



**MICROBOARDS**<sup>®</sup>  
*Technology*



# Copywriter Flash Duplicator Series

*User's Manual*



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# Introduction

Make fast copies of flash cards using the Copywriter Flash Duplicator series. This series is available in 7, 11, or 15 copy configurations, with a model for USB duplication and a model for SD/MicroSD duplication.

The Copywriter Flash Duplicator offers both Synchronous and Asynchronous duplication. In Synchronous mode, all drives are inserted and copied to at the same time. When duplicating in Asynchronous mode, duplication starts on each drive as the drive is recognized, allowing you to remove and replace individual drives as the duplication process is completed to continue duplicating without additional user action.

## ***What's Included***

When unpacking your Copywriter Flash Duplicator system, the following items should be included:

- Copywriter Flash Duplicator
- Starter Kit
- Power Cord

If any of these items are missing, please contact your distributor or Microboards Technology Technical Support.

Please have the Model and Serial Number of your Copywriter Flash Duplicator available when contacting Technical Support.

# Installation

- Connect the power cable to the Copywriter Flash Duplicator and plug in to a protected power outlet strip or UPS power supply.
- Turn on power to the duplicator.
- The system will go through initialization and then display: 1. Copy.
- The system is now ready to use.

# Loading and Unloading Flash Cards

You should never unload any card that is in use by the duplicator. If the green LED above the port is flashing, the card is in use.

## ***USB Flash (USB models only)***

To load USB flash cards, slide the card into the port. If it does not slide in easily, flip the USB card over and try again.

To unload USB flash cards, simply pull them out of the port.

## ***SD Flash (SD models only)***

To load SD flash cards, slide the card into the upper, wide port with the circuit side **down** until the card clicks into place. If the green LED above the card port fails to light after a moment, unload the card, flip it over, over and try again.

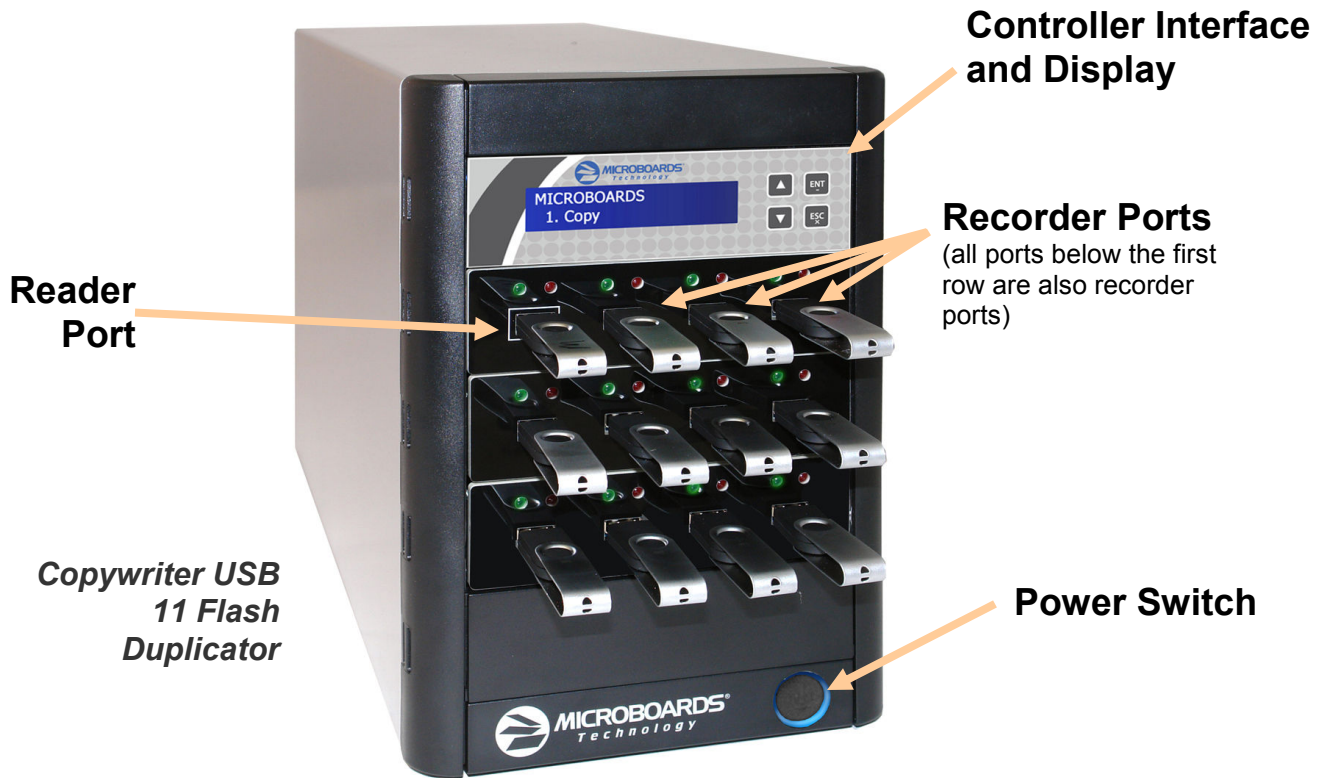
To unload SD flash cards, push in and release each card. The ports will slightly eject the cards.

