SD/ USB Flash Memory Duplicator

User's Guide

Table of Contents

I. Introduction

Thank you for purchasing the SD Duplicator and/ or USB Duplicator, technology designed to meet today's digital demand. Available in 3, 7, or 11 target, these duplicators feature a user-friendly 4-key control panel with LCD, bit-by-bit comparison, and advanced asynchronous duplication to optimize efficiency. Completely standalone, the low-cost, high-speed SD Duplicator and USB Duplicator operate without a computer, protecting the system from any risk of virus infection. Packed with more features, the SD Duplicator and USB Duplicator are the number one solution for the most popular digital media formats in many industries.

II. System Memory Specification

	3-Target	**7-Target**	**11-Target**
SD Duplicator Supported Media	SD, MMC, Micro* SD, Mini* SD, Mini* SD Pro, SDHC*, WiFi SD	SD, MMC, Micro* SD, Mini* SD, Mini* SD Pro, SDHC*, WiFi SD	SD, MMC, Micro* SD, Mini* SD, Mini* SD Pro, SDHC*, WiFi SD
USB Duplicator Supported Media	USB 1.1 and USB2.0 Devices	USB 1.1 and USB2.0 Devices	USB 1.1 and USB2.0 Devices
System Memory	**64MB**	**256MB**	**256MB**

*Adapter is required (not included).

III. Operating Environment

Power	115V or 230V
Working Temperature	5°C ~ 50°C 41°F ~ 122°F
Working Humidity	20 ~ 80%
Storage Temperature	-20°C ~ 85°C -4°F ~ 185°F
Storage Humidity	5 ~ 95%

Ⅳ. Menu Overview

Function	Description
1. Copy	Copies SD Cards or USB Drives. All contents of the source card/ drive will be duplicated to all target card(s)/ drive(s)
2. Compare	Performs a bit-for-bit comparison between the source card/ drive and copied card(s)/ drive(s)
3. Copy+Compare	Copies the source card/ drive, and then immediately follows with a bit-for-bit comparison between the source and copied card(s)/ drive(s) to ensure exact duplication
4. Information	
4.1 USB/SD Info	Shows the basic information on the SD card(s)/ USB Drive(S) inserted, such as flash type, content size, and available space
4.2 System Info	Shows information of the duplicator system, such as controller model number, system memory capacity, and software version
5. Utility	
5.1 Quick Erase USB/SD	Erases the index of SD Card/ USB Drive in the writer tray
5.2 Full Erase USB/SD	Completely erases all data of SD Card/ USB Drive in the writer tray. This process takes longer than Quick Erase
5.3 System Update	Updates the firmware version in the system
6. Setup	
6.1 Start-up Menu	Allows user to select which function is shown first when the duplicator powers on
6.2 Analyze Source	Enabled (ON) to copy data only. Disabled (OFF) to copy the entire SD Card/ USB Drive
6.3 Button Beep	Turns audio signal on or off when a button is pressed
6.4 Asyn Hold Time	Sets the time the system waits to continue duplication jobs in Asynchronous mode before exiting
6.5 Ignore Size	Allows user to set the tolerance of capacity difference between the source and the target
6.6 Asynchronous	Allows user to enable or disable Asynchronous copy mode
6.6 Language	Sets system language interface.

V. Functions

1. Copy/Compare/Copy+Compare

The SD Duplicator and USB Duplicator can automatically detect and support two different copy modes:

- ➢ Synchronous
- ➢ Asynchronous

After the system is powered on and the source card/ drive is inserted, scroll to Copy, Compare, or Copy+Compare and press the ENT key. The system will start to scan the source to check the content size. If the source content is less than the system's memory, then the system will automatically select and start Asynchronous copying. If the source content size is larger than the system's memory, the system will select and start Synchronous copy.

