RSC-1AT3

Rackmount Chassis
User's Manual

UM_RSC-1AT3_v1_080923

Table of Contents

Preface i

Safety Instructions ii

About This Manual iv

Chapter 1. Product Features 1

1.1 Components 1

1.2 Specifications 2

1.3 Feature 2

Chapter 2. Hardware Setup 5

2.1 Top Cover 5

2.2 Power Supply Unit Module 6

2.3 Fan Module 6

2.4 Hard Disk Drive 7

2.5 Riser Card 8

2.6 Slide Rail 9

Chapter 3. Hardware Specifications 14

3.1 HDD Backplane: 2 Bay 14

3.1.1 Layout 14

3.1.2 Connector 15

3.2 HDD Backplane: 4 Bay 16

3.2.1 Layout 16

3.2.2 Connector 17

3.2.3 LED Indicator 18

3.2.4 Jumper Setting 19

Chapter 4. Technical Support 20

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Preface

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Changes

The material in this document is for information purposes only and is subject to change without notice.

Warning

1. A shielded-type power cord is required in order to meet FCC emission limits and also to prevent interference to the nearby radio and television reception. It is essential that only the supplied power cord be used.
2. Use only shielded cables to connect I/O devices to this equipment.
3. You are cautioned that changes or modifications not expressly approved by the party responsible for compliance could void your authority to operate the equipment.

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Safety Instructions

Before you commence, please attentively read the following important discretions below. All cautions and warnings on the equipment or in the manuals should be circumspectly noted and reviewed.

Always ground yourself to prevent static electricity.
請全程接地，以防止靜電。
请全程接地，以防止静电。
Всегда заземляйте себя, чтобы избежать статического электричества.
Aard jezelf altijd om statische elektriciteit te voorkomen.

- Firmly ground yourself at all times when installing or assembling the internal components of the server. Most of electronic components in the server are highly sensitive to electrical static discharge.
- Use a solid grounding wrist strap and distinctively place all electronic components in static-shielded devices to prevent static. Grounding wrist straps can be purchased in any electronic supply store.
- Confirm that the power source is turned off and then disconnect the power cords from your system before performing any type of installation or manual servicing. A sudden surge of power could severely damage the sensitive electronic components.
- Do not precipitously open the system's top cover. If you must open the cover for maintenance purposes, only a trained technician should be allowed to proceed this action. Integrated circuits on computer boards are highly sensitive to static electricity. Before operating a board or integrated circuit, touch an unpainted portion of the system unit chassis for a couple of seconds to discharge any static electricity on your body.

Place the server in a stable environment.
請將伺服器放置在穩定的環境中。
请将伺服器放置在稳定的环境中。
Поместите сервер в стабильную среду.
Plaats de server in een stabiele omgeving.

- Place this equipment on a stable surface when installing. A small mild drop or fall could cause fatal injury to both the equipment and the person handling the equipment.
- Please keep this equipment away from humidity to prevent vast rust and disintegration.
- Carefully and accurately mount the equipment into the rack. Uneven mechanical loading may lead to hazardous consequences.
- This equipment is to be installed for operation in an environment with maximum ambient temperature below 35°C.
- Review the environment before performing any installation or servicing. Keep the equipment away from hazardous and uneven grounds.
- This server must be installed only in Restricted Access Locations.

Handle equipment with care.
請謹慎操作設備。
请谨慎操作设备。
Обращайтесь с оборудованием осторожно.
Behandel de apparatuur voorzichtig.

- Do not cover the openings of the system. The openings on the system are for air convection, which intentionally protect the equipment from overheating.
- Never pour any liquid into ventilation openings of the system. This could cause catastrophic fire or electrical shock.

- Ensure that the voltage of the power source is within the specification on the label when connecting the equipment to the power outlet. The current load and output power of loads must be within the specification.
- This equipment must be firmly connected to reliable grounding before usage. Pay special attention to power supplied other than direct connections, e.g. using of power strips.
- Place the power cord out of the way of foot traffic. Do not place anything over the power cord. The power cord must be rated for the product, voltage and current marked on the product's electrical ratings label. The voltage and current rating of the cord should be greater than the voltage and current rating marked on the product.

Pay attention to hardware maintenance.
注意硬體維護。
注意硬体维护。
Обратите внимание на обслуживание оборудования.
Besteed aandacht aan hardware-onderhoud.

- If the equipment is not used for a long time, disconnect the equipment from mains to avoid being damaged by transient over-voltage.
- Module and drive bays must not be empty. They must have a dummy cover.
- Never open the equipment without professional assistance. For safety reasons, only qualified service personnel should open the equipment.
- If one of the following situations arise, the equipment should be checked and tested by service personnel:
  1. The power cord or plug is damaged.
  2. Liquid has penetrated the equipment.
  3. The equipment has been exposed to moisture.
  4. The equipment does not work well or will not work according to its user manual.
  5. The equipment has been dropped and/or damaged.
  6. The equipment has obvious signs of breakage.
  7. Please disconnect this equipment from the AC outlet before cleaning. Do not use liquid or detergent for cleaning. The use of a moisture sheet or cloth is recommended for cleaning.

CAUTION
The equipment intended for installation should be placed in Restricted Access Location.

CAUTION
There will be a risk of explosion if battery is replaced by an incorrect type. Dispose of used batteries according to the instructions. After performing any installation or servicing, make sure the enclosure is correct in position before turning on the power.

CAUTION
This unit may have more than one power supply. Disconnect all power sources before maintenance to avoid electric shock.



About This Manual

Thank you for selecting and purchasing RSC-1AT3.

This user's manual is provided for professional technicians to perform easy hardware setup, basic system configurations, and quick software startup. This document pellucidly presents a brief overview of the product design, device installation, and firmware settings for 1AT Rackmount Chassis. For the latest version of this user's manual, please refer to the AIC® website: https://www.aicipc.com/en/productdetail/51436.

Chapter 1 Product Features

This chapter delivers the overall layout of the product, including the fundamental components of the rackmount chassis, design specifications, and noteworthy features.

Chapter 2 Hardware Setup

This chapter displays an easy installation guide for assembling the chassis. Utmost caution for proceeding to set up the hardware is highly advised.

Chapter 3 Hardware Specifications

This chapter elaborates the overall layout of the hardware design, including multifarious connectors, jumpers, and LED descriptions.

Chapter 4 Technical Support

For more information or suggestion, please contact the nearest AIC® corporation representative in your district or visit the AIC® website: https://www.aicipc.com/en/index. It is our greatest honor to provide the best service for our customers.

Chapter 1. Product Features

RSC-1 AT3 is a flexible rackmount storage chassis with tool-less design. This product supports hot swappable HDDs and easy swap fans. For more information about our product, please visit our website at https://www.aicipc.com/en/index.

Before removing the subsystem from the shipping carton, visually inspect the physical condition of the shipping carton. Exterior damage to the shipping carton may indicate that the contents of the carton are damaged. If any damage is found, do not remove the components; contact the dealer where the subsystem was purchased for further instructions. Before continuing, first unpack the subsystem and verify that the number of components in the shipping carton is accurate and in good condition.

1.1 Components

This product contains the components listed below.
Please confirm the number and the condition of the components before installation.

- Enclosure (includes power supply, fan & hard disk drive tray)
- Power cord (vary per region)
- Slide rail x 1 set (optional)

Product specifications and features are subject to change without prior notice.