## ***MicroSD Flash (SD models only)***

To load MicroSD flash cards, slide the card into the lower, narrow port with the circuit side **up**. If the green LED above the card port fails to light after a moment, flip the card over and try again.

To unload MicroSD flash cards, simply pull them out of the port.

# Hardware Description



The Copywriter Flash Duplicator consists of a reader port; 7, 11, or 15 flash drive ports; and Controller module.

The master card will always be inserted into the **TOP LEFT** port.

The blank cards will always be inserted into the remaining ports.

The green LEDs above each port will flash when in use or will stay solid green after a successful duplication. The red LED above each port will light when an error on that card occurs.

The LCD display will show the different menu selections and also information pertaining to the recording process. Here is a typical example of what is displayed during the COPY process:

Displays the function being performed, such as Copying or Comparing

Shows the size of the Master

▲ Navigate through the menu options  
▼



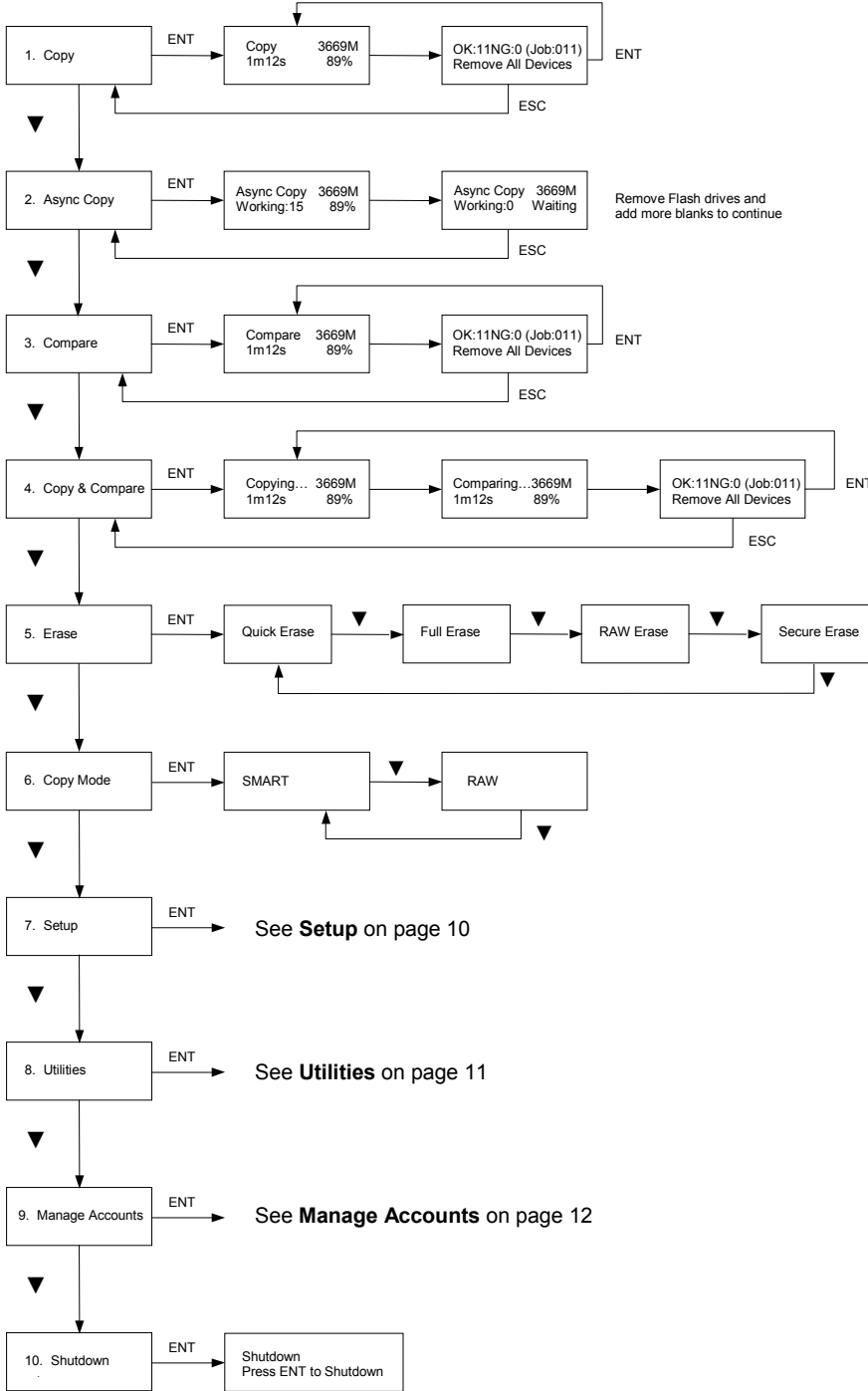
**ENT** Accept the menu item showing

**ESC** Exit from the menu item showing

Displays an estimate of the amount of time remaining

Displays the percentage of the master that has been copied

# Main Menu Flowchart



# Main Menu

There are 10 different Main Menu items for the Copywriter Flash Duplicator: Copy, Async Copy, Compare, Copy & Compare, Erase, Copy Mode, Setup, Utilities, Manage Accounts, and Shutdown. For the Setup options, please refer to page 10.

These instructions refer to using 11 USB recorder ports (available only in the USB 11 Flash Duplicator), but the instructions will not differ when using any of the Copywriter Flash Duplicators, either USB or SD. Any Copywriter Flash Duplicator model will operate using any number of the available recorder ports.

## Copy

Place your master card into the reader port, always the upper left port, and your blank cards into the recorder ports.

Press the **ENT** button on the controller interface. If all recorder ports are filled, duplication will begin. If not, the display will show how many target cards are in place; press **ENT** again to begin duplication to the loaded target cards. If all target ports are not being used, duplication will also begin automatically in 30 seconds if you do nothing.

The data will be copied from the master flash drive to the blank flash drives.

