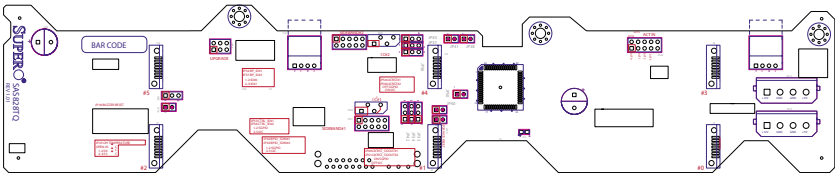


SUPER[®]



SAS 828TQ BACKPLANE

USER'S GUIDE

Rev. 1.0a

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Manual Revision 1.0

Release Date: August 21, 2007

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Printed in the United States of America

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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

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 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.

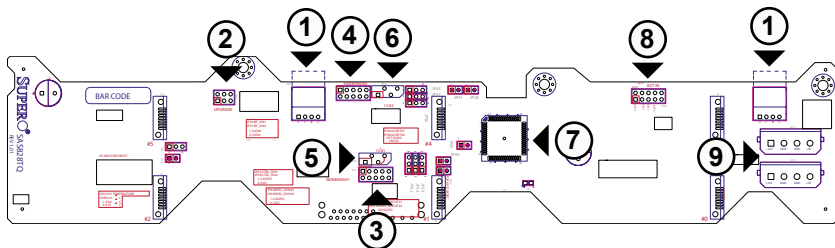
1-3 An Important Note to Users

- 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.

Notes

Chapter 2: Jumper Settings and Pin Definitions

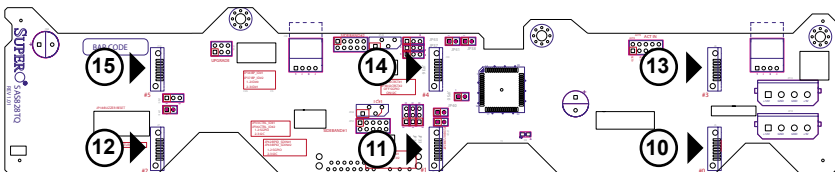
2-1 Front Connectors and Jumpers



Front Connectors

- | | |
|--|--|
| 1. CD-ROM/Floppy Drive Power: JP17 and J18 | 9. Power Connectors (4-pin): JP10 and JP13 |
| 2. Upgrade Connector JP46 | 10. SAS Port #0 J5 |
| 3. SideBand Connector#1 JP51 | 11. SAS Port #1 J6 |
| 4. SideBand Connector#2 JP52 | 12. SAS Port #2 J7 |
| 5. I ² C Connector#1 JP44 | 13. SAS Port #3 J8 |
| 6. I ² C Connector#2 JP45 | 14. SAS Port #4 J10 |
| 7. MG9072 CHIP | 15. SAS Port #5 J12 |
| 8. ACT_IN JP26 | |

SAS Ports



2-2 Front Connector and Pin Definitions

1. CD-ROM/Floppy 4-Pin Connectors

The 4-pin connectors, designated JP105 and JP106, 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 (JP17 and JP18)	
Pin#	Definition
1	+5V
2 and 3	Ground
4	+12V

2. Upgrade Connector

The Upgrade connector, designated JP46, is used for manufacturer's diagnostic purposes only.

3 and 4. 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 (JP51 and JP52)			
Pin #	Definition	Pin #	Definition
2	SGPIO: SDIN I ² C: Backplane Addressing (SB5)	1	Controller ID (SB6)
4	SGPIO: SDOUT I ² C: Reset (SB4)	3	GND (SB2)
6	GND (SB3)	5	SGPIO: SLOAD I ² C:SDA (SB1)
8	Backplane ID (SB7)	7	SGPIO: SCLOCK I ² C:SCL (SB0)
10	No Connec- tion	9	No Connection

5 and 6. 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 (JP44 and JP45)	
Pin#	Definition
1	Data
2	Ground
3	Clock
4	No Connection

