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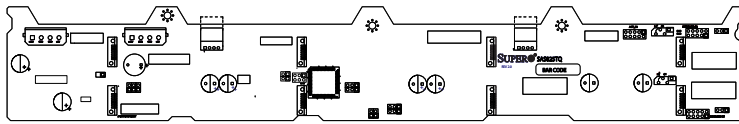

SAS-825TQ Backplane

USER'S GUIDE

Rev. 1.0c

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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.

Notes

Chapter 1

SAS-825TQ 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-825TQ backplane.
- Disconnect the power cable before installing or removing any cables from the SAS-825TQ backplane.
- Make sure that the SAS-825TQ 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.

1-4 Introduction to the SAS-825TQ Backplane

The SAS-825TQ 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-825TQ Revision 2.0, 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 Pin Definitions

2-1 Front Connectors and SAS Ports

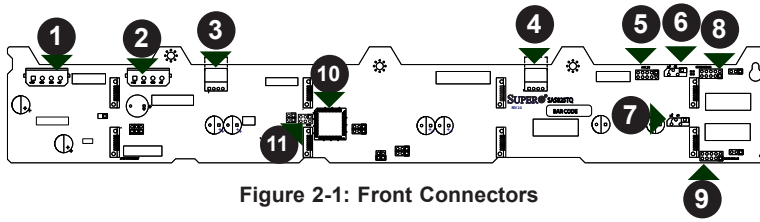


Figure 2-1: Front Connectors

Front Connectors

1. 4-pin power connector: JP13
2. 4-pin power connector: JP10
3. CD-ROM/floppy connector: JP18
4. CD-ROM/floppy connector: JP17
5. Activity in LED header: JP26
6. I²C Connector #2: JP45
7. I²C Connector #1: JP44
8. Sideband Connector #2: JP52
9. Sideband Connector #1: JP51
10. MG9072 chip
11. Upgrade Header: JP46

SAS Ports

12. SAS Port #0
13. SAS Port #1
14. SAS Port #2
15. SAS Port #3
16. SAS Port #4
17. SAS Port #5
18. SAS Port #6
19. SAS Port #7

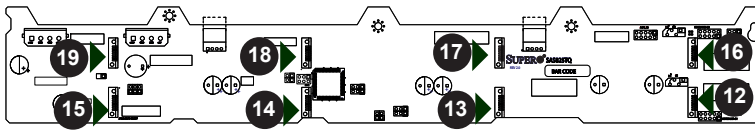


Figure 2-2: Front SAS Ports

2-2 Front Connector and Pin Definitions

#1 and #2 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

Pin#	Definition
1	+12V
2 and 3	Ground
4	+5V

#3 and #4 CD-ROM/Floppy Pin Connectors

Pin connectors designated J17 and J18, provide power to the CD-ROM and floppy drives. See the table on the right for pin definitions.

CD-ROM/FDD Power 4-Pin Connector

Pin#	Definition
1	+5V
2 and 3	Ground
4	+12V

#5 Activity LED Headers

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 lead header to work properly, connect to it using a 10-pin LED cable. This is only used when the activity LED is not supported by the hard drive.

SAS Activity LED Header Pin Definitions

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

#6 and #7 I²C Connectors

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

I²C Connector Pin Definitions

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

#8 and #9 Sideband Headers

The sideband headers 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.

Sideband Headers

Pin #	Definition	Pin #	Definition
2	SGPIO: SDIN; I²C: Backplane Addressing	1	Controller ID (SB6)
4	SGPIO: SDOUT; I²C: Reset	3	GND (SB2)
6	GND (SB3)	5	SGPIO: SLOAD; I²C: SDA
8	Backplane ID (SB7)	7	SGPIO: SCLOCK; 1²C: SCL
10	No Connection	9	No Connection

#10 MG9072 Chip

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

#11 Upgrade Header

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

#12 to #19 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

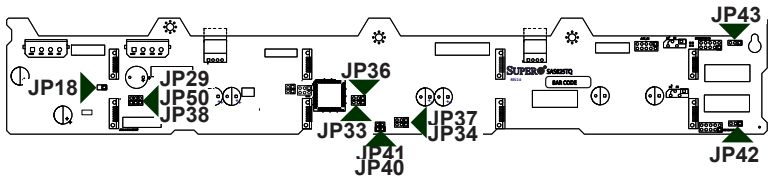
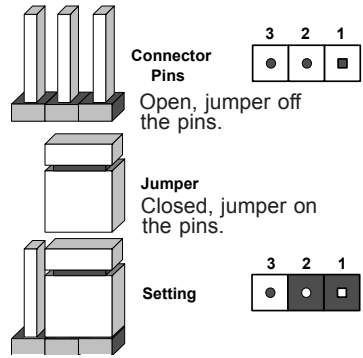


Figure 2-3: Front Jumpers

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	**Jumper Settings**	**Note**
JP29	Open (Jumper off the pins): Default Closed (Jumper on the pins): Reset	MG9072 Chip Reset
JP18	Open (Jumper off the pins): Default Closed (Jumper on the pins): Reset	Buzzer Reset*

*The buzzer sound indicates that a condition requiring immediate attention has occurred.

