SAS-510T BACKPLANE

USER'S GUIDE

Rev. 1.0
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California Best Management Practices Regulations for Perchlorate Materials: This Perchlorate warning applies only to products containing CR (Manganese Dioxide) Lithium coin cells. “Perchlorate Material-special handling may apply. See www.dtsc.ca.gov/hazardouswaste/perchlorate”

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.

Manual Revision 1.0
Release Date: November 13, 2008

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Printed in the United States of America
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Contacting Supermicro

Headquarters
Address: Super Micro Computer, Inc.
980 Rock Ave.
San Jose, CA  95131 U.S.A.
Tel: +1 (408) 503-8000
Fax: +1 (408) 503-8008
Email: marketing@supermicro.com (General Information)
support@supermicro.com (Technical Support)
Web Site: www.supermicro.com

Europe
Address: Super Micro Computer B.V.
Het Sterrenbeeld 28, 5215 ML
's-Hertogenbosch, The Netherlands
Tel: +31 (0) 73-6400390
Fax: +31 (0) 73-6416525
Email: sales@supermicro.nl (General Information)
support@supermicro.nl (Technical Support)
rma@supermicro.nl (Customer Support)

Asia-Pacific
Address: Super Micro Computer, Inc.
4F, No. 232-1, Liancheng Rd.
Chung-Ho 235, Taipei County
Taiwan, R.O.C.
Tel: +886-(2) 8226-3990
Fax: +886-(2) 8226-3991
Web Site: www.supermicro.com.tw
Technical Support:
Email: support@supermicro.com.tw
Tel: 886-2-8226-1900
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 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 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.
The SAS-510T backplanes features the following front connectors:

**Front Connectors**

1. Power Connector: (4-pin) JP10

2. SATA Connector: (7-pin), J5, connect to cable.

3. SATA Connector: (7-pin), J6, connect to cable.

4. LED Input Connector: (Not included on most models, only functions with the AOC-SATAR1 Rev 1.01), J4, J7

5. ACT_IN Connector: JP2
2-2  Front Connector and Pin Definitions

1. Power Connector
The 4-pin connector designated JP10 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</td>
</tr>
</tbody>
</table>

2. - 3. SATA Connectors
The SATA connectors are used to connect the SATA drive cables. The two connectors are designated #0 and #1. Each connector is compatible with SATA and SAS drives.

4. LED Input Connector (Not included on most models)
This option only functions with the AOC-SATAR1 RAID controller.

5. ACT_IN Connector
The activity LED header, designated JP2, is used to indicate the activity status of each drive.

<table>
<thead>
<tr>
<th>Pin#</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>ACT_IN 0</td>
</tr>
<tr>
<td>2</td>
<td>ACT_IN 1</td>
</tr>
<tr>
<td>3</td>
<td>N/A</td>
</tr>
<tr>
<td>4</td>
<td>N/A</td>
</tr>
</tbody>
</table>
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>JP18</td>
<td>2-3: No Reset (Default)</td>
<td>Buzzer enabled*</td>
</tr>
<tr>
<td></td>
<td>1-2: Reset</td>
<td>Buzzer disabled*</td>
</tr>
<tr>
<td>JP25</td>
<td>1-2: Default</td>
<td>Overheat temperature settings</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1-2 50 degrees C</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2-3 55 degrees C</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Open 45 degrees C</td>
</tr>
</tbody>
</table>

*The buzzer sound indicates that an overheat condition or drive failure has occurred.

Figure 2-2: Front Jumpers
2-4  Front LED Indicators

Front Panel 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/drive failure LED indicator (Red light: flashing, buzzer: on)</td>
</tr>
</tbody>
</table>

Figure 2-3: Front LEDs
2-5 Rear Connectors and LED Indicators

### Rear SAS/SATA Connectors

<table>
<thead>
<tr>
<th>Rear Connector</th>
<th>Connector Number</th>
<th>SAS 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>
</tbody>
</table>

### Rear LED Indicators

<table>
<thead>
<tr>
<th>Rear Connector</th>
<th>Hard Drive Activity</th>
<th>Failure LED (Not included on most models)</th>
</tr>
</thead>
<tbody>
<tr>
<td>SAS #0</td>
<td>D12</td>
<td>D1</td>
</tr>
<tr>
<td>SAS #1</td>
<td>D13</td>
<td>D2</td>
</tr>
</tbody>
</table>
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