When the job is completed, the green LED above the recorder ports will show a steady green and the cards can be removed.

When each duplication cycle completes, the status of the duplication will be displayed. **OK** indicates the number of successful duplications during the cycle just completed, **NG** shows the number of failed duplications, and **Job** shows how many flash drives have been duplicated since the duplicator was last at the **Copy** menu.

OK: 11 NG: 0 (Job: 011) Remove All Devices
---

Replace all cards and press the **ENT** button to restart duplication. If you need to make copies of a new master drive, replace the flash drive in the reader slot. You do not need to exit out of Copy mode to change masters. Changing masters will reset the Job total.

## Async Copy

Async Copy mode allows you to have the duplication process begin on each flash drive as it is inserted into the duplicator, rather than waiting for all drives to be inserted.

Press the **ENT** button on the controller interface. The inserted master will first be recognized, then the duplicator will start searching for inserted flash drives. As it finds drives, the displayed Working number will increase and drives will begin to be copied to as they are found. Continue inserting flash drives until you have as many as needed, or until you have reached the capacity of your duplicator.

Async Copy	3669M
Working:0	Waiting

The display will show the completed percentage of the flash drive that is farthest along in the duplication process, until that drive reaches 100% complete, at which point the green and red LEDs above that drive will both come on. Remove the drive, and insert another drive to begin copying to the new drive.

Async Copy...	3669M
Working:15	48%

When the last drive you need is complete, press the **ESC** button and remove the master drive.

## Compare

The Compare function is used to compare the master card with the copied cards.

Place your master card into the reader port and your copied cards into the recorder ports.

Press the **ENT** button on the controller interface. The duplicator will now compare the master and copied cards. When completed, the display will read:

OK: 11 NG: 0 (Job: 011) Remove All Devices
---



## **Copy & Compare**

The Copy and Compare function will perform both operations, one after the other. If the Copy portion passes without errors, the system will automatically start the Compare process.

