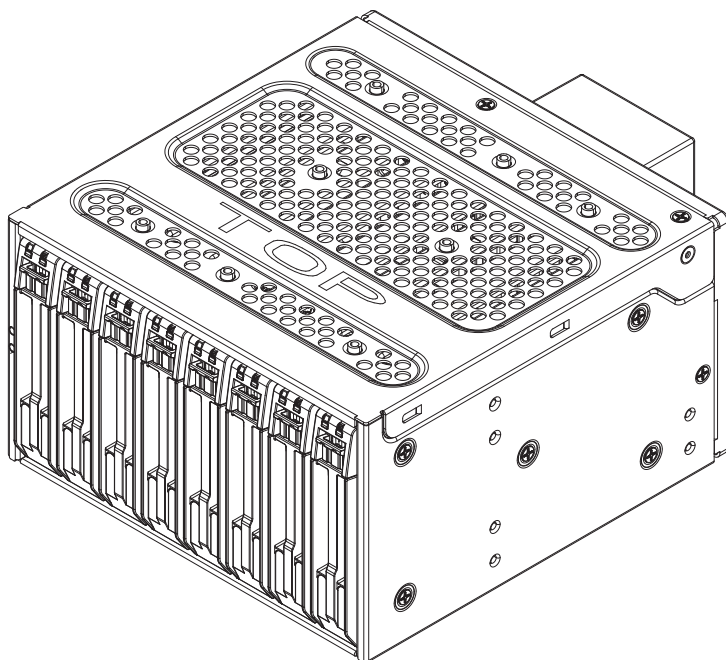# SUPER●®

CSE-M28SACB/CSE-M28SACB-OEM

MOBILE RACK

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.

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Table of Contents

Contacting Supermicro

Headquarters

Address:	Super Micro Computer, Inc.
	980 Rock Ave.
	San Jose, CA 95131 U.S.A.
Tel:	+1 (408) 503-8000
Fax:	+1 (408) 503-8008
Email:	marketing@supermicro.com (General Information)
	support@supermicro.com (Technical Support)
Website:	www.supermicro.com

Europe

Address:	Super Micro Computer B.V.
	Het Sterrenbeeld 28, 5215 ML
	's-Hertogenbosch, The Netherlands
Tel:	+31 (0) 73-6400390
Fax:	+31 (0) 73-6416525
Email:	sales@supermicro.nl (General Information)
	support@supermicro.nl (Technical Support)
	rma@supermicro.nl (Customer Support)
Website:	www.supermicro.nl

Asia-Pacific

Address:	Super Micro Computer, Inc.
	3F, No. 150, Jian 1st Rd.
	Zhonghe Dist., New Taipei City 235
	Taiwan (R.O.C)
Tel:	+886-(2) 8226-3990
Fax:	+886-(2) 8226-3992
Email:	support@supermicro.com.tw
Website:	www.supermicro.com.tw

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 mobile rack in the original Supermicro carton, using the original packaging material. If these are no longer available, be sure to pack the mobile rack securely, using packaging material to surround the mobile rack so that it does not shift within the carton and 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 mobile rack 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 equip-
ment and PCB revision available at the time of publishing. The card and equipment
you have received may or may not look exactly the same as the graphics shown
in this manual.

Chapter 2

Introduction

2-1   Overview

This manual has been written for system integrators, PC technicians and knowledgeable PC users. It provides detailed information for the installation and use of the CSE-M28SACB mobile rack.

The Supermicro CSE-M28SACB mobile rack showcases advanced technology innovations in modular connectivity and data transferability and supplies reliable, effective, and scalable solutions for tomorrow's data communications industry.

2-2   Product Features

The CSE-M28SACB mobile rack includes the following:

• Slim design: pocket-size (5-3/4" width x 3-3/8" height).

• Supports a 8 x 2.5" small form factor hard disk drive.

• Supports up to 5V/10A (average) and 12V/10A (average).

• Supports SAS 3.0 12Gb/s bandwidth throughput.

• Supports SATA III 6Gb/s bandwidth throughput.

Additional Information

The CSE-M28SACB mobile rack was designed for use in certain chassis and servers or as an optional unit for storage expansion. Use the chassis or server manual for installation instructions. Use the instructions listed in this manual to use the mobile rack independent of a chassis.