1.2 Specifications

Dimensions (W x D x H)	mm : 438 x 680 x 43.5		
	inches : 17 x 26.8 x 1.72		
Industry Standard	EIA-RS310D		
Material	SGCC		
Color	Front Panel : Black		
Cooling	6 x 40x56mm PWM easy swap fans		
Power Supply	750W 1+1 redundant power supply		
Expansion Slots	1 full height		
Front Panel	System power on/off and system reset, 2 x USB 3.0 ports		
LED Indicators	Power, LAN, Drive and Alert		
System Board	Up to 12”(W) x 13”(D) EATX MB		
Drive Bays	External	2.5” hot swap	10

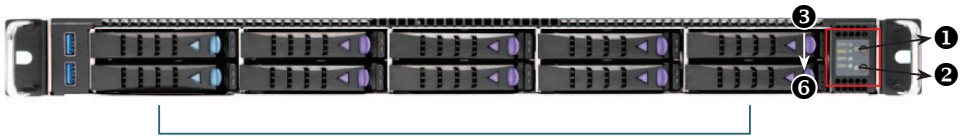
Backplane	SKU1	2 x 4-port 6G SATA/12G SAS +1 x 2-port 6G SATA
	SKU2	1 x 4-port 6G SATA/12G SAS/PCIe Gen4 NVMe + 1 x 4-port 6G SATA/12G SAS + 1 x 2-port 6G SATA
	SKU3	2 x 4-port 6G SATA/12G SAS/PCIe Gen4 NVMe + 1 x 2-port 6G SATA
	SKU4	2 x 4-port 6G SATA/12G SAS + 1 x 2-port PCIe Gen4 NVMe
Storage Temperature	0ºC(32ºF) ~ 50ºC(122ºF)	
Humidity	5%~95% non-condensing	
Gross Weight	(w/ PSU & Rail)	kgs : 16
		lbs : 35.3
Packaging Dimensions	(W x D x H)	mm : 645 x 890 x 180
		inches : 25.3 x 35 x 7. 1
Mounting	Standard	28” tool-less slide rail

1.3 Feature

- Tool-less 2.5” drive trays
- 1U 8-Bay 2.5” trimode and 1U 2-Bay 2.5” SATA/SAS
- Supports redundant power supplies
- Supports 1 full height expansion slot
- Two front access USB 3.0 ports



Front Panel



2.5" x 10 HDD tray

System Switches and LED indicators in front panel

❶		Power on/off
❷		System Reset
❸		Power System LED
❹		System HDD Activity LED
❺		LAN1 LED
❻		LAN2 LED

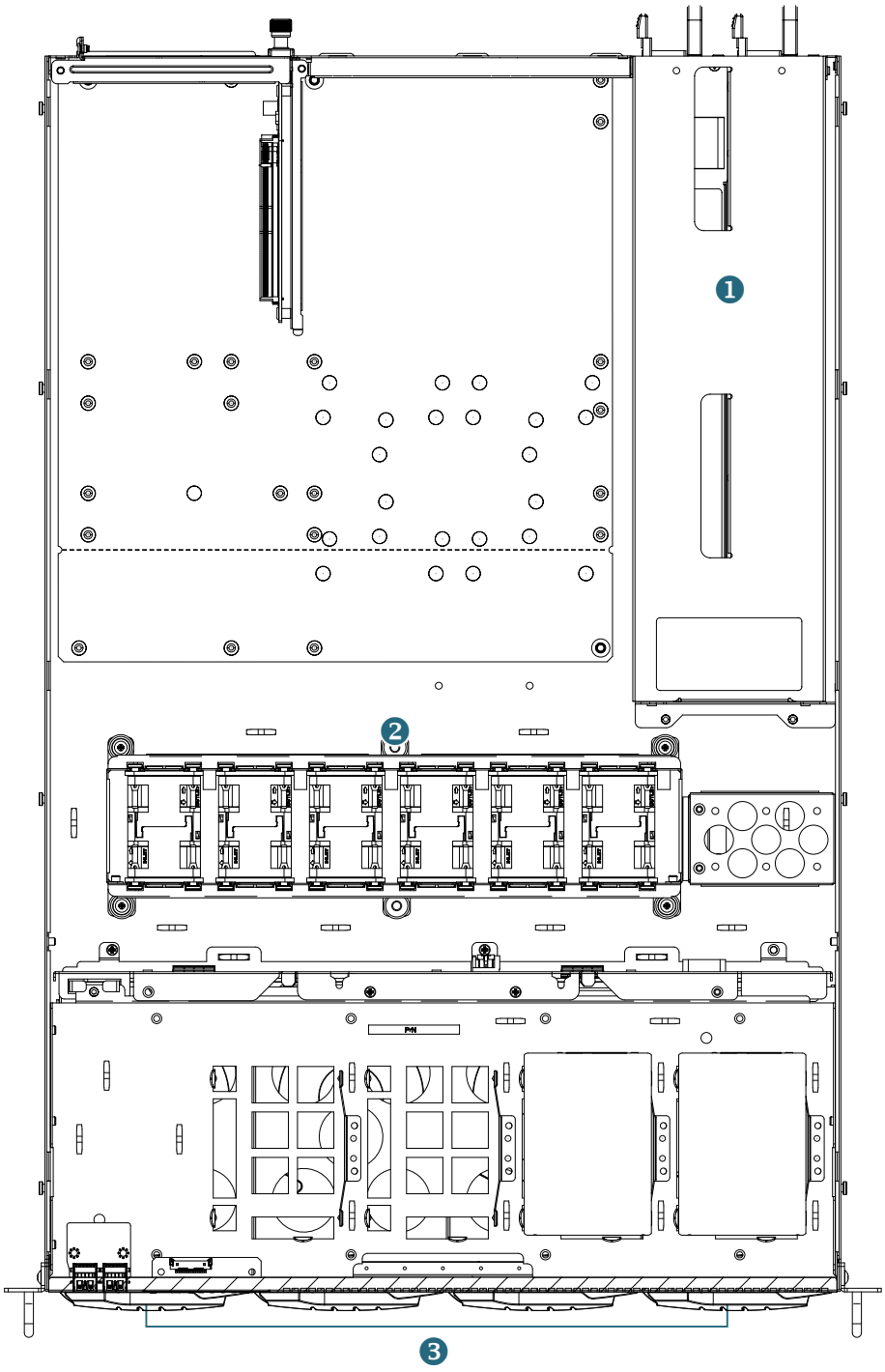
Rear Panel



750W 1+1 redundant power supply

1 full height PCIe slot

Top View



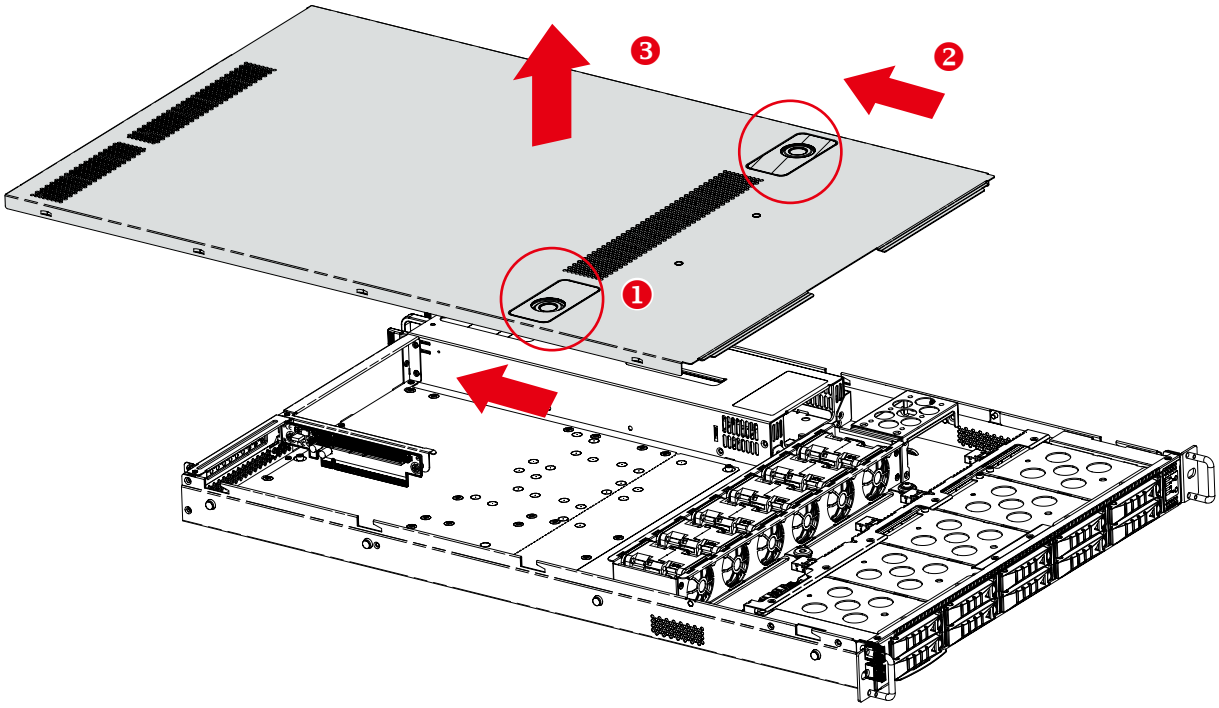
Item	Description
1	750W 1+1 redundant power supply
2	6 x 40x56mm easy swap fans
3	10 x 2.5-inch disk drive bays

