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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.
Chapter 1
Guidelines

This chapter offers guidelines for personal and equipment safety, and notes about the BPN-SAS3-826A-N4 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 cord 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-SAS3-826A-N4 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-SAS3-826A-N4 Revision 1.11, the most current release available at the time of publication. Always 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-SAS3-826A-N4 with NVMe capabilities.

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.

1. Power Connectors, 4-pin: JPW1, JPW2, JPW3 and JPW4.
2. Mini SAS HD Connector: JSM1
3. Mini SAS HD Connector: JSM2
4. Mini SAS HD Connector: JSM3
5. NVMe #0 Connector: JSM4
6. NVMe #1 Connector: JSM5
7. NVMe #2 Connector: JSM6
8. NVMe #3 Connector: JSM7
9. JTAG Connector: J27, CPLD upgrade port (6-pin)
2-2 Rear Connector and Pin Definitions

1. Main Power Connectors
   The 4-pin connectors, designated JPW1, JPW2, JPW3 and JPW4 provide power to the backplane. See the table on the right for pin definitions.

2-4. Mini SAS HD Connectors
   The three SAS connectors are used to connect the SAS drive cables and are designated JSM1 to JSM3. Each of the three connectors has four ports for a total of twelve ports. These twelve ports are designated SAS#0 - SAS#11. They are also compatible with SATA drives.

5-8. NVMe Connectors
   The four NVMe connectors are used to connect the NVMe drive cables. Each connector controls one NVMe SSD.

9. CPLD Upgrade Port
   The J27 connector is used to upgrade CPLD.

<table>
<thead>
<tr>
<th>Backplane Main Power 4-Pin Connector</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pin#</td>
</tr>
<tr>
<td>---</td>
</tr>
<tr>
<td>1</td>
</tr>
<tr>
<td>2 and 3</td>
</tr>
<tr>
<td>4</td>
</tr>
</tbody>
</table>
2-3 Rear Jumper Locations and Pin Definitions

Figure 2-2. Rear Jumpers

<table>
<thead>
<tr>
<th>Jumper</th>
<th>Settings</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>JP1</td>
<td>1-2</td>
<td>Not used</td>
</tr>
<tr>
<td>JP8, JP9</td>
<td>see table below</td>
<td>NVMe mapping to CPU</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Jumper Settings</th>
<th>NVMe to CPU Connection</th>
<th>NVMe Cables</th>
</tr>
</thead>
<tbody>
<tr>
<td>JP9 Pins</td>
<td>JP8 Pins</td>
<td>NVMe Drive Slots</td>
</tr>
<tr>
<td>2-3</td>
<td>2-3</td>
<td>Slot 0-3 connected to CPU 1</td>
</tr>
<tr>
<td>2-3</td>
<td>1-2</td>
<td>Slot 0-2 connected to CPU 1</td>
</tr>
<tr>
<td>1-2</td>
<td>2-3</td>
<td>Slot 0-1 connected to CPU 1</td>
</tr>
<tr>
<td>1-2</td>
<td>1-2</td>
<td>Slot 0 connected to CPU 1</td>
</tr>
</tbody>
</table>

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.
2-4 Front Connectors and LED Indicators

All connectors support SAS3. Connectors for SAS #8 through #11 are hybrid ports that support both SAS3 and NVMe.

![Diagram of Front Connectors and LEDs](image)

**This failure LED is multi-color, as described in the table below.

<table>
<thead>
<tr>
<th>Connector Number and HDD Number</th>
<th>Label</th>
<th>HDD Activity LED (blue)</th>
<th>Failure LED (red)</th>
</tr>
</thead>
<tbody>
<tr>
<td>SAS #0</td>
<td>J1</td>
<td>ACT#0</td>
<td>FAIL#0</td>
</tr>
<tr>
<td>SAS #1</td>
<td>J2</td>
<td>ACT#1</td>
<td>FAIL#1</td>
</tr>
<tr>
<td>SAS #2</td>
<td>J3</td>
<td>ACT#2</td>
<td>FAIL#2</td>
</tr>
<tr>
<td>SAS #3</td>
<td>J4</td>
<td>ACT#3</td>
<td>FAIL#3</td>
</tr>
<tr>
<td>SAS #4</td>
<td>J5</td>
<td>ACT#4</td>
<td>FAIL#4</td>
</tr>
<tr>
<td>SAS #5</td>
<td>J6</td>
<td>ACT#5</td>
<td>FAIL#5</td>
</tr>
<tr>
<td>SAS #6</td>
<td>J7</td>
<td>ACT#6</td>
<td>FAIL#6</td>
</tr>
<tr>
<td>SAS #7</td>
<td>J8</td>
<td>ACT#7</td>
<td>FAIL#7</td>
</tr>
<tr>
<td>SAS #8/NVMe #0*</td>
<td>J9</td>
<td>ACT#8</td>
<td>FAIL#8**</td>
</tr>
<tr>
<td>SAS #9/NVMe #1*</td>
<td>J10</td>
<td>ACT#9</td>
<td>FAIL#9**</td>
</tr>
<tr>
<td>SAS #10/NVMe #2*</td>
<td>J11</td>
<td>ACT#10</td>
<td>FAIL#10**</td>
</tr>
<tr>
<td>SAS #11/NVMe #3*</td>
<td>J12</td>
<td>ACT#11</td>
<td>FAIL#11**</td>
</tr>
</tbody>
</table>

*Hybrid ports; SAS or NVMe

**This failure LED is multi-color, as described in the table below.

<table>
<thead>
<tr>
<th>Color and State</th>
<th>Indication</th>
</tr>
</thead>
<tbody>
<tr>
<td>Red, solid</td>
<td>Failure</td>
</tr>
<tr>
<td>Red, blinking at 1Hz</td>
<td>Rebuild</td>
</tr>
<tr>
<td>Red, blinking at 4Hz</td>
<td>Identify</td>
</tr>
<tr>
<td>Amber, blinking</td>
<td>Attention! Do not remove NVMe device</td>
</tr>
<tr>
<td>Green</td>
<td>NVMe device ready be removed</td>
</tr>
</tbody>
</table>
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