



AOC-SLG3-2E4T



User's Guide

Revision 1.0c

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## Preface

### About this User's Guide

This user's guide is written for system integrators, IT technicians, and knowledgeable end users. It provides information for the installation and use of the AOC-SLG3-2E4T expansion card.

### About this Expansion Card

The Supermicro NVMe AOC-SLG3-2E4T is a low-profile, standard Gen 3.0 PCIe x8 add-on card that features two internal NVMe OCUlink connectors for high-performance storage connectivity. This HBA card is built on the latest PCIe NVMe retimer technology. Streamlined for the growing demand for increased data throughput and scalability requirements across the enterprise-class server platforms, this is a cost-effective storage solution that delivers maximum performance and reliability. Perfect for near-line cache storage solutions which allow data to be staged before moving down to its intended backend storage.

### An Important Note to the User

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 user's guide.

## 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 the AOC-SLG3-2E4T card to the manufacturer, the RMA number should be prominently displayed on the outside of the shipping carton, and the shipping package is 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, you can also request a RMA authorization online <http://www.supermicro.com/RmaForm/>.

This warranty only covers normal consumer use and does not cover damages incurred in shipping or from failure due to the alternation, misuse, abuse or improper maintenance of products.

## Contacting Supermicro

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# Chapter 1

## Overview

### 1-1 Overview

Congratulations on purchasing your expansion card from an acknowledged leader in the industry. Supermicro products are designed with the utmost attention to detail to provide you with the highest standards in quality and performance. For product support and updates, please visit our website at <http://www.supermicro.com/>

### 1-2 Technical Specifications

#### General

- Retimer low profile add-on card
- Gen-3 PCI-E x8
- Up to two NVMe SSDs
- Two OCuLink ports
- Ambient operating temperature 10°C - 55°C

#### OS Support

Windows, Linux, VMWare

#### Physical Dimensions

3.79" x 2.71" (L x H)

## Notes

## Chapter 2

### Hardware Components

#### 2-1 Expansion Card Layout and Components

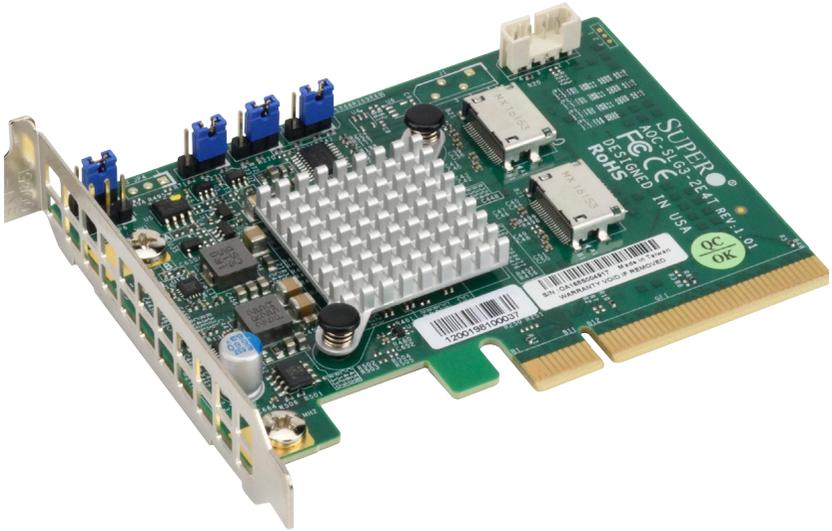


Figure 2-1. AOC-SLG3-2E4T

The following pages describe the components and settings for the AOC-SLG3-2E4T.

## 2-2 Major Components

The following are the major components that make up the AOC-SLG3-2E4T expansion card:

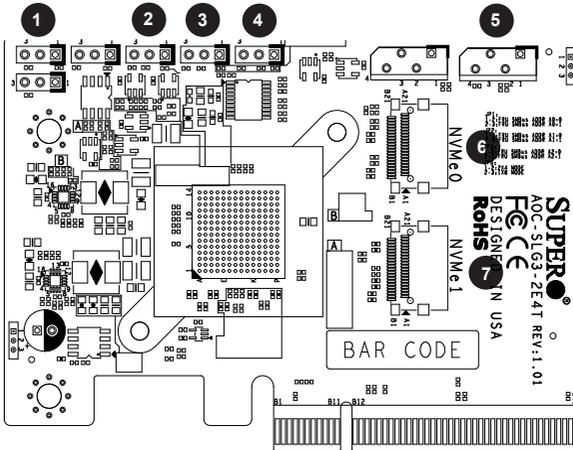


Figure 2-2. AOC-SLG3-2E4T Layout

AOC-SLG3-2E4T Components	
Item	Description
1	Jumper JP5
2	Jumper JP3
3	Jumper JP2
4	Jumper JP1
5	VPP I <sup>2</sup> C Connector for JNV12C
6	OCuLink Connector NVMe0
7	OCuLink Connector NVMe1

## 2-3 Connectors

### OCuLink Connectors

There are two OCuLink connectors on the expansion card. Together these connectors provide a transfer rate speed of up to 6.4 GB/s.

