

Tower Series

Flash Duplicator & Tester
(USB/SD/CF/MicroSD)

User Manual V7.3

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⌘ Product Disclaimer

The manufacturer is not accountable for any incidental or consequential damages, including, but not limited to property harm, loss of time or data from use of any our product, or any other damages attributable to product malfunction or failure of including without limitation, those attributed 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) any principle of legal responsibility arising from or in reference to the use, overall performance, delays in servicing, or lack of ability to render service of any our product. The manufacturer makes every effort to ensure proper function of all products. However, the customer is responsible to verify that the output of our product meets the customer's quality requirement. The customer further acknowledges that improper use of our products, software program, and/or hardware issues can cause loss of data, defective formatting, or unreliable 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.

Specifications and features are subject to change without notice or obligation.

⌘ 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 extended warranty may be purchased. Telephone and email support is available for the life of the product as defined by the manufacturer.

All warranties are region specific and will be defined per the market region in which the product was purchased.

⌘ Piracy Statement

The manufacturer accepts no responsibility for copyright infringement or misuse of any our equipment. Copying any form 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

- Read the complete operation instructions carefully. This ensures better operation.
- Make sure the source device is correct and workable.
- To guarantee data consistency, it is strongly suggested that the capacity of source and targets should be the same.
- It is strongly suggested to use "Copy&Compare" to achieve perfect duplication.

Safety Precautions

- The warranty will expire if damage is incurred resulting from non-compliance with these operating instructions.
- Always turn off the power before replacing the socket.
- Never turn off the power while processing the firmware update.
- Use only approved power sources.
- The product is only suitable for operation in a dry, dust free, clean environment.
- Do not allow liquids or foreign objects to enter. Failure to do so may severely damage your duplicator.

Tips Before You Start

- Make sure to use stable power supply.
- Use in a clean & dry environment.
- Keep working environment well ventilated.
- During operation duplicator will heat up.
- Do not move the duplicator during operation.
- Use power supply from original manufacturer.
- Static electricity may cause duplication error. Be cautious of duplicator's environment. It is recommended to purchase static electricity elimination equipment to avoid static electricity shock.

⌘ Notice Symbols

Special items, procedures, or notes should be noticed by users before operation.

Note

Refers to related operations on the duplicator, special details, tips, or suggestions for more effective operation.

Caution

Refers to operations that need to be followed or cautious reminders.

⌘ Introduction

Features

Apart from inheriting the high-speed performance and well-recognized compatibility with diversified media, the flash duplicators support not only duplication of large target count and capacity to meet high-volume demands, they also help users examine flash cards by providing the most accurate testing functions known today. Through a user-friendly interface, the tower series flash duplicators can be operated standalone with no steep learning curve for users to climb. Their ergonomic design facilitates efficient operations by letting users easily insert and remove flash cards, and the 20%~80%-reduced footprint compared with their peers in the market has led to better space utilization and freight savings.

- Ultra high transmission speed, each flash slot channel is independent from each other.
- Real multi-task processing capability. Whether it is copy, compare, media check or format each feature is independently executed. Each flash slot has an independent control processing unit.
- Supports asynchronous copy, during copy, it can use button to check the status of each flash media status and progress.
- Powerful H3/H5/H6 for speed and flash quality check.
- Non-PC based, with no risk of virus infection. Instant power on and off.
- One-touch copy. Real time information will be shown on the LCD screen.
- Supports Synchronous and Asynchronous copy/ compare/ erase/ format/ media check /speed check.
- Ultra high speed bit-for-bit hardware comparison.
- Different copy speed selection is available for different quality level flash media.
- Special speed selection function to filter out qualified flash media in QC process.

Function Table

USB Series

Function	Description	
1. Copy	Data only or whole media duplication.	
2. Compare	Bit-by-bit comparison between the source and all other copied flash medias.	
3. Copy&Compare	First copies then compares the copied flash media with the source immediately after the copy has finished.	
4. Capacity Check	Checks the real capacity of the flash.	
5. Information	5.1 USB Info. This feature will show flash's information of data; file format, content size, and capacity.	
	5.2 System Info. This feature will show information of the duplicator system, including machine model number and software version.	
6. Utility	6.1 Do Format	6.1.1 Auto Format Auto format media to be FAT16 or 32.
		6.1.2 FAT16 Format Format media to be FAT16.
		6.1.3 FAT32 Format Format media to be FAT32.
		6.1.4 Set FAT 16 Cluster Size Set the size of FAT16 Cluster.
		6.1.5 Set FAT 32 Cluster Size Set the size of FAT 32 Cluster.
	6.2 Measure Speed This function can measure the flash reading and writing speed. This function will damage the format and content.	

