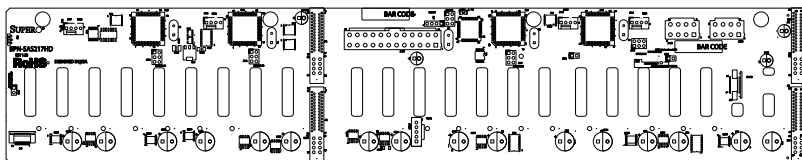# SUPER®

SAS-217HD Backplane

USER'S GUIDE

Rev. 1.0a

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WARNING: Handling of lead solder materials used in this product may expose you to lead, a chemical known to the State of California to cause birth defects and other reproductive harm.

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Returning Merchandise for Service

A receipt or copy of your invoice marked with the date of purchase is required before any warranty service will be rendered. You can obtain service by calling your vendor for a Returned Merchandise Authorization (RMA) number. When returning to the manufacturer, the RMA number should be prominently displayed on the outside of the shipping carton, and mailed prepaid or hand-carried. Shipping and handling charges will be applied for all orders that must be mailed when service is complete.

For faster service, RMA authorizations may be requested online (http://www.supermicro.com/support/rma/).

Whenever possible, repack the backplane in the original Supermicro box, using the original packaging materials. If these are no longer available, be sure to pack the backplane in an anti-static bag and inside the box. Make sure that there is enough packaging material surrounding the backplane so that it does not become damaged during shipping.

This warranty only covers normal consumer use and does not cover damages incurred in shipping or from failure due to the alteration, misuse, abuse or improper maintenance of products.

During the warranty period, contact your distributor first for any product problems.

Notes

Chapter 1

SAS-217HD Safety Guidelines

To avoid personal injury and property damage, carefully follow all the safety steps listed below when accessing your system or handling the components.

1-1   ESD Safety Guidelines

Electrostatic Discharge (ESD) can damage electronic components. To prevent damage to your system, it is important to handle it very carefully. The following measures are generally sufficient to protect your equipment from ESD.

- Use a grounded wrist strap designed to prevent static discharge.

- Touch a grounded metal object before removing a component from the antistatic bag.

- Handle the backplane by its edges only; do not touch its components, peripheral chips, memory modules or gold contacts.

- When handling chips or modules, avoid touching their pins.

- Put the backplane and peripherals back into their antistatic bags when not in use.

1-2   General Safety Guidelines

- Always disconnect power cables before installing or removing any components from the computer, including the SAS-217HD backplane.

- Disconnect the power cable before installing or removing any cables from the SAS-217HD backplane.

- Make sure that the SAS-217HD backplane is securely and properly installed on the motherboard to prevent damage to the system due to power shortage.

1-3   An Important Note to Users

All images and layouts shown in this user's guide are based upon the latest PCB Revision available at the time of publishing. The card you have received may or may not look exactly the same as the graphics shown in this manual.

1-4   Introduction to the SAS-217HD Backplane

The SAS-217HD backplane has been designed to utilize the most up-to-date technology available, providing your system with reliable, high-quality performance.

This manual reflects SAS-217HD Revision 1.20, the most current release available at the time of publication. Always refer to the Supermicro Web site at www.super-micro.com for the latest updates, compatible parts and supported configurations.

Chapter 2

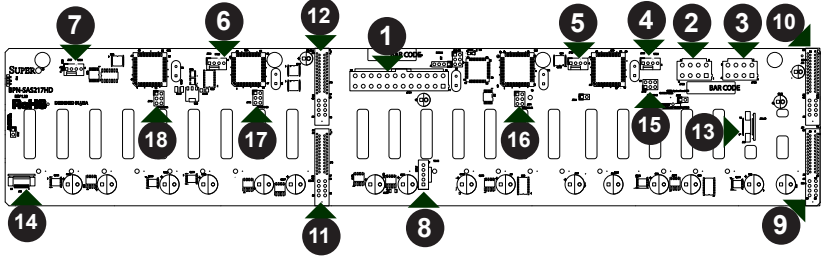# Connectors, Jumpers and LEDs

2-1 Front Connectors

Figure 2-1: Front Connectors

1. Main Power Connector: JPW1

2. Secondary Power Connector: JPW2

3. Secondary Power Connector: JPW3

4. Chassis Fan Connector: Fan1 JP54

5. Chassis Fan Connector: Fan2 JP55

6. Chassis Fan Connector: Fan3 JP56

7. Chassis Fan Connector Fan4 JP57

8. Power Supply Connector: JPI²C1

9. MB-A hot plug connector: JF1

10. MB-B hot plug connector: JF2

11. MB-C hot plug connector: JF3

12. MB-D hot plug connector: JF4

13. Backplane to front panel connector for MB-A,B: JF5

14. Backplane to front pannel connector for MB-C,D: JF6

15. Upgrade #1 JP70

16. Upgrade #2 JP71

17. Upgrade #3 JP72

18. Upgrade #4 JP73

1. - 3. Motherboard Power Connectors

These connectors, designated JPW1, JPW2, and JPW3 supply power the four motherboard nodes in the chassis.

