

edge10DUPE

SD/USB/CF Flash Duplicator

User Guide



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Version: Flash Dupe 2.0

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I. Introduction

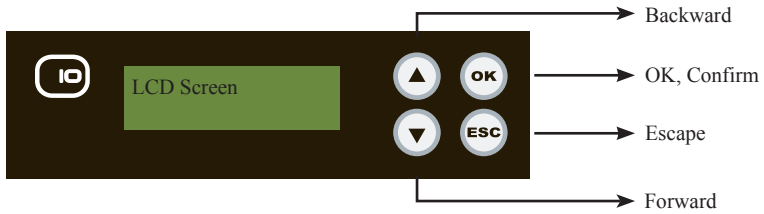
I. Introduction

1.1 Features

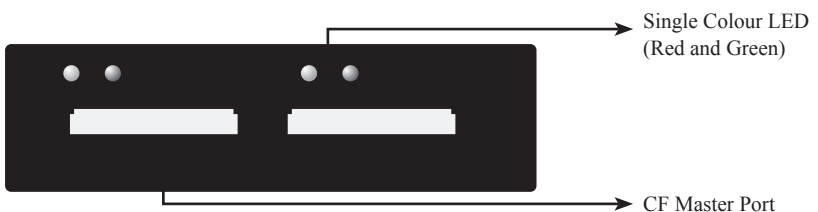
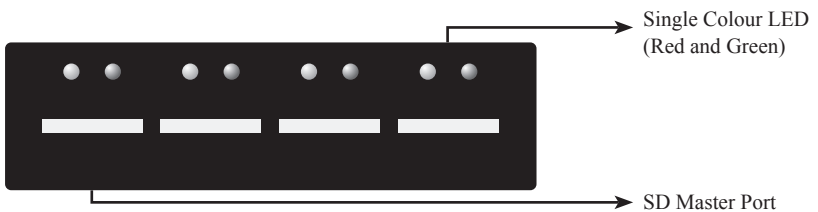
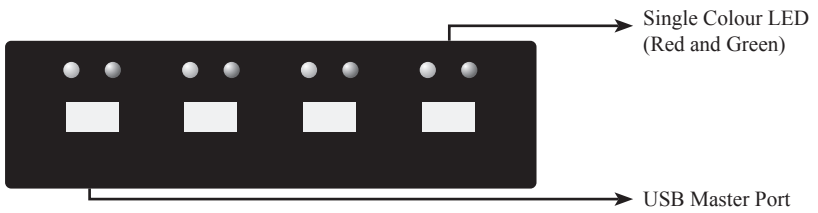
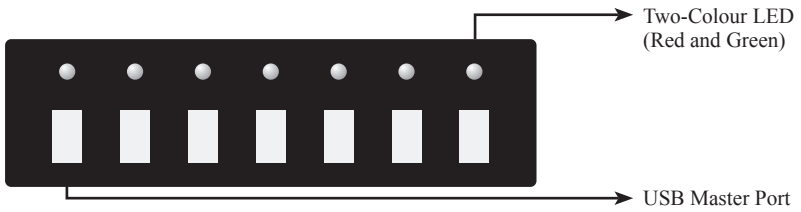
- 33MB per second transmits speed. Each USB/SD channel is independent from each other.
- High speed compare function to guarantee copy success.
- Real multi-task processing capability, no matter copy, compare, media check and format are all independently executed. Each USB/SD slot has an independent control processing unit. So, during execution, it can use ▲▼ button to check each USB/SD's status and progress.
- Powerful quality check machine for copying, speed and media quality check.
- Not a PC system, no risk of virus infection. Instant power on and off.
- Simple one touch copy, real time information shown on the LCD screen.
- Support Synchronous and Asynchronous copy/ compare/ erase/ format/ media check /speed check.
- 32 bit CRC checksum.
- What is the difference between our Flash duplicator and PC based duplicator:
 - ▶ Multi-task processing capability, it can copy USB/SD independent at the same time during the copy or check process also can use button key to check status, progress and result. By contrast, simple-task PC system can't do this. PC even can copy plenty of USB/SD by Hub, but it only copy to each one target in one time.
 - ▶ No risk of virus infection. SD/USB 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. No risk of virus infection
 - ▶ No mistake of copying wrong files. Direct source to target 100% duplication.
 - ▶ Instant system on and off. No need to wait for system boot up or shut down. Easy and fast.

