BPN-SAS3-809H BACKPLANE

USER'S GUIDE

1.0

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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

Guidelines

This chapter offers guidelines for personal and equipment safety, and notes about the BPN-SAS3-809H version documented in this manual.

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 card 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 backplane.

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

- Make sure that the backplane is securely and properly installed on the mounting frame in the chassis to prevent damage to the system due to power shortage.

1-3   Version Information

The BPN-SAS3-809H backplane has been designed to utilize the most up-to-date technology available, providing your system with reliable, high-quality performance.

This manual reflects BPN-SAS3-809H, Revision 1.01, the most current release available at the time of publication. Refer to the Supermicro Web site at www.supermicro.com for the latest updates, compatible parts and supported configurations.

Chapter 2

Connectors, Jumpers and LEDs

This manual covers BPN-SAS3-809H, a 1U two-node backplane supporting up to four 2.5" SAS3/SATA3 HDDs/SSDs per node.

2-1   Rear Connector Locations

The following connectors are on the side of the backplane that faces the rear of the chassis. They are marked by silkscreen labels.
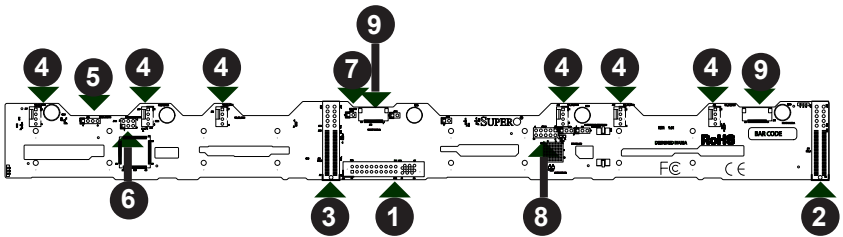

Figure 2-1. Rear Connector Locations

1. Power Connector (J20)

2. Motherboard A Connector (JF1)

3. Motherboard B Connector (JF2)

4. Fan Connectors:
    NB_BP_FAN3 (JP7),
    NB_BP_FAN2 (JP9),
    NB_BP_FAN1 (JP8),
    NA_BP_FAN3 (JP6),
    NA_BP_FAN3 (JP5),
    NA_BP_FAN3 (JP4)

5. SERIAL_DEBUG (J19, 4 pin)

6. SPI PROGRAMMING (JP13, 6 pin)

7. JTAG1 (10 pin)

8. Control Panel Connector, Node A (JF3)

9. Control Panel Connector, Node B (JF4)

2-2   Rear Connector Definitions

1. Main Power Connectors

The J20 connector provides power to the backplane from the power distribution board.

2, 3. Motherboard Connectors

JF1 and JF2 provide connections for the two motherboards.

4. Fan Connectorst

These six connectors provide power for six fans: headers J4, J5, and J6 for Node A, headers J6, J7, and J8 for Node B.

5, 6, 7. Manufacturing Connectors

These connectors are for use by the manufacturer.

J19 SERIAL_DEBUG (J19, 4 pin)

JP13 SPI PROGRAMMING, LCMC MCU Upgrade (JP13, 6 pin), remove to program

JTAG1 Nuvoton MCU Upgrade port (10 pin) Default is Open

8, 9. Control Panel Connectors

JF3 and JF4 provide connections to the control panels for each computing node by means of a flat ribbon cable.
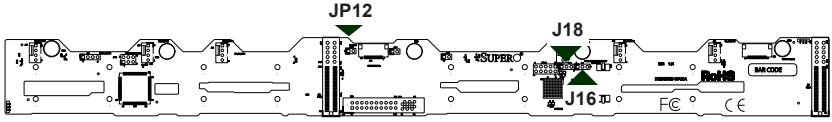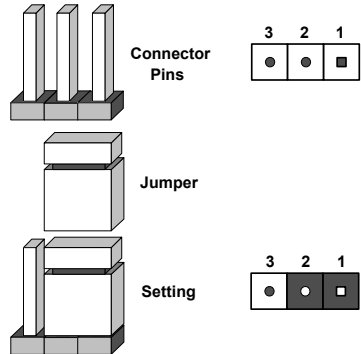
2-3   Rear Jumpers

JP12

J18

J16

Figure 2-2. Rear Jumpers

Jumper Settings		
Jumper	**Settings**	**Note**
JP12	Open	LED TEST (2 pin), close to test all Failure and Activity LEDs
J16	Pins 1-2 (default)	Nuvoton MCU RESET (3 Pin); used only by manufacturing
J18	Open	OVERHEAT LED THRESHOLD (3 pin); for future use

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.
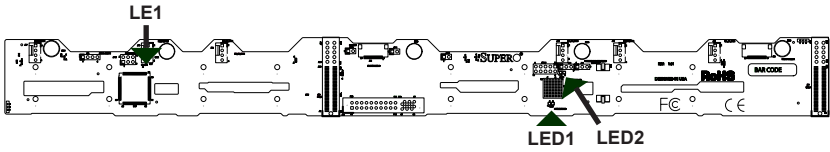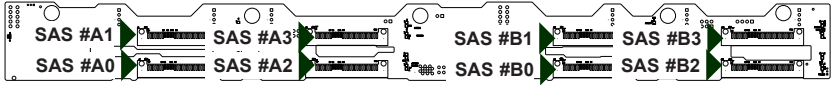
Connector Pins

Jumper

Setting

3 2 1

3 2 1

2-4   Rear LED Indicators

Figure 2-3. Rear LED Indicators

LED Indicators	
Jumper	**Description**
LE1	LCMC MCU heartbeat (green)
LED1	Nuvoton MCU heartbeat (green)
LED2	Fan Fail/LED (red)

2-5   Front Connectors and LED Indicators

The front of the backplane holds connectors for eight SAS drives and corresponding status indicators.

16 LEDs, two per receptacle, indicate activity and failure.
(to the right of each SAS connector)

Figure 2-4. Front Connectors and LEDs

Front Drive Connectors and LED Indicators			
Drive Number	Label	HDD Activity LED (blue)	Failure LED (red)
SAS #A0	J1	ACT#A0	FAIL#A0
SAS #A1	J2	ACT#A1	FAIL#A1
SAS #A2	J3	ACT#A2	FAIL#A2
SAS #A3	J4	ACT#A3	FAIL#A3
SAS #B0	J9	ACT#B0	FAIL#B0
SAS #B1	J11	ACT#B1	FAIL#B1
SAS #B2	J13	ACT#B2	FAIL#B2
SAS #B3	J15	ACT#B3	FAIL#B3

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