4. - 7. Chassis Fan Connectors

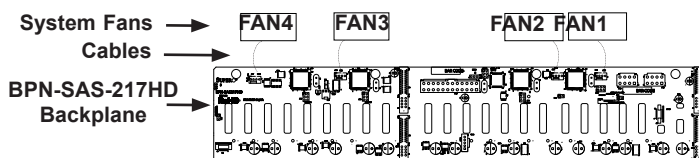These connectors, designated JP54, JP55, JP56 and JP57 supply power to the chassis. cooling fans.

Figure 2-2: Default Configuration - Fans Connected Directly to the Backplane

8. Power Supply Connector

The 5-pin connector, designated JPI²C1 provides power to the SMBUS and power control signals.

9. - 12. Motherboard to Backplane Connectors

These connectors, designated JF1, JF2, JF3 and JF4 connect the motherboards to the backplane on the chassis. JF1 connects to motherboard A. JF2 connects to mother-board B. JF3 connects to motherboard C and JF4 connects to motherboard D. See the table on the previous page to determine the locations of the motherboards within the chassis.

13. - 14. Backplane to Front Panel Headers

These connectors are designated JF5 and JF6. They connect the backplane to the front LED panels on the chassis. JF5 connects to the LED display panel for motherboards A and B. JF6 connects to the LED display panel for motherboards C and D.

15. - 18. Upgrade Connectors #1 - #4

These connectors are designated JP70, JP71, JP72 and JP73. They are for the manufacturer's diagnostic use only.
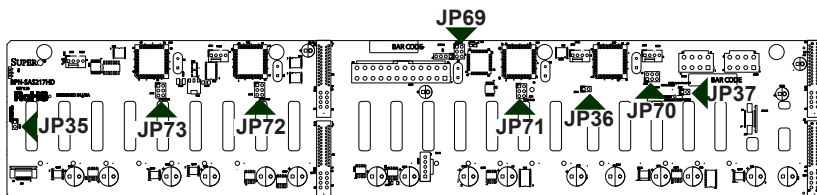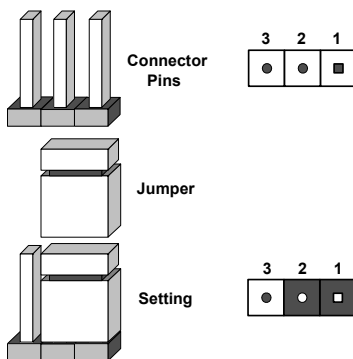
2-2   Front Jumpers and Pin Definitions

Figure 2-3: Front Jumpers

Explanation of Jumpers

To modify the operation of the backplane, jumpers can be used to choose between optional settings. Jumpers create shorts between two pins to change the function of the connector. Pin 1 is identified with a square solder pad on the printed circuit board. **Note:** On two pin jumpers, "Closed" means the jumper is on and "Open" means the jumper is off the pins.

| Jumper Settings		
Jumper	**Jumper Settings**	**Notes**
JP69	SPI	
JP35	Open: Default Closed: LED test	LED test
JP36	Open: Default, multiple power button functionality Closed: Single power button functionality	Any front power button
JP37	Open: X9 option Closed: Default	Optional setting for some X9 motherboards for PMbus accessing (to the base supported by the motherboard)
JP70, JP71, JP72, JP73	For manufacturing purposes only	Upgrade connectors

2-3   Front LED Indicator
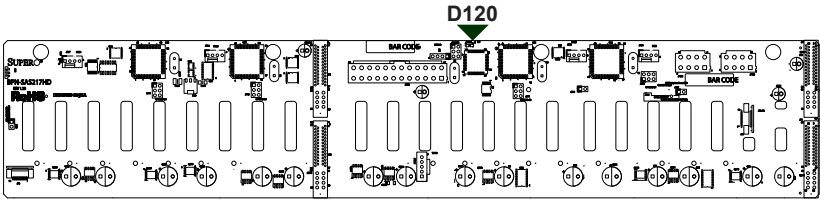
Figure 2-4: Front LED