Place your master card into the reader port and your blank cards into the recorder ports. Press the **ENT** button on the controller interface.

The duplicator will first copy the master card to the blank cards. When the Copy completes, the unit will start the Compare process. The display will switch from showing **Copying...** to **Comparing...** during the comparison.

When the job is completed, the totals will be provided.

## **Erase**

The Erase function has 4 erasure method options:

- **Quick Erase** will erase only the beginning section of the Flash Storage Device, which will hide the data and allow the data to be overwritten. Then it will format the Flash Storage Device using FAT32 File System.
- **Full Erase** will erase the entire Flash Storage Device by writing 0's throughout. Then it will format the Flash Storage Device using FAT32 File System. The erase timeframe varies depending on the data capacity of the Flash Storage Device.
- **RAW Erase** is identical to Full Erase, except that it does NOT format the Flash Storage Device.
- **Secure Erase** will erase the Flash Storage Device thoroughly to make the chances of data recovery almost impossible. This method involves several rounds of complete data overwriting in various patterns with full erasure each time, and will take the longest of the 4 methods to complete.

## **Copy Mode**

This setting will allow you to choose which Copy Mode to use. There are 2 available options:

- **Smart Copy**: This is the recommended and fastest approach to making copies since it will scan your Flash Storage Device and copy only the area which contains data.  
When in Smart Copy mode, the Size Tolerance setting will check that the size of the data on the source drive will fit onto the target drives.
- **RAW Copy**: This is the safest but slowest approach to making copies since it will copy your entire Flash Storage Device bit by bit.  
When in RAW Copy mode, the Size Tolerance setting will check that the size of the target drive and source drives match or fall within the size variance specified.

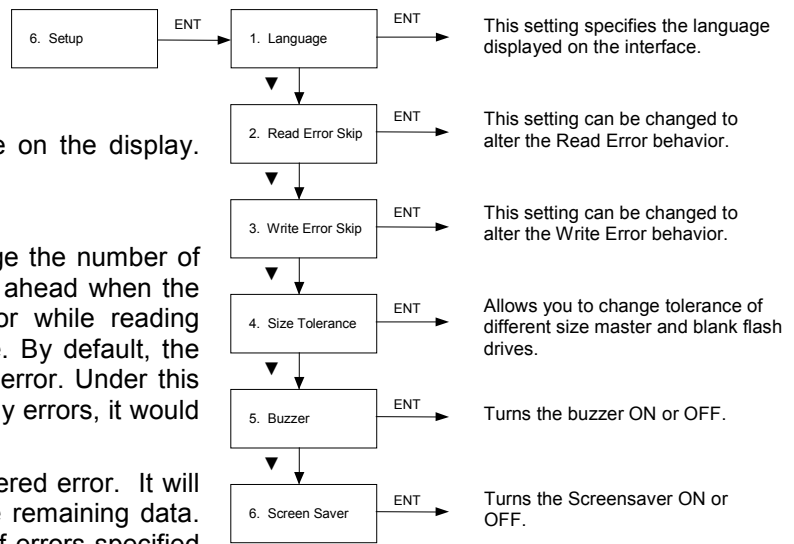
### **Selecting the Copy Mode for your Master Formats**

Some formats, such as NTFS, are not supported by the Smart Copy mode. In any case in which the formatting of the source drive is not supported in Smart Copy mode, RAW Copy mode will automatically be used. **You will not need to change the Copy Mode setting to duplicate a format not supported in Smart Copy mode.**

Because of this, having the Copy Mode set to Smart Copy will always provide you with the fastest duplication possible for your master flash drive.

## Setup

The Setup menu gives you access to some of the default settings used by the Copywriter Flash Duplicator.



### Language

This setting specifies the language on the display. The default language is English.

### Read Error Skip

This setting will allow you to change the number of times you want the system to skip ahead when the system encounters a reading error while reading your original Flash Storage Device. By default, the system does not skip any reading error. Under this setting, if the system encounters any errors, it would result in an immediate job failure.

This function will not fix any discovered error. It will merely skip the error and copy the remaining data. The setting will allow the number of errors specified before generating an error.

### Write Error Skip

This setting will allow you to change the number of times the system will skip when the system encounters a writing error during the copying process. By default, the system does not skip any writing errors. Any writing errors would result in an immediate failure on this Flash Storage Device.