The pictures or graphics shown in this user's guide were based upon the latest revision available at the time of publication of this manual. The CSE-M28SACB mobile rack may or may not look exactly the same as the graphics shown in this manual.

The availability of the SAS devices supported depends upon the readiness of firmware and hardware support.

The BPN-SAS3-I28A mobile rack 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-I28A Revision 1.00, the most current release available at the time of publication. Always refer to the Supermicro Website at www.supermicro.com for the latest updates, compatible parts and supported configurations.

Chapter 3

BPN-SAS3-I28A Backplane Specifications

3-1   Introduction to the BPN-SAS3-I28A Backplane

The BPN-SAS3-I28A 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-I28A Revision 1.00, the most current release available at the time of publication. Always refer to the Supermicro website at www.supermicro.com for the latest updates, compatible parts and supported configurations.

See Chapter 2 of this manual for backplane safety information.

3-2   Front Connectors and Components

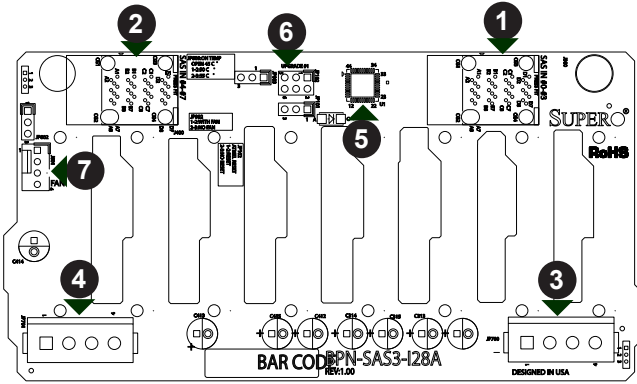**Figure 3-1. Front Connectors and Components**

Front Connectors and Components

1. SAS IN #0 - #3: J300

2. SAS IN #4 - #7: J400

3. Power connector: JP700

4. Power connector: JP701

5. SGPIO chip

6. Upgrade connector #1: JP102

7. Fan connector: J801

3-3   Front Connector and Component Pin Definitions

#1 - #2 SAS Ports

The SAS ports are used to connect the Mini-SAS HD cables. The ports are designated SAS IN #0 - #3 J300, and SAS IN #4 - #7 J400. Each port is also compatible with SATA drives..

#3 - #4 Backplane Main Power Connectors

The 4-pin connectors, designated JP700 and JP701, provide power to the backplane. See the table on the right for pin definitions. Both of these connectors must be used at the same time.

Backplane Main Power 4-Pin Connectors	
Pin#	Definition
1	+12V
2 and 3	Ground
4	+5V

#5. SGPIO Chip

The SGPIO chip is an enclosure management controller chip.

#6 Upgrade Connector

The upgrade connectors are designated JP102. The upgrade connector is for manufacturing use only.

#7 Fan Connectors

The fan connector is designated JP801.
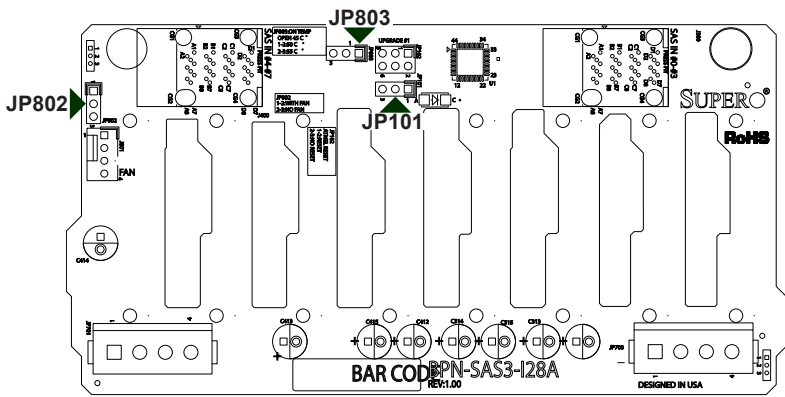
3-4 Front Jumper Locations and Pin Definitions

