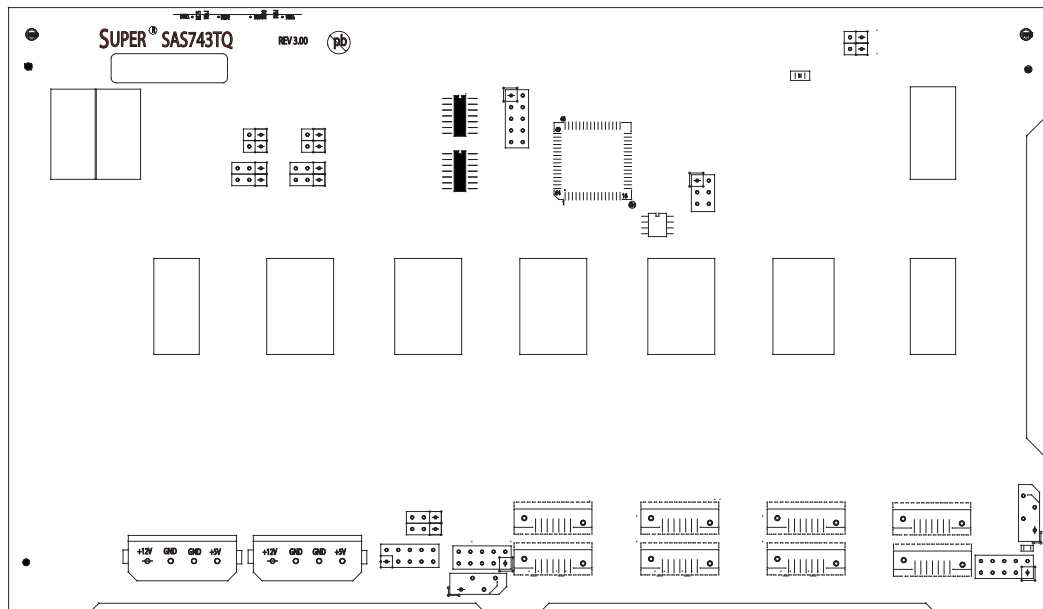


SUPER[®]



SAS-743TQ Backplane

USER'S GUIDE

Rev. 1.0b

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Table of Contents

Contacting Supermicro.....	iv
Returning Merchandise for Service.....	v
Chapter 1 Safety Guidelines	1-1
1-1 ESD Safety Guidelines	1-1
1-2 General Safety Guidelines	1-1
1-3 An Important Note to Users	1-1
1-4 Introduction to the SAS-743TQ Backplane.....	1-2
Chapter 2 Jumper Settings and Pin Definitions	2-1
2-1 Front Connectors and Jumpers	2-1
Front Connectors	2-1
2-2 Front Connector and Pin Definitions.....	2-2
2-3 Front Jumper Locations and Pin Definitions.....	2-4
I ² C and SGPIO Mode Jumper Settings	2-6
SAS Port Connections in I ² C and SGPIO Settings	2-7
Front LED Indicators	2-8
2-4 Rear Connectors and LED Indicators	2-9

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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.

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.

1-4 Introduction to the SAS-743TQ Backplane

The SAS-743TQ 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-743TQ Revision 3.00, 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

