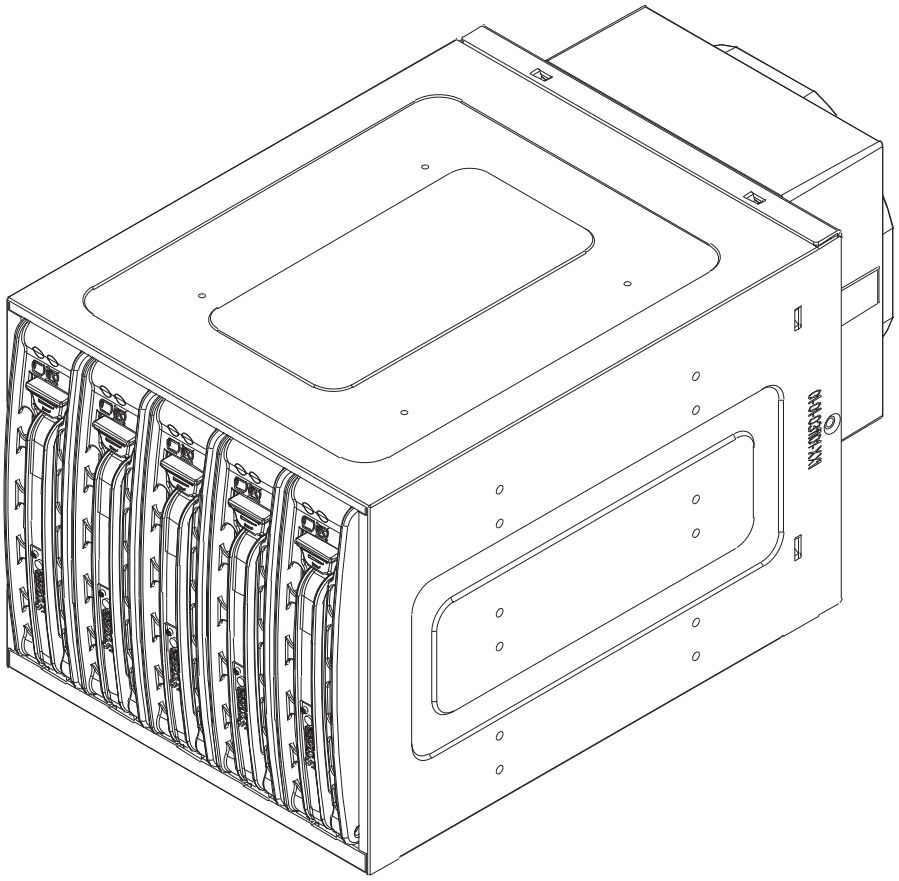
SUPER®



M35S and M35T1

Mobile Rack

USER'S GUIDE

Rev. 1.0a

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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

Notes

Chapter 1

Introduction

1-1 Overview

This manual is written for system integrators, PC technicians and knowledgeable PC users who intend to integrate Supermicro's intelligent, highly expandable and cost-effective mobile rack solutions into their systems. It provides the user with detailed information for the installation and use of the M35S/M35T1 mobile rack.

The Supermicro M35S/M35T1 mobile rack Supermicro's CSE-M35S/CSE-M35T1 mobile rack series offers the cutting edge technology with greater flexibility. The CSE-M35T1 supports five Serial ATA hot-swappable hard drives that yield an unparalleled storage capacity without compromising productivity by eliminating possible system downtime. The CSE-M35S accommodates five SCSI SCA 320/160 hard drives which provide configuration flexibility and maximum data integrity.

1-2 Product Features

The M35S/M35T1 mobile rack includes the following features:

- Supports SCSI or SATA
- Supports five 3.5" hot-swappable HDDs or three 5.25" HDDs

Operating Systems Supported

For the most up-to-date information visit the Supermicro Web site at www.supermicro.com

- Windows 2000, Windows XP, and Windows 2003
- Linux: Red Hat and SuSE

System Monitoring

- Fan failure LED
- Overheat LED indicatior
- Drive activity indicatior

1-3 An Important Note to the User

The pictures or graphics shown in this User's Guide were based upon the latest PCB revision available at the time of the publishing of this manual. The M35S/ M35T1 mobile rack you've received may or may not look exactly the same as the graphics shown in this manual.

1-4 Contacting Supermicro

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1-5 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.

Chapter 2

SATA-M35 and SCA-M942 Backplane Specifications

To avoid personal injury and property damage, carefully follow all the safety steps listed below when accessing your system or handling the components.

2-1 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 backplane and peripherals back into their antistatic bags when not in use.

2-2 General Safety Guidelines

- Always disconnect power cables before installing or removing any components from the computer, including the mobile rack.
- Disconnect the power cable before installing or removing any cables from the mobile rack.
- Make sure that the mobile rack is securely and properly installed on the motherboard to prevent damage to the system due to power shortage.

2-3 Introduction to SATA-M35 and SCA-M942

The M35S and M35T1 mobile racks include either a SATA or SCSI backplane. The M35S model comes equipped with an SCA-M942 SCSI backplane and the M35T1 comes equipped with a SATA-M35 Serial ATA (SATA) backplane. These backplanes are designed to utilize the most up-to-date technology available, providing your system with reliable, high-quality performance.

