

# Release Note for AIC SAS 6G 2U12EOB Expander

May 11, 2012

## Changelog

05/11/2012 (firmware 1.11.1.1 + mfg 1.1.1.3)

1. Add the item 6 of the notice 02/15/2012 in the "Changelog" section

04/24/2012 (firmware 1.11.1.1 + mfg 1.1.1.3)

1. Remove the section "Supported Topology", and add two sections, "Supported Configuration" and "Unsupported Configuration"

03/19/2012 (firmware 1.11.1.1 + mfg 1.1.1.3)

1. Correct the routing type of the 8087 wide port "CN2" from Subtractive to Table.

03/06/2012 (firmware 1.11.1.1 + mfg 1.1.x.2)

1. Improve signal for SATA drive

02/15/2012 (firmware 1.11.1.1 + mfg 1.1.x.1)

1. Both LEDs (blue and red) per drive can be controlled by Host HBA or RAID card.
2. Compatible with Adaptec 3G HBA and RAID cards.
3. Support T10 zoning.
4. In dual-Expander configuration, Host can control drive's LEDs (blue and red) via either Expander.
5. The firmware on Expander automatically configures the number of Fans (cooling elements) during the first boot after the Expander board is attached to the backplane, but the number of cooling elements in SES report may be incorrect on the first boot. After the second boot, cooling elements work well.
6. The order of drive slot id is changed. The order in firmware 0.6.x.x is from top to bottom, then from left to right, and the first slot id (the top-left drive) in SES page is 0. The order in firmware 1.11.1.1 is from left to right, then from top to bottom, and the first slot id (the top-left drive) in SES page is 1.

Definition of the visual LED indicators (blue and red) associated with a disk drive

Host Control Bit	Blue LED	Red LED
OK	ON	OFF
RSVD DEVICE	ON	OFF
HOT SPARE	ON	OFF
CONS CHECK	ON	Fast blink
IN CRIT ARRAY	ON	Slow blink
IN FAILED ARRAY	ON	Slow blink
REBUILD/REMAP	ON	Fast blink
R/R ABORT	ON	Slow blink
ACTIVE	ON	OFF
DO NOT REMOVE	ON	OFF
MISSING	ON	ON
INSERT	ON	Slow blink
REMOVE	ON	Slow blink
IDENT	Slow blink	OFF
FAULT	ON	ON
DEVICE OFF	ON	OFF

## Supported Configuration

(1)

Host
Each AIC Expander Controller (it works only when T10 zoning is disabled )

(2)

Host
Each AIC Expander Controller
Other Expander

(3)

Host
Other Expander
Each AIC Expander Controller

	which supports	-----
T10 zoning		
-----	-----	
Other Expander		
which doesn't		
support T10		
zoning		
-----		

Most 3G Expanders don't support T10 zoning.

- (4)
- |        |     |        |   |
|--------|-----|--------|---|
| Host-1 | ... | Host-n | To have multiple host access support (the host number can be up to the number of wide ports on each AIC 6G Expander Controller), only the following drives are supported for shared access: |
| -----  |     | -----  |   |
|        |     |        |   |
- 
- |                      |  |
|----------------------|--|
| Each AIC 6G Expander | 1. SAS drive<br>2. SATA drive with an interposer which provides SATA-to-SAS conversion |
| Controller           |  |
| -----                |  |

#### Unsupported Configuration

- This only applies to the enclosure which supports dual AIC 6G Expander Controllers. The enclosure with dual AIC 6G Expander Controllers attached is inserted with a SATA drive without any interposer. It will cause the drive LEDs behaves incorrect.

#### Command Line Interface Operation

- How to enable/disable T10 zoning  
The default T10 zoning configuration is off.
  - Check the current zoning state  
cmd> phyzone state  
Zoning is OFF
  - Enable zoning  
cmd> phyzone on
  - Disable zoning  
cmd> phyzone off
- How to configure T10 zoning  
After enabling T10 zoning, three predefined groups are Group1, Group8, and Group9. Each PHY should be in one of the three group, and all PHYs in a wide port should be in the same group. Each PHY in Group1 can access any PHY in other groups, and vice versa. Each PHY in Group8 cannot access any PHY in Group9, and vice versa.

The default configuration, which allows two wide ports can access all drives, follows.

- PHY0 - PHY3 for the UP wide port (the first port) : Group8
- PHY4 - PHY7 for the UP/DOWN wide port (the second port) : Group1
- PHY8 - PHY11 for the third port if available : Group1
- PHY12 - PHY35 for drive : Group1

The command syntax is "phyzone phy\_index group". The following example shows how to setup one drive accessed only the first port and another drive accessed only by the second port.

Step 1: Read the current group for PHY4

```
cmd> phyzone 4
Phy 4 for Zone Group 1
```

Step 2: Assign the second port (PHY4 - PHY7) for Group9

```
cmd> phyzone 4 9
cmd> phyzone 5 9
cmd> phyzone 6 9
cmd> phyzone 7 9
```

Step 3: Assign the drive on PHY12 to be accessed only by the first port instead of the second port

```
cmd> phyzone 12 8
```

Step 4: Assign the drive on PHY13 to be accessed only by the second port instead of the first port  
cmd> phyzone 13 9

Step 5: Reset

3. How to get all revisions in AIC SAS 6G Expander

(A) Expander firmware revision

cmd> rev

(B) Expander configuration revision

cmd> showmfg

(C) Microchip firmware for managing sensors

cmd> sensor

4. How to configure temperature sensor

Four temperature settings in Celsius are T1, T2, warning threshold, and alarm (critical) threshold.

(A) Get the current temperature settings

cmd> temperature

Temperature in Celsius (t1=20 C, t2=55 C, warning=50 C, alarm=55 C)

(B) Set temperature with new T1=18 C, T2=52 C, warning threshold=48 C, and alarm threshold=54 C. The new setting will take effect after reset.

cmd> temperature 18 52 48 54

cmd> reset