



# User Guide

## RAID Rack

(RR2035ASDES)

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

v8.1.11

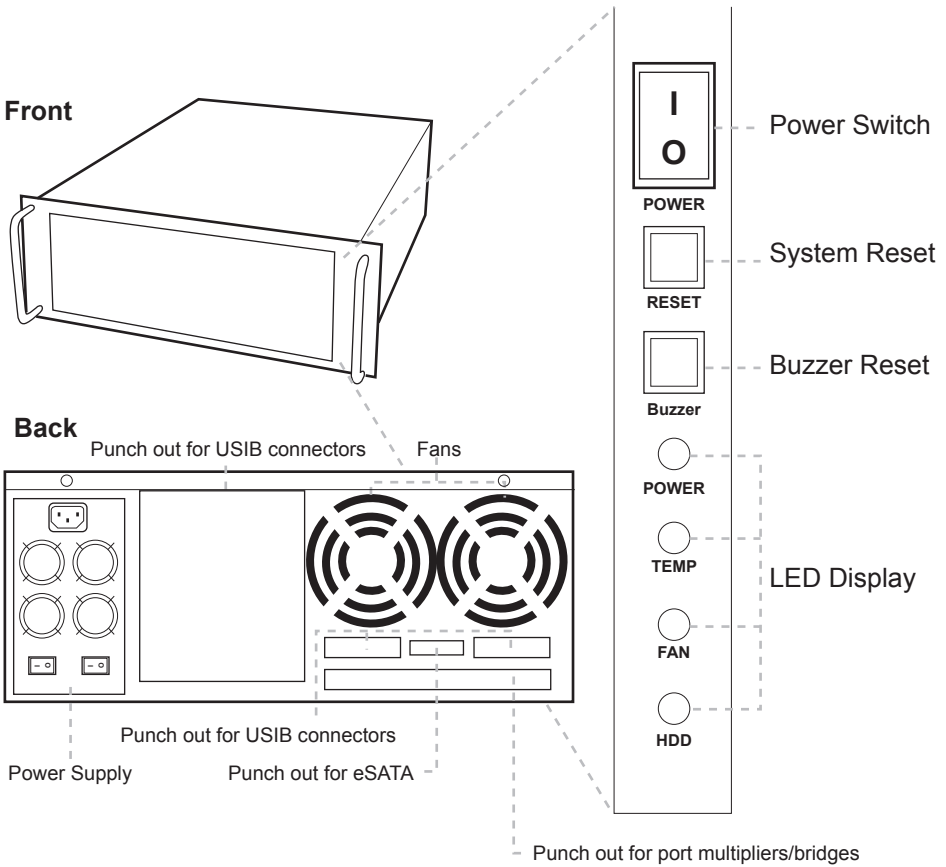
### Technical Support

If you need any assistance to get your unit functioning properly, please have your product information ready and contact Addonics Technical Support at:

**Hours: 8:30 am - 6:00 pm PST**

**Phone: 408-453-6212**

**Email: <http://www.addonics.com/support/query/>**



**Power Switch:** This is the switch to power on devices connected to the power supply. The power LED will light up to indicate power is supplied.  
 Note: The main power switch located at the back of the enclosure must be turned on first.

**Reset Button:** Not operational.

**Buzzer Reset:** Pressing the button stops the overheat buzzer from making a sound. The buzzer will make a sound when temperature inside the storage rack exceeds the temperature setting on the Thermal Management card.

Note: Buzzer reset switch does not silence the port multiplier buzzer.

**Power LED:** Lights up when the power switch is turned on.

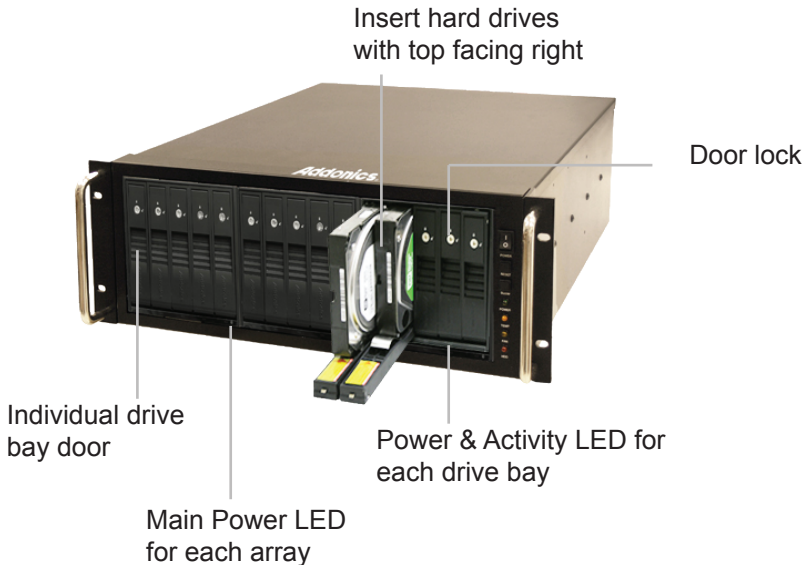
**Temp LED:** Lights up when temperature setting inside the storage rack exceeds the setting on the thermal card.

