M.2 PCIe NVMe Duplicator & Sanitizer M2 Series User Manual
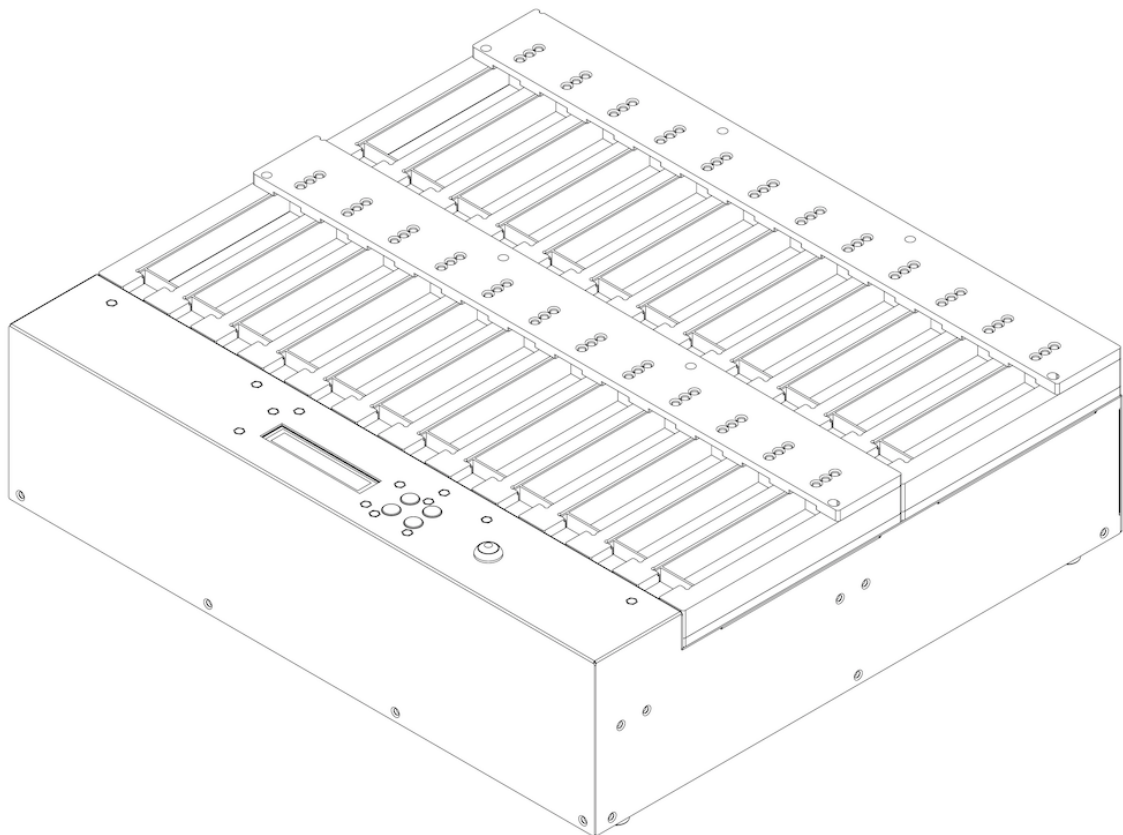
Index Table

Product Disclaimer

The manufacturer is not accountable for any incidental or consequential damages, which includes, but is not constrained to property harm, loss of time or data from use of our product, or any other damages attributable to product malfunction or failure (including without limitation, those attributable to: (1) reliance of the materials provided, (2) costs of product replacement, (3) loss of use, data or profits, (4) delays or business interruptions, (5) and any principle of legal responsibility, arising out of or in reference to the use or overall performance or from delays in servicing or lack of ability to render service) of any our product. The manufacturer makes every effort to ensure proper operation of all products. However, the customer is responsible to affirm that out of the product meets the customer's quality requirement. The customer further acknowledges that fallacious operation of our product and/or software program, or hardware issues, can cause loss of data, defective formatting, or data loading. The manufacturer will make efforts to resolve or repair any issues recognized by customer either within the warranty period or on a time and materials basis.

Warranty

The manufacturer provides a basic one-year parts and labor warranty for all of its products (excluding cables, adapters, and other consumable items). An optional extended warranty is also available for an added cost. Telephone and email support is available for the life of the product as defined by us.

All warranties will be restricted and defined by the market region from which customers purchased.

Piracy Statement

The manufacturer accepts no responsibility for copyright infringement or misuse of any our equipment. Copying all forms 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 our 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.
- The power supply has overload protection. When it is overloaded and shutdown, please unplug the power cord for 2 minutes for discharge.
- 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 HDDs.
- 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.
- Devices will operate at high temperatures during selected tasks.
- Wear protective gloves to prevent burns when handling devices.
- Ensure machine and operator are properly grounded to prevent ESD.

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.

