



SD 3.0 Series

SD/microSD Duplicator & Tester

User Manual vA.02



Product Disclaimer.....	3
Warranty.....	3
Piracy Statement	3
Before You Start.....	4
Product Introduction	5
Notice Symbols	6
Function Table	7
Function Description.....	11
1. Copy.....	11
2. Compare	12
3. Copy+Compare	12
4. Media Check	12
5. Utilities.....	14
6. Setup.....	17
7. Log Manager	20
How to use PC-Monitoring.....	21

Product Disclaimer

U-Reach 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 a U-Reach 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 U-Reach product. U-Reach makes every effort to ensure proper operation of all products. However, the customer is responsible to affirm that out of the U-Reach product meets the customer's quality requirement. The customer further acknowledges that fallacious operation of U-Reach product and/or software program, or hardware issues, can cause loss of data, defective formatting, or data loading. U-Reach will make efforts to resolve or repair any issues recognized by customer either within the warranty period or on a time and materials basis.

Specifications and features subject to change without notice or obligation.

Warranty

U-Reach 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 U-Reach.

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

Piracy Statement

U-Reach accepts no responsibility for copyright infringement or misuse of any U-Reach 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

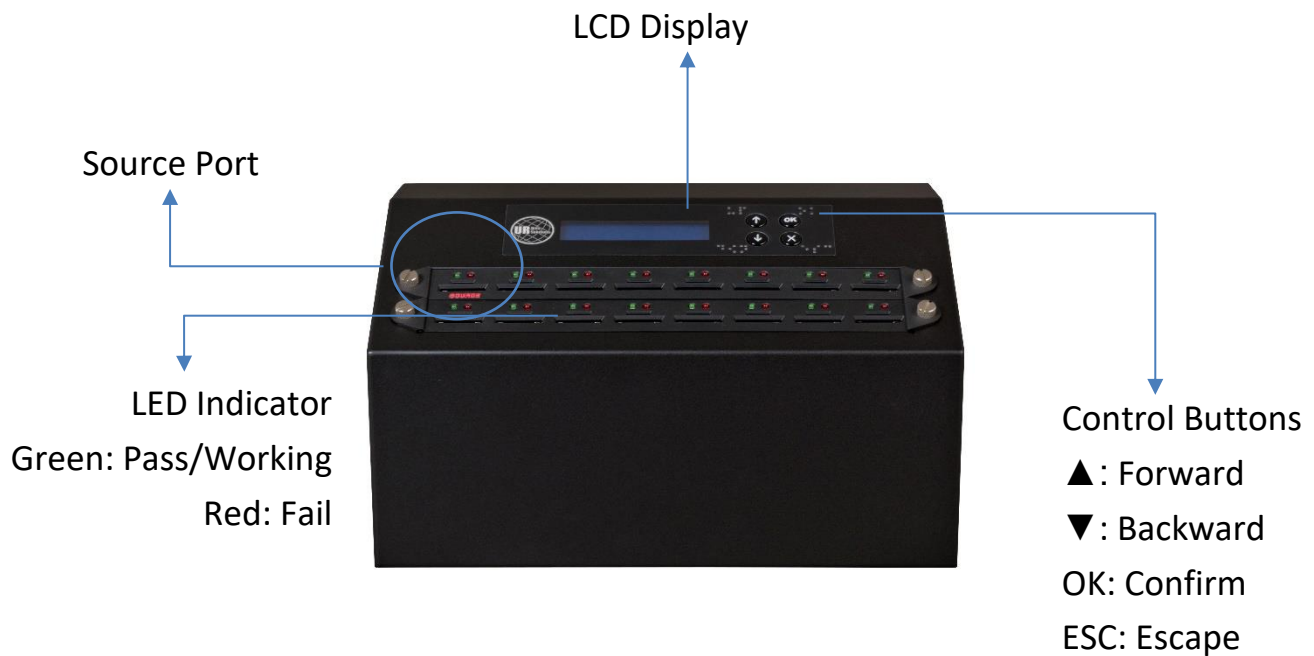
Important Notice

- Carefully read the entire manual before operating.
- Never turn off the power while the firmware is updating.
- Devices will operate at high temperature during high-speed tasks. Please wear protective gloves to prevent burns when handling devices.
