SilverStone RM21-308

SilverStone RM21-308 2U Rackmount Server Case Instruction Manual

Model: RM21-308

Introduction

The SilverStone RM21-308 is a high-performance 2U rackmount server chassis designed for professional storage environments. It supports Micro-ATX motherboards and features eight hot-swappable drive bays compatible with 2.5-inch or 3.5-inch SAS/SATA drives. This manual provides detailed instructions for the installation, operation, and maintenance of your RM21-308 chassis.

Safety Information

Please read and understand all safety precautions before installing or operating the chassis. Failure to do so may result in personal injury or damage to the equipment.

- Always disconnect the power cord from the power source before performing any installation or maintenance.
- Ensure proper grounding to prevent electrical shock.
- Handle internal components with care to avoid damage from static electricity. Use an anti-static wrist strap if available.
- Do not block ventilation openings on the chassis. Adequate airflow is crucial for cooling.
- This chassis is designed for rackmount installation. Ensure the rack is stable and capable of supporting the total weight of the chassis and its components.

Package Contents

Verify that all components are present in the package:

- SilverStone RM21-308 Chassis
- Accessory Kit (screws for power supply, Slim ODD, motherboard, 2.5" HDD, 3.5" HDD)
- Mounting brackets and hardware

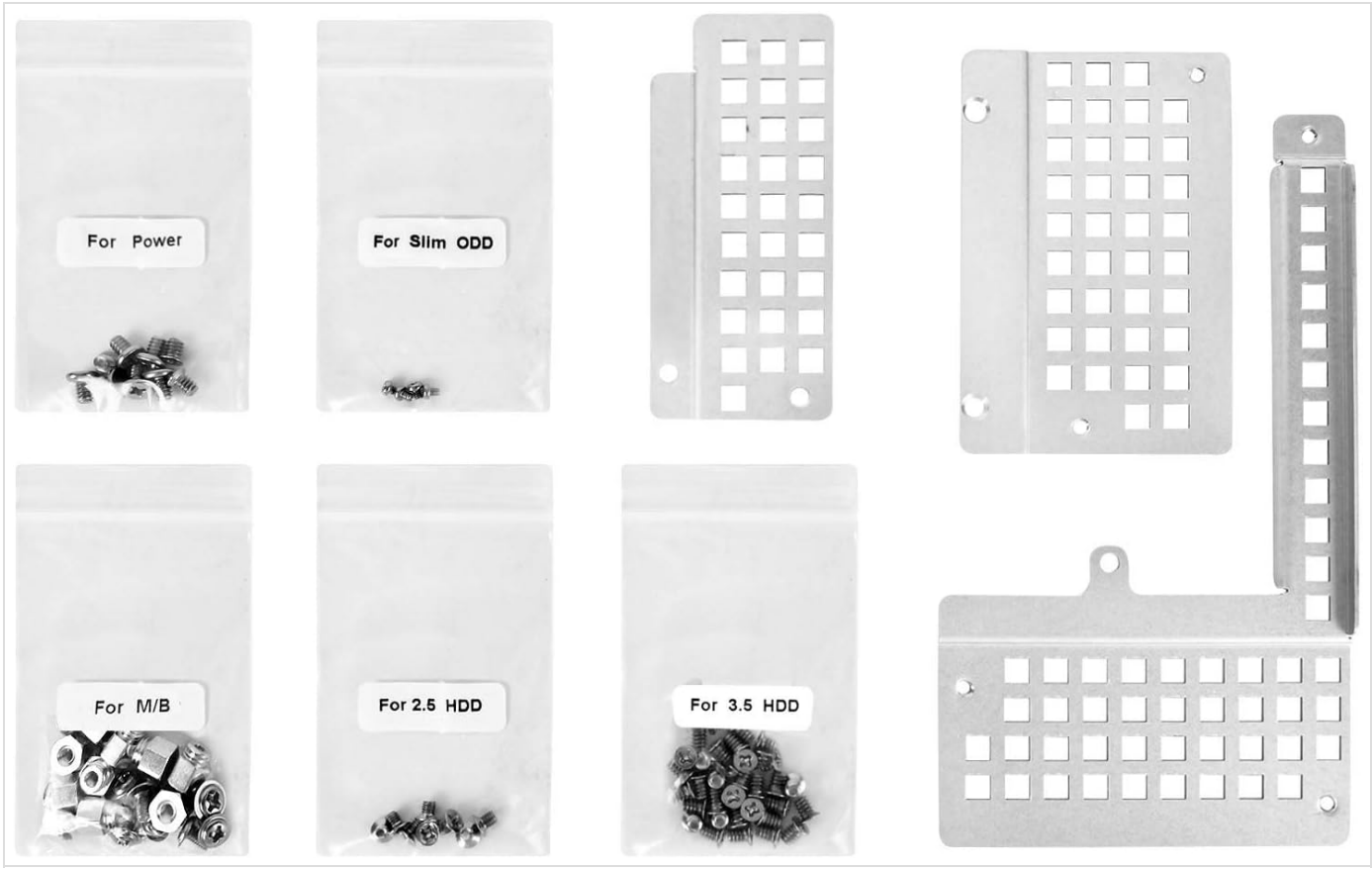

Image: Included accessory kit with labeled bags for different screw types and mounting hardware.

