

# **SATA RAID Flash Drive**

## ***SRFD User Manual***

*Revision 1.2*



***Apacer Technology Inc.***

9F, No.100,Hsin Tai Wu Rd. Hsichih, Taipei Hsien 221,Taiwan, R.O.C.

Tel:+886-2-2696-1666 Fax:+886-2-2696-1668

<http://www.apacer.com>

---

## Revision History

Revision	Date	Description	Remark
1.0	08/25/2008	Official release	
1.1	10/27/2008	Update section 3. Device Highlight – LED indication table Update section 7. FAQ	
1.2	12/02/2008	Update section 5 and 6	

---

## Table of Contents

<b>1. General Description .....</b>	<b>4</b>
<b>2. Features.....</b>	<b>4</b>
<b>3. Device Highlight .....</b>	<b>4</b>
<b>4. System Requirement.....</b>	<b>7</b>
<b>5. Configuration .....</b>	<b>8</b>
<b>6. Troubleshooting .....</b>	<b>9</b>
<b>7. FAQ .....</b>	<b>11</b>

## 1. General Description

Apacer 2.5" SRFD is the first SATA RAID Flash Drive introduced to the market. SRFD increases data reliability and security by utilizing an SATA interface and saving data into two Compact Flash cards. It offers capacity expansion, ultimate performance, reliability and simplicity with a variety of hardware RAID modes.

## 2. Features

- Compatible with SATA Gen1 and Gen2 host controller
- Host side NCQ support
- RAID 0 and 1 support
- OS independent, driverless, and auto configuration
- Capacity expansion
- No noise, latency and seek error

## 3. Device Highlight

This section describes the button, dips, LEDs, and sockets on SRFD for your information before installation to your system.



# Serial ATA RAID Flash Drive User Manual



## 1. Reset

When disk array mode has been set or changed after dip switched, the button in the hole has to be pinked to complete the procedure.

## 2. Modes

The dip switch is to configure the desired modes of disk array. Refer below for examples.

Switch Configuration	1	2	3	4	Modes	Example
0100	0	1	0	0	RAID 0 (Fast)	
1100	1	1	0	0	RAID 1 (Safe)	

# Serial ATA RAID Flash Drive User Manual



- 3. LED for CF card 1
- 4. LED for CF card 2

This table below lists the LED indication and behaviors for CF card socket #1 and #2

Indication	Link (Green)	Act. (Orange)
No CF card is plugged	Blink	Blink
CF card is plugged (Idle)	On	Off
CF card is plugged (Activity)	On	Flash (On)
Disk Rebuild (A Physical Partition is being Rebuilt; Safe Mode (RAID-1))	Blink	On
Disk Rebuild-Verify (A Physical Partition is being Verified; Safe Mode (RAID-1))	On	Flash (On) Will appear as On
Error State: <ul style="list-style-type: none"> <li>• Incorrect Serial Number</li> <li>• Defective CF card</li> </ul>	Blink	Blink

- 5. CF card socket #1
- 6. LED indication between the host and device

LED	Description	Indication
R/W (Orange)	Read/Write	Host/device Access (active)
Link (Green)	SATA Link	SATA Link ready

- 7. Table for disk array configurations
- 8. CF card socket #2

---

## 4. System Requirement

This section describes the requirement for hardware, software and media.

### Hardware

- The SATA Gen1 or Gen2 host controller
- 7-pin signal cable
- 15-pin power cable

### Software

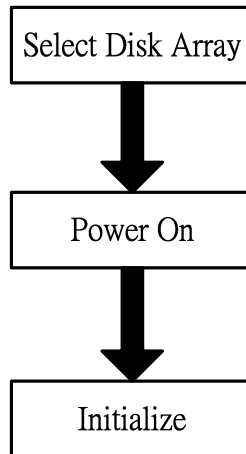
- OS support: Microsoft Windows 2000, XP, Vista, CE, and Linux (Kernel 2.6.21 or later)

### Media

- Apacer Industrial CF III series are guaranteed to achieve the optimal performance
- Capacity should be 1 GB and above for each socket
- The two CF cards should be installed with the same capacity

## 5. Configuration

The block diagram below describes the general procedures of the SRFD readiness.



### Procedures:

#### 1. Select Disk Array

The mode can be selected by adjusting the dip switch.

