RSC-2AT

Storage Server Barebone

User's Manual

UM_RSC-2AT_v.1_020316

CONTENTS

PREFACE

- **Copyright**

  No part of this publication may be reproduced, stored in a retrieval system, or transmitted in any form or by any means, electronic, mechanical, photo-static, recording or otherwise, without the prior written consent of the manufacturer.

- **Trademarks**

  All products and trade names used in this document are trademarks or registered trademarks of their respective holders.

- **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.

- **Disclaimer**

  AIC shall not be liable for technical or editorial errors or omissions contained herein. The information provided is provided "as is" without warranty of any kind. To the extent permitted by law, neither AIC or its affiliates, subcontractors or suppliers will be liable for incidental, special or consequential damages including downtime cost; lost profits; damages relating to the procurement of substitute products or services; or damages for loss of data, or software restoration. The information in this document is subject to change without notice.

SAFETY INSTRUCTIONS

- Before getting started, please read the following important cautions:
- All cautions and warnings on the equipment or in the manuals should be noted.
- Most electronic components are sensitive to electrical static discharge. Therefore, be sure to ground yourself at all times when installing the internal components.
- Use a grounding wrist strap and place all electronic components in static-shielded devices. Grounding wrist straps can be purchased in any electronic supply store.
- Be sure to turn off the power and then disconnect the power cords from your system before performing any installation or servicing. A sudden surge of power could damage sensitive electronic components.
- Do not open the system's top cover. If opening the cover for maintenance is a must, only a trained technician should do so. Integrated circuits on computer boards are sensitive to static electricity. Before handling a board or integrated circuit, touch an unpainted portion of the system unit chassis for a few seconds. This will help to discharge any static electricity on your body.
- Place this equipment on a stable surface when install. A drop or fall could cause injury.
- Please keep this equipment away from humidity.
- Carefully mount the equipment into the rack, in such manner, that it won't be hazardous due to uneven mechanical loading.
- This equipment is to be installed for operation in an environment with maximum ambient temperature below 35°C.
- The openings on the enclosure are for air convection to protect the equipment from overheating. DO NOT COVER THE OPENINGS.
- Never pour any liquid into ventilation openings. This could cause fire or electrical shock.
- Make sure 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 shall be within the specification.
- This equipment must be connected to reliable grounding before using. 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.
- If the equipment is not used for a long time, disconnect the equipment from mains to avoid being damaged by transient over-voltage.
- Never open the equipment. For safety reasons, only qualified service personnel should open the equipment.
- If one of the following situations arise, the equipment should be checked 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.
- Module and drive bays must not be empty! They must have a dummy cover.

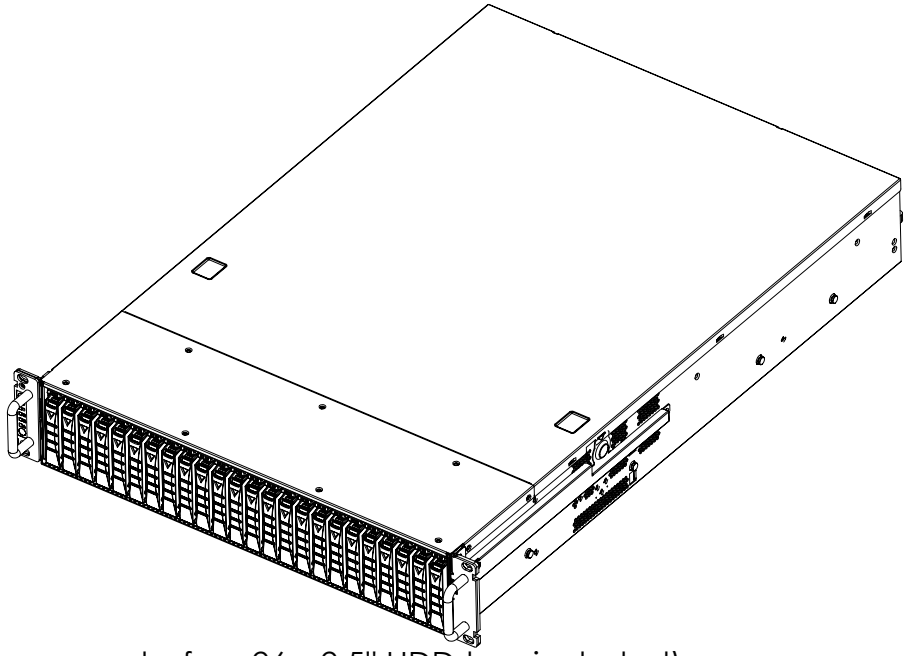
Product features and specifications are subject to change without notice.

CAUTION :
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 ARE LOCK AND SCREW IN POSITION, TURN ON THE POWER.

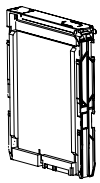
Chapter 1. Prodcut Introduction

1.1 Box Content

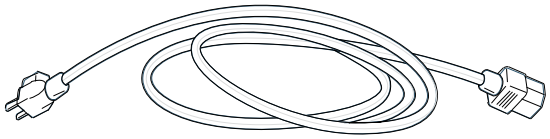
Before removing the subsystem from the shipping carton, visually inspect the physical condition of the shipping carton. Exterior damage to the shipping carton may indicate that the contents of the carton are damaged. If any damage is found, do not remove the components; contact the dealer where the subsystem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



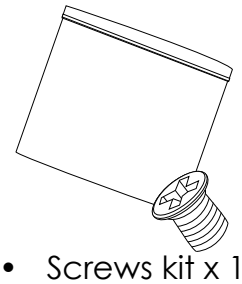
- Enclosure(Power supply, fan, 26 x 2.5" HDD tray included)



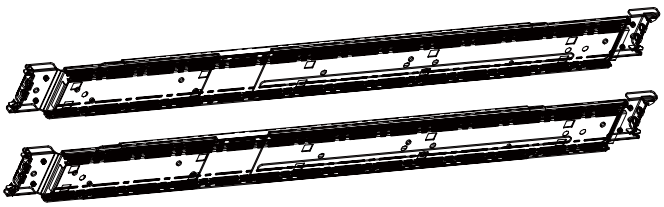
- 2.5'' HDD Tray



- Power cord



- Screws kit x 1set
- (Include console serial cable)



- Slide rail x 1set

♦ PACKAGE CONTENT MAY VARY PER REGION.

1.2 Specifications

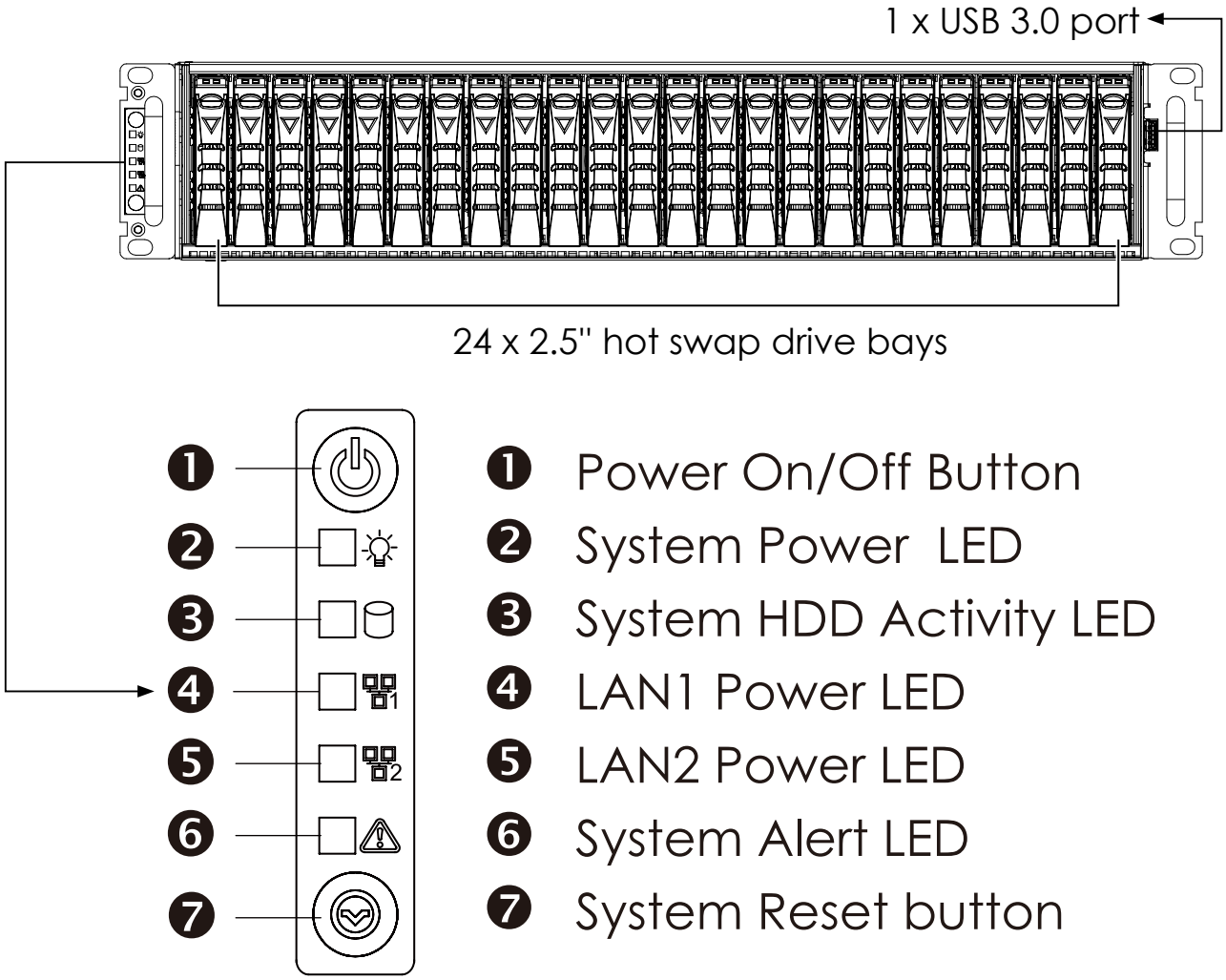
Dimensions (W x D x H) (with chassis ears)	mm : 483 x 680 x 88		
	inches : 19 x 26.8 x 3.5		
Industry Standard	EIA-RS310D		
Material	Heavy-duty preplated SPGC cold-rolled steel		
Cooling	Standard	Middle : 3 x 80x38mm PWM & low-power consumption hot swap fans	
Power Supply	Standard	800W 1+1 redundant PSU PMBus 1.2 80+ Platinum	
	Option	650W 1+1 redundant PSU PMBus 1.2 80+ Gold	
Expansion Slots	7 low profile		
Front Panel	Power on/off and system reset, 1 x USB 3.0 port		
LED Indicators	Power, LAN, Drive and Alert		
System Board	12"(W) x 13"(D) E-ATX/SSI EEB 3.6 compliant MB		
Drive Bays	External	2.5" hot swap	24
	Internal	2.5"	2

Backplane	Options	1 x 24-port 12Gb SAS backplane with 6 SFF-8643 connectors
		1 x 24-port 12Gb SAS backplane with a 36-PHY expander chip and 3 SFF-8643 connectors
Storage Temperature	0°C(32°F) ~ 50°C(122°F)	
Humidity	5%~95% non-condensing	
Gross Weight	(w/ PSU & Rail)	kgs : 24.5
		lbs : 54
Packaging Dimensions	(W x D x H)	mm : 590 x 850 x 290
		inches : 23.2 x 33.5 x 11.4
Cubic Feet	5.14	
Container Load Quantity	20'	185
	40'	380
	40' H	457
Mounting	Standard	28" tool-less slide rail

1.3 General Information

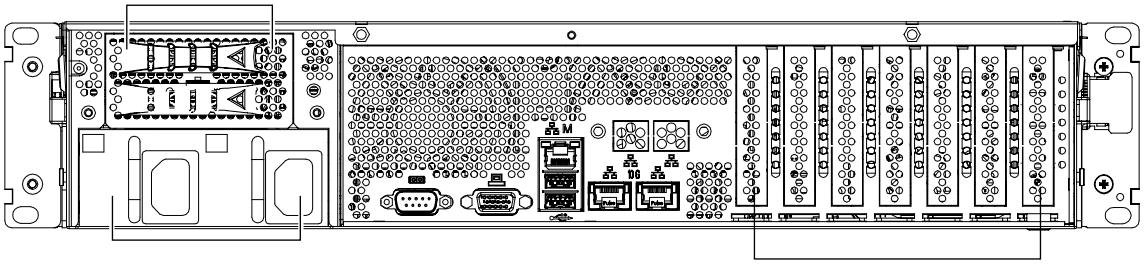
RSC-2AT is a 2U rackmount chassis with 24 x 2.5"HDD hot swap Bays at front and 2 x 2.5" External hot swap drive bays and single 12G expander on HDD Backplane which is a high performance server storage product.

- Front Panel



- Rear Panel

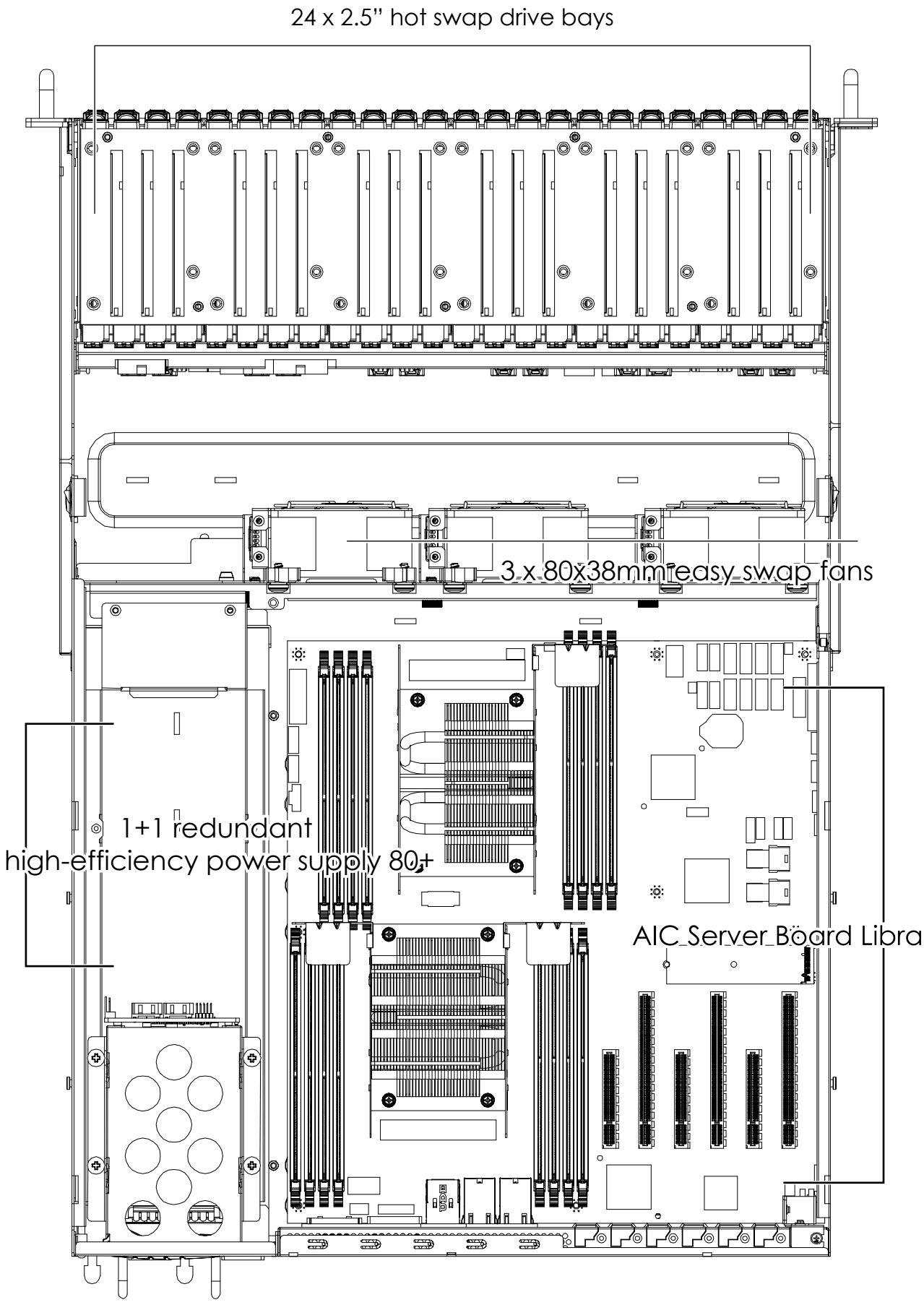
2 x 2.5" External hot swap drive bays



1U redundant
high-efficiency power supply 80+

7 x PCIe 3.0 slots(low-profile)

- Top View

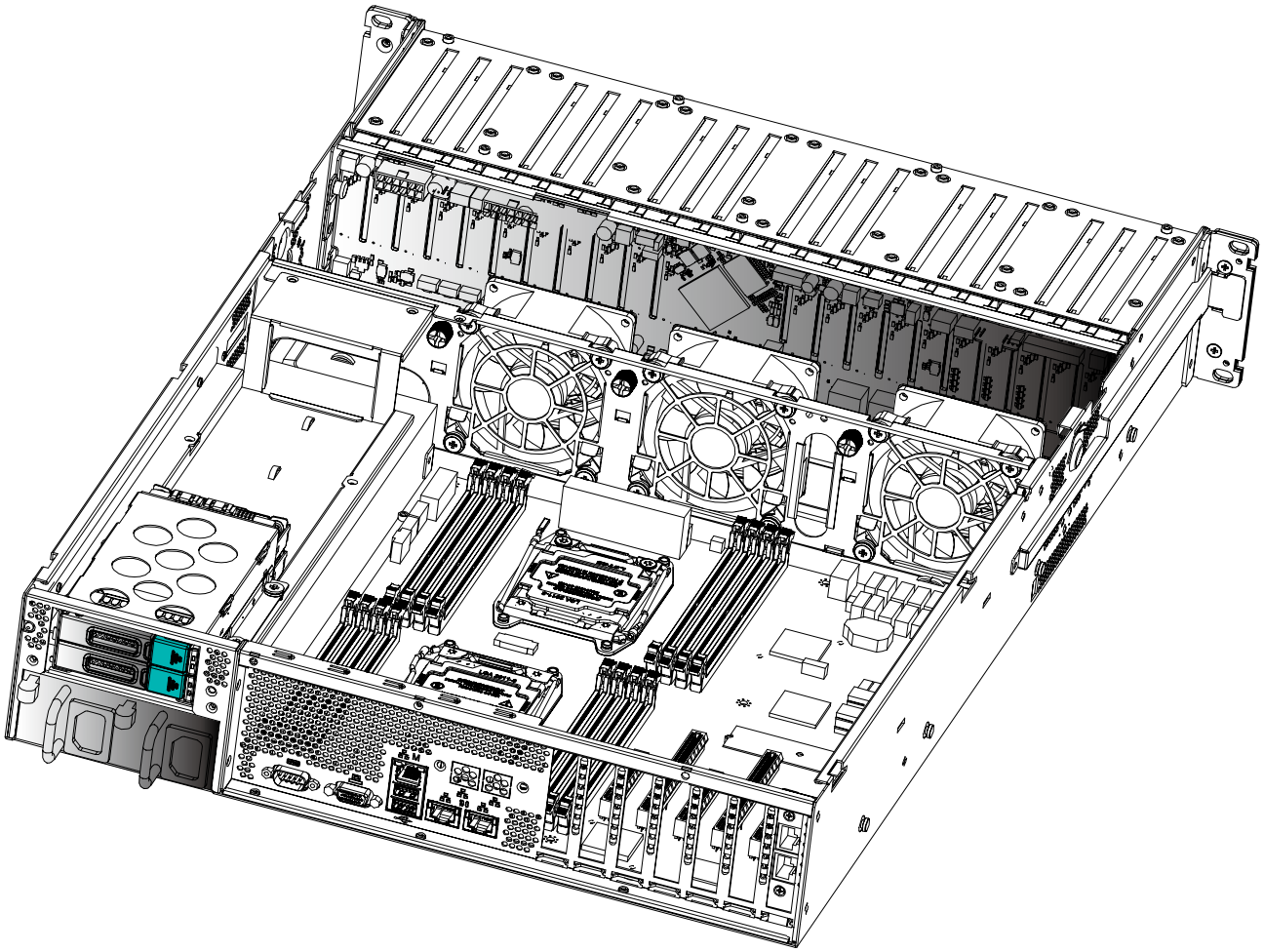


- (Power supply is included. Motherboard is not included.)

1.4 Four option SKUs

1.4.1 12G Expander Backplane + rear hot swap O/S tray

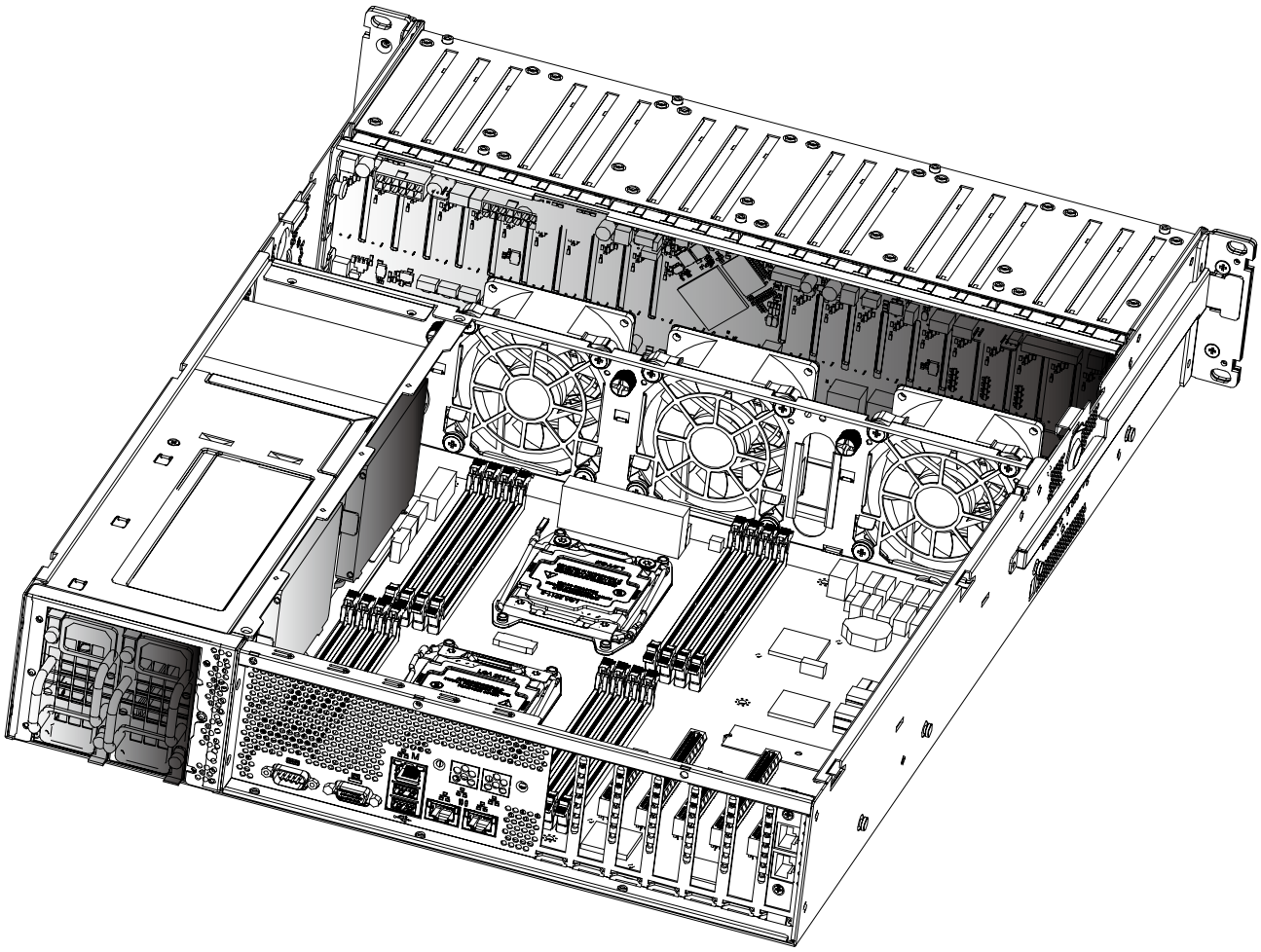
- 12G Expander on board HDD BP w/ 3 x 8643.
- 1U redundant power supply.
- 2.5" x 2 External hot swap drive bays.



