Table of Contents

Contacting Supermicro........................................................................................................iv
Returning Merchandise for Service.......................................................................................v

Chapter 1 BPN-SAS3-217HD Safety Guidelines
1-1 ESD Safety Guidelines ..................................................................................................... 1-1
1-2 General Safety Guidelines .............................................................................................. 1-1
1-3 An Important Note to Users ............................................................................................ 1-2
1-4 Introduction to the BPN-SAS3-217HD Backplane ......................................................... 1-2

Chapter 2 Connectors, Jumpers and LEDs
2-1 Front Connectors ............................................................................................................ 2-1
2-2 Front Jumpers and Pin Definitions .................................................................................. 2-4
   Explanation of Jumpers ...................................................................................................... 2-4
2-3 Front LED Indicators ....................................................................................................... 2-5
2-4 Rear Connectors and LED Indicators ............................................................................. 2-6
2-5 SAS/SATA Ports ............................................................................................................ 2-8
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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

BPN-SAS3-217HD 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 BPN-SAS3-217HD backplane.

• Disconnect the power cable before installing or removing any cables from the BPN-SAS3-217HD backplane.

• Make sure that the BPN-SAS3-217HD 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 BPN-SAS3-217HD Backplane

The BPN-SAS3-217HD backplane has been designed to utilize the most up-to-date technology available, providing your system with reliable, high-quality performance.

This manual reflects BPN-SAS3-217HD Revision 1.00, 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

2-1 Front Connectors

1. Main Power Connector: JPW1
2. Secondary Power Connector: JPW2
4. Secondary Power Connector: JPW4
5. Chassis Fan Connector: Fan1 JP54
7. Chassis Fan Connector: Fan3 JP56
8. Chassis Fan Connector Fan4 JP57
9. Power Supply SM Bus Connector: JPIC1
10. MB-A hot plug connector: JF1, JF2
11. MB-B hot plug connector: JF3, JF4
12. Backplane to front panel connector for MB-A: J27
13. Backplane to front pannel connector for MB--B: J28
14. Upgrade #1 JP70
15. Upgrade #2 JP71
16. MCU Debug port J25
17. MCU firmware upgrade port JP69

Figure 2-1. Front Connectors
1. - 4. Power Supply Connectors
   These connectors, designated JPW1, JPW2, JPW3, and JPW4 supply power to the two motherboard nodes in the chassis.

5. - 8. Chassis Fan Connectors
   These connectors, designated JP54, JP55, JP56, and JP57 supply power to the chassis cooling fans.

9. Power Supply SM Bus Connector
   The 5-pin connector, designated JPI2C1, connects the power supply SMbus to the MCU.

10-11. Motherboard to Backplane Connectors
   JF1 and JF2 connect motherboard A to the backplane on the chassis. JF3 and JF4 connect motherboard B to the backplane.

12-13. Backplane to Front Panel Headers
   J27 and J28 connect by cables to the chassis front control panels--J27 connects to the panel for serverboard A, J28 connects to the panel for serverboard B.

14-15. Upgrade Connectors #1 - #2
   These connectors are designated JP70 and JP71. They are for the manufacturer's diagnostic use only.

16. Debug MCU
   J25 is a port to debug the MCU firmware.

17. Upgrade MCU
   JP69 is a port to upgrade the MCU firmware.
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.

<table>
<thead>
<tr>
<th>Jumper</th>
<th>Jumper Settings</th>
</tr>
</thead>
<tbody>
<tr>
<td>JP36</td>
<td>Open: Default</td>
</tr>
<tr>
<td></td>
<td>Closed: Any one button for power on</td>
</tr>
<tr>
<td>JP38</td>
<td>Open: Default</td>
</tr>
<tr>
<td></td>
<td>Closed: LED test</td>
</tr>
<tr>
<td>JP40</td>
<td>Open: Default</td>
</tr>
<tr>
<td></td>
<td>Closed: Power supply on</td>
</tr>
</tbody>
</table>
2-3 Front LED Indicators

Figure 2-4. Front LEDs

<table>
<thead>
<tr>
<th>LED</th>
<th>State</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>D56</td>
<td>On</td>
<td>Indicates that VCC12-1 power is on</td>
</tr>
<tr>
<td>D57</td>
<td>On</td>
<td>Indicates that VCC5-1 power is up</td>
</tr>
<tr>
<td>D58</td>
<td>On</td>
<td>Indicates that VCC12-2 power is up</td>
</tr>
<tr>
<td>D59</td>
<td>On</td>
<td>Indicates that VCC5-2 power is up</td>
</tr>
<tr>
<td>D60</td>
<td>On</td>
<td>Indicates that VCC12-3 power is up</td>
</tr>
<tr>
<td>D61</td>
<td>On</td>
<td>Indicates that VCC5-3 power is up</td>
</tr>
<tr>
<td>D62</td>
<td>On</td>
<td>Indicates that VCC12-4 power is up</td>
</tr>
<tr>
<td>D63</td>
<td>On</td>
<td>Indicates that VCC5-4 power is up</td>
</tr>
</tbody>
</table>
2-4 Rear Connectors and LED Indicators