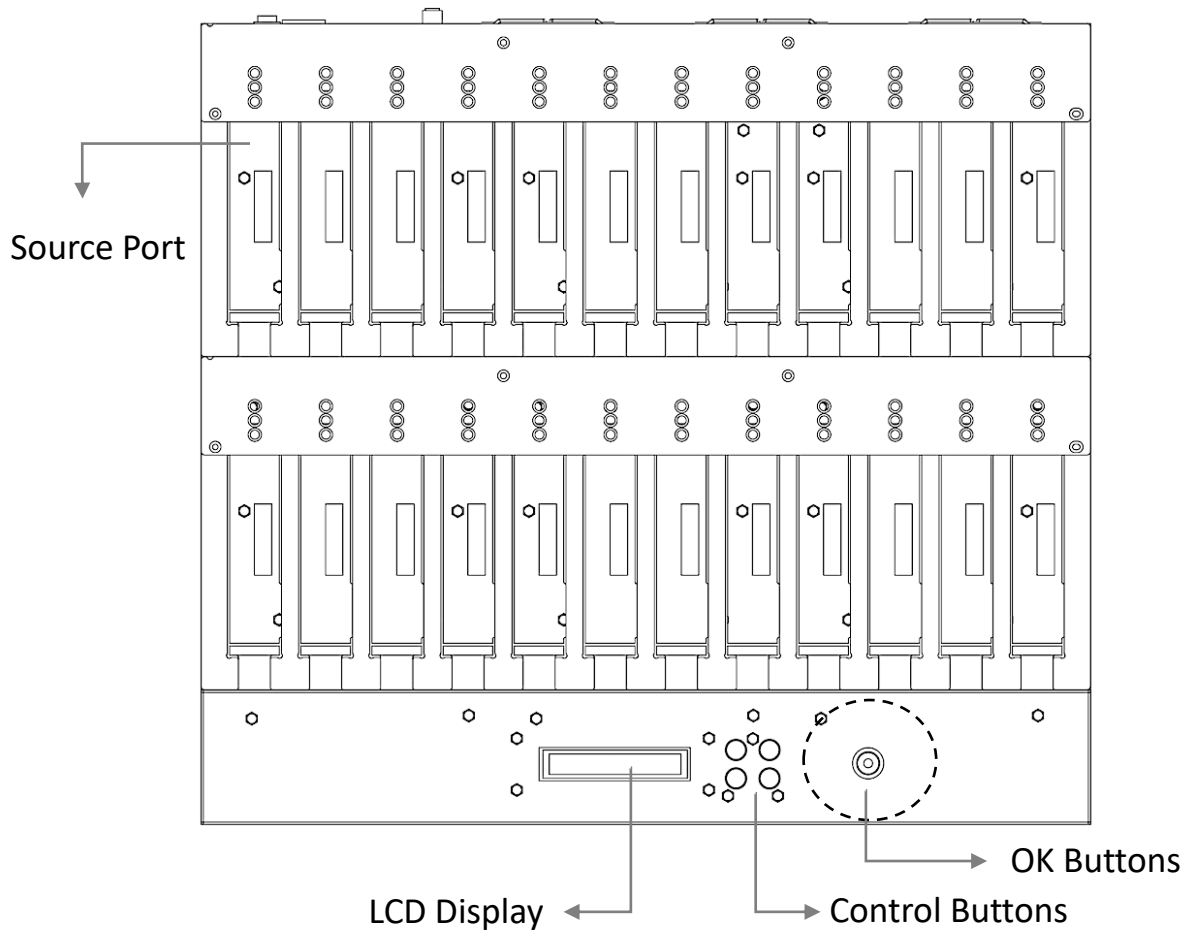| Caution	Refers to procedures that need to be adhered to or precautions.

Functions Table

Functions	Descriptions	
1. Copy	Copies data from source device to targets. (There are four copy modes in function "6.2 Copy Area")	
2. Compare	Verifies the targets to the source device to ensure copy accuracy.	
3. Copy+Compare	Automatically launches compare function after copy is completed.	
4. Erase	**4.1 Quick Erase** Erases device(s)' index table.	
	4.2 Full Erase Erases entire device(s) complying with NIST 800-88 Standards.	
	4.3 DoD Erase Erases device(s) complying with DoD 5220.22-M Standards.	
	4.4 DoD EraseComp Erase device(s) complying with DoD 5220.22-M Standards and verifies complete erasure.	
	4.5 Secure Erase Erases the non-loadable areas complying with NIST 800-88 Standards.	
5. Utility	**5.1 Show Disk Info** Displays basic information such as device model, name, capacity, etc.	
	5.2 Update System Updates system firmware at the rear SD port.	**5.2.1 Update BIOS** Updates system firmware through the USB port.
		5.2.2 Create Update HDD Prepares by formatting the device to a 2GB FAT partition to accept firmware file.
	5.3 System Info. Displays system information such as controller, model number, software version, etc.	
	5.6 Calc. CRC64 Calculates the CRC64 value of the source device.	
6. Setup	**6.1 Start-up Menu** Sets default function to display after equipment initialization.	

	6.2 Copy Area	**6.2.1 System and Files** Copies data and skips empty space. Only supports standard formats.
		6.2.2 All Partitions Copies or skips HPA, DCO, unknown partitions, modified formats, etc. defined by settings.
		6.2.3 Whole HDD Copies all source data, bit-by-bit.
		6.2.4 Percentage (%) Sets percentage of source capacity to copy.

6.3 Copy GPT Backup Area
Enable this function to copy the end GPT format.

6.4 Skip Bad Sectors
Skips source bad sectors.

6.5 Language
Sets preferred language: English or Japanese.

6.6 Advanced Setup	**6.6.1 Unknown Format**	**6.5.1.1 Copy Unknown** Copies unknown format(s).
		6.5.2.2 Skip Unknown Skips unknown format(s).
	6.6.2 Erase Master	**6.5.2.1 Disabled** Source port will be unable to erase.
		6.5.2.2 Enabled Source port will be able to erase.
	6.6.3 Erase Pattern	**6.5.3.1 One Byte** Random character written per byte.
		6.5.3.2 Big Random Data Random character written in a set of area.
	6.6.4 Wait HDD Time Sets device power-up buffer time when tasks are initiated.	
	6.6.5 Lock Key	**6.5.5.1 Do Not Lock Key**
		6.5.5.2 Do Lock Key Only down/up buttons are disabled. Reboot system for setting

