▲ and ▼ keys to select the percentage value.

7.2.8.9.12 ANALYSE XBOX(N)

This is to analyze the XBOX files in the master disk when copying XBOX system. You can select Yes or No to turn this feature on or off (the default is No).

```
> ADVANCED
12ANALYSE XBOX(N)
```

※Operation Procedure

A. Press ENT key to enter into the “Analyse XBOX” sub-menu.

B. Use ▲ and ▼ keys to select “Yes” or “No”.

7.2.8.9.13 NVME WAIT LNK (2S)

This is for dual file system duplication. You can select "Yes" or "No" to turn this feature on or off. The default is "No". If the master disk is a dual file system, and this option is selected as “Yes”, the duplicator will detect the MBR table (the first file system MBR table) at the beginning address of the first sector of the master disk - 0X8000 before copying. If this MBR table can be detected, duplicator can copy the dual file system, otherwise you can only copy the first file system.

※Operation Procedure

A. Press ENT button to enter into the “NVME WAIT LNK (2S)” sub-menu.

B. Use ▲ and ▼ keys to switch between “Yes” or “No”.

```
> ADVANCED
13 NVME WAIT LNK( 2S)
```

8. System software upgrade steps

(1) Prepare a hard disk for firmware update:

A. Prepare an M.2 SSD that can be formatted (this operation will erase all valid data in the SSD);

B. Insert the M.2 SSD into the source port (labeled with M) as master disk;

C. Under the "Tools" in the main menu, select "Make Update Disk" submenu and press the ENT key to start making the upgrade disk;

```
> TOOLS
2 MAKE UPDATE DISK
```

D. Press ENT key and wait for the formatting success

```
> MAKE UPDATE DISK
FORMAT DISC SUCCESS
```

E. After formatting is completed, remove the SSD from the source port.

(2) Copy the latest software to the upgrade disk:

A. Connect the formatted SSD made in step (1) to a computer, and you can see a 7.98 GB disk on the computer as an example below.



B. Copy the latest software to be updated to the SSD for firmware upgrade.

(3) Firmware update:

A. Connect the SSD made in the above steps to the source port (labeled with M) of the duplicator;

B. Use the ▲ and ▼ keys to select from menu "Setting" → "Advanced" → "Firmware Update", as shown below:

```
> ADVANCED
5 FIRMWARE UPDATE
```

C. Press ENT key to enter into the firmware update; press the ENT key again to continue;

```
> FIRMWARE UPDATE
CONFIRM TO CONTINUE
```

D. Searches for firmware in the SSD;

```
> FIRMWARE UPDATE
SEARCHING...
```

E. Finds the upgrade software and starts to update. Please wait for the update to complete;

```
> FIRMWARE UPDATE
UPDATEING...
```

F. After the update is completed, please turn off the duplicator power and then turn it on again;

```
> FIRMWARE UPDATE
UPDATE SUCCESS
```

Note: During the firmware update process, you must wait until the duplicator update successfully prompts you to restart the duplicator machine before you can power off, otherwise the duplicator machine will fail to boot!

9. Frequently Asked Questions

Q1: Prompt that the master disk is not recognized

A: Check whether the master disk is well connected with the adapter board. In addition, you can try to replace the adapter board or the master disk. Check whether the duplicator is under the copy mode, and the master disk cannot be detected in the erase mode.

Q2: Insufficient capacity

A: Check the capacity of the target disk. If the capacity of the label on the target disk is the same as that of the label on the master disk, make sure that the number of sectors of the target disk and the master disk are the same.

10. Specification

NV-05M Duplicator Specification :

Model	NV-05M
Target	4
General Specification	
Transfer Speed	36 GB/min (PCIe); 36 GB/min (SATA3.0)
Hard Disk Capacity	No limitation
Mode	Stand-alone operation; computer connection for monitoring and browsing work logs for certain models
Language	English and Chinese
LCD	Monochrome LCD display
LED Status Light	Red and green LED lights for working status of each duplicator port
Operation Button	5 keys : ▲ , ▼ , ENT, ESC, and START (OK) button
Main Functions	
Copy	Fast Copy, Full Copy, Percent Copy, Fast + % Copy
Compare	Fast Compare, Full Compare, Percent Compare
Erase	Fast Erase, Full Erase, DoD Erase
Format	FAT 16, FAT 32, and exFAT

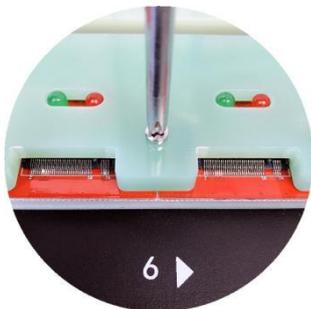
Advanced Functions (available to certain models)	
Computer Link	Real-time computer monitoring and work record keeping
Mapping	PC mapping production, download and copy
Compatibility	
File Format Supported	FAT16/32/64 , exFAT , NTFS , EXT1/2/3/4
Hardware Specification	
Power Supply	100~240V,400W,50/60HZ
Temperature	-20°C ~ 85°C
Humidity	5% ~ 95%
Net Weight (kg)	
Gross Weight (kg)	
Dimensions (cm)	
Package (cm)	

11. Appendix

Adapter board replacement:

(1) M.2 SSD adapter board:

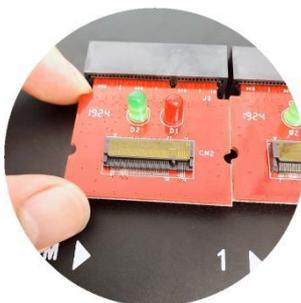
Step 1. Remove the adapter plate fixture screws and remove the fixture.



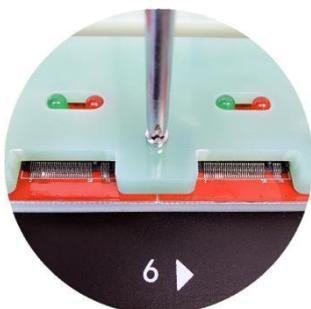
Step 2. Unplug the original adapter board.



Step 3. Insert the new adapter board.



Step 4. Reinstall the adapter plate fixture and tighten the screws.



(2) SATA 2.5 inch adapter board (available to certain model only):

Step 1. Unplug the SATA cable (as shown below) and remove the fixing screws of the adapter board (as shown below)



Step 2. Unplug the original adapter board and replace it with a new one.

Step 3. Connect the SATA cable and tighten the fixing screw.