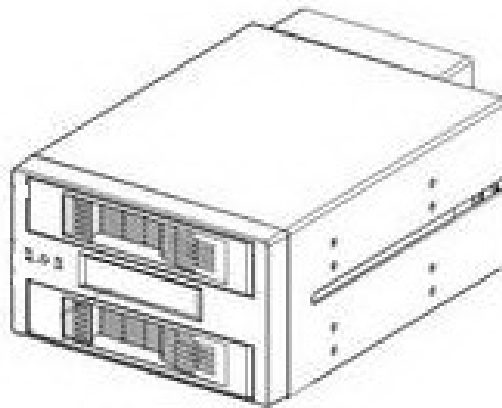




Installation Manual

(AZ-SBC98)



SATA SUBRAID V3

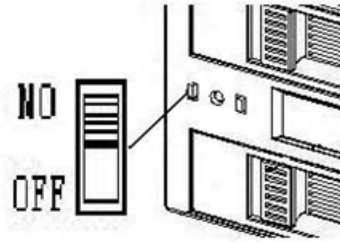
Introduction of SATA SUB RAID V3

SUB RAID V3 is the RAID system, which meets SATA transfer norms and standards. It provides schools, public institutes, governments, monitoring servers or personal-use computers the High-speed Backup. SATA SUB RAID V3 provides all PC users the highest performance with the lowest cost.

Functions and Features of SATA SUB RAID V3

- **Data Backup** : Support SATA (SATA1/SATA2) to SATA RAID Level 1 data backup function. The backup is as mirroring technique from one hard disk to another one automatically, including operation system, and all data in the hard disk.
- **Auto-rebuild** : Under the system execution, if one hard disk is replaced, SATA RAID V3 will re-build data to the new hard disk automatically.
- **Hardware Design** : Built-in and independent MRS Chipset V3, CPU, RAM and ROM.
- **Firmware Upgradable** : Built-in Flash BIOS provides easy firmware upgrading.
- **Hot Swappable** : When one disk crashes, SATA SUB RAID V3 allows removing one hard disk directly without power off. Meanwhile, the system is also transferring to another normal hard disk and works as usual.
- **Easy maintenance** : Friendly user interface allow users eliminate common errors, with reducing MIS staff's loading, and costs of maintaining system significantly.
- **Fault Alert** : The front LCD panel indicates the status of hard disk, and buzzer alerts when error.
- **Plug and Play** : There is no need to install any software, or any driver of devices.
- **Host Compatibility** : Support IBM compatible PCs, and is compatible with major brands' mainboards and chipsets.
- **Hard Disk Compatibility** : Support all major brands' SATA hard disk (SATA1/SATA2)
- **System Monitoring** : The LCD indicates and monitors the status of system (HDD1/HDD2)
- **High Performance** : SATA SUB RAID V3 applies MRS unique High-speed backup technology without occupying system resources.
- **Supporting Multi-booting System** : Such as Commander, IBM OS/2 Boot Manager, and etc.
- **Backup Pause** : When the loading of hard disk is busy, you can select to pause backup (switch is ON status) to increase hard disk capacity. When the hard disk restore to the normal working status, you can select Restore Backup (Switch is OFF status) and the backup will start from the percentage recorded already continuously. Backup pause

function as the diagram shows.



System requirements

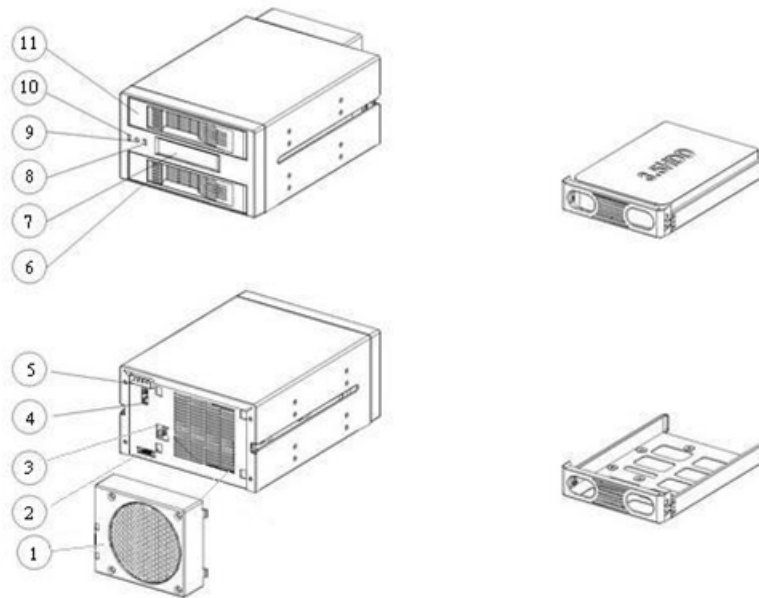
- System : IBM compatible PCs
- CPU : Support Intel, AMD, Cyrix and etc.
- Hard Disk : Support normal SATA(SATA1 / SATA2) hard disk, and compatible with major brands' hard disk. (Up to 2T Bytes of hard disk capacity is supported.)