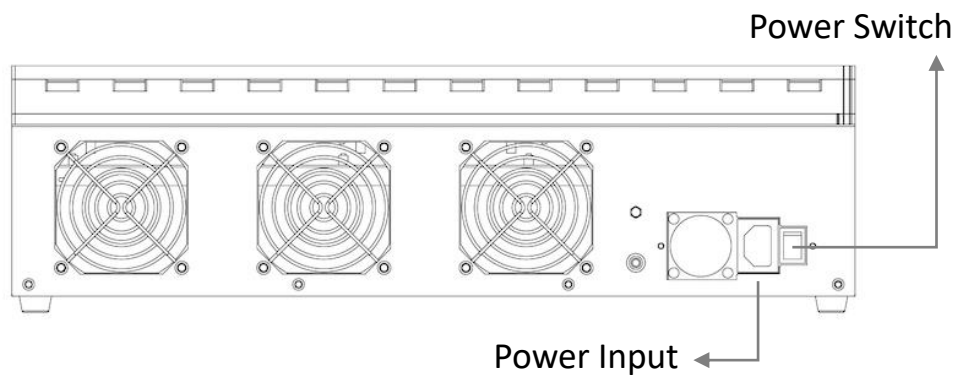|			to be in effect.	
		6.6.6 Stop Motor Time Sets device power down buffer time when tasks are completed.		
		6.6.7 Boot Password Sets password for bootup.		
		6.6.8 Delete Disk Signature After Copy	**No**	
			Yes Do not copy the disk signature onto target devices.	
		6.6.9 Target Tolerance Sets the capacity tolerance range between the source and target. The default setting is "No limit".		
		6.6.10 Clean SSD Before Copy	**No** The default setting is "No".	
			Yes	
	6.7 Restore Defaults Reinstates manufacturer settings.			

Product Overview

- Front View

Source Port

OK Buttons

LCD Display

Control Buttons

- Back View

Power Switch

Power Input

- LED Status

Yellow: Powered

Green: Pass

Red: Fail
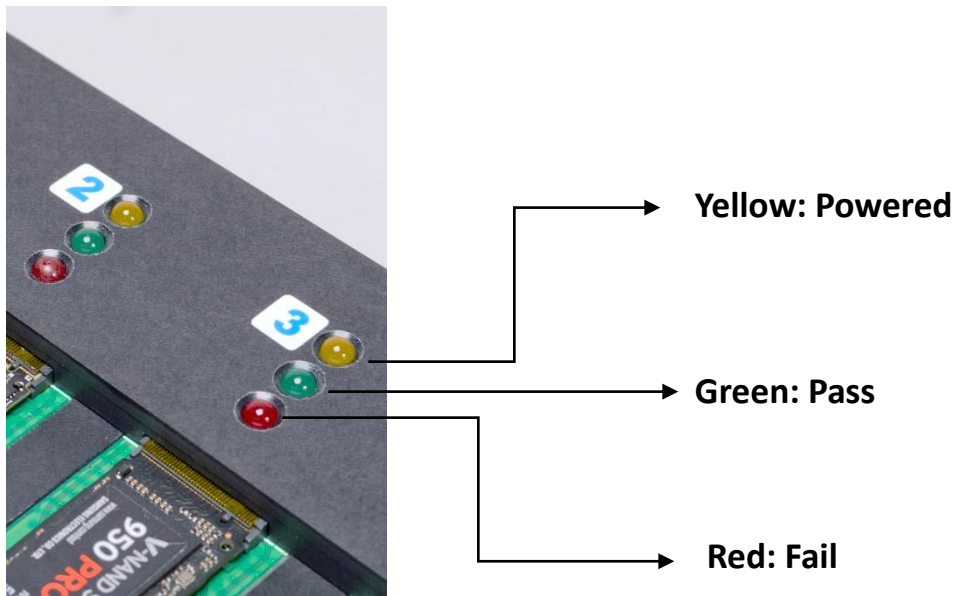
- LCD Configuration

Function — Number of Target Device — Total Size — Forward — Confirm/OK

```
Copy x2        298G
 0:04 1%  (2)17.2G
```

Time elapsed and copy progress — The slowest Device — Copied processed size — Backward — Cancel/Back
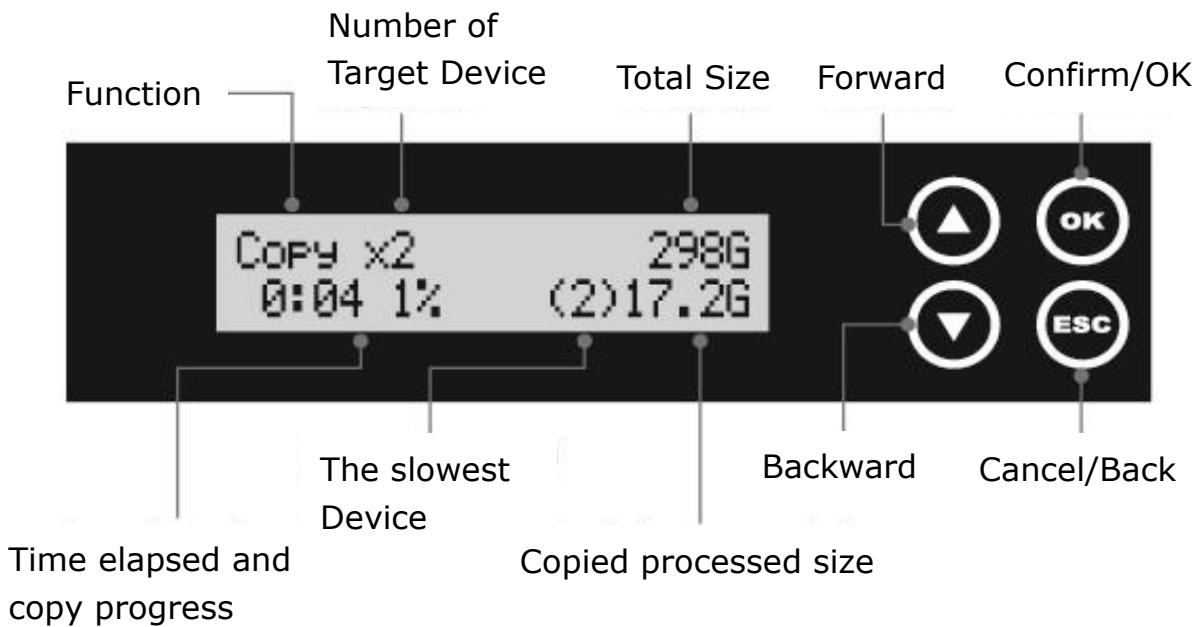
Functions

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 following information below states what is displayed on the LCD during duplication.

```
                              Function        Total Data
                                 |                |

Copy          40.0G        Copy x3            40G

   3 ready                 1:38   25%  (4) 10.3G

                              |            |      |
                           Copied      Slowest  Copied
                           Time & %     Port    Data
```

Note	Press ▲ ▼ together for 5 seconds to stop operation on the slowest device.

