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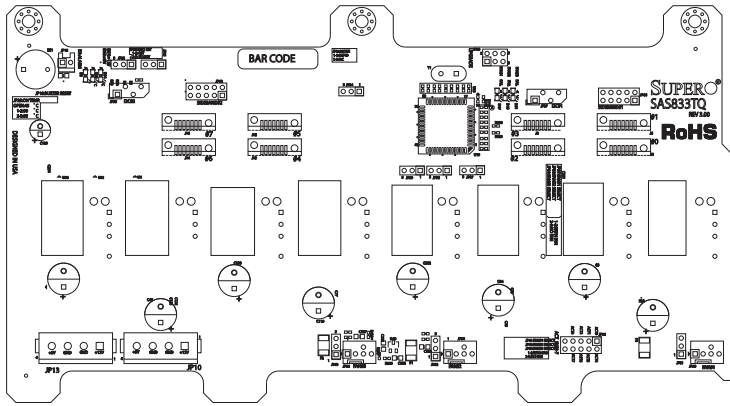

SAS-833TQ BACKPLANE

USER'S GUIDE

Rev. 1.0b

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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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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

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 RAID card 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.

Chapter 2

Jumper Settings and Pin Definitions

2-1 Front Connectors and Jumpers

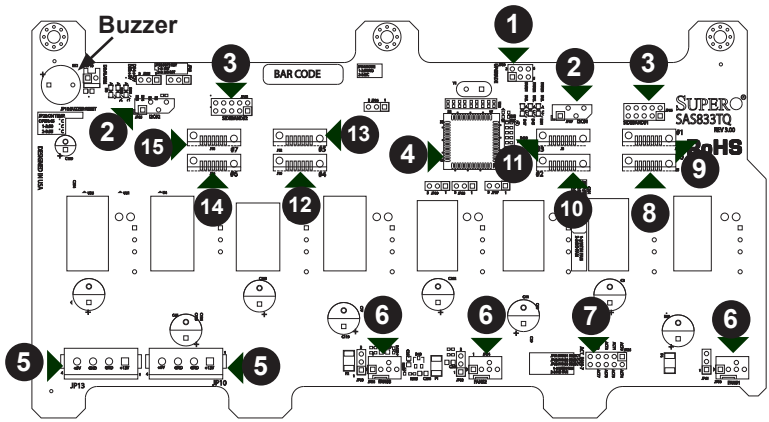


Figure 2-1: Front Components

Front Components

Front Jumpers and Components:

1. Upgrade Connector JP69
2. I²C Connector#1 JP37 and I²C Connector#2 JP95
3. Sideband Connector#1 JP66 and Sideband Connector#2 JP68
4. Chip: MG9072
5. Power Connectors (4-pin): JP10 and JP13
6. Fan Connectors: JP54, JP56 and JP60
7. ACT_IN: JP26
8. SAS Port #0 J5
9. SAS Port #1 J6

10. SAS Port #2 J7

11. SAS Port #3 J8

12. SAS Port #4 J10

13. SAS Port #5 J12

14. SAS Port #6 J14

15. SAS Port #7 J16

2-2 Front Connector and Pin Definitions

1. Upgrade Connector

The upgrade connector, designated JP69, is used for manufacturer's diagnostic purposes only.

2. I²C Connectors

The I²C connectors, designated JP37 and JP95, are used to monitor HDD activity and status. See the table on the right for pin definitions.

I²C Connector Pin Definitions (JP37 and JP95)

Pin#	Definition
1	Data
2	Ground
3	Clock
4	No Connection

3. Sideband Headers

The sideband headers are designated JP66 and JP68. For SES-2 to work properly, you must connect an 8-pin sideband cable. See the table to the right for pin definitions.

NOTE: SGPIO is the default setting for this backplane.

Sideband Headers (JP66 and JP68)

Pin #	Definition	Pin #	Definition
2	**SGPIO:** SDIN **I²C:** Backplane Addressing (SB5)	1	Controller ID (SB6)
4	**SGPIO:** SDOUT **I²C:** Reset (SB4)	3	GND (SB2)
6	GND (SB3)	5	**SGPIO:** SLOAD **I²C:**SDA (SB1)
8	Backplane ID (SB7)	7	**SGPIO:** SCLOCK **I²C:**SCL (SB0)
10	No Connection	9	No Connection

4. MG9072 Chip

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

5. Backplane Main Power Connectors

The 4-pin connectors, designated JP10 and JP13 provide power to the backplane. See the table on the right for pin definitions.

