SAS-842TQ

BACKPLANE

USER'S GUIDE

Rev. 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.
Chapter 1

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-842TQ backplane.

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

• Make sure that the SAS-842TQ 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 back-plane 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-842TQ Backplane

The SAS-842TQ 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-842TQ 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.
Chapter 2
Connectors, Jumpers and LEDs

2-1 Front Connectors

Front Connectors and Jumpers

2. Upgrade Pin: JP46
3. MG9072 Chip
4. Sideband #1: JP51
5. Sideband #2: JP52
6. I²C Connector #1: JP44
7. I²C Connector #2: JP45
8. Connector #0: J5
9. Connector #1: J6
10. Connector #2: J7
11. Connector #3: J8
12. Connector #4: J10

Figure 2-1: Front Connectors
2-2 Front Connector and Pin Definitions

#1. Backplane Main Power Connectors
These 4-pin connectors designated JP10 and JP13 provide 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</td>
</tr>
</tbody>
</table>

#2 Upgrade Connector
The upgrade connector is designated JP46 and is for the manufacturer's diagnostic purposes only.

#3. MG9072 Chip
The MG9072 is an enclosure management chip that supports the SES-2 controller and SES-2 protocols.

#4 and #5. Sideband Connectors
The sideband connectors are designated JP51 and JP52. For SES-2 to work properly, you must connect an 8-pin sideband cable. See the table to the right for pin definitions.

<table>
<thead>
<tr>
<th>Pin #</th>
<th>Definition</th>
<th>Pin #</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>SDIN/Backplane Addressing (SB5)</td>
<td>1</td>
<td>Controller ID (SB6)</td>
</tr>
<tr>
<td>4</td>
<td>SDOUT/FC Reset (SB4)</td>
<td>3</td>
<td>GND (SB2)</td>
</tr>
<tr>
<td>6</td>
<td>GND (SB3)</td>
<td>5</td>
<td>SLOAD/SDA (SB1)</td>
</tr>
<tr>
<td>8</td>
<td>Backplane ID (SB7)</td>
<td>7</td>
<td>SCLOCK/SCL (SB0)</td>
</tr>
</tbody>
</table>
#6 and #7. I²C Connectors

The I²C connectors, designated JP44 and JP45, are used to monitor HDD activity and status. See the table on the right for pin definitions.

<table>
<thead>
<tr>
<th>I²C Connector Pin Definitions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pin#</td>
</tr>
<tr>
<td>1</td>
</tr>
<tr>
<td>2</td>
</tr>
<tr>
<td>3</td>
</tr>
<tr>
<td>4</td>
</tr>
</tbody>
</table>

#8 - #12. SAS/SATA Connectors

The SAS/SATA connectors are numbered 0 through 4. Each may be connected to the system with a SAS or SATA cable.
2-3 Front Jumper Locations and Pin Definitions

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>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>JP29</td>
<td>1-2: Reset 2-3: No reset</td>
<td>MG9072 chip reset</td>
</tr>
<tr>
<td>JP30</td>
<td>---</td>
<td>For manufacturer's use only</td>
</tr>
<tr>
<td>JP53</td>
<td>---</td>
<td>For manufacturer's use only</td>
</tr>
<tr>
<td>JP54</td>
<td>---</td>
<td>For manufacturer's use only</td>
</tr>
</tbody>
</table>
I²C and SGPIO Mode Jumper Settings

This backplane can utilize I²C or SGPIO. SGPIO is the default mode and can be used without making changes to your jumpers. The following information details which jumpers must be configured to use I²C mode or restore your backplane to SGPIO mode.

<table>
<thead>
<tr>
<th>Jumper</th>
<th>SGPIO Jumper Setting (Default)</th>
<th>I²C Jumper Setting</th>
</tr>
</thead>
<tbody>
<tr>
<td>JP33</td>
<td>1-2</td>
<td>2-3</td>
</tr>
</tbody>
</table>

Front LED Indicators

Figure 2-3: Front LEDs

<table>
<thead>
<tr>
<th>LED</th>
<th>State</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>D3</td>
<td>On</td>
<td>Overheat or Drive Failure</td>
</tr>
</tbody>
</table>
2-4 Rear Connectors and LED Indicators

Figure 2-4: Rear Connectors

<table>
<thead>
<tr>
<th>Rear Connector</th>
<th>Connector Number</th>
<th>SAS/SATA Drive Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>SAS #0</td>
<td>J1</td>
<td>SAS/SATA HDD #0</td>
</tr>
<tr>
<td>SAS #1</td>
<td>J2</td>
<td>SAS/SATA HDD #1</td>
</tr>
<tr>
<td>SAS #2</td>
<td>J3</td>
<td>SAS/SATA HDD #2</td>
</tr>
<tr>
<td>SAS #3</td>
<td>J4</td>
<td>SAS/SATA HDD #3</td>
</tr>
<tr>
<td>SAS #4</td>
<td>J9</td>
<td>SAS/SATA HDD #4</td>
</tr>
</tbody>
</table>
Rear LED Indicators

<table>
<thead>
<tr>
<th>Rear Connector</th>
<th>Hard Drive Activity</th>
<th>Failure LED</th>
</tr>
</thead>
<tbody>
<tr>
<td>SAS #0</td>
<td>D12</td>
<td>D5</td>
</tr>
<tr>
<td>SAS #1</td>
<td>D13</td>
<td>D6</td>
</tr>
<tr>
<td>SAS #2</td>
<td>D14</td>
<td>D7</td>
</tr>
<tr>
<td>SAS #3</td>
<td>D15</td>
<td>D8</td>
</tr>
<tr>
<td>SAS #4</td>
<td>D18</td>
<td>D19</td>
</tr>
</tbody>
</table>
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