This manual reflects models SATA-M35 Revision 1.01 and SCA-M942 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 3

Backplane Connectors, Jumpers and LEDs

3-1 SATA-M35S Front Connectors and Jumpers

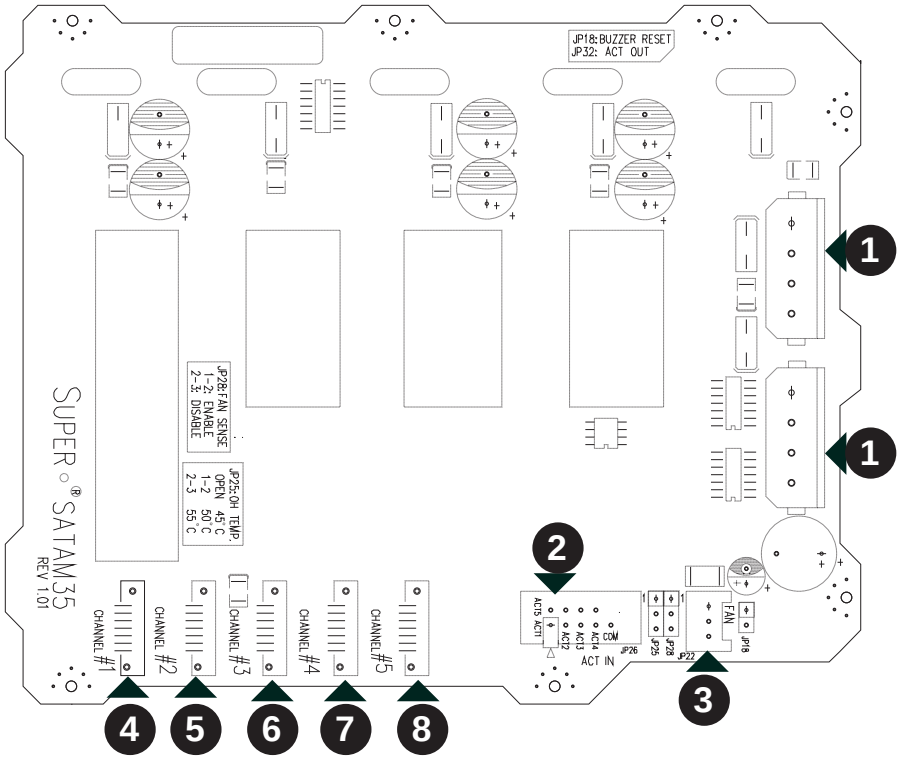


Figure 3-1: SATA-M35S Front Connectors

Front Connectors

1. 4-pin Power Connectors: JP10 and JP13
2. ACT IN: JP26
3. Fan Connector: JP22
4. SATA Port #1 (Channel 1): J5
5. SATA Port #2 (Channel 2): J6
6. SATA Port #3 (Channel 3): J7
7. SATA Port #4 (Channel 4): J8
8. SATA Port #5 (Channel 5): J10

3-2 Front Connectors and Pin Definitions

1. Mobile Rack Main Power Connectors

The 4-pin power connectors provide power to the mobile rack. See the table on the right for pin definitions.

Mobile rack Main Power 4-Pin Connector

Pin#	Definition
1	+12V
2 and 3	Ground
4	+5V

2. Activity LED Connector

The activity LED connector, designated JP26, is used to indicate the activity status of each hard drive. For the activity LED header to work properly, connect a SATA LED cable.

Activity LED Connector

Pin#	Definition
Act1/LED1	Channel 1
Act2/LED2	Channel 2
Act3/LED3	Channel 3
Act4/LED4	Channel 4
Act5/LED5	Channel 5

3. Fan Connector

The 3-pin connectors, designated JP22, provides power to the mobile rack fan. See the table on the right for pin definitions.

Fan Connectors

Pin#	Definition
1	Ground
2	+12V
3	Tachometer

4. - 8. SATA Ports

The SATA ports are used to connect the SATA drive cables. The five ports are designated Channel #1 - #4.

