



IW-RJ472-08

4U Ultra Density JBOD Enclosure

User Manual



PREFACE

Thank you for choosing the InWin JBOD IW-RJ472-08. This manual is written for system technicians who are responsible for installation, troubleshooting, managing and repairing this server chassis. This document provides an overview of all the features of the chassis, a list of accessories or other components you may need to finish the installation, troubleshooting methods and instructions on adding and removing components in the InWin IW-RJ472-08. For the latest version of this manual, you may visit InWin's server website.

SAFETY INFORMATION

To ensure a safe and smooth operation of your InWin IW-RJ472-08, it is essential that you choose an appropriate location for the system, provide an appropriate operating environment and supply an adequate amount of power for all components of the system. As you plan for installation, follow the guidelines below to ensure that the system and its environment are safely and appropriately positioned for efficient operation and service. Your system should be installed and serviced only by a qualified technician.

Environment Selection:

The system is designed to operate in a typical office environment:

- The location should be clean, dry and free of airborne particles.
- It should be placed in a well-ventilated room, and away from sources of heat including direct sunlight and radiators.
- It should be kept away from sources of vibration or physical shock.
- The space should be accommodated with a properly grounded wall outlet, and with sufficient space to access the power supply cords.
- The operating environment temperature should be around 0°C to 40°C (32°F to 104°F).

Heed Safety Instructions:

Before working with InWin IPC/storage/SMB server products, we strongly recommend you use this guide as a reference and follow the safety instructions. The instructions in this manual will help you ensure and maintain compliance with existing product certifications and approvals. Follow the described, regulated components mentioned in this manual. Use of non-UL listing products or other regulators may not comply with product regulations in the region(s) in which the product is sold.

System Power On/Off:

The power button DOES NOT totally turn off the system AC power. To remove the power of the system, you must unplug the AC power cord from the outlet or the system's power supply units. Make sure the power cord is unplugged before you open the chassis, add or remove any components.

Hazardous Conditions, Devices and Cables:

Hazardous electrical conditions can be present on/in power supply units and their cables. Disconnect the power cord and any other devices attached to the server before opening the case. Failing to follow safety procedures will increase the risk of personal injury or equipment damage.

Electrostatic Discharge (ESD) and ESD Protection:

In most cases, ESD may damage disk drives, electronic boards and other parts. We recommend that you conduct installation only at an ESD free space. If not possible, perform ESD protection protocol by wearing anti-static wrist straps attached to the ground on any unpainted metal surface on your server during operation.

Installing or Removing Jumpers:

A jumper is a short length conductor used to close, open or bypass part of an electronic circuit. Jumpers on InWin backplanes have a small tab on top that you can pick up with your fingertips. Grip the jumper carefully and plug the jumper to cover the jumper pins on the backplane. Once you need to remove the jumper, grip the jumper and carefully pull without squeezing.

CAUTION

To avoid damage and maintain your safety, please read the following terms listed below:

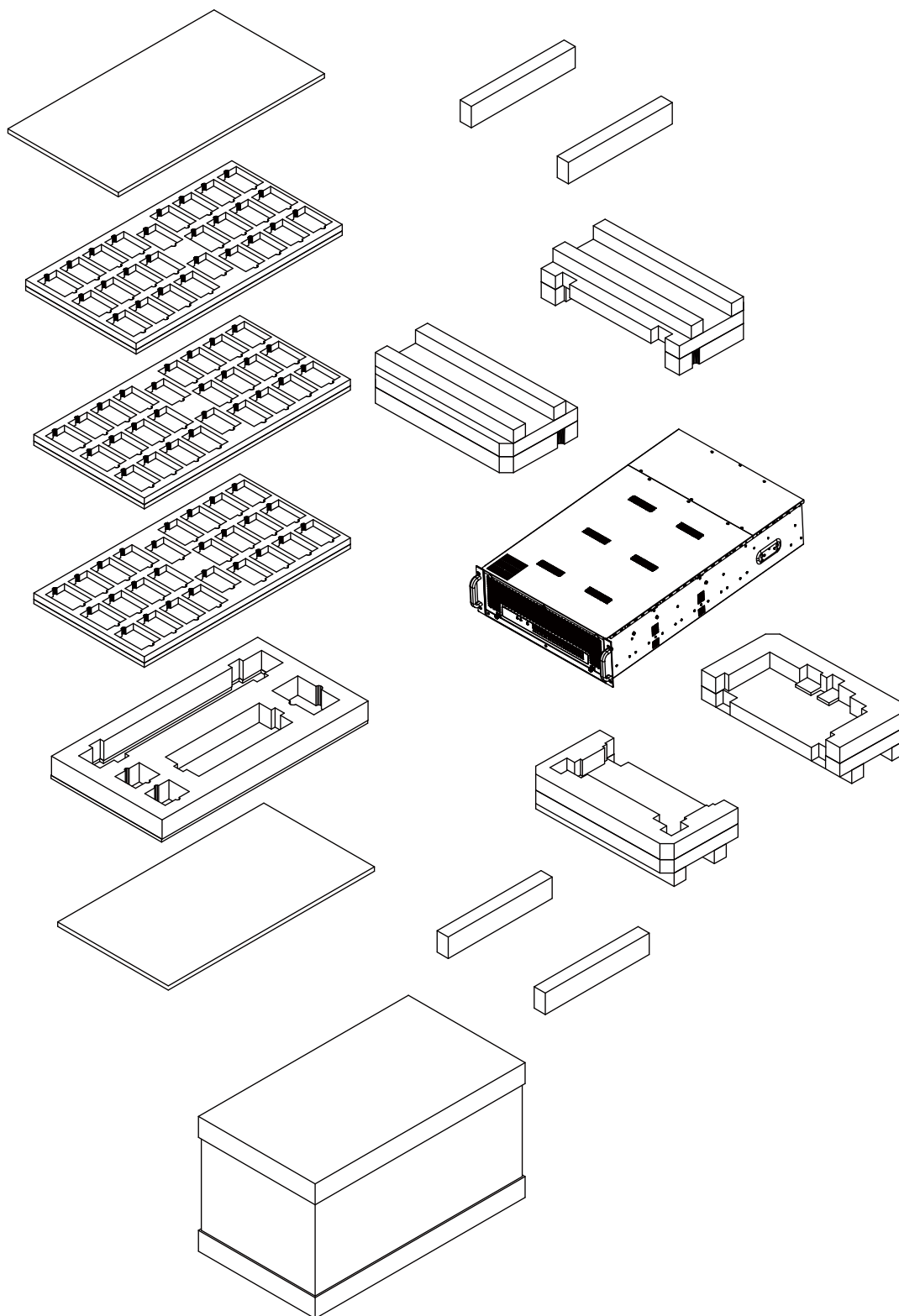


1. Do not populate hard drives and turn on the power until the system has stabilized. Make sure hard drives and other components are properly connected before turning on the system.
2. Tighten or loosen all screws with a screwdriver.
3. Apply the correct screws packed in the accessories box.
4. For your safety, please have at least two people lift and install the unit in its designated area.
5. Before mounting the unit to the cabinet, make sure the rail is installed correctly.
6. When installing and removing any module or part, please use the handles.

1 Product Introduction

1.1 Box Contents

When you open the IW-RJ472-08 box, the contents should include following:



1.2 Accessories Box

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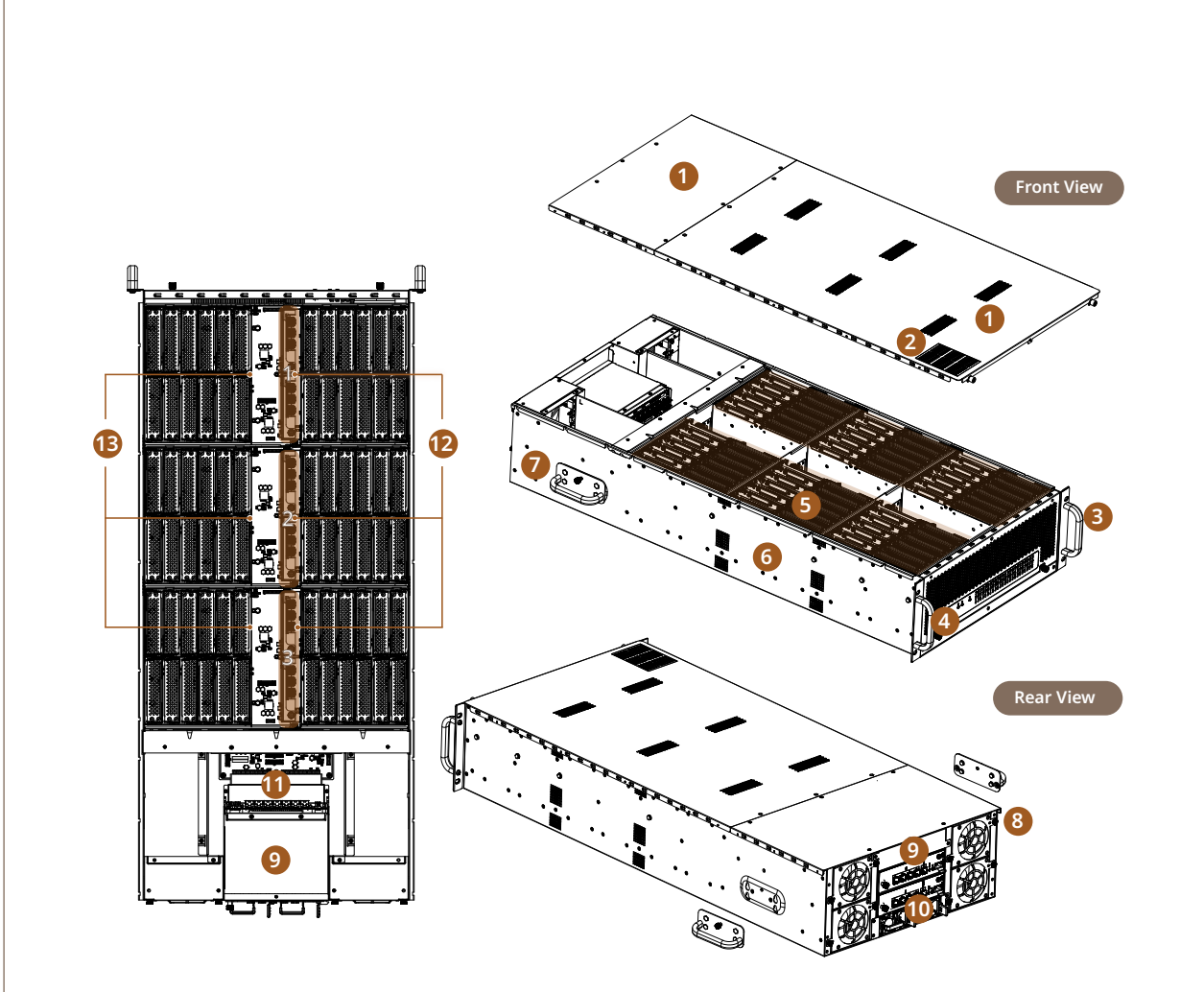


No.	Item	No.	Item
1	M5 x L20 Screws x 4 for Rack	5	Cables Ties x 10
2	3.5" HDD Screws x 72	6	Power Cords x 2
3	2.5" HDD Screws x 144	7	RS-232 D-Sub 9-Pin to 3.5mm Audio Jack Serial Cable
4	Cable Clamps x 2	8	Support Handles x 2

1.3 General Information

Designed for high scalability and high availability in storage applications, the IW-RJ472-08 JBOD enclosure is a high density 4U rackmount storage chassis with 60 tool-less bays, dual hot-swap SAS 12Gbps expander modules, five Mini-SAS HD (SFF-8644) for each 12Gbps expander module, high-speed cooling fans for excellent thermal performance, dual redundant 1200W power modules, and GUI supports via Ethernet board.