Jumper Settings and Pin Definitions

2-1 Front Connectors

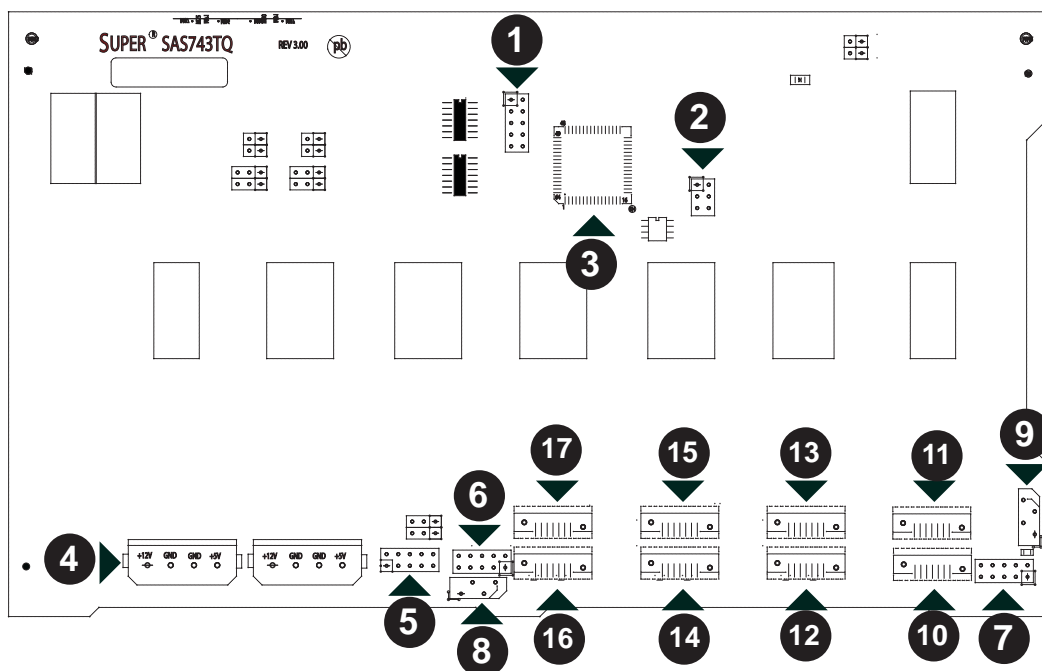


Figure 2-1: Front Connectors

- | | |
|--|---------------------------------------|
| 1. JTAG Connector: JP47 | 9. I ² C Connector #1 JP44 |
| 2. Upgrade Connector: JP46 | 10. SAS Port #0 J5 |
| 3. Chip: MG9072 | 11. SAS Port #1 J6 |
| 4. Power Connectors (4-pin): JP10,
and JP13 | 12. SAS Port #2 J7 |
| 5. ACT IN: JP26 | 13. SAS Port #3 J8 |
| 6. Sideband Connector #2 JP52 | 14. SAS Port #4 J10 |
| 7. Sideband Connector #1 JP51 | 15. SAS Port #5 J12 |
| 8. I ² C Connector #2 JP45 | 16. SAS Port #6 J14 |
| | 17. SAS Port #7 J16 |

2-2 Front Connector and Pin Definitions

#1. and 2. JTAG Connector and Upgrade Connectors

The JTAG and Upgrade connectors, designated JP47 and JP46, are used for diagnostic purposes. These connectors should be used by a certified and experienced technician.

#3. MG9072 Chip

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

#4. 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

#5. 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.

#6. and #7. Sideband Headers

The sideband headers are designated JP51 and JP52. For SES-2 to work properly, you must connect an 10-pin sideband cable. See the table to the right for pin definitions.

Sideband Headers			
Pin #	Definition	Pin #	Definition
2	Backplane Addressing (SB5)	1	Controller ID (SB6)
4	Reset (SB4)	3	GND (SB2)
6	GND (SB3)	5	SDA (SB1)
8	Backplane ID (SB7)	7	SCL (SB0)
10	No Connection	9	No Connection

#8. and #9. I²C Connectors

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

I ² C Connector Pin Definitions	
Pin#	Definition
1	Data
2	Ground
3	Clock
4	No Connection

#10. - #17. 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. However, do NOT mix SAS and SATA drives in the same enclosure.