1.2 Outlook Introduction

[Name Plate and LCD Screen]



[Flash slot board]



I. Introduction

1.3 Model Information

Model	UB/SD/CF8xx	
Target	8/16/24/32~2040 port	
Operation	Stand Alone	
Support Media	USB1.1, USB2.0	
	SD/ SDHC/ Micro SD/ MMC/ MiniSD	
	Compact Flash TM,	
Features	<ol style="list-style-type: none">1. Copy, Compare, Copy+Compare Function for Selection.2. Real Asynchronous of Copy, Compare, Check (Speed/Capacity/Media) and Format.3. Quick FAT16/32 Format Function.4. Maximum up to 33MB per second bandwidth at each slot channel.5. Support most of common formats such FAT16/32/NTFS/Linux (Ext2,Ext3).6. 32 bit CRC checksum.7. Firmware update through USB/SD.	
Display	Monochrome LCD display	
Power Supply	80W~or up (depends on different type of system requirement); support 110V/220V full range power	
Control Button	4 push buttons (▲▼, OK, Esc)	
LED	LED(Green/Red) on each slot	
Humidity	Working	20%~80%
	Storage	5%~95%
Temperature	Working	0°C~75°C
	Storage	-20°C~85°C

*The product spec is reference only

II. Function Overview

1. COPY

2. Compare

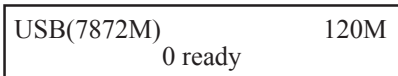
3. Copy + Compare

There are two kinds of copy mode for Asynchronous and Synchronous Copy. The system will check the content size of the source. If the source content size is less than system's buffer memory, it will automatically start asynchronous copying. If the source content size is larger than the system's buffer memory, it will copy by synchronous mode. (Please check 1.1 for Synchronous, and 1.2 for asynchronous mode)

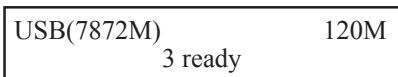
Compare function is to double check data correctness of target data. The operation is the same as copying.

3.1 Synchronous Copy

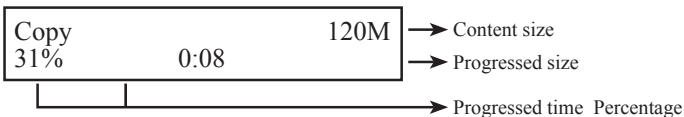
- 1 Plug in the source flash card. Select either copy/compare/copy+compare function and then press OK.



- 2 Plug in the target flash cards. The LCD will show the number of target flash plugged in and ready for copying.



- 3 When all flash cards are plugged in, press the OK key to start copying. Or when all slots are plugged, the system will automatically start copying.



II. Function Overview

- 4** Copy finished, LCD screen shows copy pass, fail quantity and time.

TOTAL	OK:4	NG:0
0:50	OK:4	NG:0

Note:

- 1** When copying is processing, the green LED's will flash. When the copying has finished the green LED's will stop flashing but will remain illuminated. If an error occurs the red LED will illuminate.
- 2** During copying each card slot's green LED will flash, DON'T take out the card while copying.
- 3** * When target and source's capacity has big difference, such as copy 1GB source to a 4GB or 1GB source to a 2GB, it may cause error to the target's capacity, compatibility and format. It is strongly recommended that the target and source have to be in close range of capacity.

3.2 Asynchronous Copy

It is only can work when the Master data content size is under controller buffer memory size (120 MB).

- 1** Plug in the source flash and press OK key. The system will start to read the source content into system's buffer. It will then immediately start to copy once a target flash card has been plugged in.