#### 2. Power On

This process is divided into two parts and they are:

- Connect the device to the system
- Power on the system and enter BIOS setup menu

*The device should be under the power-on state in order for the initialization of the CF cards. It is recommended to enter the BIOS menu right after the system is powered on.*

#### 3. Initialize

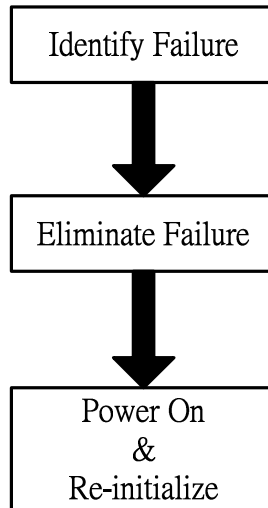
After entering the BIOS menu, press the Reset button to trigger the initialization. For more details about how to identify the operating status, please refer to LED indication and behavior on last section.

Once the LED (Link) stays steadily green, the device is ready for use. Users can utilize the device such as making partitions, installing OS, storing data and so on.

---

## 6. Troubleshooting

### 6.1 RAID-0



#### Procedures:

##### 1. Identify Failure

To be aware of which CF card causes the failure, users can simply check the Link/Act LED.

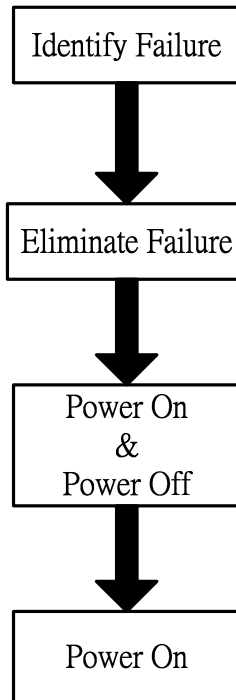
##### 2. Eliminate Failure

Hot plugging is not supported for CF cards. Therefore, to safely remove the CF cards for replacement please make sure it is under power-off state.

##### 3. Power On & Re-initialize

After the card replacement, press the Reset button under the power-on state to complete the re-initialization.

## 6.1 RAID-1



### Procedures:

#### 1. Identify Failure

To be aware of which CF card causes the failure, users can simply check the Link/Act LED.

#### 2. Eliminate Failure

Hot plugging is not supported for CF cards. Therefore, to safely remove the CF cards for replacement please make sure it is under power-off state.

#### 3. Power On and Power Off

##### Power On

In order for **SRFD** to detect the location of the working card, **SRFD** has to be under the power-on state after the defective card has been removed. The reason to do this is because **SRFD** needs to be aware of which card is primary at the moment.

##### Power Off

After that, power off the device for card replacement.

#### 4. Power On

After the replacement, **SRFD** will start the duplication automatically under the power-on states.

## 7. FAQ

**Q1: When do I need to “Reset” the SRFD?**

**A:** The Reset button has to be pinked whenever the mode of disk array is modified.

Disk Array	Description	Reset
RAID-0 to RAID-1	Array modified	Yes
RAID-1 to RAID-0	Array modified	Yes
RAID-0	Troubleshooting: failed card replacement	Yes
RAID-1	Troubleshooting: failed card replacement	No

**Q2: Why does the device information display size “0” on BIOS setup menu?**

**A:** This occurs due to the vendors and versions of BIOS. There is no impact on the functionality of **SRFD**.

**Q3: Can SRFD work with one CF card only?**

**A:** Yes. While **SRFD** is set to RAID-1 mode, after the defective CF card has been removed, the functionality of existing card on **SRFD** remains.

In this case, the existing CF card remains its functionality in either of the CF socket.

**Q4: Why is the incorrect capacity of SRFD shown on disk management of Microsoft Windows operating systems after the mode has been changed?**

**A:** This occurs because the previous capacity configuration remains. Simply, delete the partition and re-create it, the capacity configuration of the related mode will show correctly.

# Serial ATA RAID Flash Drive User Manual

---



## Apacer Technology Inc.

9/F, No. 100, Hsin Tai Wu Rd.  
Hsichih, Taipei County 221, Taiwan  
Tel: +886-2-2696-1666 Fax: +886-2-2696-1668  
[www.apacer.com](http://www.apacer.com)

Copyright©2008 Apacer Technology Inc. All Rights Reserved.  
Information in this document is subject to change without prior notice.  
Apacer and the Apacer logo are trademarks or registered trademarks of Apacer Technology Inc.  
Other brands, names, trademarks or registered trademarks may be claimed as the property of their  
respective owners.