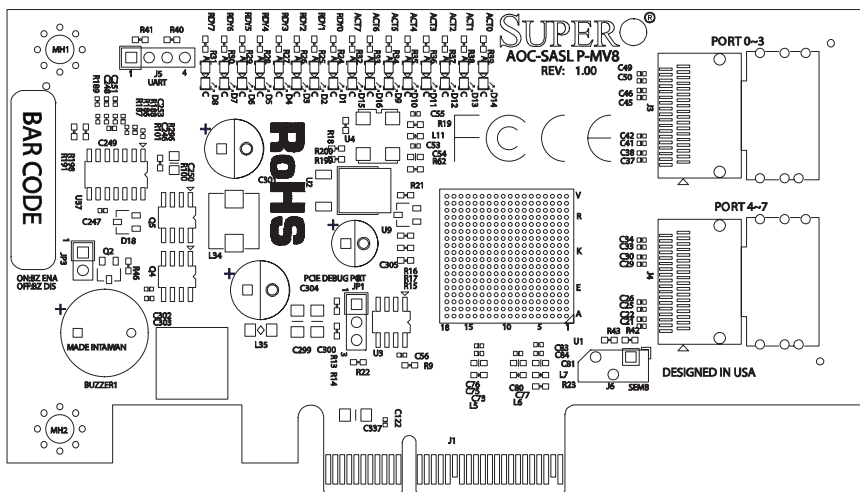


# SUPERMICRO<sup>®</sup>

## AOC-SASLP-MV8 Add-on Card



## User's Manual

Revision 1.0a

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Manual Revision 1.0a

Release Date: March 10, 2009

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# Introduction

## About this Manual

This manual is written for system integrators, PC technicians and knowledgeable PC users who intend to integrate Supermicro's Product Name 2 to their system. It provides detailed information for the installation and use of the AOC-SASLP-MV8 add-on card.

## Overview

The Product Name 2 is a highly efficient, highly compatible and easy-to-use SAS/SATA Controller that allows the user to connect to up to eight drives using Marvell's 88SE6480 Serial ATA/SAS Host Controller and a PCI-E x4 interface with high performance features. With both SAS and SATA physical interface support at 1.5 and 3.0 Gbps, the AOC-SASLP-MV8 add-on card is a high speed, high bandwidth Controller that can integrate multiple high capacity drives to provide you with maximum storage space.

## Product Features

The Product Name 2 offers the following features:

- Low profile Form Factor (w/ the PCB size of 4.75" H x 2.5" W)
- Marvell's 88SE6480 Serial ATA Host Controller supports 8 SAS/SATA ports
- Two mini SAS connectors can connect to 8 internal SAS/SATA drives with iPass cables
- PCI-E x4
- Flash BIOS Interface
- Presence LED Indicator and Activity Indicator for each connected drive
- JBOD (Simple Volume) support
- Boots from a single drive.

## Operating Systems Supported

The Product Name 2 supports the following Operating Systems (OS):

- Windows 2003, Windows Vista, Windows 2008
- Linux: (-source code provided)--the driver disks currently available:
  - Redhat Enterprise Linux
  - Fedora Linux 9
  - SUSE Linux Enterprise

## **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.

## **Product Compliance Information**

The Product Name 2 is compliant with the following safety standards/requirements:

- USA                                      FCC 47 CFR, Part 15, subpart B
- European Union                      EN 55022  
    EN 55024

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# Contacting Supermicro

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## Notes



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# 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

*Electric Static 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 add-on card 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.
- Disconnect the power cable before installing or removing any cables from the system.
- Make sure that the add-on card 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.

## Notes

# Chapter 2

## Connectors, Jumpers and Indicators

### 2-1 Connectors

Connectors are used to attach the add-on card to the system's mainboard.

Figure 2-1. AOC-SASLP-MV8 Add-on Card Front Connectors and Jumpers

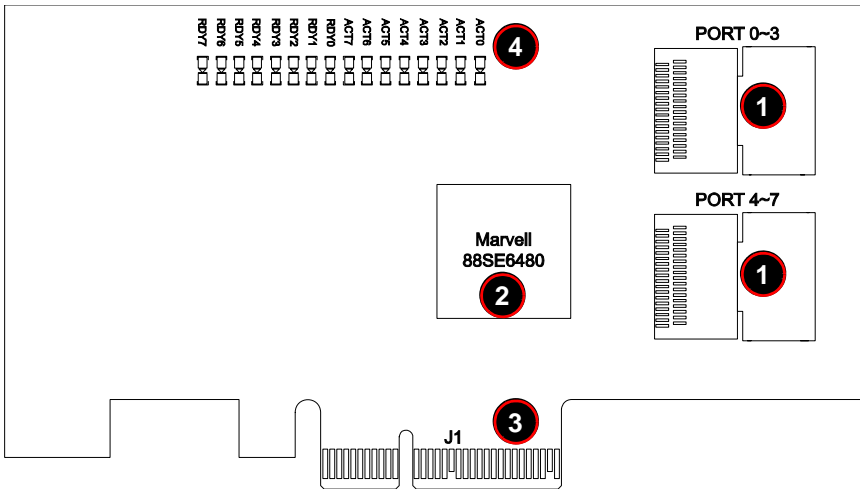


Table 2-1 lists the add-on card's jumpers and connectors, as shown in Figure 2-1 above.