- (Power supply is included. Motherboard is not included.)

1.4.2 12G Expander Backplane + internal O/S tray

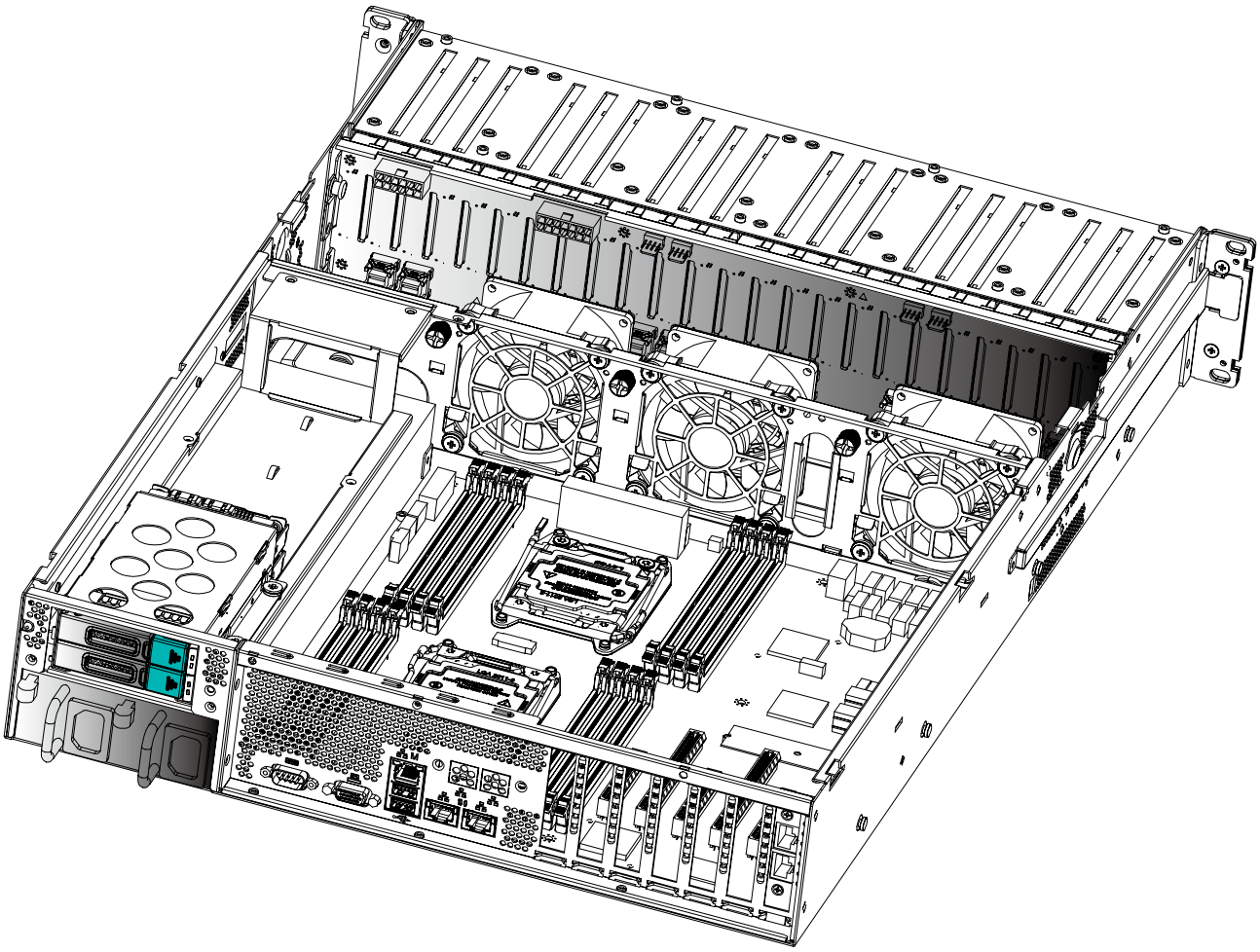
- 12G Expander on board HDD BP w/ 3 x 8643.
- 2U 1+1 redundant high-efficiency power supply 80+.
- 2.5" x 2 internal Drive Bracket.



- (Power supply is included. Motherboard is not included.)

1.4.3 12G Passive Backplane + rear hot swap O/S tray

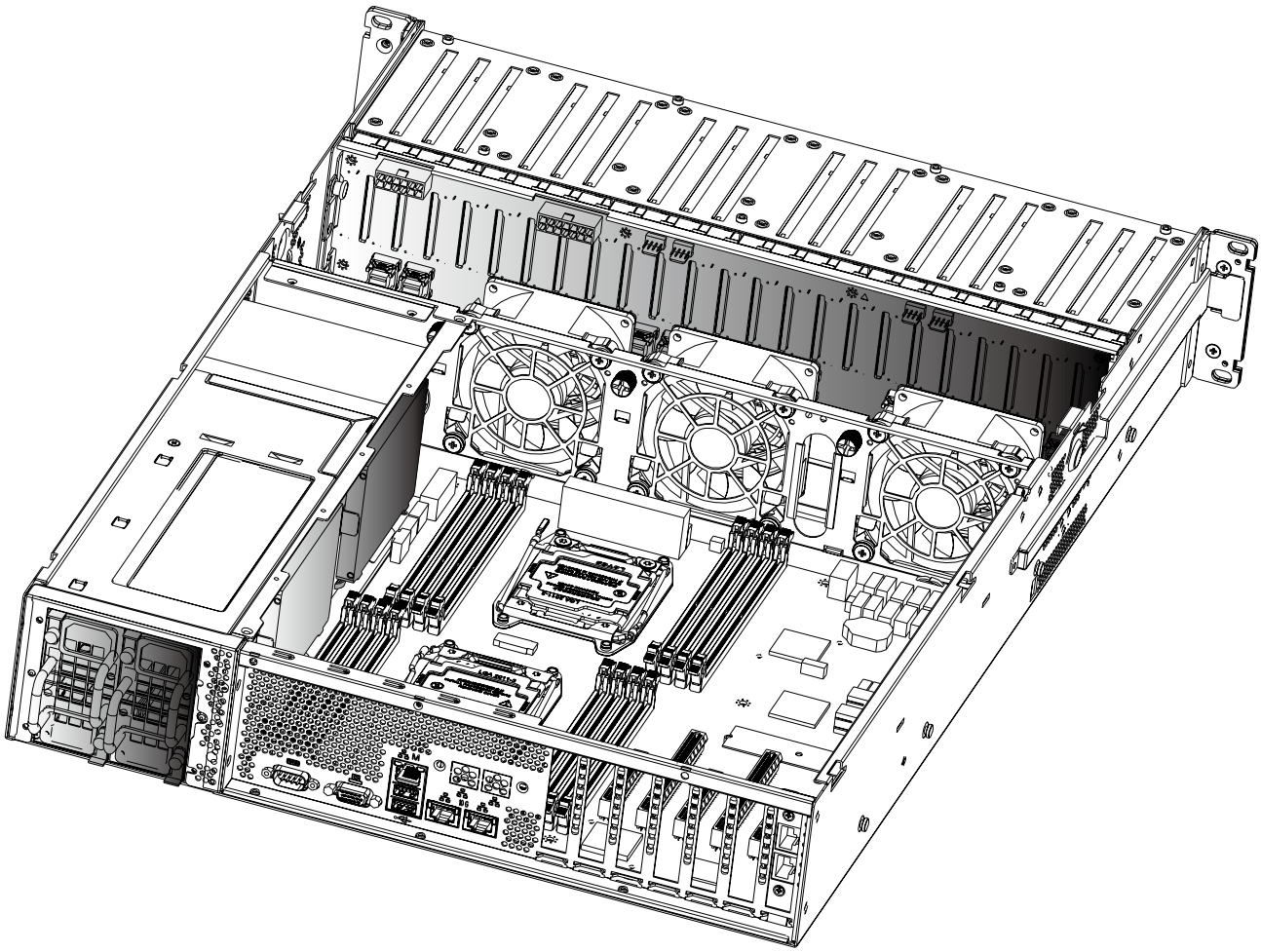
- 12G None Expander on board HDD BP w/ 6 x 8643.
- 1U redundant power supply
- 2.5" x 2 External hot swap drive bays



- (Power supply is included. Motherboard is not included.)

1.4.4 12G Passive Backplane + internal O/S tray

- 12G None Expander on board HDD BP w/ 6 x 8643.
- 2U 1+1 redundant high-efficiency power supply 80+.
- 2.5" x 2 internal Drive Bracket.

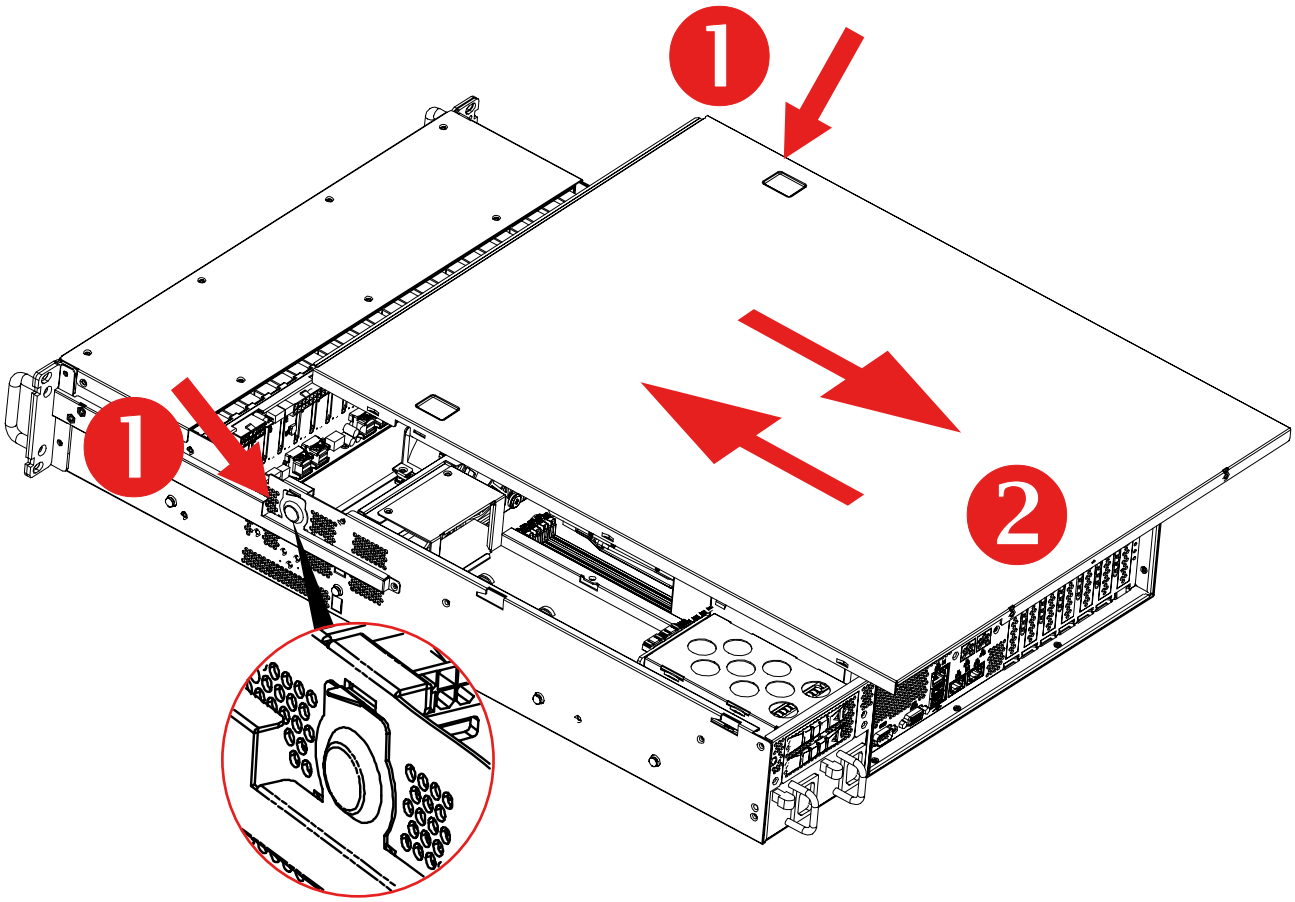


- (Power supply is included. Motherboard is not included.)

Chapter 2. Hardware Installation

2.1 Removing and Installing Top Cover

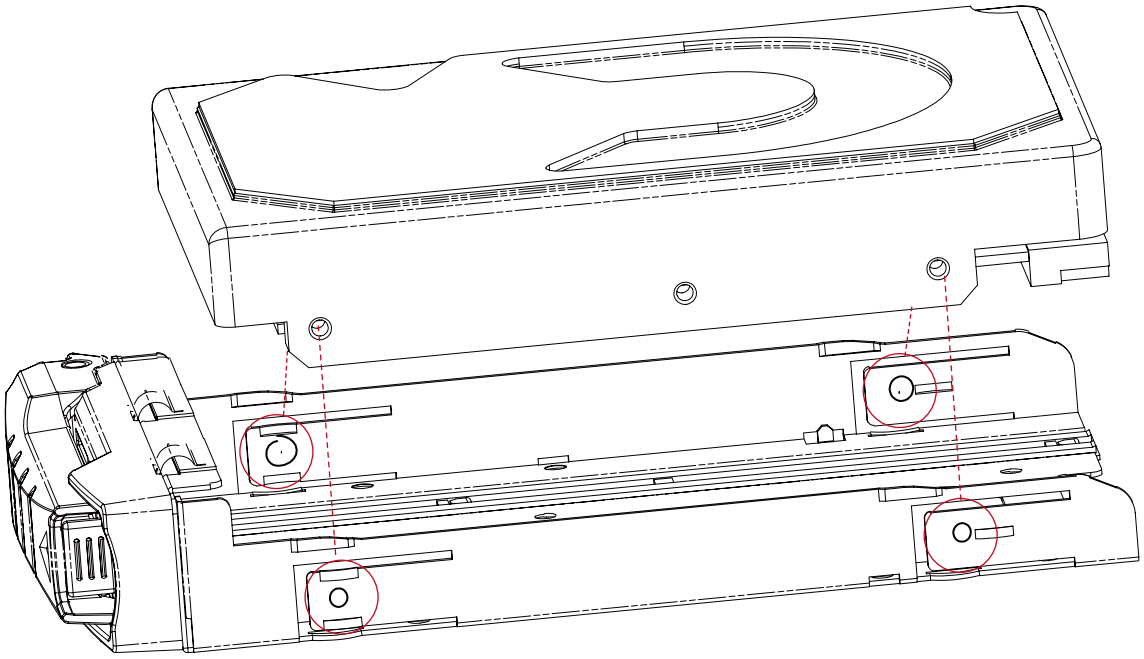
Pushing release button on both side and slide forward the top cover to open cover.



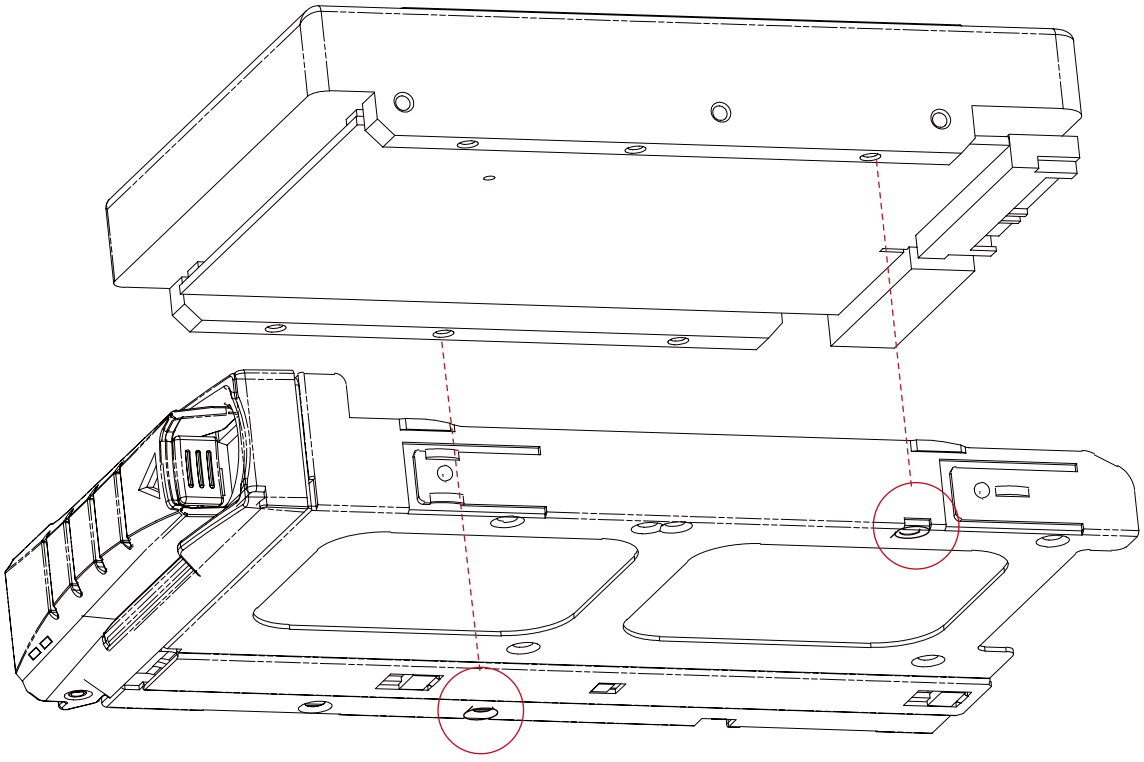
2.2 Installing/ Removing a Hard Disk Drive

2.2.1 Installing a Hard Disk Drive

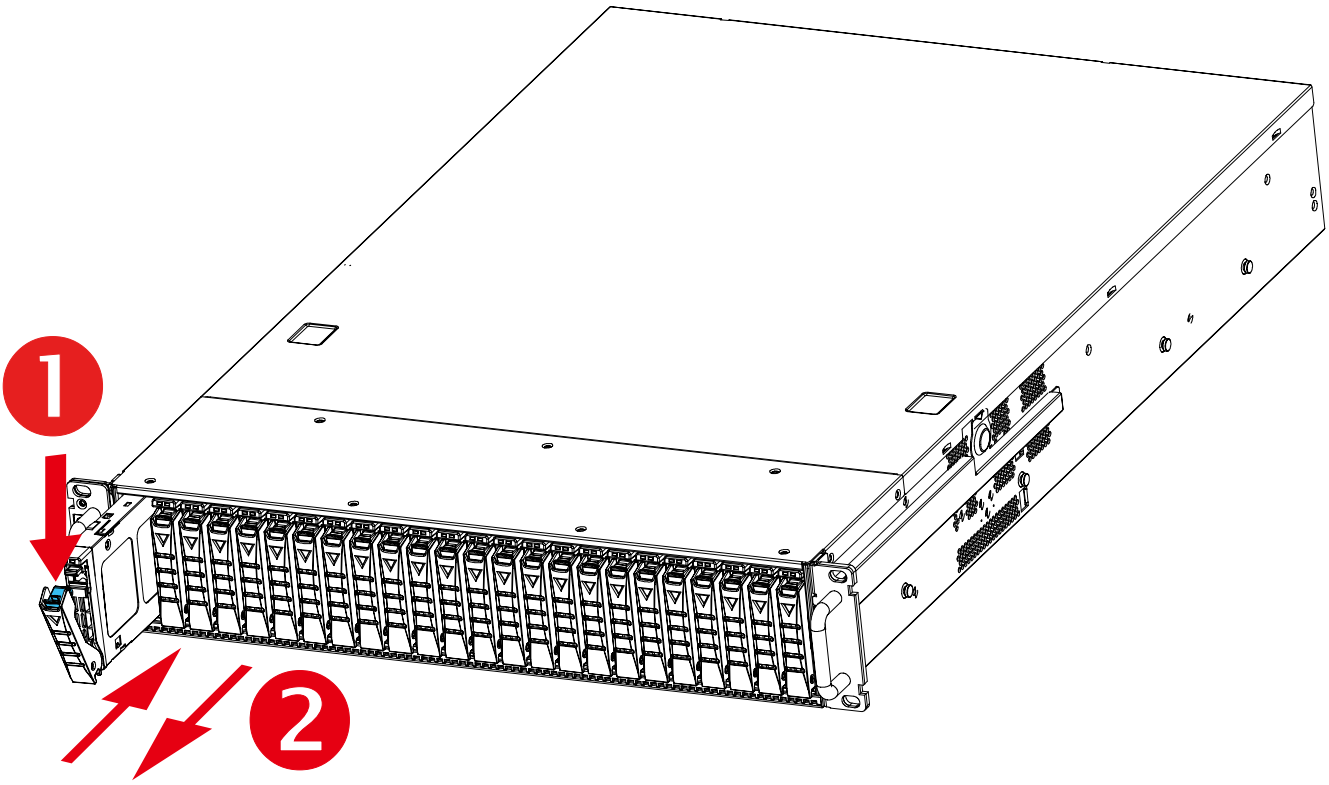
Directly place HDD into tool-less HDD tray untli it snaps. Please check if the screw holes on HDD match the dimples on HDD tray.



HDD can also be screwed on HDD tray by fastening two screws as picture showed.



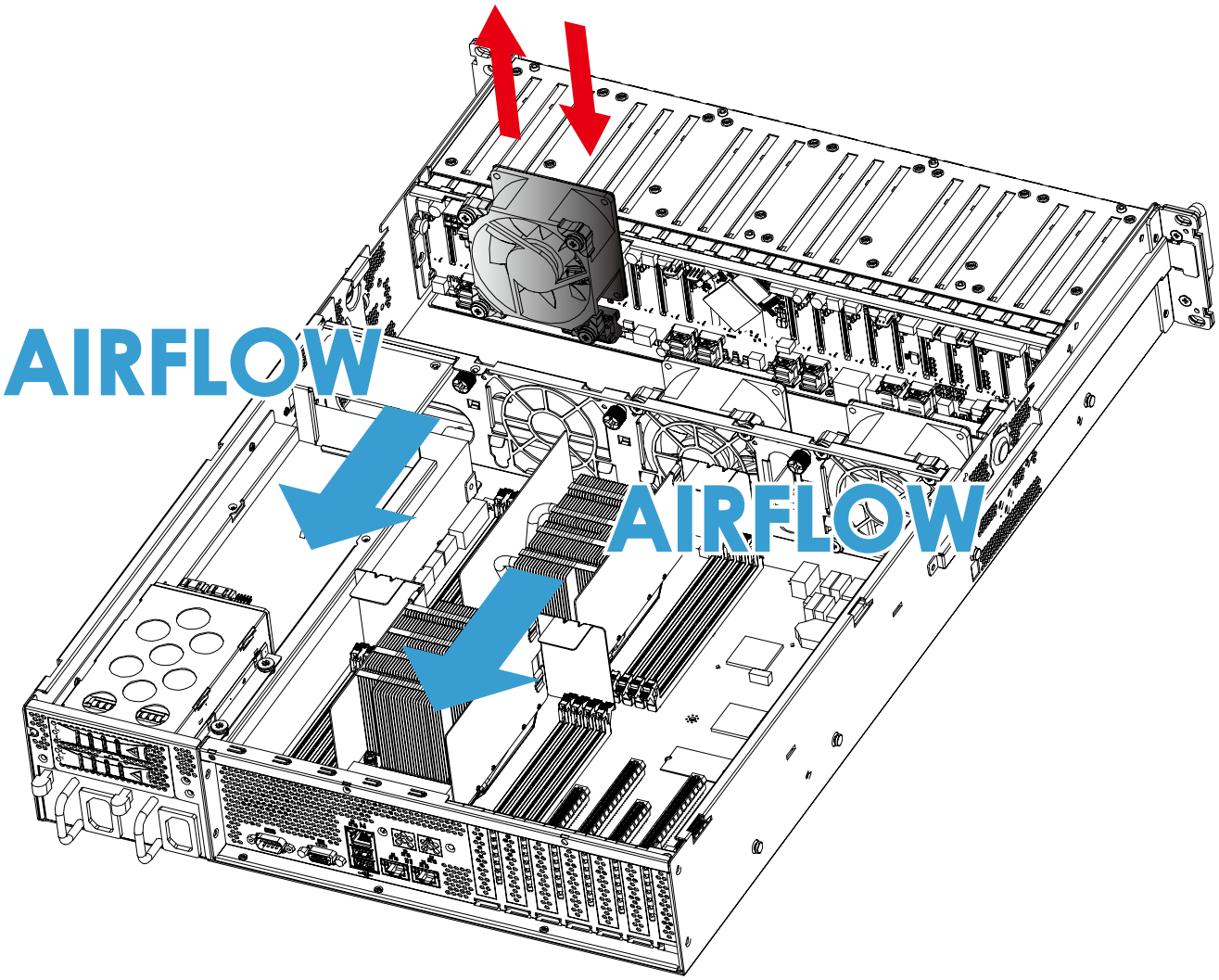
2.2.2 Insert the drive tray into chassis HDD cage. Make sure the drive tray is correctly secured in place when its front edge aligns with the bay edge. Push the tray lever until it reaches the end and clicks.