Backplane Main Power 4-Pin Connector (JP10 and JP13)	
Pin#	Definition
1	+12V
2 and 3	Ground
4	+5V

6. Fan Connectors

The 3-pin connectors, designated JP54, JP56, and JP60, provide power to the fans. See the table on the right for pin definitions.

Fan Connectors (JP54, JP56, and JP60)	
Pin#	Definition
1	Ground
2	+12V
3	Tachometer

7. Activity LED Header

The activity LED header, designated JP26, is used to indicate the activity status of each SAS drive. The Activity LED Header is located on the front panel. For the Activity LED Header to work properly, connect using a 10-pin LED cable.

SAS Activity LED Header Pin Definitions (JP26)			
Pin #	Definition	Pin #	Definition
1	ACT IN#0	6	ACT IN#4
2	ACT IN#1	7	ACT IN#5
3	ACT IN#2	8	ACT IN#6
4	ACT IN#3	9	ACT IN#7
5	Ground	10	Empty

8-15. SAS Ports

The SAS ports are used to connect the SAS drive cables. The 8 ports are designated #0 - #7. Each port is also compatible with SATA drives.

2-3 Front Jumper Locations and Pin Definitions

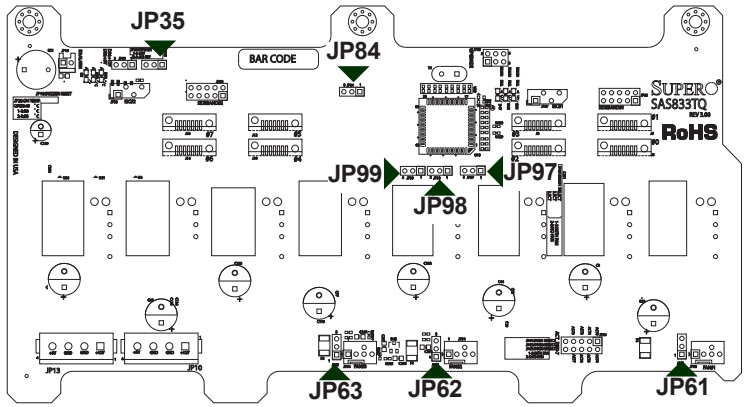
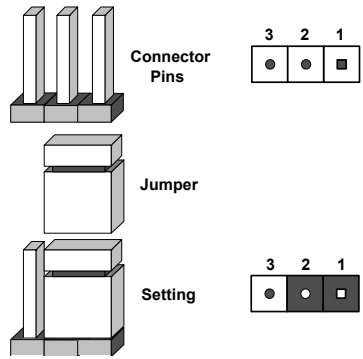


Figure 2-2: Jumper Locations

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**
JP35	1-2: Reset 2-3: No reset	MG9072 chip reset

Socket Settings		
Socket	**Socket Setting**	**Note**
JP18	Connected to front panel	Buzzer reset Press once to disable buzzer Press twice to enable buzzer

Fan Jumper Settings

This backplane can use up to three fans. To utilize each fan, you must configure **both jumpers** as instructed below.

Fan Jumper Settings		
Jumper	**Jumper Settings**	**Note**
JP61	1-2:With fan 2-3:No fan	FAN #1 select
JP97	1-2:With fan 2-3:No fan	FAN #1 select
JP62	1-2:With fan 2-3:No fan	FAN #2 select
JP98	1-2:With fan 2-3:No fan	FAN #2 select
JP63	1-2: With fan 2-3:No fan	FAN #3 select
JP99	1-2: With fan 2-3:No fan	FAN #3 select

I²C and SGPIO Modes and 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.