USB (7872M)	94M
Reading 43M	

- 2** During copying, each card slots green LED will flash, DON'T take out the card while copying. When copying has finished, the green LED will stop flashing and remain illuminated, then you can take out the card and put in another new flash card. The quantity of copy Pass/Fail and in "working" process will be displayed on the LCD. The Red LED will only illuminate when there is a copying error.
- 3** You can repeatedly take out cards which have finished copying and plug in new flash cards. The LCD will show accumulated quantity of copied pass/fail cards and the cards still in the copying process.

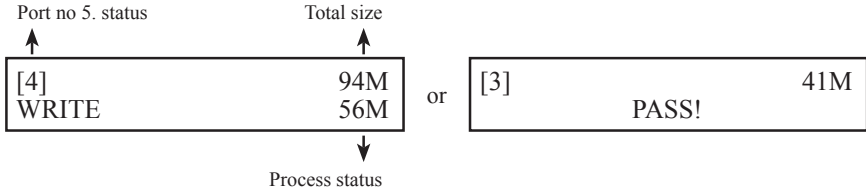
Pass : 1	COPY	→ Copy finished number
Fail : 0	2	→ The quantity of flash card in process

II. Function Overview

Note :

- 1 During asynchronous copying, you can press ▲▼ key to check each Flash Card's copying status and progress.
- 2 When there is an error (Red LED on), you can also press ▲▼ key to check each Flash Card's status.

For example :



4 Capacity check

This function can check the Flash real capacity

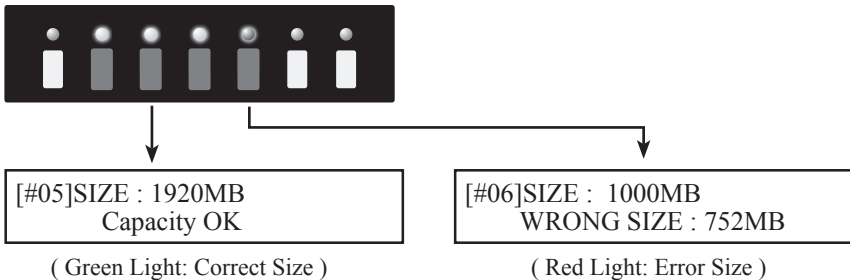
- 1 Plug the SD/USB into slot and select function 4, “Capacity Check”, then press OK. About 2~3 second, the system will find out this USB/SD exact capacity and SD/USB can be work or not.

USB Duplicator 4. Capacity Check

- 2 System will use Green/Red LED to show the result.
- 3 It can use ▲▼ button to check each SD/USB capacity progress now.

Note:

When the Red light illuminates (Error) you can use ▲▼ button to check each USB/SD error information.



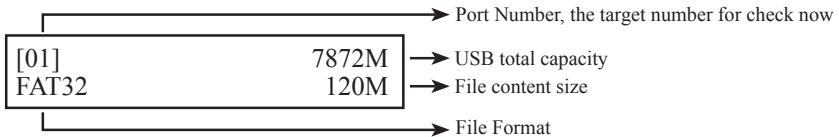
- 4 This function can support asynchronous operation, it can continuously plug and pull out, don't need to push any buttons.

II. Function Overview

5 Information

5.1 USB/SD information

This feature will show USB/SD flash's basic information such as flash type, content size, and total capacity.



5.2 System Information

This feature will show information of the duplicator system, including controller model number and software version.



6. Utility

6.1 Format FAT16/32

This function is to do flash FAT formatting. Plug the USB/SD in the slot and press ok button, the system will execute auto detect capacity and format according to flash's capacity.

- If USB/ SD format is already FAT16 or FAT32, the format function won't change original format.
- If USB/ SD format is un-FAT format, i.e. NTFS, Linux or FAT multi-partition. The system will execute format according to flash's capacity. When flash capacity is above 2GB, the system will format the flash to FAT32, if flash capacity below 2GB, the auto format is FAT16.

During format process, it can use ▲▼ button to check each Flash Card's formatting status, progress and information.

Note:

The source port (port#1) will not execute any formatting.