2.3 Removing and Installing a Fan Module

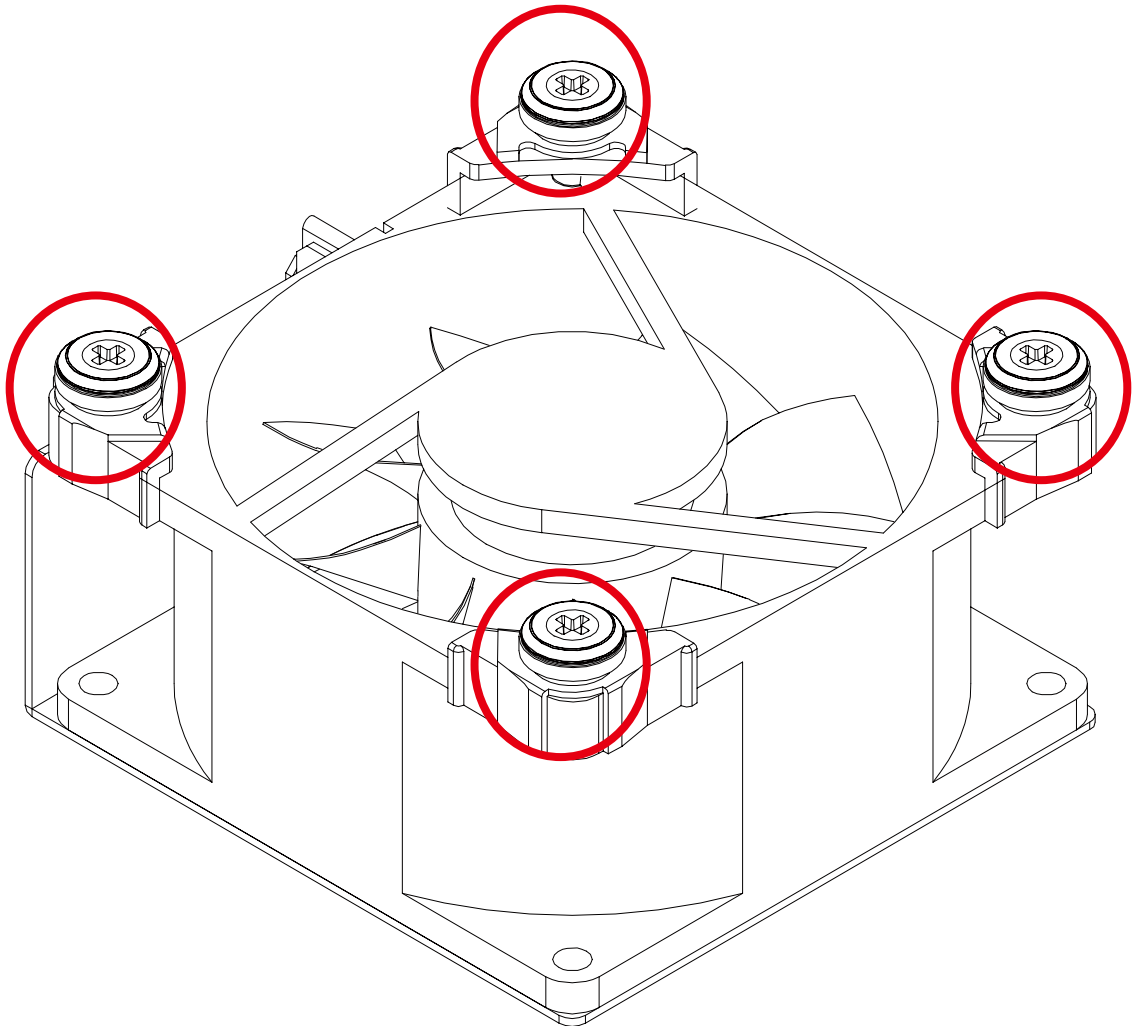
2.3.1 Removing a fan module

Grabbing and removing the fan module from the fan slot.



- (Power supply is included. Motherboard is not included.)

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



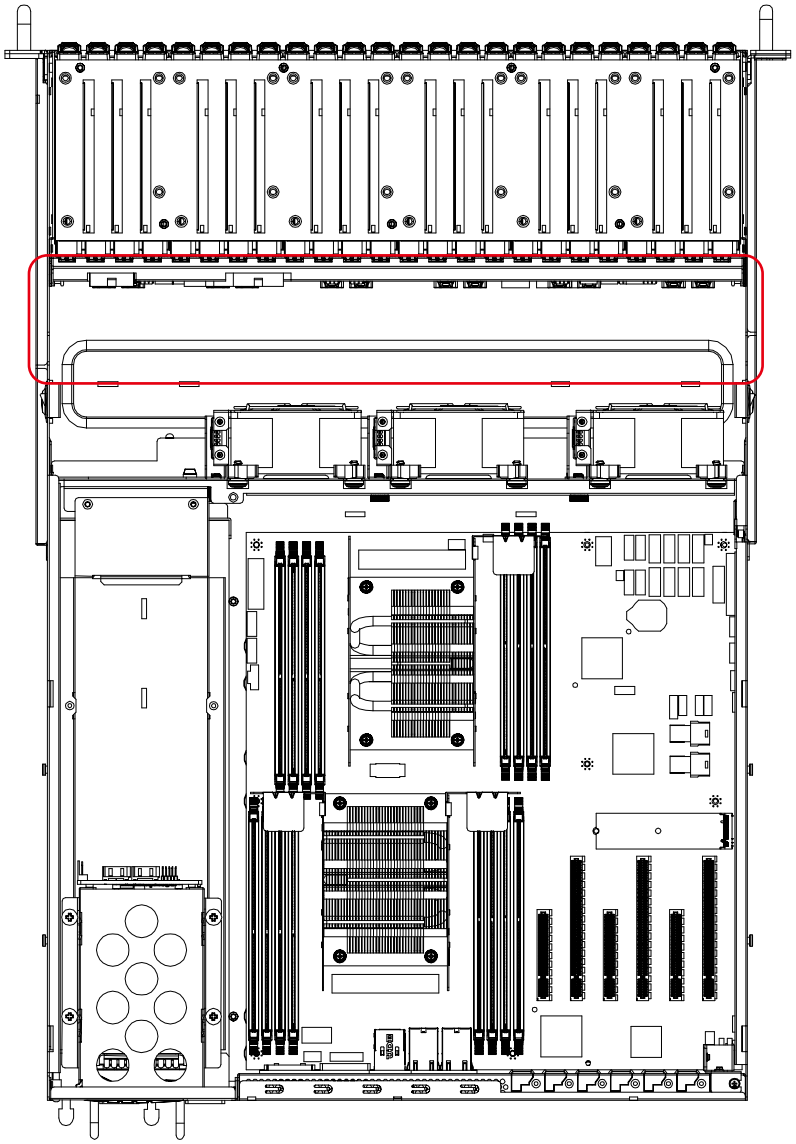
2.3.2 Installing a Fan Module

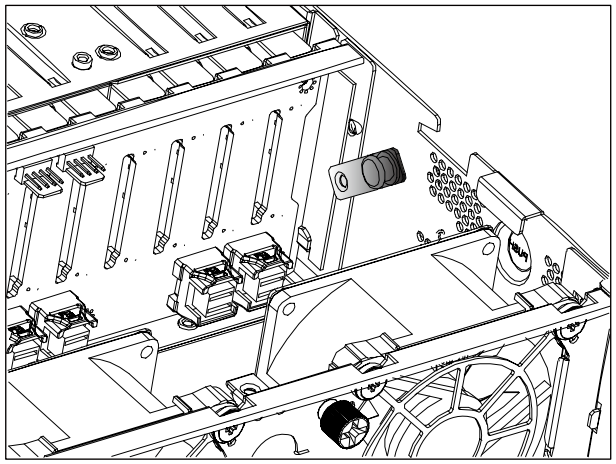
Make sure the 4 rubbers and connector insert firmly while fan module is inserted.

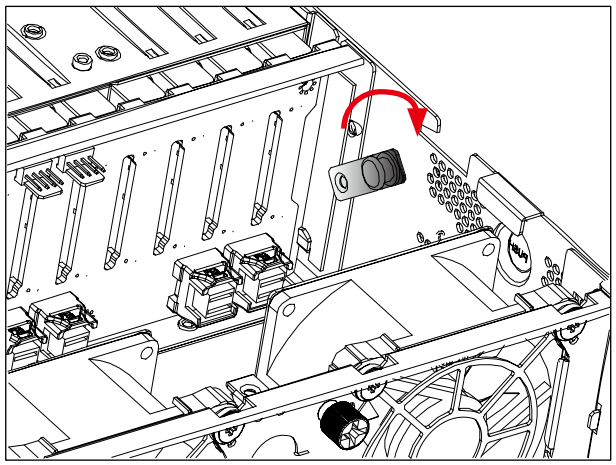
2.4 Removing and Installing the HDD backplane Module

2.4.1 Removing a HDD backplane

- Unplugging all connectors & HDDs from HDD backplane.
- Release the lock pin.





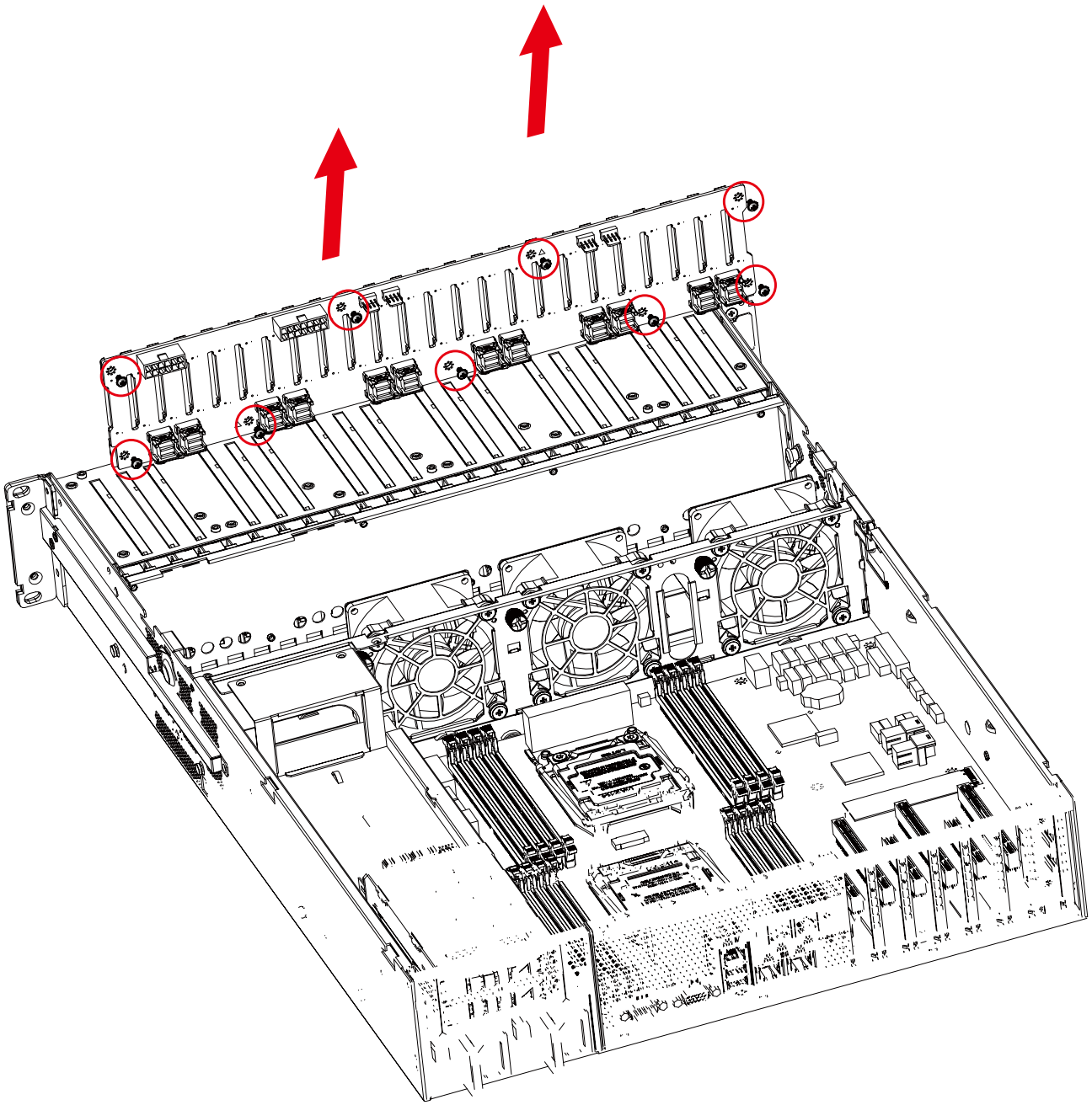


- (Power supply is included. Motherboard is not included.)

- Lossen the screws x 9pcs on the Backplane module
- Lift up and remove the blackplane to the a little bit up from hook then can get out.

2.4.3 Installing a HDD backplane module(follow the reverse order)

- Align the backplane with the hooks, and insert it into the enclosure firmly.
- Lock the backplane. Follow the reverse order.



- (Power supply is included. Motherboard is not included.)

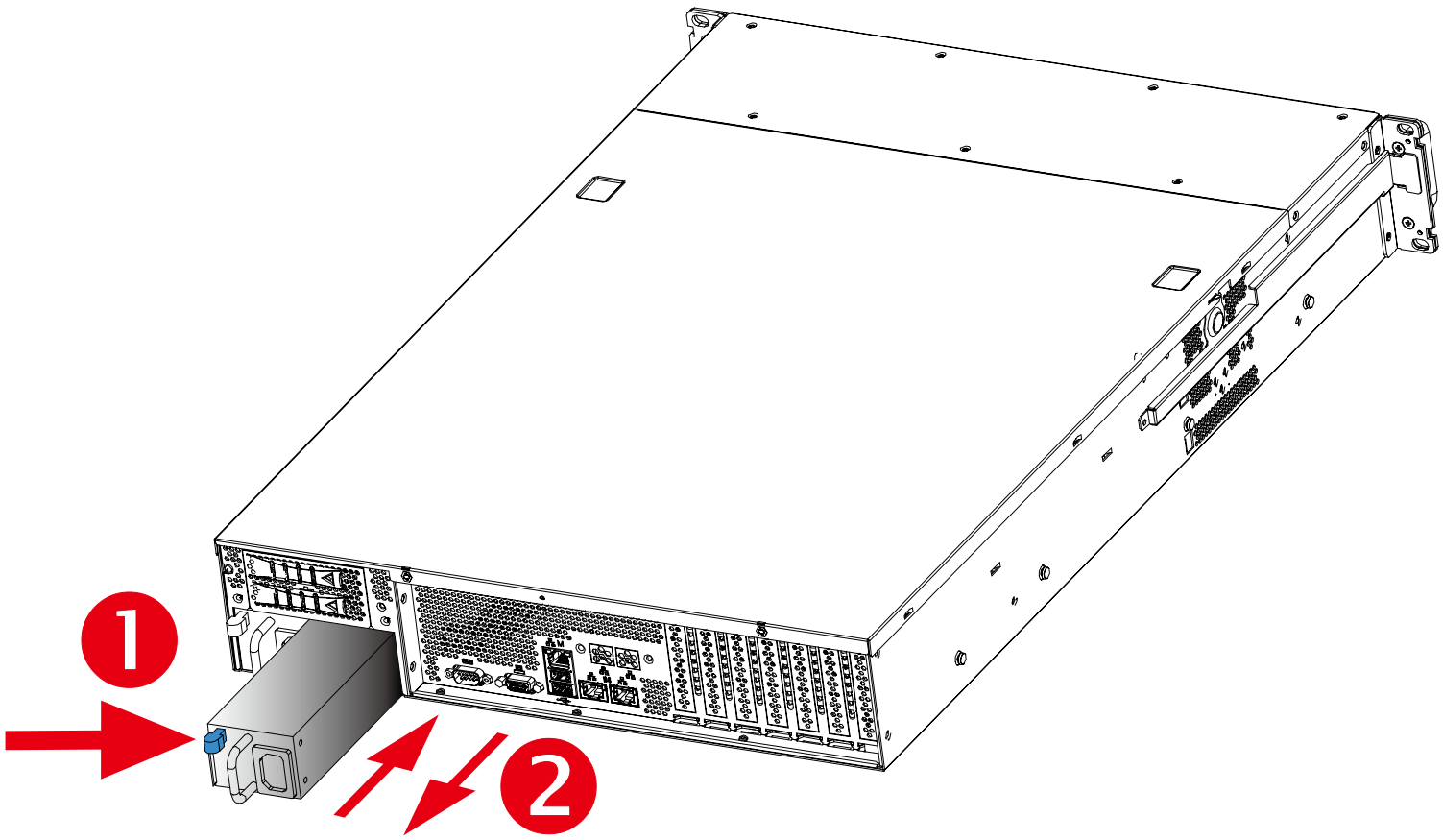
2.5 Removing and Installing a PSU Module

2.5.1 Removing a PSU module

1. Removing power cable and loosen the thumb screw.
2. Pushing the latch and hold the tray handle.
3. Pull the PSU module tray handle out gently to slides out the PSU module.

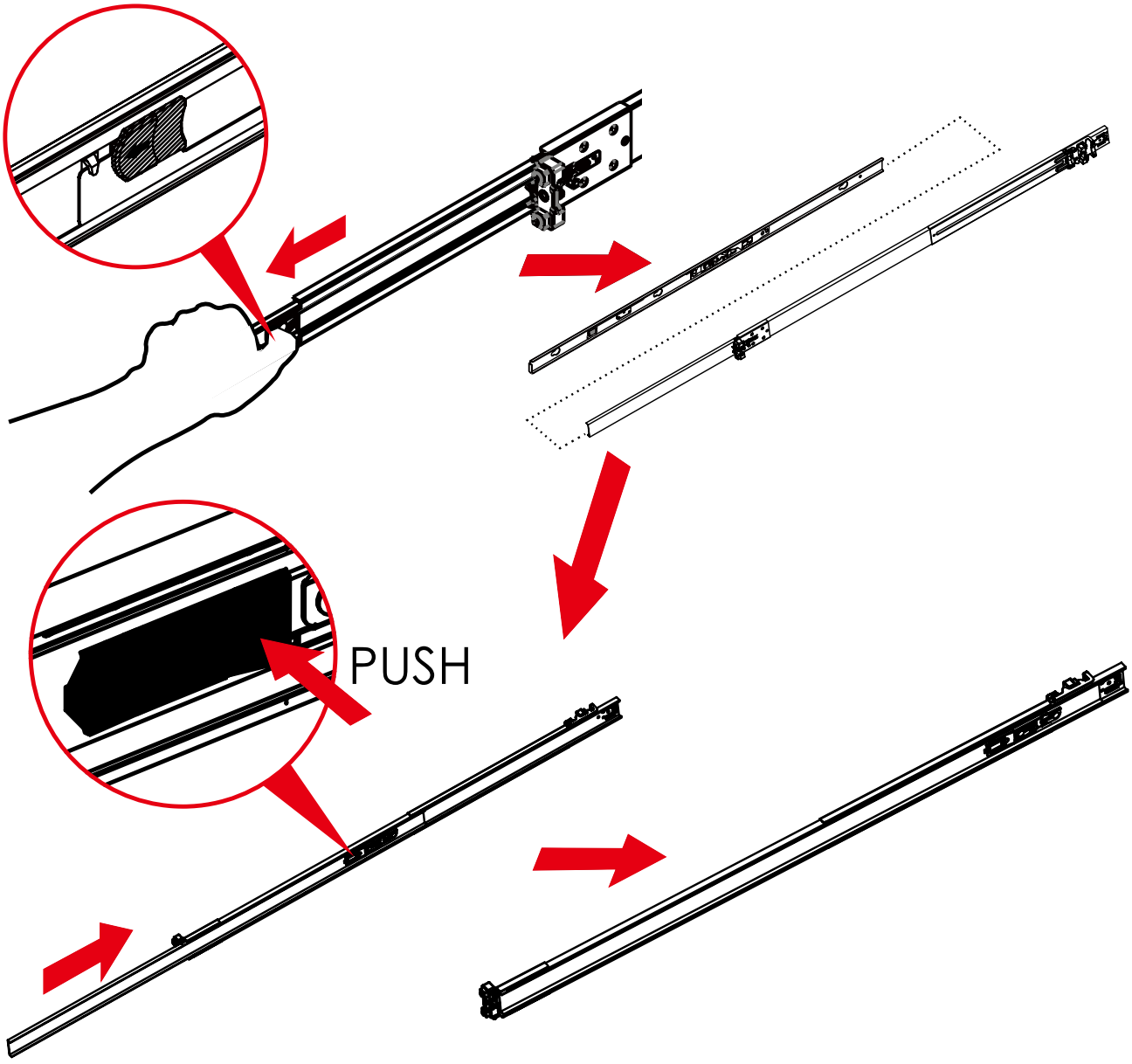
2.5.2 Installing a PSU Module

- To install PSU module, follow the reverse order.