This function will not fix any errors that it may find. It will only skip errors to write the remaining data. The setting will allow the number of errors specified before generating an error.

### Size Tolerance

This setting allows you to determine how closely the capacity of the target cards match the capacity of the source card. The Size Tolerance behavior will change depending on the Copy Mode setting (see page 9). If Copy Mode is set to Smart Copy, the size of the data on the source will be checked against the target drive capacity. If Copy Mode is set to RAW Copy, the target drives must be as large as or larger than the source regardless of the data size being copied.

Options are: OFF (target cards must be the same capacity or larger than the source card), 1% difference in capacity size between the master and the blanks, 5% difference, or IGNORE. Because errors can occur if the Size Tolerance is set to IGNORE, we do not recommend the IGNORE setting, but is available if you absolutely need it.

This setting is intended for flexibility if the source card is a low-capacity card. Note that even if the target drives are larger than the source drive, this setting can generate a false error state.

Any attempt to duplicate more data than the target card's capacity will fail.

### Buzzer

This setting allows you to turn **ON** or **OFF** the beep produced when the buttons are pressed or an audible status cue is provided. The default setting is **ON**.

### Screen Saver

This setting turns the screensaver **ON** or **OFF**. Default setting is **ON**.

## Utilities

The Utilities menu gives you access to the utility functions available on the Copywriter Flash Duplicator.

### Device Info

This utility will provide you with information on the flash drive loaded in the Flash ports. Use the arrow buttons to scroll through the list of devices found.

The first screen will show the overall capacity of the selected drive. Press **ENT** to see the current formatting of the drive and the total amount of space on the drive being used.

### System Info

The System Info utility will provide you with information about the Copywriter Flash Duplicator, such as firmware and controller information.

### Measure Speed

This utility allows you to check the Read and Write speeds of any flash drive loaded into the Flash ports. Use the arrow buttons to scroll through the available drives, pressing **ENT** when you are on the drive you want to test. After a brief analysis of the drive the Read Speed and Write Speed of that drive will be displayed.

If you feel your duplication is progressing slowly, run this utility on each drive to determine if any of the drives have lower speeds than the others. Since duplication can only occur as fast as the slowest drive, having a single drive with a lower write speed capability will slow down the entire duplication cycle.

### Verify Source

Use the Verify Source to verify the readability of your source flash drive. It is recommended that you run this utility if you are seeing large amounts of duplication errors with a specific flash drive when used as the source.

### Rebuild Source

Flash drives that have never been written to before may cause errors during the Compare process if you are duplicating in RAW mode. This will only affect RAW duplication mode.

Use the Rebuild Source during Compare operations if burning in RAW mode and you are using Flash drives that have never used before. The Rebuild function will ensure that all sectors of the blank Flash drives have been written to in order for the comparison to not generate mistaken errors when attempting to compare the empty sectors.

### Load Default

Use the Load Default utility if you need to return all settings and options back to the defaults.