3-3 SATA-M35S Front Jumpers and Pin Definitions

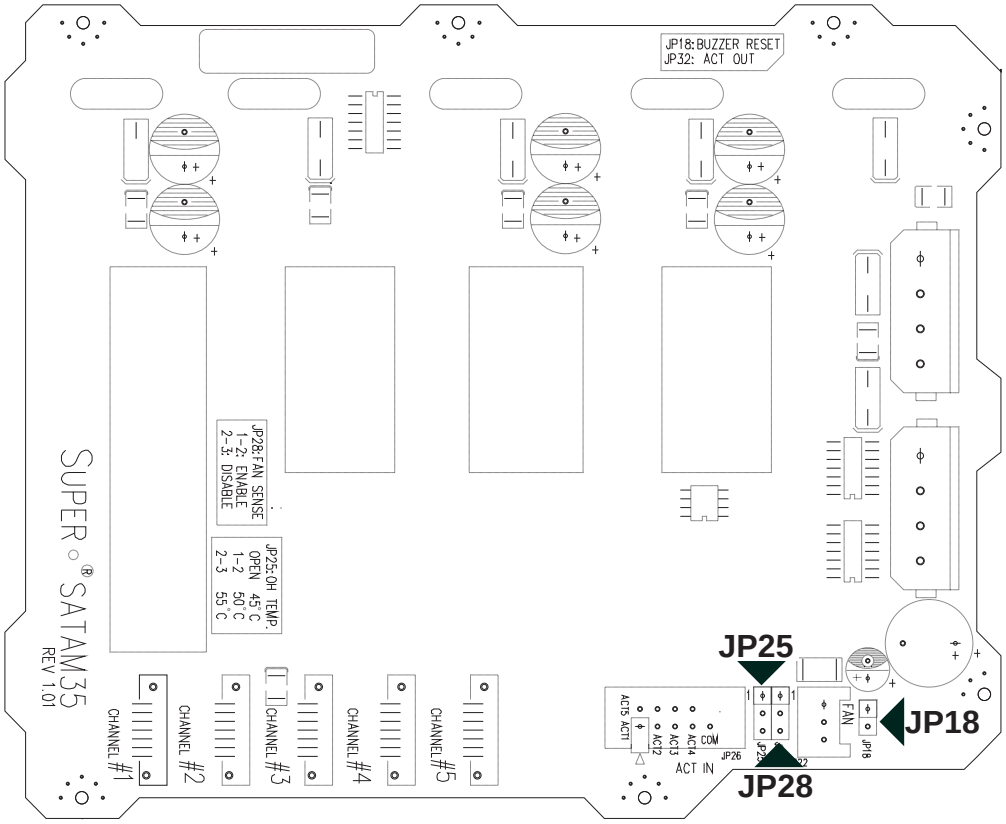


Figure 3-2: SATA-M35S Front Jumpers

Jumper Settings		
Jumper	**Jumper Settings**	**Note**
JP18	Open (jumper off): Buzzer enabled Closed (jumper on): Buzzer disabled	Buzzer reset*
JP28	1-2: Fan enabled 2-3: Fan disabled	Fan jumper
JP25	Open (jumper off): 45ºC 1-2: 50ºC 2-3: 55ºC	Overheat temperature settings. Buzzer activated at the temperature indicated.

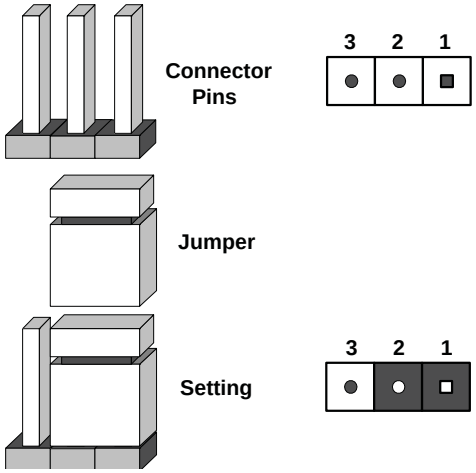
*The buzzer sound indicates that a condition requiring immediate attention has occurred.

The buzzer alarm is triggered by the following conditions:

1. Hard drive failure
2. Fan failure
3. System temperature over 45º, 50º or 55º Celsius.

Explanation of Jumpers

To modify the operation of the mobile rack, 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.



3-4 SCA-M942 Front Connectors and Jumpers

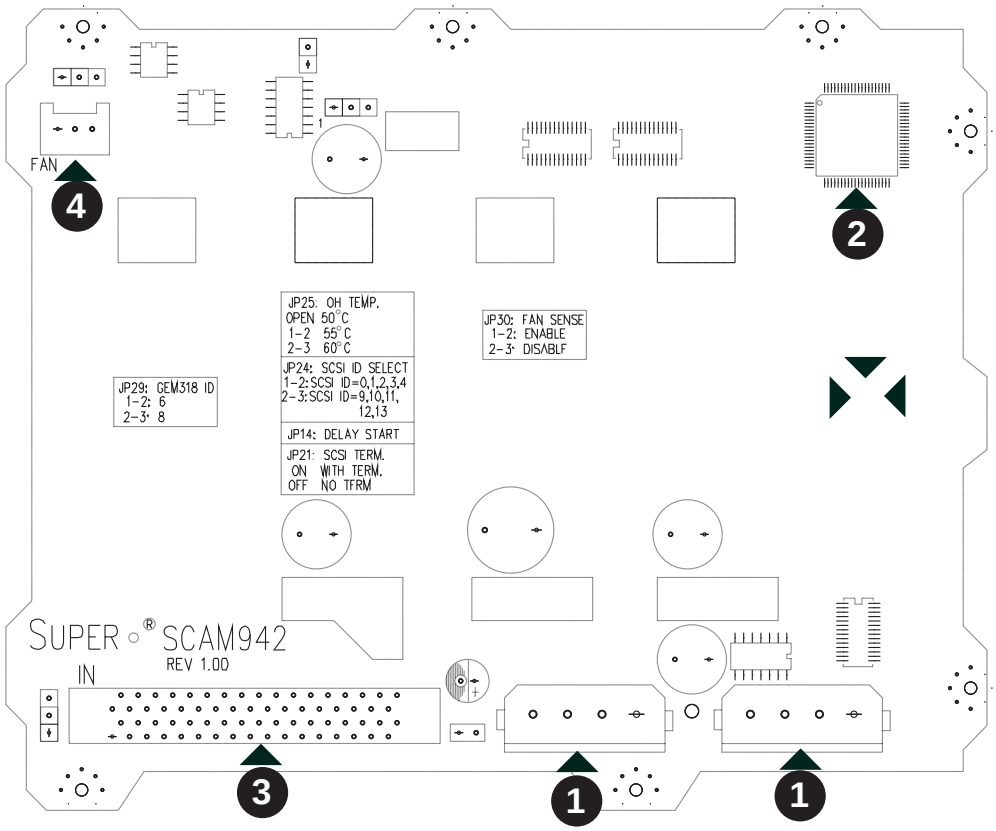


Figure 3-3: SCA-M942 Front Connectors

Front Connectors

1. 4-pin Power Connectors: JP10 and JP13
2. QLogic Gem 318 chip
3. 68-pin SCSI connector
4. Fan Connector: JP22

3-5 SCA-M942 Front Connectors and Pin Definitions

1. Mobile Rack Main Power Connectors

The 4-pin power connectors, designated JP10 and JP13, provide power to the mobile rack. See the table on the right for pin definitions.