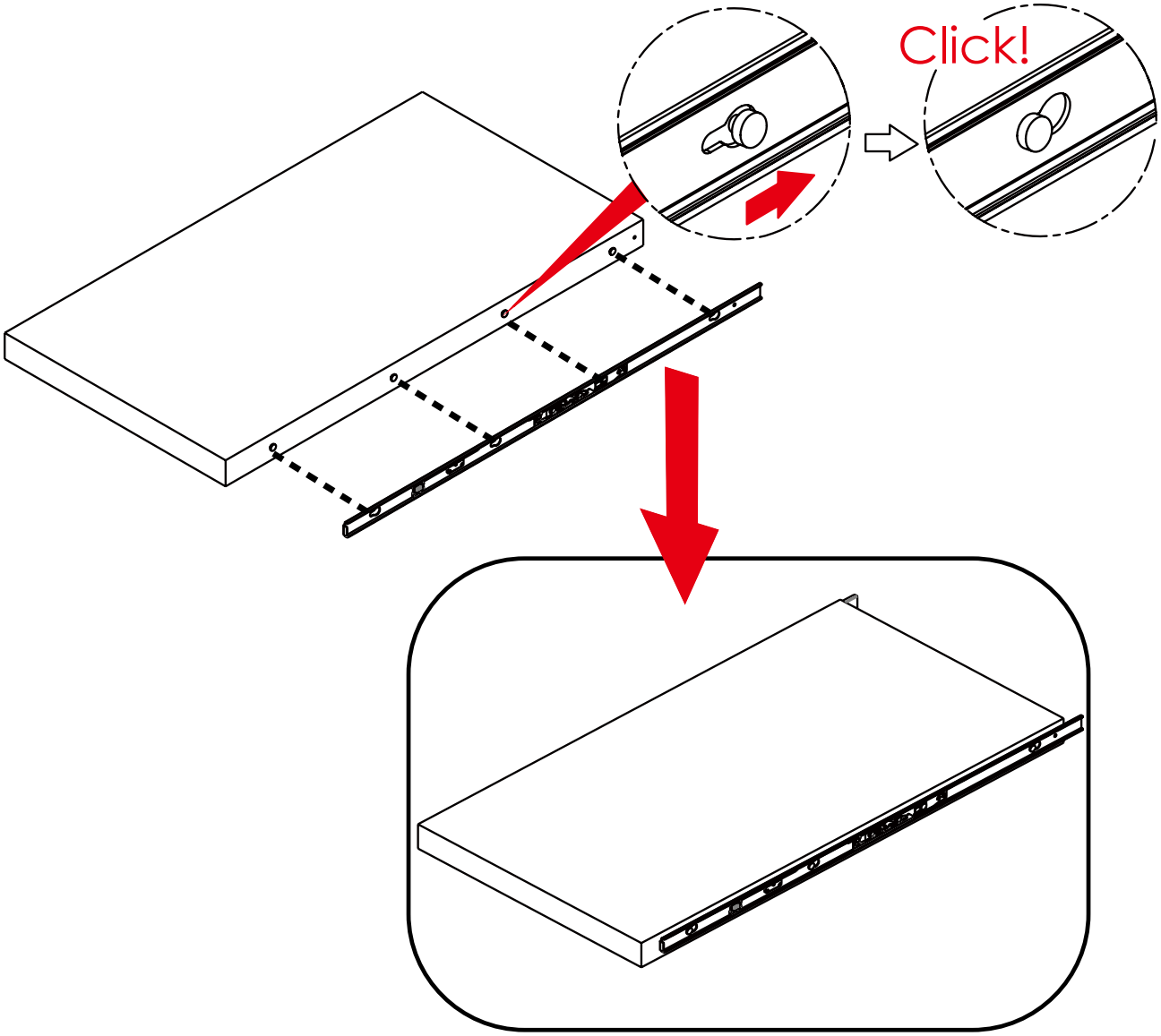


2.6 Tool-less Blade Slide Installation Instruction

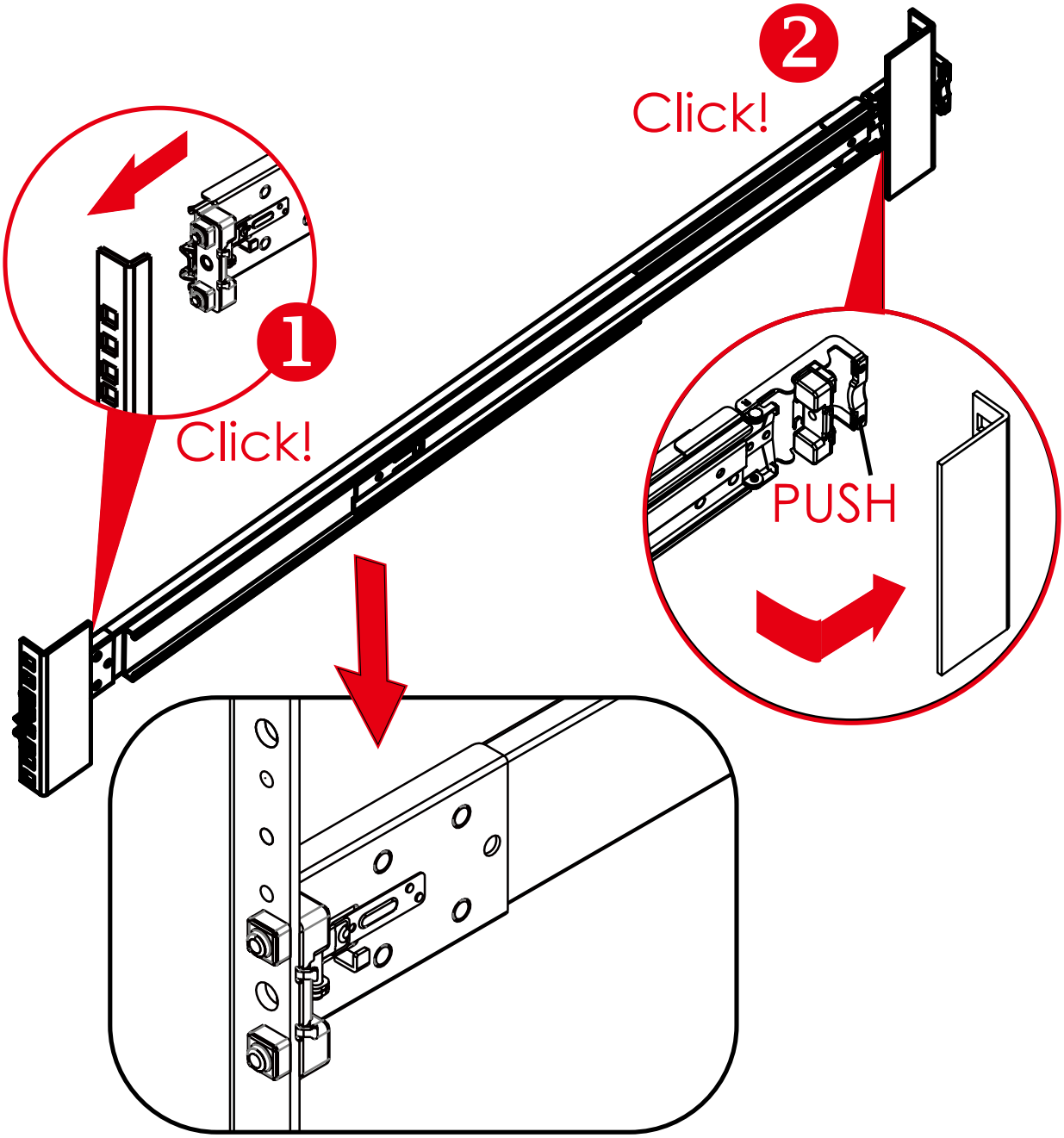
2.6.1 Release and detach the inner rail from the slide.



2.6.2 Attach inner rail to the system.

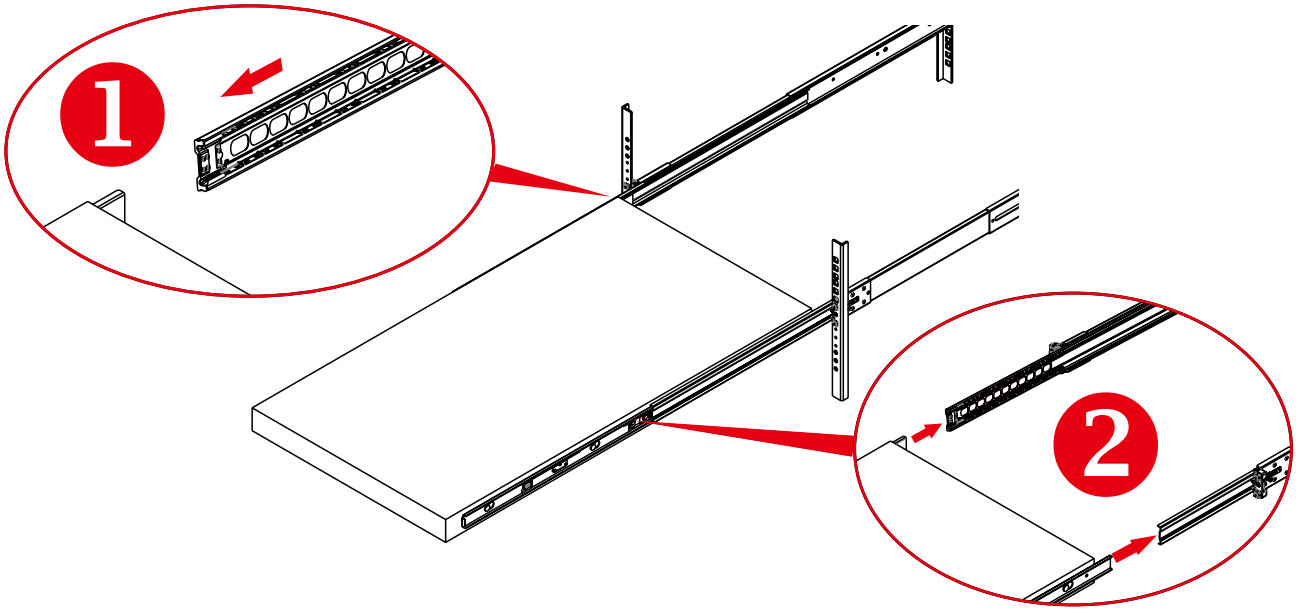


2.6.3 Attach outer rail to the rack.

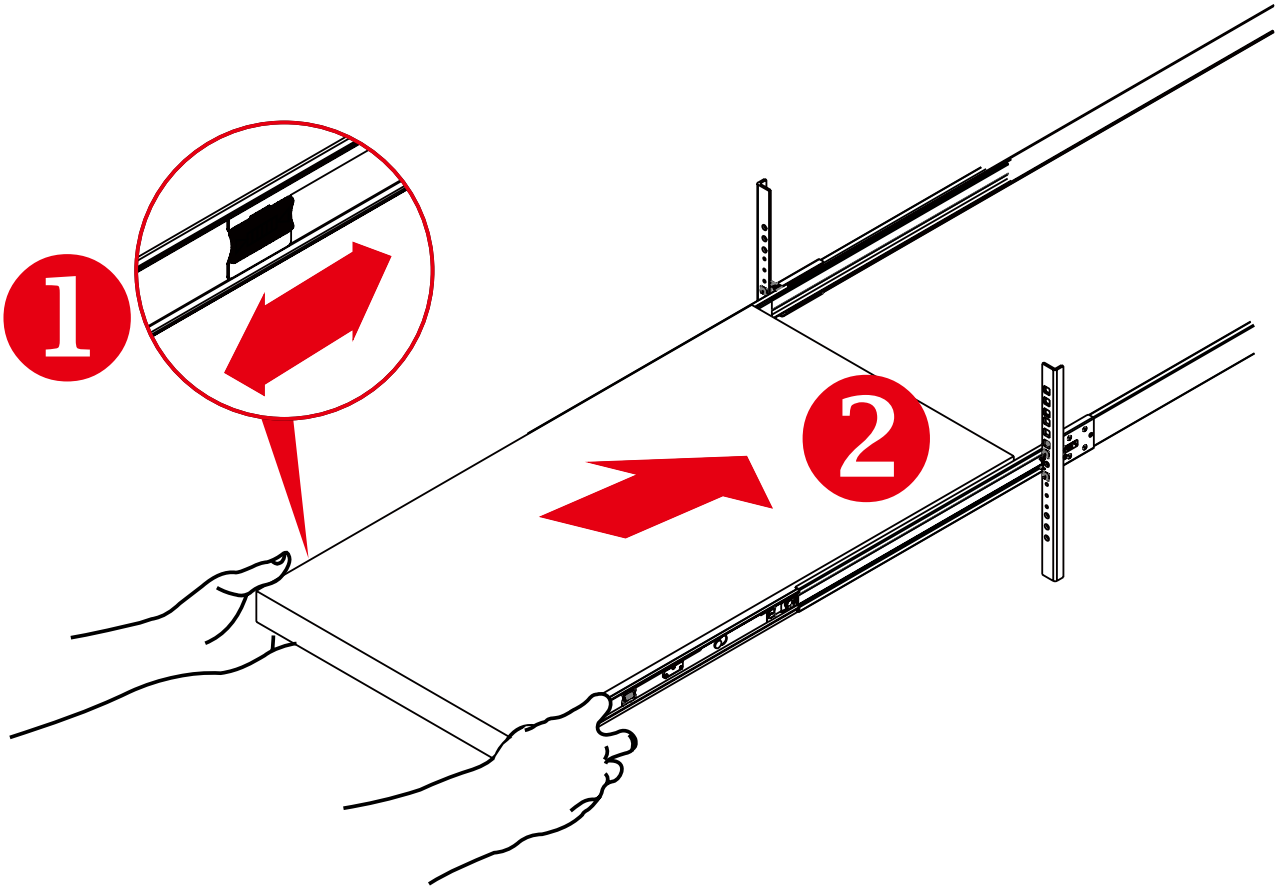


CAUTION : VERIFY BALL BEARING RETAINER IS LOCKED FORWARD.

2.6.4 Pull out the intermediate member until locked out.



2.6.5 Slide release tab and push system into rack.



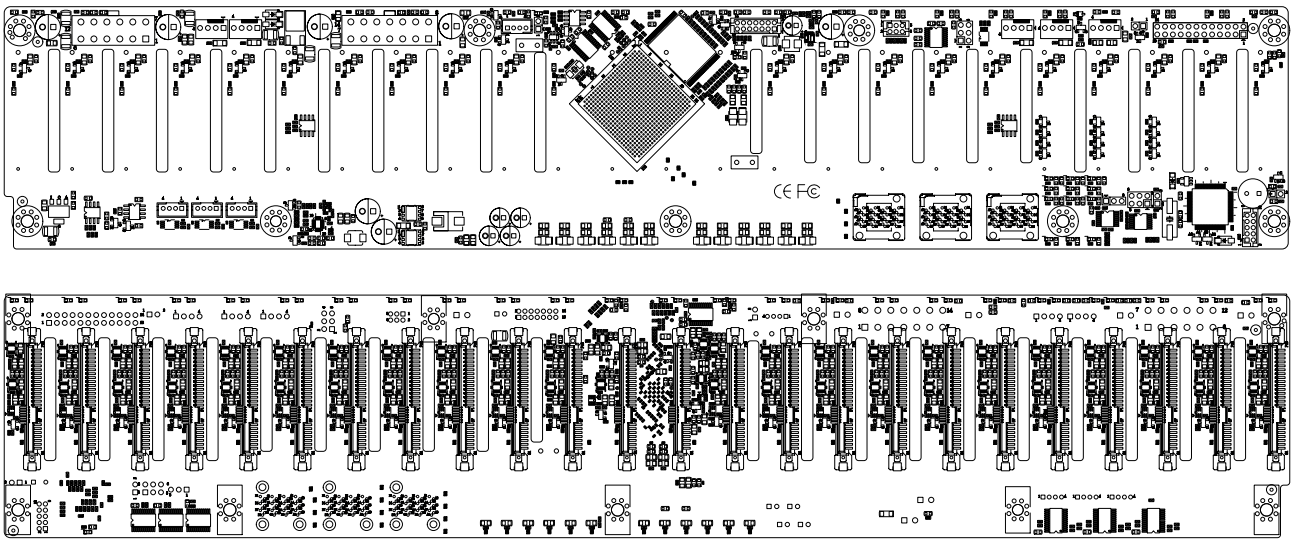
Chapter 3. Hardware Introduction

This chapter provides detailed instruction guide on hardware instruction

3.1 HARDWARE DESIGN SPECIFICATION_BP-HD2E03-TY

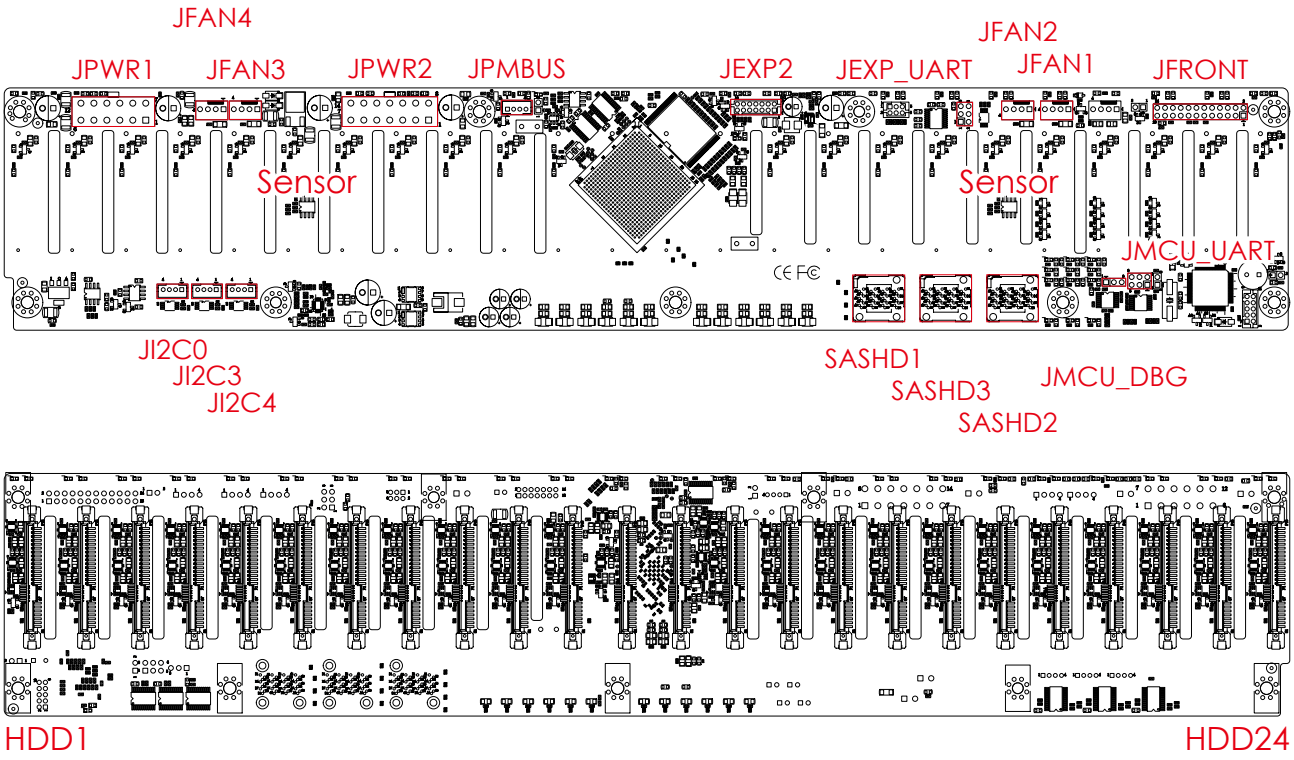
3.1.1 Placement

PCBA Placement



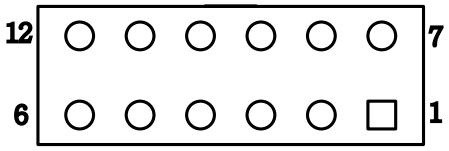
3.1.2 Connector Location

Connector Location



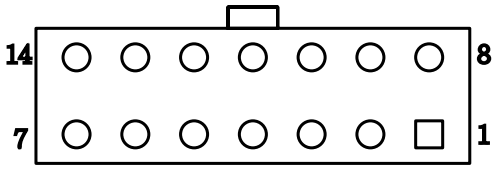
3.1.3 Connectors

Power Connector – JPWR1



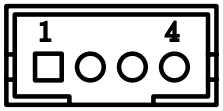
Pin	Description	Pin	Description
7	+12V	1	GND
8	+12V	2	GND
9	VCC3	3	GND
10	+5V	4	MUTE_L
11	+5VSTBY	5	PSU_N1
12	PS_ON_L	6	GND

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

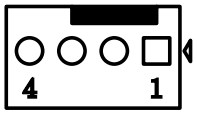
PMBUS Connector –JPMBUS



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

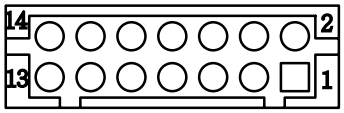
Connectors

FAN Connector –JFAN 1~ JFAN4



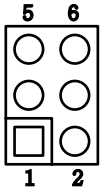
Pin	Description
1	GND
2	+12V
3	TACH
4	PWM

Cascade – JEXP2



Pin	Description	Pin	Description
2	E2E_SCL	1	E2E_SCL
4	E2E_SDA	3	E2E_SDA
6	GND	5	GND
8	PEER_MATE_N	7	GND
10	GND	9	GND
12	LB_AB0	11	LB_BA0
14	LB_AB1	13	LB_BA1

Control for Expander –JEXP_UART



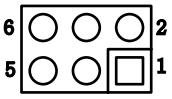
Pin	Description	Pin	Description
2	DBG_SIRXD	1	SM_SIRXD
4	GND	3	GND
6	DBG_SITXD	5	SM_SITXD

Connectors

Console for MCU –JMCU_DBG

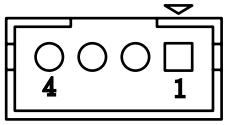
Pin	Description
1	UART_RX
2	GND
3	UART_TX

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

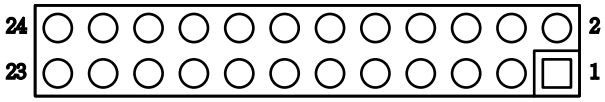
I2C Connectort – JI2C0,JI2C3,JI2C4



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

Connectors

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	1 Fan	JFAN1
Close	Open	Close	2 Fans	JFAN1 ~ JFAN2
Close	Open	Open	3 Fans	JFAN1 ~ JFAN3
Open	Open	Close	4 Fans	JFAN1 ~ 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

Connectors

Power/ID LED

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

Power SW

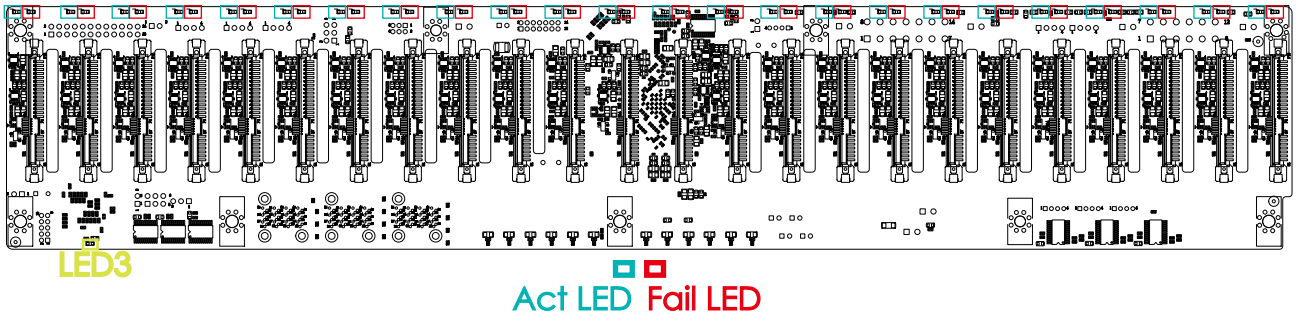
Pin	Description	Remark
21	Power SW Input(-)	Active Low
22	GND	

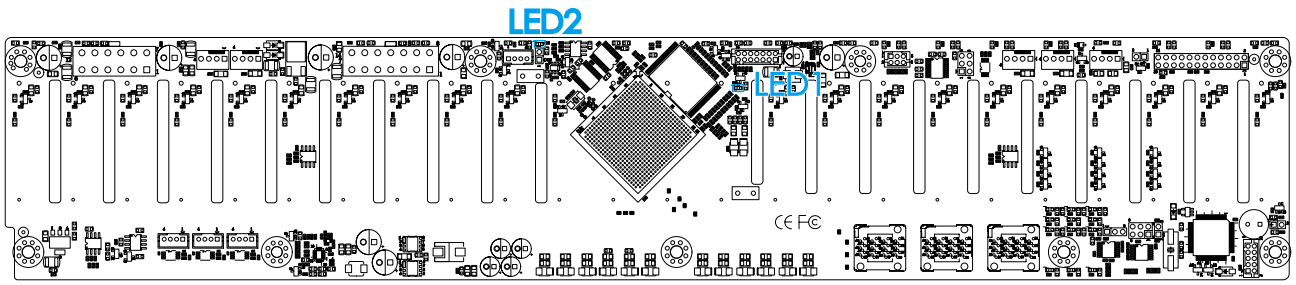
PMBUS Support

Pin	Description	Remark
23	PMBUS_Disable_N	Active Low
24	GND	

3.1.4 LEDs

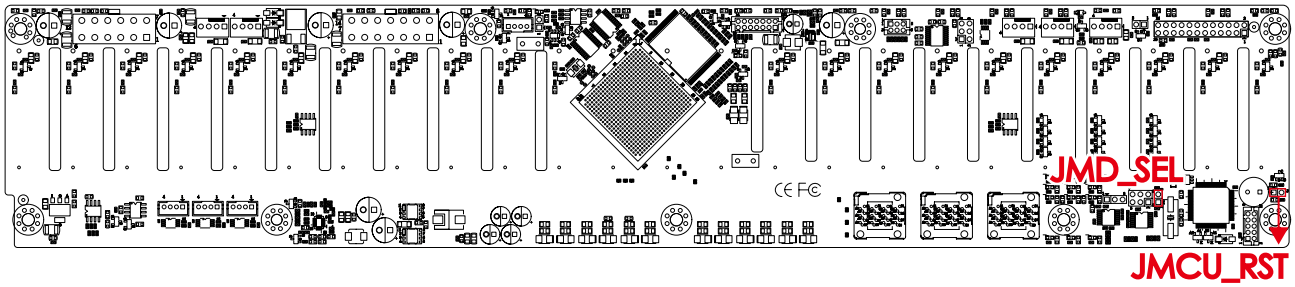
Expander Blink (LED2)	Blue (Blinking)	Expander alive, 0.833Hz (12 seconds per cycle)
Expander Heart Bit (LED1)	Blue (Blinking)	Expander FW running
HDD Activity LEDs	Blue (On)	HDD present
	Blue (Blinking)	HDD Activity detected or Locate HDD
	Off	HDD no connect or Power Off
HDD Fault/Status LEDs	Off	Normal
	Red (Blinking)	Re-build status
	Red (On)	HDD Fault or Locate HDD
MCU Status (LED3)	Yellow (On)	MCU alive
	Yellow (Off)	Boot loader mode



