RSC-2ETS

Rackmount Chassis
User's Manual

UM_RSC-2ETS_v1.4_123021

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December, 2021	1.4	Datasheet update.



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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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Instruction Symbols

Special attention should be given to the instruction symbols below.

NOTE	This symbol indicates that there is an explanatory or supplementary instruction.
CAUTION	This symbol denotes possible hardware impairment. Upmost precaution must be taken to prevent serious harware damage.
WARNING	This symbol serves as a warning alert for potential body injury. The user may suffer possible injury from disregard or lack of attention.

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 distintively 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 serverly 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 disintergration.
- Carefully and accurately mount the equipment into the rack. Uneven mechanical loading may lead to hazadous 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 Acess 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 assistence. 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-2ETS.

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 2ETS Rackmount Chassis. For the latest version of this user's manual, please refer to the AIC® website: https://www.aicipc.com/en/productdetail/447.

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-2ETS 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.

- Chassis (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 : 430 x 560 x 88		
	inches : 17 x 22 x 3.5		
Industry Standard	EIA-RS310D		
Material	Heavy-duty preplated SPGC cold-rolled steel		
Color	Front Panel : Black		
Cooling	3 x 80x38mm PWM & low-power consumption hot swap fans		
Power Supply	550W 1+1 redundant power supply PMBus 1.2 80+ Platinum		
Expansion Slots	7 low profile		
Front Panel	System power on/off, System reset and 1 x USB 3.0 port		
LED Indicators	Power, LAN, Drive and Alert		
System Board	12”(W) x 9.6”(D) ATX		
Drive Bays	External	3.5” hot swap	12
		2.5” hot swap	Options: • 2 x 2.5” (7mm) hot swap • 1 x 2.5” (15mm) internal
	Internal	2.5”	

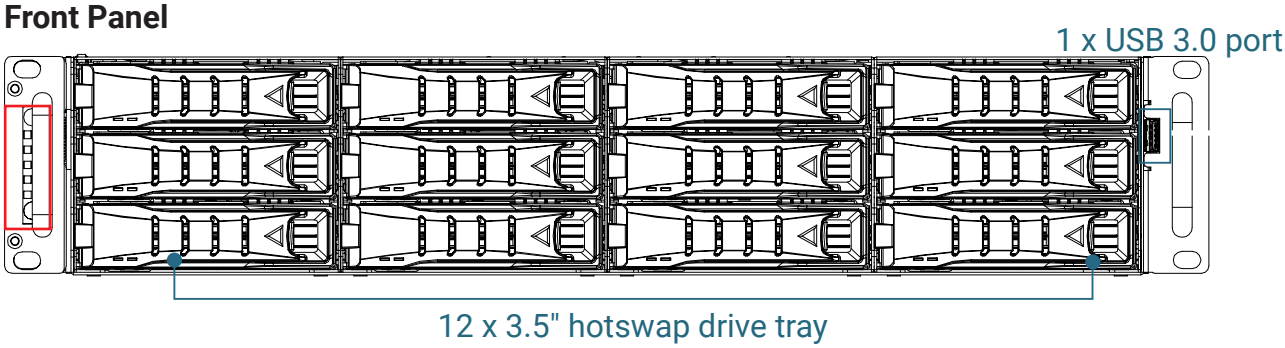
Backplane	Options	1 x 12-port 12Gb SATA/SAS backplane with 28-PHY expander chip and 3 SFF-8643 connectors
		1 x 12-port SATA/SAS backplane with 3 x SFF-8643 connectors
Storage Temperature	0ºC(32ºF) ~ 50ºC(122ºF)	
Humidity	5%~95% non-condensing	
Gross Weight	(w/ PSU & Rail)	kgs : 23.5
		lbs : 51.8
Packaging Dimensions	(W x D x H)	mm : 645 x 835 x 224
		inches : 25.4 x 32.9 x 8.8
Cubic Feet	5.38	
Container Load Quantity	20’	200
	40’	420
	40’ H	450
Mounting	Standard	28” tool-less slide rail

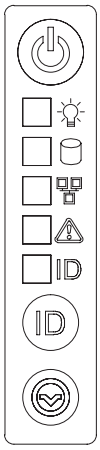
1.3 Feature

- Tool-less design supports quick installation and easy maintenance:
  - Tool-less 3.5” & 2.5” drive trays
  - Tool-less top covers
  - Tool-less backplane
  - Tool-less slide rails
- 12Gb/s SAS expander chip on backplane
- Supports power cycling on single drive
- Specially designed hot swap and low power consumption fans minimize rotational vibration and provide superior cooling
- 3.5” drive tray comes with 4 screw holes to adapt to 2.5” drive
- One front access USB 3.0 port
- Comes with a redundant PSU 80+ Platinum

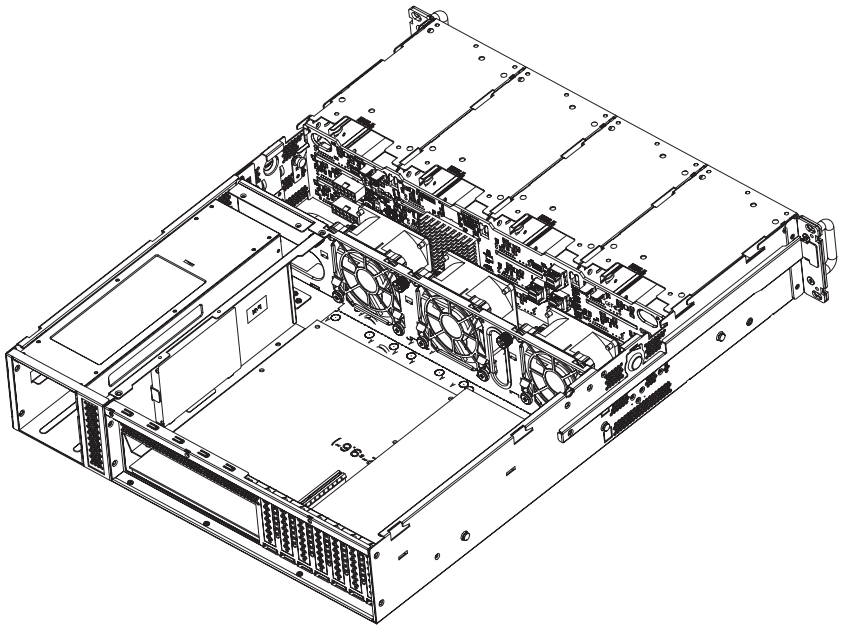


Front Panel


1 x USB 3.0 port
12 x 3.5" hotswap drive tray

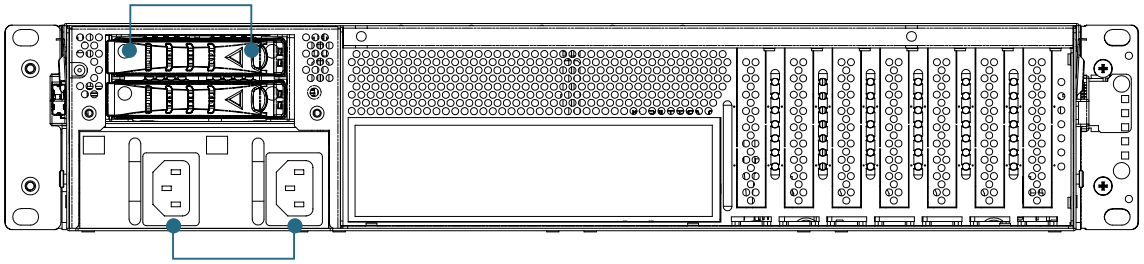

Power Button
System Power LED
System HDD Activity LED
LAN LED
System Alert LED
ID LED
ID button
System Reset button

Rear Panel



Option 1

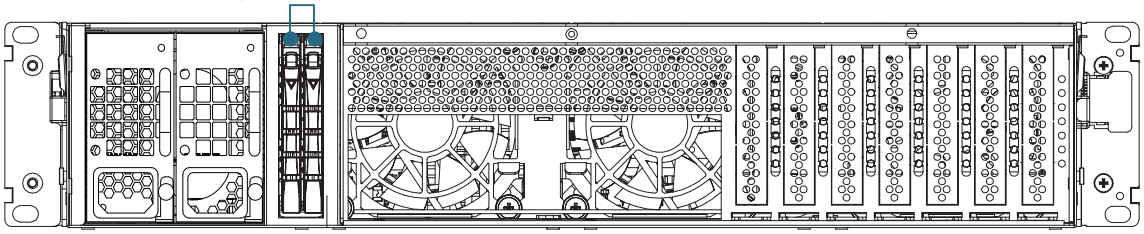
2 x 2.5" External hot swap drive bays



700W 1+1 redundant PSU PMBus 1.2 80+ Platinum 7 x PCIe 3.0 slots(low-profile)