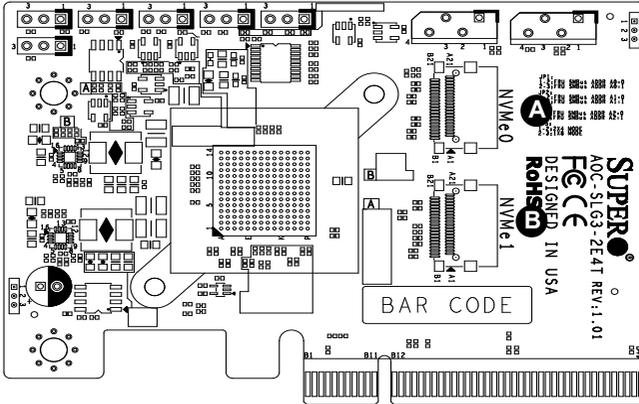


Figure 2-3. OCuLink Connectors

AOC-SLG3-2E4T	
Item	Description
A	OCuLink connector, designated NVMe0
B	OCuLink connector, designated NVMe1

## 2-4 Jumpers

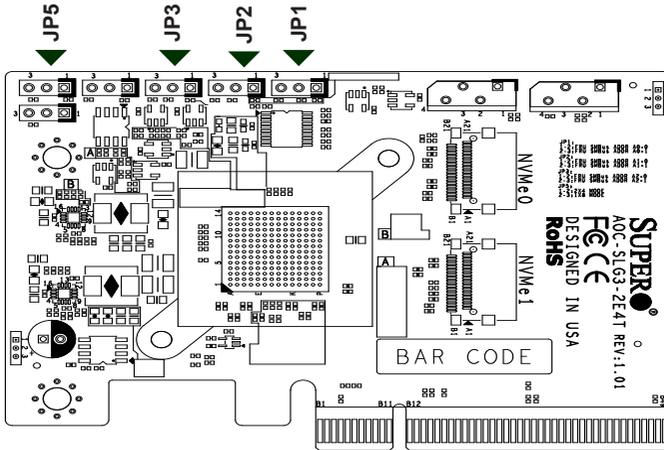
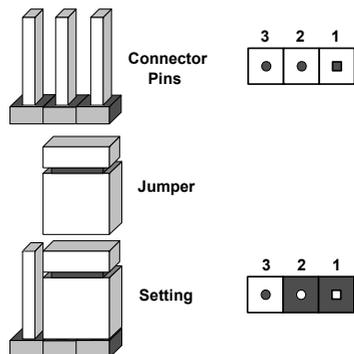


Figure 2-4. Front Jumpers

JP5	
1-2	2x4 Mode
2-3	1x8 Mode

### Explanation of Jumpers

To modify the operation of the add-on card, 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.



Note: Unless explicitly instructed otherwise by the manufacturer, do not move the jumpers from their default location. Doing so will likely cause the card to become disabled. Jumpers not detailed below are unpopulated.

JP3, JP2, and JP1 are used to configure the SMBus address at which the card is discovered by the BIOS. By default, it is set to "A0" and can be configured to another value to avoid an address conflict with other devices on the SMBus. It should never be changed unless explicitly instructed by Supermicro.

<b>SMB Address</b>			
<b>JP3 A2</b>	<b>JP2 A1</b>	<b>JP1 A0</b>	<b>Hex Address</b>
0	0	0	A 0
0	0	1	A 2
0	1	0	A 4
0	1	1	A 6
1	0	0	A 8
1	0	1	A A
1	1	0	A C
1	1	1	A E

## Chapter 3

# Installation

### 3-1 Static-Sensitive Devices

Electrostatic Discharge (ESD) can damage electronic components. To avoid damaging your expansion card, it is important to handle it very carefully. The following measures are generally sufficient to protect your equipment from ESD.

#### Precautions

- Use a grounded wrist strap designed to prevent static discharge.
- Touch a grounded metal object before removing the expansion card from the antistatic bag.
- Handle the expansion card by its edges only; do not touch its components or peripheral chips.
- Put the expansion card back into the antistatic bags when not in use.
- For grounding purposes, make sure that your system chassis provides excellent conductivity between the power supply, the case, the mounting fasteners, and the expansion card.