Mobile rack Main Power 4-Pin Connector

Pin#	Definition
1	+12V
2 and 3	Ground
4	+5V

2. QLogic GEM 318 Chip

The QLogic Gem 318 chip is an enclosure management chip that supports the SES-2 controller and SES-2 protocols.

3. SCSI Connector

The 68-pin SCSI connector allows a SCSI cable to be connected to the backplane.

4. Fan Connector

The 3-pin fan connector provides power to the mobile rack fan. See the table on the right for pin definitions.

Fan Connectors

Pin#	Definition
1	Ground
2	+12V
3	Tachometer

3-6 SCA-M942 Front Jumpers and Pin Definitions

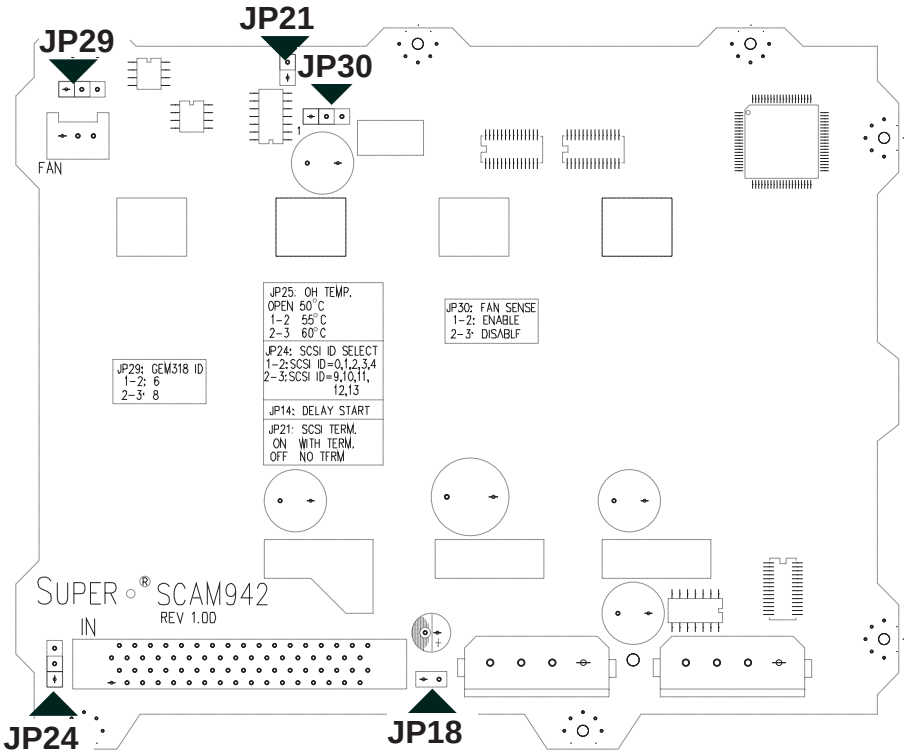


Figure 3-4: SCA-M942 Front Jumpers

Jumper Settings		
Jumper	**Jumper Settings**	**Note**
JP18	Open (jumper off) Disabled (Default) Close (jumper on) Enabled	Buzzer reset*
JP21	Open (jumper off) Disabled Close (jumper on) Enabled (Default)	SCSI termination
JP24	1-2: SCSI IDs 0,1,2,3,4 (Default) 2-3: SCSI IDs 9, 10, 11, 12, 13	SCSI ID selection
JP29	1-2: ID6 (Default) 2-3: ID8	GEM 318 IDs
JP30	1-2: Enabled (Default) Alarm will sound if no fan is present 2-3: Disabled	Fan

*The buzzer sound indicates that a condition requiring immediate attention has occurred.

The buzzer alarm is triggered by the following conditions:

1. Hard drive failure
2. Fan failure
3. System temperature over 45º Celsius.

Chapter 4

Mobile Rack Installation Procedures

4-1 Tools Required

The following tools are required to install the mobile rack into the chassis:

- Phillips head screwdriver
- Antistatic strap (recommended)

4-2 Important Safety Guidelines

This product should be assembled and/or serviced by qualified and experienced technicians. To avoid personal injury and property damage, carefully follow the guidelines listed below.

Safety Guidelines

1. Turn off all peripheral devices and the power supply connected to the chassis.
2. Disconnect the chassis from any power source.
3. When disconnecting cables, label them for easy identification.
4. Use a grounded wrist strap designed to prevent static discharge when handling components.
5. Save all the screws and fasteners for later use and label them for easy identification.)
6. Follow the installation procedures in the following section of this manual to remove and install the hard drives, cooling fan, and the back panel of the mobile rack.

Warning! Enterprise level hard disk drives are recommended for use in Supermicro chassis and servers. For information on recommended HDDs, visit the Supermicro Web site at http://www.supermicro.com/products/nfo/storage.cfm

4-3 Installation Procedures

Use the following installation procedures to set up the mobile rack.

WARNING!
SAS IDs are assigned automatically by the backplane. Do not set ID's manually on the drives.

