Release Note for AIC SAS 6G 4U60 Edge Expander

Feb 26, 2013

Changelog

02/26/2013 (firmware 1.11.3.3 + mfg 1.3.0.2 + mfg 1.3.1.2) - Part Number (B98-004U60E3110303 + B98-004JS6E3030002 + B98-004JS6E3030102)
Old Part Number B98-004U60E3110302 is replaced by B98-004U60E3110303.
1. Resolve the compatibility issue when zone count is 2 or 4

04/24/2012 (firmware 1.11.2.2 + mfg 1.2.0.2 + firmware 1.11.3.2 + mfg 1.3.0.2 + mfg 1.3.1.2)
1. Remove the section "Supported Topology", and add two sections, "Supported Configuration" and "Unsupported Configuration"

03/12/2012 (firmware 1.11.2.2 + mfg 1.2.0.2 + firmware 1.11.3.2 + mfg 1.3.0.2 + mfg 1.3.1.2)
1. Add the enclosure identity

03/09/2012 (firmware 1.11.2.1 + mfg 1.2.0.2 + firmware 1.11.3.2 + mfg 1.3.0.2 + mfg 1.3.1.2)
1. Improve signal for SATA drive

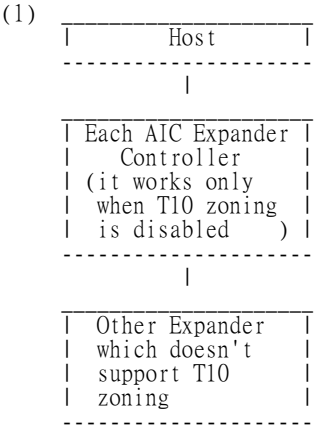
02/15/2012 (firmware 1.11.2.1 + mfg 1.2.0.1 + firmware 1.11.3.1 + mfg 1.3.0.1 + mfg 1.3.1.1)
1. Initial revision

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

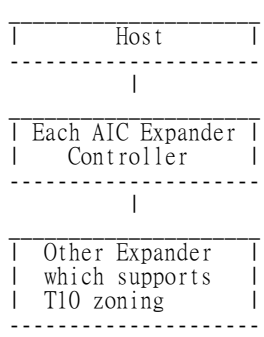
Supported Configuration

(1)

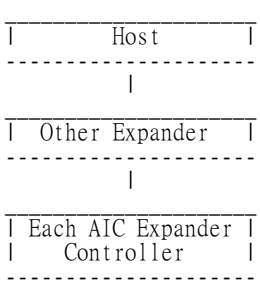


Most 3G Expanders don't

(2)

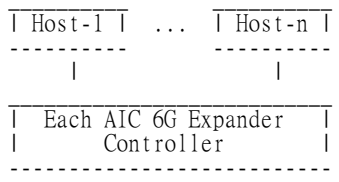


(3)



support T10 zoning.

(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 configure zone count
   Remove the SAS cable between the HBA/RAID card and the 4U60 before configuring zone count. Power off the 4U60 after configuring zone count. Power on the 4U60, then insert the SAS cable.

   Three zone configurations supported are one zone with 60 drives, two zones with 30 drives per zone, and four zones with 15 drives per zone. The default configuration is one zone of which T10 zoning configuration is disabled. T10 zoning configuration of the other configurations (two zones and four zones) is enabled.

   Each of three COM ports (COM for Hub, COM for Left Edge, and COM for Right Edge) should be applied with the same zone configuration.

   (A) Check the current zone configuration
   ```
   cmd> zonecount
   Zone count = 1
   ```

   (B) One-zone configuration to support one host and up to three down links. The host can access up to 60 drives in this 4U60.
   ```
   cmd> zonecount 1
   cmd> reset
   ```

   (C) Two-zone configuration to support two hosts and up to one down link per host. Each host can access up to 30 drives in this 4U60.
   ```
   cmd> zonecount 2
   cmd> reset
   ```

   (D) Four-zone configuration to support four hosts. Each host can access up to 15 drives in this 4U60.
   ```
   cmd> zonecount 4
   cmd> reset
   ```

2. 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 (Only the COM for Hub supports this command)
   ```
   cmd> sensor
   ```

3. How to configure temperature sensor
   Four temperature settings in Celsius are T1, T2, warning threshold, and alarm (critical) threshold. Only the COM for Hub supports this command.

   (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
```

4. How to identify the enclosure

The LED on the power button is used for the enclosure identity. The "RQST IDENT" for Enclosure is defined in the bytel and bit7 of the "Enclosure control element" in the SES-3 specification. Please install a software package "sg_utils" on your host computer, and have a SAS HBA and a cable to connect your host with the expander. We use Linux for example.

(A) Show the device for the enclosure

```
$ sg_map -i

/dev/sg60   AIC CORP   4U60: Hub   0b02
/dev/sg64   AIC CORP   4U60: Left Edge   0b03
/dev/sg65   AIC CORP   4U60: Right Edge   0b03
```

(B) Enable the enclosure identity (Only Hub should be applied)

```
$ sg_ses --descriptor=EnclosureElement01 --set=1:7:1 /dev/sg60
```

(C) Disable the enclosure identity (Only Hub should be applied)

```
$ sg_ses --descriptor=EnclosureElement01 --clear=1:7:1 /dev/sg60
```