6.3 Media check	<p>6.3.1 H3 Safe</p> <p>Checks the quality of flash by reading it. This safe check will not change flash's content and format.</p>
	<p>6.3.2 H5 RW</p> <p>Checks the quality of flash by reading and writing. This function will change flash's content and format.</p>
	<p>6.3.3 H6 SafeRW</p> <p>Checks the quality of flash by writing and reading its empty space. This function will not change flash's content and format.</p>
	<p>6.3.4 Setup Range %</p> <p>Sets the checking range of flash from 1%~100%.</p>
	<p>6.3.5 Setup Range MB</p> <p>Sets the checking range of flash from 1MB~9000MB.</p>
	<p>6.3.6 Set Error Limit</p> <p>Sets the tolerance range of error when checking the flash. (by unit of Sector/KB/MB)</p>
<p>6.4 Quick Erase</p> <p>Erases the content of flash media. It will keep the FAT format.</p>	
<p>6.5 Full Erase</p> <p>Erases completely bit for bit of data on flash including format and content, takes more time.</p>	
<p>6.6 DoD Erase</p> <p>Erases flash three times complying with USA Department of Defense (DoD) standard.</p>	
<p>6.7 System Update</p> <p>System firmware updating via the flash media.</p>	
<p>6.8 Calc. Checksum</p> <p>Calculates the Checksum value of the flash media in the source port.</p>	

7. Setup	7.1 Start-up Menu Select which function is shown first when the system is turned on.	
	7.2 Copy Area	7.2.1 System and Files The system can automatically analyze the format of source data and only copy the data area. (Available for FAT16/32/64, NTFS, Linux (ext2/ext3/ext4))
		7.2.2 Whole Media The system will copy the whole content of flash including the empty space.
	7.3 Button Sound Choose whether to hear a beep or not when a button is pressed.	
	7.4 Target Tolerance Set the tolerance % of capacity gap between the source and target. The default setting is “No limit”.	
	7.5 Asynchronous “Enable” to open Asynchronous function, “Disable” to close the function.	
	7.6 Check Before Copy Set if you would like to check the flash media before copy.	
	7.7 Power Off Time Between Copy&Compare Set the power-off time between Copy and Compare when executing “Copy&Compare” function.	
	7.8 Auto Start After Fill Device To set if immediately start “copy/compare” tasks once plugging in all targets.	
	7.9 Language Set system language interface i.e. English, Japanese.	
	7.10 Select Speed Selects the speed of data transmission among “Fastest”, “Faster”, “Normal”, “Slower”, and “Slowest”.	
	7.11 Set HDD Mode Set if you would like to copy USB-HDD or USB drives only.	
	7.12 Monitor Device After Copy Allows user to set a device status check after duplication.	
	7.13 Set to Default Back to original manufacturer setting.	

ComboSD Series/ MicroSD Series

Function	Description	
1. Copy	Data only or whole media duplication.	
2. Compare	Bit-by-bit comparison between the source and all other copied flash medias.	
3. Copy&Compare	First copies then compares the copied flash media with the source immediately after the copy has finished.	
4. Capacity Check	Checks the real capacity of the flash.	
5. Information	5.1 SD Card Info. This feature will show flash's information of data; file format, content size, and capacity.	
	5.2 System Info. This feature will show information of the duplicator system, including machine model number and software version.	
6. Utility	6.1 Do Format	6.1.1 Auto Format Auto format media to be FAT16 or 32.
		6.1.2 FAT16 Format Format media to be FAT16.
		6.1.3 FAT32 Format Format media to be FAT32.
		6.1.4 Set FAT 16 Cluster Size Set the size of FAT16 Cluster.
		6.1.5 Set FAT 32 Cluster Size Set the size of FAT 32 Cluster.
	6.2 Measure Speed This function can measure the flash reading and writing speed. This function will damage the format and content.	

6.3 Media check	<p>6.3.1 H3 Safe</p> <p>Checks the quality of flash by reading it. This safe check will not change flash's content and format.</p>
	<p>6.3.2 H5 RW</p> <p>Checks the quality of flash by reading and writing. This function will change flash's content and format.</p>
	<p>6.3.3 H6 SafeRW</p> <p>Checks the quality of flash by writing and reading its empty space. This function will not change flash's content and format.</p>
	<p>6.3.4 Setup Range %</p> <p>Sets the checking range of flash from 1%~100%.</p>
	<p>6.3.5 Setup Range MB</p> <p>Sets the checking range of flash from 1MB~9000MB.</p>
	<p>6.3.6 Set Error Limit</p> <p>Sets the tolerance range of error when checking the flash. (by unit of Sector/KB/MB)</p>
6.4 Quick Erase	<p>Erases the content of flash media. It will keep the FAT format.</p>
6.5 Full Erase	<p>Erases completely bit for bit of data on flash including format and content, takes more time.</p>
6.6 DoD Erase	<p>Erases flash three times complying with USA Department of Defense (DoD) standard.</p>
6.7 System Update	<p>System firmware updating via the flash media.</p>
6.8 Calc. Checksum	<p>Calculates the Checksum value of the flash media in the source port.</p>