- ● **Synchronous v. Asynchronous:**

  - ➢ **Synchronous Copy Mode:** All cards/ drives must be inserted and execute the copy or compare function at the same time. All target cards/ drives will have the same progress simultaneously. In this mode, the system will start the copy or compare function when the ENT button is pressed or automatically when writer trays are all loaded.
  - ➢ **Asynchronous Copy Mode:** The system will read the data from the source card/ drive into system's memory first, then copy to target card(s)/ drive(s) as they are inserted. The process is continuous as each card/ drive executes the function individually. User may take out a card/ drive that is complete and insert another one to continue with a new copy.

    Note: The duplicator will format the target cards/ drives to be the same as the source card/ drive. All data left on the target cards/ drives will be overwritten (erased) after duplication. The contents of target cards/ drives will be exactly the same as the source card/drive.

- ● **How to make Synchronous and Asynchronous Copy**

➢ **Synchronous Mode**

   - When source content size is larger than system memory

1. Power on the duplicator, if not already on.
2. Insert source card/ drive.

```
USB(963M)   450M
       0 ready
```

3. Scroll to select Copy, Compare, or Copy+Compare from menu and press ENT.
4. Insert target card(s)/ drive(s). The LCD will show the number of target card(s)/ drive(s) inserted.
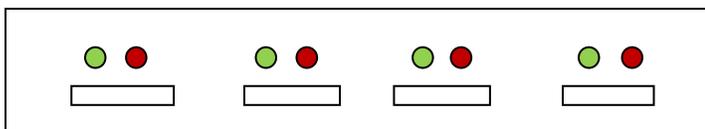
```
USB(963M)   450M
       3 ready
```

5. After the desired number of target card(s)/ drive(s) are inserted, press ENT to execute the function. Or when all writer trays are loaded with target card(s)/ drive(s), the system will automatically start the function.

```
COPY        450M  ──────▶ Content size
15%  0:32   68M   ──────▶ Progressed size
        │    │
        └────┴──────────▶ Progressed time and percentage
```
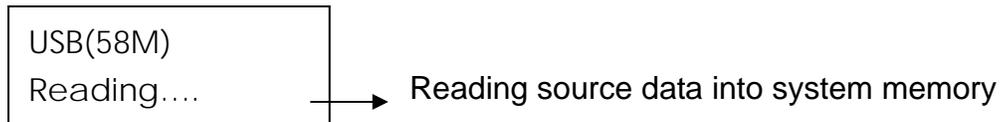
Note: When the system is busy in a process, the green LED light will be blinking. When the process is completed, the green LED will become steady. In case of error occurrence, the red LED will turn on.
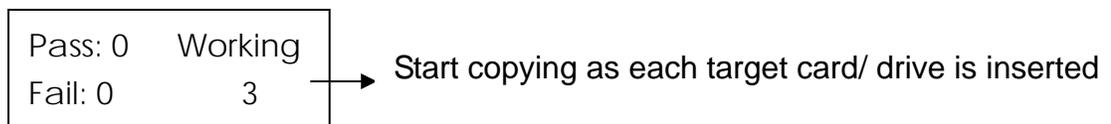
➢ **Asynchronous Mode**

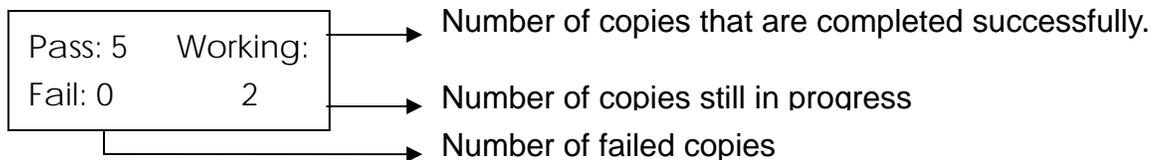   - *When source content size is less than system memory*

1. Power on the duplicator, if not already on.
2. Scroll to select Copy, Compare, or Copy+Compare from menu and press ENT.
3. Insert source card/ drive and press ENT. The system will start to read and copy the source content into system memory if the content is smaller than system memory.

```
USB(58M)
Reading….
```
→ Reading source data into system memory