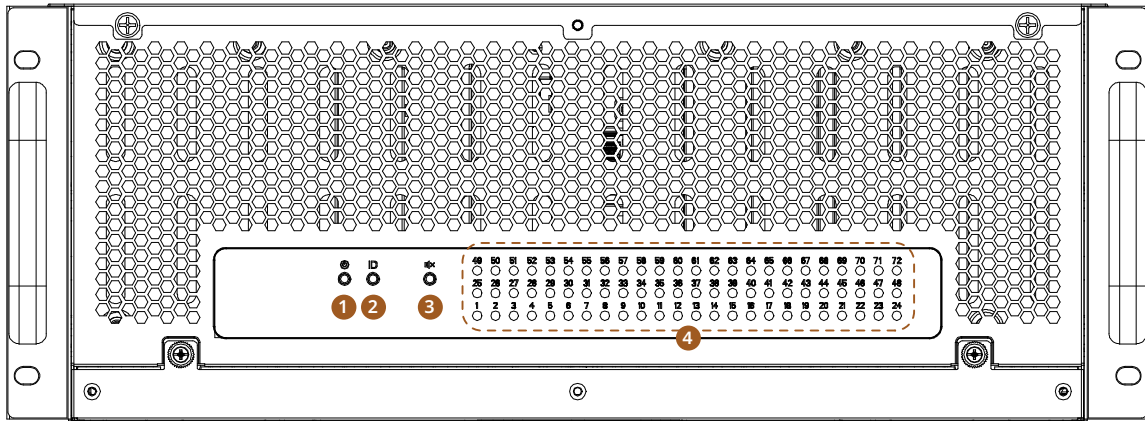
When you open the chassis, it should reflect the diagram's image.



1	Top cover		
2	Trays' placement layout sticker	8	80 x 38mm PWM Fan x 4
3	Pull handles x 2	9	Bridge expanders x 2
4	Front panel	10	1200W PSUs x 2
5	2.5"/3.5" drive bays x 72	11	Middle plane
6	Slide rail mounting area	12	Backplane x 3
7	Support Handle x 2	13	Edge expanders x 6 (1&2&3)

1.3.1 Front Panel Controls and Indicators

The front panel includes control buttons and LED indicators

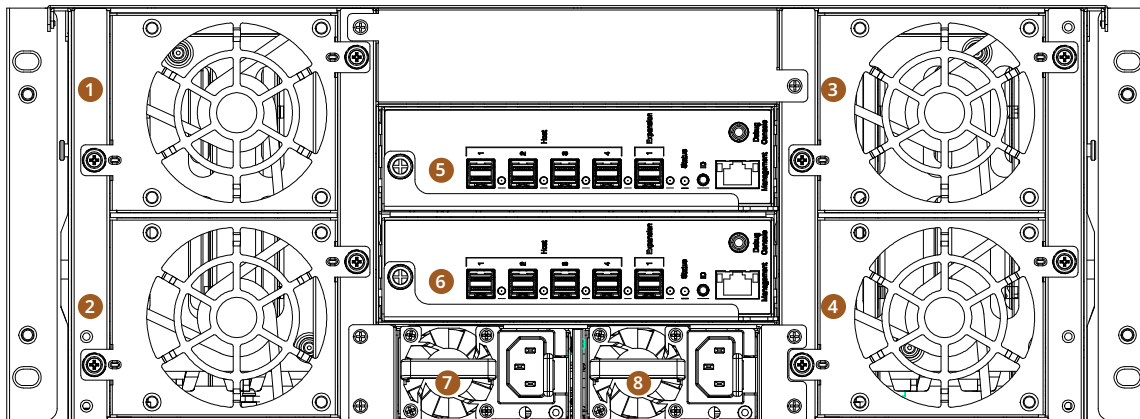


No.	Name	Color	Status	Description
1	Power On/Off Button with LED	Blue	Solid on	System is powered on
		N/A	Off	System is off
2	Chassis ID Button with LED	Green	Solid on	Press the button to activate chassis identification
3	Status LED	Red	Solid on	System maintenance (PSU, fan malfunction)
4	Drives Status LEDs for Bays 1-72	Follow the table below		

Bay LED (dual color)




- Indicates current state of the hard disk drives. Blue LED implies drives are operational and functioning properly, while a red LED signals a warning, error or failure.
- Blue LED steady ON- hard disk is installed and powered
- Blue LED in 4 Hz blinking – hard disk is accessed or in activity
- Red LED steady ON- hard disk is failed
- Red LED in 0.5 Hz blinking – hard disk is identified (LOCATE)
- Red LED in 1 Hz blinking – hard disk is in RAID rebuild state

