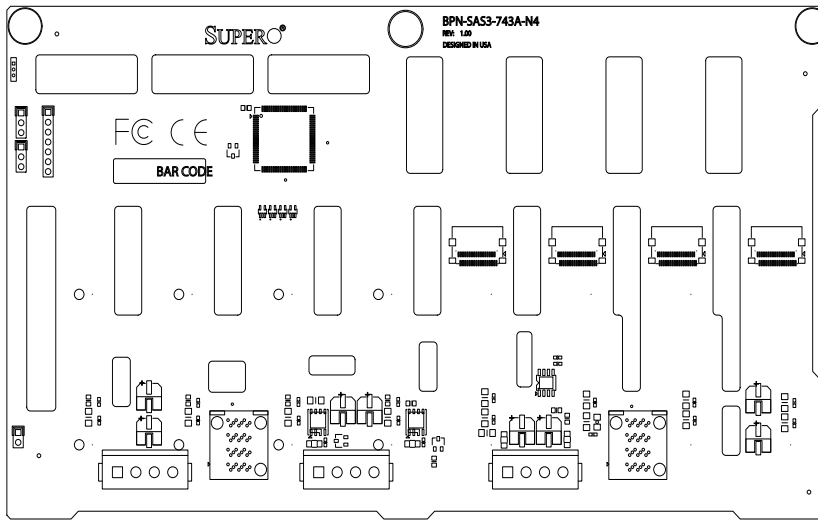


# BPN-SAS3-743A-N4 Backplane

## 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
Release Date: December 6, 2017

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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.

# 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 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.

## 1-4 Introduction to the BPN-SAS3-743A-N4 Backplane

The BPN-SAS3-743A-N4 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-SAS3-743A-N4 Revision 1.00, the most current release available at the time of publication. Always refer to the Supermicro Web site at www.supermicro.com for the latest updates, compatible parts, and supported configurations.

# Chapter 2

# Connectors and Pin Definitions

## 2-1 Front Connectors

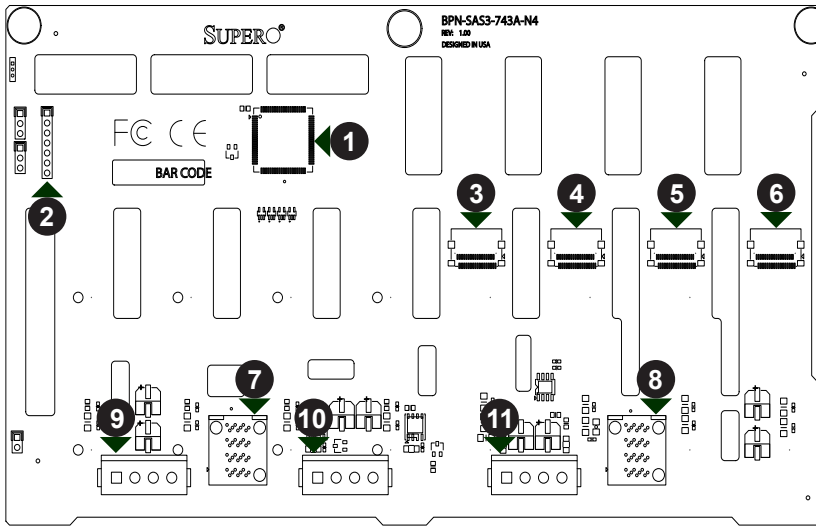



**Figure 2-1. Front Connectors**

1. Chip: CPLD
2. JTAG Connector: J16
3. NVMe Connector #3: CN3
4. NVMe Connector #2: CN2
5. NVMe Connector #1: CN1
6. NVMe Connector #0: CN0
7. SAS Port #1: JSM1
8. SAS Port #0: JSM0
9. Power Connector (4-pin) #3: JPW3
10. Power Connector (4-pin) #2: JPW2
11. Power Connector (4-pin) #1: JPW1

## 2-2 Front Connector Pin Definitions

**#1. CPLD Chip**

The CPLD is an enclosure management chip that supports the SGPIO and LED management.

**#2. JTAG Connector**

The JTAG connector, designated J16, is used for diagnostic purposes. This connector should not be used as it is for internal testing only.

**#3. - 6. NVMe Connectors**

The NVMe ports are used to connect the NVMe drive cables. To configure 2 NVMe drives, OCuLink cables CBL-SAST-0820 should be used to connect ports CN0 and CN1 to NVMe slots 1 and 2 on motherboard X11DAi-N. To configure 4 NVMe drives, OCuLink cables CBL-SAST-0820 should be used to connect all 4 ports to four corresponding ports on add-on card AOC-SLG3-4E4T in slot 3 of motherboard X11DAi-N and connected to the motherboard's NVMe I2C2 header with cable CBL-CDAT-0674.

**#7. - 8. SAS Ports**

The SAS ports are used to connect the SAS or SATA drive cables CBL-SAST-0532 to an HBA card inserted in a PCIe slot on motherboard X11DAi-N. The 2 ports are designated JSM0, for drives at SAS #0-#3, and JSM1, for drives at SAS #4-#7 (see section 2-4 for SAS drive locations). Each port is also compatible with SATA drives. However, mixing SAS and SATA drives in the same enclosure is not recommended.