7. Setup	7.1 Start-up Menu Select which function is shown first when the system is turned on.	
	7.2 Copy Area	7.2.1 System and Files The system can automatically analyze the format of source data and only copy the data area.(Available for FAT16/32/64, NTFS, Linux (ext2/ext3/ext4))
		7.2.2 Whole Media The system will copy the whole content of flash including the empty space.
	7.3 Button Sound Choose whether to hear a beep or not when a button is pressed.	
	7.4 Target Tolerance Set the tolerance % of capacity gap between the source and target. The default setting is "No limit".	
	7.5 Asynchronous "Enable" to open Asynchronous function, "Disable" to close the function.	
	7.6 Check Before Copy Set if you would like to check the flash media before copy.	
	7.7 Power Off Time Between Copy&Compare Set the power-off time between Copy and Compare when executing "Copy&Compare" function.	
	7.8 Auto Start After Fill Device To set if immediately start "copy/compare" tasks once plugging in all targets.	
	7.9 Language Set system language interface i.e. English, Japanese.	
	7.10 Select Speed Selects the speed of data transmission among "Fastest", "Faster", "Normal", "Slower", and "Slowest".	
	7.11 Monitor Device After Copy Allows user to set a device status check after duplication.	
	7.12 Set to Default Back to original manufacturer setting.	

CF Series

Function	Description	
1. Copy	Data only or whole media duplication.	
2. Compare	Bit-by-bit comparison between the source and all other copied flash medias.	
3. Copy&Compare	First copies then compares the copied flash media with the source immediately after the copy has finished.	
4. Capacity Check	Checks the real capacity of the flash.	
5. Information	5.1 CF Card Info. This feature will show flash's information of data; file format, content size, and capacity.	
	5.2 System Info. This feature will show information of the duplicator system, including machine model number and software version.	
6. Utility	6.1 Do Format	6.1.1 Auto Format Auto format media to be FAT16 or 32.
		6.1.2 FAT16 Format Format media to be FAT16.
		6.1.3 FAT32 Format Format media to be FAT32.
		6.1.4 Set FAT 16 Cluster Size Set the size of FAT16 Cluster.
		6.1.5 Set FAT 32 Cluster Size Set the size of FAT 32 Cluster.
	6.2 Measure Speed This function can measure the flash reading and writing speed. This function will damage the format and content.	

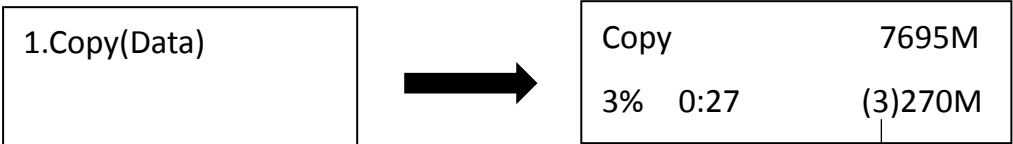
6.3 Media check	<p>6.3.1 H3 Safe</p> <p>Checks the quality of flash by reading it. This safe check will not change flash's content and format.</p>
	<p>6.3.2 H5 RW</p> <p>Checks the quality of flash by reading and writing. This function will change flash's content and format.</p>
	<p>6.3.3 H6 SafeRW</p> <p>Checks the quality of flash by writing and reading its empty space. This function will not change flash's content and format.</p>
	<p>6.3.4 Setup Range %</p> <p>Sets the checking range of flash from 1%~100%.</p>
	<p>6.3.5 Setup Range MB</p> <p>Sets the checking range of flash from 1MB~9000MB.</p>
	<p>6.3.6 Set Error Limit</p> <p>Sets the tolerance range of error when checking the flash. (by unit of Sector/KB/MB)</p>
<p>6.4 Quick Erase</p> <p>Erases the content of flash media. It will keep the FAT format.</p>	
<p>6.5 Full Erase</p> <p>Erases completely bit for bit of data on flash including format and content, takes more time.</p>	
<p>6.6 DoD Erase</p> <p>Erases flash three times complying with USA Department of Defense (DoD) standard.</p>	
<p>6.7 System Update</p> <p>System firmware updating via the flash media.</p>	
<p>6.8 Calc. Checksum</p> <p>Calculates the Checksum value of the flash media in the source port.</p>	

7. Setup	7.1 Start-up Menu Select which function is shown first when the system is turned on.	
	7.2 Copy Area	7.2.1 System and Files The system can automatically analyze the format of source data and only copy the data area.(Available for FAT16/32/64, NTFS, Linux (ext2/ext3/ext4))
		7.2.2 Whole Media The system will copy the whole content of flash including the empty space.
	7.3 Button Sound Choose whether to hear a beep or not when a button is pressed.	
	7.4 Target Tolerance Set the tolerance % of capacity gap between the source and target. The default setting is “No limit”.	
	7.5 Asynchronous “Enable” to open Asynchronous function, “Disable” to close the function.	
	7.6 Check Before Copy Set if you would like to check the flash media before copy.	
	7.7 Power Off Time Between Copy&Compare Set the power-off time between Copy and Compare when executing “Copy&Compare” function.	
	7.8 Auto Start After Fill Device To set if immediately start “copy/compare” tasks once plugging in all targets.	
	7.9 Language Set system language interface i.e. English, Japanese.	
	7.10 CF Transfer Mode Select the speed of data transmission among PIO Mode 4,MDMA Mode 2, UDMA Mode 0~4.	
	7.11 Monitor Device After Copy Allows user to set a device status check after duplication.	
	7.12 Set to Default Back to original manufacturer setting.	