2-3 Front Jumper Locations and Pin Definitions

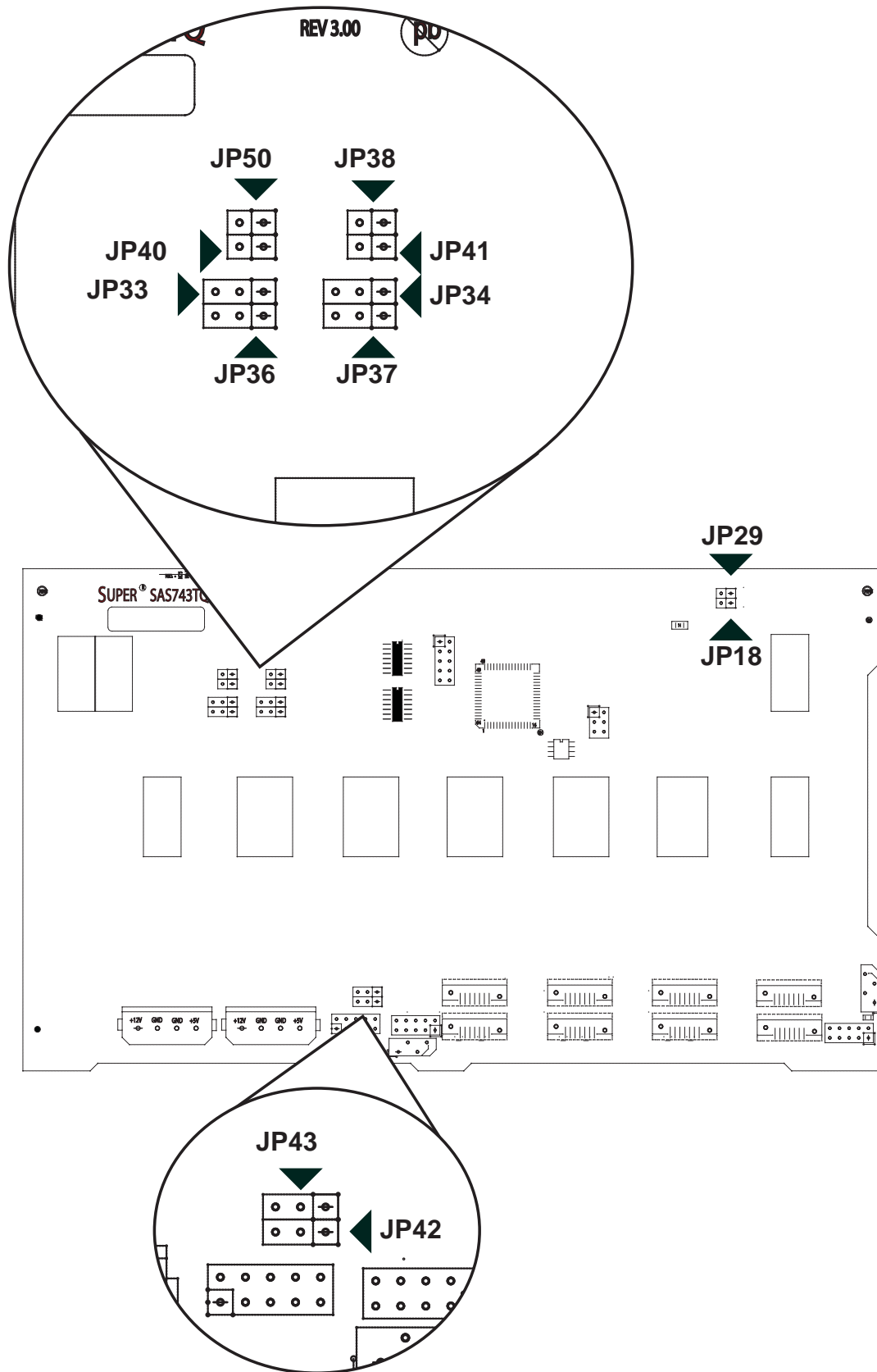
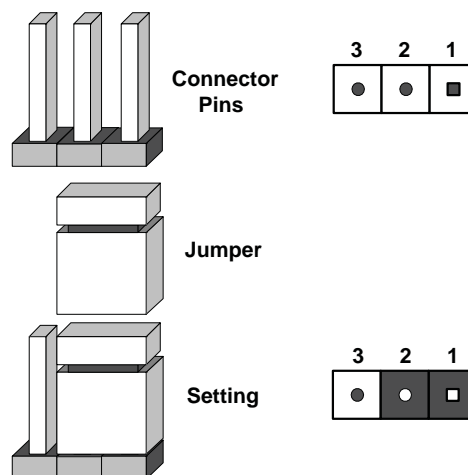


Figure 2-2: Front Jumpers

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	Jumper Settings	Note
JP18	Open: Enabled Closed: Disabled	Buzzer Reset*
JP29	Open: Default Closed: Reset	MG9072 Chip 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. Fan failure
3. System temperature over 45° Celsius.

I²C and SGPIO Mode Jumper Settings

This backplane can utilize I²C or SGPIO. I²C 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 SGPIO mode or restore your backplane to I²C mode.

I ² C and SGPIO Settings			
Jumper	I ² C Jumper Setting (Default)	SGPIO Jumper Setting	Note
JP33	2-3	1-2	Controller ID #1
JP34	1-2:ID#0	1-2	Backplane ID #1
JP36	2-3	1-2	Controller ID #2
JP37	2-3:ID#1	1-2	Backplane ID #2
JP38	Closed	Open	I ² C Reset #2
JP40	Open	Closed	I ² C Reset SDOUT #1
JP41	Open	Closed	I ² C Reset SDOUT #2
JP42	2-3	1-2	Backplane ID SDIN #1
JP43	2-3	1-2	Backplane ID SDIN #2
JP50	Closed	Open	I ² C Reset #1

SAS Port Connections in I²C and SGPIO Settings

Use the following chart when connecting this backplane. If you connect the SAS ports out of order, you will not be able to easily identify drives using the LED function.