7. MG9072 Chip

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

8. 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	Not Used
4	ACT IN#3	9	Not Used
5	Ground	10	Empty

9. Backplane Main Power Connectors

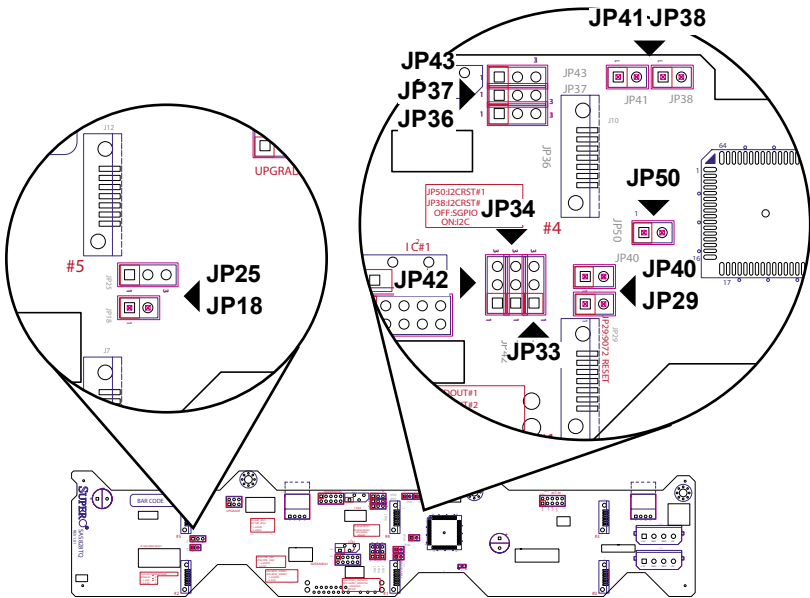
The 4-pin connectors, designated JP10, and JP13, provide power to the backplane. See the table on the right for pin definitions.

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

10-15. SAS Ports

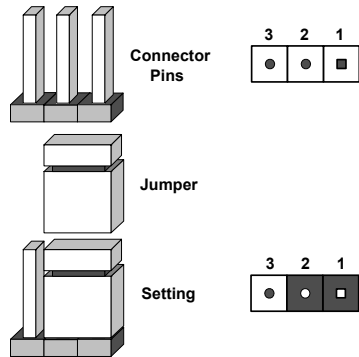
The SAS ports are used to connect the SAS drive cables. The six ports are designated #0 - #5. Each port is also compatible with SAS and SATA drives.

2-3 Front Jumper Locations and Pin Definitions



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
JP25	Open: 45°C 1-2: 50°C 2-3: 55°C	Overheat Temperature
JP29	Open: Default Closed: Reset	MG 9071 Chip Reset

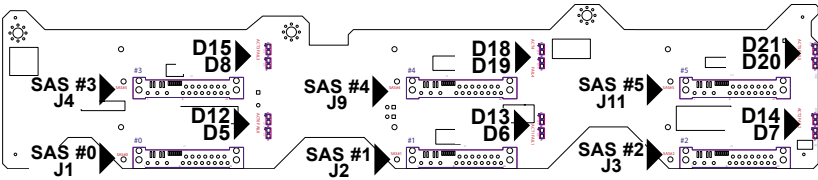
I²C and SGPIO Modes and Jumper Settings

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

I²C Setting		
Jumper	Jumper Setting	Note
JP33	2-3	Controller ID #1
JP34	1-2	Backplane ID #1 (use ID #0)
JP36	2-3	Controller ID #2
JP37	2-3	Backplane ID #2 (use ID #1)
JP38	Closed	I ² C Reset #2
JP40	Open	I ² C Reset #1
JP41	Open	I ² C Reset #2
JP42	2-3	Blackplane ID #1
JP43	2-3	Blackplane ID #2
JP50	Closed	I ² C Reset #1

2-4 Rear Connectors and LED Indicators



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

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