Start to Copy

Before executing this function, please read the section “copy setup” for a better understanding of settings related to the copy process and results.

1.Copy



① Copy Area

Copy area setting ➡ [7. Setup >> Copy Area]

Before duplication, select the area of data with "Copy area".

Select "System and Files"	Select "Whole Media"
<div>1.Copy(Data)</div>	<div>1.Copy(Whole)</div>

② Asynchronous Copy

Copy mode setting ➡ [7. Setup >> Asynchronous]

Select "Enable" or "Disable" asynchronous.

Note

- If user pulls out the flash card during copy process, the system will stop immediately and red light will turn on to notify users copy has failed. It is strongly suggested that users avoid this action because it will damage the flash card.
- Original data in the target flash cards will be lost after the copy process is completed. Backup the existing data before starting the copying process.

2.Compare

Compare function checks the correctness of copying result. After the copying process is finished, go to function 2 and press "OK" to start comparing process.

2016/02/02	17:38:50
2.Compare	

3.Copy&Compare

This function is the most convenient. Instead of going to function [2.Compare] and pressing "OK" again after copying, function [3.Copy&Compare] will automatically run the compare function after copying process is finished to make sure the copied result is correct.

2016/02/02	17:38:50
2.Copy&Compare	

Caution

The user is responsible for verifying the targets' quality. Please pick a few completed targets and test in a mass production environment for quality control.

4. How to stop above jobs during operating?

① Stop Single Port:

Press ▲▼ together for 5 seconds to stop the slowest port during operation.

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

Port 3 is the slowest port in this Copy job.

② Stop All Ports:

Press "ESC" for 5 seconds to stop all the ports during operation.

⌘ Setup Before Copy

There are several sub-functions related to the results of copy, users can adjust them in function [7. Setup] to meet specific needs before copying.

1. Copy Area Settings [7.Setup >> Copy Area]

① Copy Area : System and Files

It is also called "Quick Copy" mode. The system will automatically analyze the source flash card's file format. If the data's file format is FAT16/32/64, NTFS, Linux (ext2/3/4) which is recognizable by the system, it will only copy data instead of the whole flash.

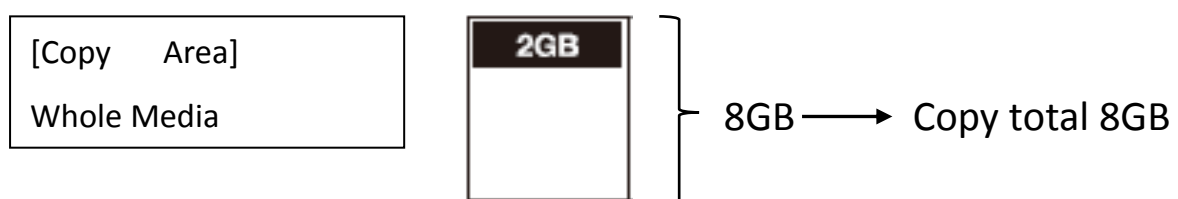


Note

If the file format is non-recognizable, the system will still copy the whole flash card including the empty space even if you select "System and Files" as your copy area.

② Copy Area : Whole Media

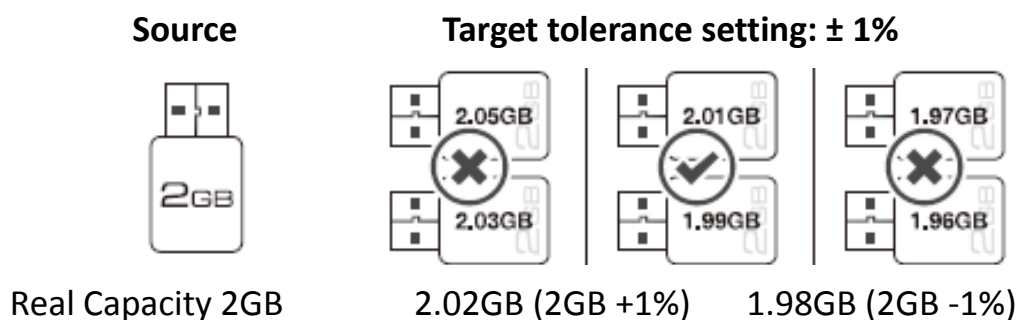
The system will copy the whole flash card, including the empty space and format. This function is used when users want to copy the whole flash or have a flash source with unknown format. It will take a longer time to make "Whole media" copy.



2. Target Tolerance Settings [[7.Setup >> Target Tolerance](#)]





This function sets the acceptable difference range of flash capacities between the source and target. If the capacity difference between the source and target exceeds the tolerance setting, the copy will fail.