- Devices working in high temperature may cause it to slow down or even shut down. Please make sure the devices are not overheated.
- Ensure machine and operator are properly grounded to prevent ESD.
- 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 noncompliance with our operating instructions will void the warranty.
- Store the equipment safely when not in use and keep out of the reach of children.
- Use only approved, stable power sources.
- 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 devices.
- Static electricity may cause duplication error. Please pay attention to the duplicator's environment and operator's equipment. Purchasing static electricity elimination equipment to avoid static electricity shock while in high static electricity areas.
- Devices will operate at high temperatures during selected tasks.
- Wear protective gloves to prevent burns when handling devices.
- Static electricity may cause duplication error. Please pay attention to the duplicator's environment and operator's equipment. Purchasing static electricity elimination equipment to avoid static electricity shock while in high static electricity areas.
- If you want to change your Log password, please keep your password in a safe place in case you lose it. Please understand that the manufacturer does not provide password reset service due to the consideration of personal privacy.

Product Introduction

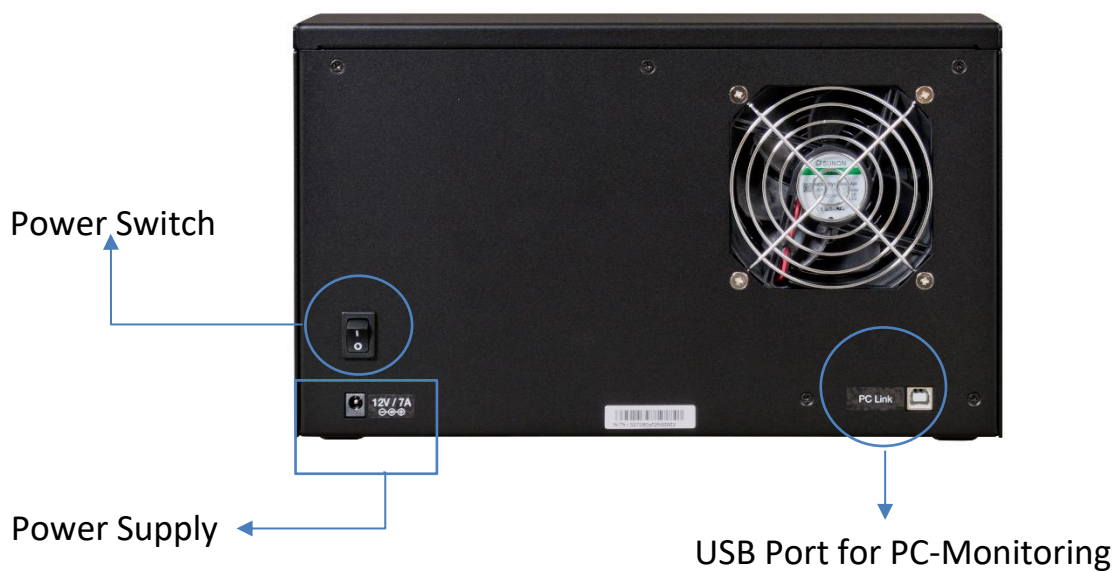
1. Hardware Overview

- Front View



- Back

View



2. Package



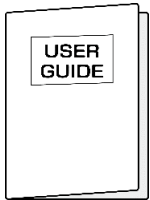
Duplicator x1



12V 7A DC Adapter x 1



Power Cord x 1



User Manual x 1



PC-LINK Cable x 1

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.

Function Table

*Below functions and features subject to change without notice.