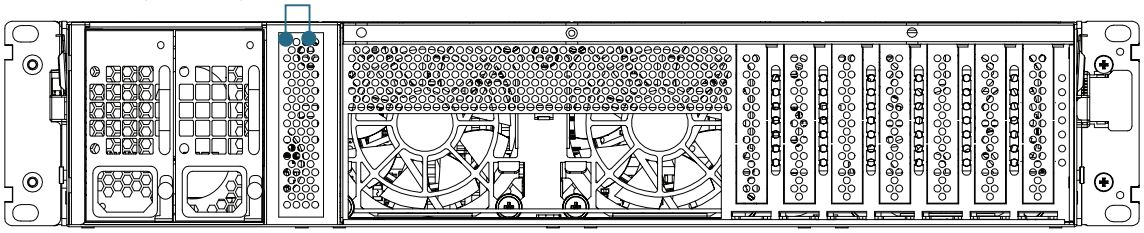
Option 2

2 x 2.5" (7mm) SSD OS

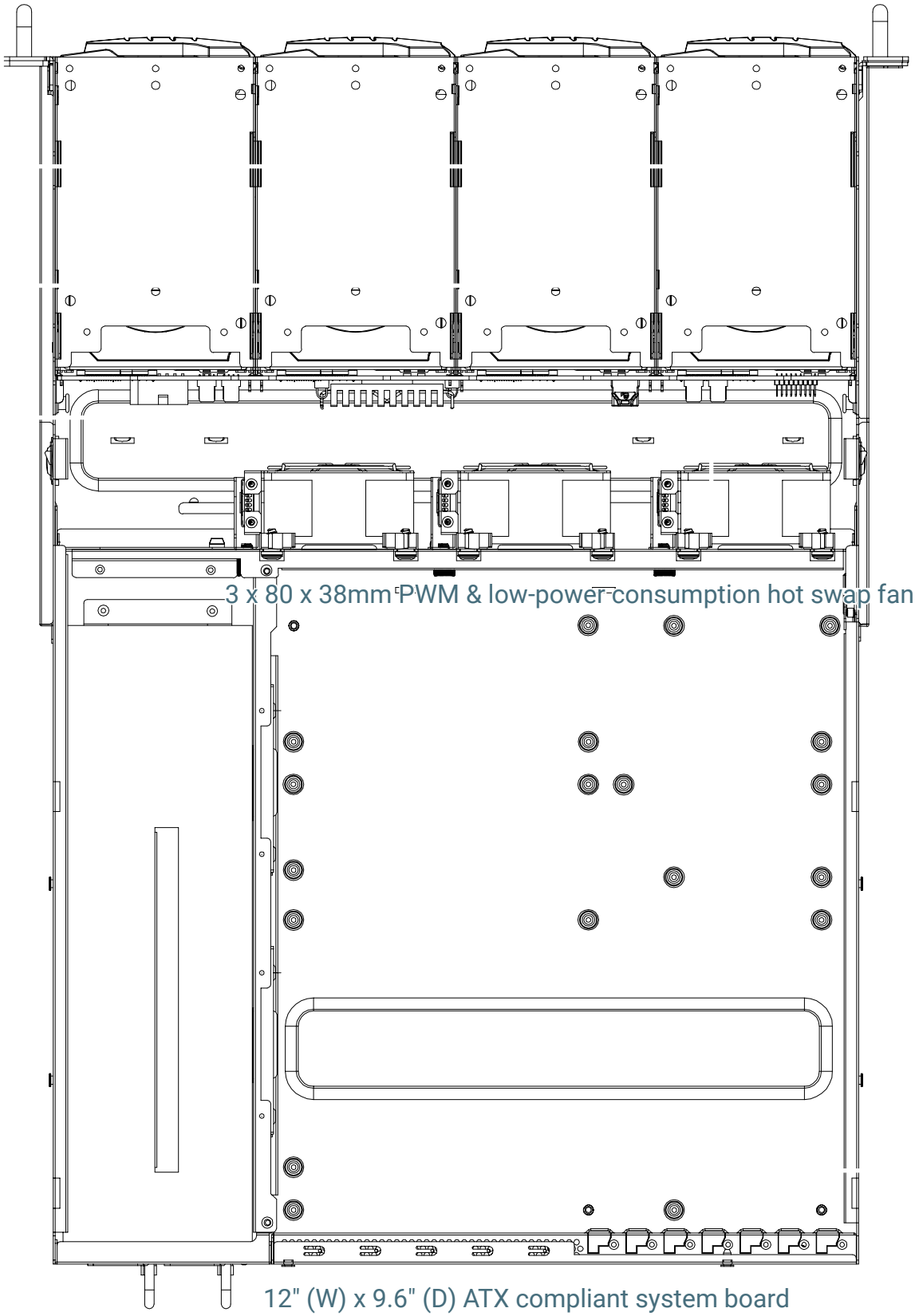


Option 3

2 x 2.5" (15mm) internal SSD OS



Major Components



Chapter 2. Hardware Setup

This chapter provides detailed instructions on hardware installation.