For example, if the target tolerance setting is " $\pm 1\%$ ", the targets whose capacities are more than 2.02GB or less than 1.98GB won't be copied.



3. Asynchronous Settings [[7.Setup >> Asynchronous](#)]

Users can select "Disable" to stop Asynchronous copy or "Enable" to activate the function. If the setup is "Enable", and the data in source is smaller than system's buffer memory, it will automatically use asynchronous mode to do copy. If the setting is "Disable", no matter what the content size is, the system will keep synchronous copy.

The conditions of executing "Asynchronous Copy"		
	DISABLE Asynchronous Copy	ENABLE Asynchronous Copy
Data > Buffer		
Data < Buffer		

Note

The buffer memory of different product models may be different.

4. Power Off Time Between Copy&Compare

This setting is to prevent from any data loss because of unstable flash, we strongly recommend you use this function to set the time gap of power supply between copy and compare.

The time gap can be set from 0 to 15 seconds.

The default setting is "0".

[Power Off Time Between Copy&Compare]
3

5. Auto Start After Fill Device

Set to immediately start "copy" or "compare" tasks once plugging in all targets. Or, set to press "OK" key to confirm.

[Auto Start After Fill Device]
Yes, auto start

⌘ How to Prevent from Failed Duplication

1. Stable Devices

① Good Connector

The adapter, extension cord, and card reader must be in good quality for proper connection.



② Stable Flash

Use the flash devices with stable quality.



③ Good Source

Make sure your source is a good source.

2. Suitable Data & Settings

① Target Tolerance Settings. [7. Setup >> Target Tolerance]

Go to Function "Target Tolerance" to check if the setting of capacity difference range between source and target is right.

[Target Tolerance]

No Limit

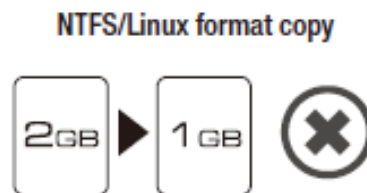
② Capacity of the Data in Source

Make sure that the data of source is within the capacity of target.



③ Capacity of Targets

When copying formats NTFS/Linux copy, make sure that the target's capacity is equal to or larger than your source.



⌘ How to Ensure Duplication is Correct

The series flash duplicators provide the most rigorous "compare function" to assure our clients with the best duplications. It is strongly suggested to execute function [\[2. Compare\]](#) or [\[3. Copy&Compare\]](#) for the correctness of copied result.

1. Compare:

Execute Function [\[2.Compare\]](#) to do data checking between source and targets after finishing the copying process.

2. Copy&Compare:

Select Function [\[3. Copy&Compare\]](#) to make the duplicator execute data comparison automatically after copying.

Note

These two functions will check the contained data after copy through the strictest bit-for-bit comparison. It can highly increase the security of data accuracy.

Caution

The user is responsible for verifying the targets' quality. Please pick a few completed targets and test in a mass production environment for quality control.

⌘ How to check Flash quality (Media Check)

The Tower series flash duplicator is not only made for duplicating but also has powerful flash device diagnostic tools to detect flash's quality, check real capacity and speed. It is very important to own high-quality flash devices, and the flash duplicator can help users to achieve this goal.

Media Check includes the following 3 test tools:

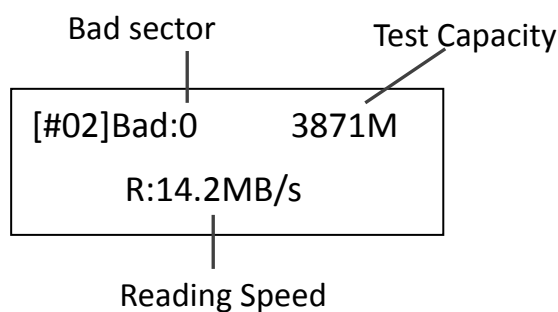
H3 Read Only Test	This function checks the flash's quality by reading the flash media. It will not erase the original data in the tested flash cards.
H5 Write/Read Test	This function checks the flash's quality by reading and writing the flash media. It will erase all the original data in the tested flash cards.
H6 Quality Test	This function checks the flash's quality by writing and reading data on the empty space of flash media. It will not erase the original data in the tested flash cards.

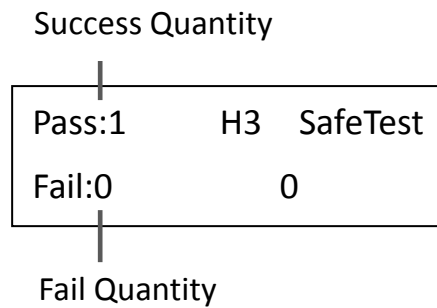
You can also set “Testing Area” and “Error Limit” to pick up the flash cards that are below your qualifications.

1. H3 Safe100%

This function checks the flash's quality by reading the flash media. After executing the function, it will show the volume of bad sectors and the reading speed of the flash device.

When processing, users can use ▲▼ buttons to check the status of each port.