1.3.2 Rear Panel Configuration

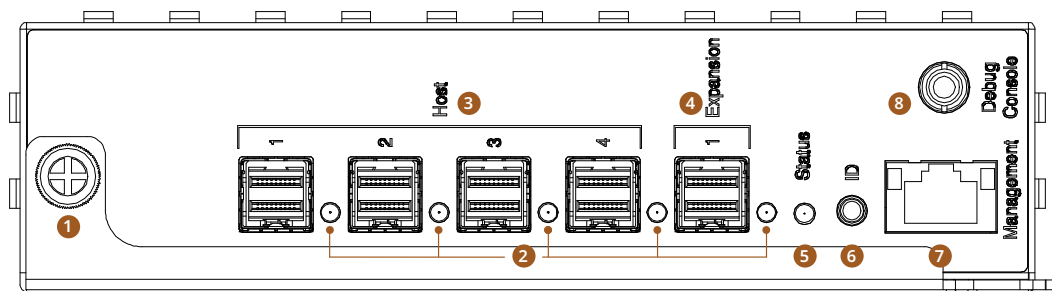


No.	Item	No.	Item
1	Fan Module 1	5	Primary Bridge Expander Module
2	Fan Module 2	6	Secondary Bridge Expander Module
3	Fan Module 3	7	CRPS Power Module 1
4	Fan Module 4	8	CRPS Power Module 2

PSU Status LED:

-  Power Standby
-  Power On
-  Loss of Power

1.3.2.1 Expander (Bridge) Configuration



No.	Name	Description
1	Expander Module Handle	
2	SAS Port LEDs	Host HBA/RAID card connection
3	SAS Host Ports	External uplink, connect to HBA/RAID card
4	SAS Expansion Ports	External downlink, connect to cascading JBOD
5	Expander Module Status LED	Heartbeat
6	ID LED/Button	Press the button to activate chassis identification
7	Network Management Port	Connect to ethernet remote monitoring
8	Expander Serial Port (RS-232)	RS-232 support

SAS Port LEDs

- SAS Connection On
- SAS Activity

Expander Module Status LED:

- Heartbeat

ID LED:

- ID on

2 Hardware Installation

2.1 HDD Tray Installation

The IW-RJ472-08 JBOD features tool-less trays, users can easily swap 3.5" drives without any screws.

Users can still mount 2.5"/3.5" HDDs with screws if needed.

For a quick installation video, please visit [InWin 08 Series JBOD Tary Installation](#)

2.2 Fan Installation

The IW-RJ472-08 JBOD has built-in fan modules, which feature a tool-less design to make maintenance much easier.

For a quick installation video, please visit [InWin 08 Series JBOD Expander Fan PSU Installation](#)

2.3 Power Supply Installation

The IW-RJ472-08 has a built-in redundant power supply unit. With this function, the system is capable of operating if one of the modules fail. To replace it, users only need to release/remove the failed module, and then insert a functional module.

NOTE:

1. This unit supports InWin PSU modules only, please do not attempt to insert any other module brands.
2. The two PSU modules' output wattage must be the same.

For a quick installation video, please visit [InWin 08 Series JBOD Expander Fan PSU Installation](#)

2.4 Removing and Installing the Host & Disk Expander Module

The IW-RJ472-08 JBOD is accommodated with pre-installed dual redundant host expander and four redundant disk expander modules. The top expander is primary; and the bottom expander will be the secondary. The host expander module includes an Ethernet management module, which allows users to monitor and maintain the system. Also, the redundant module can minimize downtime should any of the expanders fail.

NOTE:

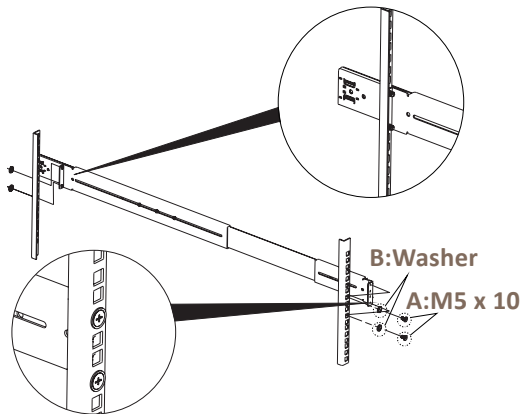
Please open the top cover only when necessary and close it within 1 minute to prevent the system from HDD overheating.