Figure 3-2. Front Jumper

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.
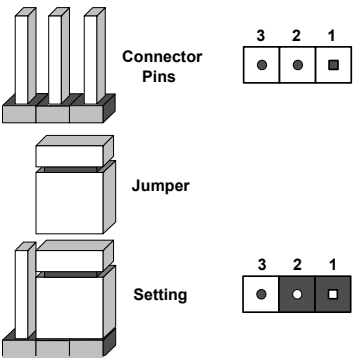
General Jumper Settings		
Jumper	**Jumper Settings**	**Note**
JP802	Pins 1-2: Fan enabled Pins 2-3: Fan disabled	Enables or disables the fan power
JP803	Open: 45° C Pins 1-2: 50° C Pins 2-3: 55° C	Enclosure monitor enable/disable
JP101	Pins 1-2	For manufacturer's use only

3-5   Rear Connectors and LED Indicators
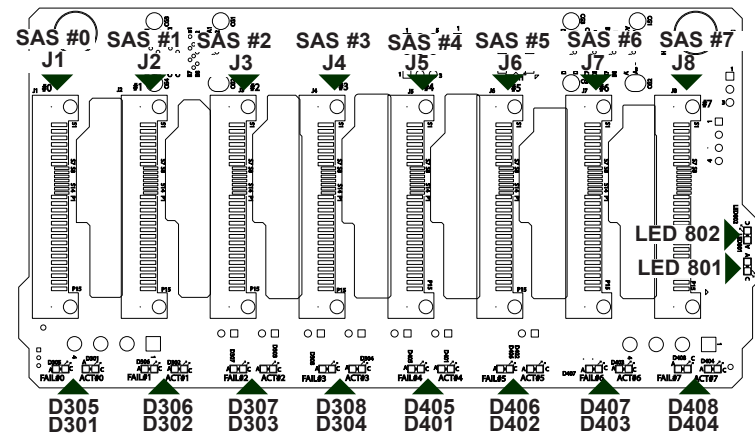
Figure 3-3. Rear Connectors and LED Indicators

Rear LEDs	
LED	**Description**
D802	Overheat
D801	Fan fail

Rear SAS/SATA Connectors and LED Indicators			
Rear Connector	**Hard Drive Activity**	**Failure LED**	**SAS Drive**
SAS #0	D301	D305	SAS/SATA HDD #0
SAS #1	D302	D306	SAS/SATA HDD #1
SAS #2	D303	D307	SAS/SATA HDD #2
SAS #3	D304	D308	SAS/SATA HDD #3
SAS #4	D401	D405	SAS/SATA HDD #4
SAS #5	D402	D406	SAS/SATA HDD #5
SAS #6	D403	D407	SAS/SATA HDD #6
SAS #7	D404	D408	SAS/SATA HDD #7

Notes

Chapter 4

Mobile Rack Installation Instructions

4-1   Shipping Lists CSE-M28SACB/CSE-M28SACB-OEM

Examine the your order for the following parts:

CSE-M28SACB

- One CSE-M28SACB mobile rack

- One 40 mm cooling fan

- Thirty-two M3 screws

CSE-M28SACB-OEM

- One CSE-M28SACB mobile rack

- Thirty-two M3 screws

4-2   Tools Required

The CSE-M28SACB mobile rack requires the following tools:

- Phillips head screwdriver

- Industry standard anti-static strap (recommended)

4-3   Other Parts

When using this mobile rack independent of a chassis, you may need the following parts.

- Two 4-pin power cords to connect the mobile rack to a power supply.

- Mini iPass HD cable, part numbers CBL-SAST-0531 (80 cm), CBL-SAST-0532 (50 cm), CBL-SAST-0550 (25 cm), CBL-SAST-0568 (35 cm) and CBL-SAST-0593 (60 cm) are used to connect the SAS ports to the motherboard or RAID controller.

4-4   Setup and Installation Steps

Use the following list as a guide to set up and install the mobile rack. If this mobile rack is to be installed in a chassis, use the instructions in the chassis manual.

Mobile Rack Chassis Installation

1. Unpack and examine system parts.

2. Review all system and safety guidelines.

3. CSE-M28SACB: Install the cooling fan as described in section 4-7 of this manual (not required on CSE-M28SACB-OEM).
   CSE-M28SACB-OEM: Reset jumper JP61 to enable pins 2 - 3, without the fan connected.