2.1 Top Cover

1 Push the button on both sides



2 Push the top cover backward.

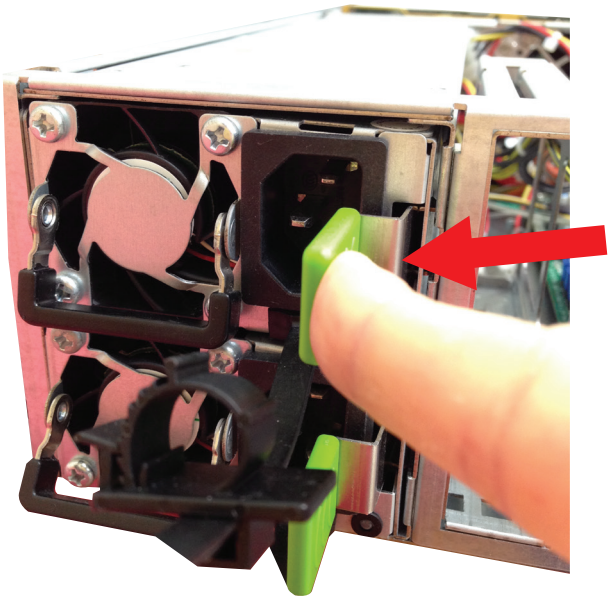


3 Lift up the top cover from the enclosure.

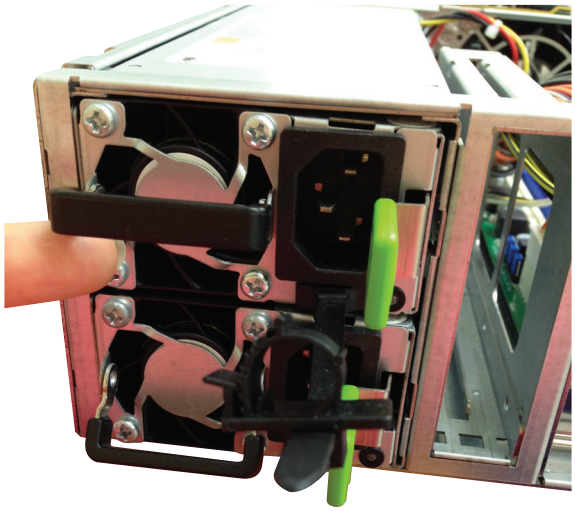


2.2 Power Supply Unit Module

1 Push the latch towards the handle on the module.



2 Pull the handle to remove it from the enclosure.



2.3 Fan Module

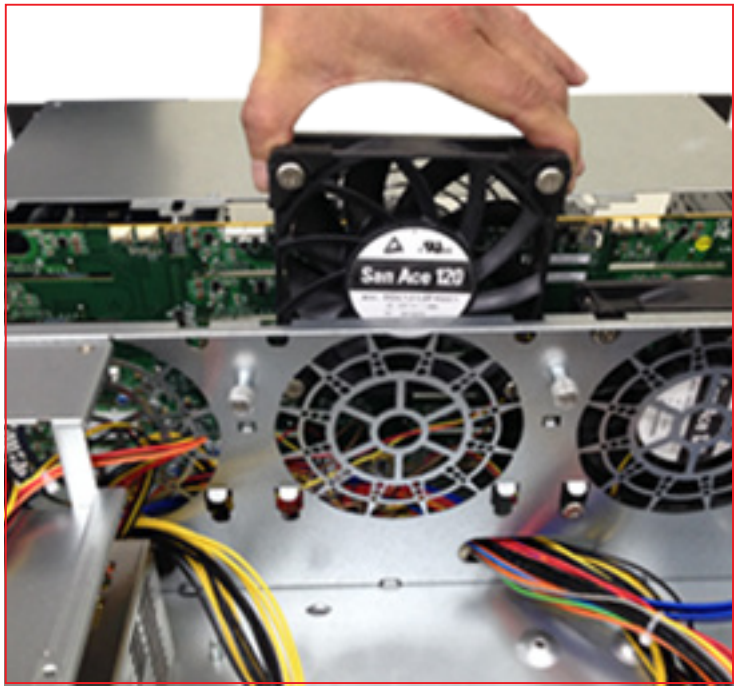
2.3.1 Removing the Fan

1 Grab and remove the fan module from the fan slot.



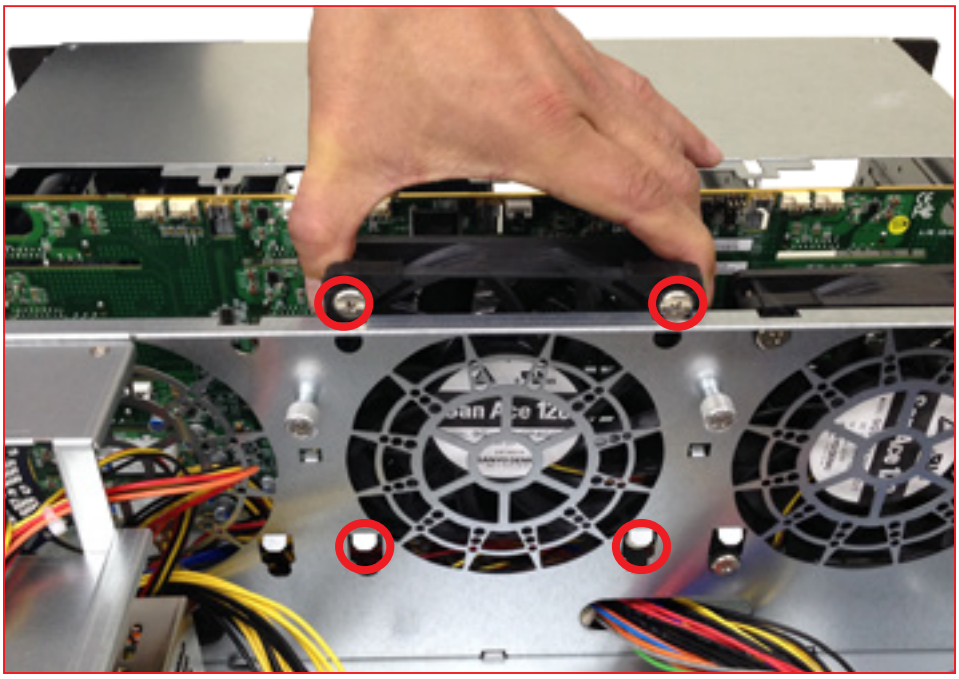


2 Pull the fan module up gently and take out the fan module by removing the rubbers out from the fan bar.

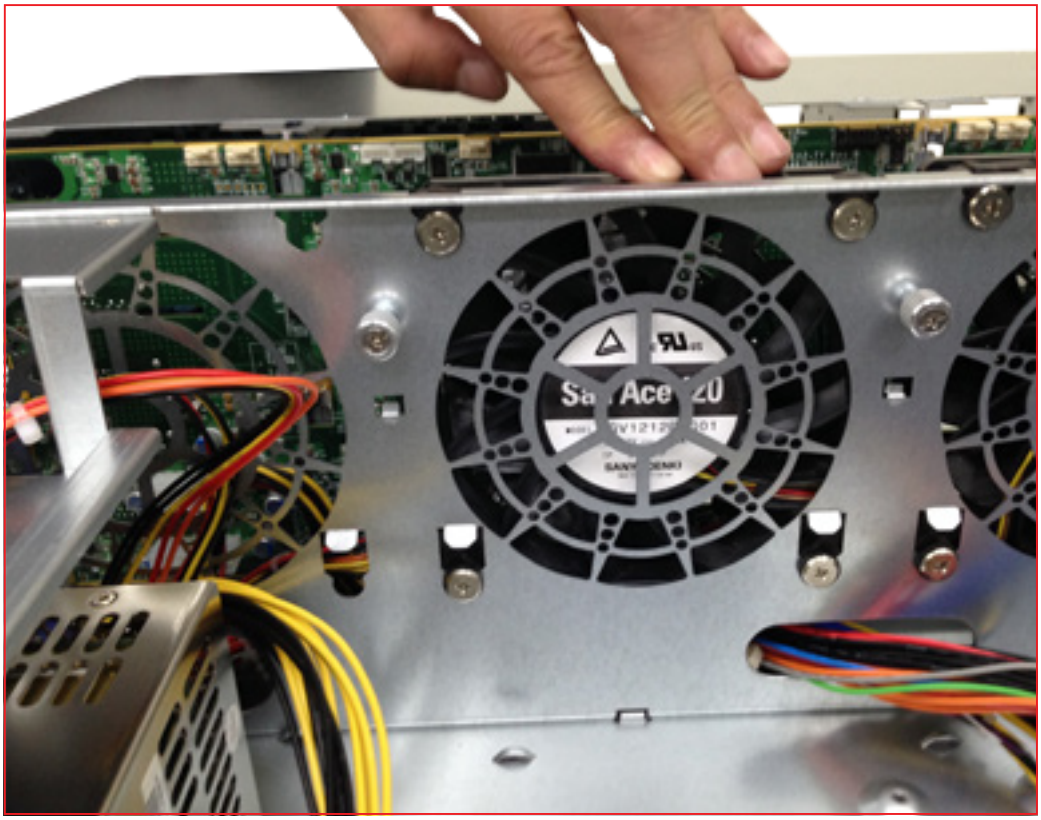


2.3.2 Installing the Fan

1 Align the fan module and make sure insert 4 screws with the opening in the enclosure.



2 Make sure the 4 rubbers and connector insert firmly while fan module is inserted.



2.4 Hard Disk Drive

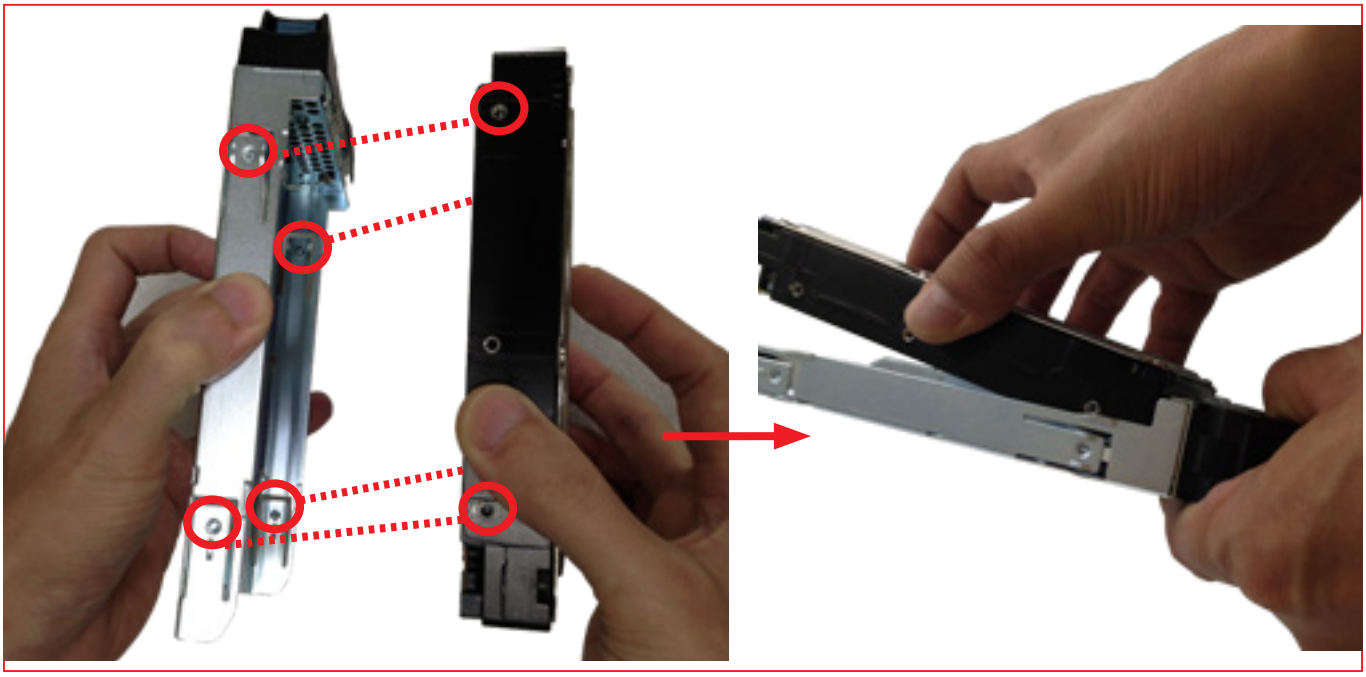
1 Release a drive tray by pressing the unlock button.



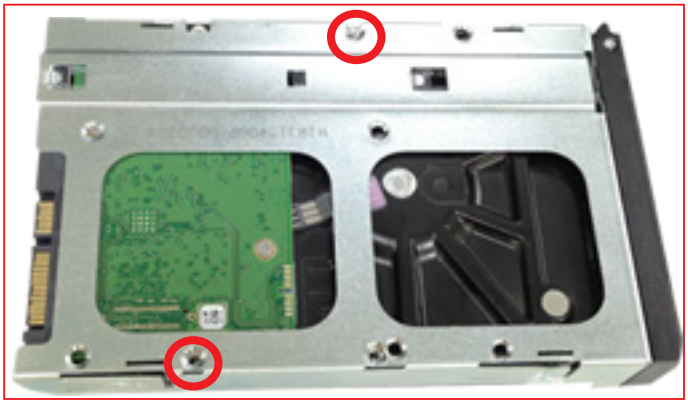
2 Pull out the HDD tray handle and slide out the HDD tray.



4 Insert the HDD into the tray. Directly place HDD into tool-less HDD tray untli it snaps. Please check if the screw holes on HDD match the dimples on HDD tray.