**#9. - 11. Backplane Main Power Connectors**

The 4-pin connectors, designated JPW1, JPW2, and JPW3, 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 |

## 2-3 Front Jumper Locations and Pin Definitions

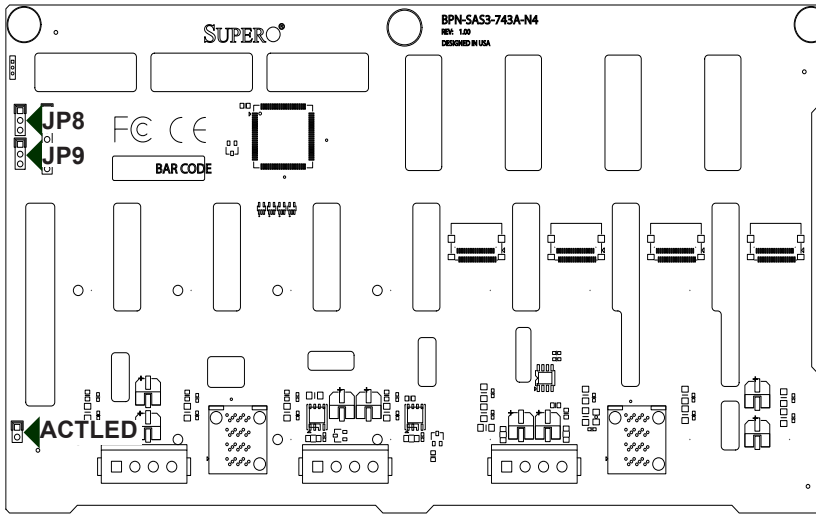
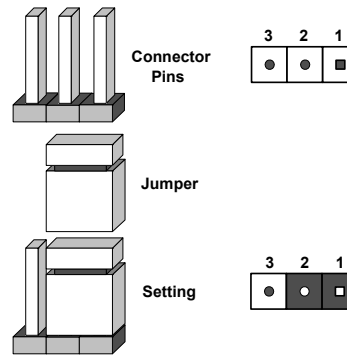



**Figure 2-2. Front Jumpers**

### 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 | | |
|---|---|---|
| **JP8** | **JP9** | **Description** |
| 2-3 | 2-3 | All 4 drives connected to main CPU. (default) |
| 1-2 | 2-3 | 3 drives connected to main CPU, 1 drive connected to 2nd CPU. |
| 2-3 | 1-2 | 2 drives connected to main CPU, 2 drives connected to 2nd CPU. |
| 1-2 | 1-2 | 1 drive connected to main CPU, 3 drives connected to 2nd CPU. |

| LED Test | |
|---|---|
| **ACTLED** | **Description** |
| Open | For internal use only. (default) |

## 2-4 Rear Connectors and LED Indicators

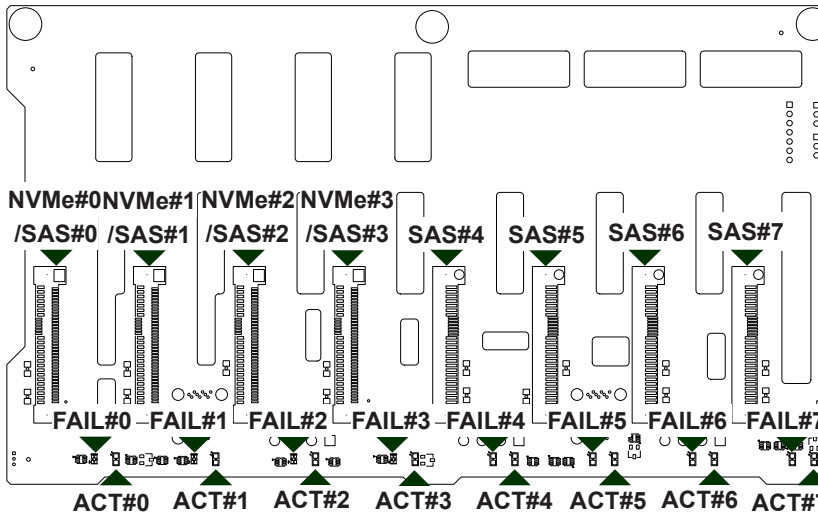



**Figure 2-4. Rear Connectors & LED Indicators**

| SAS/SATA/NVMe Connectors and LED Indicators | | | |
|---|---|---|---|
| **Rear Connector** | **SAS Drive Number** | **Failure LED** | **Activity LED** |
| #0 | SAS/SATA/NVMe HDD #0 | FAIL #0 | ACT #0 |
| #1 | SAS/SATA/NVMe HDD #1 | FAIL #1 | ACT #1 |
| #2 | SAS/SATA/NVMe HDD #2 | FAIL #2 | ACT #2 |
| #3 | SAS/SATA/NVMe HDD #3 | FAIL #3 | ACT #3 |
| #4 | SAS/SATA HDD #4 | FAIL #4 | ACT #4 |
| #5 | SAS/SATA HDD #5 | FAIL #5 | ACT #5 |
| #6 | SAS/SATA HDD #6 | FAIL #6 | ACT #6 |
| #7 | SAS/SATA HDD #7 | FAIL #7 | ACT #7 |

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