Function	Description
1. Copy	Data or whole media duplication only.
2. Compare	Bit-for-bit comparison between the source and target flash medias.
3. Copy&Compare	First copies, then compares the target to the source once duplication is completed.
4. Media Check	4.1 H2+Format Checks the device's quality by reading and writing H2 files, then format the device.
	4.2 H2 Checks the device's quality by reading and writing H2 files.
	4.3 H5+Format Checks the device's quality by reading and writing H5 files.
	4.4 H2 (Keep Data) Checks the device's quality by reading and writing H2 files. It only tests the empty space of the device.
	4.5 H2 Verify Verifies the H2 files. Only available on the devices which has written H2 files.
	4.6 Setup Range % Sets the device's checking range percentage from 1% to 100%
	4.7 Setup Range MB Sets the device's checking range in MB.
	4.8 Set ErrorLimit Sets the error tolerance range when checking the device.
	4.9 Minimum Read Speed Sets the minimum read speed from 0~260MB/sec.
	4.10 Minimum Write Speed Sets the minimum write speed from 0~260MB/sec.
	4.11 Low Speed Tolerance Time Sets the tolerance time when device does not reach the minimum speed from 5~99 seconds. The default value is 5 seconds.
	4.12 Set Capacity Limit 4.12.1 Set Upper Limit 4.12.2 Set Lower Limit 4.12.3 Clear Limit

	4.13 Set Format Method Sets the format when running function 4.1 and 4.3.		Auto Format
			FAT16 Format
			FAT32 Format
			exFAT Format
			Keep old format
5. Utilities	5.1 Information	5.1.1 SD Card Info. This feature will show flash’s data information, file format, content size, and capacity.	
		5.1.2 System Info. This feature will show system information, such as, model number and software version.	
	5.2 Erase	5.2.1 Quick Erase Erases flash media’s index table only, it takes short time to execute this function.	
		5.2.2 Full Erase Fully erases, bit for bit, data on flash, including format and content.	
		5.2.3 DoD Erase Erases flash three times complying with USA Department of Defense (DoD) standards.	
	5.3 Do Format	5.3.1 Auto Format Auto formats media to FAT16 or 32.	
		5.3.2 FAT16 Format Formats media to FAT16.	
		5.3.3 FAT32 Format Formats media to FAT32.	
		5.3.4 exFAT Format Formats media to exFAT.	
	5.4 Calc. CRC64 Calculates the CRC64 value of the source port’s flash media.		
	5.5 Calc. Hash MD5 Calculates the MD5 value of the source port’s flash media.		
	5.6 Calc. Hash SHA256 Calculates the SHA256 value of the source port’s flash media.		
	5.7 System Update System firmware update via the flash media.		
6. Setup	6.1 Start-up Menu Sets default function to display during equipment initialization.		

6.2 Copy Area	System and Files The system automatically analyzes the source data's format and copies only the data area. (Available for FAT16/32, NTFS, Linux - ext2/ext3/ext4/LVM)	
	Whole Media Copies the flash's entire content, including the empty space.	
6.3 Target Tolerance Sets the capacity tolerance range between the source and target. The default setting is "No limit".	No Limit	
	100% Same	
	Allow Tolerance	
6.4 Power off Time Between Copy&Compare Sets the power-off time between Copy and Compare.		
6.5 Skip Source Bad Sectors Sets the allowable number of bad sectors of the source.		
6.6 Delete Disk Signature After Copy Allow user to delete Disk Signature After Copy or not.		
6.7 Button Sound Enables or disables the audible beep when a button is pressed.		
6.8 Set Volume Label after Format Allow user to set whether the volume label is the same as the source after formatting.		
6.9 Language Sets system language.		
6.10 Active Hash Select the Hash value to calculate and display.	No Hash	
	Hash MD5	
	Hash SHA256	
	CRC64	
6.11 Minimum Speed Allows user to disable or set minimum threshold speed.		
6.12 Select Speed Sets data transmission speed.		
6.13 Erase Master Port Allows user to erase the source port or not.		
6.14 Set to Default Reverts everything back to original manufacturer settings.		

