Release Note for AIC SAS 6G 1.5U18 Expander Customized for ODM Customer 3

Feb 06, 2013

Changelog

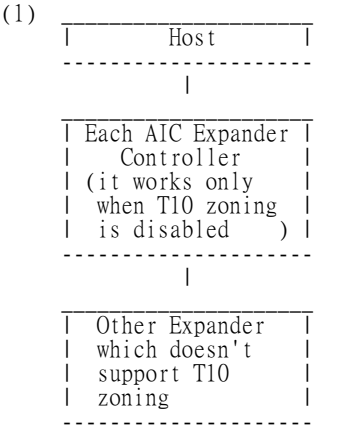
02/06/2013 (firmware 1.11.8.1 + mfg 3.8.0.1) - Part Number (B98-001U18E0110801 + B98-Z2ATH4G0080001)
    1. Initial revision

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

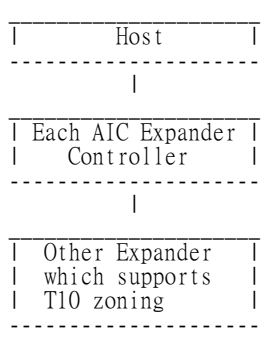
Supported Configuration

(1)

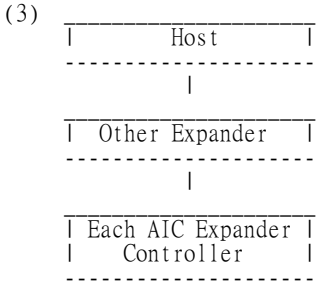


Most 3G Expanders don't support T10 zoning.

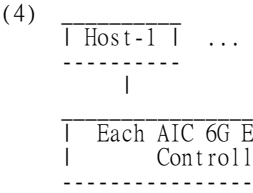
(2)



(3)



(4)



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:

1. SAS drive
2. SATA drive with an interposer which provides SATA-to-SAS convertion

Unsupported Configuration

1. 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

1. How to enable/disable T10 zoning
   The default T10 zoning configuration is off.
   (A) Check the current zoning state
       cmd> phyzone state
       Zoning is OFF

   (B) Enable zoning
       cmd> phyzone on

   (C) Disable zoning
       cmd> phyzone off

2. 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.
   (A) PHY0 - PHY3 for the UP wide port (the first port) : Group8
   (B) PHY4 - PHY7 for the UP/DOWN wide port (the second port) : Group1
   (C) PHY8 - PHY11 for the third port if available : Group1
   (D) 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
```

5. How to enable/disable the enclosure alarm by your software

The "REQUEST FAILURE" and "REQUEST WARNING" for Enclosure are defined in the bit1, byte3 and bit0, byte3 of the "Enclosure control element" in the SES-3 specification. Setting either one can enable the enclosure alarm. Clearing both settings disables the enclosure alarm. Please install a software package "sg_utils" on your host computer, and have a SAS HBA mezzanine on your host computer. We use Linux for example.

(A) Show the device for AIC Expander Controller

```
    $ sg_map -i

    /dev/sg1   AIC CORP   SAS 6G Expander   0b08
```

(B) Enable the enclosure alarm

```
    $ sg_ses --descriptor=EnclosureElement01 --set=3:1:1 /dev/sg1
    or
    $ sg_ses --descriptor=EnclosureElement01 --set=3:0:1 /dev/sg1
```

(C) Disable the enclosure alarm

```
    $ sg_ses --descriptor=EnclosureElement01 --clear=3:1:1 /dev/sg1
    $ sg_ses --descriptor=EnclosureElement01 --clear=3:0:1 /dev/sg1
```