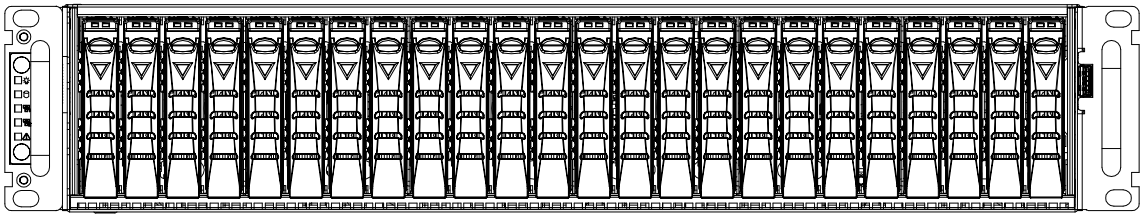


3.1.5 Jumpers

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



3.1.6 Drive Slot Map



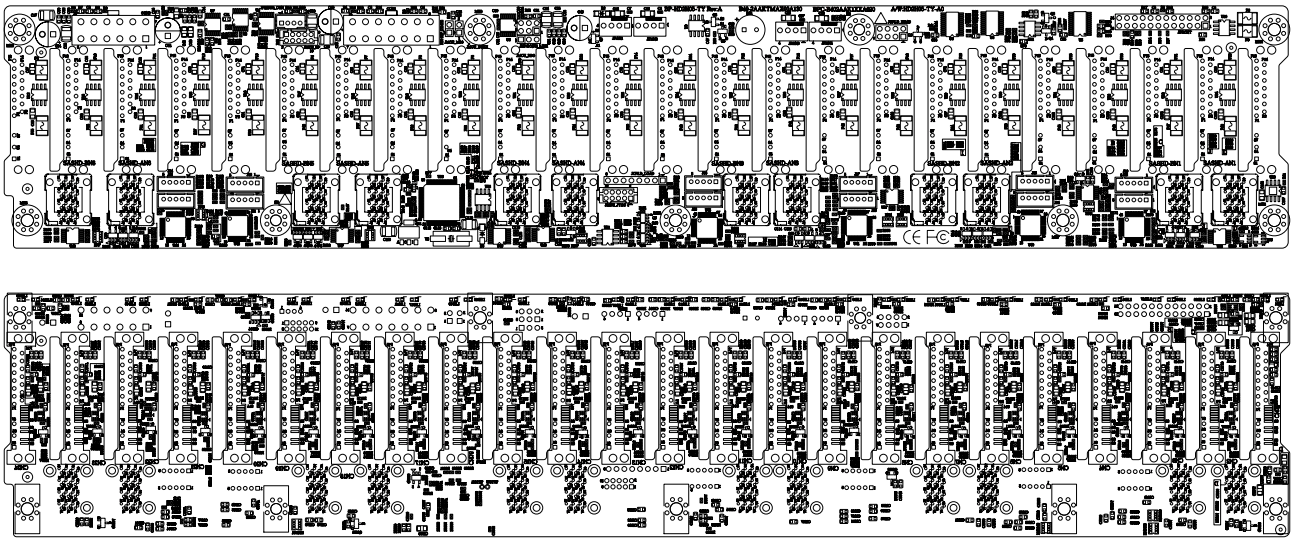
HBA card																							
0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23

MegaRaid card																							
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24

3.2 HARDWARE DESIGN SPECIFICATION_BP-HD2H05-TY

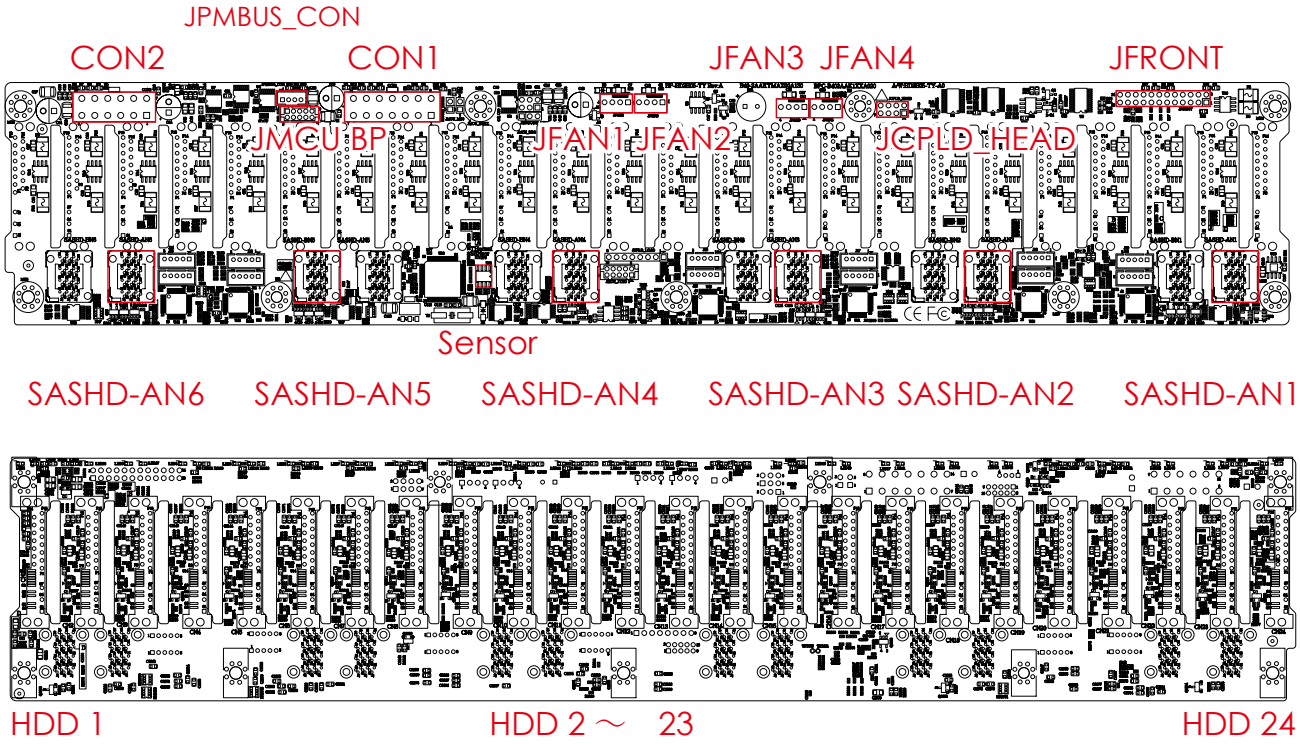
3.2.1 Placement

PCBA Placement



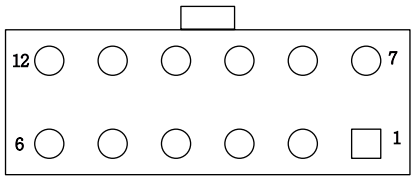
3.2.2 Connector Location

Connector Location



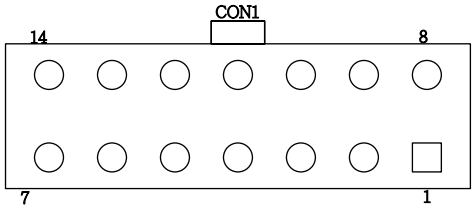
3.2.3 Connectors

Power Connector – CON1



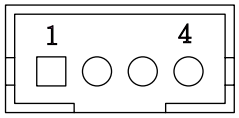
Pin	Description	Pin	Description
7	+12V	1	GND
8	+12V	2	GND
9	+3V3	3	GND
10	+5V	4	MUTE_L
11	+5VSTBY	5	PSU_N1
12	Power_ON_L	6	GND

Power Connector – CON2



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

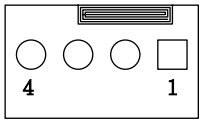
PMBUS Connector – JPMBUS_CON



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

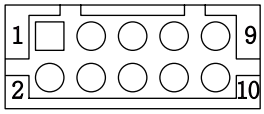
Connectors

FAN Connector – JFAN1~JFAN4



Pin	Description
1	GND
2	+12V
3	TACH
4	PWM

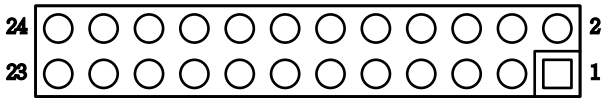
Function I/O – JMCU_BP



Pin	Description	Pin	Description
2	RST_BP_I2C	1	ASSERT_C0_N
4	BP_SCL	3	ASSERT_C1_N
6	BP_SDA	5	PMBUS_SUPPT_N
8	GND	7	+5VSTBY
10	GND	9	+5VSTBY

Connectors

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	1 Fan	J9
Close	Open	Close	2 Fans	J9 ~ J10
Close	Open	Open	3 Fans	J9 ~ J11
Open	Close	Close	4 Fans	J9 ~ J12

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

Connectors

Power/ID LED

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

Power SW

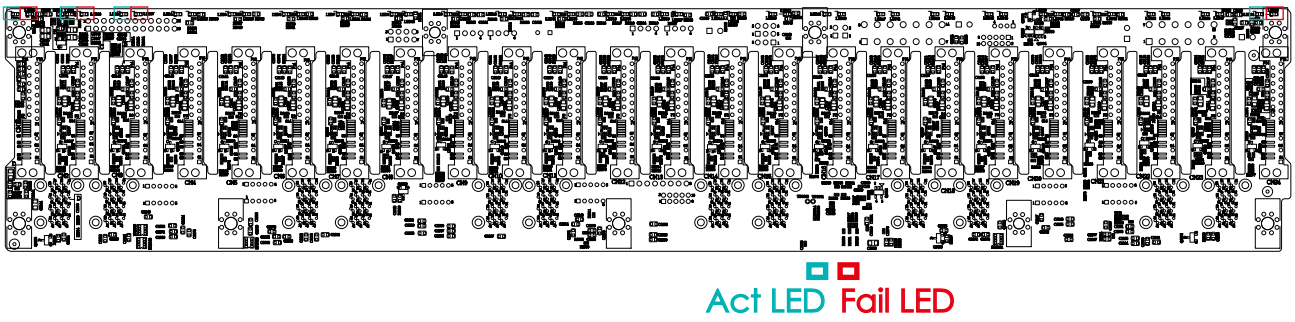
Pin	Description	Remark
21	Power SW Input(-)	Active Low
22	GND	

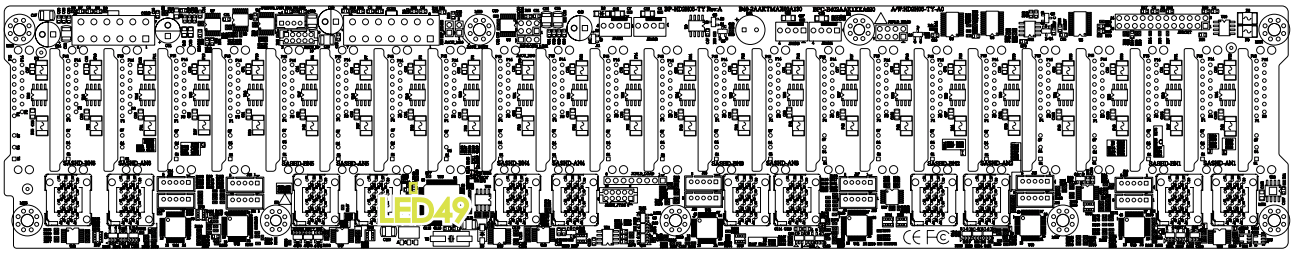
PMBUS Support

Pin	Description	Remark
23	PMBUS_Disable_N	Active Low
24	GND	

3.2.4 LEDs

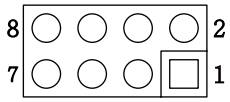
HDD Activity LEDs	Blue (On)	HDD present
	Blue (Blinking)	HDD Activity detected or Locate HDD
	Off	HDD no connect or Power Off
HDD Fault/Status LEDs	Off	Normal
	Red (Blinking)	Re-build status
	Red (On)	HDD Fault or Locate HDD
MCU Status (LED49)	Yellow (On)	MCU alive
	Yellow (Off)	Boot loader mode





3.2.5 Jumpers

JCPLD_HEAD

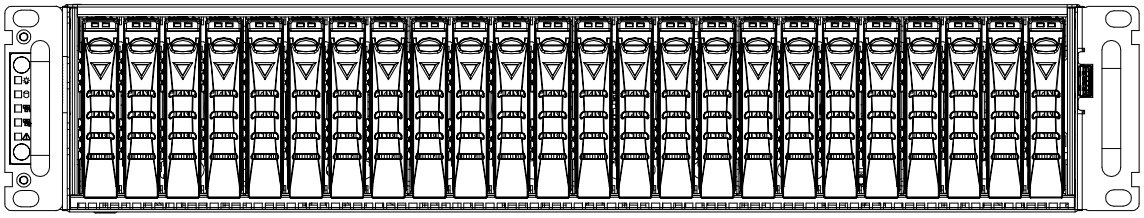


Pin	Description	Pin	Description
2	/E_ACT_SEL	1	GND
4	FROMHDD	3	GND
6	GND	5	EB_SEL
8	GND	7	SGPIO_EN_N

JCPLD_HEAD Function Select Description:

Pin	Status	Description
1,2	Open	Disable External Access LED input
	Close	Enable External Access LED input
3,4	Open	Access LED from HDD Pin P11
	Close	Access LED from SGPIO
5,6	Open	Support SSD520 DAS Behavior
	Close	Support SSD320 DAS Behavior
7,8	Open	Disable SGPIO
	Close	Enable SGPIO and CPLD Core Power(+1V8)

3.2.6 Drive Slot Map



HBA card																							
0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23

MegaRaid card																							
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24

Chapter 4. HDD Blackplane Instruction

4.1 Expender firmware update through smart console port

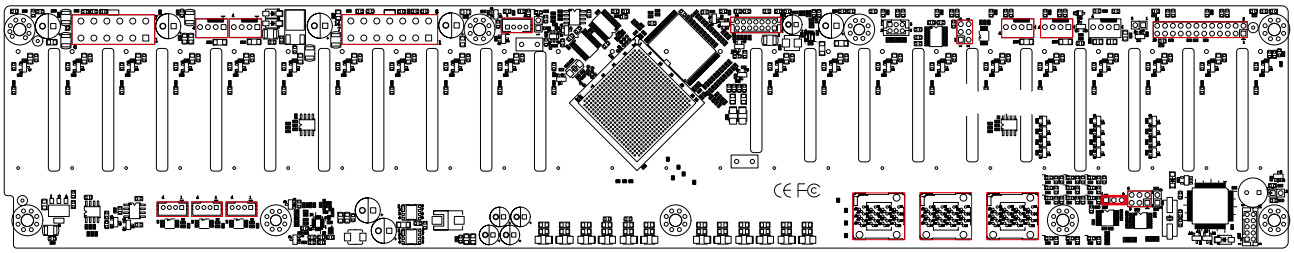
4.1.1 Update Expander firmware revision

Step 1: Set up RSC-2AT console serial cable.

Insert console serial cable into console port shown below also the other side inert serial port into motherboard.

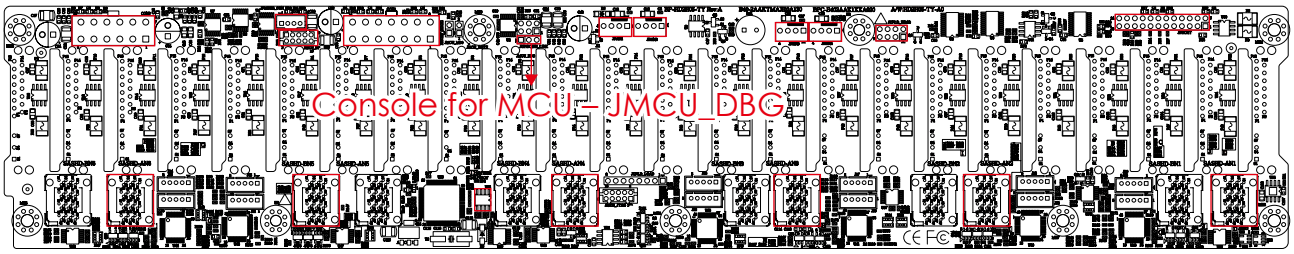
PLEASE FIND THE CONSOLE SERIAL CABLE IN THE PACKAGE BOX.

4.1.1.1 Placement_2U24 Expander on Backplane



JMCU_DBG

4.1.1.2 Placement_2U24 Passive Expander on Backplane



Step 2: Set up RSC-2AT RS232 connection

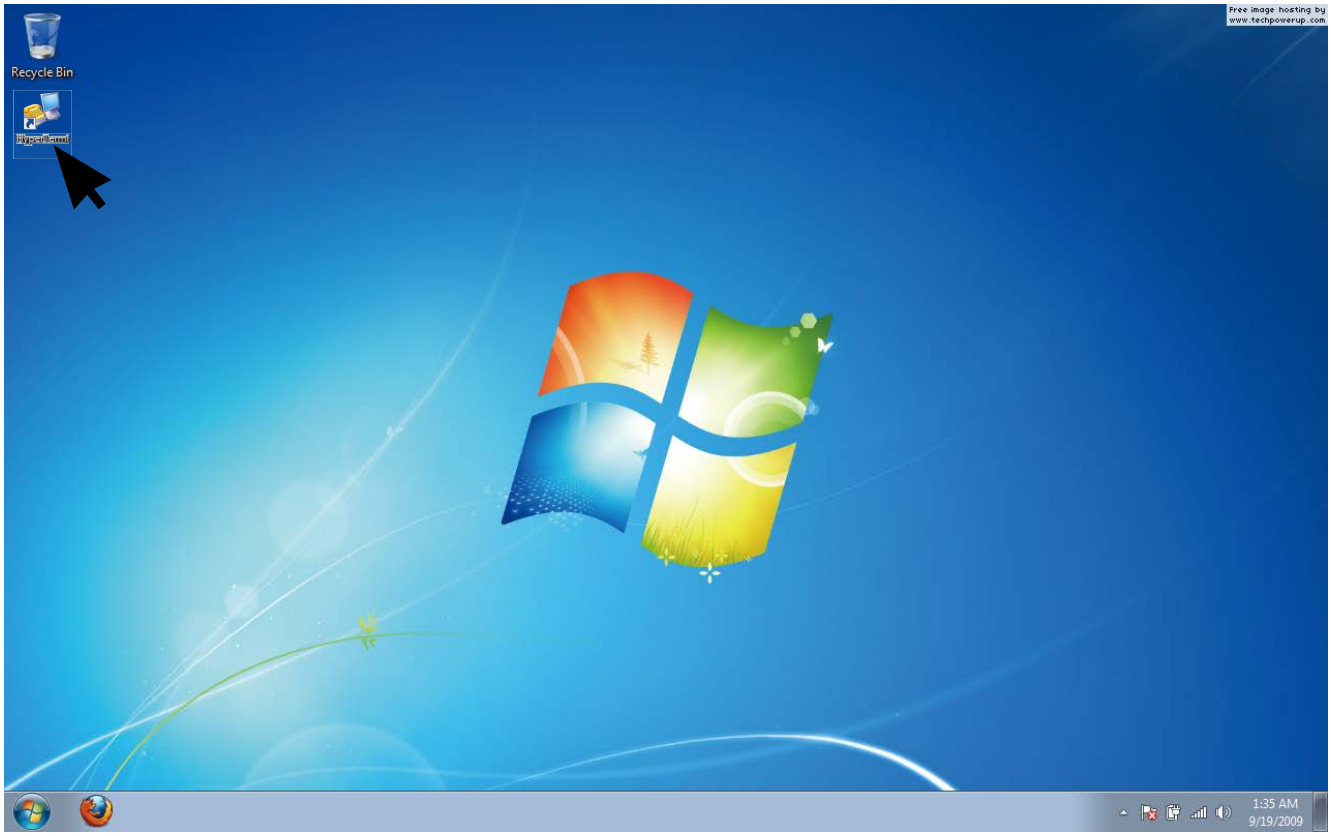
Set up RS232 connection application into your RSC-2AT as shown in the example process below.

For example:

OS: Microsoft Windows

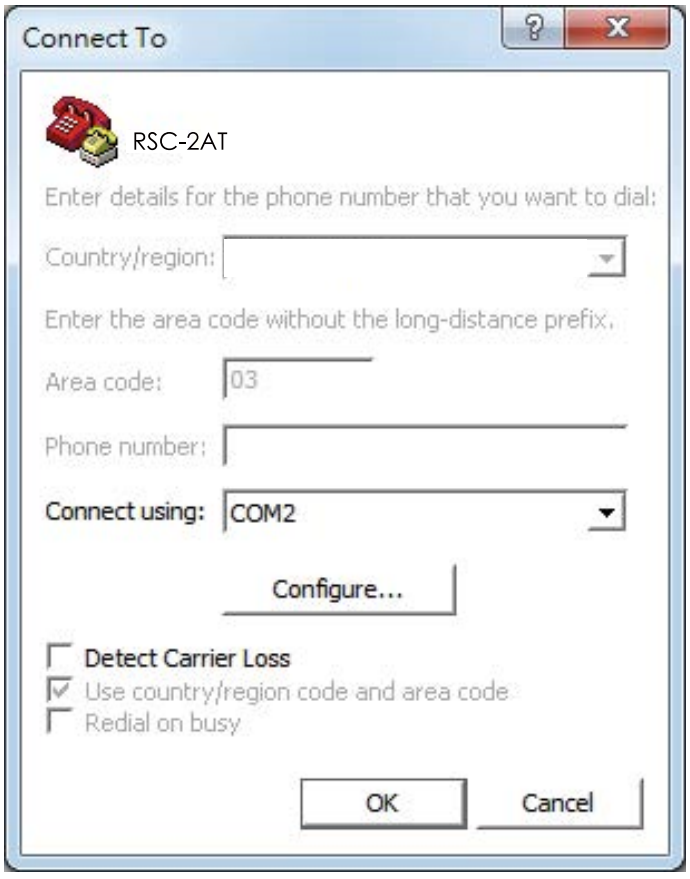
RS232 connection application: Hyperterminal

Step 2: Install HyperTrm.exe

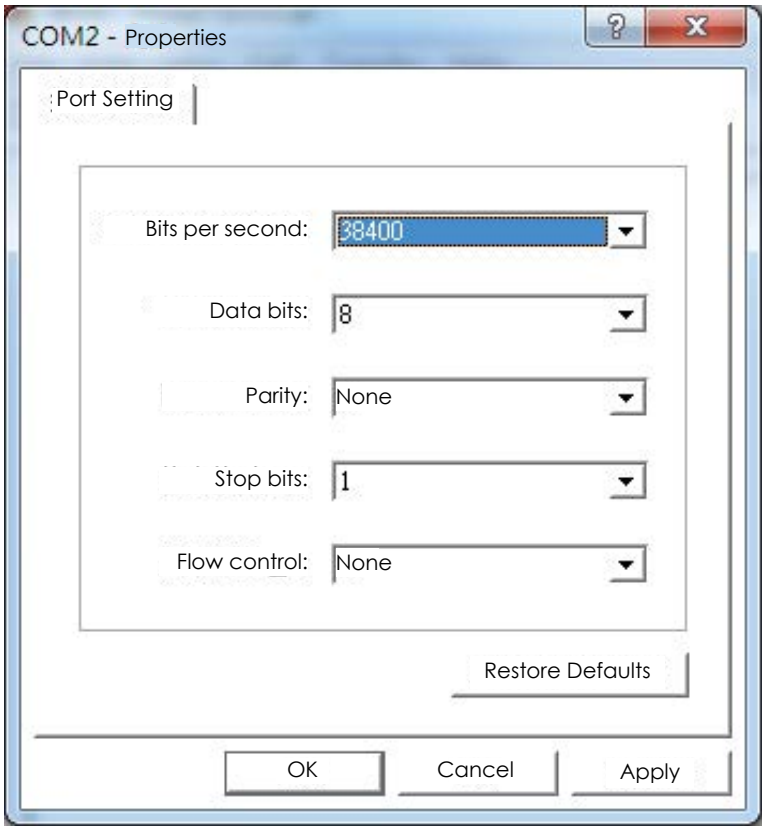


Step 3: Enter a new name for the icon in the field below and click OK.