7. Log Manager	7.1 Out Today Report Outputs today's log records.	
	7.2 Out Recent Report Outputs recent log records.	
	7.3 Out Period Date Outputs log records for user defined time periods.	
	7.4 Advanced Function Access to this function requires a password	7.4.1 Clear All Log
		7.4.2 Setup Password
		7.4.3 Adjust Time/Date

Function Description

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

Copy	7695M
3% 0:27	(3)270M

↘ (3) indicates Port #3 is the slowest.

Note

- Before duplication, select the data area at "6.2 Copy area"
- Press ▲ ▼ together for 5 seconds to stop operation on the slowest device.
- Press "ESC" for 5 seconds to stop all the copy jobs.

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.

Note

- If flash card is removed during copy process, the system will stop immediately, and red light will illuminate to notify user the copy has failed. Removing the flash card during copy is strongly discouraged as it will damage the flash card.
- Backup the data on target flash cards before starting the copying process as any pre-existing data will be lost once copy is complete.

2. Compare

The compare function checks the accuracy of copy result. Scroll to select "2. Compare", then press "OK" to start the verification process.

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. Media Check

Note

- You can set the checking range in [4. Media Check >> Setup Range].
- To protect source data, the system default setting will not execute this function on the master device.
- The source port will not perform any formatting because this function will delete the flash media's data.

4.1 H2+Format

This function performs a read and write test to determine the flash's quality. After H2 (Keep Format) test, the device will be formatted back to its original format (Supports FAT16, FAT32, exFAT).

4.2 H2

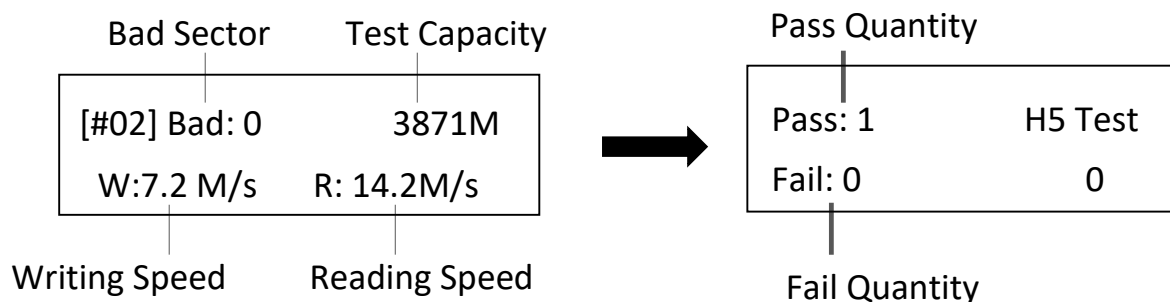
This function performs a read and write test to determine the flash's quality. After H2 (Overwrite) test, the device will contain H2 files which can be verify again through computer's software if necessary.

4.3 H5+Format

This function performs a read and write test to determine the flash's quality. The flash's original data will be erased during this test. The flash will be formatted into FAT32.

Note

The flash device will be formatted according to function "4.13 Set Format Method."



4.4 H2 (Keep Data)

This function performs a read and write test on the empty space of the flash device.

4.5 H2 Verify

This function verifies the H2 files from the testing device. Only if the testing device contains H2 files can execute this function.

4.6 Setup Range %

This function sets the quality check capacity range. Use the ▲ ▼ buttons to set the range from 1 to 100%. The higher the percentage, the longer it takes.

4.7 Setup Range MB

This function sets the quality check capacity range in MB. Use the ▲ ▼ buttons to set the range.

Note

The duplicator will abide by whichever was set last if both Range% and Range MB are set.

4.8 Set Error Limit

This function sets the error tolerance range while checking the flash. Use the ▲ ▼ buttons to set the error limit value. Select units to use (Sector, KB, MB, GB), then select the value.

4.9 Minimum Read Speed

This function can be used to select the flash media whose reading speed is too slow. Users can set an expected minimum reading speed for media check, so the flash media that doesn't reach the minimum speed value will be identified.