**Fan LED:** Normally on when fan is operational. If an abnormal condition is detected, the LED flashes.

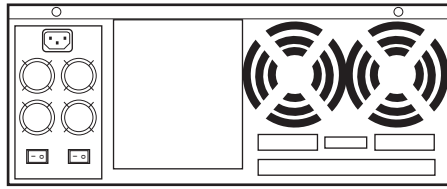
**HDD LED:** Not operational.

## Installing drives into the RAID Rack

1. Be sure the lock on each drive door is in an unlock position. If not, use the key that comes with the Disk Array to unlock the drive door. Pull on the door lever to swing open the drive door all the way.
2. Slide a 3.5" SATA hard drive into the drive slot with the drive connector side facing in. Be sure to orient the hard drive correctly as shown in the yellow label on the inside of the drive door – with drive door swing open at the bottom, the top of the hard drive should face to the right. The drive should slide all the way into the slot with very little resistance. Forcing the drive into the slot will cause drive damage or permanent damage to the Disk Array.
3. Once the drive is all the way into the drive slot, close the door all the way till the drive door latch securely. This will engage power and data connection with the hard drive. The LED lit for the drive slot should lit if the Disk Array already powered on. You may lock the drive door with the key.
4. To remove the hard drive from the Disk Array, simply follow the step 2 – 3 in reverse.

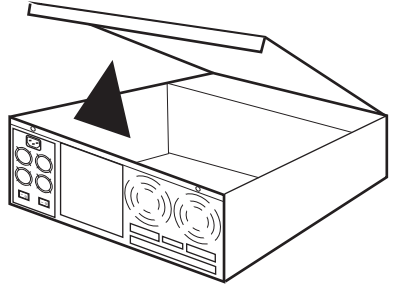


Top Cover Screws



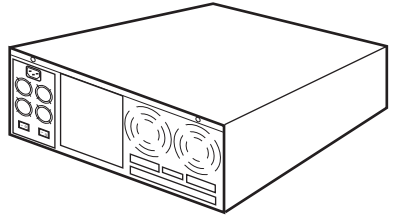
## How to Remove the Top Cover:

1. Locate the 2 screws at the back of the storage rack
2. Turn screws counterclockwise to loosen.
3. Lift the top cover and pull towards the rear end of the rack.

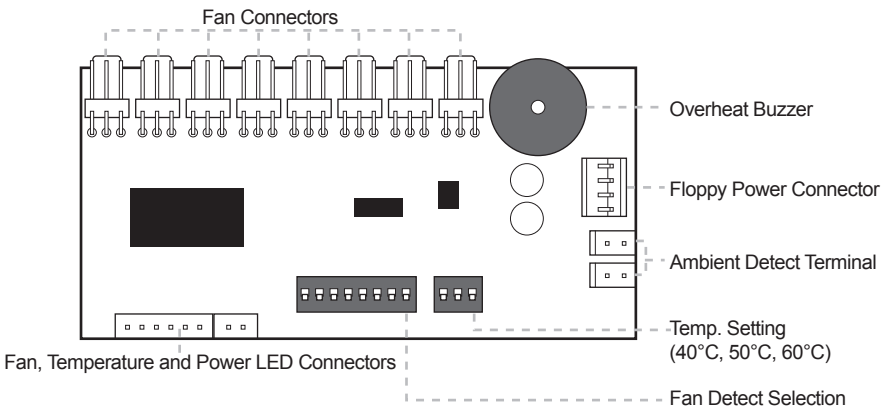


## To Mount Back the Top Cover:

1. Align the top cover with the edges of the rack.
2. Lay it flat on the rack and slide it towards the front of the rack.
3. Turn screws clockwise to tighten.