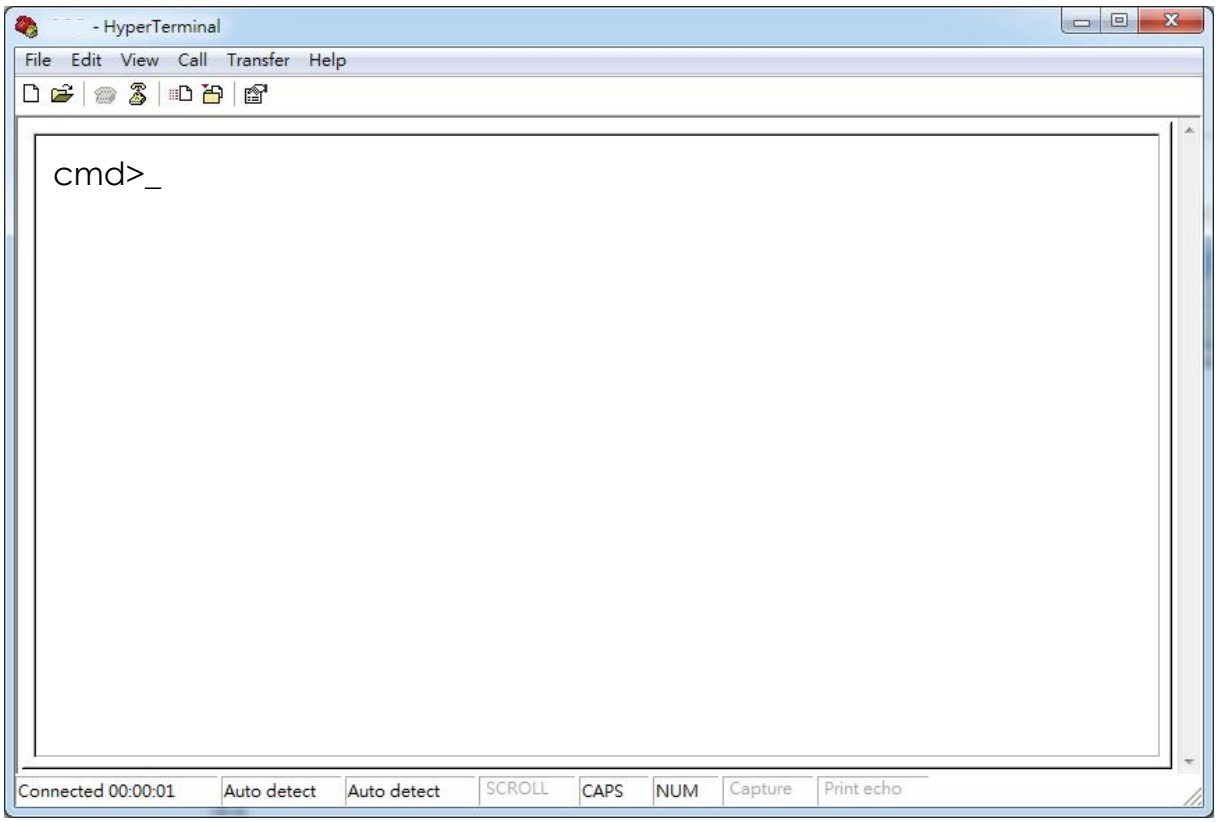
Step 4: Connecting by using selecting an option in the drop down menu circled in red below (we selected COM2 in this example) and click OK.



Step 5: For "Bits per second", select 38400. For "Flow control", select: None. Click OK when you have finished your selections.

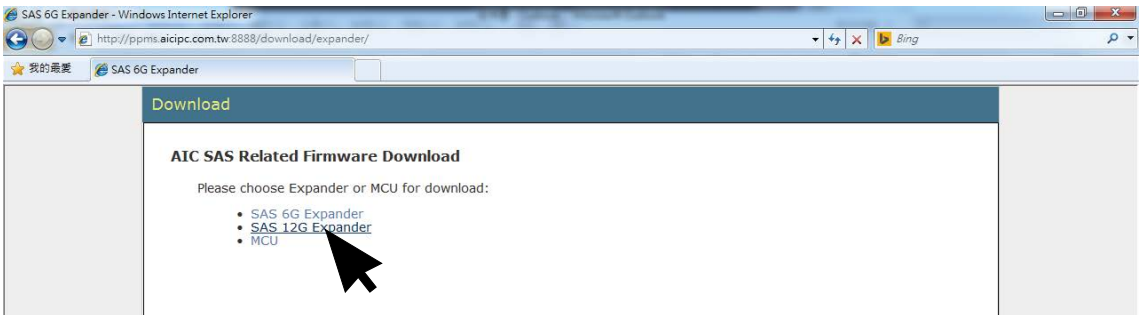


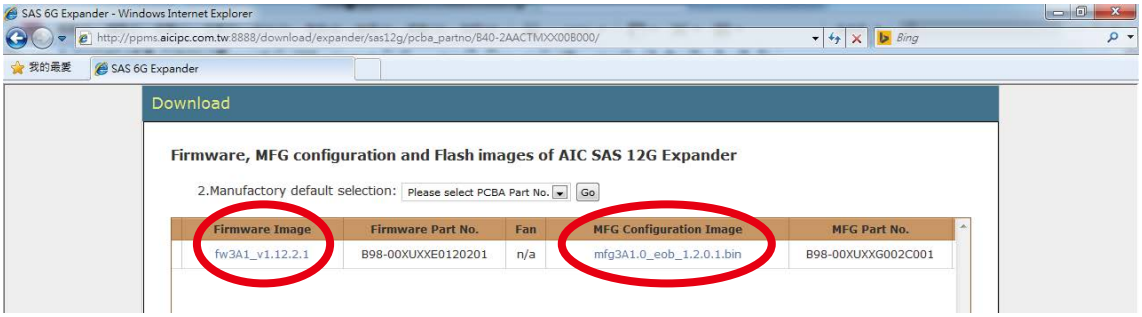
Step 6 : Set up is complete. The diagram below depicts what screen should displayed.



Step 7:To get **firmware image** & **MFG Configuration Image** version information from "AIC SAS Related Firmware Downloadne" website.

http://ppms.aicipc.com.tw:8888/download/expander/mcu/

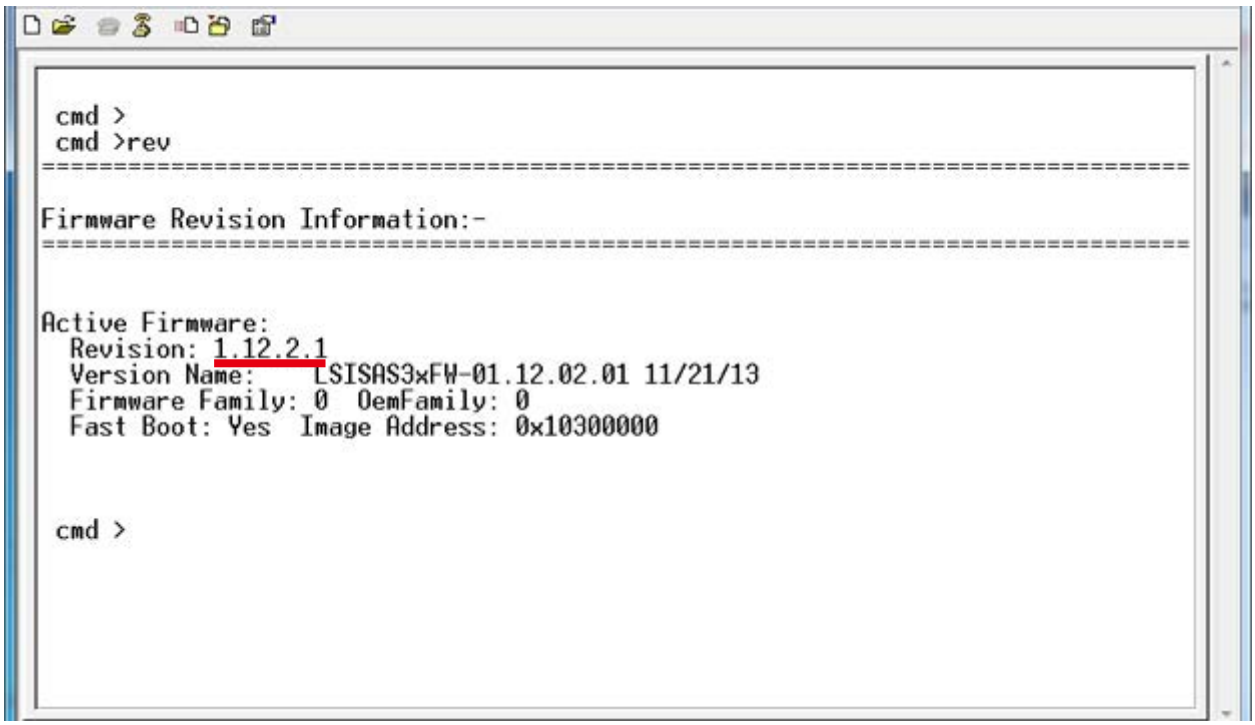




Step 8:

Comand line for show current firmware revision.

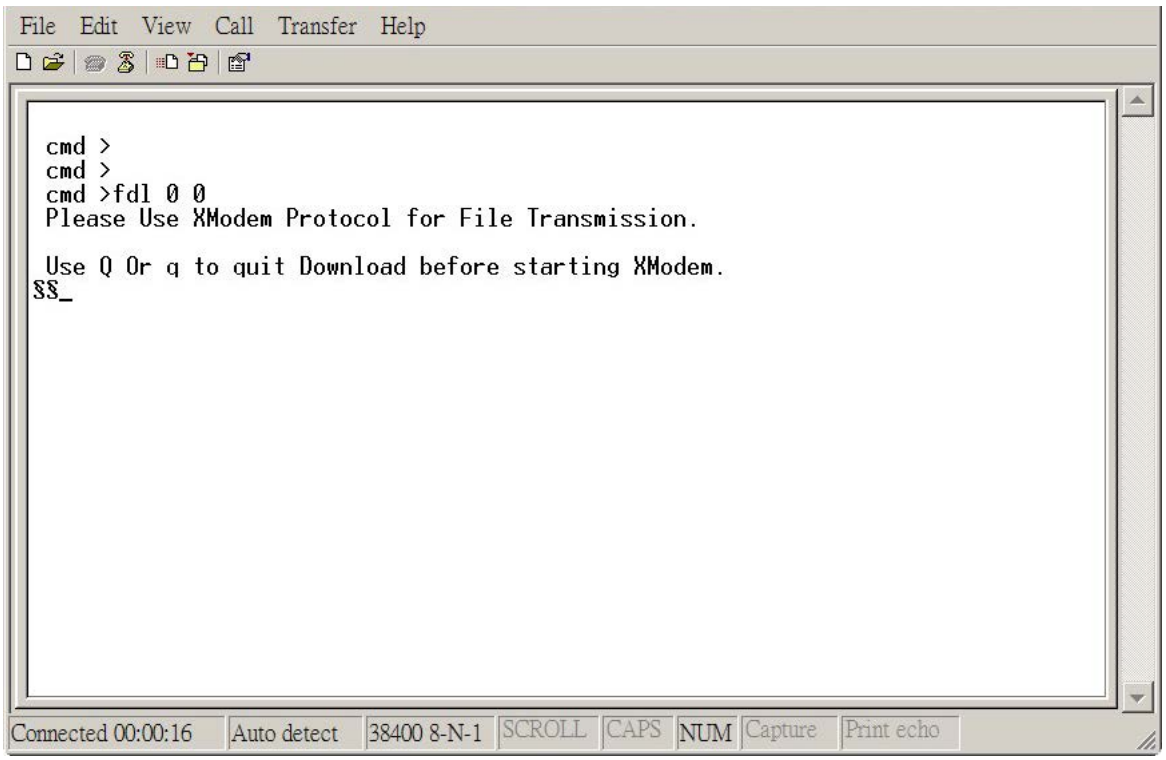
cmd>rev



Step 9:

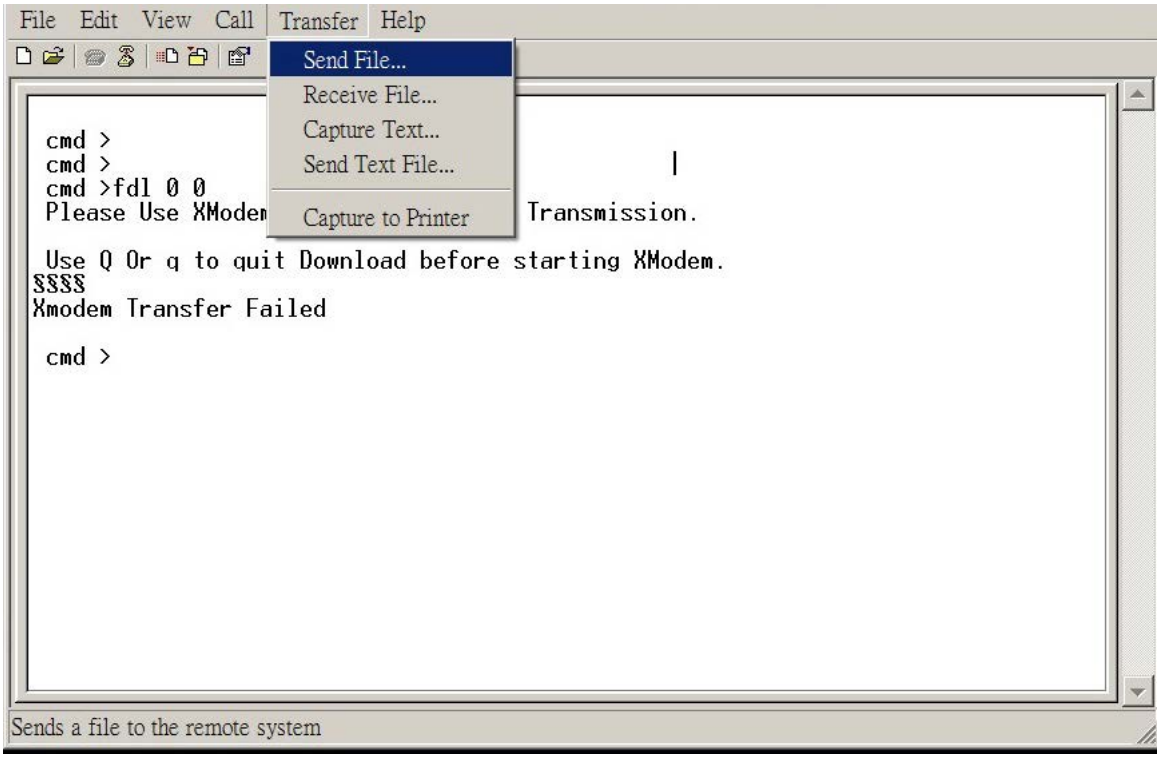
Start to update expander firmware

cmd>fdl 0 0_



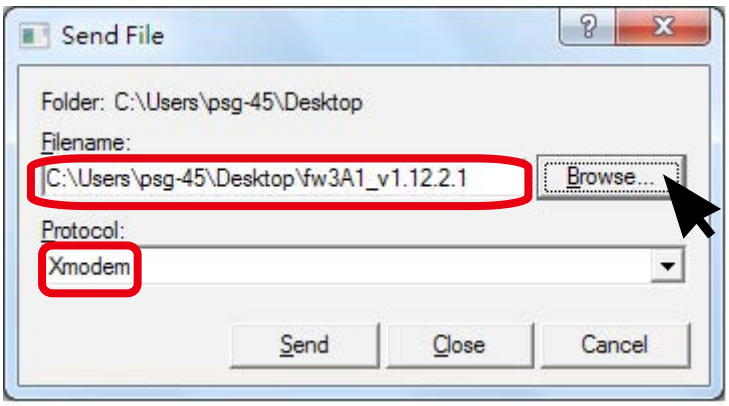
Step 10:

Select the tool bar "Transfer" -> "Send File".



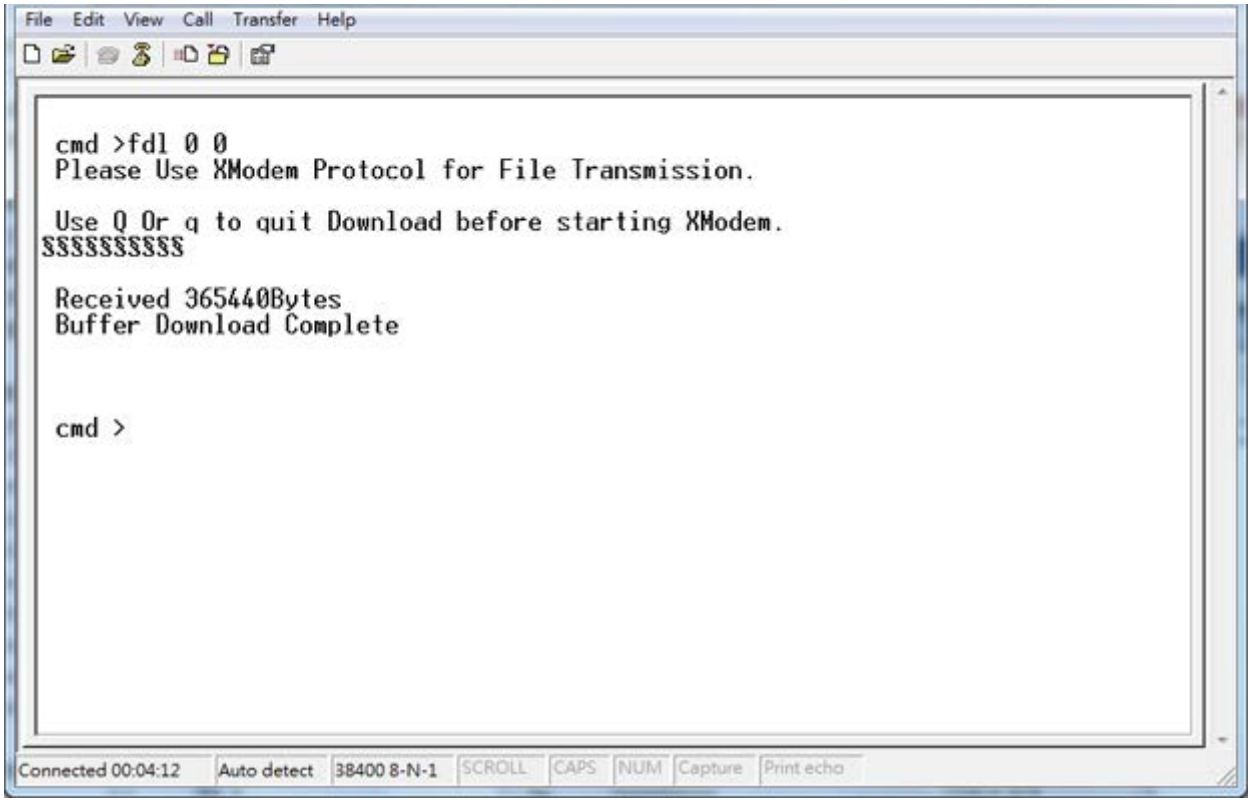
Step 11:

- Choose new firmware path file "fw 3A1_v1.12.2.1".
- Protocol have to choose "Xmodem".



Step 12:

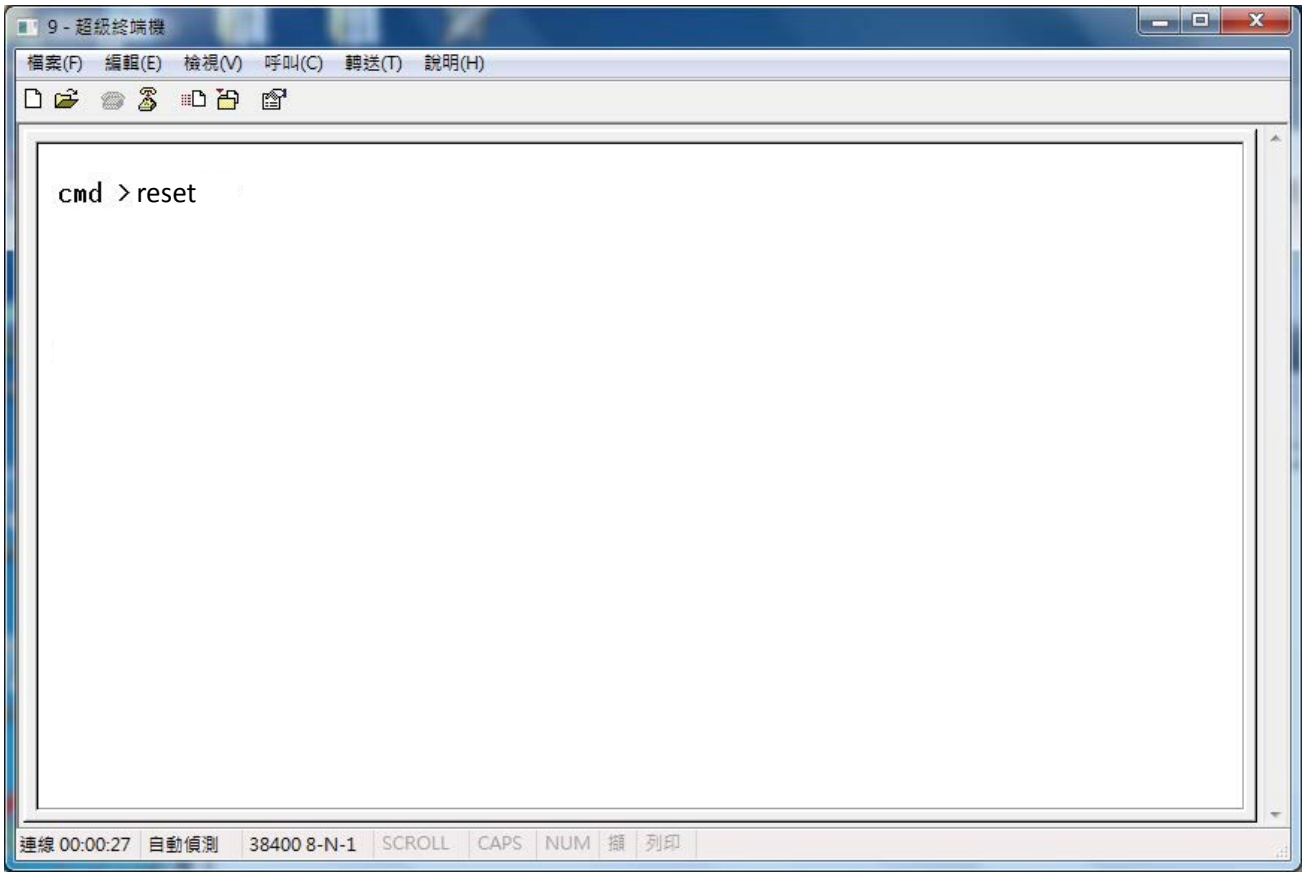
Firmware download complete



Step 13:

Reset computer for success update firmware.

cmd>reset

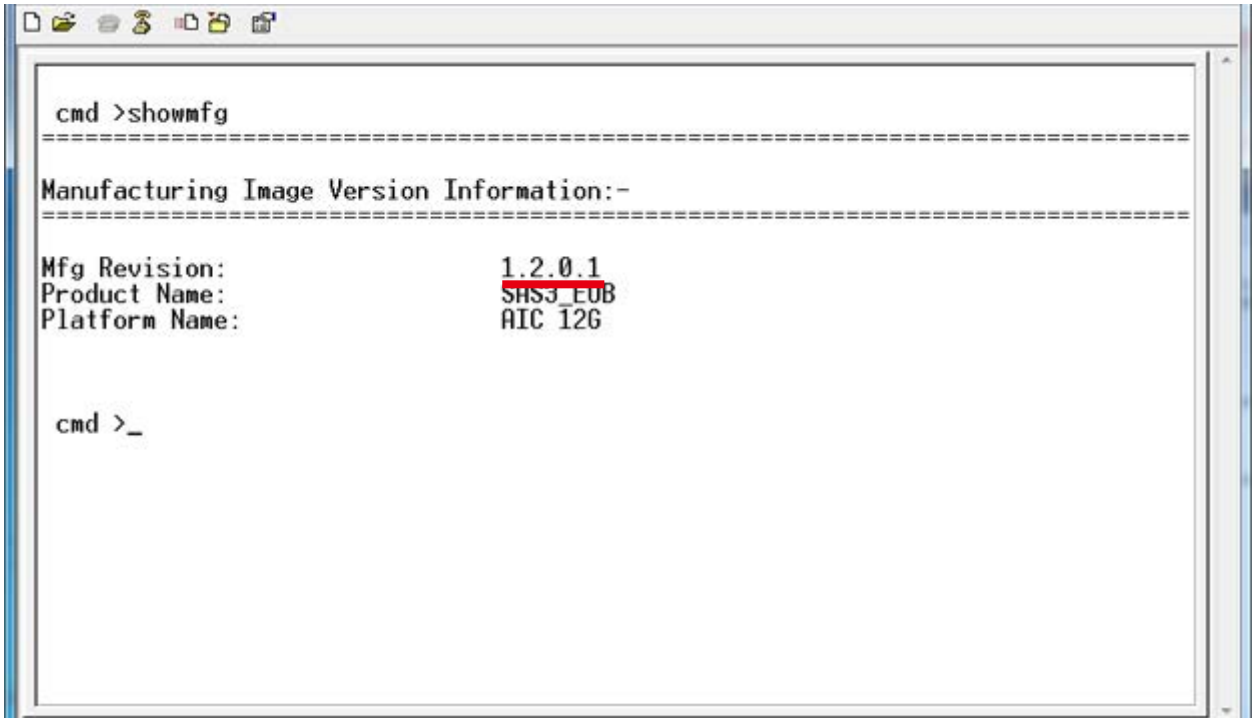


4.1.2 Update expander configuration MFG

Step 1:

Comand line for show current configuration MFG

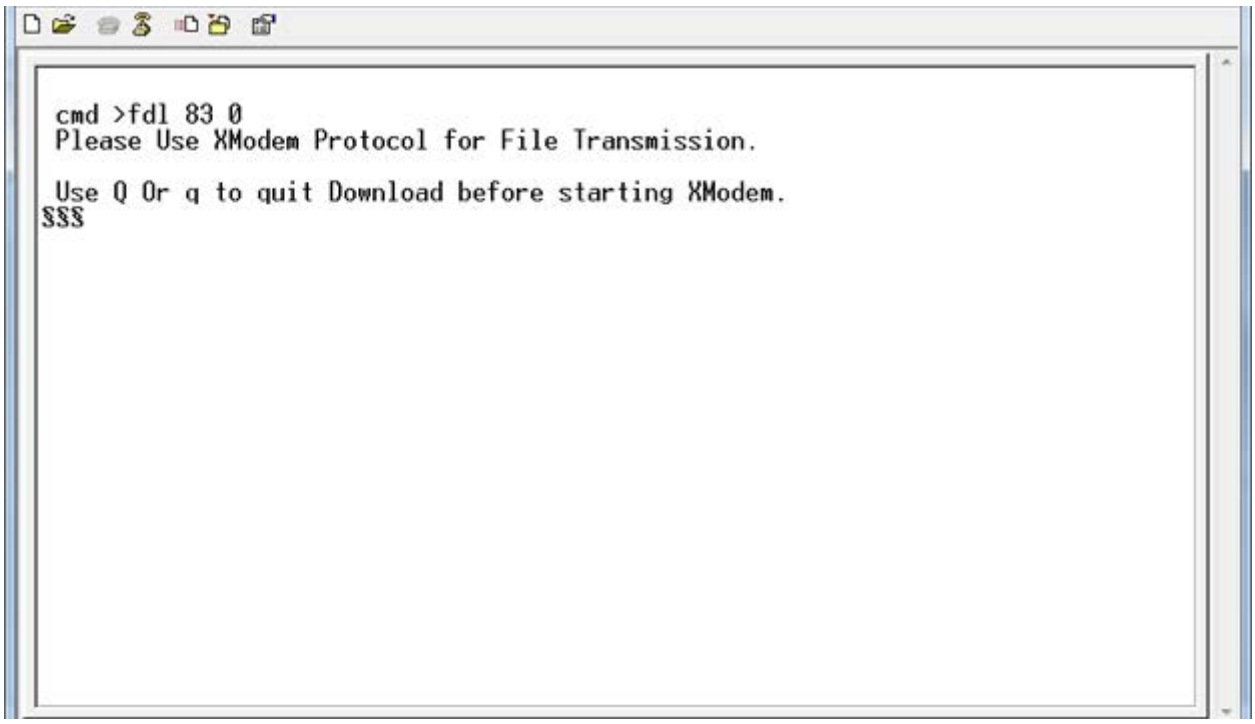
cmd> showmfg



Step 2:

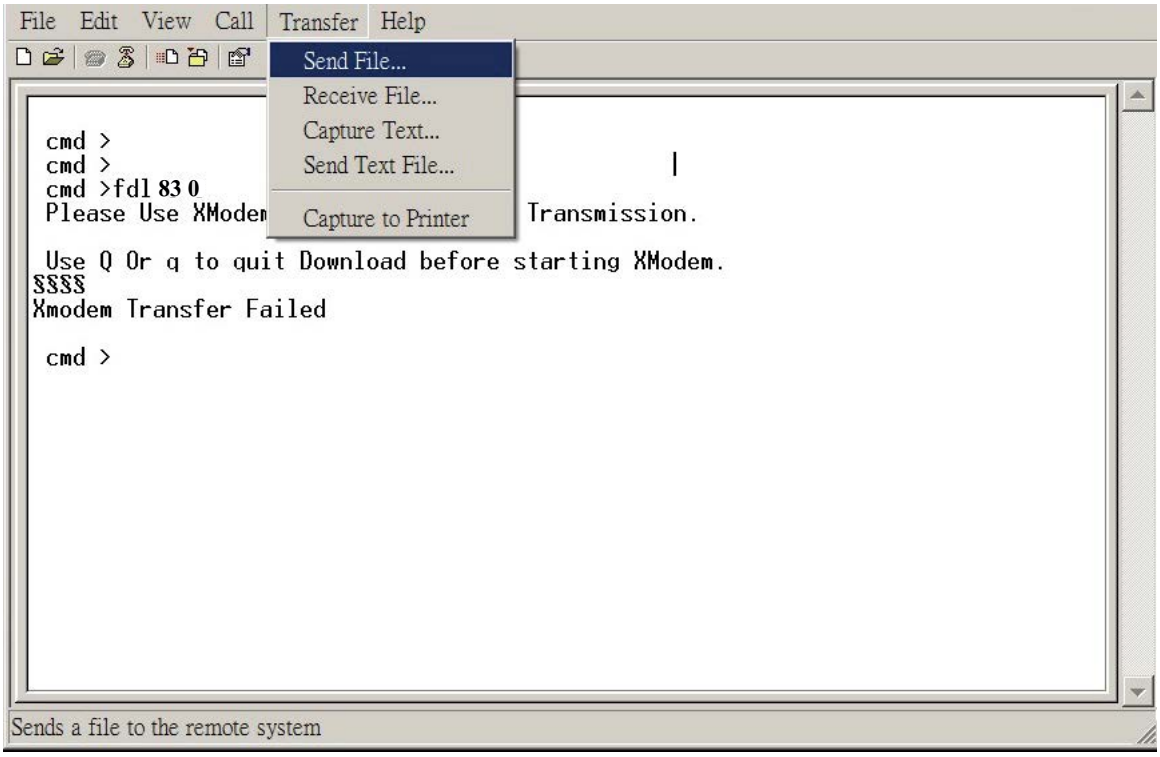
Start to update expander configuration MFG

cmd>fdl 83 0_



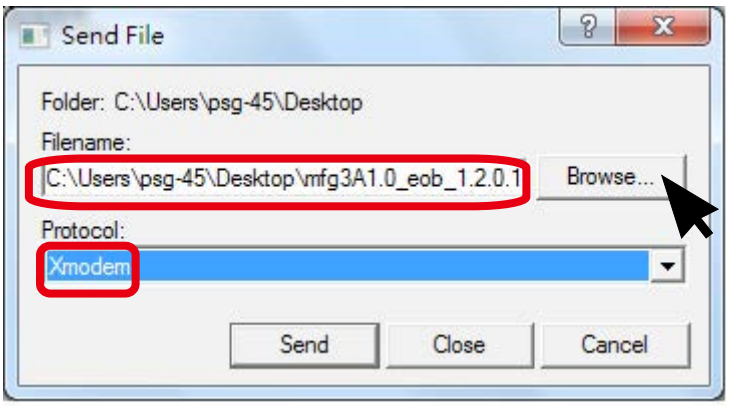
Step 3:

Select the tool bar "Transfer" -> "Send File".



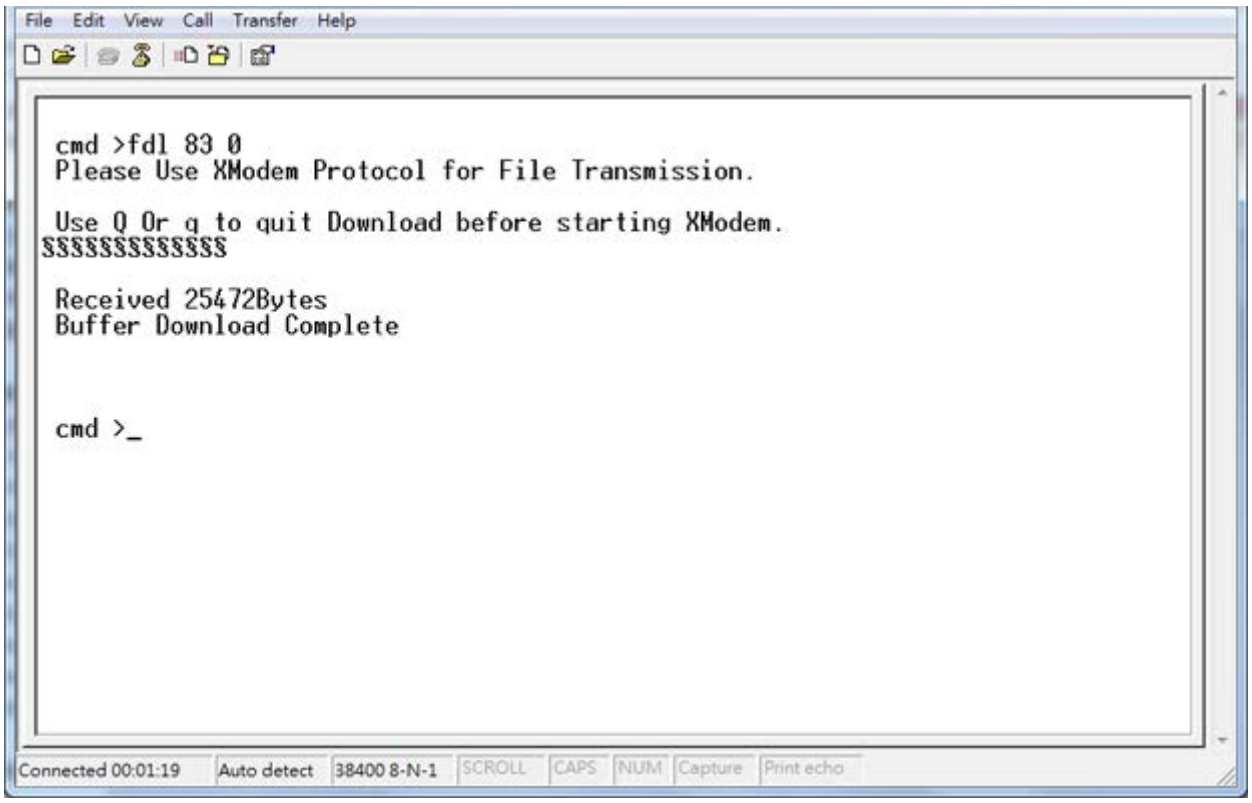
Step 4:

- Choose new MFG path file "mfg 3A1.0_eob_1.2.0.1.bin".
- Protocol have to choose "Xmodem".



Step 5:

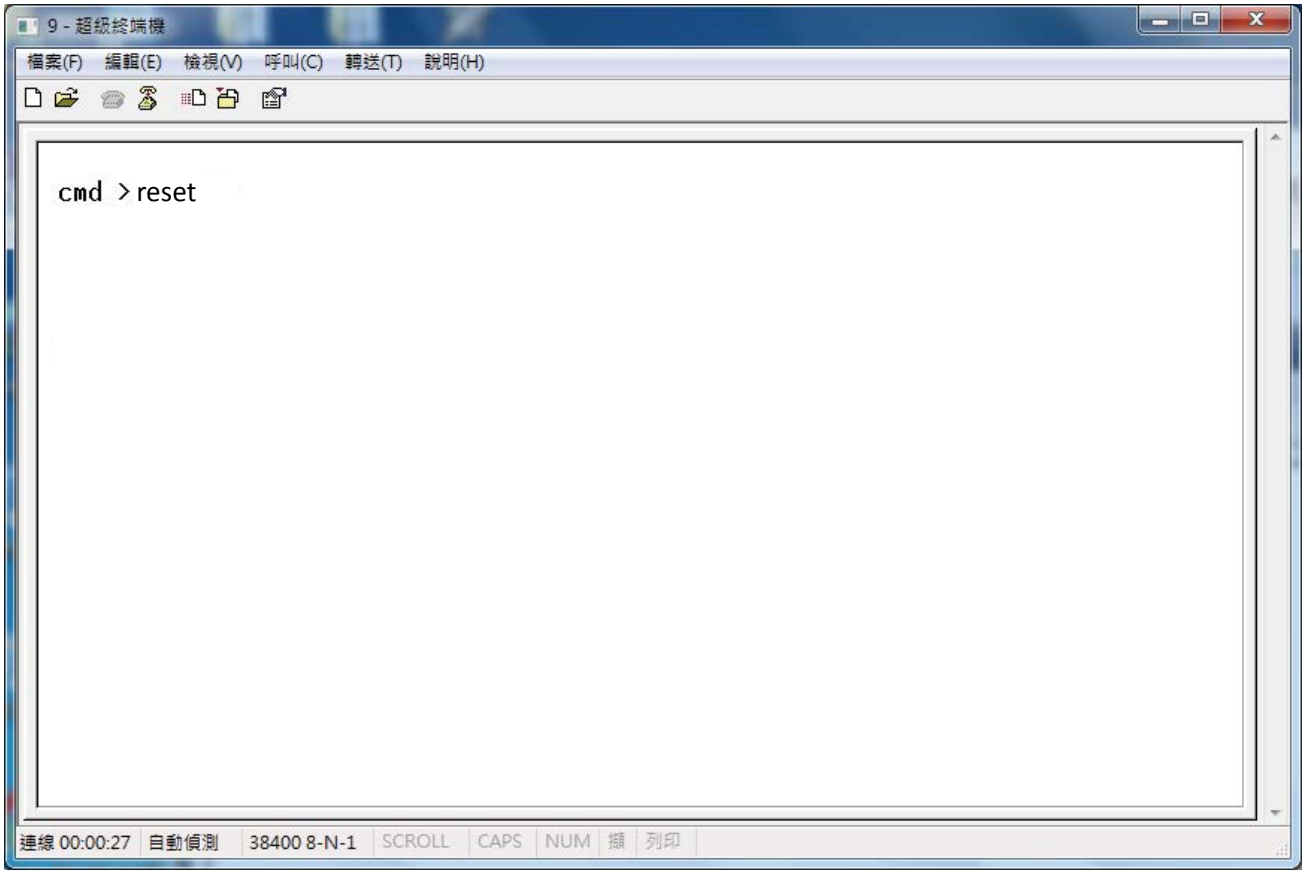
MFG download complete.



Step 6:

Reset computer for success update MFG.

cmd>reset



4.2 Update the expander firmware through in-band.

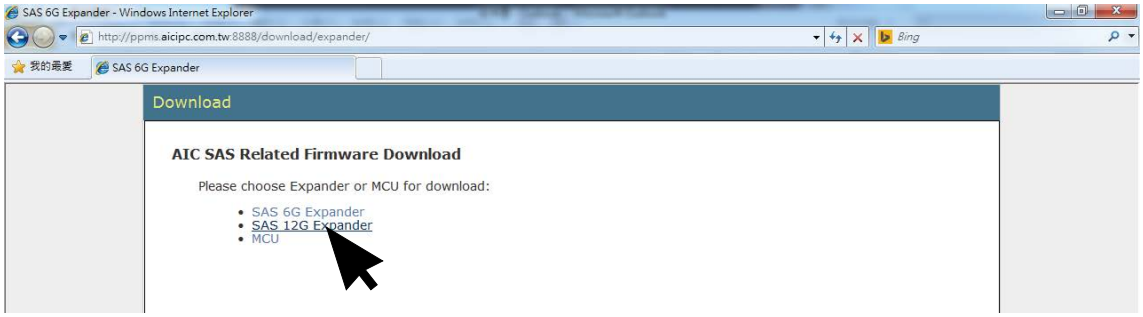
FOR EXAMPLE

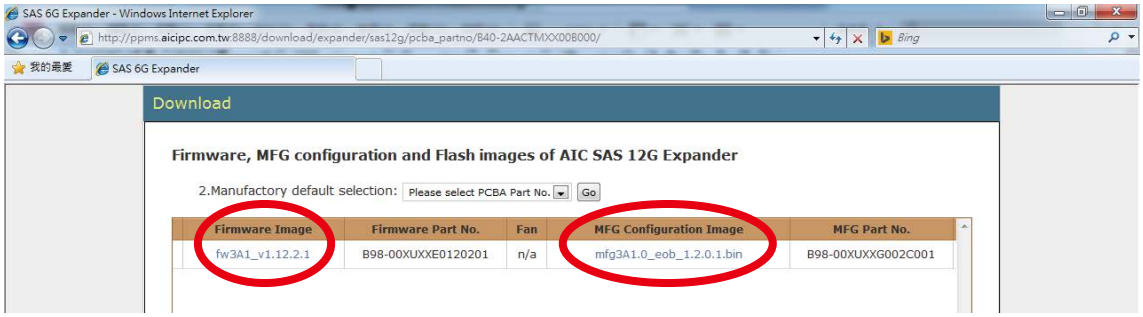
Step 1:

Download and install SG3_utils.exe which compatible with Linux OS.
From website http://sg.danny.cz/sg/sg3_utils.html
website
Reference version sg3_utils-1.40.tgz

Step 2:

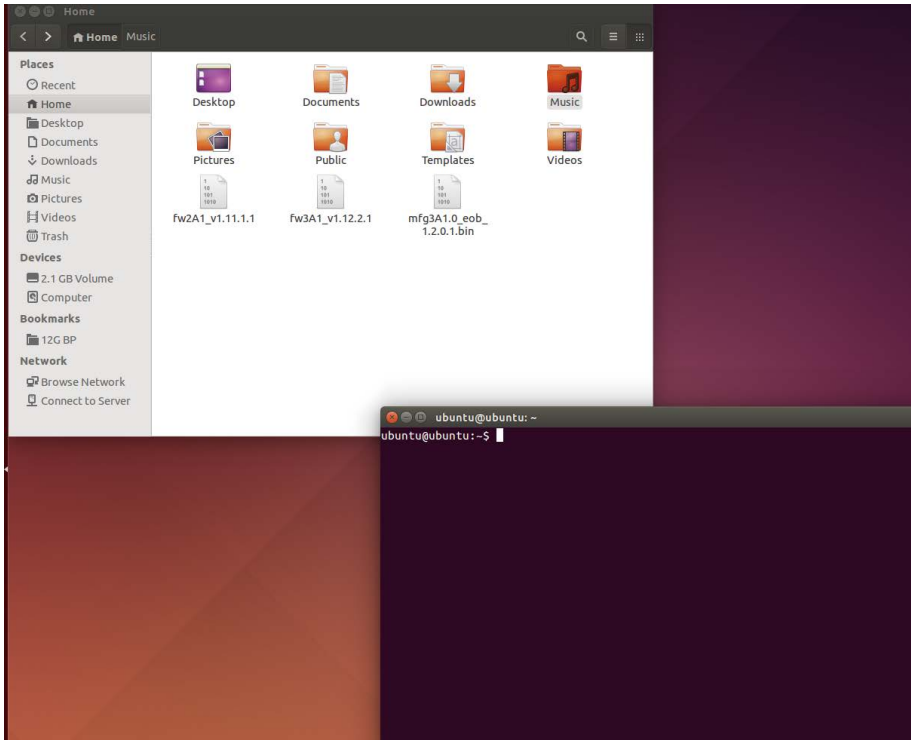
To get **firmware image** & **MFG Configuration Image** version information from "AIC SAS Related Firmware Downloadne" website.
http://ppms.aicipc.com.tw:8888/download/expander/mcu/





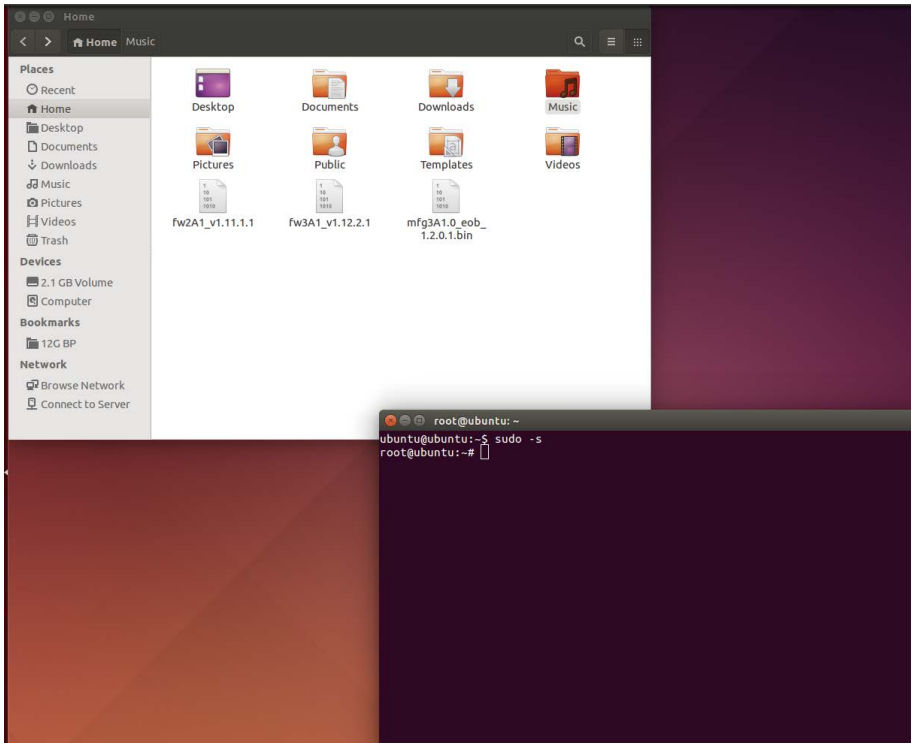
Step 3:

Execute terminal under the same new firmware folder.
example: Setting a new firmware folder on "Home" page. Open Terminal by click to the right button of mouse in the same window "Home".



Step 4:

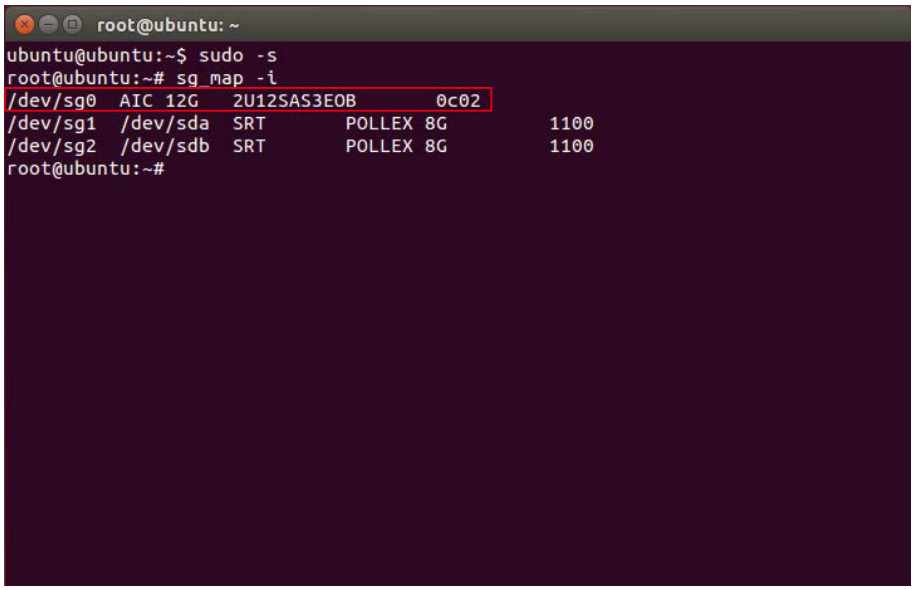
Typing "sudo -s" to into administrator mode.



Step 5:

Find expander location.