4.10 Minimum Write Speed

This function can be used to select the flash media whose writing speed is too slow. Users can set an expected minimum writing speed for media check, so the flash media that doesn't reach the minimum speed value will be identified.

Note

When the red-light illuminates to indicate that an error has occurred, use the ▲ ▼ buttons to view the error information.

4.11 Low Speed Tolerance Time

Sets the tolerance time when flash does not reach the minimum speed from 5~99 seconds. The default value is 5 seconds.

4.12 Set Capacity Limit

This function is used to set the flash device testing capacity limit. Users can set an upper and lower limit of the flash capacity. To reset, select "clear limit".

4.13 Set Format Method

This function is used to set the format method after executing function "4.1 H2+Format" and "4.3 H5+Format". It includes 5 options, including "Auto Format", "FAT16 Format", "FAT32 Format", "exFAT Format" and "Keep old format".

5. Utilities

5.1 Information

① SD Card Info.

This setting displays the flash media's basic information such as file format, content size, and total capacity.

Use the ▲ ▼ buttons to view the information of each flash media, source included.

[#01]	116G	—	Total Capacity of the Device
FAT32	15M	—	Data Size

Note

Using this function will not delete the flash media content or format.

② System Info.

This function displays system information such as model number and software version.

5.2 Erase

① Quick Erase

This function erases flash data while keeping the format if the original flash format is FAT16/32. Use the ▲ ▼ buttons to view status, progress, and information.

Note

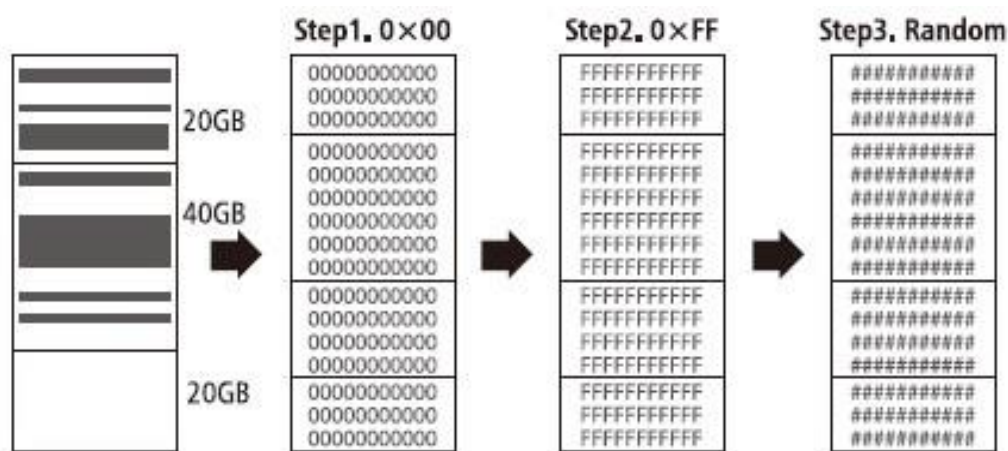
Quick erase function will erase only FAT 16/32 formatted flashes.

② Full Erase

Completely erases the entire flash media, including format and content. This task takes longer. Pressing <ESC> during this process will abandon the task, but the original format and content will no longer be readable.

③ DoD Erase

DoD Erase complies with the U.S.A. Department of Defense (DoD 5220) standards by erasing the flash three times, which guarantees that data is completely scrubbed.



Note

Use the ▲ ▼ buttons to view the status of each port during erase.

5.3 Do Format

① Auto Format

This function formats flash into FAT. Plug in the flash media and press "OK". The system will automatically detect its capacity, then format the media per its capacity.

- If the flash media format is already FAT16 or FAT32, the format function won't alter its original format.
- If the original flash media is not FAT format, i.e. NTFS, Linux or FAT multi-partition. The system will format per flash's capacity. If capacity is above 2GB, the system will format the flash to FAT32 and below 2GB, the system will format the flash to FAT16.

Capacity < 2GB	Format FAT16
Capacity > 2GB	Format FAT32

② FAT16 Format

Sets the FAT16 format.