SAS termination is enabled by default on the SAS backplane.

Removing Hard Drive Carriers from the Mobile Rack

The hard drives of the M35S and M35T1 mobile racks are mounted in drive carriers to simplify their installation and removal from the chassis. These carriers also help to promote proper airflow within the mobile rack drive bays.

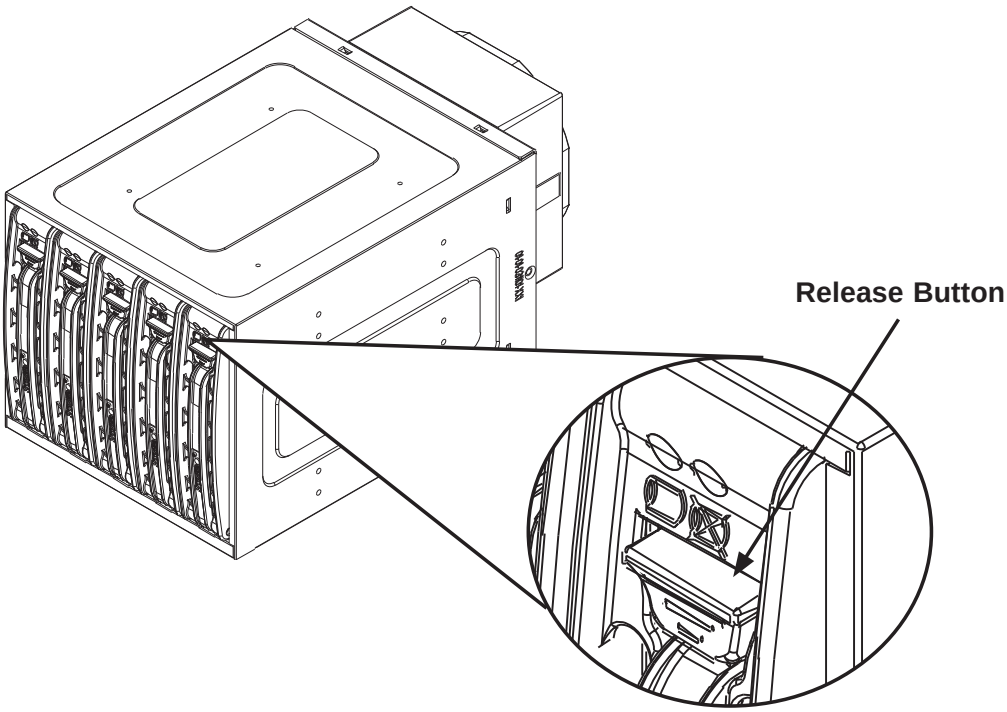


Figure 4-1: Hard Drive Carrier Release Button

Removing Hard Drive Carriers from the Mobile Rack

1. Push the release button on the hard drive carrier, which will extend the drive handle.

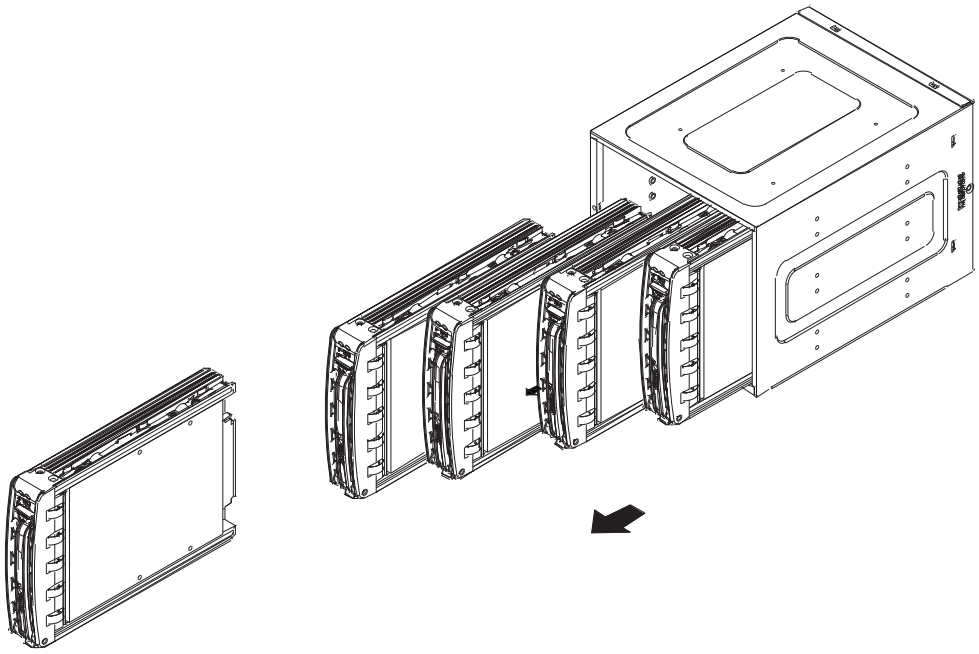


Figure 4-2: Removing Hard Drives From the Mobile Rack

2. Use the drive handle to carefully pull the drive from the mobile rack.

Installing Hard Drives into the Hard Drive Carriers

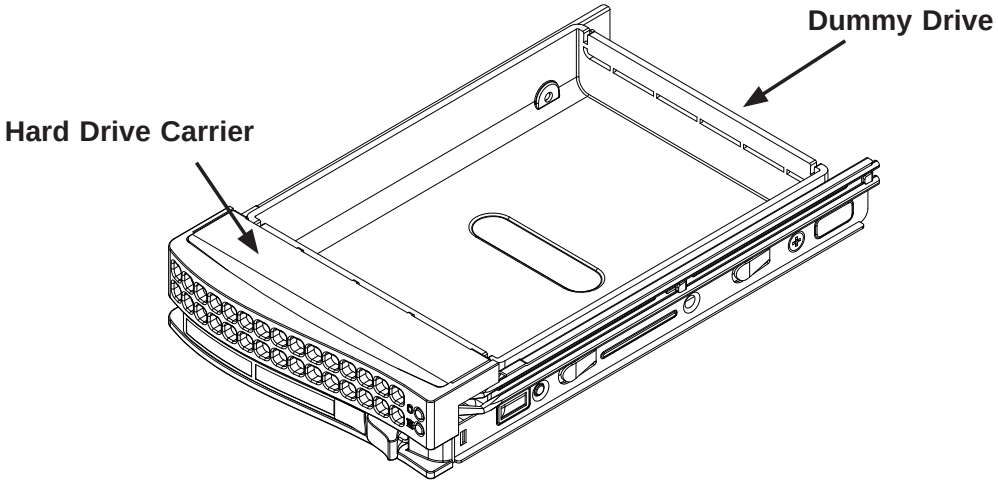