Product Overview

Front Panel

The front panel provides access to the hot-swappable drive bays, front I/O ports, and system indicators.

Image: Front view of the RM21-308 chassis, showing eight hot-swap drive bays, USB ports, power/reset buttons, and indicator LEDs.

Image: Close-up of the front panel, highlighting the USB 2.0 and USB 3.0 ports, power button, reset button, and status indicator LEDs.

Rear Panel

The rear panel includes space for the power supply, motherboard I/O, and expansion slots.

Image: Rear view of the RM21-308 chassis, showing the power supply mounting area, rear exhaust fan, and four low-profile expansion slots.

Internal Layout

The internal structure is designed for efficient component installation and airflow.

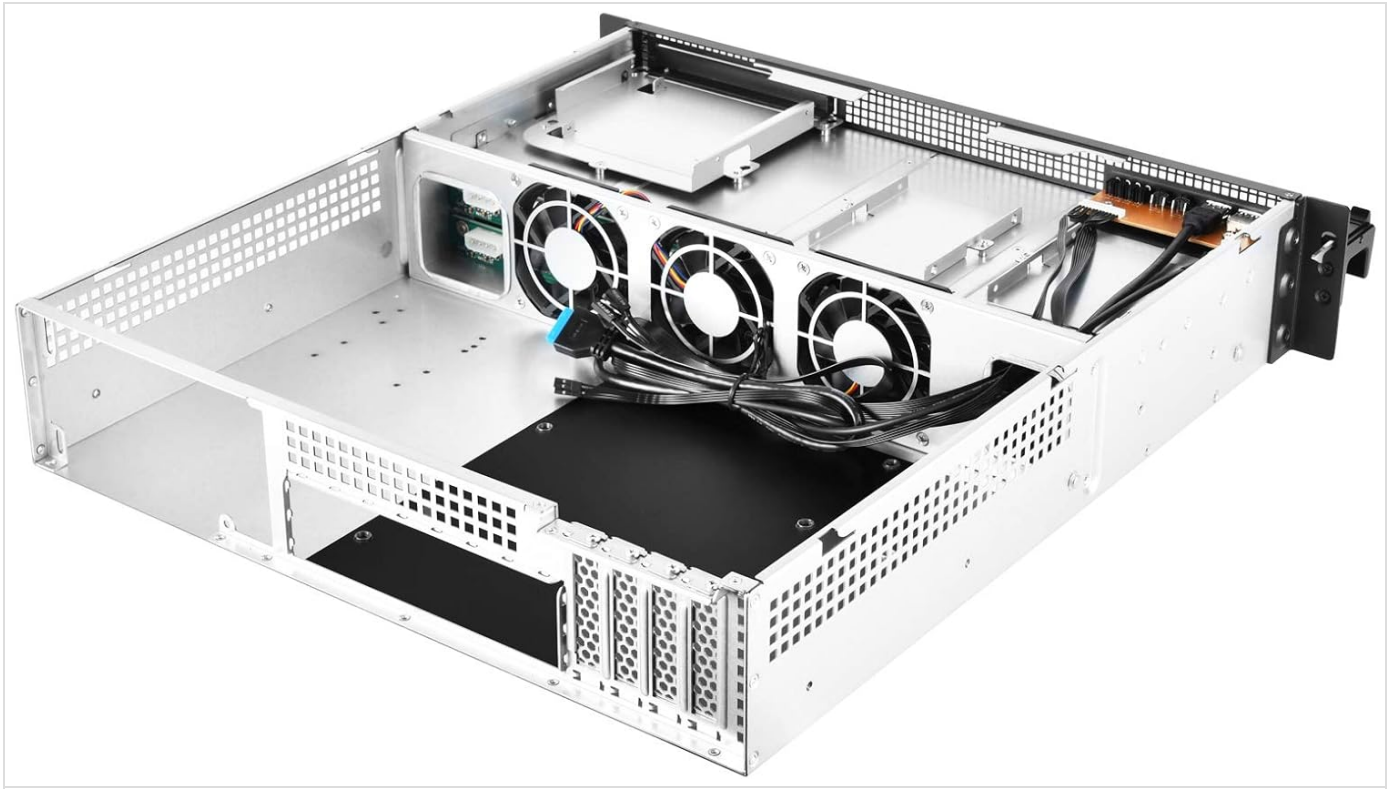

Image: Internal view of the RM21-308 chassis, showing the three 80mm PWM fans, drive backplane, and internal mounting points for 2.5-inch drives and a Slim ODD.

Setup

1. Rack Mounting

The RM21-308 chassis features auto-lock handles for easy integration into a 2U rack space. Optional sliding rail kits (e.g., SilverStone RMS04-20, sold separately) can be used for easier access.

Image: Close-up of the auto-lock handle mechanism, designed for secure and tool-less rack installation.