5 HDD can also be screwed on HDD tray by reserve 2 screw holes at the bottom for optional screw mounting.



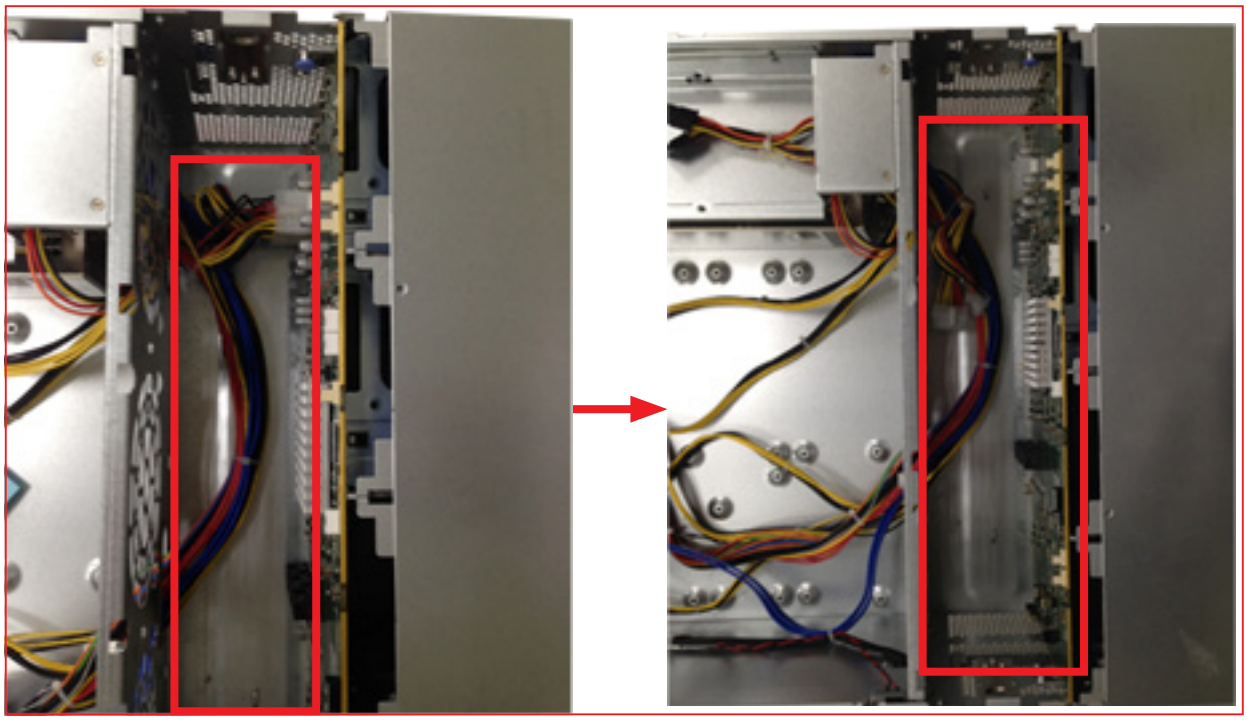
6 Insert the drive tray into chassis HDD cage. Make sure the drive tray is correctly secured in place when its front edge aligns with the bay edge. Push the tray lever until it reaches the end and clicks.



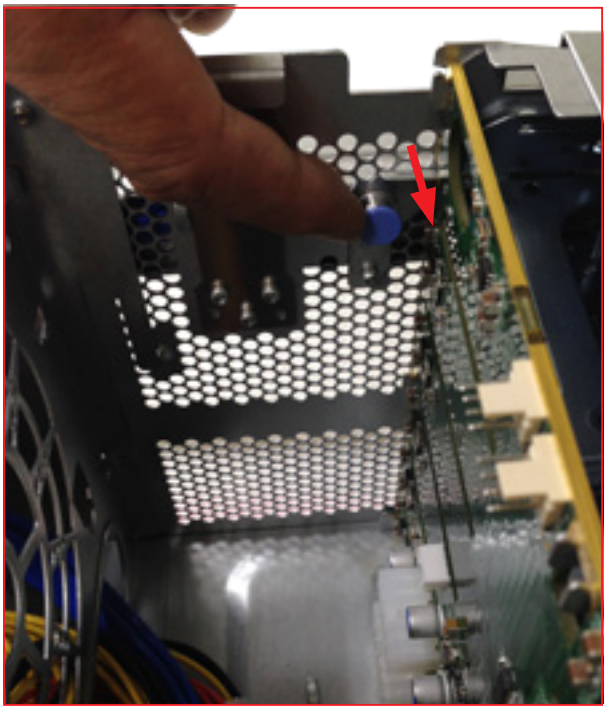
2.5 HDD Backplane

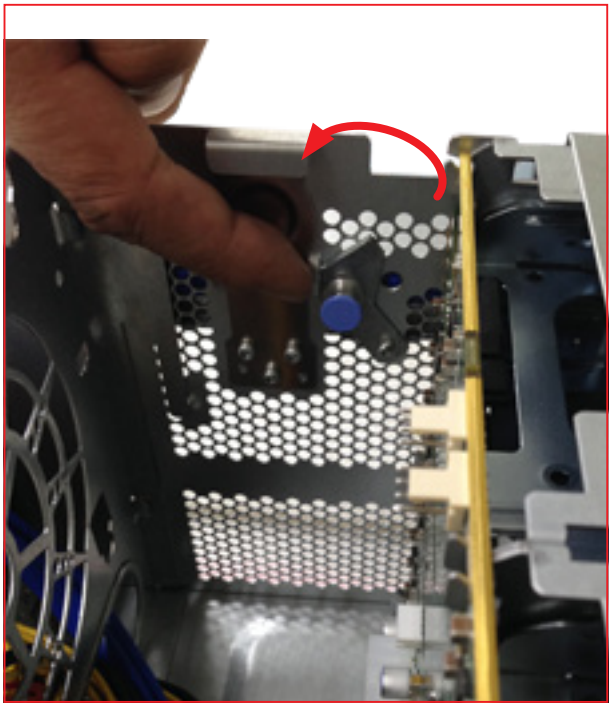
2.5.1 Removing the HDD Backplane

1 Unplug all connectors & HDDs from HDD backplane.



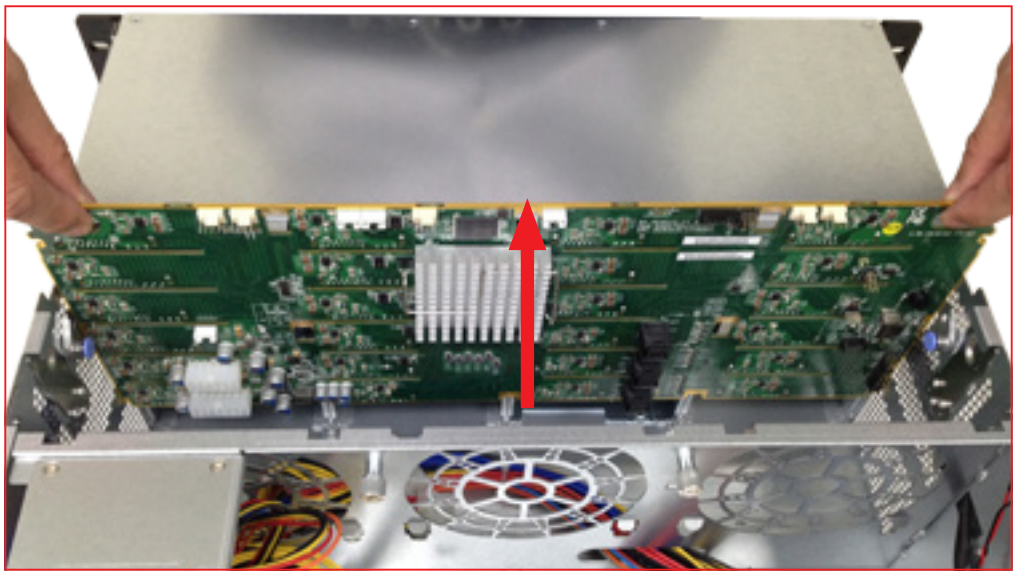
2 Release the lock pin.





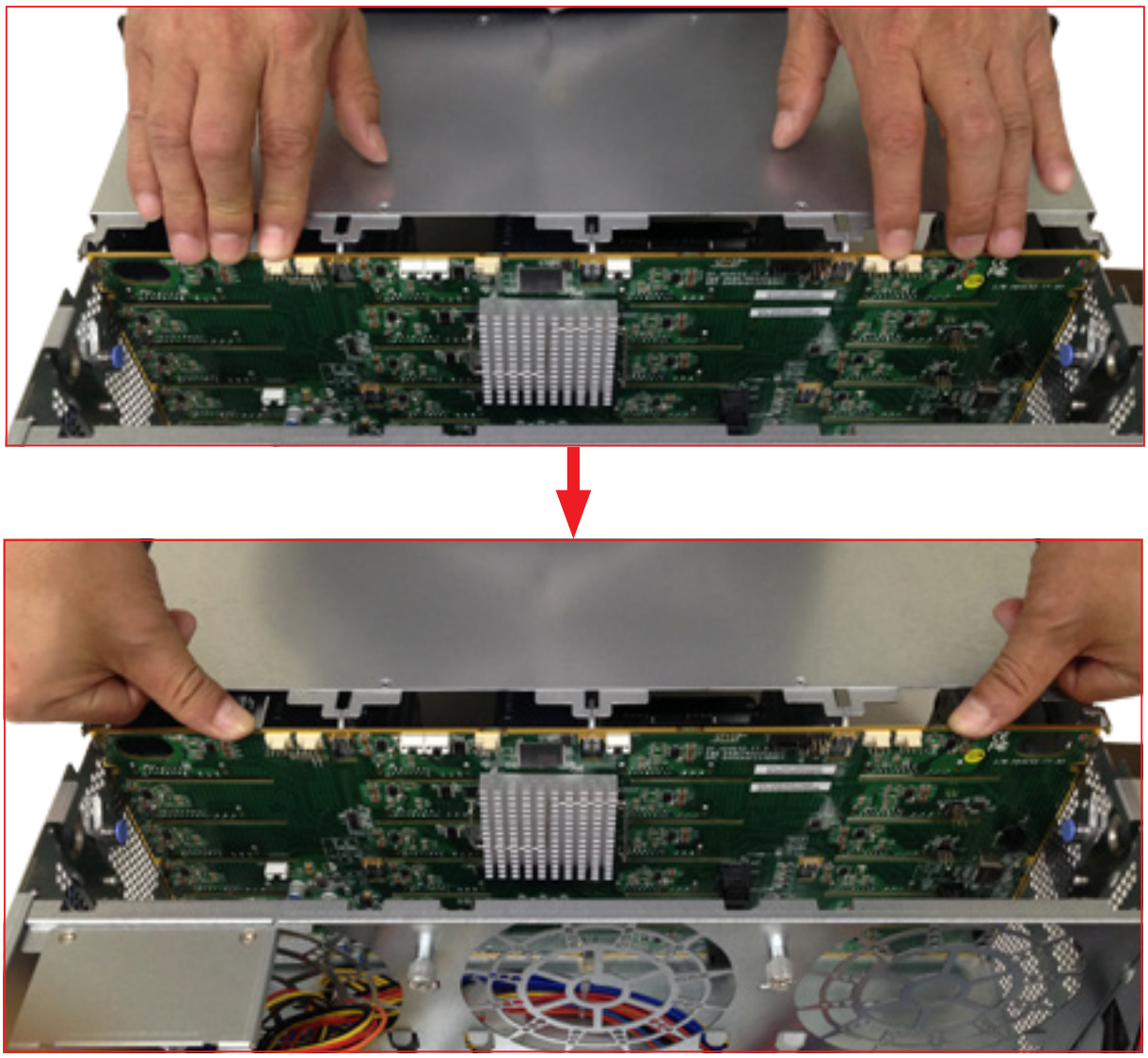
Lift up and remove the blackplane to the a little bit up from hook then can get out.