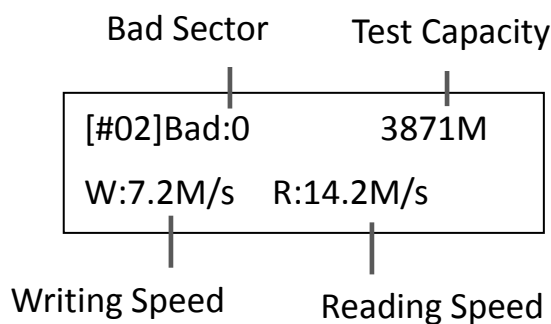


Note

- This function will not change the content or format.
- You can set the checking range % at [\[6.3.Media Check >> Setup Range\]](#).

2. H5 RW 100%

This function checks the flash's quality by reading and writing the flash media. After executing the function, it will show the volume of bad sectors and the reading/writing speed of the flash device. When processing, users can use ▲▼ buttons to check the status of each port.



Caution

This function will change the content and format of flash media, please do not execute this function if there is important data in it.

Note

- After testing, the system will format the flash card to be FAT16/32
- To protect source data, the system will not execute this function on the master device.

3. H6 SafeRW

This function is used to check the flash's quality by writing and reading data on the empty space of flash media. Select [\[6.3.3 H6 SafeRW\]](#) and press "OK" to start executing this function. After finishing this task, the system will show the testing result. Users can use ▲ ▼ buttons to check the status of each port.

[#02]Bad:0 3871M		Pass:1 H6 SafeTest
W:7.2M/s R:14.2M/s		Fail:0 0

Note

- This function support FAT16/32 format only.
- This function will NOT change the content of flash media.

4. Settings

① Setup Range %

This function is to set the % range of capacity you would like to check for quality. Using ▲ ▼ buttons to set the examined range from 1% to 100%. 100% means to check the entire flash, and it will take more time.

[Setup Range]
100%

② Setup Range MB

This function is to set the flash's range (MB) that you would like to check for its quality. Using ▲ ▼ buttons to set the examined range from 1MB to 9000MB.

[Setup Range MB]
2000MB

Note

The duplicator will follow the latest setting if users set both of these two functions: Range% and Range MB.

③ Setup Error Limit

This function is to set the tolerance range of error when checking the flash. User can use ▲ ▼ buttons to set the error limit value. First, select units from Sector, KB or MB and then select the number.

[Setup Unit]
MB

[Setup Error Limit]
9000 MB

⌘ How to check Flash quality –more tools

1. Measure Speed [6. Utility→Measure Speed]

This function can measure the "read" and "write" speed of flash media.

- ① Plug the flash media into slot and select function [6.2 Measure Speed], and then press "OK" to start executing this function.

[Utility]

2. Measure Speed

[#02] Read: 14.7MB

Write: 7.0MB

- ② Use ▲▼ buttons to see the exact "Read" and "Write" speed of flash media from each port.

Caution

The function may change the content of data and format of flash.

Note

To protect source data, the system will not do Measure Speed on the master device.

2. Execute [4. Capacity Check]

This function can quickly check the real capacity if it's claimed.

When failure means the real capacity is different from its claim.

- ① Plug the flash media into slot and select function [4.Capacity Check], then press "OK".
About 2~3 seconds, the system will find out its exact capacity.
- ② System will show the checking result by Green/Red LED light.
- ③ You can use ▲▼ buttons to check the status of each slot.

Green light: Capacity OK

Red light: Error

[#02] SIZE: 3781M

Capacity OK

[#04] SIZE: 8M

BAD !

Caution

The function may change the content of data and format of flash.

Note

- This function supports asynchronous operation, you can continuously plug in and pull out flash media without pushing any buttons.
- To protect source data, the system will not do Capacity Check on the master device.
- When the Red light illuminates (Error), you can use ▲▼ to check the error information.

⌘ Format the Flash Card

1. Auto Format [6. Utility→Do Format]

This function is to format flash into FAT. Plug the flash media in the slot and press "OK", the system will automatically detect its capacity first and then format the media according to its capacity.

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

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

Note

The source port (port#1) will not execute any formatting because this function will delete the data of the flash media.

2. FAT16 Format

Press "OK" to format any flash media to FAT16 format.

3. FAT32 Format

Press "OK" to format any flash media to FAT32 format.

4. Set FAT16 Cluster Size

Set the size of FAT16 cluster.

5. Set FAT32 Cluster Size

Set the size of FAT32 cluster.

Caution

The user is responsible for verifying the targets' quality. Please pick a few completed targets and test in a mass production environment for quality control.

Find out Related Information

1. Flash Info. (USB/SD/CF)

This function will show the flash media's basic information such as file format, content size, and total capacity.

Press ▲▼ buttons to check the information of each flash media including the source.

Total Capacity of the Device	
[#01]	3871M
FAT32	230M
Data Size	

Note

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

2. System Info.

This function will show the information of the duplicator's system, including model number and software version.

USB 1-31
Ver: 2.35.1

➡ Press ▼ for further information.