2. Motherboard Installation

The chassis supports Micro-ATX motherboards. Install the motherboard using the provided standoffs and screws from the accessory kit. Ensure all I/O ports align correctly with the rear panel opening.

3. Power Supply Installation

The RM21-308 accommodates most 2U single/redundant server power supplies or standard PS2 (ATX) power supplies. When selecting an ATX power supply, consider modular or semi-modular units to minimize cable clutter due to the chassis's depth. Ensure the power supply's fan orientation allows for proper airflow (front-to-back ventilation is ideal).

4. Drive Installation

The chassis features eight hot-swappable bays for 2.5-inch or 3.5-inch SAS/SATA drives. Additionally, there are internal mounting points for two 2.5-inch drives and one Slim ODD (12.7mm).

- **Hot-Swap Bays:** To install a drive, pull the handle on the drive tray to release it. Mount your 2.5-inch or 3.5-inch drive onto

the tray using the appropriate screws from the accessory kit. Slide the tray back into the bay until it clicks securely into place.

- **Internal Drives:** Use the designated mounting points and screws for 2.5-inch drives and the Slim ODD.

Image: A hot-swap drive bay with a drive tray partially extended, illustrating the mechanism for installing or removing drives.

5. Fan Connections

The chassis includes three 80 x 15mm PWM fans. These fans are initially connected to the hard drive backplane. For optimal control and noise management, it is recommended to connect these fans to your motherboard's PWM fan headers. You may require fan extension cables (e.g., 26cm) due to the short length of the fan cables.

Image: Close-up view of the three 80mm PWM fans mounted internally, responsible for cooling the drive bays and internal components.

6. Backplane Connections

The backplane supports 8-port SAS/SATA drives and 12 Gb/s Mini-SAS SFF-8087. You will need:

- Two Mini SAS SFF-8087 cables: One for the top row of four drives and one for the bottom row of four drives. Connect these to your motherboard or SAS controller.
- Four Molex power cables: Connect these from your power supply to the backplane to provide power to the drives.

Image: Close-up of the Mini SAS SFF-8087 data connectors on the drive backplane.

Image: Close-up of the Molex power connectors on the drive backplane, which supply power to the installed drives.

7. Front Panel Connections

Connect the front panel USB 2.0 and USB 3.0 cables to the corresponding headers on your motherboard. Also, connect the power, reset, and LED indicator cables to the motherboard's front panel header.

Operating

Powering On/Off

Press the power button on the front panel to turn the system on or off. Use the reset button for system restarts if necessary.

Hot-Swapping Drives

The RM21-308 supports hot-swapping of drives. Ensure your operating system and SAS/SATA controller support hot-swapping before attempting to remove or insert drives while the system is powered on. Follow your operating system's guidelines for safely ejecting or adding drives.

Maintenance

Cleaning

Regularly clean the chassis to ensure optimal airflow and prevent dust buildup. Use compressed air to clear dust from fans and ventilation grilles. For external surfaces, use a soft, damp cloth.

Fan Replacement

If a fan fails or becomes excessively noisy, it can be replaced. Disconnect power, open the chassis, and carefully replace the faulty fan with a compatible 80 x 15mm PWM fan. Note that space can be tight for standard 25mm thick fans.

Troubleshooting

This section addresses common issues you might encounter.

- **Loud Fan Noise:** The included fans can be loud when connected directly to the backplane. Connect them to your motherboard's PWM headers and configure fan curves in your BIOS/UEFI for quieter operation.
- **Drives Not Detected:** Ensure all Mini SAS SFF-8087 data cables and Molex power cables are securely connected to the backplane and your controller/power supply. Verify that drives are properly seated in their trays.
- **Chassis Dimensions:** Note that the actual depth of the chassis is approximately 18.9 inches, not 16.9 inches as sometimes listed. This is important for rack compatibility.

For further assistance, refer to the SilverStone support website or contact customer service.

Specifications

Feature	Specification
Model Number	SST-RM21-308
Form Factor	2U Rackmount
Material	Alloy Steel
Motherboard Support	Micro-ATX
Drive Bays	8 x 2.5"/3.5" SAS/SATA Hot-Swap, 2 x Internal 2.5", 1 x Slim ODD (12.7mm)
Expansion Slots	4 x Low-Profile
Cooling System	3 x 80mm x 15mm PWM Fans
Front I/O	1 x USB 2.0, 1 x USB 3.0
Backplane Support	8-port SAS/SATA, 12 Gb/s Mini-SAS SFF-8087
Dimensions (D x W x H)	18.9" x 16.93" x 3.48" (480mm x 430mm x 88.5mm)
Compatible Devices	Server

Image: Dimensional diagram of the RM21-308 chassis, indicating its depth, width, and height.

Warranty and Support

The SilverStone RM21-308 chassis comes with a 1-year warranty. For warranty claims, technical support, or further inquiries, please visit the official SilverStone Technology website or contact their customer service department. Keep your proof of purchase for warranty validation.

SilverStone Technology Website: www.silverstonetek.com