Step 4: Copy Completed!

The quantity of passed or failed target device(s) and the copied duration will be displayed on the LCD after duplication completes.

2. Compare

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, then Compare.
Scroll to select "3. Copy+Compare", then press "OK" to start the automated duplication and verification process.

4. Erase

There are 5 submenu modes.

Caution	Please backup all important data before using this function.

Step 1: Connect device(s) for sanitizing.

Note	Source Port is disabled for erasing. Go to 6.6.2.2 to enable source port erasing.

Step 2: Enter function "4. Erase"

Scroll to select "4. Erase", then press "OK" to view the 3 submenus.

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 to 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 Secure Erase

This function erases the non-loadable areas complying with NIST 800-88 Standards.
Scroll to select "4.3 Secure Erase ", then press "OK" to start the erasing process.

5. Utility

This menu will reveal submenus related to device information, system information and updates.
Scroll to select "5. Utility", then press "OK" to view the submenus.

5.1 Show Disk Info

This function will display basic information such as device model, name, capacity, etc…
Scroll to select "5.1 Show Disk Info", then press "OK" to view the connected device(s). Then through to view connected device(s) by port number order.

5.2 Update System

Step 1: Prepare a M.2 SSD for update.

Connect a M.2 SSD to the source port. Scroll to select "5.2.2 Create BIOS Format", then press "OK" to start the format process. It will format the device to a 2GB FAT32 Partition.

| Caution | The data saved in this device will be erased. |

Step 2: Download firmware.

Connect the M.2 SSD to PC. Download the latest firmware provided from supplier's technical support team, unzip the BIOS firmware, and save it to the root directory in the device.

Note	Ensure that the SSD does not have any bad sectors.

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. When the update completes, a message will display on the LCD and ask to turn off the machine for 5 seconds. The supplier will not be held responsible for any damages.

5.3 System Info

This function will display basic information such as device model, name, capacity, etc...
Scroll to select "5.3 System Info", then press "OK" to view the connected device(s). Then scroll through to view all information.

5.4 Calc. CRC64

This function will count the CRC64 value for the source port. The CRC64 value is an easy way to double check the source data is correct.

Caution	User is responsible for verification of targets' quality. Testing a few completed targets in a mass production environment for quality control is recommended.

6. Setup

This menu will reveal submenus related to copy area, skip bad sector, and setting language. 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 after equipment initialization.
Scroll to select "6.1 Start-up Menu", then press "OK." Next, scroll through the available menus for startup.
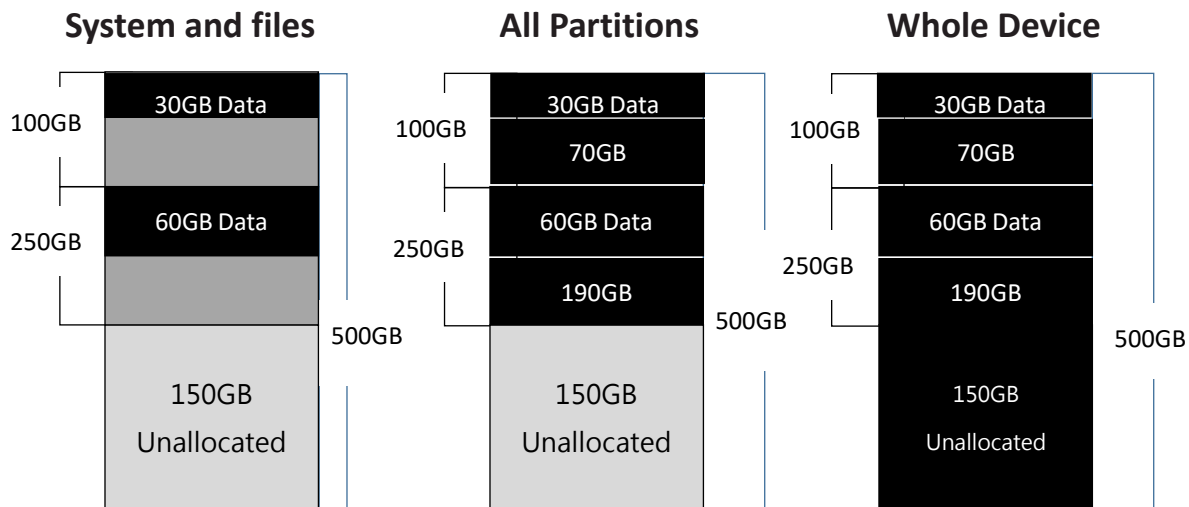
6.2 Copy Area

There are 4 submenu modes.
Scroll to select "6.2 Copy Modes", 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.

System and files	All Partitions	Whole Device

100GB	30GB Data	100GB	30GB Data	100GB	30GB Data
			70GB		70GB
250GB	60GB Data	250GB	60GB Data	250GB	60GB Data
			190GB		190GB
500GB	150GB Unallocated	500GB	150GB Unallocated	500GB	150GB Unallocated

This function will analyze and copy only data and skip empty spaces.	This function will copy all data within the defined partitions.	This function will copy the entire device.

