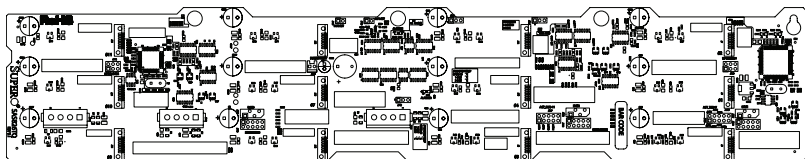


SUPERO[®]



SAS 826TQ 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.

Manual Revision 1.0b

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Table of Contents

Contacting Supermicro.....	iv
Returning Merchandise for Service.....	v
Chapter 1 BPN-SAS 826TQ Safety Guidelines	
1-1 ESD Safety Guidelines	1-1
1-2 General Safety Guidelines	1-1
1-3 An Important Note to Users	1-2
Chapter 2 Jumpers and Pin Definitions	
2-1 Front Connectors and Jumpers	2-1
Front Connectors	2-1
SAS Ports.....	2-1
2-2 Front Connector and Pin Definitions.....	2-2
2-3 Front Jumper Locations and Pin Definitions.....	2-4
Explanation of Jumpers	2-4
I ² C and SGPIO Modes and Jumper Settings	2-5
SAS Port Connections in I ² C and SGPIO Settings	2-6
Front LED Indicators.....	2-6
2-4 Rear Connectors and LED Indicators	2-7

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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-826TQ 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

Electric Static 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 SAS-826TQ Backplane.
- Disconnect the power cable before installing or removing any cables from the SAS-826TQ Backplane.
- Make sure that the SAS-826TQ 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

Jumpers and Pin Definitions

2-1 Front Connectors and Jumpers

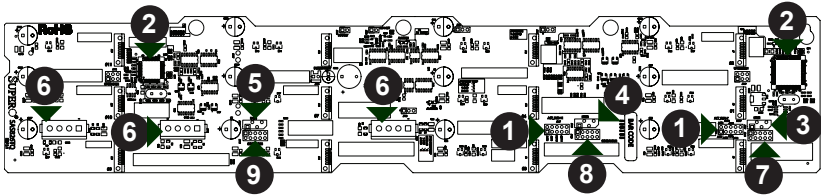


Figure 2-1: Front Connectors

Front Connectors

- #1. ACT_IN: JP26 and JP47
- #2. Chips: MG 9071 and MG 9072
- #3. I²C Connector#1 JP37
- #4. I²C Connector#2 JP95
- #5. I²C Connector#3 JP52
- #6. Power Connectors (4-pin): JP10, JP13, and JP46
- #7. SideBand Connector#1 JP66
- #8. SideBand Connector#2 JP68
- #9. SideBand Connector#3 JP75

SAS Ports

- #10. SAS Port #0 J5
- #11. SAS Port #1 J6
- #12. SAS Port #2 J7
- #13. SAS Port #3 J8
- #14. SAS Port #4 J10
- #15. SAS Port #5 J12
- #16. SAS Port #6 J14
- #17. SAS Port #7 J16
- #18. SAS Port #8 J22
- #19. SAS Port #9 J23
- #20. SAS Port #10 J24
- #21. SAS Port #11 J25

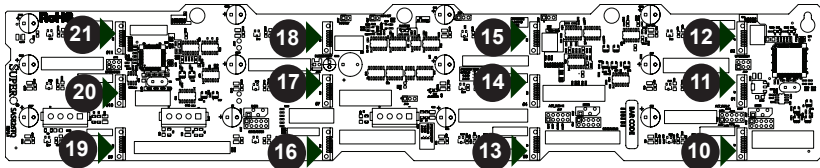


Figure 2-2: Front SAS Ports

2-2 Front Connector and Pin Definitions

#1. Activity LED Headers

The activity LED headers, designated JP26 and JP47, are used to indicate the activity status of each SAS drive. The activity LED headers are located on the front panel. For the activity lead headers to work properly, connect to them 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 (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

SAS Activity LED Header Pin Definitions (JP47)			
Pin #	Definition	Pin #	Definition
1	ACT IN#8	6	ACT IN#12
2	ACT IN#9	7	ACT IN#13
3	ACT IN#10	8	ACT IN#14
4	ACT IN#11	9	ACT IN#15
5	Ground	10	Empty

#2. MG9071 and MG9072 Chips

The MG9071 and MG9072 are enclosure management chips that support the SES-2 controller and SES-2 protocols.

#3/#4/#5. I²C Connectors

The I²C Connectors, designated JP37, JP52, and JP95, are used to monitor HDD activity and status. See the table on the right for pin definitions.

I ² C Connector Pin Definitions (JP37, JP52, and JP95)	
Pin#	Definition
1	Data
2	Ground
3	Clock
4	No Connection

#6. Backplane Main Power Connectors

The 4-pin connectors, designated JP10, JP13, and JP46 provide power to the backplane. See the table on the right for pin definitions.