SGPIO and I²C Jumper Settings (Default)

Jumper	SGPIO Jumper Setting (Default)	I²C Jumper Setting	Note
JP84	1-2	2-3	Controller ID #1

Front LED Indicators

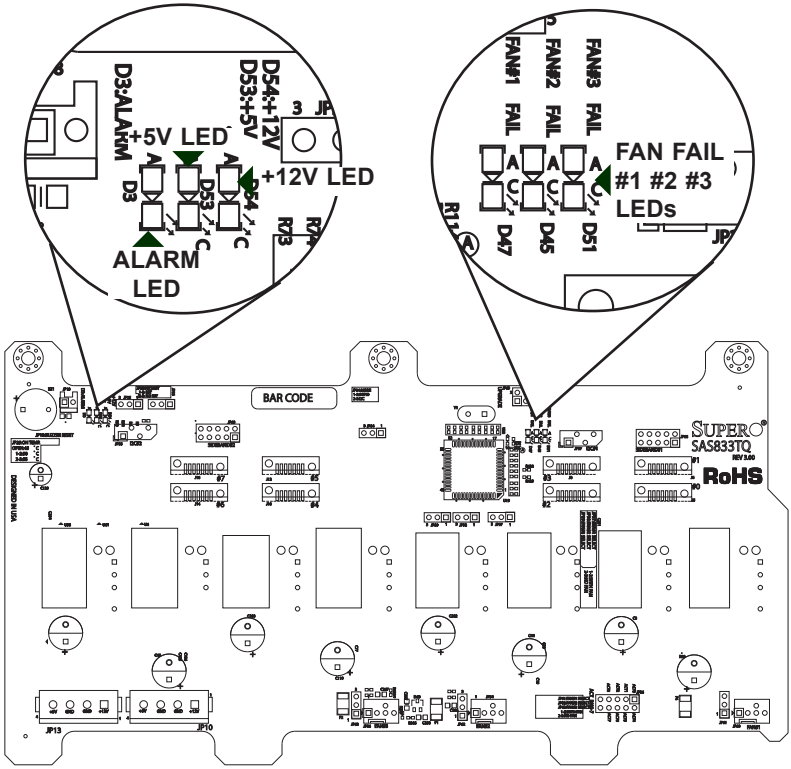


Figure 2-3: Front LEDs

Front Panel LEDs		
LED	**Normal State**	**Specification**
Fan #1 fail	Off	Failure in Fan #1
Fan #2 fail	Off	Failure in Fan #2
Fan #3 fail	Off	Failure in Fan #3
Alarm #1	Off	Overheat/drive failure
+5V	On	Backplane power failure. Light is on during normal operation.
+12V	On	Backplane power failure. Light is on during normal operation.

2-4 Rear Connectors and LED Indicators

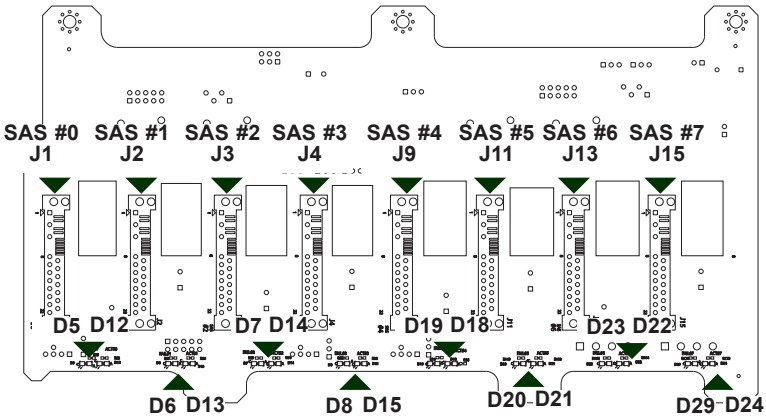


Figure 2-4: Rear Connectors

Rear SAS/SATA Connectors	
Rear Connector	**SAS Drive Number**
SAS #0	SAS/SATA HDD #0
SAS #1	SAS/SATA HDD #1
SAS #2	SAS/SATA HDD #2
SAS #3	SAS/SATA HDD #3
SAS #4	SAS/SATA HDD #4
SAS #5	SAS/SATA HDD #5
SAS #6	SAS/SATA HDD #6
SAS #7	SAS/SATA HDD #7

Rear LED Indicators		
Rear LED	**Hard Drive Activity**	**Failure LED**
SAS #0	D12	D5
SAS #1	D13	D6
SAS #2	D14	D7
SAS #3	D15	D8
SAS #4	D18	D19
SAS #5	D21	D20
SAS #6	D22	D23
SAS #7	D24	D29

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