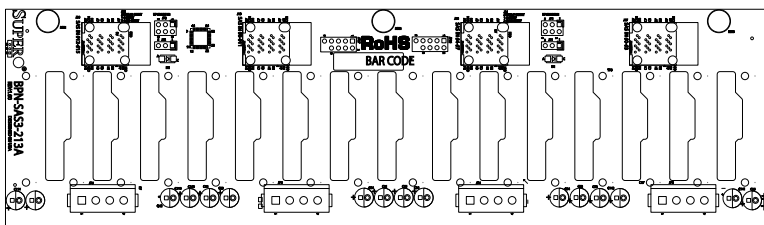# SUPER®

BPN-SAS3-213A Backplane

USER'S GUIDE

1.0

The information in this User's Manual has been carefully reviewed and is believed to be accurate. The vendor assumes no responsibility for any inaccuracies that may be contained in this document, makes no commitment to update or to keep current the information in this manual, or to notify any person or organization of the updates. **Please Note: For the most up-to-date version of this manual, please see our web site at www.supermicro.com.**

Super Micro Computer, Inc. ("Supermicro") reserves the right to make changes to the product described in this manual at any time and without notice. This product, including software, if any, and documentation may not, in whole or in part, be copied, photocopied, reproduced, translated or reduced to any medium or machine without prior written consent.

IN NO EVENT WILL SUPERMICRO BE LIABLE FOR DIRECT, INDIRECT, SPECIAL, INCIDENTAL, SPECULATIVE OR CONSEQUENTIAL DAMAGES ARISING FROM THE USE OR INABILITY TO USE THIS PRODUCT OR DOCUMENTATION, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGES. IN PARTICULAR, SUPERMICRO SHALL NOT HAVE LIABILITY FOR ANY HARDWARE, SOFTWARE, OR DATA STORED OR USED WITH THE PRODUCT, INCLUDING THE COSTS OF REPAIRING, REPLACING, INTEGRATING, INSTALLING OR RECOVERING SUCH HARDWARE, SOFTWARE, OR DATA.

Any disputes arising between manufacturer and customer shall be governed by the laws of Santa Clara County in the State of California, USA. The State of California, County of Santa Clara shall be the exclusive venue for the resolution of any such disputes. Super Micro's total liability for all claims will not exceed the price paid for the hardware product.

FCC Statement: This equipment has been tested and found to comply with the limits for a Class A digital device pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the manufacturer's instruction manual, may cause harmful interference with radio communications. Operation of this equipment in a residential area is likely to cause harmful interference, in which case you will be required to correct the interference at your own expense.

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: September 16, 2014

Unless you request and receive written permission from Super Micro Computer, Inc., you may not copy any part of this document.

Information in this document is subject to change without notice. Other products and companies referred to herein are trademarks or registered trademarks of their respective companies or mark holders.

Contents

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)
Website:	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)
Website:	www.supermicro.nl

Asia-Pacific

Address:	Super Micro Computer, Inc.
	3F, No. 150, Jian 1st Rd.
	Zhonghe Dist., New Taipei City 235
	Taiwan (R.O.C)
Tel:	+886-(2) 8226-3990
Fax:	+886-(2) 8226-3992
Email:	support@supermicro.com.tw
Website:	www.supermicro.com.tw

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.super-micro.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.

Notes

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   A Note to Users

All images and layouts in this user's guide are based upon the latest PCB revision available at the time of publishing. The card you have received may not look exactly the same as the graphics in this manual.

1-4   Introduction to the BPN-SAS3-213A Backplane

The BPN-SAS3-213A 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-SAS2-213A Revision 1.00 backplane, 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
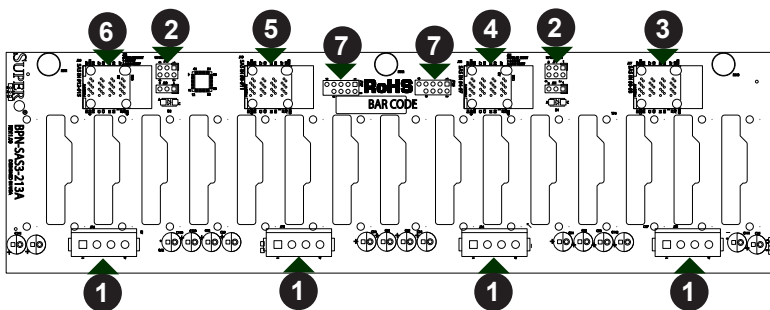
Connectors and Jumpers

2-1   Front Connectors

Figure 2-1. Front Connectors

Front Connectors

1. Power Connectors (4-pin): JP3, JP4, JP5, and JP6
2. Upgrade Connectors: JP1 and JP2
3. SAS IN #0-#3: J17
4. SAS IN #4-#7: J18
5. SAS IN #8-#11: J19
6. SAS IN #12-#15: J20
7. For manufacturer's use only: JP26 and JP27

2-2   Front Connector and Pin Definitions

1. Upgrade Connectors

The upgrade connectors are used for manufacturer diagnostic purposes only.