Backplane Main Power 4-Pin Connector (JP10, JP13, and JP46)	
Pin#	Definition
1	+12V
2 and 3	Ground
4	+5V

#7/#8/#9. Sideband Headers

SGPIO is the default mode setting. The sideband headers are designated JP66, JP68, and JP75. 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 (JP66, JP68, and JP75)			
Pin #	Definition	Pin #	Definition
2	SGPIO: SDIN; I ² C: Backplane Addressing	1	Controller ID (SB6)
4	SGPIO: SDOUT; I ² C: Reset	3	GND (SB2)
6	GND (SB3)	5	SGPIO: SLOAD; I ² C: SDA
8	Backplane ID (SB7)	7	SGPIO: SCLOCK; I ² C: SCL
10	No Connection	9	No Connection

#10-#21. SAS Ports

The SAS ports are used to connect the SAS drive cables. The 12 ports are designated #0 - #11. Each port is also compatible with SATA drives.

2-3 Front Jumper Locations and Pin Definitions

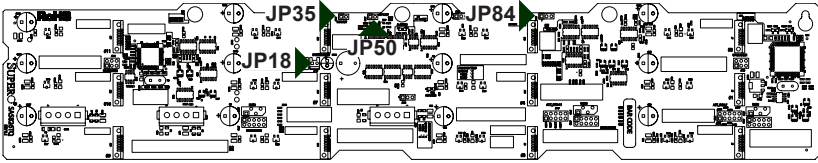
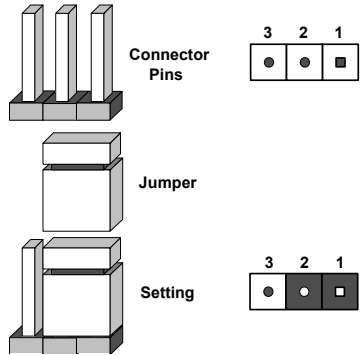


Figure 2-3: Front Jumpers

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
JP35	Open: Default Closed: Reset	9072 Chip Reset #1
JP50	Open: Default Closed: Reset	9071 Chip Reset #2
JP18	Open: Default Closed: Reset	Buzzer Reset #2

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 jumper must be configured to use SGPIO mode or restore your backplane to I²C mode.

Jumper Settings: SGPIO (Default) and I²C		
Jumper	SGPIO (Default) Setting	I²C Setting
JP84	1-2: SGPIO mode enable	2-3: I ² C mode enable

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 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
# 8 - 11	I ² C #3	Sideband #3

Front LED Indicators

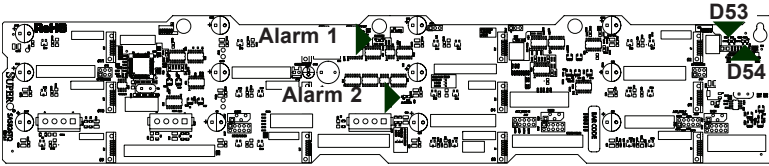


Figure 2-4: Front LEDs

Front Panel LEDs		
LED	STATE	SPECIFICATION
Alarm #1 (D3)	ON	Overheat/drive failure in Channel 1.
Alarm #2 (D36)	ON	Overheat/drive failure in Channel 2.
D53	ON	Indicates +5V power. Light is on during normal operation.
D54	ON	Indicates +12V power. Light is on during normal operation.

2-4 Rear Connectors and LED Indicators

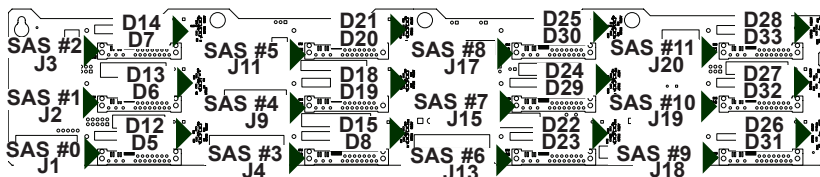


Figure 2-5: Rear Connectors and LEDs

Rear SAS/SATA Connectors			
Rear Connector	SAS Drive Number	Rear Connector	SAS Drive Number
SAS #0	SAS/SATA HDD #0	SAS #6	SAS/SATA HDD #6
SAS #1	SAS/SATA HDD #1	SAS #7	SAS/SATA HDD #7
SAS #2	SAS/SATA HDD #2	SAS #8	SAS/SATA HDD #8
SAS #3	SAS/SATA HDD #3	SAS #9	SAS/SATA HDD #9
SAS #4	SAS/SATA HDD #4	SAS #10	SAS/SATA HDD #10
SAS #5	SAS/SATA HDD #5	SAS #11	SAS/SATA HDD #11

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
SAS #8	D25	D30
SAS #9	D26	D31
SAS #10	D27	D32
SAS #11	D28	D33

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