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

Front LED Indicators

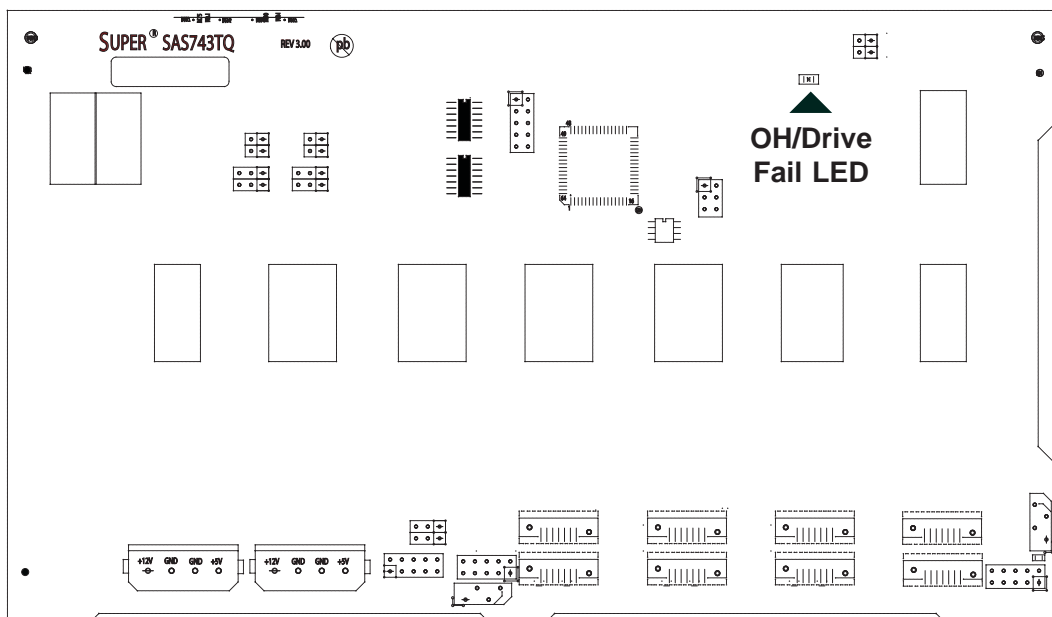


Figure 2-3: Front LEDs

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

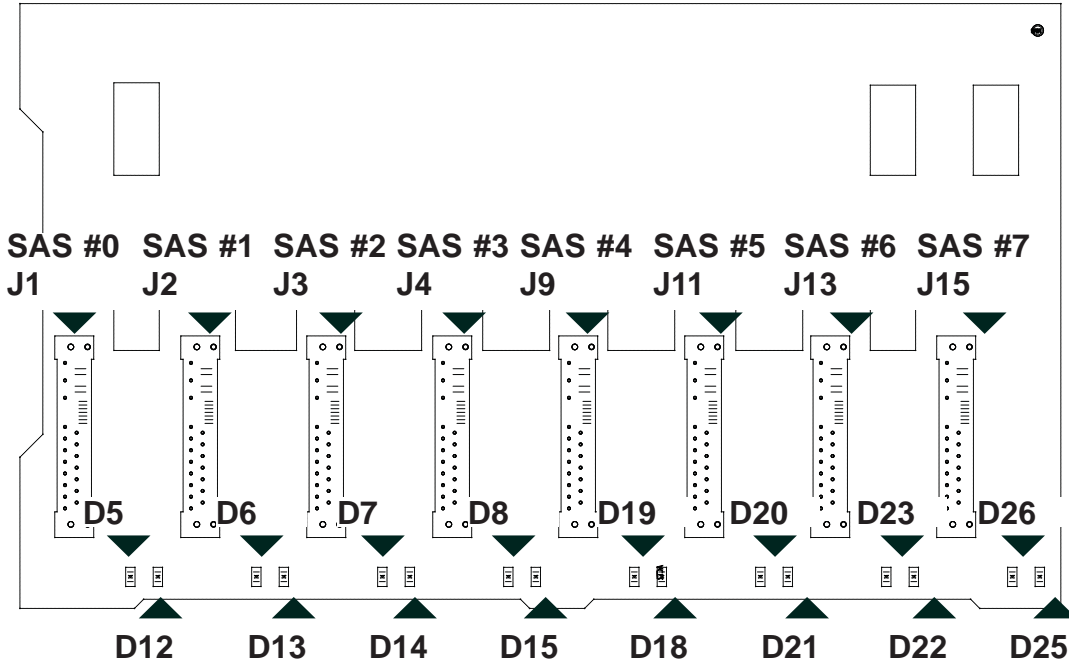


Figure 2-4: Rear Connectors

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	D25	D26

Notes

Disclaimer (cont.)

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