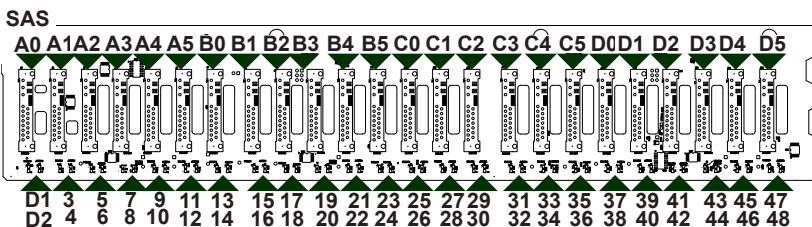| Front Panel LED		
LED	**State**	**Specification**
Heartbeat LED: D120	Blinking	Blinking heartbeat indicates backplane activity

2-4   Rear Connectors and LED Indicators

Figure 2-5: Rear Connectors and LEDs

Rear SAS/SATA Connectors			
Rear Connector	**SAS Drive Number**	**Rear Connector**	**SAS Drive Number**
SAS-#A0	SAS/SATA-A0	SAS-#C0	SAS/SATA-C0
SAS-#A1	SAS/SATA-A1	SAS-#C1	SAS/SATA-C1
SAS-#A2	SAS/SATA-A2	SAS-#C2	SAS/SATA-C2
SAS-#A3	SAS/SATA-A3	SAS-#C3	SAS/SATA-C3
SAS-#A4	SAS/SATA-A4	SAS-#C4	SAS/SATA-C4
SAS-#A5	SAS/SATA-A5	SAS-#C5	SAS/SATA-C5
SAS-#B0	SAS/SATA-B0	SAS-#D0	SAS/SATA-D0
SAS-#B1	SAS/SATA-B1	SAS-#D1	SAS/SATA-D1
SAS-#B2	SAS/SATA-B2	SAS-#D2	SAS/SATA-D2
SAS-#B3	SAS/SATA-B3	SAS-#D3	SAS/SATA-D3
SAS-#B4	SAS/SATA-B4	SAS-#D4	SAS/SATA-D4
SAS-#B5	SAS/SATA-B5	SAS-#D5	SAS/SATA-D5

Rear LED Indicators					
Rear Connector	**FAIL LED**	**ACT LED**	**Rear Connector**	**FAIL LED**	**ACT LED**
SAS-#A0	D2	D1	SAS-#C0	D26	D25
SAS-#A1	D4	D3	SAS-#C1	D28	D27
SAS-#A2	D6	D5	SAS-#C2	D30	D29
SAS-#A3	D8	D7	SAS-#C3	D32	D31
SAS-#A4	D10	D9	SAS-#C4	D34	D33
SAS-#A5	D12	D11	SAS-#C5	D36	D35
SAS-#B0	D14	D13	SAS-#D0	D38	D37
SAS-#B1	D16	D15	SAS-#D1	D40	D39
SAS-#B2	D18	D17	SAS-#D2	D42	D41
SAS-#B3	D20	D19	SAS-#D3	D44	D43
SAS-#B4	D22	D21	SAS-#D4	D46	D45
SAS-#B5	D24	D23	SAS-#D5	D48	D47

2-5   SAS Ports

The SAS-217HD backplane is designed with two separate nodes, which support from one to two motherboards indepentdently of each other. The SAS ports are used to connect the SAS drive cables. The twenty-four ports are designated A0, A1, A2, A3, A4, A5, B0, B1, B2, B3, B4, B5, C0, C1, C2, C3, C4, C5, D0, D1, D2, D3, D4, and D5. Each port is also compatible with SATA drives. Use the table below to determine the SAS port to motherboard configuration that is appropriate for your system.

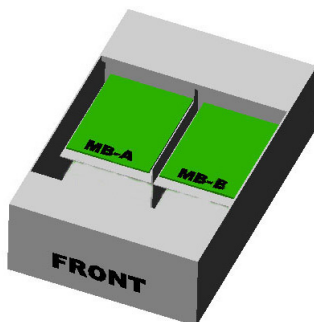| SAS Port to Motherboard Configurations		
Number of Motherboards	SAS Port Connectors	Connect to Motherboard
Using 1 MB	A0, A1, A2, A3, A4, A5 B0, B1, B2, B3, B4, B5	MB-A
Using 2 MBs	C0, C1, C2, C3, C4, C5 D0, D1, D2, D3, D4, D5	MB-B

Figure 2-6: Motherboard Locations In the Chassis

Notes

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