⌘ System Update

Step 1: Prepare a USB drive for update.

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

Note

The USB's format must be: FAT16 or FAT32.

Step 2: Proceed to update firmware.

Connect USB drive. Scroll to select "6.7 Update BIOS", 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. U-Reach will not be held responsible for any damages.

⌘ Other Settings

1. Start-up Menu

Select which function is shown first when the duplicator is turned on. The default is "1.Copy".

[Start-up Menu]

1.Copy

2. Button Sound

Choose whether turn on or off the button sound when a button is pressed.

[Button Sound]

ON

3. Language

To set the system's language interface, i.e. English, Japanese.

[Language]

English

4. Select Speed (Available in USB/comboSD/microSD series)

The working mode has 5 options to select the transmission speed:

- Slowest Mode
- Slower Mode
- Normal Mode (Default setting)
- Faster Mode
- Fastest Mode

Please make sure your flash media has good quality and supports faster mode. If you are not confident on the flash quality or you find a high failure rate on copy/compare, it is recommended to slow down the working mode. The factory default setting is "Normal Mode".

[Select Speed]

Normal Mode

Caution

It might cause duration if force to use the Fastest Mode on devices with do not support.

5. CF Transfer Mode (Available in CF series)

The working mode has 7 options to select the suitable CF transfer mode: The default setting is UDMA4, it will automatically adjust speed according to your CF card. If you are not confident with the quality of your CF card, you can manually reduce the transfer speed.

The following are 7 options of the transmission speed:

- PIO Mode 4
- MDMA Mode 2
- UDMA Mode 0
- UDMA Mode 1
- UDMA Mode 2
- UDMA Mode 3
- UDMA Mode 4 (Default Setting)

[CF Transfer Mode]

UDMA Mode 4

6. Set HDD Mode (Available in USB series)

This is the setting when users want to copy USB-HDDs. To copy a USB-HDD, users could select "Active Mode" first and then start executing other operation. Or, if users just want to copy USB devices but not USB-HDD, just select "Inactive mode".

[Set HDD Mode]

Active Mode

Note

The purpose of “Active Mode” is because USB-HDDs have different file formats compared to flash sticks. Once set at “Active Mode,” the duplicator cannot do a BIG capacity to SMALL capacity copy, even if the data is small.

7. Monitor Device After Copy (Available in USB/comboSD series)

Allows user to set a device status check after duplication. The settings could show different results because each device has various settings.

For example, if a device is set to power off automatically after “complete” command, then user must set “Do NOT Check” to make sure the LCD keeps the copy result for reference.

[Monitor Device After Copy]

Do NOT Check

Total OK: 10 NG: 0

12:48 OK: 10 NG: 0

In this case, if set at “Do Check”, the copied device will power off automatically after Copy job completes and the LCD will back to the previous job.

[Monitor Device After Copy]

Do Check

1.Copy(Data)

8.Set to Default

Return back to original factory default settings.

Warning:

Clear Parameter To Default ?

Complete

All Parameter was cleared !

Q1: What is the difference between Tower Series flash duplicator and PC based duplicator?

A: There are four main differences:

- ❶ Multi-task processing capability: A professional flash duplicator can copy flash media independently at the same time during the copy or check process, on the other hand, even though PC has more powerful CPU, it will be difficult to handle too many flash medias to copy simultaneously.
- ❷ No risk of virus infection: Tower Series flash duplicator is an embedded system, it only copies whatever is on the source. When the system is turned off, nothing will be left in the system. Hence, there will not be any risk of virus infection.
- ❸ No mistake of copying wrong files: Tower Series flash duplicator can achieve 100% duplication directly from source to all targets.
- ❹ Instant system on and off: There is no need to wait for system boot up or shut down while using Tower Series flash duplicator. It is definitely easy and fast.

Q2: Can the flash duplicator copy any kind of file format, i.e. NTFS?

A: Yes, our flash duplicator supports the most common formats such as FAT 16/32/64, NTFS, Linux (ext2, ext3, ext4)...etc. In addition, if you want to copy other formats, you can use the “Whole Area” to copy whole flash media; it doesn’t care about the format and will copy the entire flash media.

Q3: How do we know the data is correct after copy?

A: Run [2. Compare] function to ensure the correctness of copied data.

Q4: What should I do if I encounter a copy fail?

A:

❶ Please make sure the data in the source is not over than the target capacity. You could use function [5.1 Flash info] to check the source/target's data size and capacity of flash media.

❷ Please ensure that your source flash media isn't bad.

❸ If the flash quality is poor, it may affect the copy result, you can use:

(1) [6.3 Media Check] to check your flash quality of both source and target.

(2) Select "Select Speed" to slow down the copy speed.

Q5: Why is the copy speed so slow?

A: Tower Series flash duplicator can reach high transmission speed in copy and comparison depends on actual flash quality and models/series. If you find the copy speed is slow, it may be affected by flash quality. You can use function "Measure Speed" to check the flash speed.