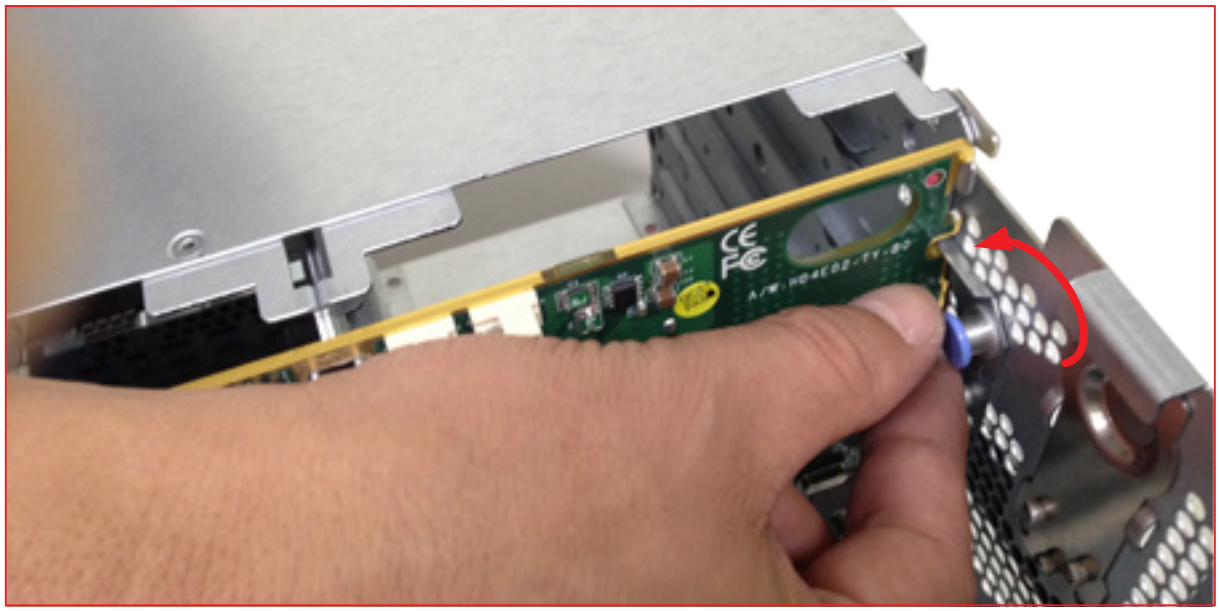


2.5.2 Installing the HDD Backplane

1 Align the backplane with the hooks and insert it into the enclosure firmly.



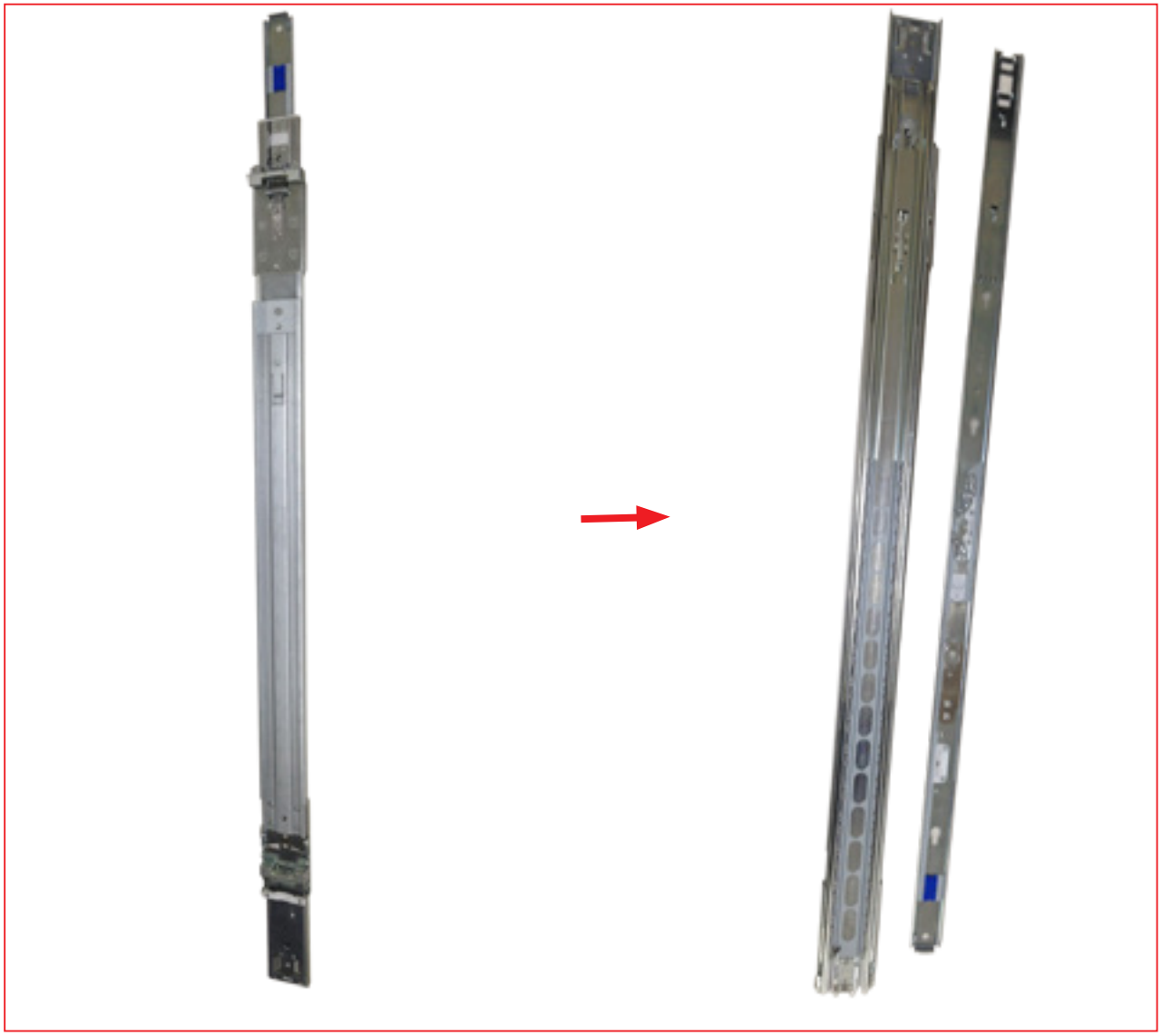
2 Lock the backplane. Follow the reverse order.