NOTE
Motherboard is not included in this product.

Chapter 2. Hardware Setup

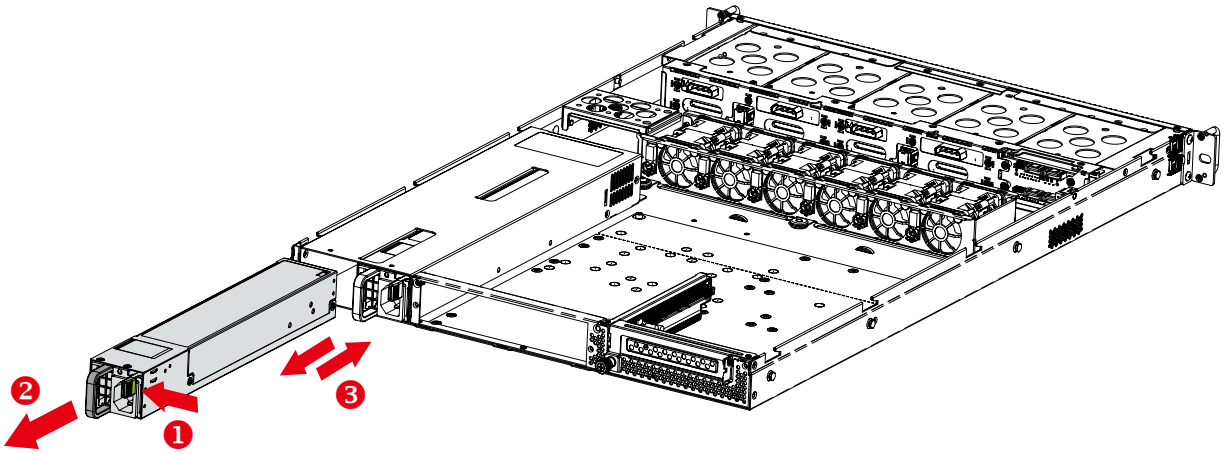
2.1 Top Cover

① Push the release button on both sides of the top cover and push it toward the rear panel.
② Lift the top cover to complete removal.



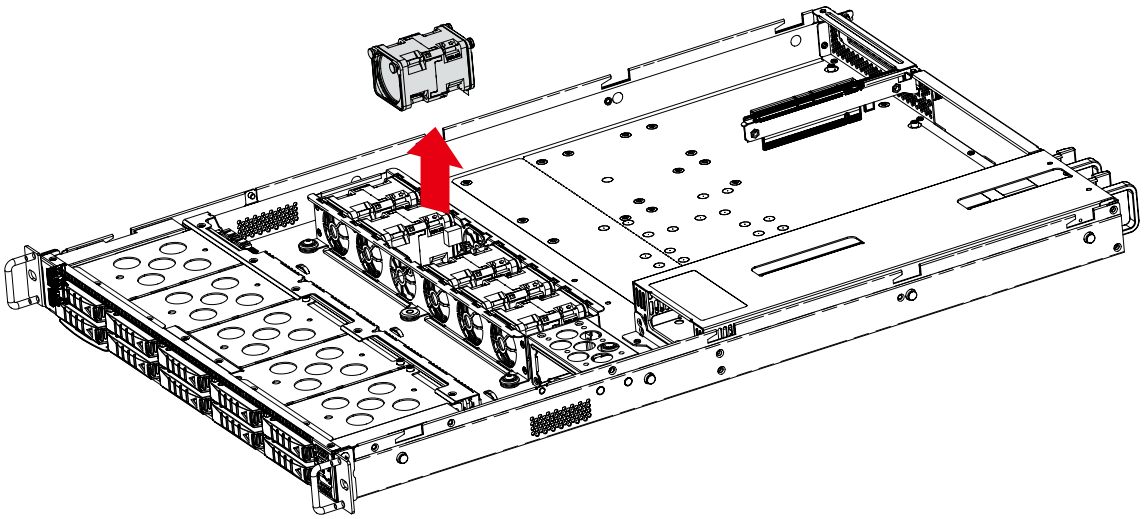
2.2 Power Supply Unit Module

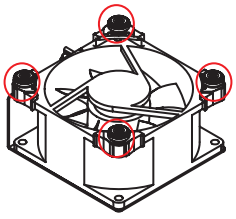
① Extract the power supply unit by pushing the ejector while pulling the power supply unit.
② Pull the module completely out of the chassis.
③ Install the new power supply unit by pushing it into the chassis. Ensure that the module is accurately inserted and locked into the chassis.



2.3 Fan Module

① Unplug the cables and connectors.
② Lift the fan module upward. Check to carefully dislodge the rubber connectors from the attached bracket.
③ Insert the new fan into the chassis. Verify to align the rubber connectors with the appropriate slot in the bracket.