3. Backplane Main Power Connectors

The 4-pin connectors, designated JP3, JP4, JP5 and JP6 provide power to the backplane. See the table on the right for pin definitions.

Backplane Main Power 4-Pin Connector	
Pin#	Definition
1	+12V
2 and 3	Ground
4	+5V

4. - 9. SAS IN Ports (Sideband included)

The SAS ports are used to connect the SAS drive cables. The four SAS IN ports are designated J17, J18, J19 and J20. Each port is also compatible with SATA drives.

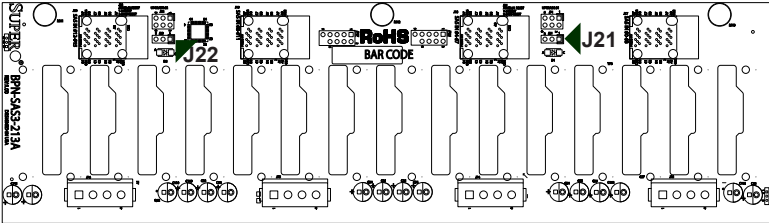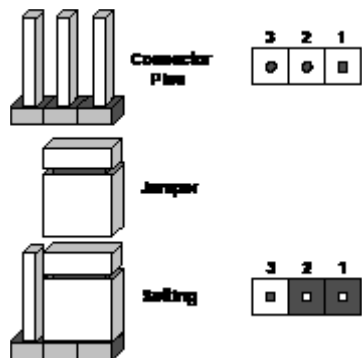| Sideband Definitions (JSM1 - JSM6)			
Pin #	Definition	Pin #	Definition
A0	SB0	C1	SB4
B2	SB1	D1	SB5
C2	SB2	D2	SB6
B1	SB3	A1	SB7

2-3   Front Jumpers

Figure 2-2. 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.

Jumper Settings	
Jumper	**Description**
J21	Chip reset, for manufacturing use only. Pins 1-2: Reset, red LED is always on Pins 2-3: No reset, LED operates normally (default)
J22	Chip reset, for manufacturing use only. Pins 1-2: Reset, red LED is always on Pins 2-3: No reset, LED operates normally (default)

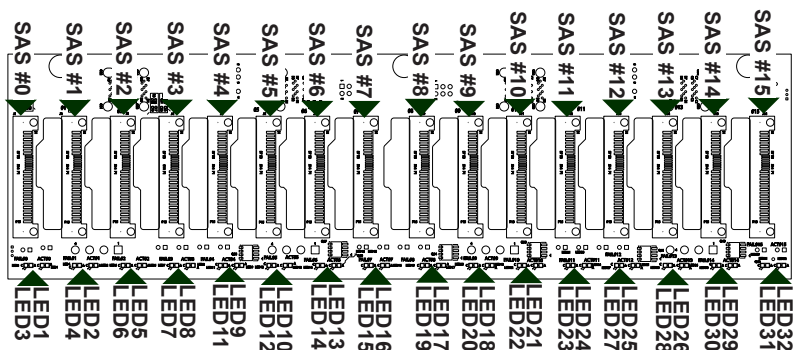## 2-4   Rear Components, Connectors and LED Indicators

Figure 2-3. Rear SAS/SATA Connectors and LED Indicators			
Rear Connector	**SAS Drive Number**	**Failure LED**	**Activity LED**
SAS #0	SAS/SATA HDD #0	LED3	LED1
SAS #1	SAS/SATA HDD #1	LED4	LED2
SAS #2	SAS/SATA HDD #2	LED6	LED5
SAS #3	SAS/SATA HDD #3	LED7	LED8
SAS #4	SAS/SATA HDD #4	LED11	LED9
SAS #5	SAS/SATA HDD #5	LED12	LED10
SAS #6	SAS/SATA HDD #6	LED14	LED13
SAS #7	SAS/SATA HDD #7	LED15	LED16
SAS #8	SAS/SATA HDD #8	LED19	LED17
SAS #9	SAS/SATA HDD #9	LED20	LED18
SAS #10	SAS/SATA HDD #10	LED22	LED21
SAS #11	SAS/SATA HDD #11	LED23	LED24
SAS #12	SAS/SATA HDD #12	LED27	LED25
SAS #13	SAS/SATA HDD #13	LED28	LED26
SAS #14	SAS/SATA HDD #14	LED30	LED29
SAS #15	SAS/SATA HDD #15	LED31	LED32

Notes

Disclaimer (cont.)

The products sold by Supermicro are not intended for and will not be used in life support systems, medical equipment, nuclear facilities or systems, aircraft, aircraft devices, aircraft/emergency communication devices or other critical systems whose failure to perform 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.