● Copy and Compare Preparations

Please consider the following settings before proceeding with copy:
- 6.2 Copy Modes
- 6.3 Copy GPT Back Area
- 6.4 Skip Bad Sectors
- 6.6.1 Unknown Format
- 6.6.4 Wait HDD Time
- 6.6.6 Stop Motor Time
Using appropriate copy modes can greatly reduce operation time and increase efficiency. There are four copy modes with different copy methods.
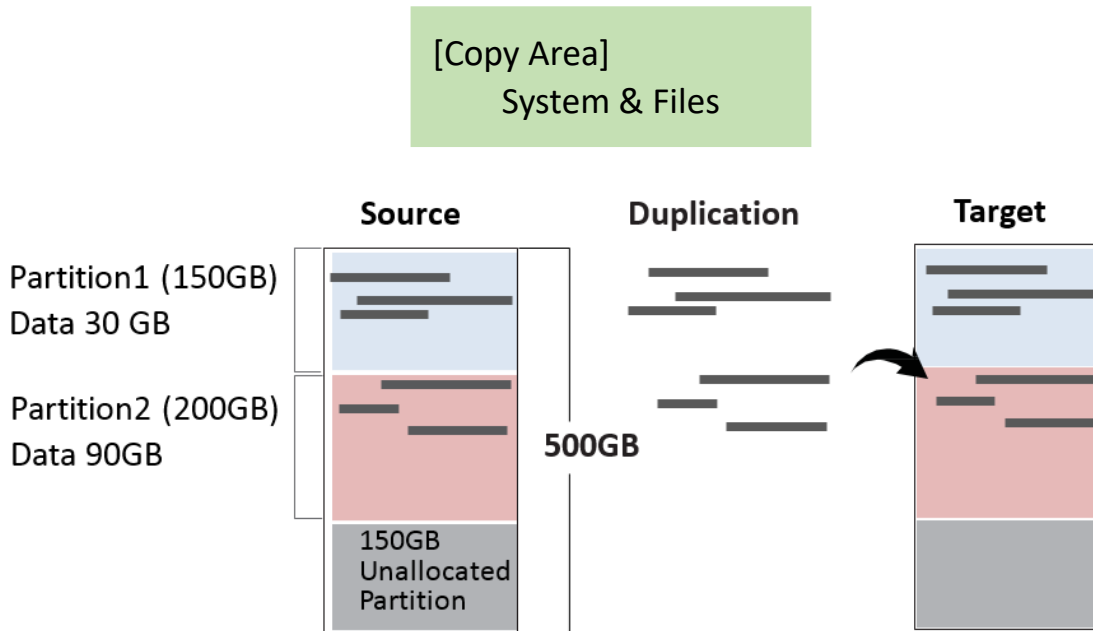
❶System and Files

Copies data and skips empty space. Only supports standard formats.
Scroll to select "6.2 Copy Area > System and Files", then press "OK" to save the copy method.

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/exFAT, NTFS, EXT2/EXT3/EXT4, and HFS/HFS+/HFSX are supported in this copy mode.
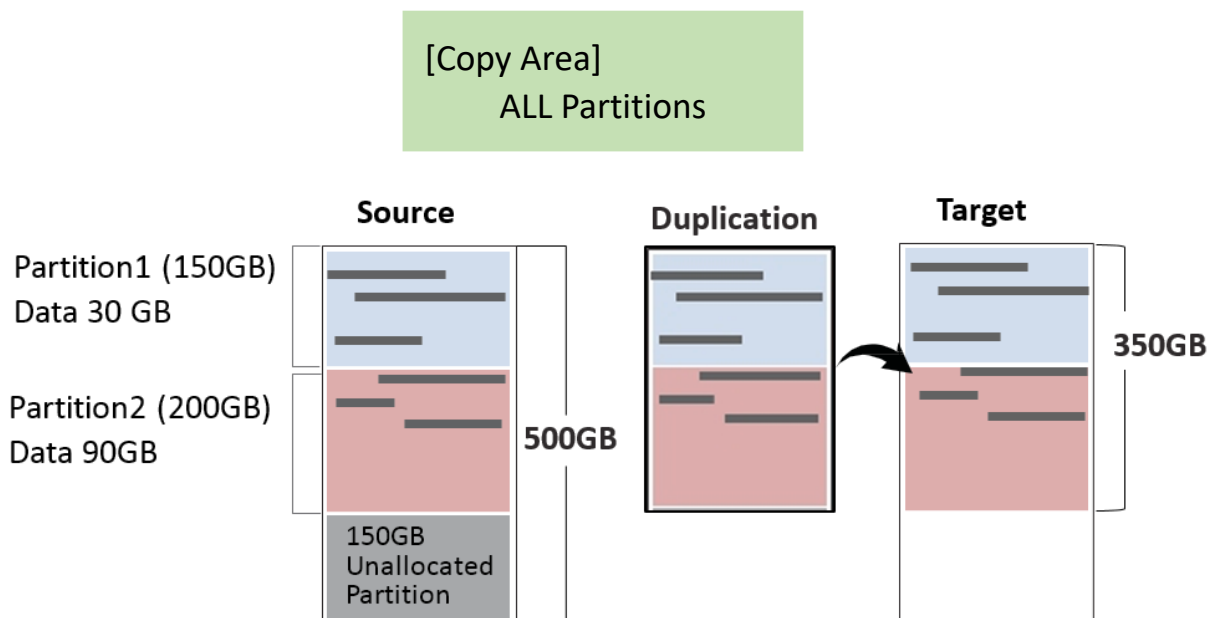
[Copy Area]
System & Files

Source — Duplication — Target

Partition1 (150GB)
Data 30 GB

Partition2 (200GB)
Data 90GB

500GB

150GB
Unallocated
Partition

Only 120G data area will be copied.

❷ All Partitions

Copy or skip HPA, DCO, unknown partitions, modified formats, etc. defined by settings.
Scroll to select "6.2 Copy Area > All Partitions", then press "OK" to save the copy method.

