

CHENBRO

Storage Chassis 8-Port 6Gb/s SAS/SATA Backplane

80H10323601A1

User's Manual

Feb / 10 / 2013

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Revision History

| Date | Modifications |
|-----------------|------------------------|
| Feb / 10 / 2013 | ● First release (V1.0) |

6Gb/s Backplane Specification

P/N : 80H10323601A1 (Version A0)

| | |
|----------------------------|---|
| Specification | |
| Host Interface | SATA |
| HDD Interface | SAS |
| Hot-Swap | Yes, allows user to replace hard disk drive during power on stage |
| Display | LED indicates Hard Disk Drive status Power LED – Blue (When HDD is present) Access LED – Green (When HDD is busy) Error LED – Red (When HDD is error) |
| Cooling | Four PWM FAN CONNECTOR |
| Environment Monitor | Temperature sensor detect(RT1, RT2) |
| Connectors | 1.SAS 29P *8 2.SATA 7P *8 3.Standard 4P Power connector *4 for +5V, +12V from power supply 4. 2P Wafer CONN 2.54mm (1x2) *1 5. Pin header 2.54mm (2x5) *2 |
| Dimension | 425(L) x 54.7(W) x 2.4(H) mm |
| Material | FR4 4 layer |

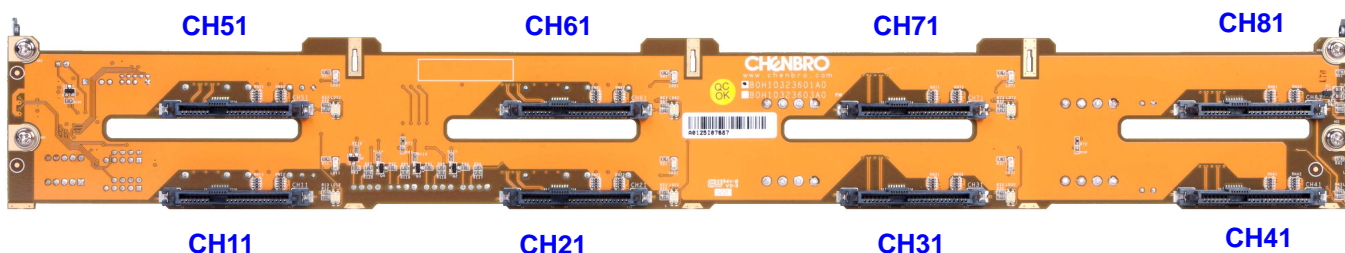
Accommodation Chassis

- **RM23608**

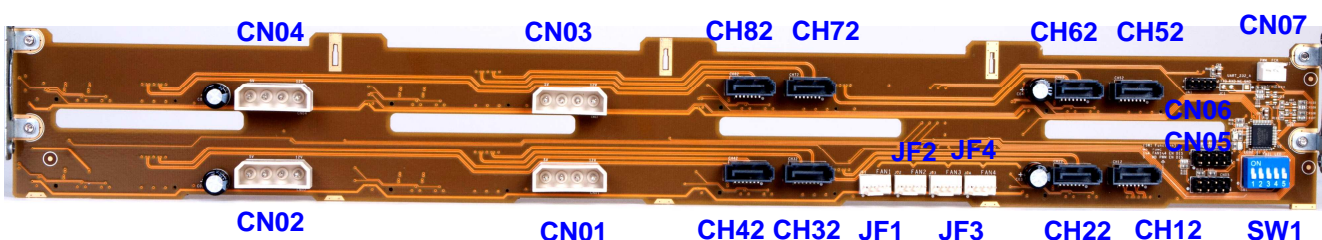
Backplane Layout

Backplane Connectors

Front View



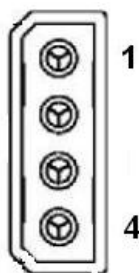
Rear View



- (1)[CH11 ~ CH41 / CH51 ~ CH81] : 22-pin SATA-II or 29-pin SAS (for HDD)
- (2)[JF1 / JF2 / JF3 / JF4] : PWM Fan connectors 1~4
- (3)[CN01 ~ CN04] : 4-pin Power connectors
- (4)[CN07] : M/B fan signal connector (Clock and PWM)
(gets either PWM duty cycle of M/B or B/P for comparison to control fan speed , required one special cable)
- (5)[SW1] : DIP switch function for fan control enable and disable
(detail information see below)
- (6) [CH12 ~ CH42 / CH52 ~ CH82] : 7-pin SATA connector (for system)
- (7) [CN05 ~ CN06] : 10-pin connector (for SGPIO signaling)
- (8) [JA1] : 10-pin connector (factory reserved)

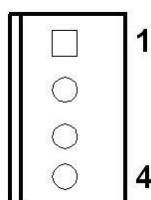
POWER Connector (CN01 ~ CN04)

| Pin NO. | Descriptions |
|---------|--------------|
| 1 | 12V |
| 2 | GND |
| 3 | GND |
| 4 | 5V |



