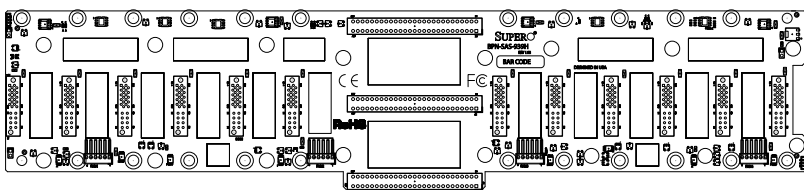


# SUPERO®



## BPN-SAS-939H 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.**

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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

### BPN-SAS-938H Safety Guidelines

To avoid personal injury and property damage, carefully follow all of the safety steps listed below when accessing the backplane or handling the components.

#### 1-1 ESD Safety Guidelines

*Electrostatic Discharge (ESD) can damage electronic components. To prevent damage to the backplane 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 backplane 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 system, including the SAS-938H backplane.
- Disconnect the power cord before installing or removing any cables from the SAS-938H backplane.
- Make sure that the SAS-938H backplane is securely and properly installed in the chassis to prevent damage to the system due to a 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 backplane you have received may or may not look exactly the same as the graphics shown in this manual.

## **1-4 Introduction to the SAS-938H Backplane**

The SAS-938H backplane has been designed to utilize the most up-to-date technology available, providing your system with reliable, high-quality performance.

This manual reflects BPN-SAS-939H Revision 1.03, the most current release available at the time of publication. Always refer to the Supermicro web site at [www.supermicro.com](http://www.supermicro.com) for the latest updates, compatible parts and supported configurations.



## Chapter 2

### Connectors and Jumpers

#### 2-1 Corresponding Components of the SC939 Chassis

The BPN-SAS-939H backplane is designed with twelve separate sectors, each supporting one motherboard node, two hard drives and sharing a fan with two neighboring sectors.

Corresponding Components				
Node	Node Connector	Fan	HDDs	SAS/SATA Ports
Node 1	J1	Fan 1	A1, A2	SAS#0, SAS#1
Node 2	J2	Fan 1	B1, B2	SAS#2, SAS#3
Node 3	J3	Fan 1	C1, C2	SAS#4, SAS#5
Node 4	J4	Fan 2	D1,D2	SAS#6, SAS#7
Node 5	J5	Fan 2	E1, E2	SAS#8, SAS#9
Node 6	J6	Fan 2	F1, F2	SAS#10, SAS#11
Node 7	J7	Fan 3	G1, G2	SAS#12, SAS#13
Node 8	J8	Fan 3	H1, H2	SAS#14, SAS#15
Node 9	J9	Fan 3	I1, I2	SAS#16, SAS#17
Node 10	J10	Fan 4	J1, J2	SAS#18, SAS#19
Node 11	J11	Fan 4	K1, K2	SAS#20, SAS#21
Node 12	J12	Fan 4	L1, L2	SAS#22, SAS#23