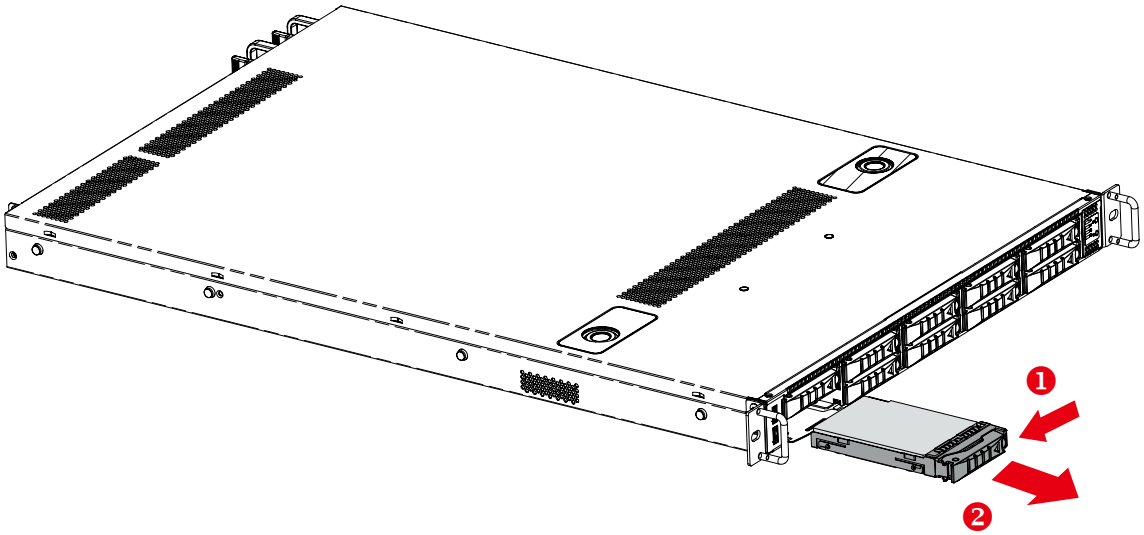




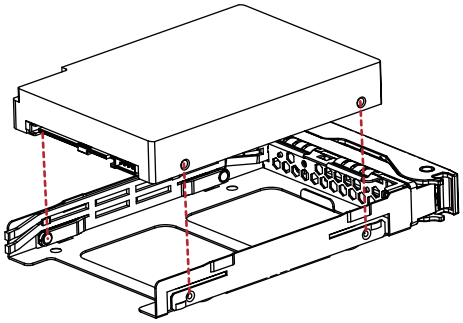
Rubber connectors

2.4 Hard Disk Drive

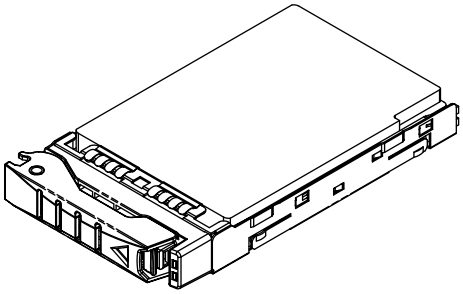
① Press the release button on the tray lever to loosen the lever.
② Pull the tray lever outward completely.
③ Pull the tray out of the chassis.



④ Match the dimples on the tray to insert the HDD into the tray.
⑤ Pull upward to remove the HDD from the HDD tray. Make certain that the HDD is not damaged during installation or removal process.

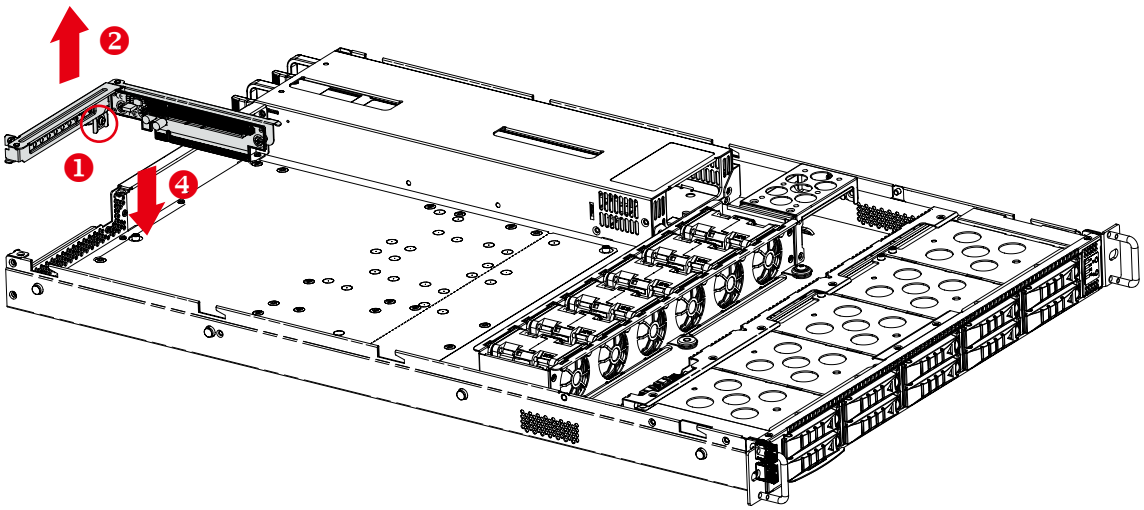


The HDD should be exactly inserted into the tray as demonstrated below.



2.5 Riser Card

① Loosen the thumb screw on the riser card bracket.
② Pull the riser card bracket out of the chassis.
③ Insert the PCIe card into the riser card bracket.
④ Install the bracket with the PCIe card into the chassis.

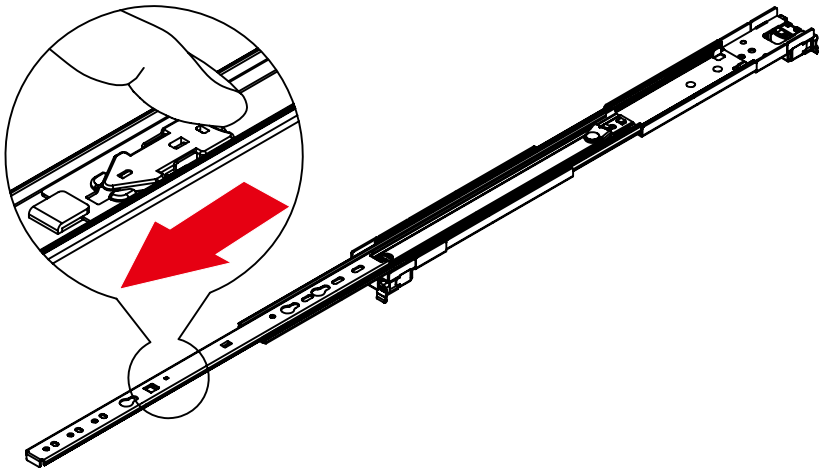


2.6 Slide Rail

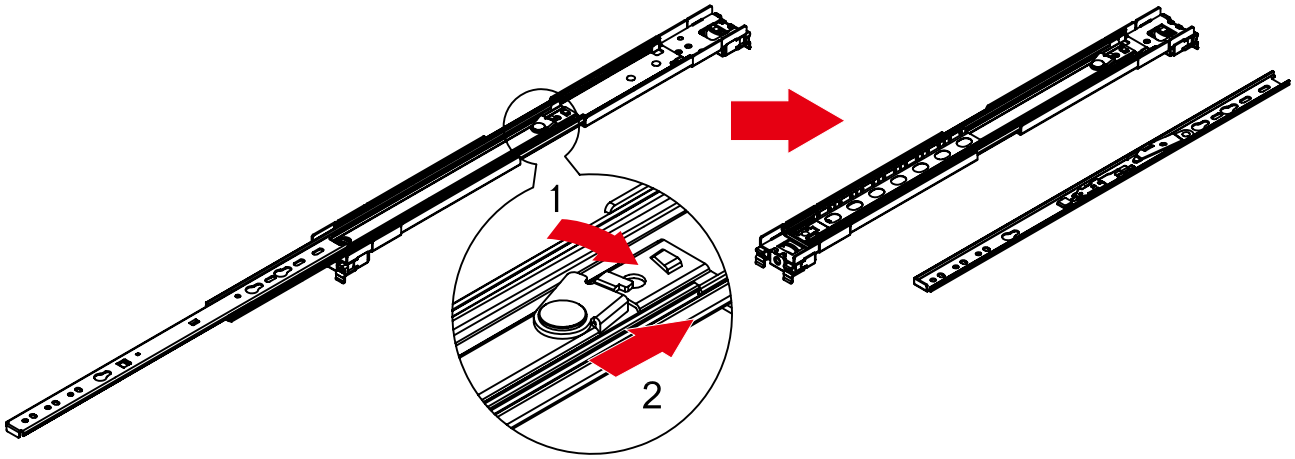
NOTE

This sections provides a basic instruction for mounting the slide rail onto the system. Tool-less rails vary per order. The rail in this manual may not exactly match the rail for your system. Please refer to the specifications or quick installation guide that came with your purchased product.

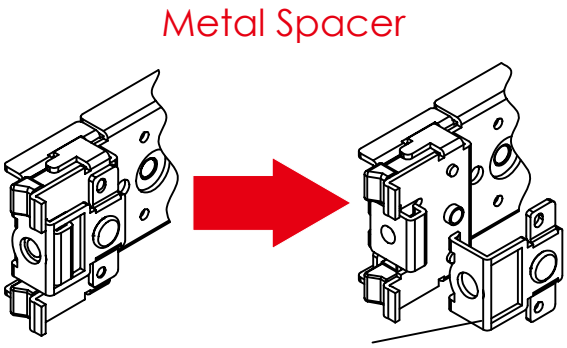
1. Pull on the "Front-Release" to unlock the inner channel from the Slide Assembly.