Figure 4-3: The Hard Drive Carrier and Dummy Drive

Warning: Except for short periods of time while swapping hard drives, do not operate the server with the mobile rack hard drive bays empty. The hard drive carrier must have a hard drive or dummy drive installed.

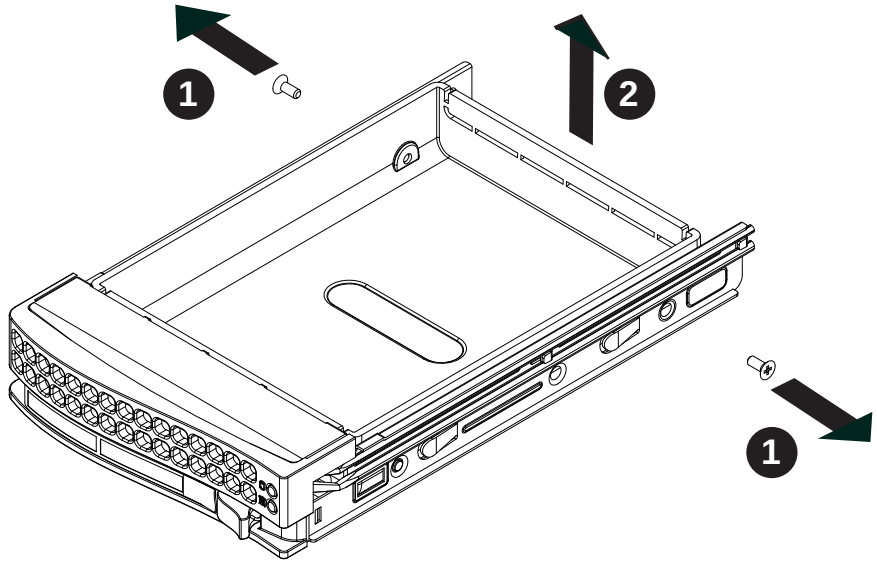


Figure 4-3: Removing the Dummy Drive from the Hard Drive Carrier

Installing a Hard Drive into the Hard Drive Carrier

1. Remove the two screws holding securing the dummy drive to the hard drive carrier.

2. Remove the dummy drive from the hard drive carrier.

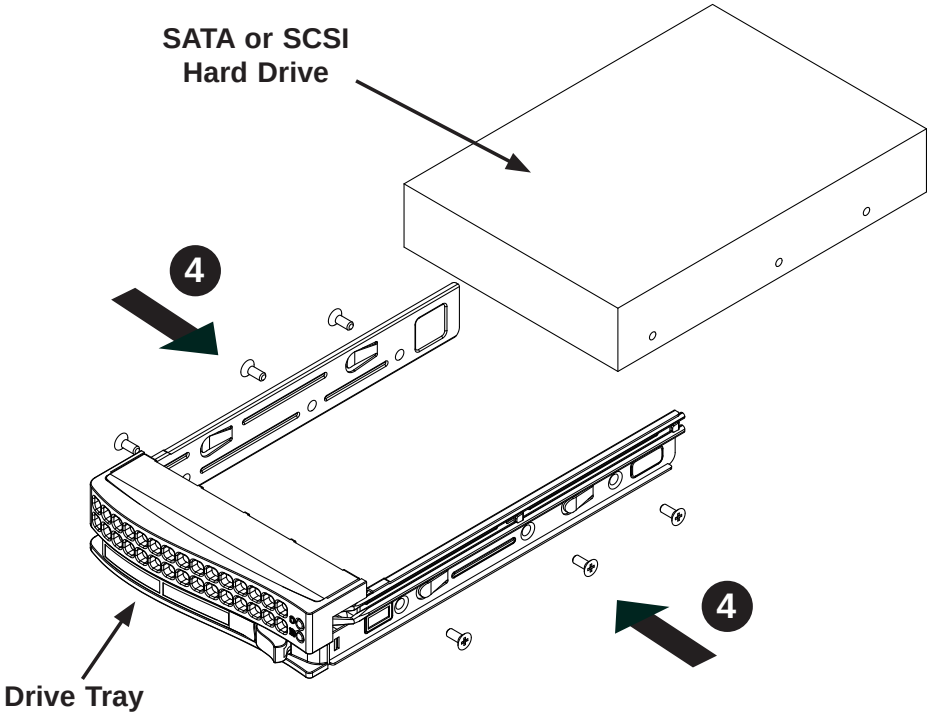


Figure 4-4: Installing the Hard Drive into the Hard Drive Carrier

3. Install a new hard drive into the hard drive carrier with the printed circuit board side facing downward so that the mounting holes in the hard drive align with those in the hard drive carrier.