③ FAT32 Format

Sets the FAT32 format.

④ exFAT Format

Sets the exFAT format.

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.

5.5 Calc. Hash MD5

This function will count the MD5 value for the source port. The MD5 value is an easy way to double check the source data is correct.

5.6 Calc. Hash SHA256

This function will count the SHA256 value for the source port. The SHA256 value is an easy way to double check the source data is correct.

5.7 System Update

Step 1: Prepare a Flash drive for update.

Connect a Flash drive to PC. Download the latest firmware, unzip the BIOS firmware, then save it to the root directory in the Flash drive.

Note

The Flash drive's format must be: FAT16 or FAT32.
Please place the unzipped "file.bin" into the Flash drive for update.

Step 2: Proceed to update firmware.

Connect Flash drive. Scroll to select "System Update", then press "OK" to start the firmware update process.

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. We will not be held responsible for any damages.

6. Setup

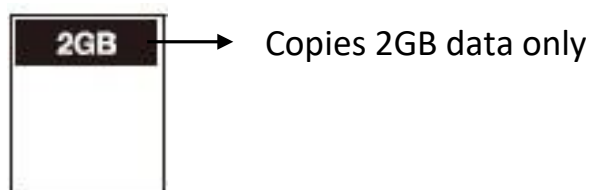
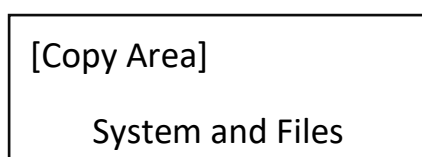
6.1 Start-up Menu

This function allows user to select the default function to display during equipment initialization.

6.2 Copy Area

① System and Files

Also known as "Quick Copy". The source's format is automatically analyzed and if it's recognizable, such as, FAT 16/32, exFAT, NTFS, or Linux ext. 2/3/4, the system will copy the data only, rather than the entire flash.

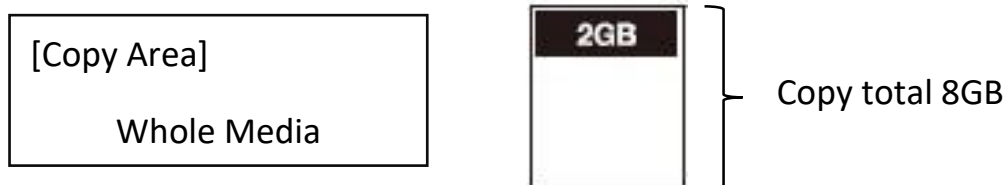


Note

If the file format is not recognized, the whole flash card, including empty space, will be copied even if you specify copy area in "System and Files".

② Whole Media

The system will copy the whole flash card, including empty space and format. This function is useful when users want to copy the whole flash or have a flash source with an unknown format. "Whole media" copies take a bit longer to complete.



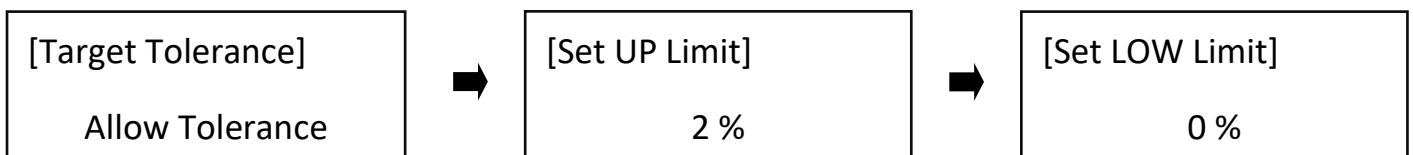
6.3 Target Tolerance

This function sets the capacities tolerance range between the source and target flash. If the capacity is outside the tolerance range, the copy will fail.

- ① 100% Same
- ② No Limit
- ③ Allow Tolerance

Set UP Limit: The target capacity can be bigger than the source capacity.

Set UP Limit: The target capacity can be smaller than the source capacity.