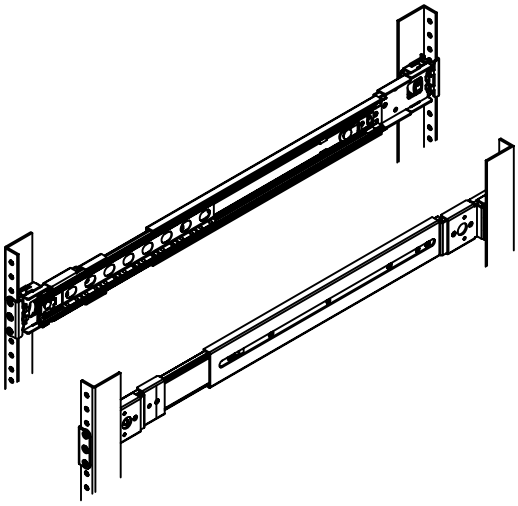


2. Release the Detent-Lock and push Middle Channel inwards to retract Middle Channel.

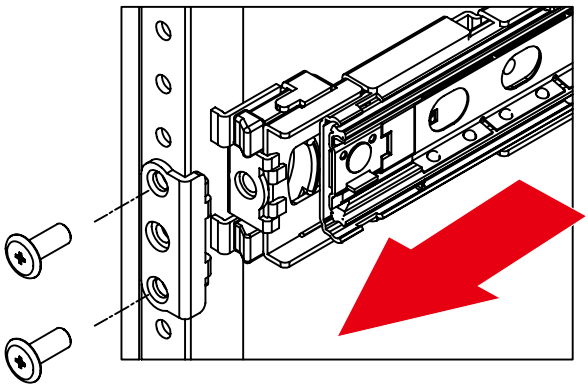


Optional:
Remove Metal Spacer for Aluminium Racks

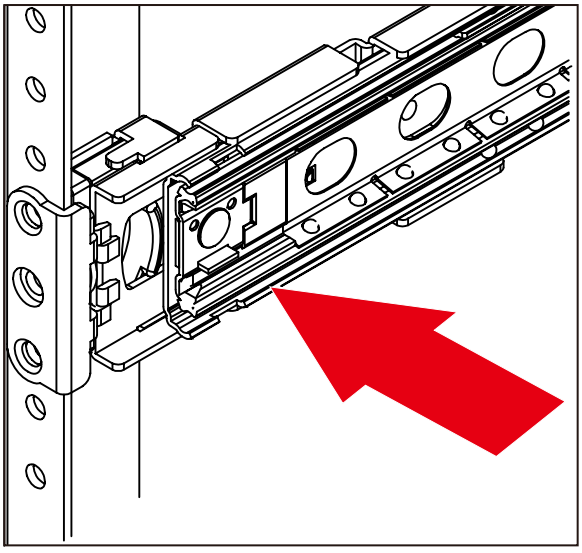




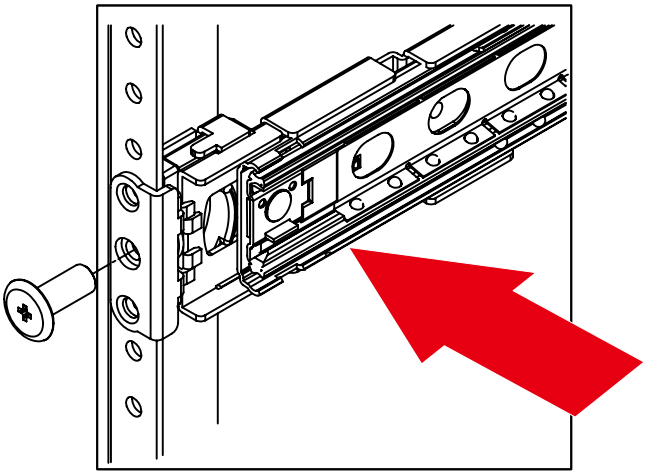
3. Aligning the Front Bracket with the Mounting Hole.



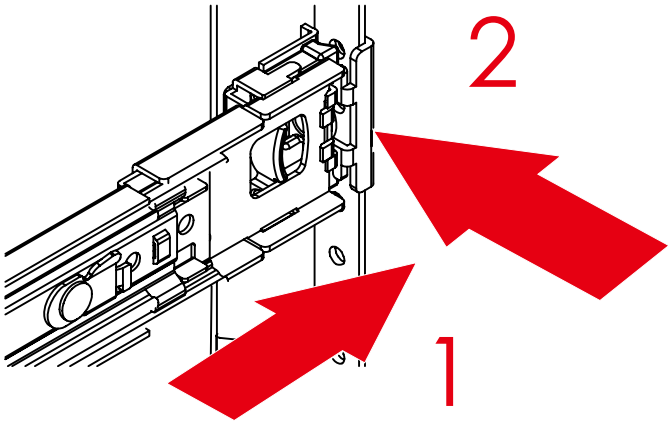
4. Push in to assembly the Front Bracket onto the Rack.



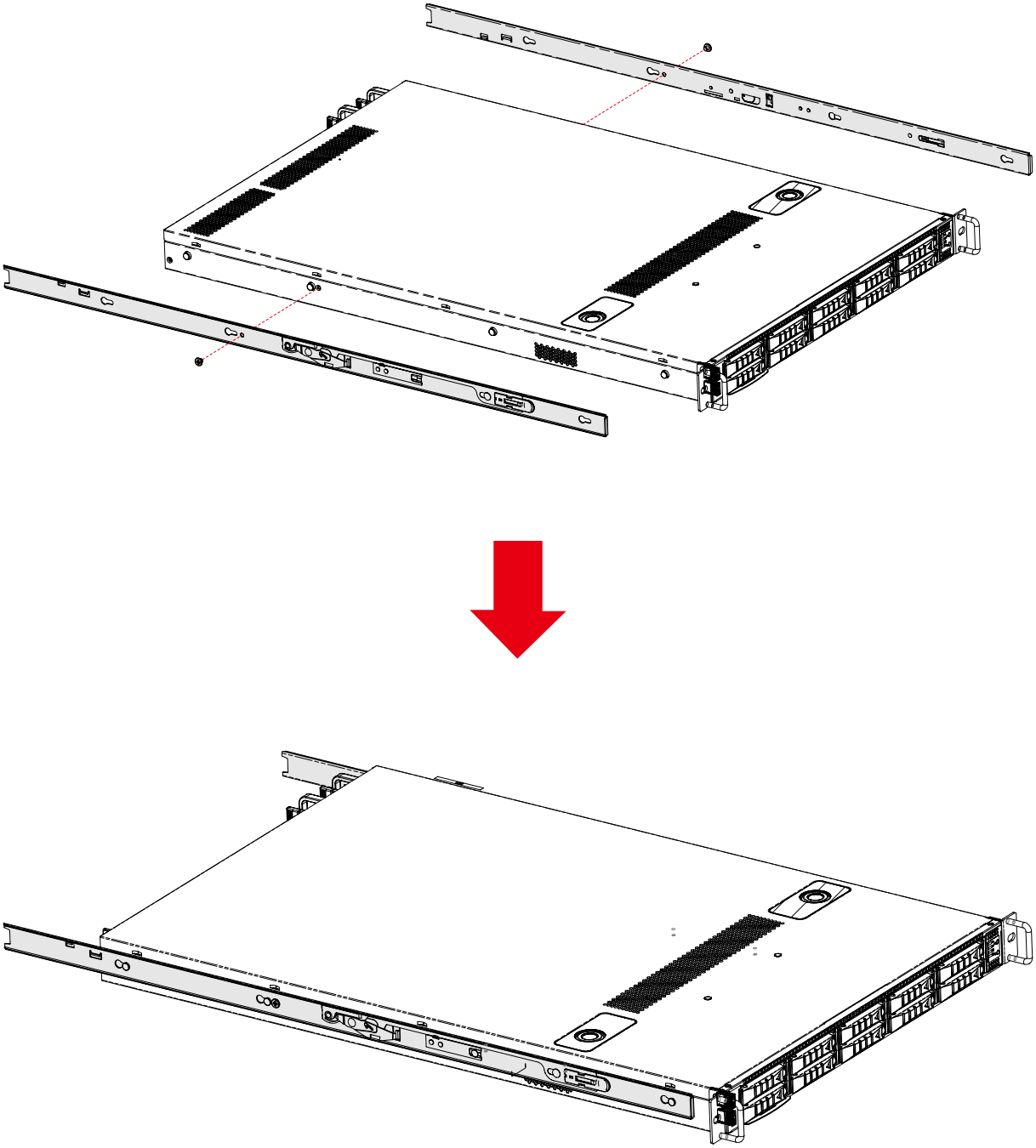
5. Now the bracket is fixed onto the Rack.
(Optional M6x10L screws are to secure the rails with posts if needed.)



