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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.
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Chapter 1

SAS-827T 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 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 SAS-827T backplane.
- Disconnect the power cable before installing or removing any cables from the SAS-827T backplane.
- Make sure that the SAS-827T 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-827T Backplane

The SAS-827T 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-827T Revision 1.01, 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.
2-1 Front Connectors and Jumpers

Front Connectors
1. MB Power Connector: JP10: MB-A
4. MB Power Connector: JP47: MB-D
5. Chassis Fan Connector: JP54: Fan1
8. Chassis Fan Connector JP57: Fan4
9. MB Fan Connector: JP58: MB-A
10. MB Fan Connector: JP59: MB-B
11. MB Fan Connector: MB-C: JP60
12. MB Fan Connector: MB-D: JP65
14. Backplane to Front Panel Header: JF1-AB, JF5
15. Backplane to Front Panel Header: JF1-CD, JF6
16. MB Front Panel Connector: JF1-A, JF1
17. MB Front Panel Connector: JF1-B, JF2
18. MB Front Panel Connector: JF1-C: JF3
19. MB Front Panel Connector: JF1-D: JF4
20. Upgrade Connector: JP69
21. Manufacturer's testing only: JP26 and JP49
SAS Ports
22. SAS Port #A0: J5
23. SAS Port #A1: J6
24: SAS Port #A2: J7
25. SAS Port #B0: J8
26. SAS Port #B1: J10
27. SAS Port #B2: J12
28. SAS Port #C0: J14
29. SAS Port #C1: J16
28. SAS Port #C2: J22
30. SAS Port #D0: J23
31. SAS Port #D1: J24
32. SAS Port #D2: J25

2-2 Front Connector and Pin Definitions

1. - 4. Motherboard Power Connectors

These connectors, designated JP10, JP13, JP46 and JP47 receive power from each of the four motherboards in the chassis. Use the table on the right to connect the motherboard power connector on the backplane to the correct motherboard in the chassis.

<table>
<thead>
<tr>
<th>MB Power Connections</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Connector</strong></td>
</tr>
<tr>
<td>JP10</td>
</tr>
<tr>
<td>JP13</td>
</tr>
<tr>
<td>JP46</td>
</tr>
<tr>
<td>JP47</td>
</tr>
</tbody>
</table>

Figure 2-3: Motherboard Locations in the Chassis
Chapter 2: Connectors, Jumpers and LEDs

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

9. - 12. Fan Connector Y-Cable
(Optional feature, sold separately)

A Y-cable is used to connect the fan connector from the backplane to the motherboard's fan connectors. These fan connectors are designated JP58, JP59, JP60 and JP65. Only connect a Y-cable into these four connectors. Never directly connect a fan to these connectors as it may damage both the fans and/or the backplane.

![Diagram of default configuration](image1)

Figure 2-4: Default Configuration - Fans Connected Directly to Motherboards

![Diagram of optional configuration](image2)

Figure 2-5: Optional Configuration - Motherboards to the Fan Connectors

![Diagram of prohibited configuration](image3)

Figure 2-6: Prohibited Configuration
13. Backplane Main Power Connectors

The 4-pin connector, designated JP48, provides power to the backplane. See the table on the right for pin definitions.

<table>
<thead>
<tr>
<th>Pin#</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>+12V</td>
</tr>
<tr>
<td>2 and 3</td>
<td>Ground</td>
</tr>
<tr>
<td>4</td>
<td>+5V_STBY</td>
</tr>
</tbody>
</table>

14. - 15. 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.

16. - 19. Motherboard to Backplane Connectors

These connectors, designated JF1, JF2, JF3 and JF4, connect the motherboards to the front LED panels on the chassis. JF1 connects to motherboard A. JF2 connects to motherboard B. JF3 connects to motherboard C and JF4 connects to motherboard D. See the table on page 2-2 to determine the locations of the motherboards within the chassis.

20. Upgrade Connector

The upgrade connector is designated JP69. Upgrade connectors are for manufacturing use only.

21. Manufacturer’s Test Connectors

The manufacturer’s test connectors are designated JP26 and JP49. These test connectors are for manufacturing use only.
22. - 33. SAS Ports

The SAS-827T backplane is designed with four separate sectors, which support from one to four motherboards independently of each other. The SAS ports are used to connect the SAS drive cables. The 12 ports are designated A0, A1, A2, B0, B1, B2, C0, C1, C2 and D0, D1, D2. 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.