The buzzer alarm is triggered by the following conditions:

1. Hard drive failure
2. System temperature over 45º Celsius.

SGPIO and I²C Modes and Jumper Settings

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

SGPIO Settings (Default)		
Jumper	Jumper Setting	Notes
JP33	2-3	Controller ID #1
JP34	1-2	Backplane ID #1 1-2: ID#0 2-3: ID#1
JP36	2-3	Controller ID #2
JP37	2-3	Backplane ID #2 1-2: ID#0 2-3: ID#1
JP38	Open (Jumper off pins)	I²C Reset #2
JP40	Open (Jumper off pins)	I²C Reset_SDOUT#1
JP41	Open (Jumper off pins)	I²C Reset_SDOUT#2
JP42	2-3	I²C Backplane ID_SDIN#1
JP43	2-3	I²C Backplane ID_SDIN#2
JP50	Open (Jumper off pins)	I²C Reset #1

Note: For SGPIO settings to work properly, use different backplane IDs for JP34 and JP37. When JP34 is set to 1-2 (ID#0), set JP37 to 2-3 (ID#1). Conversely, when JP34 is set to 2-3 (ID#1) set JP37 to 1-2 (ID#0)

I²C Settings		
Jumper	Jumper Setting	Notes
JP33	2-3	Controller ID #1
JP34	1-2	Backplane ID #1 1-2: ID#0 2-3: ID#1
JP36	2-3	Controller ID #2
JP37	2-3	Backplane ID #2 1-2: ID#0 2-3: ID#1
JP38	Closed (Jumper on the pins)	I²C Reset #2
JP40	Open (Jumper off the pins)	I²C Reset_SDOUT#1
JP41	Open (Jumper off the pins)	I²C Reset_SDOUT#2
JP42	2-3	I²C Backplane ID_SDIN#1
JP43	2-3	I²C Backplane ID_SDIN#2
JP50	Closed (Jumper on the pins)	I²C Reset #1

SAS Port Connections in I²C and SGPIO Settings

Use the following chart when connecting this backplane. If the SAS ports are connected out of order, it is not easy to identify drives using the LED function.

SAS Port Connections in I²C and SGPIO Settings		
Port #	**I²C**	**SGPIO**
# 0 - 3	I²C #1	Sideband #1
# 4 - 7	I²C #2	Sideband #2

Front LED Indicators

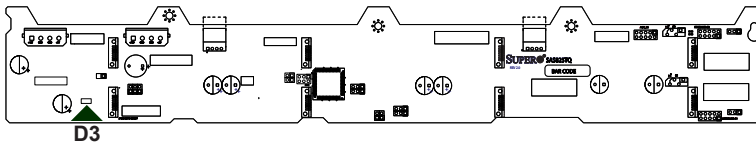


Figure 2-4: Front LED

Front Panel LEDs		
LED	**State**	**Specification**
D3	On	Overheat/drive failure LED indicator. (Red light: Flashing. Buzzer: On, if activated)

2-4 Rear Connectors and LED Indicators

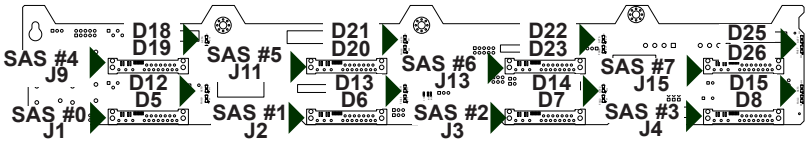


Figure 2-5: Rear Connectors and LEDs

Rear SAS/SATA Connectors			
Rear Connector	**SAS Drive Number**	**Rear Connector**	**SAS Drive Number**
SAS #0 J1	SAS/SATA HDD #0	SAS #4 J9	SAS/SATA HDD #4
SAS #1 J2	SAS/SATA HDD #1	SAS #5 J11	SAS/SATA HDD #5
SAS #2 J3	SAS/SATA HDD #2	SAS #6 J13	SAS/SATA HDD #6
SAS #3 J4	SAS/SATA HDD #3	SAS #7 J15	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	D25	D26

Notes

Disclaimer (cont.)

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