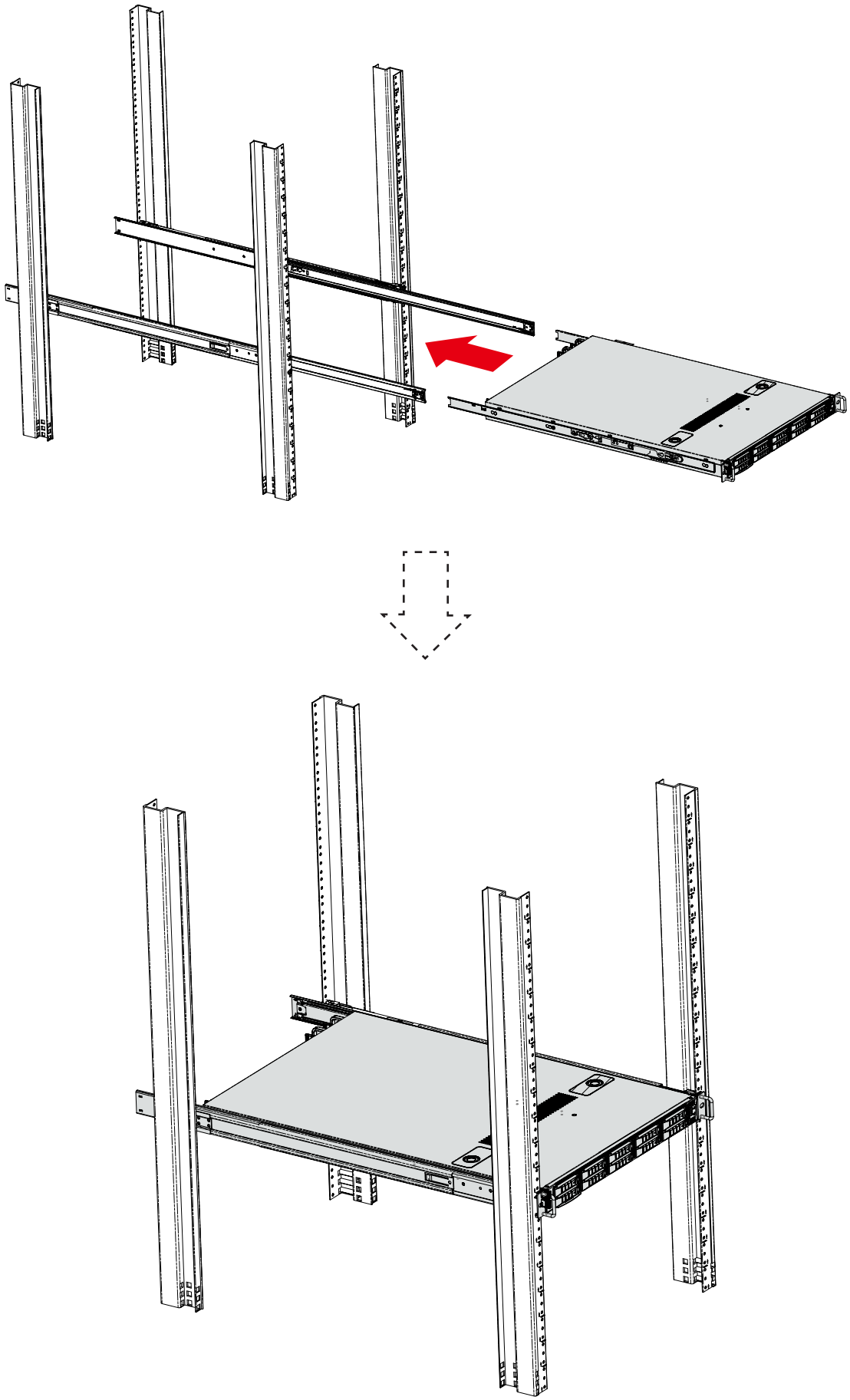
6. Refer to step 3 and 4 to assemble the End Bracket onto the Rack.



7. Assemble the inner channel onto the chassis using the screws provided.



8. Push the chassis with inner channels into Slide to complete Rack Installation.



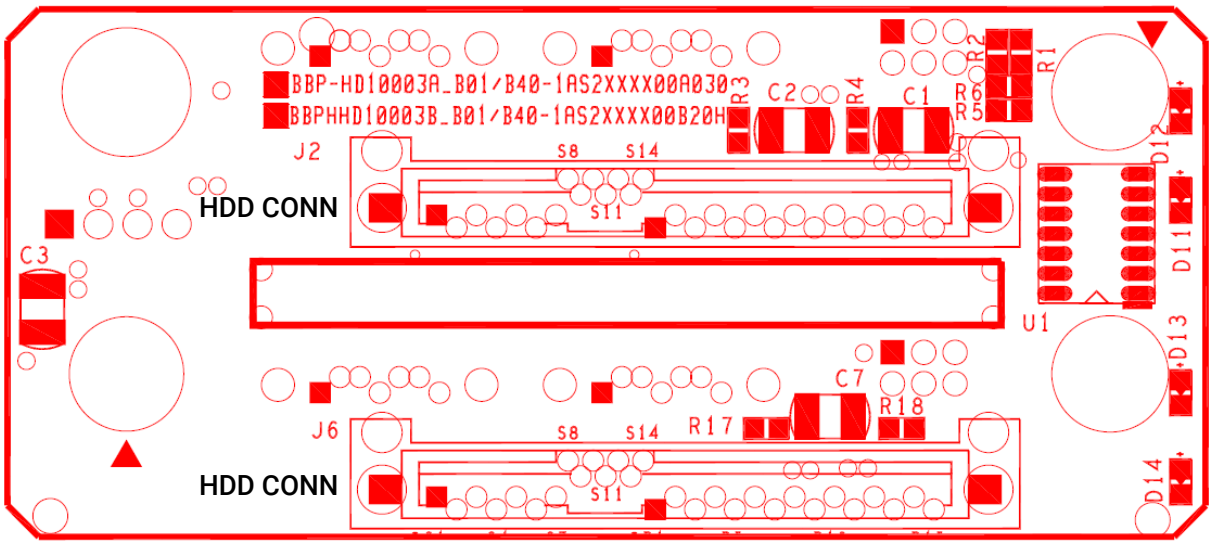
Chapter 3. Hardware Specifications

This chapter illustrates a detailed instruction guide on hardware specifications.