Q6. Is it possible to use a 1GB source copy to 2 GB targets (source capacity less than target)?

A: Yes, it can copy 1 GB to 2 GB, but the target 2GB will become 1GB when it read on a PC. The reason is after copy, the target's FAT table will completely be the same as the source. You can restore its real capacity by re-formatting the device.

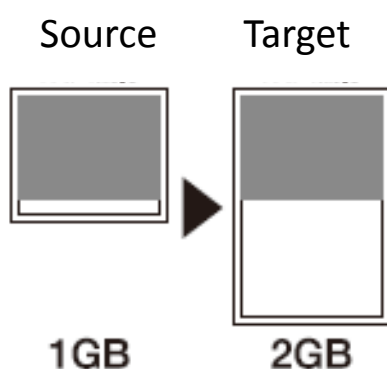
Q7. Is it possible to do copy when there is a big difference between Source and Target's capacity? For example, a 2GB source copy to 1GB targets?

A:

If the source data is less than target capacity, it is possible to copy from source to a small size target, but the source data must be within the capacity of the target devices. Also, the data may be lost or produce error due to different capacity copy. It is strongly recommend to use flash media with the same capacity to do copy.

❶ If Source capacity is SMALLER than the target, for example 1GB to 2GB:

Example:



Copy OK!

Warning:

The target 2GB WILL BECOME 1GB WHEN IT READ ON PC. You can only reset its 2GB capacity by reformatting the device.

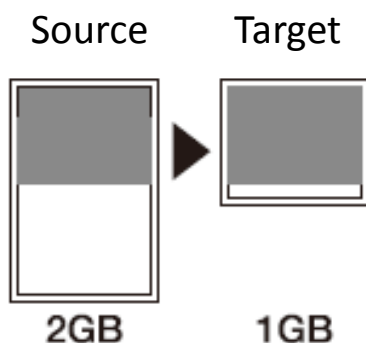
Caution

When there is a big difference between target and source's capacity, such as 1GB to 4GB or 1GB to 2GB, there is a possibility to cause error to the target's capacity, compatibility and format. It is strongly recommended that target and source have to be in close range of capacity.

❷ If source capacity is LARGER than the target, for example 2GB copy to 1GB:

► There are two results as shown in illustrations (1) and (2)

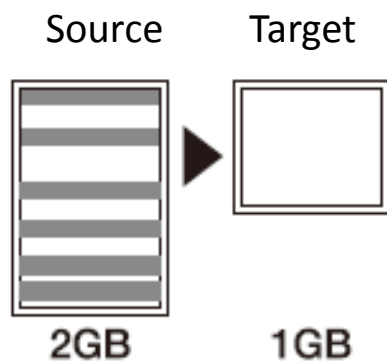
(1) When a content is within the target flash media's capacity.



Copy ok!

Because the data is within the 1GB area.

(2) When the content is located beyond the target flash media's capacity.



Can't Copy!

Because the data is outside of the 1GB area.

Caution

- Under "Systems and Files" Copy Mode:

The copy will fail because the data was stored beyond the 1GB area. The duplicator will copy whatever the data is, it won't change the data's location.

- Under "Whole Media" Copy Mode:

The copy will execute because it does not analysis data location as "System and Files." There is a possibility to cause error to the target's data, capacity, compatibility and format. It is strongly recommended that target and source have to be in close range of capacity.

⌘ Specification

Series	Tower Series Flash Duplicator	
Specifications	Capacity	Designed support capability up-to 2TB
	Operation Type	Stand-alone, FPGA-based operation (Non PC-based)
	Supported Languages	English or Japanese
	LCD Display	Backlit Monochrome LCD Display
	LEDs	2 LED (Red/Green) Indicators per Port
	Control Panel	4 Push Buttons(▲, ▼, OK, ESC)
Features	Copy Modes	Quick Copy (Systems & Files Copy)
		Whole Media Copy
		Asynchronous Duplication
	Compare Function	Bit-by-bit data comparison
	Diagnostic Modes	H3 Test: Read Only (Entire capacity)
		H5 Test: Overwrites and Reads (Entire capacity)
		H6 Test: Overwrites and Reads (Only empty sectors/spaces)
	Sanitization Modes	Quick Erase, Full Erase, and DoD Erase
	Format Functions	Formats device to FAT16 or FAT32
	Supported Formats	Quick Copy: FAT16/32/64, Windows (NTFS), and Linux (Ext2/Ext3/Ext4)
		Whole Media Copy: All Formats, including proprietary formats

	Supported O/S	All (Windows, Mac, Linux, and other stand-alone systems)
Hardware Specifications	Power Supply	12V DC Adapter
	Working Temperature	5°C ~ 45°C (41°F ~ 113°F)
	Storage Temperature	-20°C ~85°C (-4°F ~ 185°F)
	Working Humidity	20% ~ 80%
	Storage Humidity	5% ~ 95%
	Product Dimensions	TBA
	Weight	TBA
	Certifications	FCC, CE, RoHS

*Specifications subject to change without notice.