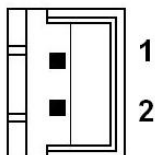
Fan Connector (JF1 ~ JF4)

| Pin NO. | Descriptions |
|---------|-----------------|
| 1 | GND |
| 2 | 12V |
| 3 | FAN Clock Input |
| 4 | FAN PWM Output |



MB PWM Connector (CN07)

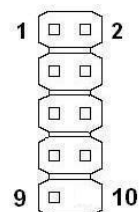
| Pin NO. | Descriptions |
|---------|------------------------|
| 1 | FAN Clock Output to MB |
| 2 | FAN PWM Input from MB |



(gets either PWM duty cycle of M/B or B/P for comparison to control fan speed , required one special cable P/N: 26H11313601A0)

SGPIO SIGNAL CONNECTOR (CN05 & CN06)

| Pin NO. | Descriptions | Pin NO. | Descriptions |
|---------|-------------------|---------|--------------|
| 1 | SGPIO DATA INPUT | 2 | NC |
| 3 | SGPIO DATA OUTPUT | 4 | GND |
| 5 | GND | 6 | SGPIO LOAD |
| 7 | CONTROL TYPE | 8 | SGPIO CLOCK |
| 9 | NC | 10 | KEY PIN |



Remarks:

CN05 for HDD connector CH11 ~ CH41

CN06 for HDD connector CH51 ~ CH81

Recommend SAS/SATA cable with SGPIO side band supporting as below,

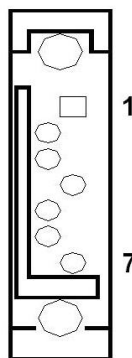


mini SAS SFF-8087 to 4 SATA with side band

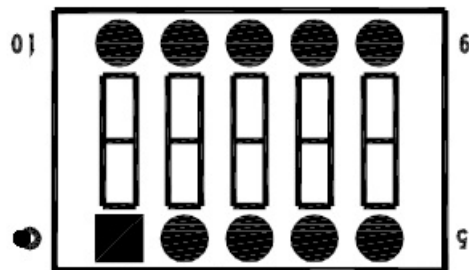
(P/N: 26H12323601A0)

HOST IN Connector (CH12, CH22, CH32, CH42, CH52, CH62, CH72, CH82)

| Pin NO. | Descriptions |
|---------|--------------|
| 1 | GND |
| 2 | RP |
| 3 | RN |
| 4 | GND |
| 5 | TN |
| 6 | TP |
| 7 | GND |



SW1 FUNCTION



SW1-1: FAN1 Monitor Enable/Disable Setting

| Sw1-1 | FAN1 |
|-------|-------------------|
| ON | Enable |
| OFF | Disable (Default) |

SW1-2: FAN2 Monitor Enable/Disable Setting

| Sw1-2 | FAN2 |
|-------|------------------|
| ON | Enable (Default) |
| OFF | Disable |

SW1-3: FAN3 Monitor Enable/Disable Setting

| Sw1-3 | FAN3 |
|-------|------------------|
| ON | Enable (Default) |
| OFF | Disable |

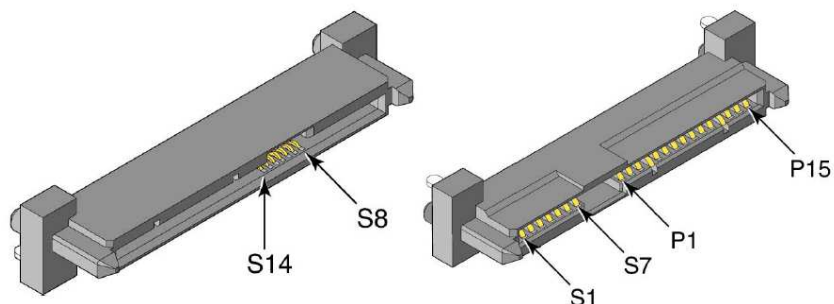
SW1-4: FAN4 Monitor Enable/Disable Setting

| Sw1-4 | FAN4 |
|-------|------------------|
| ON | Enable (Default) |
| OFF | Disable |

SW1-5: MB PWM Monitor Enable/Disable Setting

| Sw1-5 | MB PWM |
|-------|-------------------|
| ON | Enable |
| OFF | Disable (Default) |

HDD IN Connector (CH11, CH21, CH31, CH41, CH51, CH61, CH71, CH81)



| Pin NO. | Descriptions | Pin NO. | Descriptions |
|---------|--------------|---------|----------------|
| S1 | GND | P1 | NC |
| S2 | RP | P2 | NC |
| S3 | RN | P3 | NC |
| S4 | GND | P4 | GND |
| S5 | TN | P5 | POWER ENABLE |
| S6 | TP | P6 | GND |
| S7 | GND | P7 | 5V PRE-CHARGE |
| S8 | NC | P8 | 5V |
| S9 | NC | P9 | 5V |
| S10 | NC | P10 | GND |
| S11 | NC | P11 | ACCESS SIGNAL |
| S12 | NC | P12 | GND |
| S13 | NC | P13 | 12V PRE-CHARGE |
| S14 | NC | P14 | 12V |
| | | P15 | 12V |

Backplane Assembly

The Chenbro 8-Port 6Gb/s SAS/SATA Backplane can be assembled on Chenbro Storage Server Chassis RM23608 only. Please refer to the Chassis Quick Installation Guide for detail information.