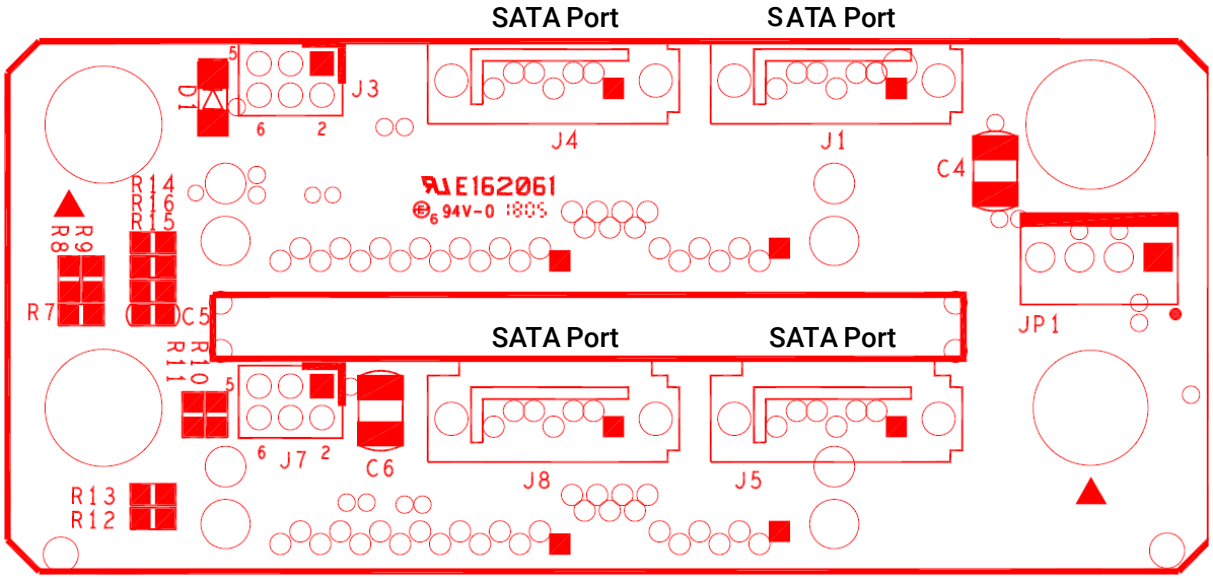
3.1 HDD Backplane: 2 Bay

3.1.1 Layout

Top view



Bottom view



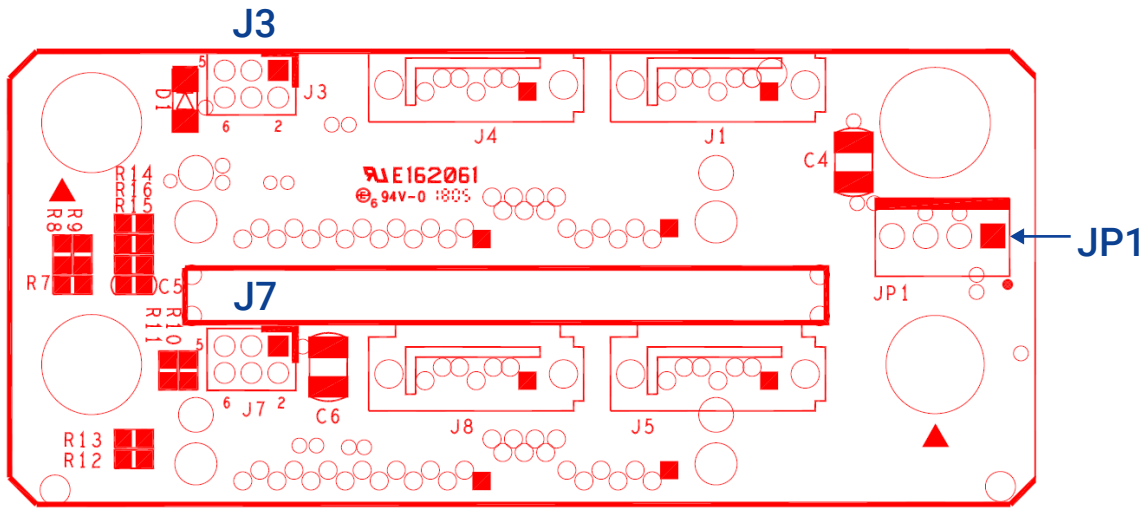
3.1.2 Connector

External connector

connector	Description	Comment
SATA (J2, J6)	SFF-8482 Receptacle	SATA 6G
SATA (J1, J4, J5, J8)	SATA connector	SATA 6G

Internal connector

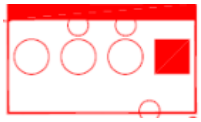
Bottom view



Internal connector summary

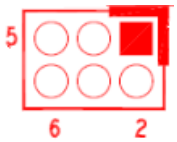
connector	Description	Comment
BP Power (JP1)	1x4 pin wafer	+12V, +5V input
LED I/O (J3, J7)	2x3 pin header	LED mode option

Power (JP1)



1	12V
2	GND
3	GND
4	5V

LED I/O (J3, J7)

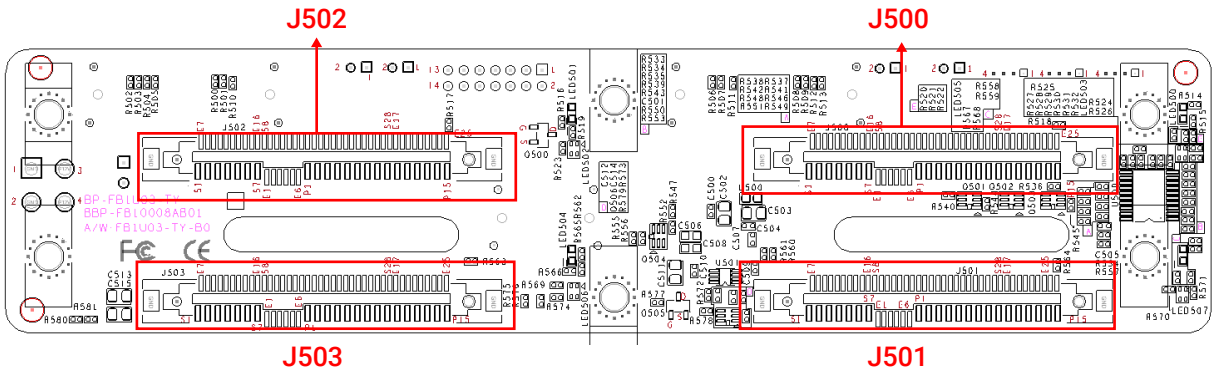


	pin	Description		pin	Description
LED signal output	1	Fail LED-	From External input control	2	Fail LED0-
	3	4V3		4	GND
	5	ACC LED0-		6	ACC LED0-

