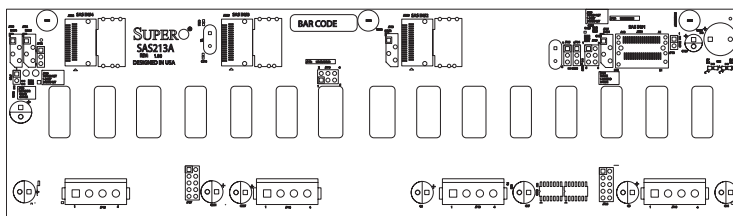


SUPERO[®]



SAS-213A BACKPLANE

USER'S GUIDE

Rev. 1.0

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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 1.0

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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

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 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.

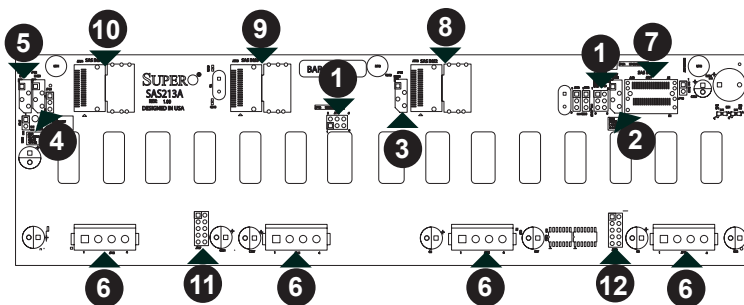
1-3 A Note to Users

- 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



Front Connectors

- | | |
|---|--------------------------|
| 1. Upgrade Connectors JP69 and JP78 | 7. SAS IN#1 JSM1 |
| 2. I ² C Connector #1 (JP37) | 8. SAS IN#2 JSM2 |
| 3. I ² C Connector #2 (JP95) | 9. SAS IN#3 JSM3 |
| 4. I ² C Connector #3 (JP52) | 10. SAS IN#4 JSM4 |
| 5. I ² C Connector #4 (JP96) | 11. JP27 Activity LED #2 |
| 6. Power Connectors (4-pin): JP10, JP13, JP46, JP48 | 12. JP26 Activity LED #1 |

2-2 Front Connector and Pin Definitions

1. Upgrade Connectors

The upgrade connectors are designated JP69, and JP78 are used for manufacturer's diagnostic purposes only.

2. - 5. I²C Connectors

The I²C Connectors, designated JP37, JP95, JP52 and JP96 are used to monitor HDD activity and status. See the table on the right for pin definitions.

I ² C Connector Pin Definitions (JP37, JP95, JP52 and JP96)	
Pin# Definition	
1	Data
2	Ground
3	Clock
4	No Connection

6. Backplane Main Power Connectors

The 4-pin connectors, designated JP10, JP13, JP46 and JP48 provide power to the backplane. See the table on the right for pin definitions.

Backplane Main Power 4-Pin Connector (JP10, JP13, JP46, and JP48)	
Pin# Definition	
1	+12V
2 and 3	Ground
4	+5V

7. - 10. SAS IN Ports (Sideband included)

The SAS ports are used to connect the SAS drive cables. The four SAS IN ports are designated #JSM1 - #JSM4. Each port is also compatible with SATA drives.

Sideband Definitions (JSM1 - JSM4)			
Pin # Definition		Pin # Definition	
A11	SGPIO: SDIN FC: Backplane Addressing (SB5)	B11	Controller ID (SB6)
A12	SGPIO: SDOUT FC: Reset (SB4)	B10	GND (SB2)
A9	GND (SB3)	B9	SGPIO: SLOAD FC: SDA (SB1)
A8	Backplane ID (SB7)	B8	SGPIO: SCLOCK FC: SCL (SB0)

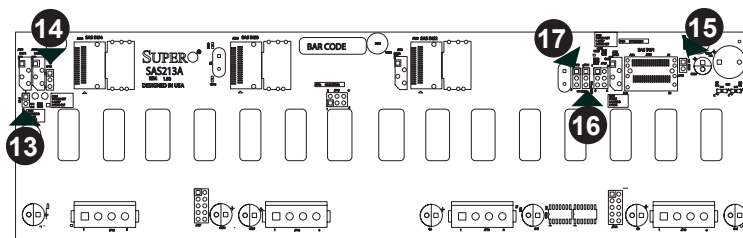
11. - 12. ACT_IN:

The activity LED connectors, designated JP26, and JP27 are used to indicate the activity status of each SAS drive. The activity LED connector is located on the front panel. For the activity LED connector to work properly, connect 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	X	Empty