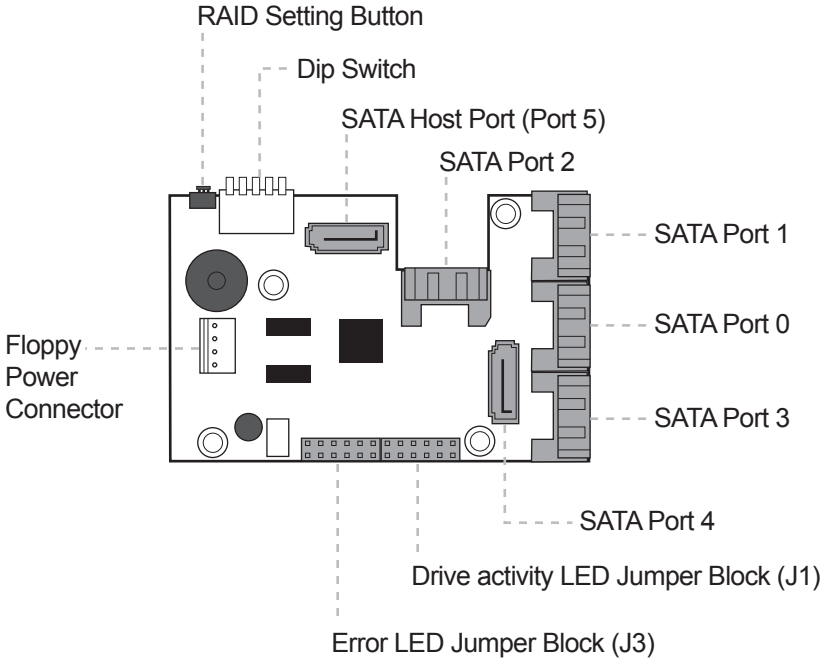
## Thermal Management Card on the RAID Rack\*



Fan1 to Fan8 could be set either "ENABLE" or "DISABLE". When all the fans are set on "DISABLE", the Fan LED will have no light on.

\*The Thermal management card in the RR2035ASDES is pre-configured. This diagram is for reference only.

# HPM-XA Port Multiplier



	Dip Switch Settings				
Raid Mode	1	2	3	4	5
Individual Drive (Factory Default)	OFF	OFF	OFF	OFF	OFF
0	OFF	OFF	ON	ON	ON
1 and 10	OFF	OFF	ON	ON	OFF
3	OFF	OFF	ON	OFF	OFF
5	OFF	OFF	OFF	ON	OFF
Clone	OFF	OFF	OFF	ON	ON
Large	OFF	OFF	ON	OFF	ON
	Enable ERR Buzzer Function	Auto- Rebuilding to Spare Drive	Port Multiplier Mode		

# Default factory DIP Switch setting:

## SW1 – RAID Setting DIP Switch

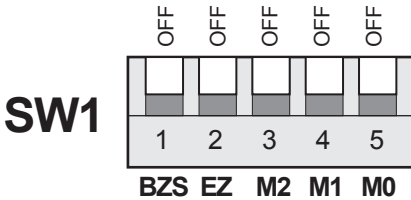
BZS – Error buzzer function

EZ – Automatic rebuilding to spare drive (one of the drives on the raid is set as a spare). If EZ is ENABLED and a drive failure occurs, the spare will automatically act as a drive replacement and rebuilding will automatically start.

M2 – RAID mode 2

M1 – RAID mode 1

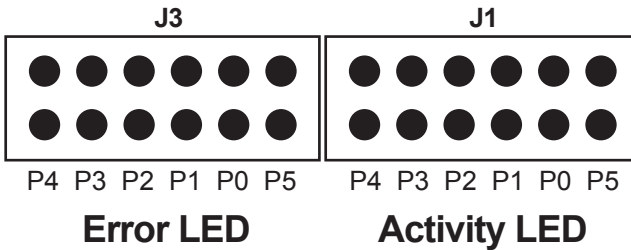
M0 – RAID mode 0



1. Error buzzer function is ENABLED (BZS) when dip switch is in OFF position
2. Auto-rebuilding to spare drive is DISABLED (EZ)
3. Individual drive mode is ENABLED (M0~M2)

**Note:** When the default factory RAID setting is used, independent drive configuration and optical drive are supported only when connecting to controllers with Silicon Image Sil3124, Sil3132 chip set or controllers that are Port Multiplier (PM) compatible. Simultaneous DVD writing was tested using the Nero Burning Rom.

## LED Pin Header



### J1 – Drive Activity LED

P5 – Activity LED for eSATA host port lights up when it is connected to a SATA controller card.