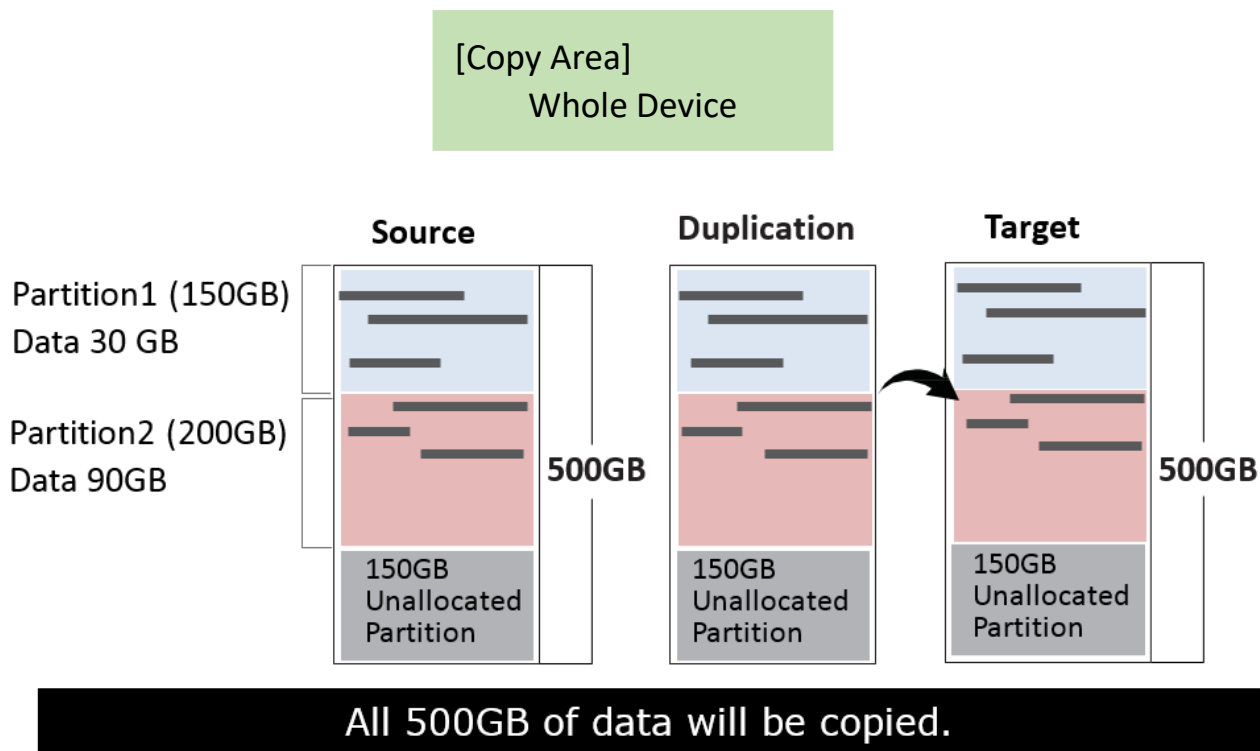The target device's capacity must be equal to or larger than the source device's capacity.

[Copy Area]
ALL Partitions

Source — Duplication — Target

Partition1 (150GB)
Data 30 GB

Partition2 (200GB)
Data 90GB

500GB

350GB

150GB
Unallocated
Partition

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

❸ Whole Device

Copies all source data, bit-by-bit.

Scroll to select "6.2 Copy Area > Whole Device", then press "OK" to save the copy method.
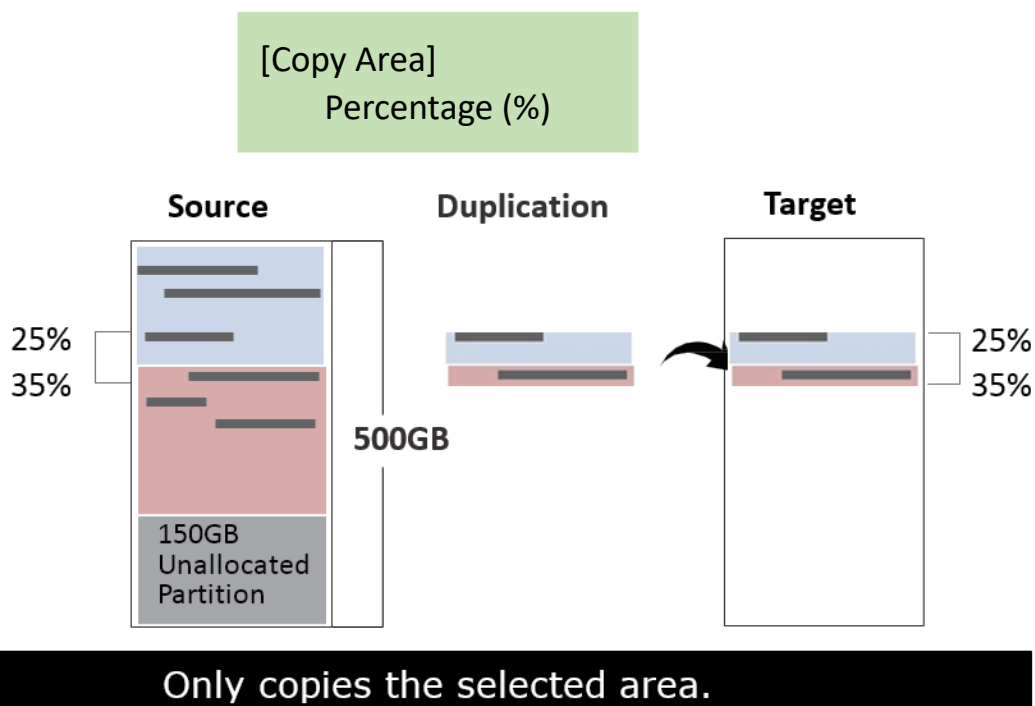
Copies the whole source device, irrespective of content, format, partition, or empty space. This mode does not analyze the data.

[Copy Area]
Whole Device

Source   Duplication   Target

Partition1 (150GB)
Data 30 GB

Partition2 (200GB)
Data 90GB

500GB

500GB

150GB Unallocated Partition

150GB Unallocated Partition

150GB Unallocated Partition

All 500GB of data will be copied.