6.2 Measure Speed

This function can measure the Flash “read” and “write” speed. The speed check won’t delete content or data.

- 1 Plug the SD/USB into slot and select function 6.1 “Measure Speed”, then press ok to start.
- 2 Use ▲ ▼ buttons to see USB/SD exact “Read” and “Write” speed from each port

```
[Utility]
1. Measure Speed
```

```
[#01]  Read:14.3MB
        Write: 7.0MB
```

6.3 Media Check

The function is to analyze flash quality. You can setup “Normal mode”, “Safe mode”, and also setup up the range of the flash you like to check.

- 1 6.2.1 “Safe 100%”. Safe media check will read through the flash, it will not damage the content or format.
** You can set the check range % by 6.2.3 setting range.
- 2 6.2.2 “Normal 100% “. This function is to check flash quality by read and write the whole flash. Therefore, this function will delete the flash’s content and format.
Note: USB/SD data will erase during normal mode test.
- 3 6.2.3 “Setup Range “is to set the % of the flash which you like to check its quality. It use ▲ ▼ button to setup the flash examine area from 1 to 100%. 100% is mean check whole Flash, it will take more time.

```
[Setup Range]
100%
```

Note:

- 1 *Measure Speed and Media check (Safe Mode) won’t damage the data in USB/SD, but if SD/USB has bad quality, it may cause data damage after check fails.*

II. Function Overview

6.4 Quick Erase

This function will erase flash's data content, it will not erase flash FAT16/32 format.

If format not FAT16/32, the quick erase won't execute.

It can use   button to check each Flash Card's erasing status, progress and information.

6.5 Full Erase

Will completely erase the whole flash card, including format and content. Therefore full erase will take more time. During the process, you can use ESC button to escape the check process, but the original format and content can't be read any more.

6.6 System Update

This is to update the system's firmware version. Please save an un-zipped update file to your SD/USB drive (please don't put it in a folder). Select function 6.5 system update, and press OK, the system will automatically start system updating. When finished, please turn off the system for 5 seconds and then turn on again. The new version of firmware will have been uploaded.

6.7 Operational tips

- 1** DON'T pull out any flash card which is in the copying process. When a flash card is copying the green LED light will flash. Never pull out any card whose LED is flashing, this may not only damage the flash card but also the system hardware circuit.
- 2** Some users may like to use a USB converter to copy other different types of flash cards, such as CF, SD, or Memory stick etc. Since the quality and stability of each USB converter in the market is very different, a poor quality USB converter may cause the damage to the machine and also the copy quality from the Flash card.

7 System Setup Function

7.1 Start up menu

You can select which function is shown first when the duplicator is turned on.

7.2 Copy Area

7.2.1. Only data area

This 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, NTFS, Linux (Ext2, Ext3) which is recognizable by the system, it will be able to copy data only instead of copy the whole flash. Otherwise, if the file format is non-recognizable, the system will copy the whole flash card including the empty space. For example a 2GB flash card which is FAT32 file format and has only 50 MB of data inside, the system will only copy that specific 50MB of data, it take only a few seconds to copy the source.

7.2.2. Whole Media

Setup the duplicator in Whole Media function, the system will copy the whole flash card, including the empty space and format. This function is used when you have a flash source which has an unknown file format and you don’t want the system to be confused by such a format. For example a 2GB flash card which is FAT32 file format and has only 50 MB of data inside, if you setup “Whole Media” the system will copy whole 2GB of Flash. It will take long time to copy the source.

7.3 Button Beep

Choose whether to hear a beep or not when a button is pressed.

7.4 Asyn Hold time

This is to set the time to exit asynchronous copying when you’ve temporarily finished copying and you’ve pulled out all the devices, but you haven’t exited the copying job. This is to prevent you from mistakenly overwriting a source device when you’d like to start a new source copy but you forgot to stop the previous asynchronous copying job. The default setting is 30 seconds. When the system detects that all the flash cards have been pulled and no new cards have been plugged in after 30 seconds the LCD will display:



Wait Too Long Exit ?