4. The duplicator will immediately begin executing the function as each target card/ drive is inserted.

```
Pass: 0    Working
Fail: 0         3
```
→ Start copying as each target card/ drive is inserted

5. During the process, each card slot's green LED will blink. Do NOT take out the card/card while the system is busy. Once the process is completed, the green LED light will become steady. It is now safe to take out the card/ drive and insert another card/ drive to continue the job.
6. The number of successful copies will be accumulated and displayed on the LCD along with the number of failed copies and jobs still in progress.

```
Pass: 5    Working:
Fail: 0         2
```
→ Number of copies that are completed successfully.

→ Number of copies still in progress

→ Number of failed copies

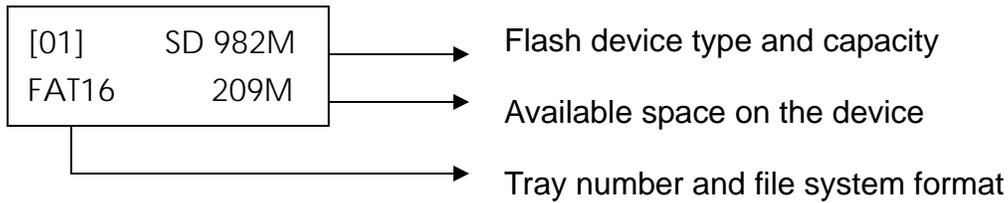*Note: In Asynchronous mode, user may press the UP and DOWN buttons* ▲ ▼ *to check the status and progress of each card/ drive.*
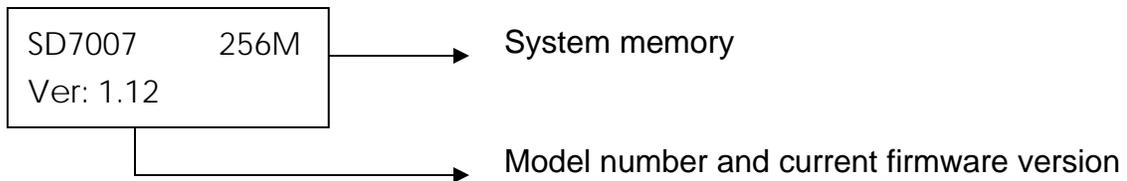
2. Other Functions

Information

1. USB/ SD Info (Menu Function 4.1) displays information about each card/ drive inserted into the duplicator, including flash device type, file system format, content size, and available space. Press UP and DOWN buttons to select and view each tray.

Press ESC to exit.

```
[01]        SD 982M
FAT16        209M
```

→ Flash device type and capacity

→ Available space on the device

→ Tray number and file system format

2. System Info (Menu Function 4.2) displays information about the duplicator, including controller model number, system memory capacity, and firmware version. Press ENT to view System Info and press ESC to exit.

```
SD7007       256M
Ver: 1.12
```

→ System memory

→ Model number and current firmware version

Utility

1. Quick Erase (Menu Function 5.1) only erases the index FAT table of each card/ drive, while Full Erase (Menu Function 5.2) will erase the entire content of the SD Card/ UDB Drive.

   Note: Either of the Erase Functions will clear the FAT table in the SD Card/ USB Drive, making the device unreadable on computers until it is re-formatted.

2. System Update (Menu Function 5.3): This is to update the system's firmware version. Place the updated, un-zipped firmware file on a SD Card or USB Drive, accordingly to the type of duplicator. *(Note: Do not put the file in a folder.)* Scroll and select System Update in the menu and press ENT. The duplicator will automatically start system updating. When completed, power off the system for at least 5 seconds and power it back on. The new version of firmware is now installed and the system is updated.

Setup

1. Start-up Menu

   ■ User may select from the following functions and set one as the primary function that the duplicator will first display when it is powered on: Copy, Compare, Copy+Compare, Information, Utility, and Setup.