❹**Percentage (%)**

Select percentage of source capacity to copy.
Scroll to select "6.2 Copy Area > Percentage", then press "OK" to save the copy method.

[Copy Area]
Percentage (%)

Source   Duplication   Target

25%
35%

500GB

25%
35%

150GB Unallocated Partition

Only copies the selected area.

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.

GPT Index

Partition

Disabling function "6.3 Copy GPT Backup Area" will force the duplicator to ignore this area.
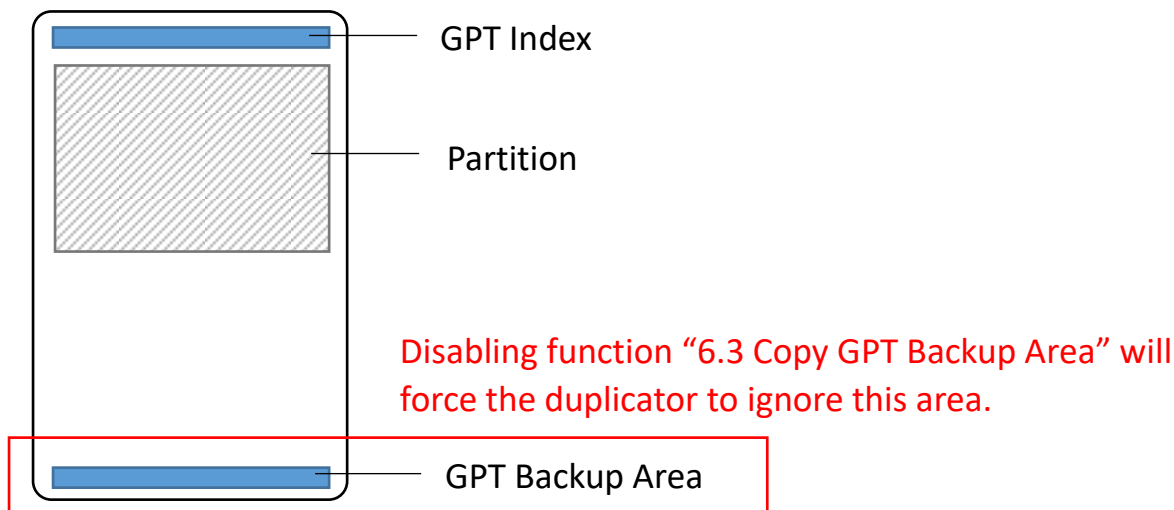
GPT Backup Area

Caution	If function is disabled, the target HDD will reconstruct the GPT Backup Area by Windows system. It may require the HDD to restart to work.

6.4   Skip Bad Sectors

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 Bad Sectors" at "0." Bad sectors can be set as unlimited or at a value from 0 to 65,535.

[Skip Bad Sectors]
1000

Caution	The "Copy+Compare" function is advised for enhanced copy accuracy.

6.5 Language

Select English or Japanese.
Scroll to select "6.5 Language", then press "OK." Then scroll through select the desired language.

6.6 Advanced Setup

6.6.1 Unknown Format

This function only works with "6.2 Copy Area >> System and Files."
Scroll to select "6.6.1 Unknown Format", then press "OK".
Unknown format includes all forms of modified and proprietary data and partitions.

❶ Copy Unknown

Copy unknown format(s).
Scroll to select "6.6.1 Unknown Format >> Copy Unknown", then press "OK" to save this setting.

❷ Skip Unknown

Skip unknown format(s).
Scroll to select "6.6.1 Unknown Format >> Skip Unknown", then press "OK" to save this setting.

6.6.2 Erase Master

This function allows user to enable or disable the source port for sanitization.
Scroll to select "6.6.2 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 "6.6.2 Erase Master >> Disabled", then press "OK" to save this setting.

❷ Enabled

Devices connected to source port can be erased.
Scroll to select "6.6.2 Erase Master >> Enabled", then press "OK" to save this setting.

6.6.3 Erase Pattern

Scroll to select "6.6.3 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 "6.6.3 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 "6.6.3 Erase Pattern >> Big Random Data", then press "OK" to save this setting.

6.6.4 Wait HDD Time

Sets device power up buffer time prior to copy, erase, etc...
Scroll to select "6.6.4 Wait HDD Time", then press "OK" to set buffer time "from 5 to 99 seconds" or "wait key to start." The default is 30 seconds.

6.6.5 Lock Key

This function allows users to enable or disable the 4 control panel buttons.
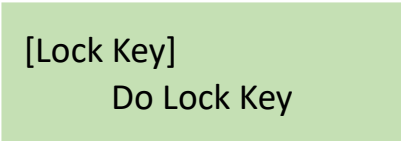Scroll to select "6.6.5 Lock Key", then press "OK" to access available settings.

❶ Disabled

Scroll to select "6.6.5 Lock Key >> Do NOT Lock Key", then press "OK" to save this setting.

❷ Enabled

Scroll to select "6.6.5 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.

| [Lock Key] |
| Do Lock Key |

| |
| UNLOCK KEY ! ! |

6.6.6 Stop Motor Time

Sets device power down buffer time when tasks are completed.
Scroll to select "6.6.6 Stop Motor Time", then press "OK" to set buffer time from 1 to 20 seconds. The default is 3 seconds.

6.6.7 Boot Password

Sets password for bootup.

Scroll to select "6.6.7 Boot Password", press "OK," and select the password by "▲, ▼ and OK."

6.6.8 Delete Disk Signature After Copy

Set at "Yes" means do not copy the disk signature part.
This function is for Windows only. Windows will only recognize one device if you connect two or more with the same disk signature.

| Caution | "Compare" function will always Fail if "6.6.8 Delete Disk Signature After Copy" is set at "Yes." |

6.6.9 Target Tolerance

This function sets the capacities tolerance range between the source and target device.
There are 3 submenu modes, No Limit, 100% Same, Allow the UP/LOW Limit. If the capacity

is outside the tolerance range, the copy will fail.