Notification before installation

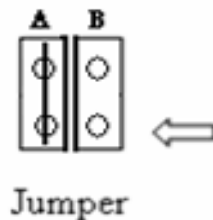
Before adopting SATA SUB RAID V3, please must notice following descriptions.

- **Adopting 2 new hard disk** : 2 new hard disks are recommended strongly for SATA SUB RAID V3, with the same brand and model. (Hard disks under different brands might not be workable.)
- **OS Installation** : It's suggested that install OS in one hard disk first, and copy to another one by Auto-rebuild function then.
- **Data Device Installation** : Put in the original data device first, and put in the backup device when LCD indicates OK. Then the original data will be auto-rebuilt and copied to the backup device.
- **Inconsistent Hard disk Installation** : If you'd like to install one new hard disk with the inconsistent brand or model, please notice that the capacity of new hard disk must be equal or larger than the original one's. (Hard disks under different brands might not be workable.)

Device important descriptions



1. **Fan Stand** : Fan stand is removable for convenient maintaining two ball bearing fans (8cm x 8cm)
2. **SATA Slot** : SATA transfer interface.
3. **Power socket of fan** : Power socket of fan (3 PIN)
4. **RS232 I/O and 4Pin Jumper** : For upgrading BIOS firmware. You can select Normal or High-speed Backup. As the diagram shows, type A means Normal Backup Mode when connected, and type B means High-speed Backup Mode when connected. (Please note that the default is as Normal Backup Mode)



5. **Power Socket** : 4PIN Power Socket
6. **Tray-B** : For the tray in the secondary order.
7. **LCD indicator** : Indicating the System status and operating process.
8. **Buzzer switch** : To select alarm on or off.
9. **LED indicator** : Indicating the processing status of hard disk.
10. **Backup pause switch** : To select backup pause function on or off.
11. **Tray-A** : For the tray in the first order.

Installation Steps

Step 1 : Install SATA SUB RAID V3 to computer chassis.

Step 2 : Use SATA cable to connect SATA slot of SATA SUB RAID V3, and connect to the SATA slot of mainboard.

Step 3 : Connect 4PIN connector of power supply to the SATA SUB RAID V3.

Step 4 : Put hard disk to the HDD1 tray, and fasten screws to fix the hard disk.

Step 5 : Put the HDD1 tray with hard disk 1 to the Primary slot of SATA SUB RAID V3, to be as Source device. (It's recommended to make Primary slot as the source device.)

Step 6 : Power on, and make sure that LCD indicates HDD1 as Pri HDD : OK

Step 7 : Put hard disk to the HDD 2 tray, and fasten screws to fix the hard disk.

Step 8 : Power on, and under operation status, put the HDD 2 tray with hard disk to the secondary slot of SATA SUB RAID V3, to be as backup device.

Step 9 : Make sure the LCD indicates as follows, and it's as the complete backup at the first time.

Rebuilding
Pri->Sec

Step 10 : When LCD indicates following message, the installation is completed.

Pri HDD : OK
Sec HDD : OK

Warning : If the installation at the first time doesn't follow above steps, and the HDD 1 & HDD 2 tray are put at the same time then power on, SATA SUB RAID wouldn't identify which one is source device, and it would cause data loss with resulted in LCD indicating Process Error.

ILLEGAL OPERATION
New Source

LCD Indicator and Buzzer

- Under normal operation, the buzzer alerts when one hard disk fails, and you can see which hard disk fails according to the LCD indicator. If the LCD indicates PRI = > FAIL, it means that HDD 1 failed. On the other hand, if the LCD indicates SEC = > FAIL, it means HDD 2 failed. We suggest you to remove the failed hard disk and replace a new one, so that you can assure the operation system and data to be safe. Besides, when removing the hard disk, there is no need to power off, and the operation

system could be also processed continuously and normally.

- When the new hard disk is replaced, SATA SUB RAID V3 will enter “auto-rebuild” mode automatically, and meanwhile the LCD will indicate “Rebuilding” to imply that the backup is processing. When auto-rebuild is completed, the LCD will return to the normal status.
- Under the normal operation, when the fan is in damage, symbol F will appear at the upper right side of LCD indicator, and buzzer alerts at the same time.