Press OK to exit this Asynchronous or press "ESC" to keep this status.

II. Function Overview

7.5 Ignore Size

The purpose of this function is to set the flash card capacity tolerance between the source and target. The default setting is “Don’t Care” that means there is no limit of tolerance between the source and target. If you require the source and target flash cards to be limited to a certain capacity tolerance then you can set the % of the tolerance. For example if your source device has a capacity of 1919MB, that means the acceptable target devices’ capacity will be limited to between 1976MB to 1861MB.

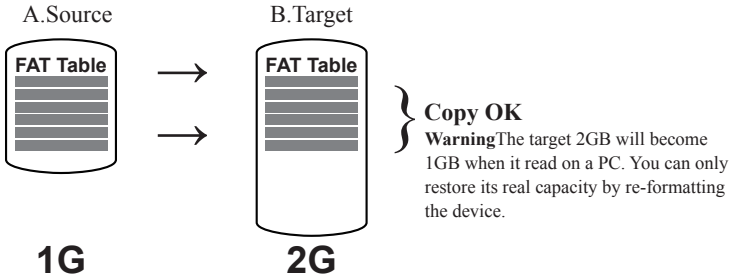
** If the capacity difference between the source and target is larger than the tolerance setting then when you start to copy the error (Red) LED will illuminate. You will then see a message “Fail”. You can press   key to check each flash card status in Asynchronous Copying.

II. Function Overview

A. When Source and Target capacity has big difference

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

Example:



Note:

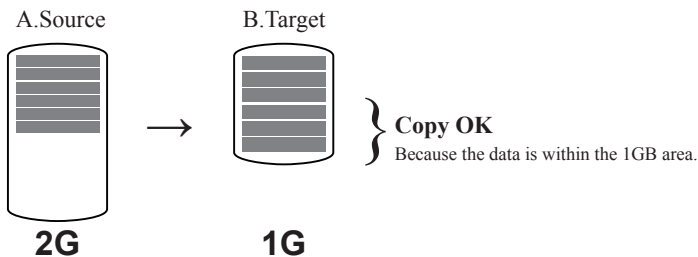
When Target and source's capacity has big difference, such as 1GB to 4GB or 1GB to 2GB, there is a possibility to cause error to the target's capacity, compatibility and format.

It is strongly recommended that target and source have to be in close range of capacity

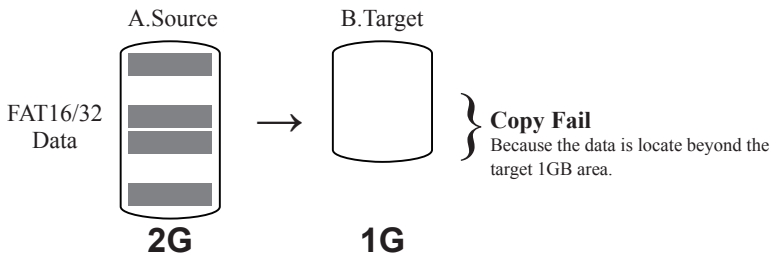
2 If Source capacity is Greater than the target, for example 2GB copy to 1GB:

► there are two results as shown in illustrations 1 and 2

1. When a content is within the target flash card's capacity



2. When the content is located beyond the target flash card's capacity.



** 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.

II. Function Overview

7.6 Asynchronous

The function can be set “On” to enable or “OFF” to disable asynchronous copy mode. If setup “On”, during copy the data is small than system buffer memory, it will automatically use asynchronous mode to do copy. If setup” OFF”, no matter what the content size or copy method, the system will keep synchronous copy.

7.7 Language

Set system language interface.