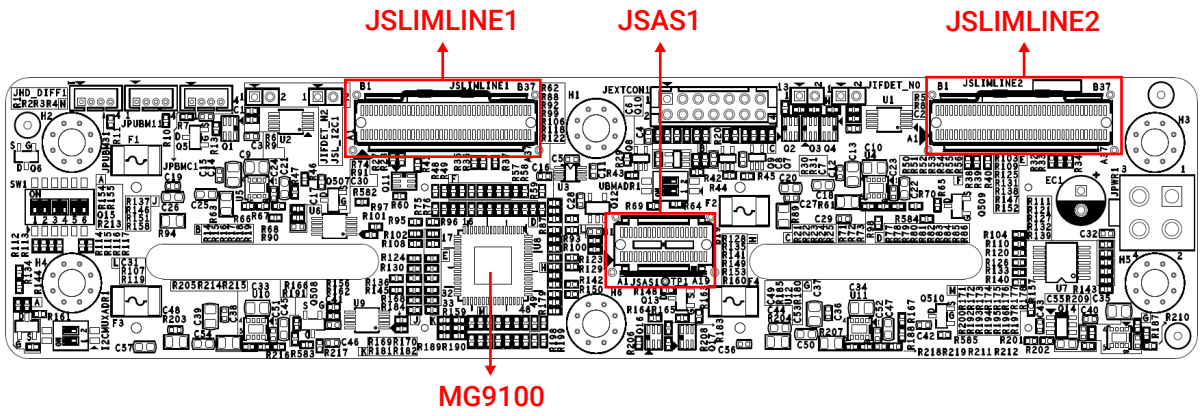
3.2 HDD Backplane: 4 Bay

3.2.1 Layout

Top view



Bottom view



External connector summary

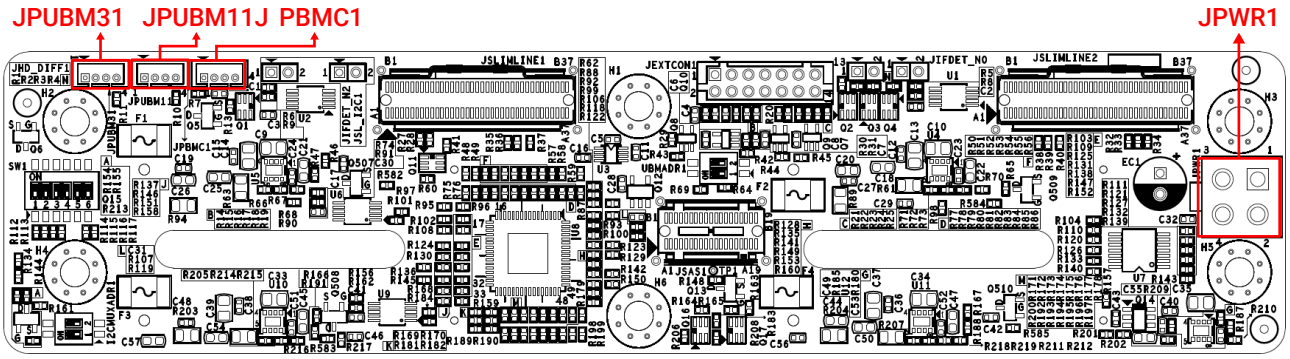
connector	Description	Comment
J500~J503	SFF-8639 SAS/PCIE Receptacle	HDD connector

3.2.2 Connector

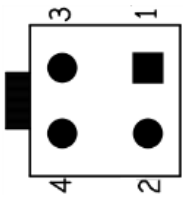
internal connector summary

connector	Description	Comment
Power conncetor (JPWR1)	2x2 pin power connector	Power Input,12V 6A per pin
External I2C (JPBMC1)	1x4 pin box header	I2C Input to MG9100 BMC I2C
External I2C (JPUBM11)	1x4 pin box header	I2C Input to MG9100 UBM1 / VPP0 I2C
External I2C (JPUBM31)	1x4 pin box header	I2C Input to MG9100 UBM3 / VPP1 I2C

Bottom view



Power Connector (JPWR1)



GND	1	3	+12V
GND	2	4	+12V

External I2C (JPBMC1, JPUBM11, JPUBM31)



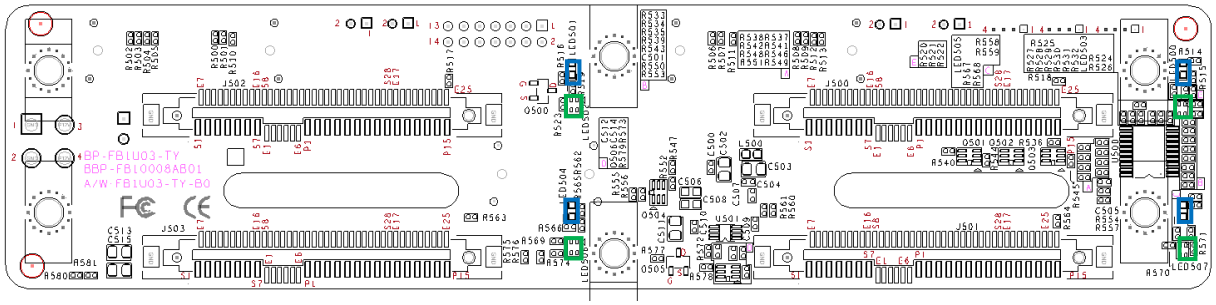
SMB_BP_SCL	1	2	SMB_BP_BMC_SDA
GND	3	4	SMB_BP_BMC_ALERT_N

SMB_BP_SHP0_SCL	1	3	SMB_BP_SHP0 _SDA
GND	2	4	BP_SHPINT_OUT_N0

SMB_BP_SHP1_SCL	1	3	SMB_BP_SHP1 _SDA
GND	2	4	BP_SHPINT_OUT_N1

3.2.3 LED Indicator

LED	Color	Behavior
HDD Activity LEDs	Blue (on)	HDD is present.
	Blue (blinking)	HDD is detected.
	Off	HDD isn't connected or power off.
HDD Locate LEDs	Green (on)	HDD is located.
	Off	--
HDD Fail LEDs	Yellow (on)	HDD failure
	Yellow (blinking)	HDD rebuild
	Off	Normal



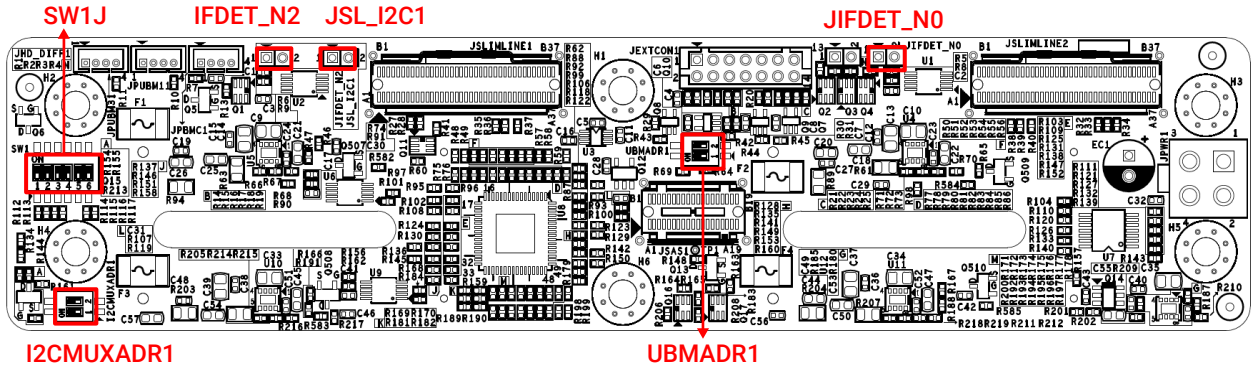
3.2.4 Jumper Setting

I2C	JIFDET_N0	JIFDET_N2
UBM Application	Short	
VPP Application	Open	

Slimline connector Input MODE	JSL_I2C1
UBM/VPP/SHP to MG9100	Short
BMC I2C to HDD	Open

SW1								
VPP SMBus Address	pin1	pin2	pin3	VPP table Select	pin4	Vendor ID	pin5	pin6
0x40 / 0x42 (default)	ON	ON	--	Standard	OFF	UBM/INTEL (default)	OFF	OFF
SHP SMBus Address	pin1	pin2	pin3	Alternative	ON	Avago	OFF	ON
0x50 / 0x52 (default)	ON	ON	ON			AMD/ Microsemi	ON	OFF

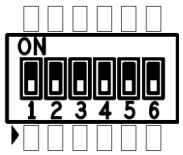
UBMADR1					I2CMUXADR1				
Device Address	0xC0	0xC2	0xC4	0xC6	Device Address	0xE0	0xE2	0xE4	0xE6
SW1	ON	OFF	ON	OFF	SW1	ON	OFF	ON	OFF
SW2	ON	ON	OFF	OFF	SW2	ON	ON	OFF	OFF



JIFDET_N0, JIFDET_N2, JSL_I2C1



SW1



UBMADR1 & I2CMUXADR1



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