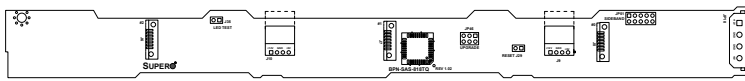
BPN-SAS-818TQ Backplane



USER'S GUIDE

REV. 1.0c

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 1.0c
Release Date: January 20, 2017

Table of 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.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.

Notes

Chapter 1

Guidelines

This chapter offers guidelines for personal and equipment safety, and notes about the BPN-SAS-818TQ version documented in this manual.

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 Version Information

The BPN-SAS-818TQ 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-SAS-818TQ, Revision 1.20, the most current release available at the time of publication. Refer to the Supermicro website at www.supermicro.com for the latest updates, compatible parts and supported configurations.

Chapter 2

Connectors, Jumpers and LEDs

2-1 Rear Connector Locations

The following connectors are on the side of the backplane that faces the rear of the chassis. They are marked by silkscreen labels.

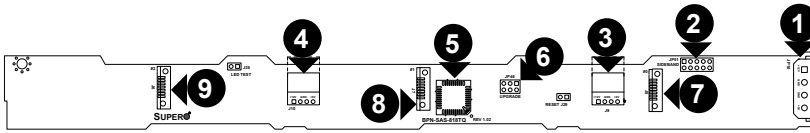


Figure 2-1. BPN-SAS-818TQ Rear View

Rear Connectors

1. Main Power Connector: JP10
2. Sideband (SGPIO) Connector: JP51
3. DVD-ROM Drive Power Connector: J9
4. DVD-ROM Drive Power Connector: J10
5. MG9071 Chip
6. MG9071 Upgrade Header: JP46
7. J8: SAS Port #0
8. J7: SAS Port #1
9. J6: SAS Port #2

2-2 Rear Connector and Pin Definitions

1. Main Power Connector

The 4-pin connector, designated JP10, provides 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

2. Sideband Connector

The sideband connector is designated JP51. For SES-2 to work properly, you must connect an 8-pin sideband cable to JP51. See the table to the right for pin definitions.

Sideband Connector			
Pin #	Definition	Pin #	Definition
2	SDataIn (SGPIO Data In)	1	N/C
4	SDataIn (SGPIO Data Out)	3	GND
6	GND	5	SLoad (SGPIO Load)
8	N/C	7	SClock (SGPIO Clock)

3. - 4. DVD-ROM 4-Pin Connectors

The 4-pin connectors, designated J9 and J10, provide power to the DVD-ROM drive. See the table on the right for pin definitions.

CD-ROM/ FDD Power 4-Pin Connector	
Pin#	Definition
1	+12V
2 and 3	Ground
4	+5V

5. MG9071 Chip

The MG9071 is an enclosure management chip used in the BPN-SAS-818TQ backplane.

6. MG9071 Upgrade Header

The upgrade header is designated JP46 and is used for manufacturing purposes only.

7. - 9. SAS Ports

The SAS ports are used to connect the SAS drive cables. The three ports are designated #0 - #2 and are compatible with SAS/SATA drives.

2-3 Rear Jumper Locations and Pin Definitions

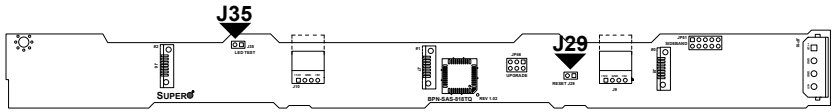
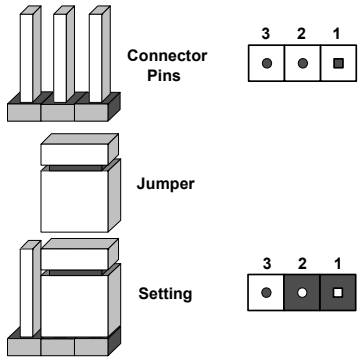


Figure 2-2. BPN-SAS-818TQ Rear Jumpers

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	**Jumper Settings**	**Note**
J35	Open = Default Closed = Enabled	Activity LED Test
J29	Open = Default Closed = Reset	Chip Reset

2-4 Front Connectors and LED Indicators

Front Connector Locations

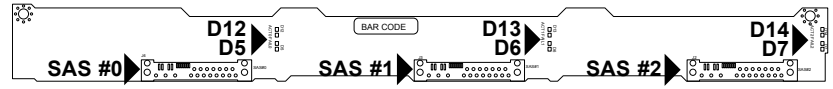


Figure 2-3. BPN-SAS-818TQ Front View

Front Connector/LED Indicator Descriptions

Front SAS Connectors	
Rear Connector	**SAS Drive Number**
SAS#0	SAS/SATA HHD #0
SAS#1	SAS/SATA HHD #1
SAS#2	SAS/SATA HHD #2

Front LED Indicators	
Rear LED Indicator	**Hard Drive Activity and Failure LEDs**
D12	SCA#0 Activity LED (Connected to HDD)
D13	SCA#1 Activity LED (Connected to HDD)
D14	SCA#2 Activity LED (Connected to HDD)
D5	SAS#0 Failure LED (Connected to HDD)
D6	SAS#1 Failure LED (Connected to HDD)
D7	SAS#2 Failure LED (Connected to HDD)

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.