- Press UP and DOWN buttons to scroll through the options, and press ENT to select and exit

```
[Start-up Menu]
    1. COPY
```

2. Analyze Source (Menu Function 6.2)

- When this function is ON, the system will automatically analyze source card/ drive for file format. If the file format is of the FAT file system, such as FAT12, FAT16, and FAT32, the duplicator will recognize the file system. The duplicator will then only copy the data content instead of copying the entire card/ drive including empty spaces. If the system cannot recognize the source's file format, it will copy the entire source card/ drive regardless of the contents. For example, to copy a 2GB SD card that is with FAT32 file system containing only 50 MB of data, the duplicator will only copy the 50MB of memory space with data. The process will be much faster than copying the entire 2GB of memory.
- When this function is set to OFF, the system will copy all the memory space of the source card/ drive, including empty spaces and formatting information. This is particularly useful if the source card/ drive is of an unrecognizable file format. The system will save time in analysis and avoid possible delay or error.

3. Button Beep (Menu Function 6.3)
- User may turn on or off the audio signal when a button is pressed. Press the UP and DOWN buttons to switch between ON and OFF. Press ENT to select and exit.

```
[Button Beep]
      ON
```

4. Asyn Hold time (Menu Function 6.4)

- User may set the time the system waits when all writer trays are unloaded before exiting the asynchronous mode. The default is set to 30 seconds.
- When the system is in asynchronous mode, it executes the copy or compare function for each writer tray individually. After all target cards/ drives are removed,
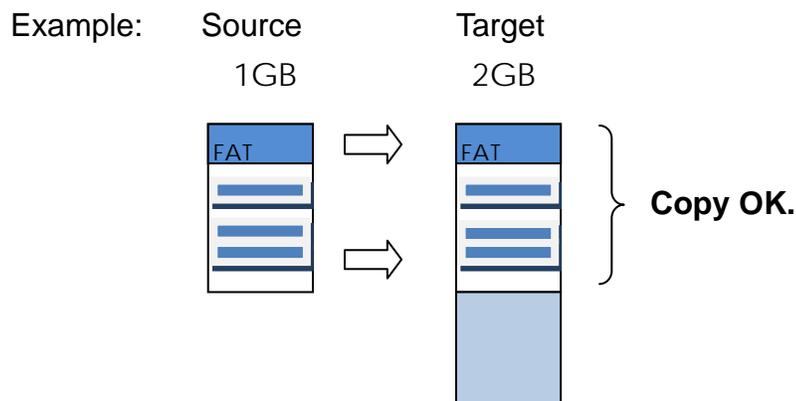
the system will wait for the set amount of time for any new card/ drive to be inserted to continue the job. If no more card/ drive is inserted after the hold time, the LCD will prompt:

```
Wait too long
        Exit?
```

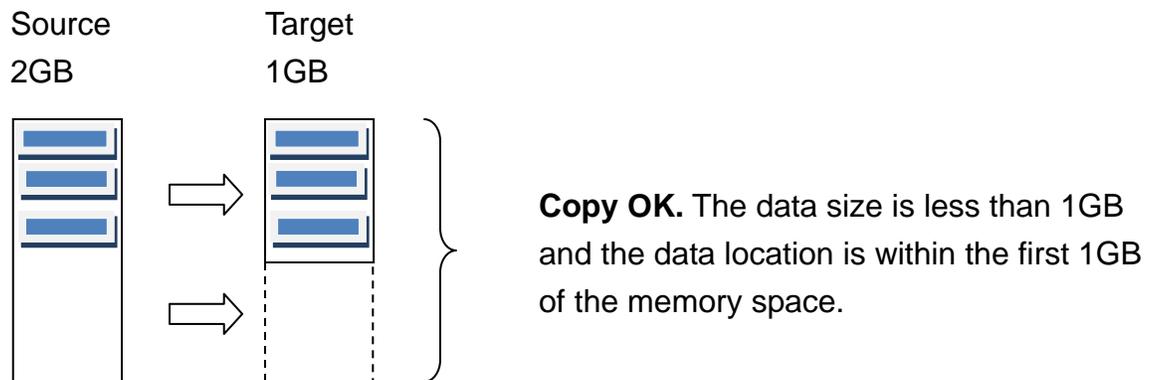Press ENT to exit this Asynchronous or press ESC to keep this status.