Table 2-1. Front Connectors and Pin Definitions

Number	Description
1	Internal SAS Connectors
2	Marvell's Serial ATA Host Controller
3	PCI-E x4 Connector
4	Activity and Ready LEDs

### Internal SAS Connectors

The Internal SAS ports (SFF-8087 connector) connect to the backplane allowing the motherboard to access the hard drives. Each connector supports up to four hard drives allowing the add-on card to support a maximum of eight. (SAS 0-3 and SAS 4-7).

Use a single port SAS "ipass" cable (Supermicro order number CBL-0108L-02) to connect each internal SAS port to up to four drives.

## 2-2 Jumpers

The AOC-SASLP-MV8 add-on card does not have any configurable jumpers.

## 2-3 LED Indicators

Figure 2-2. LED Indicators

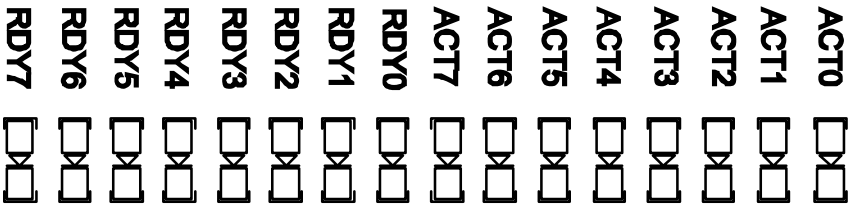


Figure 2-2 displays LED indicators on the add-on card. The Ready (RDY) LED (yellow) turns on when a drive is present on the HBA port. An Active (ACT) LED (green) blinks to show drive activity on that port.



**NOTE:** These LEDs are primarily used for debug purposes only.

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# Chapter 3

## Installing Drivers and Firmware

This chapter covers installing Drivers and Firmware for the AOC-SASLP-MV8 add-on card.

### 3-1 Creating a Driver Floppy Disk

A CD-ROM that contains the drivers for the Windows OS, Linux OS, and the Controller BIOS is included in the shipping package. Please locate the CD-ROM before installing the driver.



**NOTE:** This CDROM does not perform Auto-boot or auto-play.

***For the Windows 32-bit Operating System:***

- Copy all files from the folder: **Windows\_3\_1\_0\_17\build\Windowsli386\Free** into a blank, formatted floppy disk.

***For the Windows 64-bit Operating System:***

- Copy all files from the folder: **Windows\_3\_1\_0\_17\build\Windowslamd64\Free** into a blank, formatted floppy disk.

***For the Linux Operating Systems:***

For an existing system:

- Use the source code from the folder: **Linux\_3\_1\_0\_7** to compile.

For a new system:

- Use the tool **rawwritewin.exe** to write the driver images stored in the folder: **Disklmaglinux** to create a driver disk.



**NOTE:** The folder: **Disklmaglinux** is included in Supermicro's CD ROM that came with your shipment. However, the file **rawwritewin.exe** is not included.

## 3-2 Adding the Driver into an Existing System

Use the following procedures for adding a driver into an existing system.



**NOTE:** An existing system is a system that has an operating system already installed and the AOC-SASLP-MV8 add-on card driver is being installed as a Secondary Controller.

### ***For the Windows Operating System:***

1. Install the controller and make sure that the BIOS screen is displayed.
2. Start the Windows OS. The Windows OS displays the FOUND NEW HARDWARE WIZARD window and searches for the installer driver.
3. Insert the driver floppy disk that you've created into the floppy drive, select the floppy drive as the source, and press the ENTER key.
4. Continue clicking NEXT until the driver is successfully installed.
5. Remove the driver disk from the floppy disk drive and restart the system to complete the installation process.

### ***For the Linux Operating System:***

1. Insert the CD-ROM that contains the Linux OS driver into the CD drive.
2. At the # prompt, type: `mount /dev/cdrom /mnt/cdrom` and press ENTER to mount the CD-ROM directory into the system directory.
3. At the # prompt, type: `cd /mnt/cdrom/Linux_3_4_0` and press ENTER to change the directory to the CD-ROM directory.
4. Read the *README.txt* file and exit.
5. At the # prompt, type: `cd /mnt/cdrom/Linux_3_4_0/Docs/` and press ENTER.
6. Read the documents included carefully and follow the instructions given to create the driver and install it into the system.