7.8 Working mode

This function can setup “Turbo mode” or “Normal mode”. Turbo mode can support high speed Flash in high speed copy (If using “Turbo mode” please makes sure the Flash supports high speed and has good quality). If the USB/SD is bad quality, it is very easy to have errors in the Turbo mode. System factory default is “Normal”

II. Function List

Function	Description	
1. Copy	USB/SD/CF flash copy.	
2. Compare	This option makes bit-by-bit comparison between the master source and all other copied flash cards.	
3. Copy+Compare	This option will make a copy first and then compare the copied flashes with the source immediately after the copy has finished.	
4. Capacity check	Checks the Flash real capacity	
5. Information	5.1 SD/USB info This feature will show USB/SD flash's information; file format, content size, and capacity.	
	5.2 System Info This feature will show information of the duplicator system, including controller model number and software version.	
6. Utility	6.1 Format To Execute flash FAT 16/32 format	
	6.2 Measure Speed This function can measure the flash read and writer support speed. This function won't damage the format and content.	
	6.3 Media check	6.3.1 Safe mode To check the flash by reading the flash. This safe check will not delete flash content and format.
		6.3.2 Normal mode To Check quality by "0" and "1" reading/writing the flash. Normal check will delete content and format.
		6.3.3 Setup Range To setup the check area from 1% to 100%
	6.4 Quick Erase To erase USB/SD flash content. It will keep the FAT format.	
	6.5 Full Erase SD/USB To completely erase data of USB/SD flash including format and content, but it need take more time.	
	6.6 System Update System firmware update via the SD/USB	
7. Setup	7.1 Start-up Menu To select which function is shown first when the system is turned on.	
	7.2 Copy Area	7.2.1 Only Data Area the system to automatically detect the format FAT16, 32/ NTFS/ Linux (Ext2, Ext3) and only copy the data area directly.
		7.2.2 Whole Media the system will copy the whole content of flash including the empty space area, if the data not format FAT16, 32/ NTFS/ Linux (Ext2, Ext3).
	7.3 Button Beep Choose whether to hear a beep or not when a button is pressed.	
	7.4 Asynchronous Hold Time To set how long the system should wait to ask if to continue or exit the function of Asynchronous copying job.	
	7.5 Ignore Size To set the tolerance % of the source and target capacity tolerance. The default setting is "don't care".	
	7.6 Asynchronous "On" to enable Asynchronous copy mode. "OFF" to disable Asynchronous copy mode.	
	7.7 Language Set system language interface.	
7.8 Working Mode This function can setup "Turbo mode" or "Normal mode"		

III. FAQ

III. FAQ

Q1: Can the USB duplicator copy any kind of format file, i.e. NTFS?

A: Our USB duplicator has support for the most common formats such FAT 16/32, NTFS, Linux...etc. In addition, if you want to copy other formats, it can use the “Whole Area” (function 7.2.2) to copy whole Flash, it doesn’t care about the Format and it will copy the entire flash.

Q2: How do we know the data is correct after copy?

A: You can do “compare” function.

Q3: What should I do if I encounter a copy fail?

A: 1. Please make sure the source size is not over than the target capacity. You could use function”5.1 SD/USB info” to check the source/target Flash data size and capacity.
2. If you use an SD card, please ensure that your SD card isn’t locked.
3. If the Flash quality is poor it may affect the copy result, you can use “6.2 Media Check” to check your Flash quality in both source and target.

Q4: Why after a copy, does my data compare fail, but check in a PC, the data is present?

A: The main reason is the Flash maybe unstable, which may cause the copy data to pass but for the compare to fail. You also can follow setups in question 3 to check.

Q5: Why is the copy speed so slow?

A: Our USB duplicator can reach 33MB/sec, if you find the copy speed is slow, it may be the flash quality effecting the speed of the copy. You can use function ”6.1 Measure Speed” to test the Flash speed.

Q6: Is possible use 1GB source copy to 2 GB 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 coping the target will complete the same as source. You can only restore its real capacity by re-formatting the device.

Q7: Is it possible that a big size source USB/SD copy to small size target i.e. 2GB to 1 GB?

A: If the data is less than target capacity, it is possible to copy from source to small size target, but the source data must be within the capacity of the target devices (i.e, page 13). Also, the data may be loss or error due to different capacity copy. It is strongly recommended to use Flash with same capacity to do the copying.



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