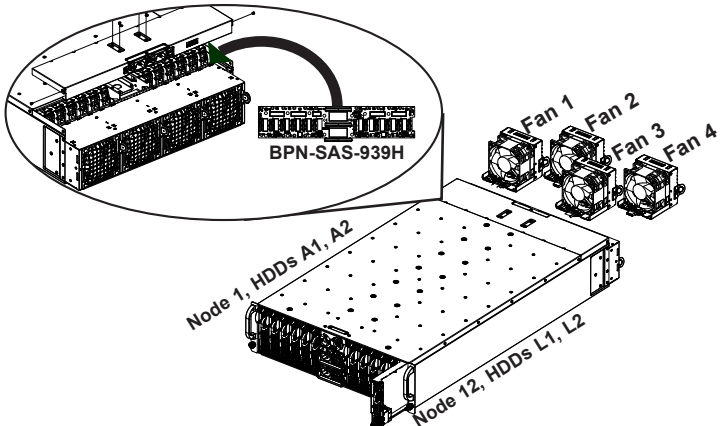


Figure 2-1: Corresponding Components In the SC939 Chassis

## 2-2 Front Connectors

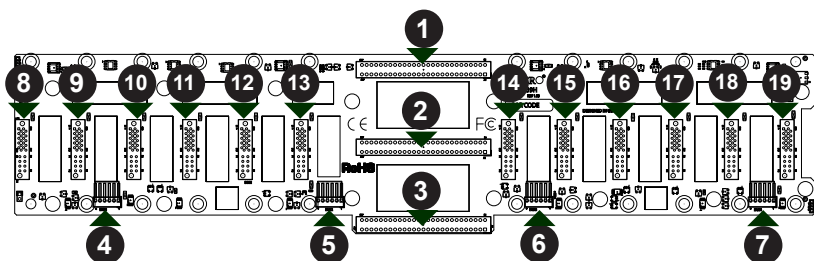


Figure 2-2: Front Connectors

- |                             |                              |
|-----------------------------|------------------------------|
| 1. Power Connector: J26     | 11. MB#3 Node Connector: J4  |
| 2. Power Connector: J28     | 12. MB#4 Node Connector J5   |
| 3. Power Connector: J27     | 13. MB#5 Node Connector J6   |
| 4. Fan1 Connector: JP54     | 14. MB#6 Node Connector J7   |
| 5. Fan2 Connector: JP55     | 15. MB#7 Node Connector J8   |
| 6. Fan3 Connector: JP56     | 16. MB#8 Node Connector J9   |
| 7. Fan4 Connector: JP57     | 17. MB#9 Node Connector J10  |
| 8. MB#0 Node Connector: J1  | 18. MB#10 Node Connector J11 |
| 9. MB#1 Node Connector: J2  | 19. MB#11 Node Connector J12 |
| 10. MB#2 Node Connector: J3 |                              |

### 1. - 3. Power Connectors

These connectors, designated J26, J28 and J27, supply power to the twelve motherboard nodes in the chassis.

### 4. - 7 Fan Connectors

These connectors, designated JP54, JP55, JP56 and JP57 supply power to the chassis cooling fans.

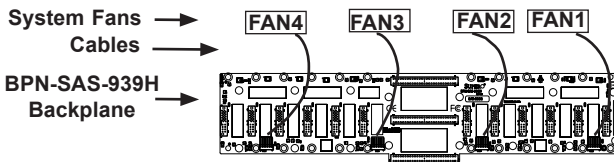


Figure 2-3 Default Configuration - Fans Connected Directly to the Backplane

### 10-19. Motherboard to Backplane Connectors

These connectors, designated J1 through J12 connect the motherboards to the backplane on the chassis as follows:

- J1 - Motherboard node 1
- J2 - Motherboard node 2
- J3 - Motherboard node 3
- J4 - Motherboard node 4
- J5 - Motherboard node 5
- J6 - Motherboard node 6
- J7 - Motherboard node 7
- J8 - Motherboard node 8
- J9 - Motherboard node 9
- J10 - Motherboard node 10
- J11 - Motherboard node 11
- J12 - Motherboard node 12

## 2-3 Front Jumpers and Pin Definitions

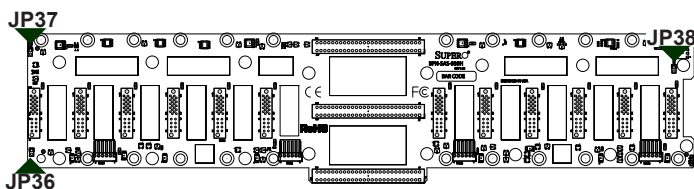
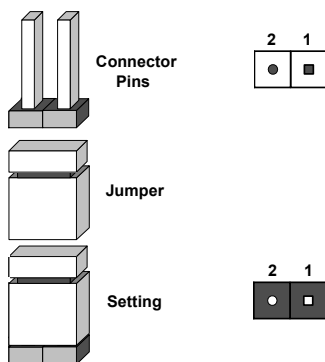


Figure 2-4: Front Jumpers

### 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	Notes
JP36	Open: All nodes can access PMBus	Depends upon the motherboard, few motherboards support this function
	Closed: Only one node can access PMBus	Default setting
JP37	Open: One PWM control Close: Two PWM controls (Default)	Power settings
JP38	Open: General power failure alert function Closed: Smart power feature enable (Default)	Power failure alert

## Notes

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