5. Ignore Size (Menu Function 6.5)

- This function is to set the tolerance in percentage of capacity difference between source and target cards/ drives. To ensure the FAT table of each card/ drive is duplicated correctly, the duplicator will require the source and all target cards/ drive to be identical in capacity. However, it is inevitable for each card/ drive, although marked the same capacity, to be slightly different due to the manufacturing process. Therefore, a tolerance may be set to avoid system error. For example, if the source card/ drive has a capacity of 1919MB, with a 3% tolerance setting any target card/ drive with a capacity of 1976MB to1861MB will be accepted. Setting to a higher tolerance percentage allows source flash copy to targets with different capacity, such as copying a 1GB source device to 2GB target device(s). The default is set to "Don't care," which means the size difference is ignored and there is no limit of source and target capacity difference.
- If a source device has smaller capacity than target devices:
  1. Set the tolerance % to "Don't care". There will be no limit on source and target capacity difference.
  2. After the copy process is completed, the target devices will be formatted to the same capacity as source device.
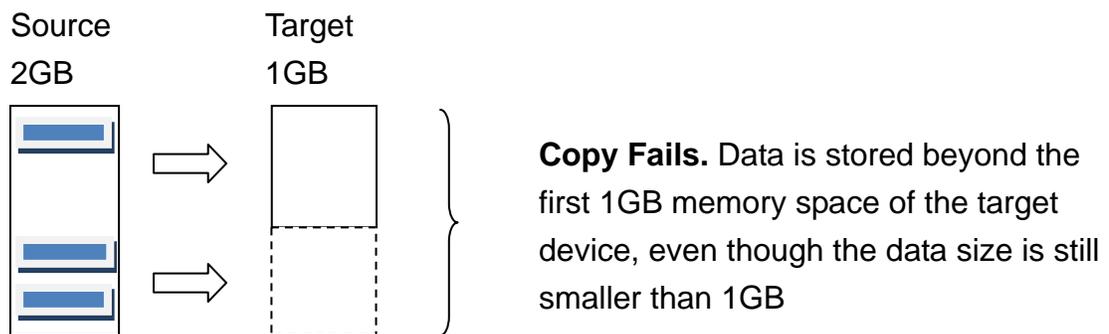
Example: Source   Target
            1GB   2GB

Copy OK.

■ If a source device has bigger capacity than target devices :
1. Set the tolerance % higher or set to "Don't care" (no limit).
2. Data stored on flash devices such as SD cards and USB drives are located randomly instead of sequentially. The success of this type of duplication depends on the data size as well as the data location on the source device. There are three outcomes that could be resulted from this type of copy.
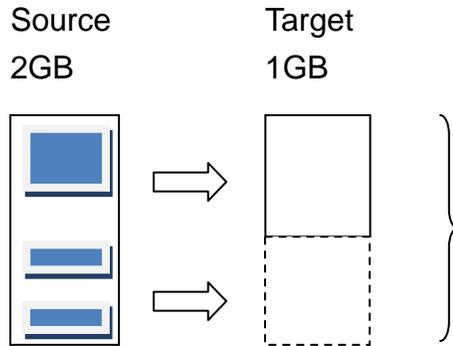
Illustation 1 For source device with FAT16 or FAT32 file system whose content is located within the capacity of target card(s)/ drive(s) and the content size is within the capacity of the target card(s)/ drive(s):

Source   Target
2GB   1GB

Copy OK. The data size is less than 1GB and the data location is within the first 1GB of the memory space.