Remarks

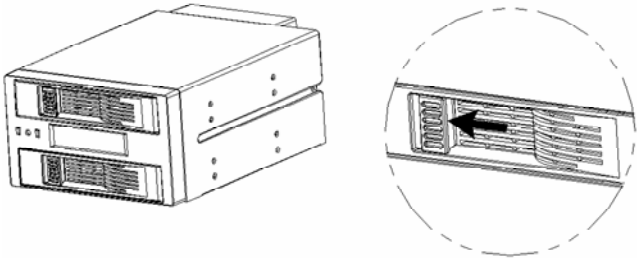
- When the LCD or LED is not workable, please reboot the system, to make sure if indicator is in damage.
- LED is the signal indicating how the hard disk reads.
- Please make sure that HDD 1 and HDD2 are with the same capacity.
- When the temperature is increasing, the fan will adjust the rpm (revolution per minute) accordingly to cool down. On the other hand, the fan will decrease rpm to assure the lifetime.
- The fan adjusts rpm automatically in three levels :
 1. When it's less than 30°C , the fan stops operating.
 2. When it's 30°C ~45°C , the fan operates 50% as 1300 rpm.
 3. When it's higher than 45°C , the fan operates 100% as 2600rpm.
- When adopting High-speed backup at the first time, the system will auto-rebuild completely. After re-build is completed and remove the backup device, the system will record what content changes in the future. When the backup device is put into SATA SUB RAID V3 again, the system will also enter High-speed re-build mode automatically, and SATA SUB RAID V3 supports two backup devices for High-speed mode. (Please note that the backup device under High-speed mode can't be used other computer systems except SATA SUB RAID V3 system. Otherwise, when adopting backup function, it may cause data loss and fail in High-speed backup.)
- Under High-speed mode, SATA SUB RAID V3 supports one source device backup against two backup devices for record. From the third and further backup device, when they are put into SUB RAID V3, the backup will be processed in Normal mode without backup records. (Note : Users must remember which backup device is with High-speed record, and only combined with original source device would the High-speed backup processed.)
- When adopting High-speed mode, and there are two High-speed backup devices recorded, if other backup devices would be changed as High-speed backup, it must to re-configure against the original source devices and two existing High-speed backup devices with record.

- When selecting High-speed backup mode, for two built-in high speed backup devices which complete backup, SATA SUB RAID V3 will show them on LCD indicator as **T-1** and **T-2** respectively, for your convenient recording. For other more backup devices, SATA SUB RAID V3 will show them on LCD indicator as **T-N**, which means no high speed backup included. That is, SATA SUB RAID V3 will only record two high-speed backup devices. Furthermore, for the source device, SATA SUB RAID V3 will show that on LCD indicator as S automatically. Following is the example illustrates what shows on LCD indicator when there is one source device and one high speed backup device.

Pri HDD : OK	S
Sec HDD : OK	T 1

Steps of installing hard disk device

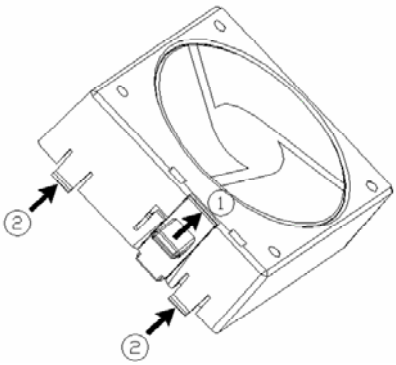
1. At the front of SUB RAID, slightly press down the switch of the holder in the tray, to the left. Then the holder will be flipped automatically.



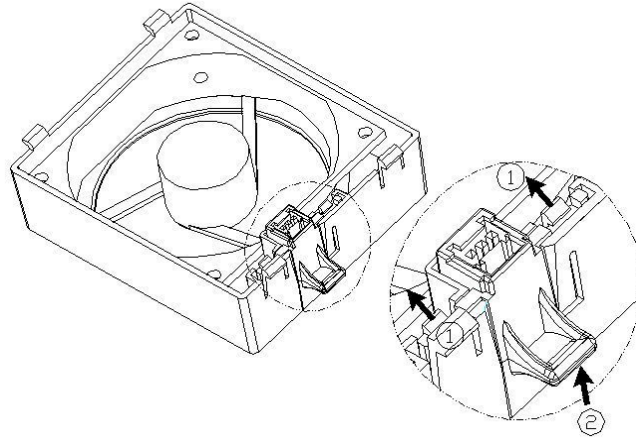
2. Remove out the tray, and put Hard disk device in. Then level at the below screw hole, fasten and lock. (The tray supports 2.5" SATA hard disk drive.)
3. Push in the tray with the hard disk to the end with the holder.

Steps of replacing the fan

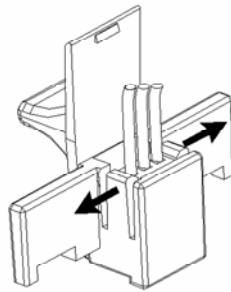
1. **Remove fan stand :** Push back the holder next to fan stand which is at the back of SUB RAID, then press two clasps fixed at the fan stand. Unlock four fixed screws and remove the fan.



2. **Remove the holder** : Push the clasp linking the holder at the fan stand, and remove the holder downward.



3. **Remove the fan connector** : Pull the power wire of fan, push out the clasp linking to the connector on the holder, and remove the connector.



4. Replace the new fan in the reverse direction.

Service

For any questions or problems please use our

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