

BPN-NVMe3-216N-S4 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 card you have received may not look exactly the same as the graphics in this manual.

1-4 Introduction to the BPN-NVMe3-216N-S4 Backplane

The BPN-NVMe3-216N-S4 backplane has been designed to utilize the most up-to-date technology available, providing your system with reliable, high-quality performance.

Always refer to the Supermicro web site at www.supermicro.com for the latest updates, compatible parts, and supported configurations.

Chapter 2

Connectors and Jumpers

2-1 Front Connectors

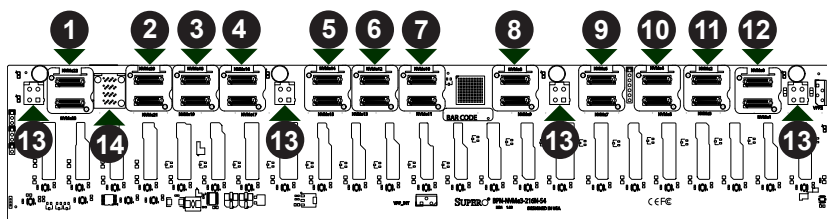


Figure 2-1. Front Connectors

- | | |
|--------------------------------|--|
| 1. NVMe #22 & #23: CN23 & CN24 | 9. NVMe #6 & #7: CN7 & CN8 |
| 2. NVMe #20 & #21: CN21 & CN22 | 10. NVMe #4 & #5: CN5 & CN6 |
| 3. NVMe #18 & #19: CN19 & CN20 | 11. NVMe #2 & #3: CN3 & CN4 |
| 4. NVMe #16 & #17: CN17 & CN18 | 12. NVMe #0 & #1: CN1 & CN2 |
| 5. NVMe #14 & #15: CN15 & CN16 | 13. Power Connectors (4-pin):
JPWR4, JPWR3, JPWR2, and
JPWR1 |
| 6. NVMe #12 & #13: CN13 & CN14 | |
| 7. NVMe #10 & #11: CN11 & CN12 | 14. Mini-SAS HD Connector: J25 |
| 8. NVMe #8 & #9: CN9 & CN10 | |

2-2 Front Connector and Pin Definitions

#1. - 12. NVMe Ports

The NVMe ports, designated CN1 through CN24, are used to connect the OCUlink cables. They correspond to drives DRV#0 through DRV#23. (See page 2-4 for drive locations.)

#13. Backplane Main Power Connectors

The 4-pin connectors, designated JPWR4, JPWR3, JPWR2, and JPWR1, provide power to the backplane. See the table on the right for pin definitions.

Backplane Main Power 4-Pin Connector	
Pin#	Definition
1 and 2	Ground
3 and 4	+12VDC

#14. Mini-SAS HD Connector

The SAS connector is used to connect the SAS or SATA drive cables and is designated J25. The connector has four ports, which correspond to drives DRV#20 through DRV#23 if those drives are used for SAS3, SAS2, or SATA3 devices. (See page 2-4 for drive locations.)

2-3 Front Jumpers

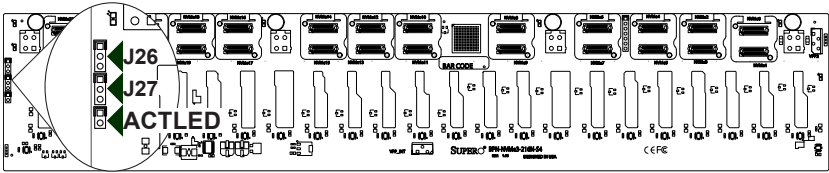
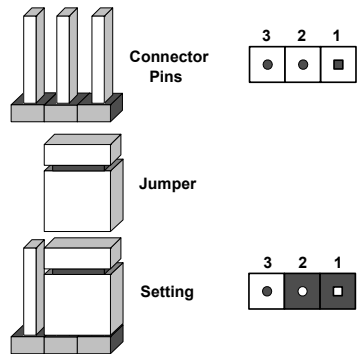


Figure 2-2. Front Jumpers

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		
J26	J27	NVMe Drive Connection Description
2-3	2-3	8 drives connected to main CPU, 16 drives connected to 2nd CPU.
2-3	1-2	10 drives connected to main CPU, 14 drives connected to 2nd CPU. (default)
1-2	2-3	12 drives connected to main CPU, 12 drives connected to 2nd CPU.
1-2	1-2	14 drives connected to main CPU, 10 drives connected to 2nd CPU.

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

2-4 Rear Components, Connectors, and LED Indicators

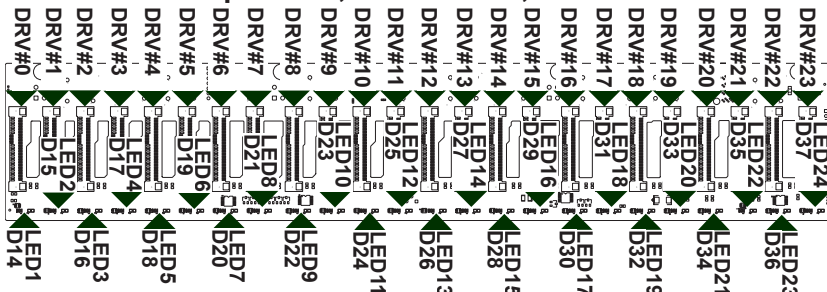


Figure 2-3. Rear SAS/SATA Connectors and LED Indicators

SAS/SATA/NVMe Connectors and LED Indicators			
Rear Connector	SAS Drive Number	Failure LED	Activity LED
DRV#0	NVMe HDD #0	D14	LED1
DRV#1	NVMe HDD #1	D15	LED2
DRV#2	NVMe HDD #2	D16	LED3
DRV#3	NVMe HDD #3	D17	LED4
DRV#4	NVMe HDD #4	D18	LED5
DRV#5	NVMe HDD #5	D19	LED6
DRV#6	NVMe HDD #6	D20	LED7
DRV#7	NVMe HDD #7	D21	LED8
DRV#8	NVMe HDD #8	D22	LED9
DRV#9	NVMe HDD #9	D23	LED10
DRV#10	NVMe HDD #10	D24	LED11
DRV#11	NVMe HDD #11	D25	LED12
DRV#12	NVMe HDD #12	D26	LED13
DRV#13	NVMe HDD #13	D27	LED14
DRV#14	NVMe HDD #14	D28	LED15
DRV#15	NVMe HDD #15	D29	LED16
DRV#16	NVMe HDD #16	D30	LED17
DRV#17	NVMe HDD #17	D31	LED18
DRV#18	NVMe HDD #18	D32	LED19
DRV#19	NVMe HDD #19	D33	LED20
DRV#20	NVMe/SAS/SATA HDD #20	D34	LED21
DRV#21	NVMe/SAS/SATA HDD #21	D35	LED22
DRV#22	NVMe/SAS/SATA HDD #22	D36	LED23
DRV#23	NVMe/SAS/SATA HDD #23	D37	LED24

Notes

Disclaimer (cont.)

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