<table>
<thead>
<tr>
<th>Number of Motherboards</th>
<th>SAS Port Connectors</th>
<th>Connect to Motherboard</th>
</tr>
</thead>
<tbody>
<tr>
<td>Using one MB</td>
<td>A0, A1, A2</td>
<td>MB-A</td>
</tr>
<tr>
<td>Using two MBs</td>
<td>A0, A1, A2, B0, B1, B2</td>
<td>MB-A, MB-B</td>
</tr>
<tr>
<td>Using three MBs</td>
<td>A0, A1, A2, B0, B1, B2, C0, C1, C2</td>
<td>MB-A, MB-B, MB-C</td>
</tr>
<tr>
<td>Using four MBs</td>
<td>A0, A1, A2, B0, B1, B2, C0, C1, C2, D0, D1, D2</td>
<td>MB-A, MB-B, MB-C, MB-D</td>
</tr>
</tbody>
</table>

Figure 2-7: Motherboard Locations In the Chassis
2-3 Front Jumper Locations and Pin Definitions

Figure 2-8: 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>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>JP18</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Open: Buzzer disabled</td>
<td>*Buzzer reset</td>
</tr>
<tr>
<td></td>
<td>1-2: Buzzer enabled (Default)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>2-3: Test setting</td>
<td></td>
</tr>
<tr>
<td>JP30</td>
<td>Overheat Settings</td>
<td>Backplane overheat settings</td>
</tr>
<tr>
<td></td>
<td>Open: 45º Celsius</td>
<td></td>
</tr>
<tr>
<td></td>
<td>1-2: 50º Celsius (Default)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>2-3: 55º Celsius</td>
<td></td>
</tr>
</tbody>
</table>

*The buzzer sound indicates that a condition requiring immediate attention has occurred.

The backplane buzzer alarm is triggered by the following condition:

Backplane temperature over 45º, 50º or 55º Celsius, depending upon the overheat setting selected. See the table above for details.
Front LED Indicators

<table>
<thead>
<tr>
<th>LED</th>
<th>State</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heartbeat LED: D1</td>
<td>Blinking</td>
<td>Blinking heartbeat indicates backplane activity</td>
</tr>
<tr>
<td>Overheat LED: D11</td>
<td>Solid On</td>
<td>On indicates backplane overheat condition</td>
</tr>
</tbody>
</table>

Figure 2-9: Front LEDs
2-4 Rear Connectors and LED Indicators

![Rear Connectors and LEDs](image)

**Figure 2-10: Rear Connectors and LEDs**

### Rear SAS/SATA Connectors

<table>
<thead>
<tr>
<th>Rear Connector</th>
<th>SAS Drive Number</th>
<th>Rear Connector</th>
<th>SAS Drive Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>SAS #A2</td>
<td>SAS/SATA A2</td>
<td>SAS #C2</td>
<td>SAS/SATA C2</td>
</tr>
<tr>
<td>SAS #A1</td>
<td>SAS/SATA A1</td>
<td>SAS #C1</td>
<td>SAS/SATA C1</td>
</tr>
<tr>
<td>SAS #A0</td>
<td>SAS/SATA A0</td>
<td>SAS #C0</td>
<td>SAS/SATA C0</td>
</tr>
<tr>
<td>SAS #B2</td>
<td>SAS/SATA B2</td>
<td>SAS #D2</td>
<td>SAS/SATA D2</td>
</tr>
<tr>
<td>SAS #B1</td>
<td>SAS/SATA B1</td>
<td>SAS #D1</td>
<td>SAS/SATA D1</td>
</tr>
<tr>
<td>SAS #B0</td>
<td>SAS/SATA B0</td>
<td>SAS #D0</td>
<td>SAS/SATA D0</td>
</tr>
</tbody>
</table>

### Rear LED Indicators

<table>
<thead>
<tr>
<th>Rear LED</th>
<th>Hard Drive Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>SAS #A0</td>
<td>D12</td>
</tr>
<tr>
<td>SAS #A1</td>
<td>D13</td>
</tr>
<tr>
<td>SAS #A2</td>
<td>D14</td>
</tr>
<tr>
<td>SAS #B0</td>
<td>D15</td>
</tr>
<tr>
<td>SAS #B1</td>
<td>D18</td>
</tr>
<tr>
<td>SAS #B2</td>
<td>D21</td>
</tr>
<tr>
<td>SAS #C0</td>
<td>D22</td>
</tr>
<tr>
<td>SAS #C1</td>
<td>D24</td>
</tr>
<tr>
<td>SAS #C2</td>
<td>D25</td>
</tr>
<tr>
<td>SAS #D0</td>
<td>D26</td>
</tr>
<tr>
<td>SAS #D1</td>
<td>D27</td>
</tr>
<tr>
<td>SAS #D2</td>
<td>D28</td>
</tr>
</tbody>
</table>
Notes
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