Illustration 2 For source device with FAT16 or FAT32 file system whose content is located beyond the capacity of target card(s)/ drive(s) while the content size is still within the capacity of the target card(s)/ drive(s) :

Source   Target
2GB   1GB

Copy Fails. Data is stored beyond the first 1GB memory space of the target device, even though the data size is still smaller than 1GB

Illustration 3 For source device with FAT16 or FAT32 file system whose content is located content size is bigger than the capacity of the target card(s)/ drive(s) :

Source
2GB

Target
1GB

Copy Fails. Data size is bigger than the capacity of the target device. Insufficient memory space to complete the copy process.

6. Asynchronous (Menu Function 6.6)
   - User may select to turn on or off the Asynchronous copy mode. If set to off, all copy process will be completed in Synchronous copy mode. Press the UP and Down buttons to scroll, and press ENT to select and exit.

   ```
   [Asynchronous]
         On
   ```

7. Language (Menu Function 6.7)
   - User may select the menu language between English and Japanese. Press the UP and DOWN buttons to scroll, and press ENT to select and exit.

   ```
   [Language]
        English
   ```

3. Additional Information

- **Source card/ drive and target card(s)/ drive(s) are recommended to be of the same capacity specification**
  Data transforming from a source to target cards/ drives of many different specifications or capacity takes longer to complete, slows down the system performance and may cause data loss in the process. Therefore, it is not recommended to use cards/ drives with specifications or capacity different from that of the source device.

- **If user must copy card of big capacity difference:**
  1. In Setup menu, select Function 6.5 Ignore Size and set it to "Don't Care" to remove the limit on tolerance percentage

2. Then select Function 6.2 Analyze source and set it to OFF

- **Do NOT remove any card/ drive that with blinking green light.**
  When a card/ drive is in a process, the green LED light located above the writer tray will be flashing. Never remove any card/ drive with blinking green LED light. This may very likely damage the card/ drive itself, cause data loss, or damage the system hardware circuit.

- **Do NOT use USB converters with USB or SD duplicators**
  USB converters allows compatibility among different types of flash cards such as CompactFlash, MemoryStick, and so on. The quality and stability of each USB converter in the market is very different. A poor quality USB converter may cause damage to the duplicator and/or USB drives/ SD cards. The performance and the quality of duplication are also affected.

VI. Basic Troubleshooting:

1. **Power does not turn on or unit receives no power.**
   a. Check power cord and outlet to make sure power connections are secured.
   b. Check voltage switch on the back of the duplicator to make sure power supply is set for correct outlet rating.
   c. Test with another power cord (same as a PC power cord) to eliminate cable failure.

2. **Source card/ drive cannot be read**
   a. Check the source card/ drive. The source card/ drive may be with error(s) or contain corrupted file(s) that can make duplication difficult or impossible.
   b. Turn off the function Analyze Source to avoid unrecognizable file system that could interfere with the duplicator's process.

3. **Machine locks up during the copy process**

a. Hold down the ESC button to abort the copy process. The copy process will cancel and menu goes back to the last function executed.

b. If the button cancel does not work, power cycle the unit (power the unit off, leave off for five seconds and power the unit back on).

c. Change the source card/ drive. A source card/ drive with error(s) or of poor quality may cause duplication to lock up at particular points during the copy process.

4. **Button(s) do not function on the unit.**

a. The duplicator may be busy. Buttons pressed while the duplicator is processing will not perform functions unless otherwise specified.

b. Possible faulty button. Contact your technical support department for further information.

5. **Red LED light turns on**

a. Press UP and DOWN buttons to check each card/ drive for error messages.

b. If error message "Not FAT format" is displayed, the file system on the source card/ drive is not of the FAT format. Exit current job and select the "Analyze Source" function from the menu and set it to OFF.

c. If error message "Not correct size" is displayed, the capacity difference between source and target card/ drive is larger than the tolerance setting. Exit current job and select "Ignore Size" from the menu. Set the tolerance to a higher percentage or "Don't care" and start the job again.

6. **The target card/ drive is not recognized in the writer tray**

a. Test the target card/ drive in another writer tray.

b. Change the target card/ drive to another one. A defective card/ drive will not be recognized by the duplicator.