

BPN-SAS3-116EL1 Backplane

USER'S GUIDE

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

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 A Note to Users

All images and layouts in this user's guide are based upon the latest PCB revision available at the time of publishing. The backplane you have received may not look exactly the same as the graphics in this manual.

Chapter 2

Connectors and Jumpers

2-1 Front Connectors

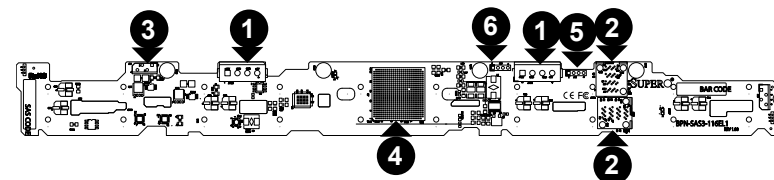


Figure 2-1. Front Connectors

- | | |
|--|------------------------------------|
| 1. Power Connectors (4-pin): JPW1 and JPW2 | 3. I ² C Connector: J21 |
| 2. SAS3 Connectors: JSM1 and JSM2 | 4. LSISAS3x28R Expander Chip |
| | 5. SBD Connector: J18 |
| | 6. UART Connector: J22 |

2-2 Front Connector Definitions

1. Backplane Main Power Connectors

The 4-pin connectors, designated JPW1 and JPW2 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

2. SAS Connectors

The SAS connectors are used to connect the SAS drive cables and are designated JSM1 and JSM2.

3. I²C Connector

This I²C connector is designated J21 and is reserved for future expansion.

4. Expander Chip

LSISAS3x28R expander chip.

5. SDB Connector

This connector is designated J18 and is for manufacturer's use only.

6. UART Connector

This connector is designated J22 and is for manufacturer's use only.

2-3 Rear Connectors and LED Indicators

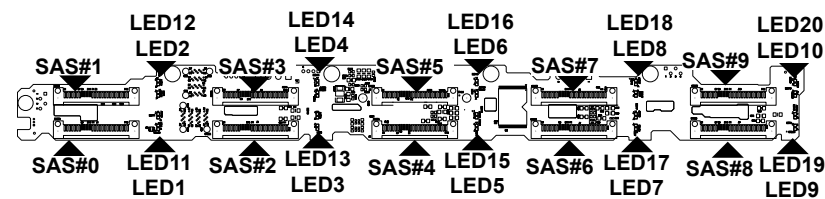


Figure 2-2. Rear Connectors and LEDs

Rear SAS2/SAS3 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

Rear LED Indicators		
Rear Connector	Activity LED	Failure LED
SAS#0	LED11	LED1
SAS#1	LED12	LED2
SAS#2	LED13	LED3
SAS#3	LED14	LED4
SAS#4	LED15	LED5
SAS#5	LED16	LED6
SAS#6	LED17	LED7
SAS#7	LED18	LED8
SAS#8	LED19	LED9
SAS#9	LED20	LED10

Notes

Chapter 3

Dual Port and Cascading Configurations

3-1 Single Port Expander

SAS connectors JSM1 and JSM2 are bidirectional and can be treated as input or output.

Single Ports

BPN-SAS3-116EL1 backplanes have a single port expander that accesses all of the drives and supports cascading.

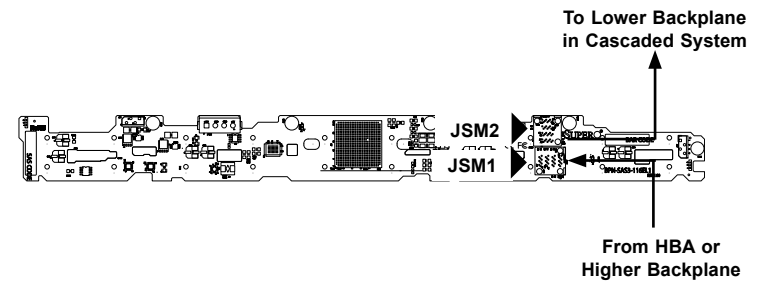


Figure 3-1. BPN-SAS3-116EL1 Single Port Configuration

3-2 Connecting HBAs to the Backplane

Connecting an Internal HBA to the Backplane

The following section lists the most common cables used to connect the HBA to the backplane.

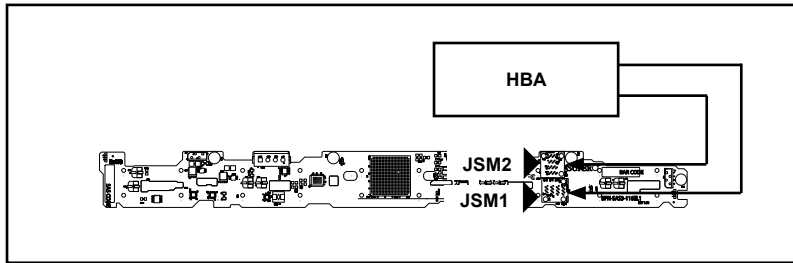


Figure 3-2. Single Internal Host Bus Adapter

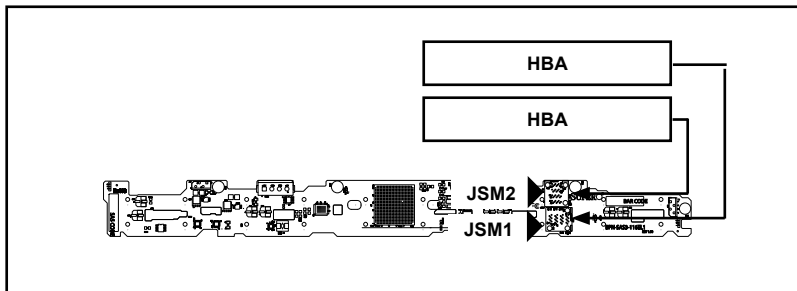


Figure 3-3. Dual Internal Host Bus Adapter

Supported Internal HBA Cables

Use the following cables to create connections between the internal HBA and BPN-SAS3-116EL1 backplane. The cables required depend upon the HBA connector.

Cable name: Internal HD (Mini-SAS) to HD (Mini-SAS)

Part #: CBL-SAST-0568 **Length:** 35 cm (13 inches)

Part #: CBL-SAST-0593 **Length:** 60 cm (23 inches)

Part #: CBL-SAST-0531 **Length:** 80 cm (31 inches)

Description: This cable has a Mini-SAS HD (SFF-8643) connector at both ends. It connects from the SAS3 HBA to the BPN-SAS3-116EL1 model backplane.

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