P0, P1, P2, P3 & P4 - Activity LEDs for port 0, 1, 2, 3, 4 & 5 light up when a drive is connected and blinks when there's drive activity.

### J3 – Error LED

P5 – error LED for eSATA host port

P0, P1, P2, P3 & P4 - error LED for port 0, 1, 2, 3, 4 & 5

# Cable Connections

1. Attach the SATA hard drives (up to 5) to the SATA ports on the Hardware Port Multiplier (HPM) using SATA cables. It is recommended to connect drives to the SATA ports 1 to 5 successively.
2. To provide power to the HPM, connect a 4-pin floppy power cable from the system power supply to the floppy power connector on the HPM.
3. Optional: Connect LEDs to the Activity & Error LED jumper block

## Setting or Modifying the RAID Mode Using the JMicron HW RAID Manager Utility Program:

1. For Windows users, install the JMicron HW RAID Manager located on the SATA Controller CD. In the CD, go to Configuration Utilities > JMB393. This manager can be use to create and monitor the status of the RAID volume.

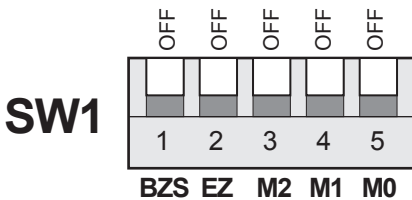
It is recommended to use the default factory RAID DIP switch setting when using the JMicron HW RAID Manager.

2. Modify the RAID mode on the 5-port HPM-XA using DIP switch

Recommended to be used on operating system without JMicron HW RAID Manager support like Linux, Mac & Solaris. Windows users can also use the procedure below.

**Note: Steps A to D need to be performed each time the raid mode is modified.**

- a. Set the DIP switch as shown below.

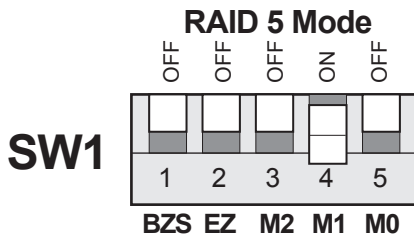
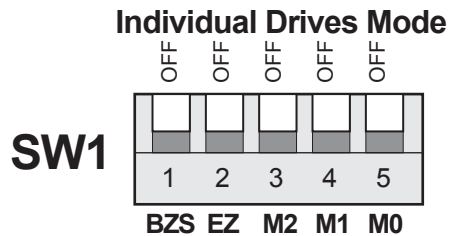
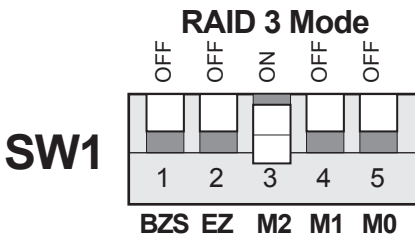
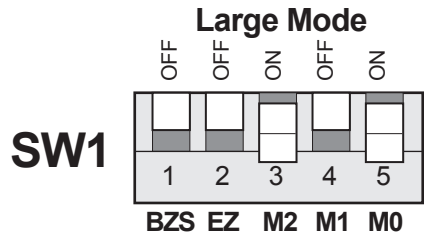
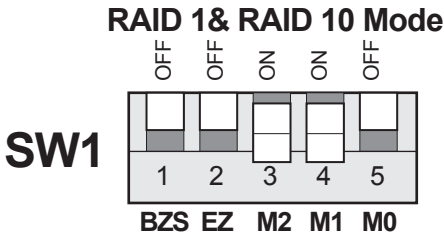
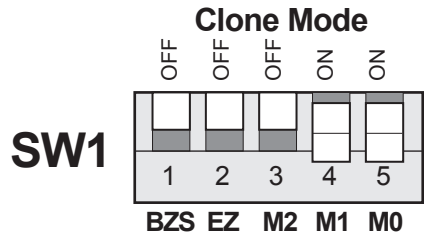
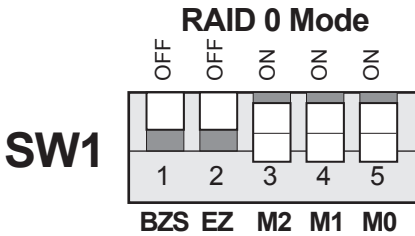


- b. Press the RAID setting button with a ball point pen.
- c. While pressing the RAID setting button turn on the system power where the HPM is connected. The buzzer will sound while holding the RAID setting button. Release it after at least 5 seconds for hardware initialization. A single beep will be heard to indicate initialization is completed. The above steps act as a reset.
- d. Power off the system power.