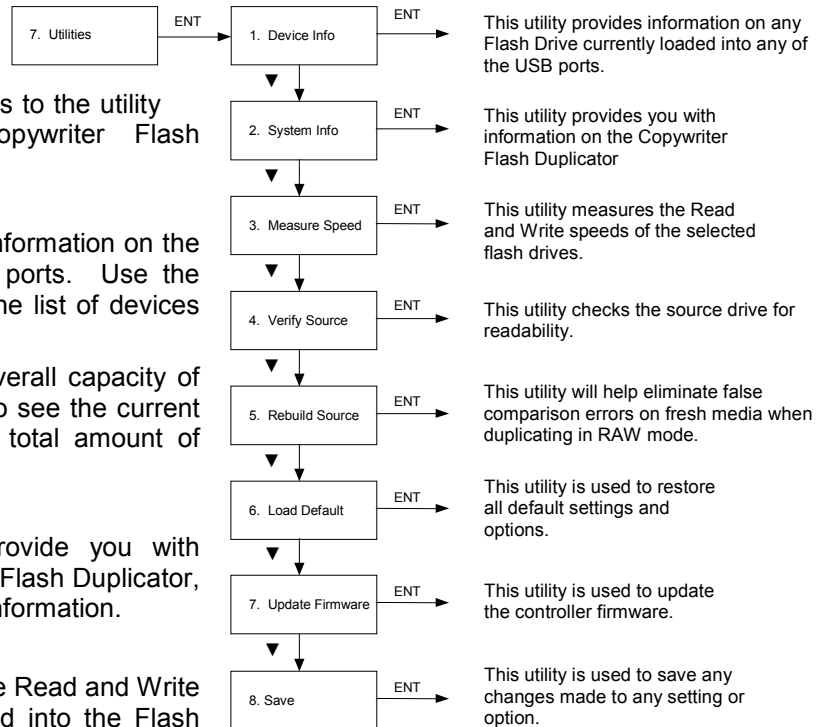
### Update Firmware

Use the Update Firmware utility if you need to update the firmware of your Copywriter Flash Duplicator.

You should only update the firmware if you have verified with Microboards Technical Support that there is a need to do so, and that the firmware files you have are appropriate for your equipment.

### Save

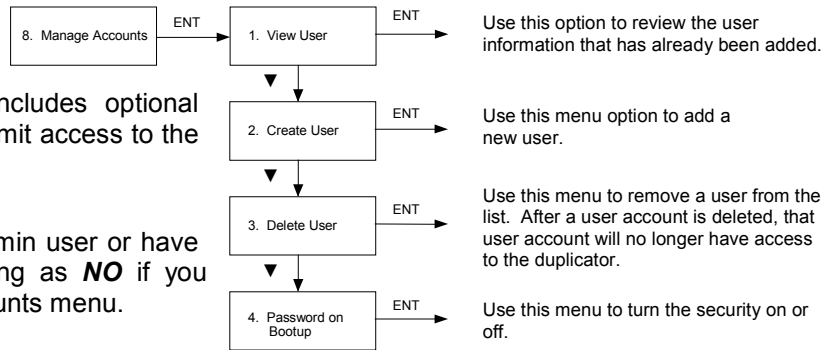
Many of the settings and options can be changed, but those changes will not be made permanent unless you either **Save** the settings or run the correct **Shutdown** process. The **Save** utility will make any changes you may have made to the various settings and options permanent without running the Shutdown process.



## Manage Accounts

The Manage Accounts menu includes optional User functions that allow you to limit access to the duplicator.

You must either log in as the Admin user or have the **Password on Bootup** setting as **NO** if you want to access the Manage Accounts menu.



You will be asked for the password when you enter the Manage Accounts menu. The default password is 0000, which should be changed if you plan on using the user account security features. **If you are using the Password on Bootup option, be sure to keep a separate record of the Admin account password!**

### View User

This function allows you to see the list of available user accounts. Use the ▼▲ buttons to scroll through the user list.

### Create User

Use the Create User function to add a new user account.

You will first be asked to enter in the new user name. Use the ▼▲ buttons to select the first character, then press **ENT** to move to the next, or **ESC** to move to the prior character. You can enter in up to 7 characters. After the 7<sup>th</sup> character is entered, press **ENT** when the cursor is on **OK**.

Next, enter the user's password. The password is limited to numerals, and will be 4 digits long. Again, use the ▼▲ buttons to change the number of the current digit, pressing **ENT** when the number is correct. After the 4<sup>th</sup> digit is entered, press **ENT** when the cursor is on **OK**. The display will briefly show that the user has been added.

### Delete User

The Delete User is used to remove users account from the list. The Admin user account cannot be deleted.

Use the ▼▲ buttons to scroll through the list of existing users. When the display is showing the user you want to remove, press the ENT button. You will be asked to verify that you want to remove the user; press ENT if you do, or ESC if it is not the correct user to delete. The display will briefly show that the selected user has been deleted.

### Password on Bootup

To use the Managed Accounts Users to limit access to the duplicator, you must turn the Password on Bootup setting to **YES**. This will take effect the next time the duplicator is turned on.

**You must use either the Save function in the Utilities menu or the Shutdown function prior to turning the duplicator off, or changes you have made to the accounts may not be saved!**

## Shutdown

When turning off your Copywriter Flash Duplicator, it is highly recommended that you do so using the Shutdown menu option. Not only does this function save any system settings that you may have changed in the Setup menu, it also shuts down the duplicator components in a safe way.

When the display reads **Ready to Power OFF** after selecting the Shutdown function, you can use the power switch on the front.

# Troubleshooting and Frequently Asked Questions

## ***Is there any limitation for copy file format?***

You can use SMART Copy Mode to copy FAT16/32 and Linux (ext3) formatted flash drives. This mode will only copy the data, and therefore the time to copy your master will be shorter.