![Figure 2-5. Rear Connectors and LEDs](image)

<table>
<thead>
<tr>
<th>Rear SAS/SATA Connectors</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Rear Connector</strong></td>
</tr>
<tr>
<td>SAS-#A0</td>
</tr>
<tr>
<td>SAS-#A3</td>
</tr>
<tr>
<td>SAS-#A4</td>
</tr>
<tr>
<td>SAS-#A5</td>
</tr>
<tr>
<td>SAS-#A6</td>
</tr>
<tr>
<td>SAS-#A7</td>
</tr>
<tr>
<td>SAS-#A8</td>
</tr>
<tr>
<td>SAS-#A9</td>
</tr>
<tr>
<td>SAS-#A10</td>
</tr>
</tbody>
</table>
## Rear LED Indicators

<table>
<thead>
<tr>
<th>Rear Connector</th>
<th>FAIL LED</th>
<th>ACT LED</th>
<th>Rear Connector</th>
<th>FAIL LED</th>
<th>ACT LED</th>
</tr>
</thead>
<tbody>
<tr>
<td>SAS-#A0</td>
<td>D2</td>
<td>D1</td>
<td>SAS-#B</td>
<td>D26</td>
<td>D25</td>
</tr>
<tr>
<td>SAS-#A1</td>
<td>D4</td>
<td>D3</td>
<td>SAS-#B1</td>
<td>D28</td>
<td>D27</td>
</tr>
<tr>
<td>SAS-#A2</td>
<td>D6</td>
<td>D5</td>
<td>SAS-#B2</td>
<td>D30</td>
<td>D29</td>
</tr>
<tr>
<td>SAS-#A3</td>
<td>D8</td>
<td>D7</td>
<td>SAS-#B3</td>
<td>D32</td>
<td>D31</td>
</tr>
<tr>
<td>SAS-#A4</td>
<td>D10</td>
<td>D9</td>
<td>SAS-#B4</td>
<td>D34</td>
<td>D33</td>
</tr>
<tr>
<td>SAS-#A5</td>
<td>D12</td>
<td>D11</td>
<td>SAS-#B5</td>
<td>D36</td>
<td>D35</td>
</tr>
<tr>
<td>SAS-#A6</td>
<td>D14</td>
<td>D13</td>
<td>SAS-#B6</td>
<td>D38</td>
<td>D37</td>
</tr>
<tr>
<td>SAS-#A7</td>
<td>D16</td>
<td>D15</td>
<td>SAS-#B7</td>
<td>D40</td>
<td>D39</td>
</tr>
<tr>
<td>SAS-#A8</td>
<td>D18</td>
<td>D17</td>
<td>SAS-#B8</td>
<td>D42</td>
<td>D41</td>
</tr>
<tr>
<td>SAS-#A9</td>
<td>D20</td>
<td>D19</td>
<td>SAS-#B9</td>
<td>D44</td>
<td>D43</td>
</tr>
<tr>
<td>SAS-#A10</td>
<td>D22</td>
<td>D21</td>
<td>SAS-#B10</td>
<td>D46</td>
<td>D45</td>
</tr>
<tr>
<td>SAS-#A11</td>
<td>D24</td>
<td>D23</td>
<td>SAS-#B11</td>
<td>D48</td>
<td>D47</td>
</tr>
</tbody>
</table>
2-5 SAS/SATA Ports

The BPN-SAS3-217HD backplane is designed with two separate nodes that support two motherboards independently of each other. The SAS ports are used to connect the drives. The twenty-four ports are designated A0-11 and B0-11. Each port is also compatible with SATA drives.

Figure 2-6. Motherboard Locations In the Chassis
Disclaimer (cont.)
The products sold by Supermicro are not intended for and will not be used in life sup-port systems, medical equipment, nuclear facilities or systems, aircraft, aircraft devices, aircraft/emergency communication devices or other critical systems whose failure to per-form be reasonably expected to result in significant injury or loss of life or catastrophic property damage. Accordingly, Supermicro disclaims any and all liability, and should buyer use or sell such products for use in such ultra-hazardous applications, it does so entirely at its own risk. Furthermore, buyer agrees to fully indemnify, defend and hold Supermicro harmless for and against any and all claims, demands, actions, litigation, and proceedings of any kind arising out of or related to such ultra-hazardous use or sale.