- e. On the DIP switch, change (M0 to M2) setting to the desired RAID mode using the diagram below.

All settings on the diagram shows

- Error buzzer function is ENABLED
- EZ function is DISABLED.

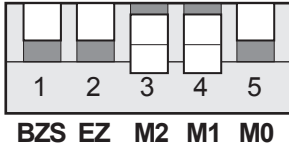




## RAID Setting Notes:

### RAID 1& RAID 10 Mode

SW1

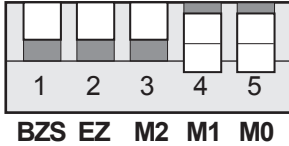


When 2 drives are connected to the HPM-XA, and DIP switch is set to this setting, the 2 drives will be configured as a 2-drive RAID1 array.

When 4 drives are connected to the HPM-XA, the 4 drives will be configured as a 4-drive RAID10 array.

### Clone Mode

SW1



Clone's action is similar to RAID1. However, all of the hard drives will be mirrored. Clone mode is useful especially when users like to copy data from a source hard drive to the drives connected to the HPM-XA.

- f. Press the RAID setting button with a ball point pen.
- g. While pressing the RAID setting button turn on the system power where the HPM is connected. The buzzer will sound while holding the RAID setting button. Release it after at least 5 seconds for hardware initialization. A single beep will be heard to indicate initialization is completed.
- h. Verify if the RAID array is detected by the system.
- i. If the 5-port HPM-XA is connected to the motherboard onboard SATA, on the CMOS setup utility, the raid array will display as "Addonics H/W RAID5" if setup as a RAID5 array.
- j. If the 5-port HPM-XA is connected to an eSATA host controller card, on the RAID BIOS, the raid array will display as "Addonics H/W RAID0" if setup as a RAID0 array.
- k. If booted into Windows, in Disk Drives under Device Manager, the raid array will display as "Addonics H/W LARGE" if setup as a LARGE array.
- l. Once raid array is verified, you can set the buzzer either ON or OFF.

# Notes on Spare Drives using the Easy RAID Setting (EZ)

When EZ function is ENABLED, the auto-rebuilding to spare drive is automatic.

The degraded RAID group will start rebuilding automatically by using the existing spare drive.

\* Spare drive can be either plugged after RAID building or a new drive can be plug as the spare drive when RAID rebuild is required.

## **When will rebuild action start?**

- When the raid fails and EZ is enabled, the HPM-XA will automatically rebuild the RAID group using the spare.
- When the raid fails and EZ is disabled, the HPM-XA will NOT rebuild the raid group unless you install a good drive to replace the failed drive.

# RAID Rack with Port Multiplier Compatibility

Note: The Port Multiplier will only work with a Port Multiplier aware host. Identify your host controller and check with its hardware manufacturer if you are unsure. Addonics offers several Port Multiplier capable host adapters.

When the port multiplier (PM) is connected to a host controller with SiI3124 or SiI3132 chip, in the RAID BIOS of the host controller you will only see one drive and that is the drive connected to SATA port 1 on the Port Multiplier.

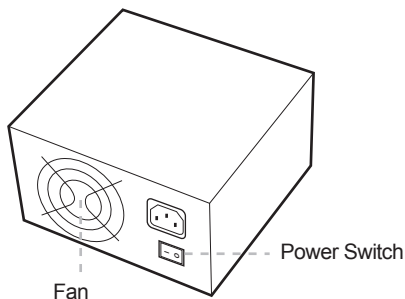
All SATA drives connected to the PM will show in the SATARAID5 Array Manager.

Refer to the SATARAID5 Management Utility User Guide V1.6 for RAID implementation

[http://www.addonics.com/support/user\\_guides/host\\_controller/SATARAID5-UserGuide\\_v1.60.pdf](http://www.addonics.com/support/user_guides/host_controller/SATARAID5-UserGuide_v1.60.pdf)

## Power Supply

This power supply provides 500W of power. Before turning on the main switch located on the front panel of the storage rack, turn on the power switch of the power supply.



## Connecting the Power Cable and RAID Rack to the Computer

- a. Connect the power cord provided from the wall outlet to the back of the rack.
- b. Make sure the power is off (power LED light should be off).
- c. Connect the RAID Rack to the computer using the provided eSATA cables.

# CONTACT US

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