For other formats, RAW Copy Mode will be used to copy the whole Flash master automatically if you have the duplicator set in SMART Copy Mode. You will not need to change the Copy Mode setting if your master format is not supported for SMART Copy Mode.

## ***How do I know the data is a true copy of the master?***

The duplicator has CRC check capability and the ability to compare the copies to the master.

## ***Why would the copied data fail during the compare when the data is present on the copy?***

The Flash chip in the copied flash drive may be unstable. This may cause the duplication to pass but the comparison to fail.

## ***What should I do if I encounter a copy failure?***

The cause may be either your source or your blank cards.

- Make sure the source content size is not greater than the target content size. Use the **Device Info** function to check the target and source capacities.
- Use a PC to double check the source data.
- Use the **Prescan** function to check the source flash data for readability. If the Flash chip onto which you are copying the data is unstable, the copy process can be affected.

## ***Why does the copy speed seem slow?***

The Flash duplicator can reach 35MB/sec, but if you find the copy speed is slow it may be the flash quality that is affecting the speed of the copy. You can use the **Measure Speed** function to test the Read and Write speeds of your flash drives.

## ***Can I make copies of Bootable Flash drives?***

The duplicator can make functional copies of bootable flash drives ***provided the boot sector of the original flash drive is not encrypted***. Always verify with the supplier of the master bootable flash drive that the boot sector of the master is not encrypted before attempting to duplicate the master.

## ***Why are both LEDs on above the ports with inserted flash drives?***

If you are duplicating using the Async Copy option, both LEDs will come on to indicate drives that have finished the duplication process and can be removed from the duplicator. In Async Copy mode, the duplication process begins as each drive is recognized, so they will not complete at the same time. Simply remove the flash drive, and if you need to make more copies of the same master, insert a new blank flash drive.

# Specifications

Model	Recorder Ports	Card Format	Dimensions, inches (H x W x D)	Weight
CFD-USB-07	7	USB	7 x 7.5 x 11	11 lbs
CFD-USB-11	11	USB	11 x 7.5 x 17	17 lbs
CFD-USB-15	15	USB	11 x 7.5 x 17	18 lbs
CFD-SD-07	7	SD/MicroSD	7 x 7.5 x 11	11 lbs
CFD-SD-11	11	SD/MicroSD	11 x 7.5 x 17	17 lbs
CFD-SD-15	15	SD/MicroSD	11 x 7.5 x 17	18 lbs

# Contact Information

For technical questions or support issues, please contact Microboards Technology technical support at:

**United States**

PH: 952-556-1639

FAX: 952-556-1628

[support@microboards.com](mailto:support@microboards.com)

[www.microboards.com](http://www.microboards.com)

**Europe**

PH: +44 (0) 845 230 7800

[www.microboards.co.uk](http://www.microboards.co.uk)

**Japan**

PH: 03-3561-2266

[www.microboards.co.jp](http://www.microboards.co.jp)

Please have the Model and Serial Number of your Copywriter Flash Duplicator available when contacting Technical Support.

# Appendix 1: List of Functions

- 1 Copy
- 2 Async Copy
- 3 Compare
- 4 Copy & Compare
- 5 Erase
- 6 Copy Mode
- 7 Setup
  - 7.1 Language (default is English)
  - 7.2 Read Error Skip
  - 7.3 Write Error Skip
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- 8 Utilities
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  - 9.3 Delete User
  - 9.4 Password On Bootup
- 10 Shutdown

# Appendix 2: LED Indicators

Each port on the Duplicator has 2 LEDs above the port to indicate the current state of the flash device currently inserted into each port. The states are as follows:

<b>No LED</b>	No device is inserted, or the inserted device is not recognized. For SD and MicroSD cards, you may have the card in the port upside-down; flip the card over and try again.
<b>Solid Green</b>	A flash device has been inserted into the port and recognized, but is currently idle.
<b>Flashing Green</b>	The flash device is being accessed, either writing to the device or reading from the device.
<b>Solid Green and Solid Red</b>	Duplication is complete and the flash device is ready to be removed. <i><b>This LED state only occurs during Async Copy.</b></i>
<b>Solid Red</b>	The flash device in the port did not duplicate correctly, or differences were found between the copy and the master during a Compare.