4. Install the hard drives.

5. Connect the data cables and power cord.

4-5   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 mobile rack or backplane.

- Make sure that the backplane is securely and properly installed on the motherboard to prevent damage to the system due to power shortage.

4-6   Powering Down the Mobile Rack

Powering Down the Mobile Rack

1. Power down the system which is providing power to the mobile rack using the operating system and following the on-screen prompts.

2. Unplug all power cords from the rear of the power supply.

3. Disconnect all necessary cables and label the cables for easy identification.

4. Use a grounded wrist strap designed to prevent static discharge when handling components.

5. Save all screws and fasteners for later use.

6. Familiarize yourself with the instructions in the following sections before configuring the mobile rack.

## 4-7   Cooling Fan Installation (CSE-M28SACB Only)

Installing the Cooling Fan

The CSE-M28SACB mobile rack includes a cooling fan (not required on CSE-M28SACB-OEM). When using the CSE-M28SACB without installing the mobile rack in a larger unit such as a chassis, a cooling fan must be installed on the mobile rack unit.

For more information on installing the mobile rack into a chassis or server, see the documentation for your mobile rack or server. You can also visit our website at http://www.supermicro.com.

Installing the Cooling Fan on the Mobile Rack

1. Power down the system supporting the mobile rack as described in Section 4-6.

2. Align the mounting holes on the fan with the mounting holes in the mobile rack.
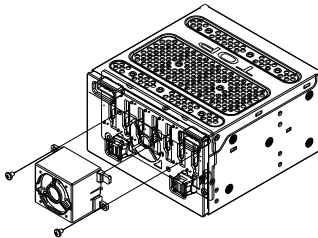
Figure 4-1. Installing the Fan on the CSE-M28SACB Mobile Rack

3. Attach the cooling fan cable to the fan connector.

4. Secure with two screws as illustrated.

Fan Removal

Removing the Cooling Fan from the Mobile Rack

1. Power down the system supporting the mobile rack as described in Section 4-6. Remove the fan cable from the mobile rack by gently pulling the cable from the backplane.

2. Remove the screws securing the fan to the mobile rack.

3. Pull the fan away from the rear of the mobile rack.

4-8   Hard Drive Installation

Each M28 mobile rack includes dummy drives that act as place holders for hard drives. Before using the mobile rack, you must install hard drives into the drive carriers. Hard drives are sold separately.
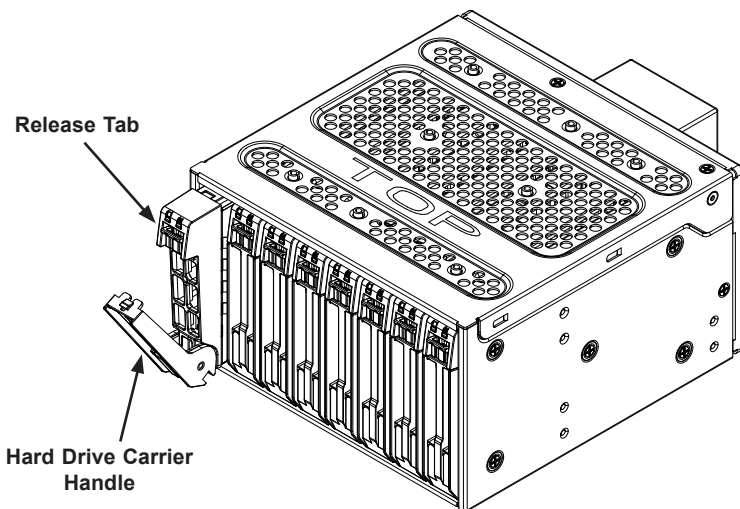

Release Tab

Hard Drive Carrier Handle

Figure 4-2. Mobile Rack with Hard Drive Carriers

Installing Hard Drives into the Mobile Rack

1. Power down the system supporting the mobile rack as described in Section 4-6.

2. Press the release tabs to open the hard drive carrier latch.

3. Using the latch as a handle, pull the drive carrier from the hard drive.

Warning! Enterprise level hard disk drives are recommended for use in Supermicro chassis and servers. For information on recommended HDDs, visit the Supermicro website at www.supermicro.com