#### Unpacking

The expansion card is shipped in antistatic packaging to avoid static damage. When unpacking your component, make sure you are static protected.

Note: To avoid damaging your components and to ensure proper installation, be sure to always connect the power cord last, and always remove it before adding, removing, or changing any hardware components.

## 3-2 Before Installation

To install the expansion card properly, follow the steps below.

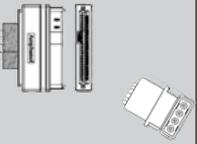
### *Prior to Installation*

1. Power down the system and unplug the power cord.
2. Use industry-standard anti-static equipment (such as gloves or a wrist strap) and follow the precautions on page 3-1 to avoid damage caused by ESD.

## 3-3 Installing the Expansion Card

Depending upon which motherboard is used and which slot in the motherboard is selected, a riser card may or may not be required to install the AOC-SLG3-2E4T.

1. Power down the system, remove the power cords from the rear or the power supply, and remove the system cover.
2. Verify that the expansion card is equipped with the correct length of PCI-E slot bracket length for your system. AOC-SLG3-2E4T expansion cards include a low-profile PCI-E bracket. However, if your system features full-height PCI-E slots, replace the low-profile bracket with a full-length bracket.
3. Consult your motherboard manual for any special instructions regarding expansion card installation.

Add-on Card Cables			
SMCI Part Number	Cable Description	AOC Connector (Source)	BPN/NVMe Drive Connector (Target)
CBL-SAST-0929 CBL-SAST-0972	OCuLink to Mini-SAS HD 57cm 70cm	OCuLink 	SFF-8643 
CBL-SAST-1002-1 CBL-SAST-0974-1 CBL-SAST-0818 CBL-SAST-0819 CBL-SAST-0847 CBL-SAST-0820 CBL-SAST-0848	OCuLink to OcuLink 13cm 37cm 55cm 65cm 76cm 85cm 95cm	OCuLink 	OCuLink 
CBL-SAST-0956 CBL-SAST-1011	OCuLink to SFF-8639 55cm 75cm	OCuLink 	SFF-8639 + Power 

- Using the chart above, verify that the cable provided is appropriate for the expansion card connectors and the backplane connectors. Note that the MiniSAS HD to OcuLink cables and the OcuLink to MiniSAS HD cables may physically look the same, but are wired differently and may not work if the wrong cable is used. Verify that the appropriate cable was included. For example, if your expansion card has OcuLink connectors and is plugging into a MiniSAS HD backplane, a cable with a green marking at the OcuLink end must be used.

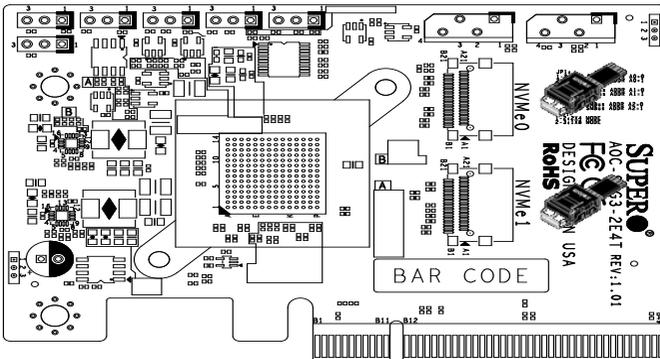


Figure 3-2. Connecting the Cables

5. Connect the cables to the expansion card. The cable latch will click into the locked position when connected properly.
6. Connect the CBL-CDAT-0674 data cable to the JNVI2C connector on the motherboard. If more than one AOC-SLG3-2E4T is used on the same CPU, then only the lowest-numbered slot expansion card needs to be connected to the motherboard's JNVI2C.
7. For configuring the backplane connections, consult the jumper settings section of your backplane user guide.
8. If the motherboard where this card is installed has JI2C1 and JI2C2, make sure those jumpers are set to pins 1-2. If the motherboard does not have JI2C1 and JI2C2, then you may skip this step. Locations may vary depending of the motherboard. Consult the motherboard manual for more details.
9. Replace the system cover, plug in the power cord, and power up the system.

### 3-4 Additional Settings

Depending on the system, motherboard, and BIOS version, the following BIOS settings may be necessary for the proper operation of NVMe drives:

- Having the CPU IOU settings set to the proper PCI-E bifurcation. This option may be found under **BIOS Setup -> Advanced -> Chipset Configuration -> North Bridge -> IIO Configuration -> CPU Configuration -> IOU Setting**.

Refer to the applicable system or motherboard User Manual.

(Disclaimer Continued)

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