6.6.10 Clean SSD Before Copy

Sets to clear SSD before copy function. The default setting is "No".

6.7 Restore Defaults

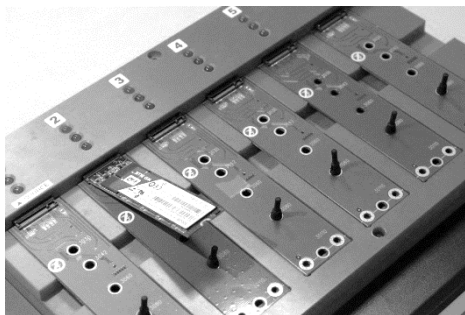Restores all setting to manufacture defaults.
Scroll to select "6.7 Restore Defaults", then press "OK" to restore settings back to manufacture defaults.
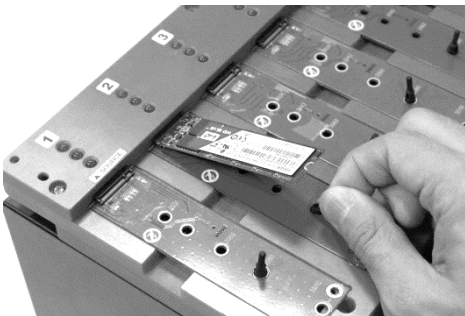
How-to plug-in M.2 SSD
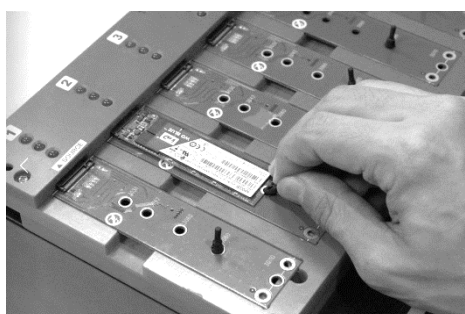
Step 1: Align M.2 SSD to connecting port.

Step 2: Insert M.2 SSD at an angle to connecting port.

Step 3: Pull back the rubber standoff.

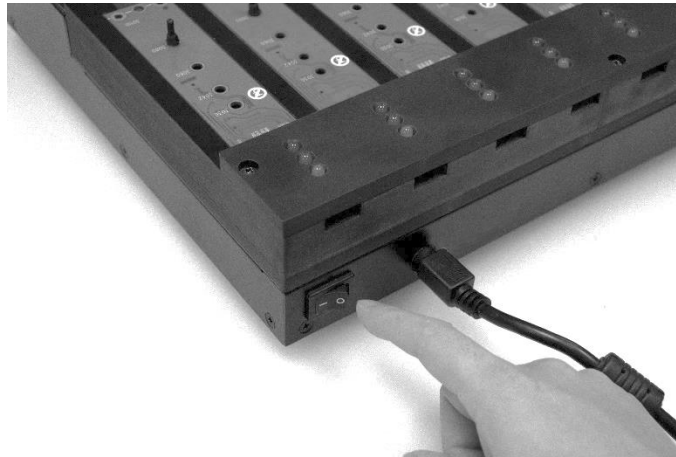**Step 4: Place M.2 SSD securely all the way down and release the rubber**

standoff.

Maintenance Guide
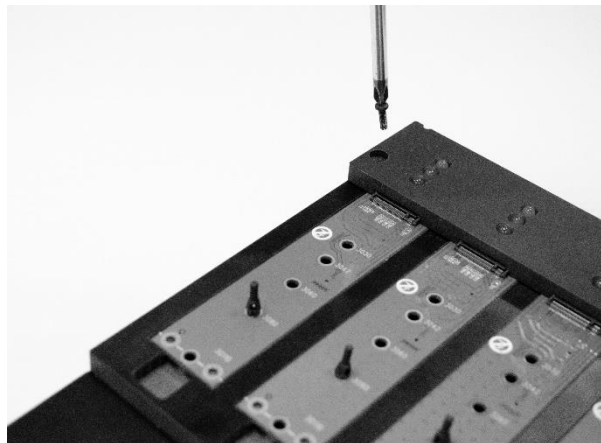
5 Steps to replace M.2 socket(s)

Step 1: Turn off power.

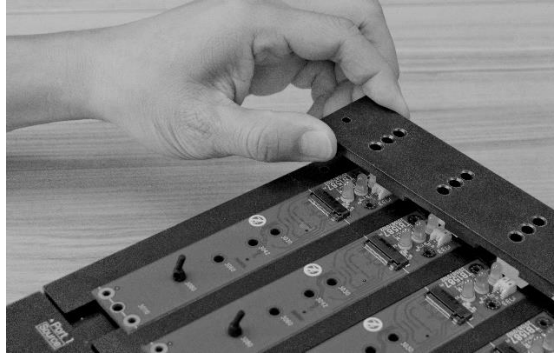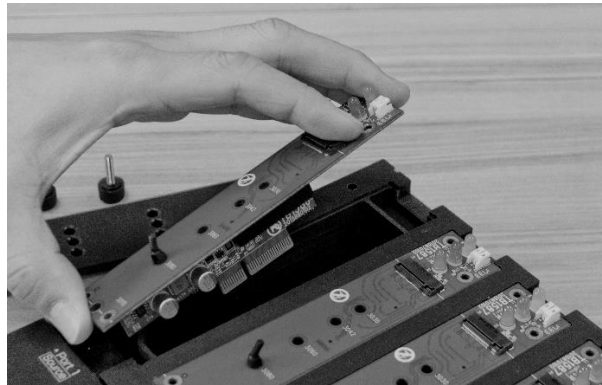| Caution	For your safety, please turn off the power before inspecting or replacing the socket.

Step 2: Remove the faceplate screws.

Caution	Please use extreme caution while using a screwdriver to remove the screws as it can easily slip and damage the surrounding area.

Step 3: Remove the cover plate.

Step 4: Replace the socket(s).

Step 5: Replace and secure the cover plate.