For a quick installation video, please visit [InWin 08 Series JBOD Expander Fan PSU Installation](#)

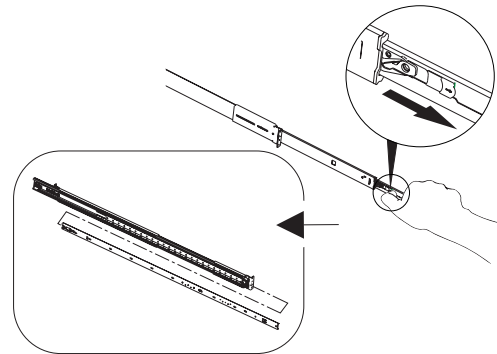
2.5 Rail Installation

The IW-RJ472-08 JBOD is a high density 4U rackmount storage model, which supports EIA-RS310D standard cabinets and chassis racks. InWin provides standard slide rails for mounting the JBOD chassis to cabinets.

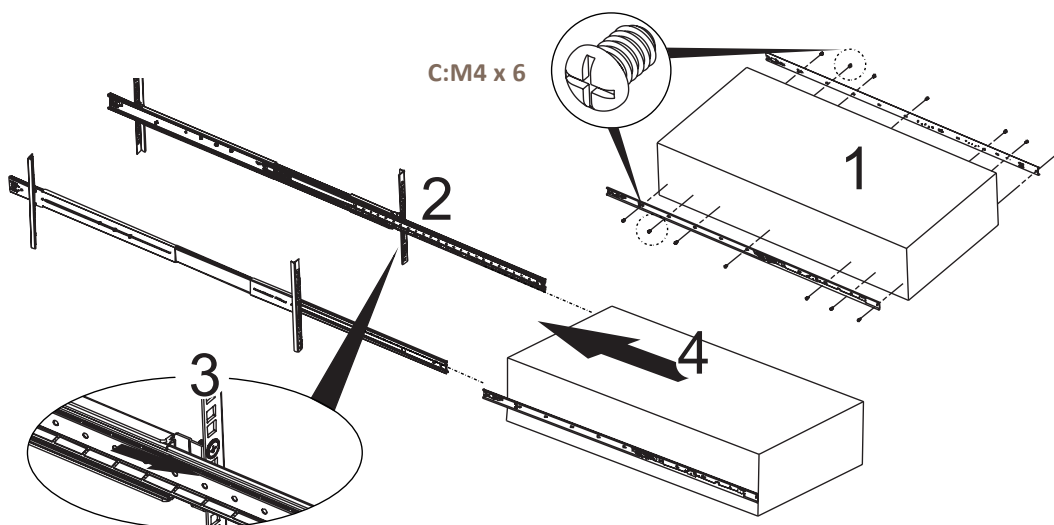
Step 1: Attach outer member to the rack.



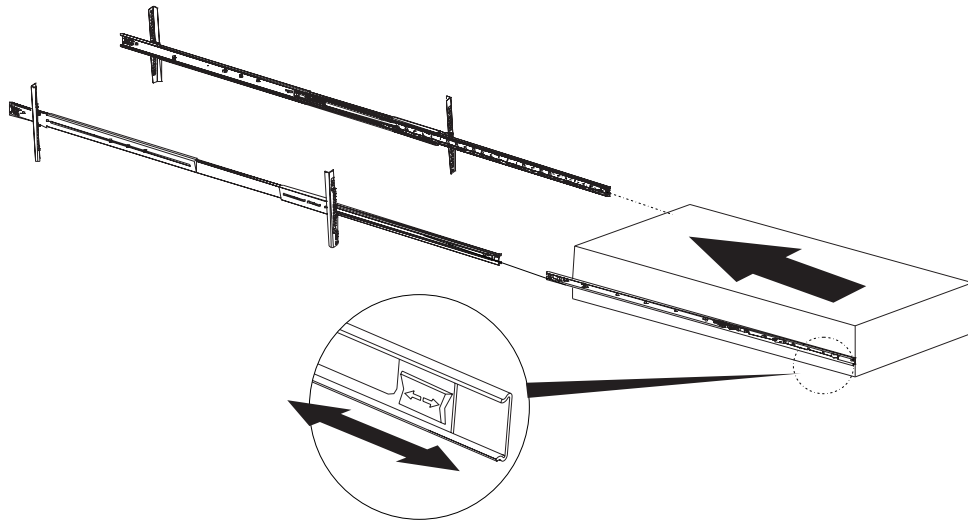
Step 2: Release and detach the inner member from the slide.



Step 3: (1) Attach inner member to the system.
(2) Pull the intermediate member outward fully from the outer rail
(3) CAUTION! Ensure ball bearing retainer is locked forward on the intermediate member
(4) Horizontally install system half way into slide rail rack.