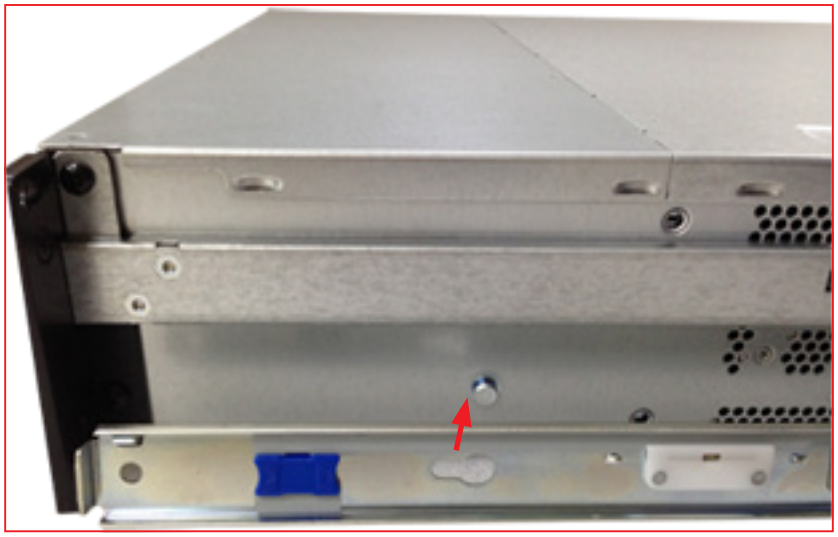
2.6 Slide Rail

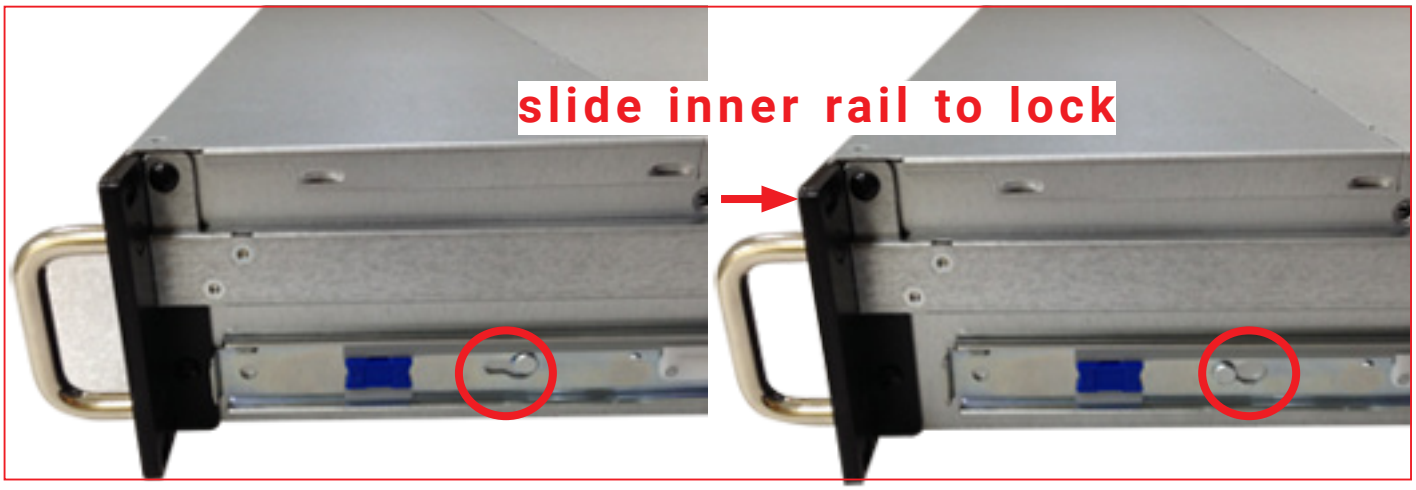
1 Release and detach the inner rail from the slide.

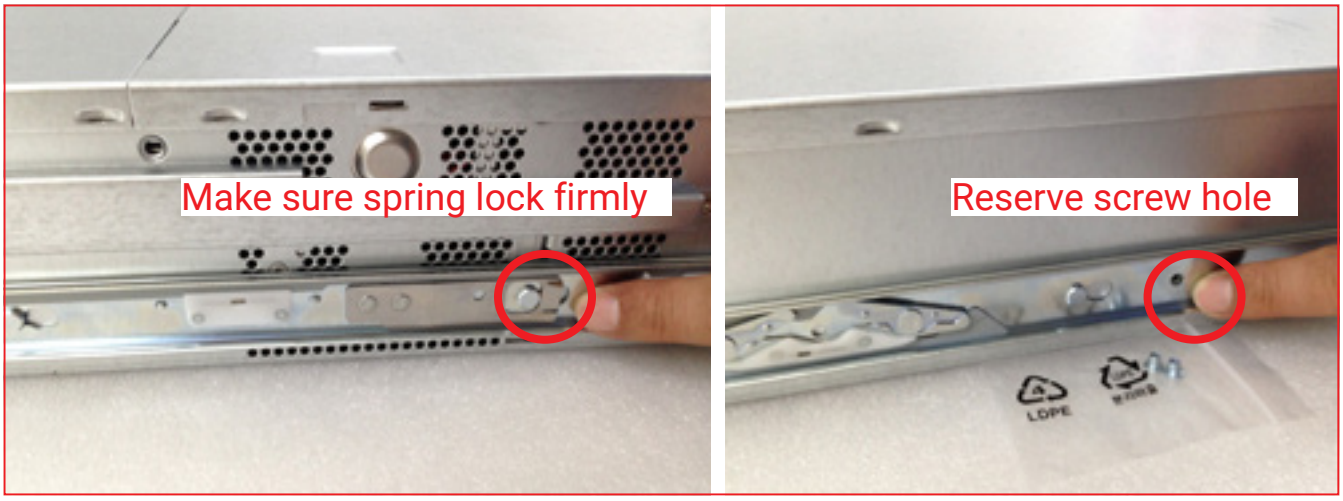




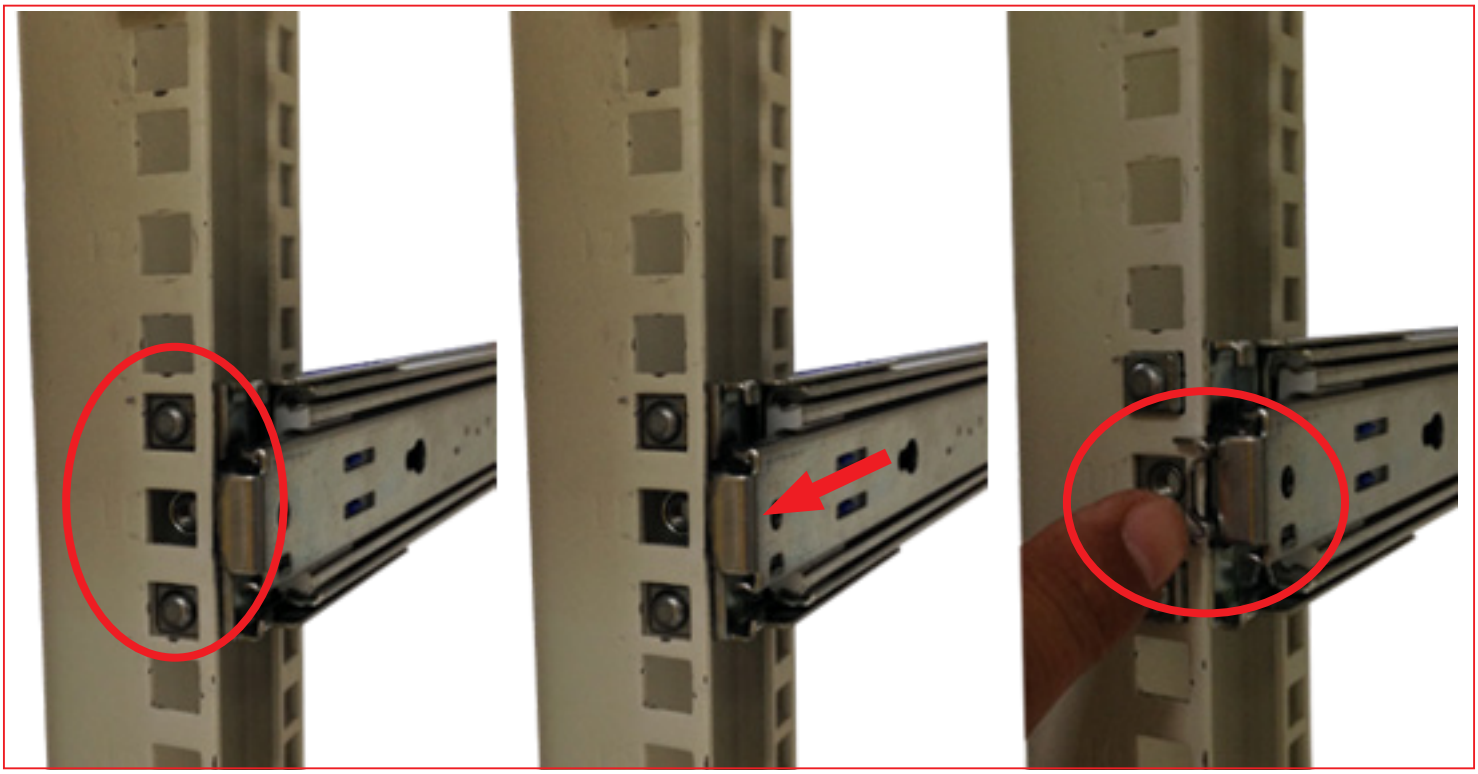
2 Attach inner rail to the system.