2.5" Hard Drive

Hard Drive Carrier
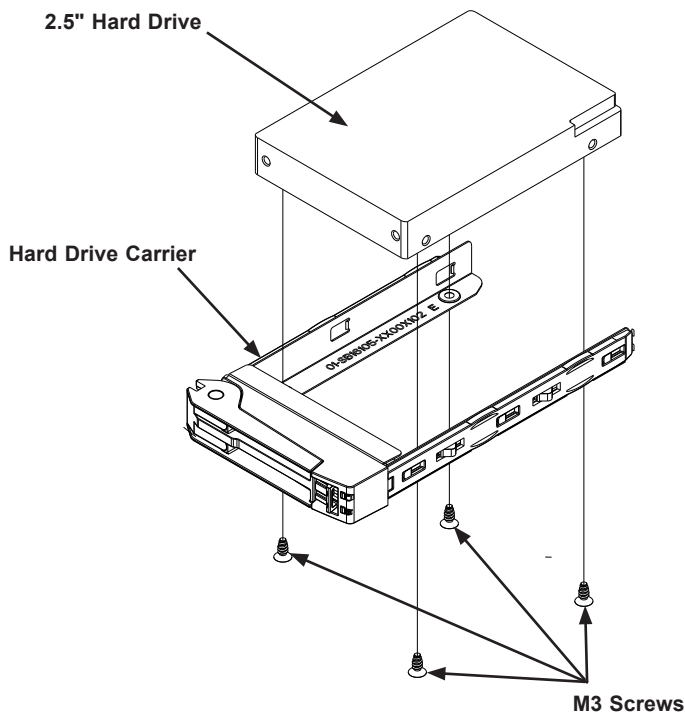
M3 Screws

Figure 4-3. Hard Drive and Hard Drive Carrier

4. Place a 2.5" hard drive in the hard drive carrier.

5. Align the hard drives to the rear of the hard drive carrier.

6. Secure the hard drive to the carrier using four M3 screws (as illustrated).

7. Using the hard drive carrier latch as a handle, slide the hard drive into the mobile rack.

8. Close the hard drive carrier handle to lock the hard drive into place.

9. Repeat steps 1-8 for each hard drive that you will install into the mobile rack.

4-9   Connecting Data and Power Cables

Connecting the Cables

1. Connect the SAS cables to the mobile rack. A longer SAS cable may be required (see the recommended cables listed earlier in this manual).

2. Connect the power cables from the chassis power supply. A power cable extension may be required.

4-10   Advanced Configuration

Use the following instructions in the unlikely event that you must access the jumpers, buzzer, or other backplane components.
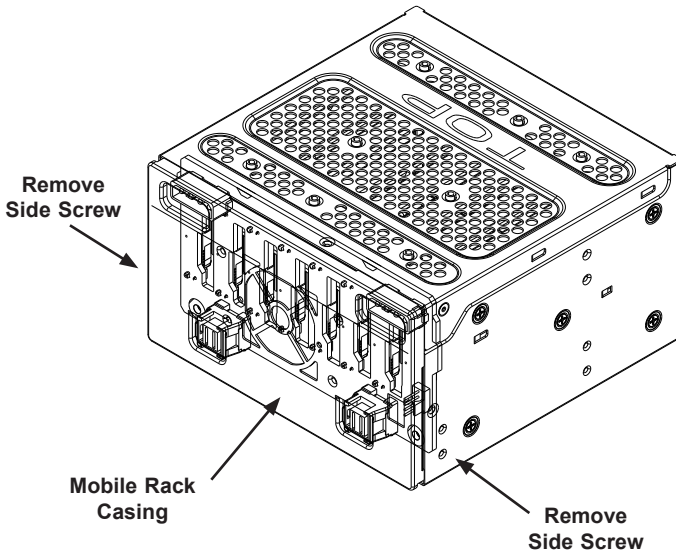
Figure 4-4. Mobile Rack and Rear Casing

Accessing the Mobile Rack Backplane (Optional)

1. Power down the system supporting the mobile rack as described in Section 4-6.

2. Remove the two side screws that secure the casing to the mobile rack.

3. Slide the casing downward and remove it from the mobile rack.

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