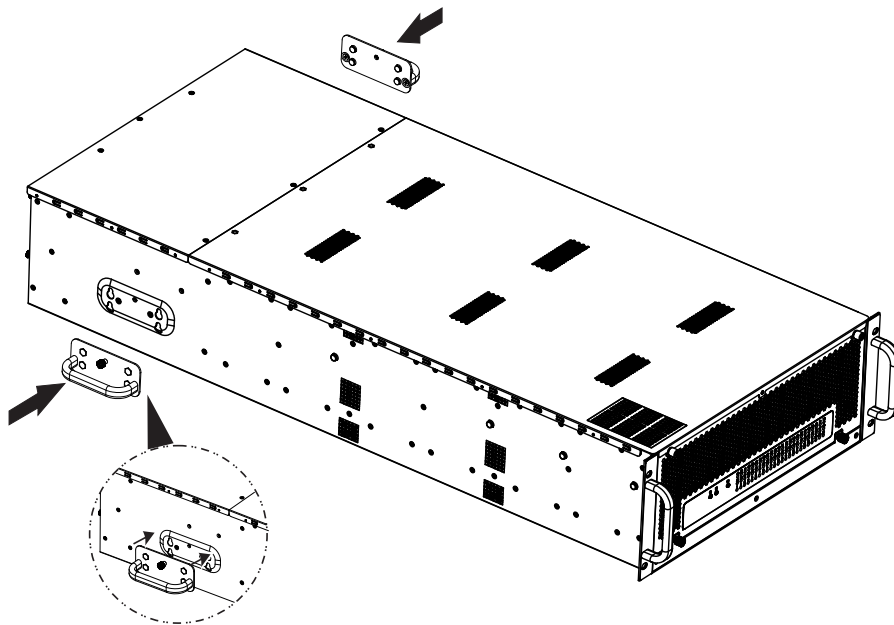


Step 4 Slide release tab and push system into rack.



NOTE: Heavy!!! Handle with Care!

Use the removable support handle rivets into the holes in the side of the case and move upward until it clicks to secure before transporting.



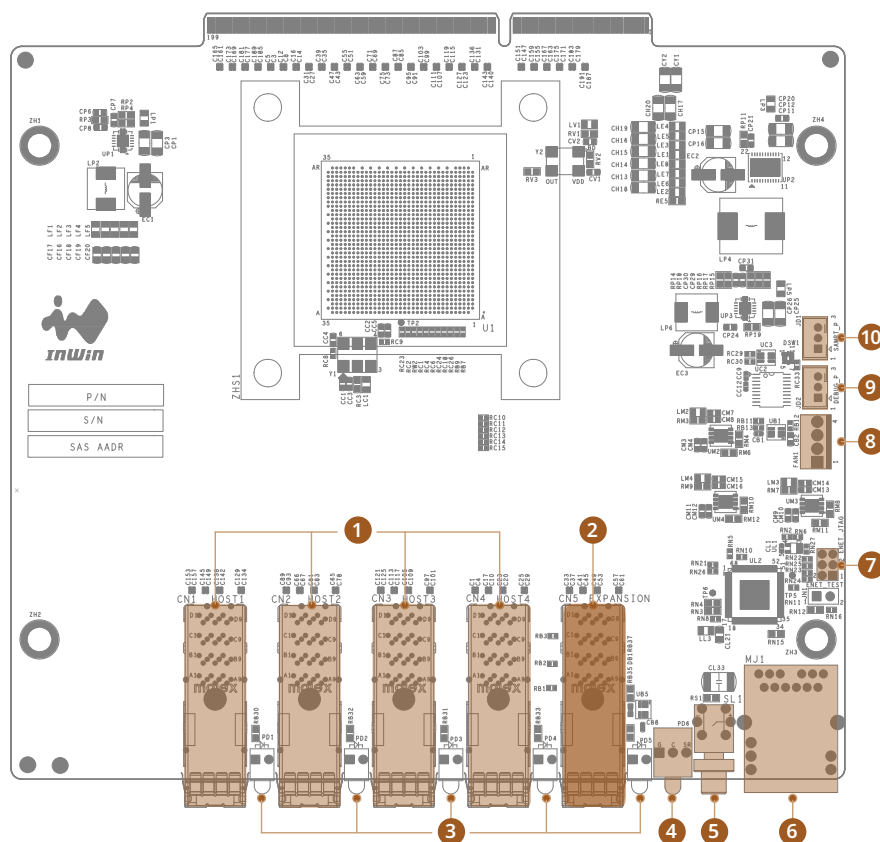
2.6 Cable Management Arm (CMA) Installation

The InWin CMA is designed to easily attach to rail kits and allows you to manage rear cables, optimize rack cabinet space, and provide easy access to the rear of the system.