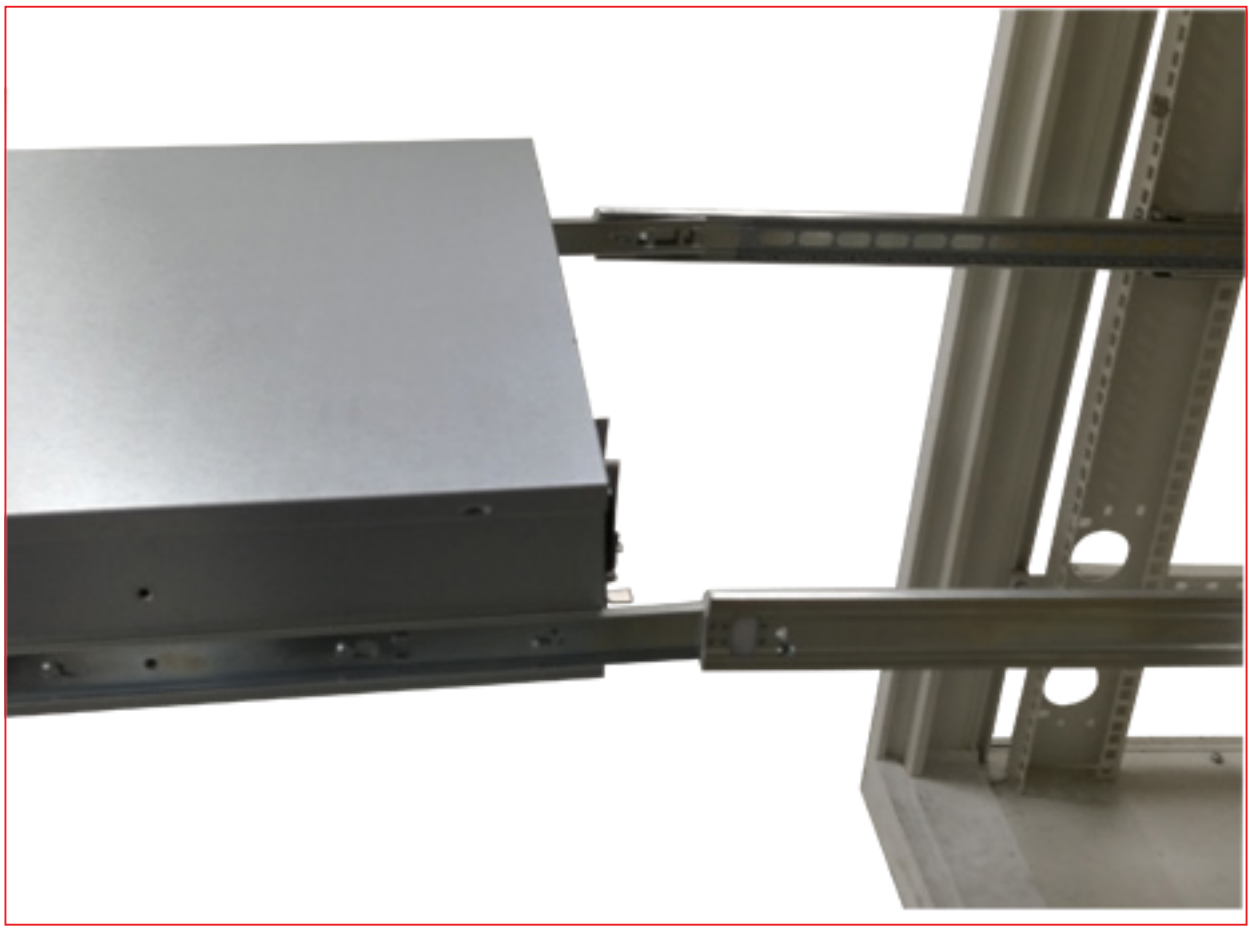




3 Attach outer rail to the rack.



4 Verify ball bearing retainer is locked forward.
5 Pull out the intermediate rail until locked out.
6 Slide release tab and push system into rack.



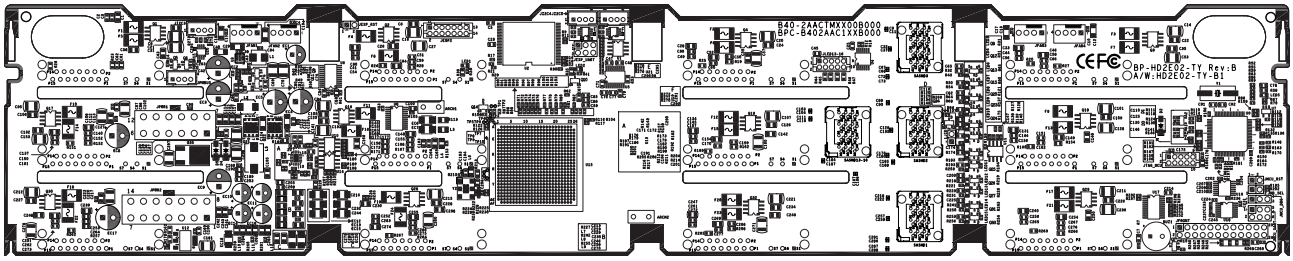
Chapter 3. Hardware Specification

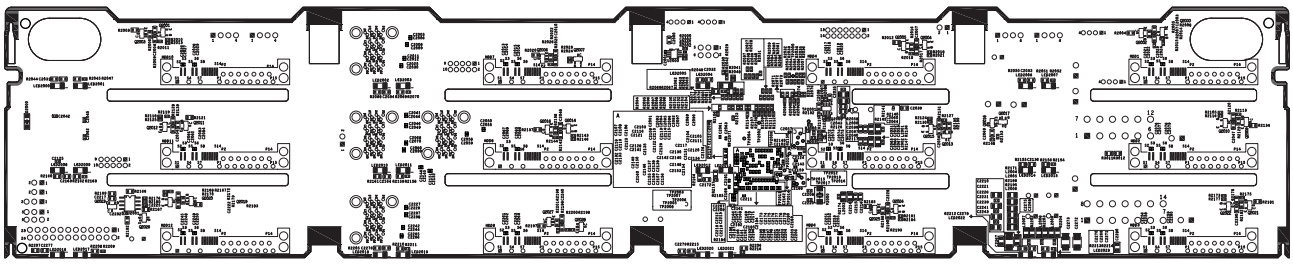
This chapter provides detailed instruction guide on hardware instruction

3.1 HDD Backplane

3.1.1 Placement

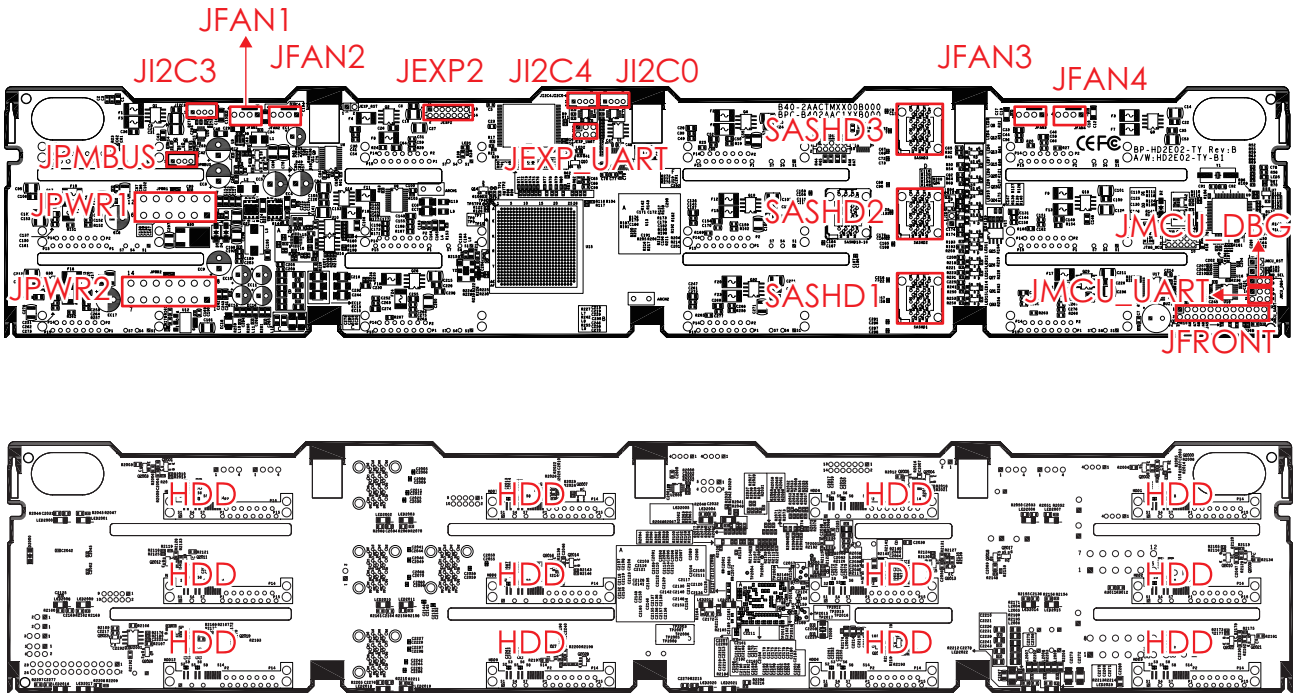
PCBA Placement





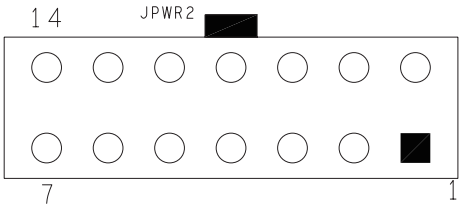
3.1.2 Connector Location

Connector Location



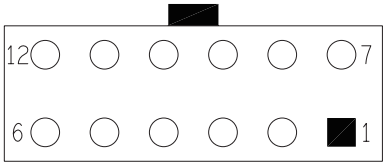
3.1.3 Connector

Power Connector – JPWR1



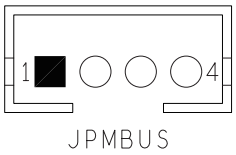
PIN	Description	PIN	Description
7	+12V	1	GND
8	+12V	2	GND
9	+3.3V	3	GND
10	+5V	4	MUTE_L
11	+5VSTBY	5	PSU_N1
12	PS_ON_L	6	GND

Power Connector – JPWR2



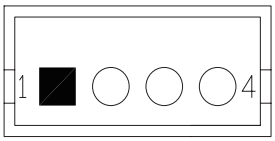
PIN	Description	PIN	Description
8	+12V	1	GND
9	+12V	2	GND
10	+12V	3	GND
11	+12V	4	GND
12	+5V	5	GND
13	+5V	6	GND
14	+5V	7	GND