4. Secure the hard drive to the hard drive carrier with the six screws provided.

5. Return the hard drive carrier to the mobile rack. Make sure that the hard drive carrier handle is returned to the closed and locked position. Repeat these steps for each hard drive to be installed.

Connecting Cables to the Mobile Rack

Before connecting cables the mobile rack, the exhaust fan must be removed. In some circumstances, the backplane may need to be removed.

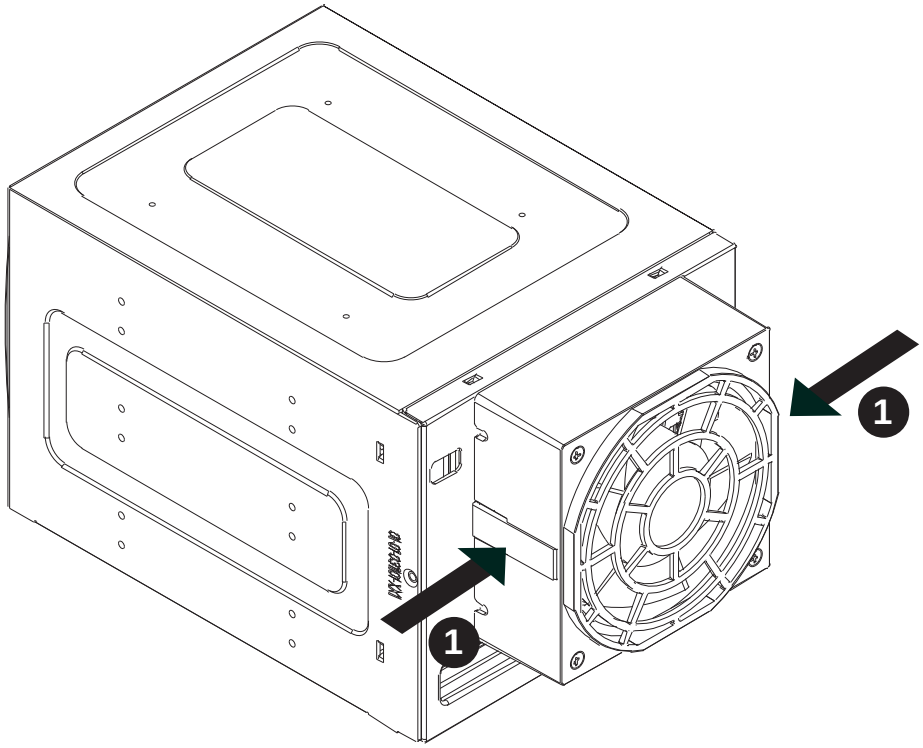


Figure 4-5: Removing Mobile Rack Fan

Removing the Exhaust Fan and Connecting Cables

1. Simultaneously press inward on the tabs on each side of the fan housing.

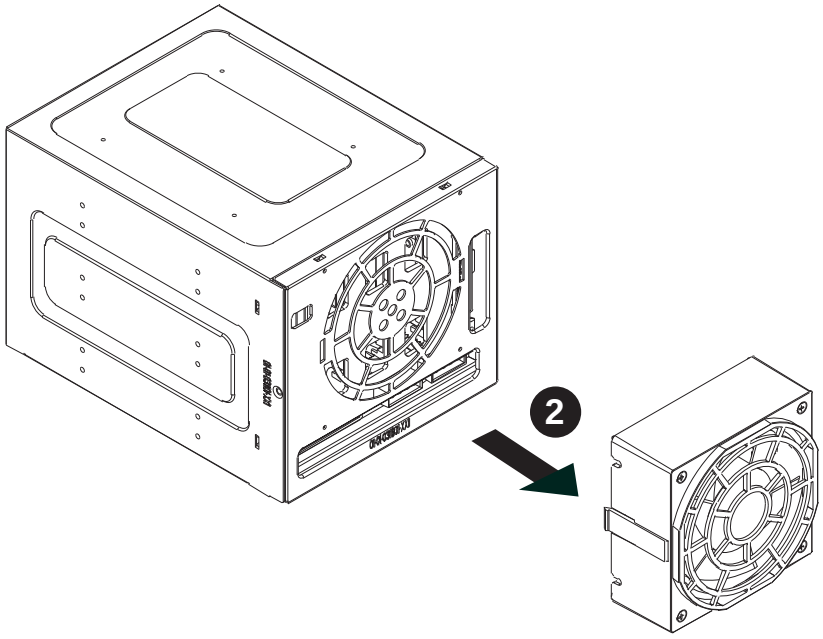


Figure 4-6: Removing Mobile Rack Fan

2. Pull the exhaust fan off the rear of the mobile rack.

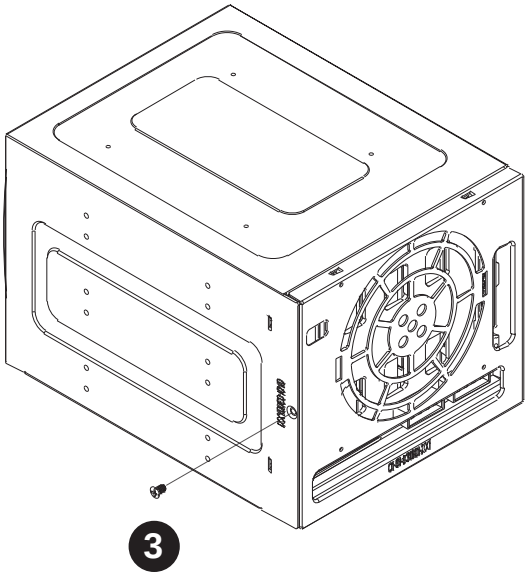


Figure 4-7: Removing the Bracket Screw