## 3-3 Installing the Driver into a New System

Use the following procedures for installing a driver into a new system.



**NOTE:** A new system is a system that has no operating system installed yet, and the AOC-SASLP-MV8 add-on card driver installation is a part of the OS installation.

Make sure the boot hard drive is mounted on Slot #3 of the backplane in order to boot from the AOC-SASLP-MV8 add-on card.

***For the Windows Operating System:***

1. Install the controller and make sure that the BIOS screen displays as shown on the previous page.
2. Insert the Windows Setup CD and boot from it.
3. When prompted at the bottom of the screen to install a third party driver, press the F6 key.



**NOTE:** You have only 5-seconds to press F6. If you miss it, you will need to restart the system and repeat this step again.

4. Insert the driver disk into the system, and wait until you are prompted to install a driver. Press **S** to specify that the driver is included in an additional device (the floppy disk), and press ENTER.
5. When the Marvell's driver disk – “Marvell 64xx/63xx SAS Controller...Driver” is located, press ENTER.
6. Press ENTER again to continue with the Windows OS installation.

***For the Red Hat Linux Operating System:***

1. Insert the Linux Driver into your floppy disk drive and press ENTER. A Linux bootup screen appears.
2. At the boot prompt, type: `linux dd` at the prompt and press ENTER.

The system starts initializing the driver. Follow the instructions when prompted to complete the installation process.

***For the SuSE Linux Operating System:***



**NOTE:** The screen shot shown below was taken from a system based on the SuSE Linux 9.2 Installation. Other SuSE systems may display screens that are different from the ones included in the manual. However, the installation procedures listed below apply to all SuSE Linux systems.

1. Extract the image driver from `\DiskmagLinux\i86_32` into a blank, formatted disk.
2. Boot up the system from SuSE Linux Installation CD-ROM.
3. On the screen that appears, highlight INSTALLATION from the list, press F6 to add the Installation Driver and press ENTER.
4. Follow the instructions given at the prompt to complete the installation process.

### 3-4 Getting Firmware Downloads

Firmware for the AOC-SASLP-MV8 add-on card can only be obtained through contacting Supermicro Technical Support for instructions and assistance to obtain firmware downloads.

### 3-5 Flashing Firmware

Follow the procedure below to flash firmware to the BIOS.

***Flashing Firmware:***

1. Boot the system to DOS.
2. Flash the BIOS using the *mvf.exe* file with the following command at the DOS prompt (where \*\*\* represents the name of the bin file used):

```
a:\>mvf ***.bin
```

This automatically flashes the BIOS.

3. When the flashing is completed, reboot the system.

The new firmware is now flashed to your system's BIOS.



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# Chapter 4

## Troubleshooting

This chapter covers various troubleshooting problems for the AOC-SASLP-MV8 add-on card.

### 4-1 Troubleshooting Problems

**Problem:**

The AOC-SASLP-MV8 add-on card's BIOS does not show up in DOS.

**Recommended Solutions:**

- Make sure that the system has enough expansion ROM to initialize the card. Remove other add-in cards if possible.
- Make sure that the card is properly and fully seated in its PCI slot.
- Check if the motherboard's BIOS is updated. (You can download an updated BIOS from our web site at: [www.supermicro.com](http://www.supermicro.com).)

**Problem:**

I cannot see the card in the operating system.

**Recommended Solutions:**

- Make sure that the card is shown in the BIOS. If the card is shown in the BIOS, a screen shown below will display. If it is not shown in the BIOS, please find out the root cause of the problem by following the steps listed above.
- Make sure that the driver for the card is installed in the system. the controller.

**Problem:**

I cannot see the hard drives that are connected to the controller.

**Recommended Solutions:**

- Make sure that there is power supply to the hard drives.
- Check the SATA cable to make sure that there are no loose connections between the card and the hard drives.
- If the hard drives are connected through a SATA back panel, make sure that there is power supply to the back panel, and there are no loose connections between the back panel and the controller. Also make sure that the hard drives are properly seated in the drive bay.
- If possible, swap the drives around to determine if the drive connections or the controller is bad.

**Problem:**

I cannot create software RAID in the operating system.

**Recommended Solutions:**

- Make sure that the operating system supports software RAID. If not sure, please check with the software company that produces the OS.
- Make sure that more than one drives are seen by the OS.

## **4-2 Contacting Supermicro's Technical Support**

If you still have problems after trying out all the recommended solutions, please contact our Technical Support by phone at: (408) 503-8000 or visit our web site at: [www.supermicro.com/support/](http://www.supermicro.com/support/).

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