SAS Activity LED Header Pin Definitions (JP27)			
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	X	Empty

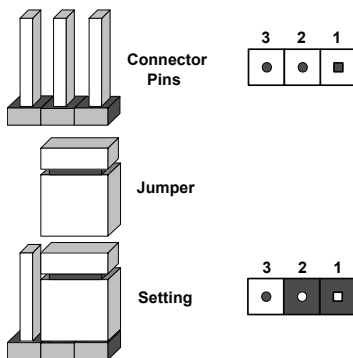
2-3 Front Jumper Locations and Pin Definitions



13. JP80 I²C Addr On C0, Off C2 (Not populated)
14. Chip Reset JP36 1-2 Reset, 2-3 No Reset (Not populated)
15. Buzzer Reset JP18
16. JP84 1-2 SGPIO, 2-3 I²C
17. Chip Reset JP35 1-2 Reset, 2-3 No Reset (Not populated)

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.



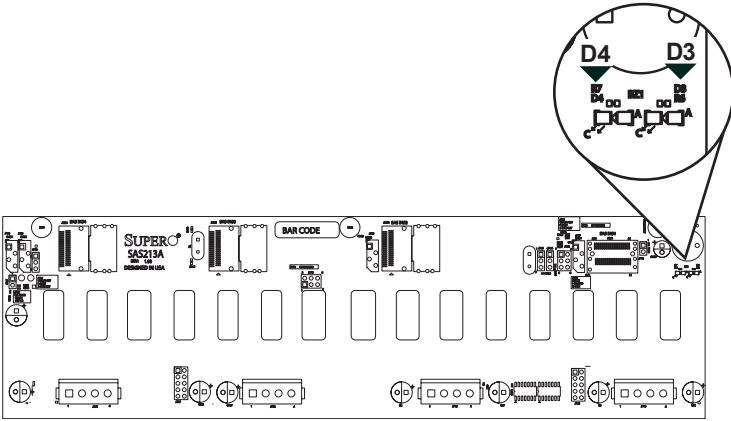
I²C and SGPIO Modes and Jumper Settings

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

SGPIO Setting (Default)		
Jumper	Jumper Setting	Note
JP84	1-2	SGPIO Mode Setting

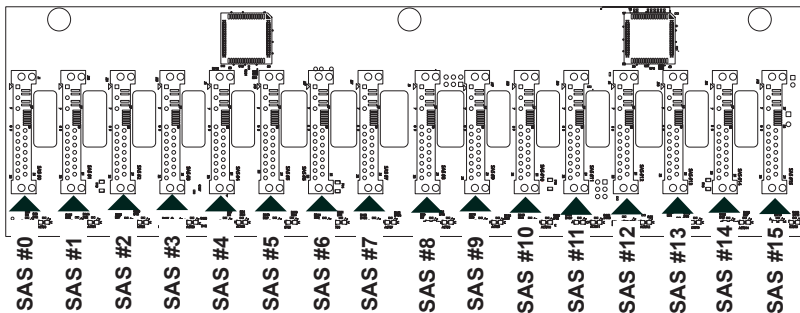
I²C Setting		
Jumper	Jumper Setting	Note
JP84	2-3	I ² C Setting

Front LED Indicators



Front Panel LEDs		
LED	State	Specification
D3	ON	Alarm #1
D4	ON	Alarm #2

2-4 Rear Components, 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
SAS #6	SAS/SATA HDD #6
SAS #7	SAS/SATA HDD #7
SAS #8	SAS/SATA HDD #8
SAS #9	SAS/SATA HDD #9
SAS #10	SAS/SATA HDD #10
SAS #11	SAS/SATA HDD #11
SAS #12	SAS/SATA HDD #12
SAS #13	SAS/SATA HDD #13
SAS #14	SAS/SATA HDD #14
SAS #15	SAS/SATA HDD #15

Rear LED Indicators		
Rear LED	Hard Drive Activity	Failure LED
SAS #0	D12	D5
SAS #1	D22	D23
SAS #2	D40	D37
SAS #3	D102	D107
SAS #4	D13	D6
SAS #5	D24	D29
SAS #6	D41	D38
SAS #7	D104	D108
SAS #8	D14	D7
SAS #9	D25	D30
SAS #10	D42	D39
SAS #11	D106	D109
SAS #12	D15	D8
SAS #13	D26	D31
SAS #14	D87	D88
SAS #15	D111	D110

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Notes