3. Remove the bracket screw from the side of the mobile rack.

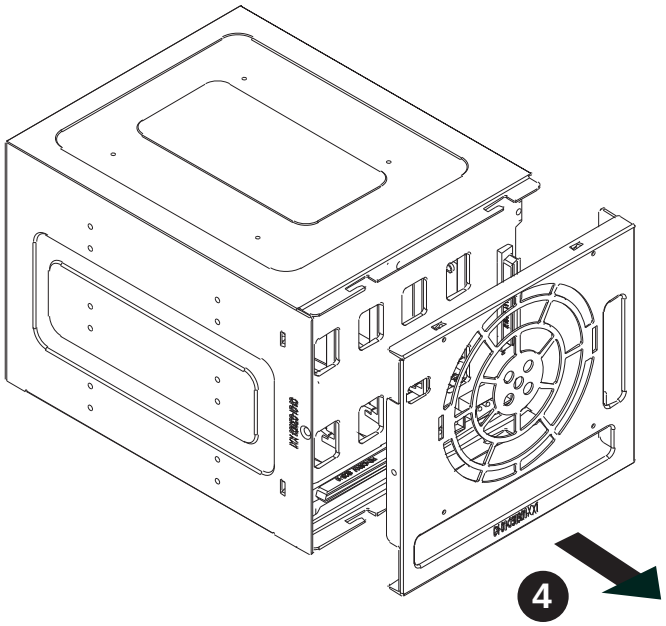


Figure 4-8: Removing Mobile Rack Bracket

4. Pull the bracket from the rear of the mobile rack.

5. Connect the SATA cables and power cables to the backplane of the mobile rack.

6. Replace the bracket, bracket screw, and fan on the mobile rack and reconnect power to the chassis.

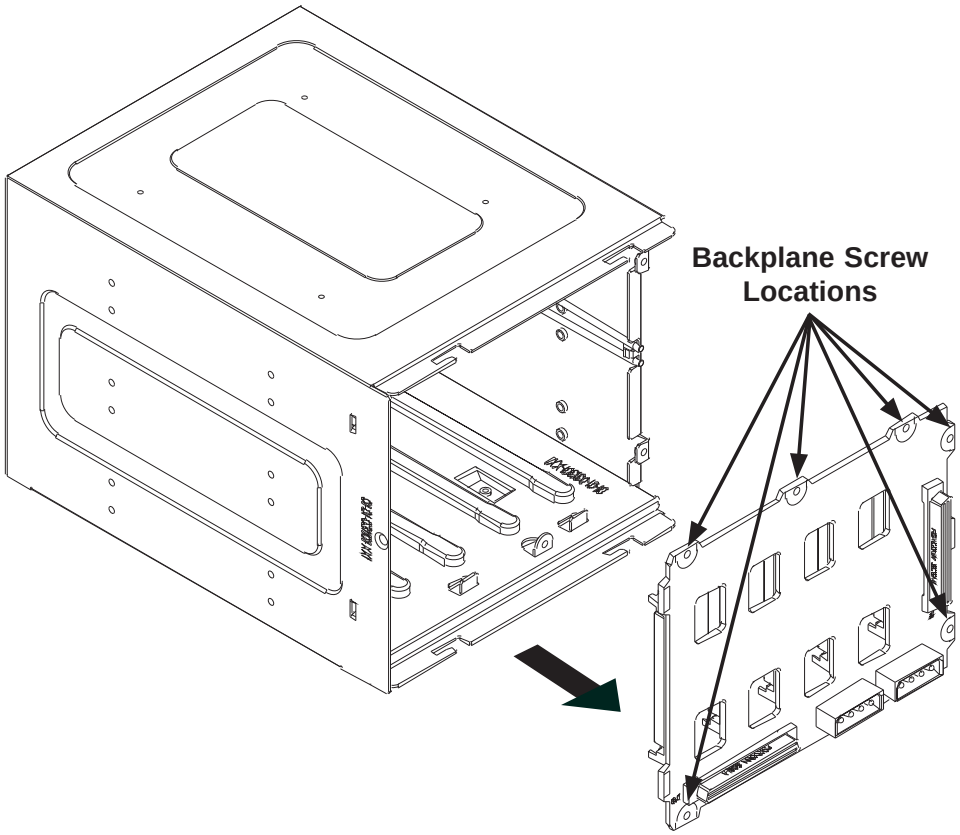


Figure 4-9: Removing the Mobile Rack Backplane (Optional)

Additional Optional Installation Information

If necessary, before reassembling the mobile rack, the backplane may be removed. To remove the mobile rack backplane, remove the six screws securing the backplane to the mobile rack. Carefully pull the backplane from the rear of the mobile rack.

Disclaimer (cont.)

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