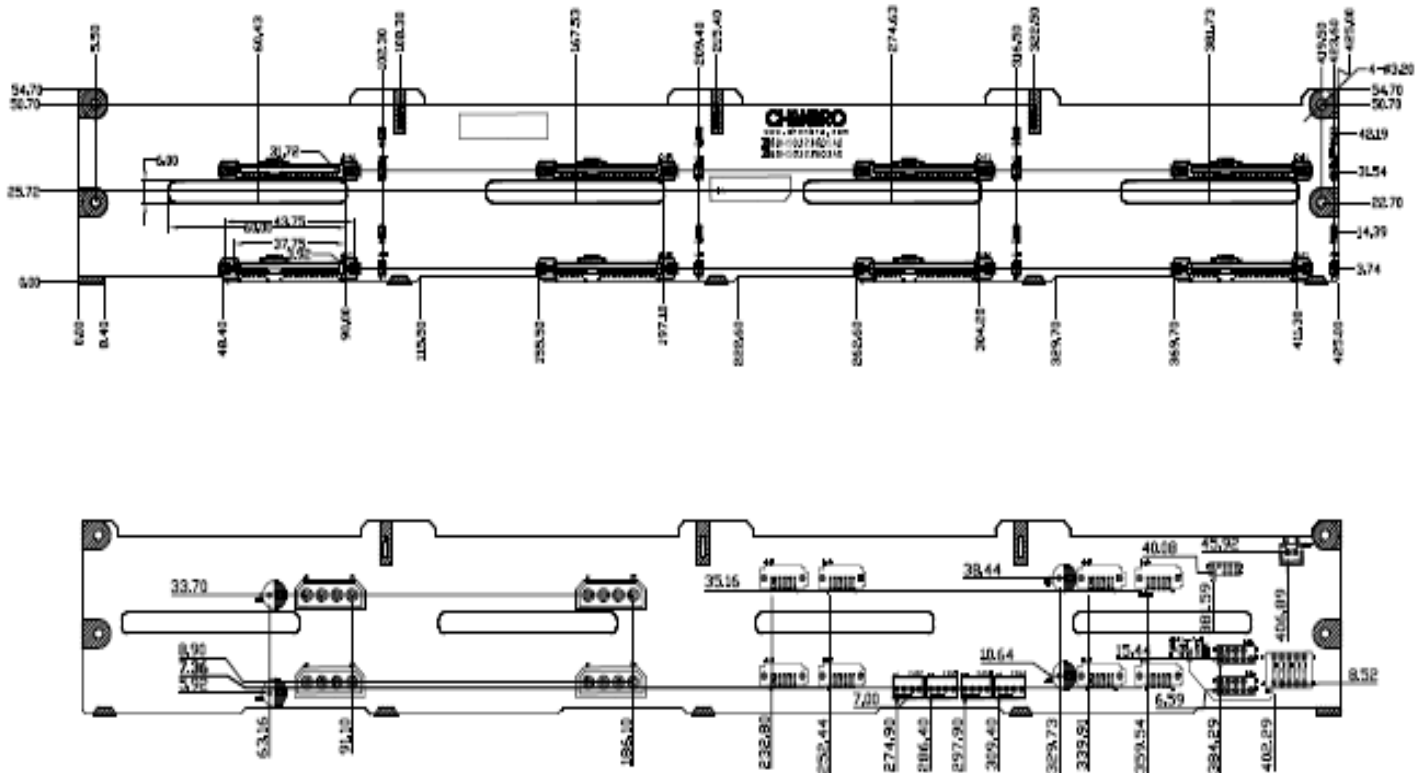


Figure : Front and Rear View of 8-port Backplane

Backplane Wiring

HBA / RAID Card

Chassis Fan x4 (Max.)

- Mini-SAS to SATA cable
- Fan cable
- M/B PWM / clock Fan signal cable (2-pin to 4-pin) see note

Note :
This optional cable (26H11313601A0) subjects to PWM and clock signal connection between M/B and B/P, to get PWM duty signal (depends on thermal sensor on M/B) for comparison with B/P and control fan speed. Meantime, report fan clock signal to M/B for fan speed indication in the system.

Appendix 1

PWM fan duty cycle definition table

| Temperature (°C) | Loading percentage (%) |
|------------------|------------------------|
| <= 31°C | 34% |
| 32°C | 38% |
| 33°C | 42% |
| 34°C | 46% |
| 35°C | 50% |
| 36°C | 54% |
| 37°C | 58% |
| 38°C | 62% |
| 39°C | 66% |
| 40°C | 70% |
| 41°C | 73% |
| 42°C | 76% |
| 43°C | 79% |
| 44°C | 82% |
| 45°C | 85% |
| 46°C | 88% |
| 47°C | 91% |
| 48°C | 94% |
| 49°C | 97% |
| >= 50°C | 100% |