For a quick installation video, please visit [InWin 08 Series JBOD CMA Installation](#)

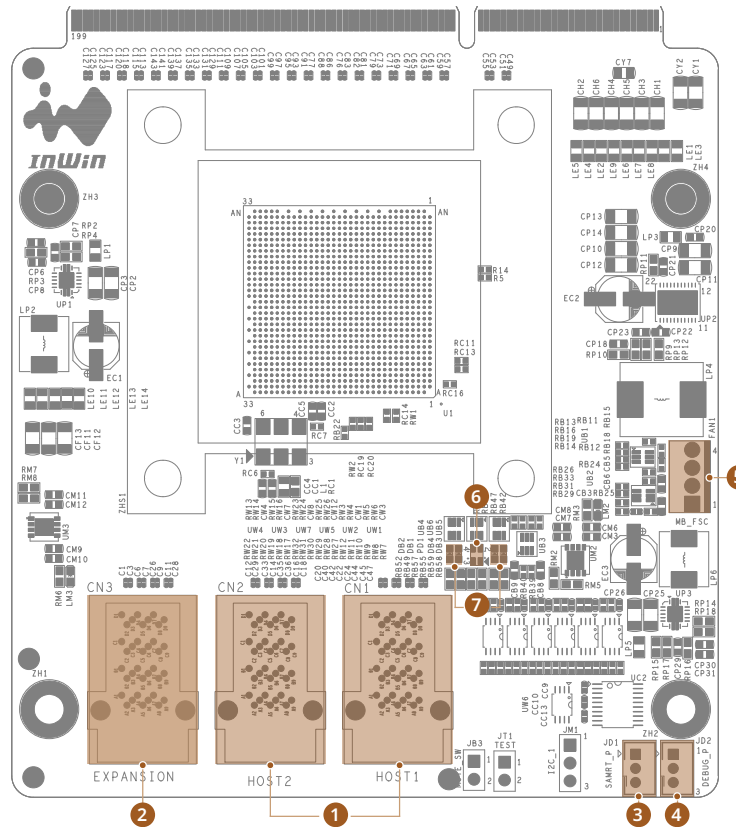
3 Expander Board Introduction (Host & Disk)

3.1 Expander Board (Host)



No.	Name	Description
1	CN1~CN4	External Uplink (Host Facing Interface Mini-SAS HD Connector)
2	CN5	External Downlink (Expansion Facing Interface Mini-SAS HD Connector)
3	PD1~PD5	PHY LINK Activity LED
4	PD6	Status/System Error LED
5	SL1	ID Button & ID LED
6	MJ1	Management LAN Port
7	JN2	Ethernet JTAG Header
8	FAN1	Expander Fan Connector
9	JD2	EXP Debug Console Mode Connector
10	JD1	EXP Smart Console Mode Connector

3.2 Expander Board (Disk)



No.	Name	Description
1	CN1~CN2	External Uplink (Host Facing Interface Mini-SAS HD Connector)
2	CN3	External Downlink (Expansion Facing Interface Mini-SAS HD Connector)
3	JD2	EXP Debug Console Mode Connector
4	JD1	EXP Smart Console Mode Connector
5	FAN1	Expander Fan Connector
6	PD1	Status/System Error LED
7	DB1~DB3	PHY LINK Activity LED

4 Compatibility Lists

To reach the best performance and avoid system failure, InWin strongly recommends customers to choose the components from InWin's compatibility list. All the components are tested in InWin's lab, and are assured the components are compatible with InWin's chassis. You can download the latest updated device compatibility list from InWin's website: ipc.in-win.com

5 Technical Support

If you need help with installation or troubleshooting, you can contact your local InWin reps, or send an e-mail to InWin's local contacts for technical assistance.



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