6.4 Power Off Time Between Copy+Compare

The use of this setting is highly advised as it prevents data loss due to unstable flash. Users can set the time gap of power supply between copy and compare. The time gap can be set from 0 to 15 seconds. The default is "3".

6.5 Skip Source Bad Sectors

Skips Source bad sectors during Copy/ Compare/ Erase.

Scroll to select "Skip Source Bad Sectors", then press "OK" to scroll through the available values for skipping source bad sectors. If the data of source is critical and needs to be a full clone, it is recommended to set "0."

6.6 Delete Disk Signature After Copy

Allow user to delete Disk Signature after copy or not.

6.7 Button Sound

Controls whether to hear a sound when a button is pressed.

6.8 Set Volume Label after Format

Allow user to set whether the volume label is the same as the source after formatting. Select "Yes" and press the "OK", the volume label name of Port 1 will be read and stored in the duplicator.

(The format of the source and targets must be the same.)

If you do not re-select "Yes", the volume label name will not disappear even if you reboot or update the BIOS. When you want to change the name of the volume label, just take a Flash drive to the PC to rename it.

6.9 Language

Sets the system's language. (English, Japanese, Spanish)

6.10 Active Hash

Select which Hash Value to calculate.

- No Hash
- Hash MD5
- Hash SHA256
- CRC64

After the Copy/ Compare/ Copy&Compare is completed, the LCD will display the specified Hash Value.

Note The Hash Value will also be recorded in the Log Report.

6.11 Minimum Speed

Allows user to disable or set minimum threshold speed during Copy and Compare. Users can set the speed value amongst 0~60 MB/s. The system will fail if any device does not achieve minimum speed.

6.9 Select Speed

There are 3 transmission speed options:

- Slower Mode
- Normal Mode (Default)
- Faster Mode

Use a good quality flash media that supports a faster mode. If unsure about the flash quality or notice a high copy/compare failure rate, use a slower transmission speed. The default setting is "Normal Mode".

6.10 Erase Master Port

Allow user to enable or disable the source port for sanitization.

6.11 Set to Default

Restores all settings back to manufacturer defaults.

7. Log Manager

The log manager is an excellent management tool for operation control purposes. It can record duplication operation, system, and targets information details.

7.1 Out Today Report

- ❶ Insert flash media into Port 1.
- ❷ Go to "Out Today Report" and press "OK" to output today's log records.
- ❸ Remove flash media and read the log report on PC.

7.2 Out Recent Report

- ❶ Insert flash media into Port 1.
- ❷ Go to "Out Recent Report" and press "OK" to output the log records from the last 28 days.
- ❸ Remove flash media and read the log report on PC.

7.3 Out Period Date

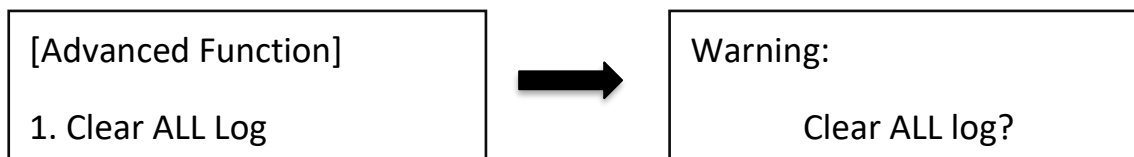
- ❶ Insert flash media into Port 1.
- ❷ Go to "Out Period Date" and press "OK" to output the log records from a specific date.

7.4 Advanced Function

Enter protective password to access advanced functions. The default password is "123456".

❶ Clear ALL Log

After entering the password, all the log records can be cleared from the duplicator.



Caution

Before using function “Clear ALL Log” during PC connection, please observe the following steps:

1. Close the PC-Link software (LV07B) or 2. Disconnect the duplicator from PC

*The PC-Link software (LV07B) is designed to continuously record log reports. If user executes “clear log records” on the duplicator while LV07B is still running, the conflict between LV07B and duplicator might lead a serious system error.