PMBUS Connector – JPMBUS



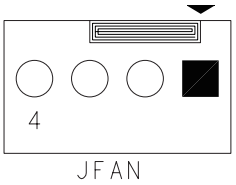
PIN	Description
1	GND
2	PMBUS_CLOCK
3	PMBUS_DATA
4	N/A

I2C Connector – JI2C0, JI2C3, JI2C4



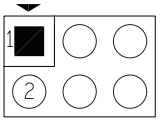
PIN	Description
1	GND
2	I2C_CLOCK
3	I2C_DATA
4	N/A

FAN Connector – JFAN1, JFAN2, JFAN3, JFAN4



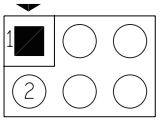
PIN	Description
1	GND
2	I2C_CLOCK
3	I2C_DATA
4	N/A

Console for Expander – JEXP_UART



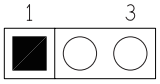
PIN	Description	PIN	Description
2	DEBUG_RXD	1	SMART_RXD
4	+12V	3	GND
6	DEBUG_TXD	5	SMART_TXD

Remote Power Control – JMCU_UART



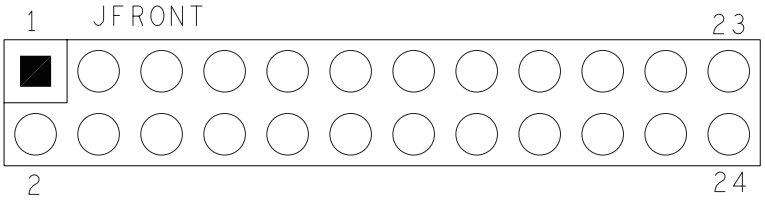
PIN	Description	PIN	Description
2	DOWN_RXD	1	UP_RXD
4	GND	3	GND
6	DOWN_TXD	5	UP_TXD

Console for MCU – JMCU_DBG



PIN	Description
1	MCU_RXD
2	GND
3	MCU_TXD

2.54mm Header for Front I/O – JFRONT



- Fan number select

Pin[5,6]	Pin [3,4]	Pin [1,2]	Fan no. support	Active Fan Locate
Close	Close	Close	No Fan	
Close	Close	Open	One Fan	JFAN1
Close	Open	Close	Two Fan	JFAN1 and JFAN2
Close	Open	Open	Three Fan	JFAN1,JFAN2 and JFAN3
Open	Close	Close	Four Fan	JFAN1,JFAN2,JFAN3 and JFAN4

- Power Module Fault Input

PIN	Description	Remark
7	GND	
8	Power Fault Input	Active Low

- AT Mode Setting

PIN	Description	Remark
9	GND	
10	AT_SEL_N	Active Low

- Temperature Warning LED

PIN	Description	Remark
11	For External LED(+)	LED Anode
12	For External LED(-)	LED Cathode

- FAN Fail LED

PIN	Description	Remark
13	For External LED(+)	LED Anode
14	For External LED(-)	LED Cathode

- Power Fault LED

PIN	Description	Remark
15	For External LED(+)	LED Anode
16	For External LED(-)	LED Cathode

- Mute SW

PIN	Description	Remark
17	GND	
18	MUTE Input(-)	Active Low

- Power/ID LED

PIN	Description	Remark
19	For External LED(+)	LED Anode
20	For External LED(-)	LED Cathode

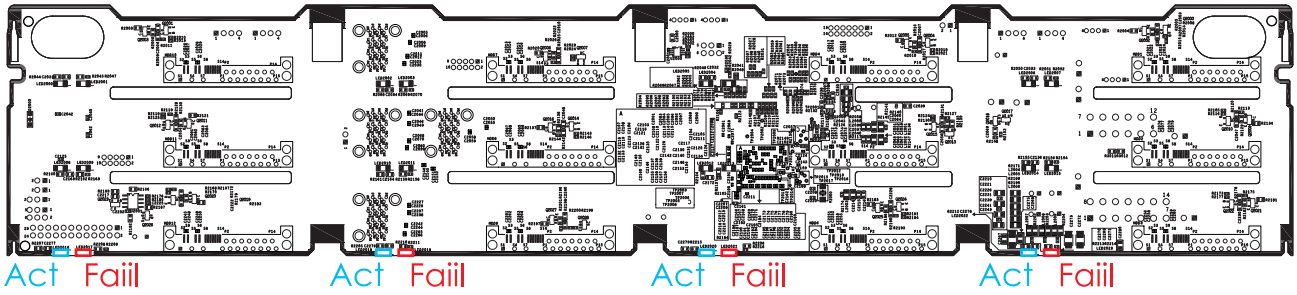
- Power SW

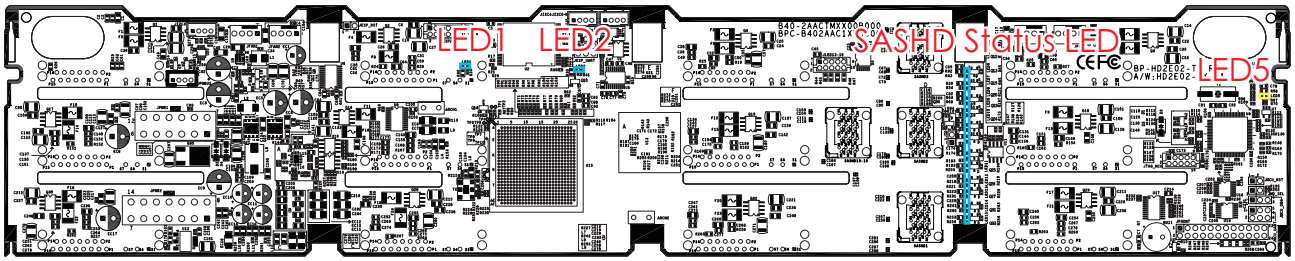
PIN	Description	Remark
21	Power SW Input(-)	Active Low
22	GND	

- PMBUS Support

PIN	Description	Remark
23	PMBUS_Disable_N	Active Low
24	GND	

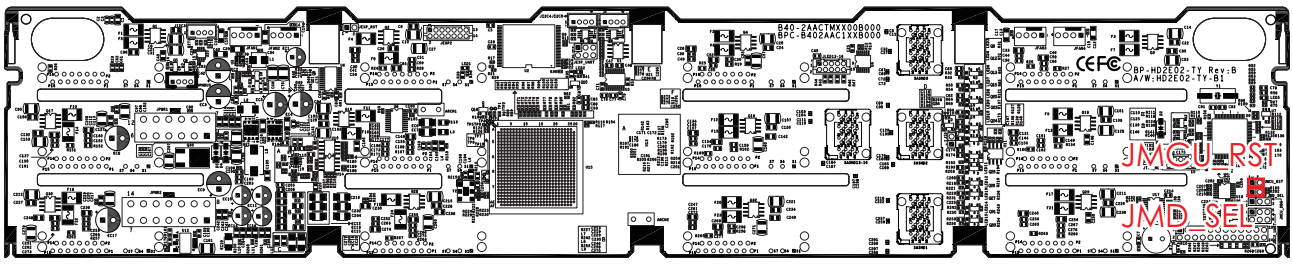
3.1.4 LED Indicator





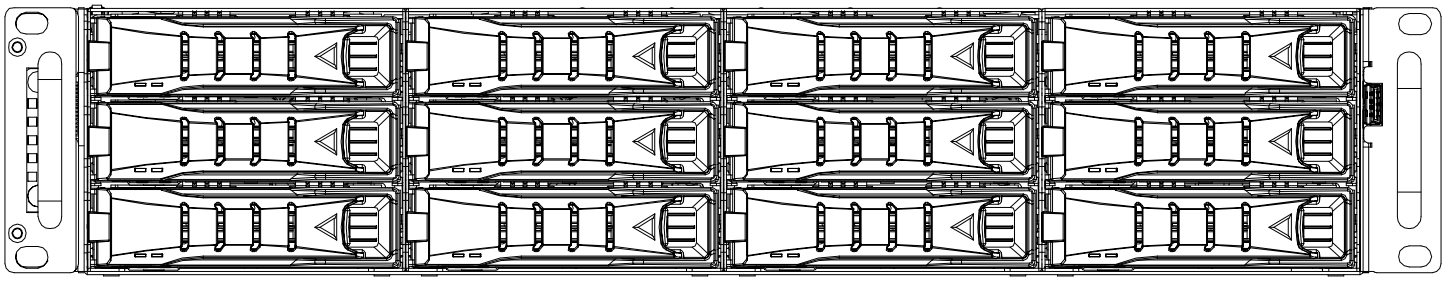
HDD Activity LEDs	Blue (On)	HDD present
	Blue (Blinking)	HDD Activity detected or Locate HDD
	Off	HDD no connect or Power Off
HDD Fault/Status LEDs	Off	Normal
	Red (Blinking)	Re-build status
	Red (On)	HDD Fault or Locate HDD
Remark	Blue (On)	Link up
	Blue (Blinking)	Activity detected
	Off	Link down
Expander Blink (LED1)	Blue (Blinking)	Expander alive, 0.833Hz (12 seconds per cycle)
Expander Heart Bit (LED2)	Blue (Blinking)	Expander FW running
MCU Status (LED5)	Yellow (On)	MCU alive
	Yellow (Off)	Boot loader mode

3.1.5 Jumper



JMCU_RST	Open	Normal, default
	Close	Reset MCU
JMD_SEL	Open	Normal, default
	Close	Boot loader mode

3.1.6 Drive Slot Map



HBA card			
0	1	2	3
4	5	6	7
8	9	10	11

MegaRaid card			
1	2	3	4
5	6	7	8
9	10	11	12

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