❷ Setup Password

Setting a password ensures the duplicator’s log records are protected.

Note

- During your first linkage, please wait for a few minutes on PC to complete create the log database from duplicator.
- When the output LOG REPORT function is executed, the LOG Report in txt and CSV format will be output together.
- The log manager can store up to 60,000 records. If the storage limit is exceeded, the system will automatically remove the oldest record and replace it with the newest.
- Changing the default password is highly advised as to ensure record protection.
- If you want to change your Log password, please keep your password in a safe place in case you lose it. Please understand that the manufacturer does not provide password reset service due to the consideration of personal privacy.

❸ Adjust Time/Date

Adjusts the duplicator’s time clock displayed on the LCD monitor.

How to use PC-Monitoring

PC-monitoring is a convenient tool to monitor real-time status information such as: duplication progress, testing results, and operation log. This information is viewed on your computer screen. This section contains installation and operation instructions.

How to Launch PC-Monitoring:

Step 1: Copy “LV07B” to your PC.

Step 2: Connect the PC-LINK cable from computer to the duplicator.

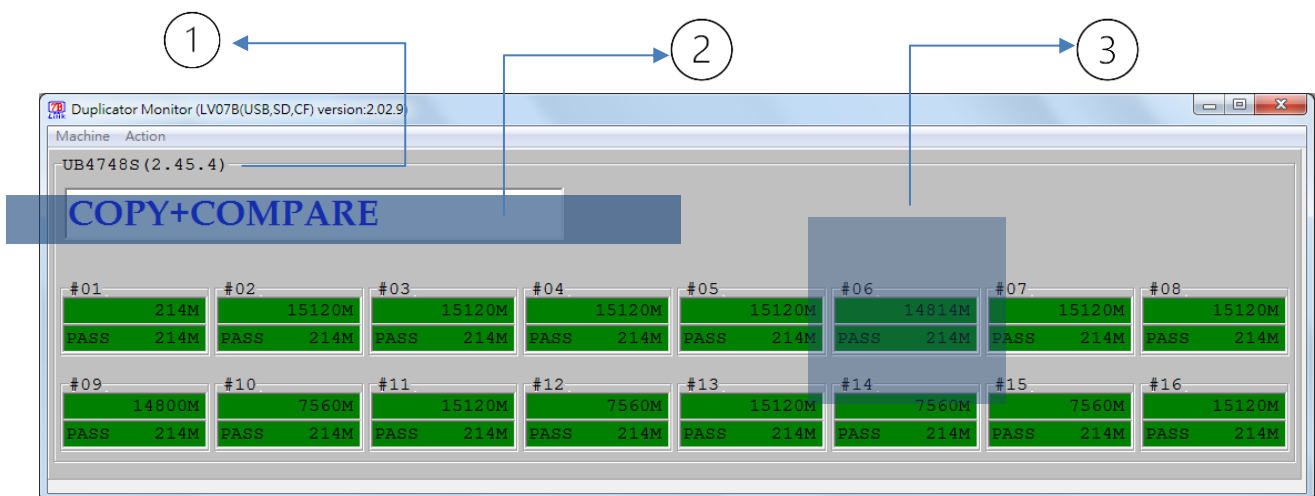
Step 3: Power On the duplicator.

Step 4: Launch LV07B by double clicking on software icon "LV07B ".

Caution

- Before Step 4, make sure the duplicator has completed boot-up.
- There are configuration files when launching LV07B. Make sure you are launching the .exe file on the PC, and not with the provided our mini-CD software.

Step 5: When “STANDBY” is displayed on the screen, the duplicator has linked to the computer successfully and is ready to use the real-time monitoring function.



- ① Machine ID (FW Version)
- ② Screen Area-This area will display the function currently being executed.
- ③ Port Information

Step 6: If the screen above does not appear, please repeat steps 1 thru 4.

Note

If the system requests “Run the program as an Administrator”, right click “LV07B”, then set it in “Properties” > “Compatibility”.

Specifications subject to change without notice.