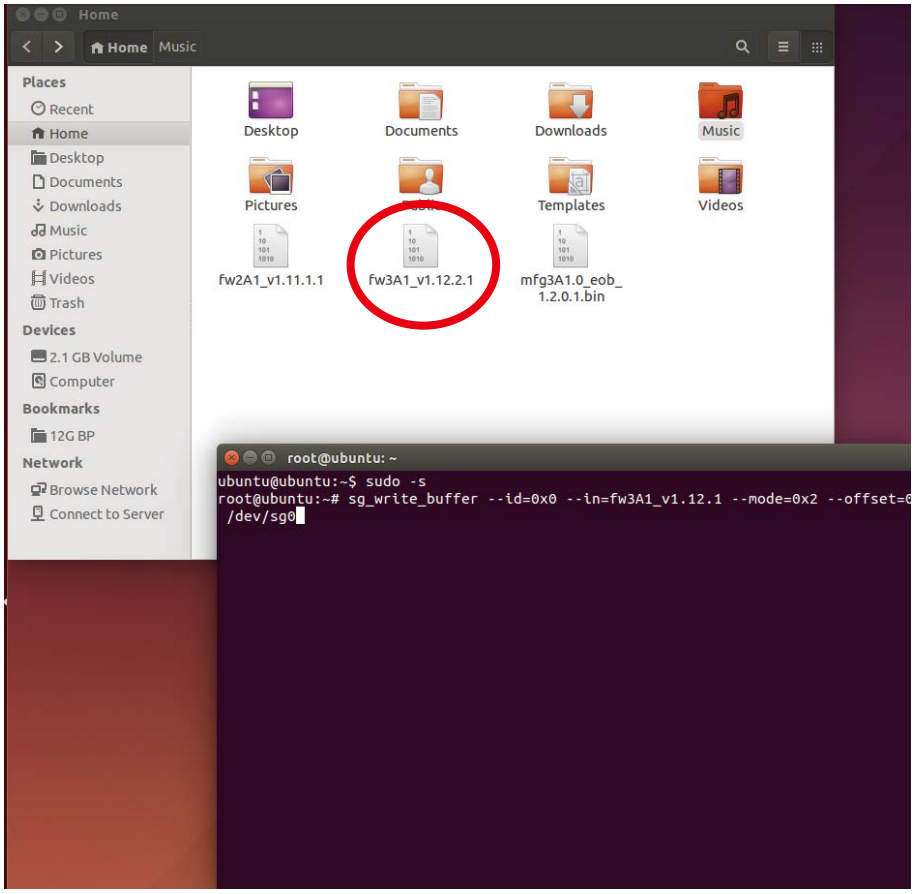
$ sg_map -i



Step 6:

Update Expander firmware

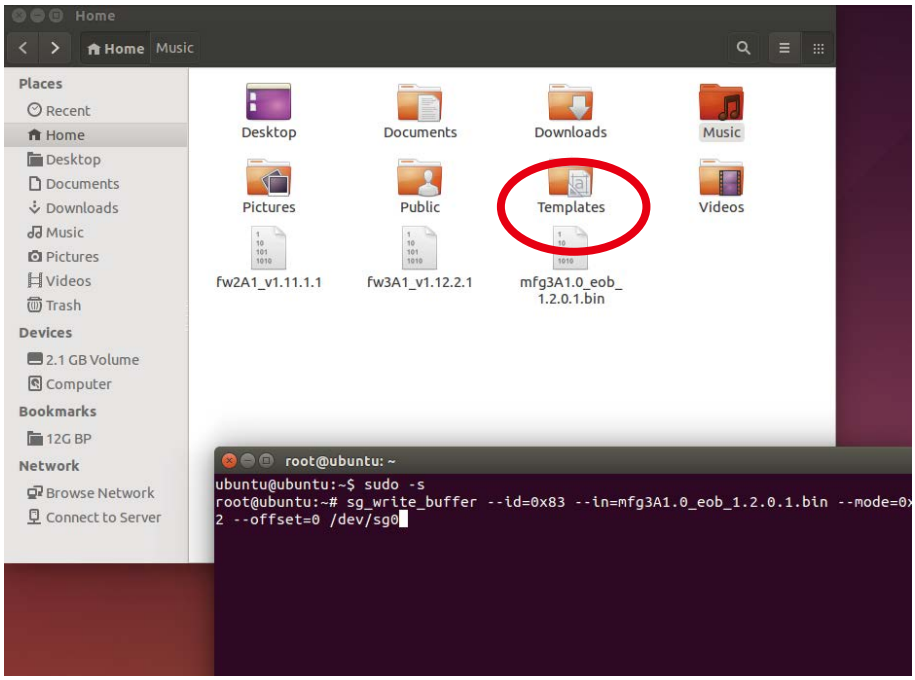
$ sg_write_buffer --id=0x0 --in=fw3A1_v1.12.2.1 --mode=0x2 --offset=0 / dev/sg0



Step 7:

Update Expander MFG

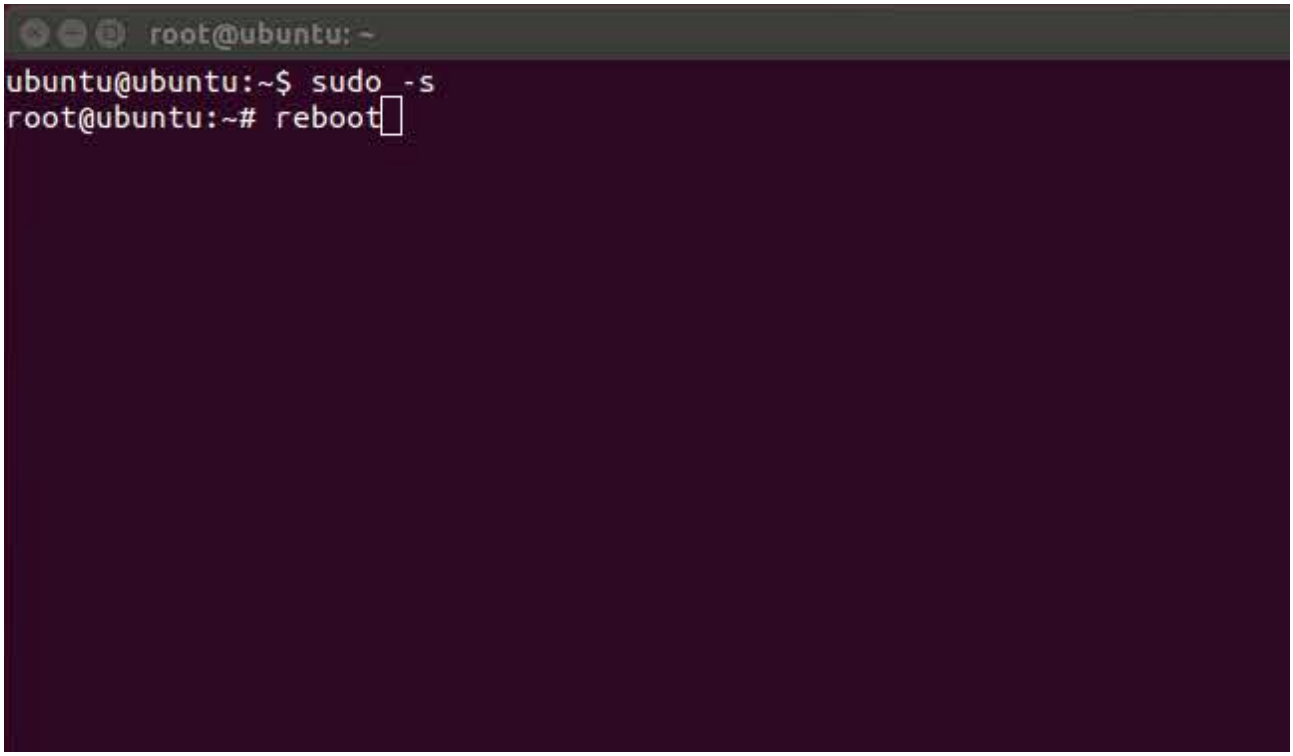
$ sg_write_buffer --id=0x83 --in=mfg3A1.0_eob_1.2.0.1.bin --mode=0x2 --offset=0 /dev/sg0



Step 8:

Reboot computer for success update firmware & MFG.

root@ubuntu:~# reboot



4.3 12G expander EDFB setting

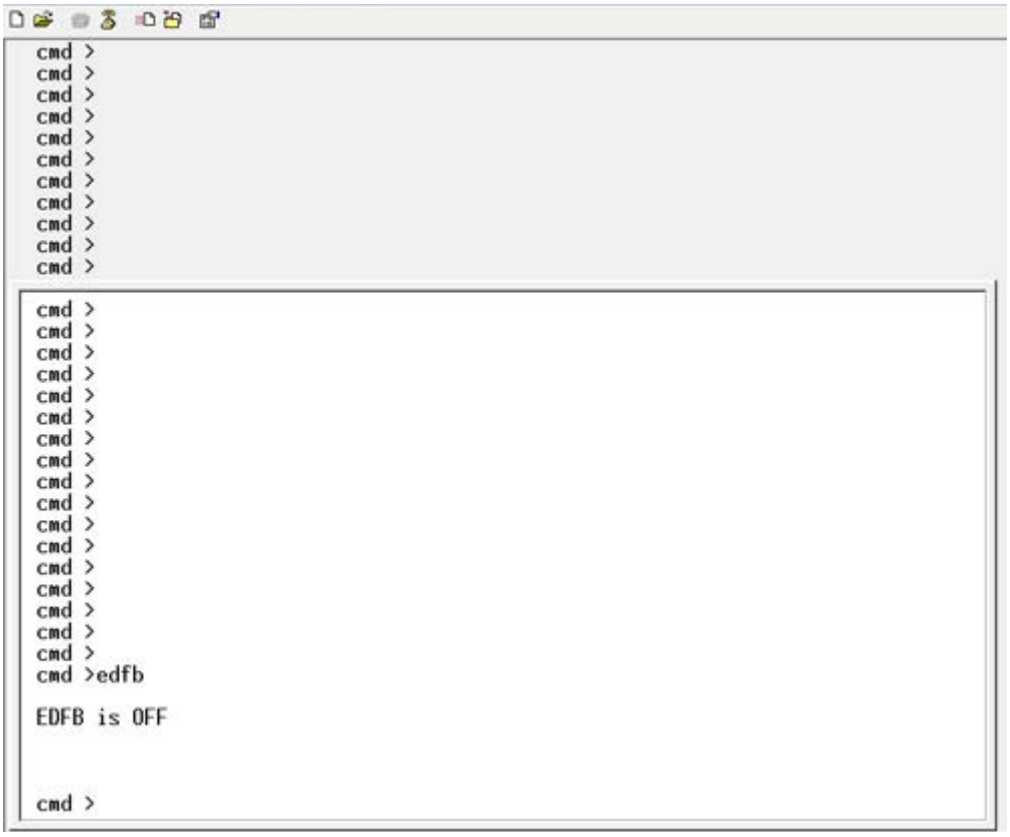
Step 1:

For Install HyperTerminal.exe refer to section 4.1

Step 2 :

Get EDFB status

cmd> edfb

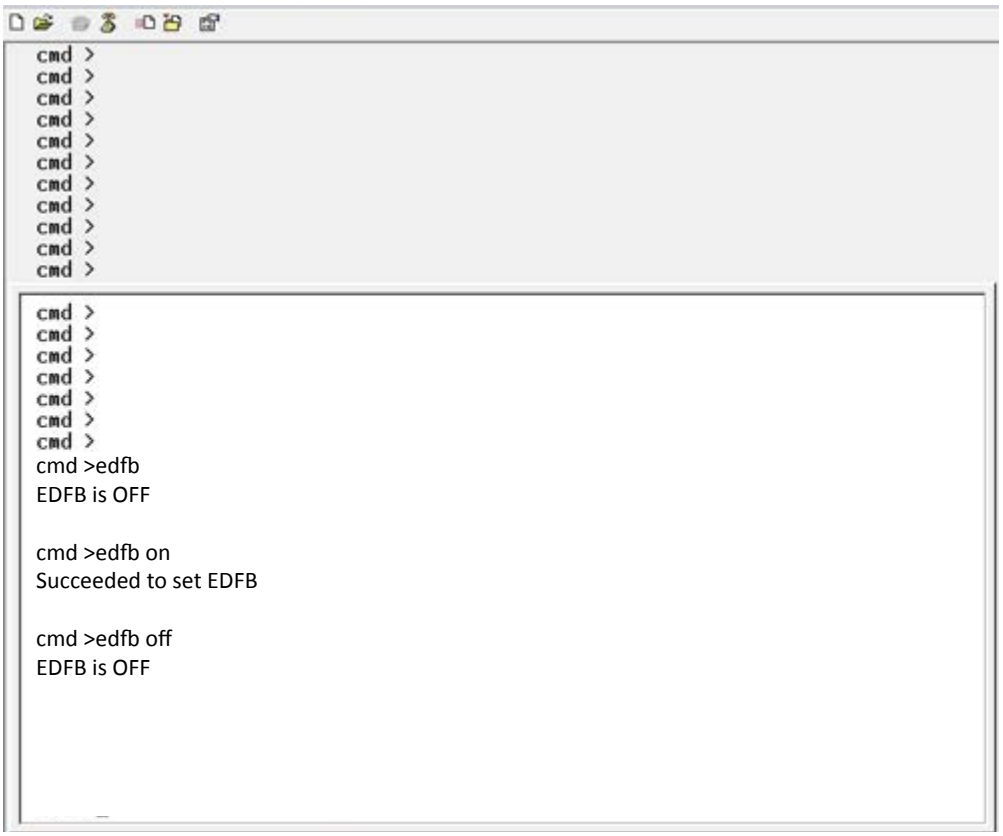


Step 3:

Change EDFB setting

Enable EDFB function
cmd>edfb on

Disable EDFB function
cmd>edfb off



4.4 Slot HDD power setting

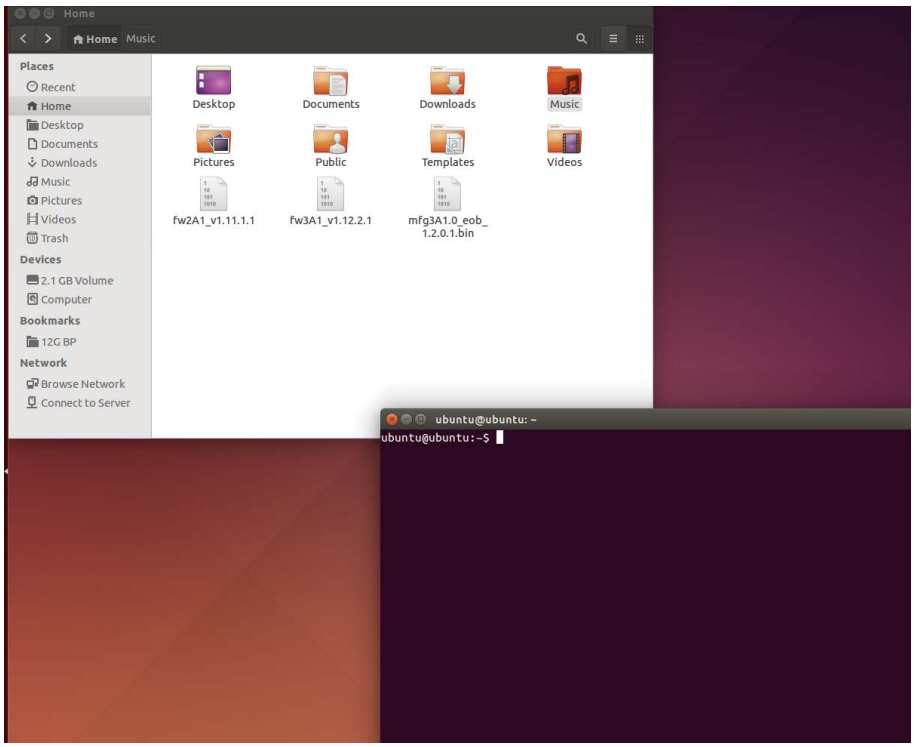
(Only for system cooling Fan controled by expander.)

Step 1:

For Install sg3.exe tool and get new firmware from website refer to section 4.2

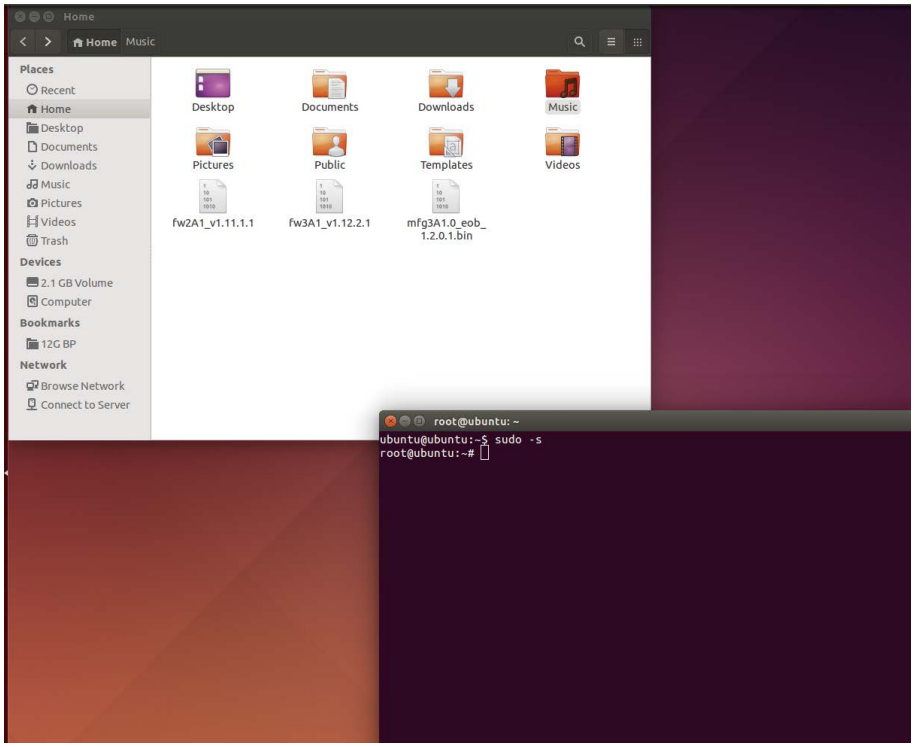
Step 2:

Execute terminal under the same new firmware folder.
example: Setting a new firmware folder on "Home" page. Open Terminal by click to the right button of mouse in the same window "Home".



Step 3:

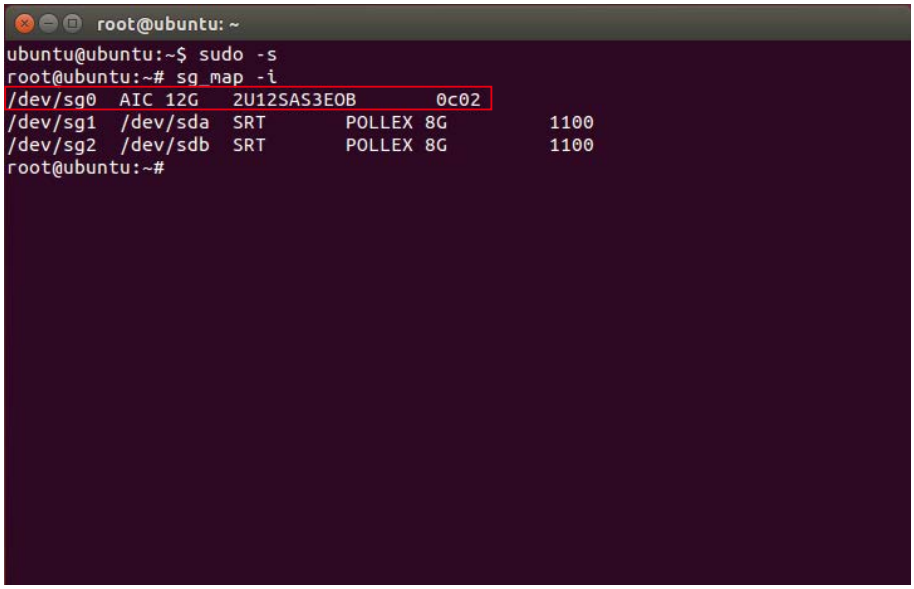
Typing "sudo -s" to into administrator mode.



Step 4:

Find expander location.

$ sg_map -i



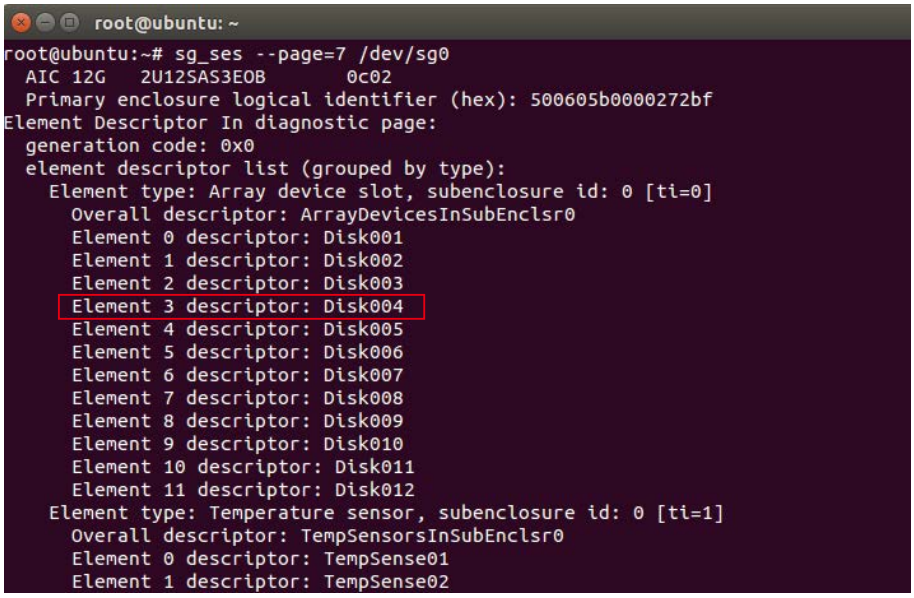
Step 5:

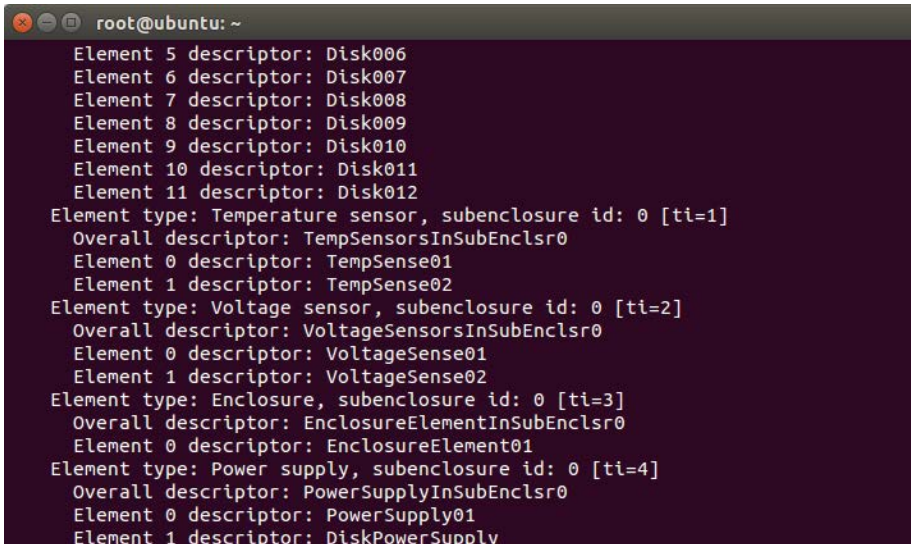
For example:

If would like to turn the Disk004 power off under the HBA card. Need to check Disk004 power status.

$ sg_ses --page=7 /dev/sg0

Under HBA card the Element 3 = Disk004.

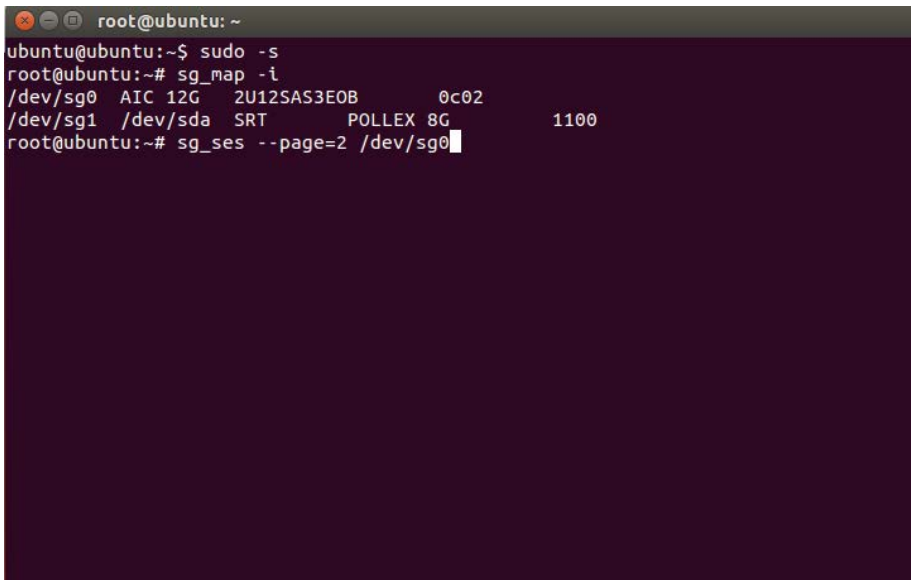




Step 6:

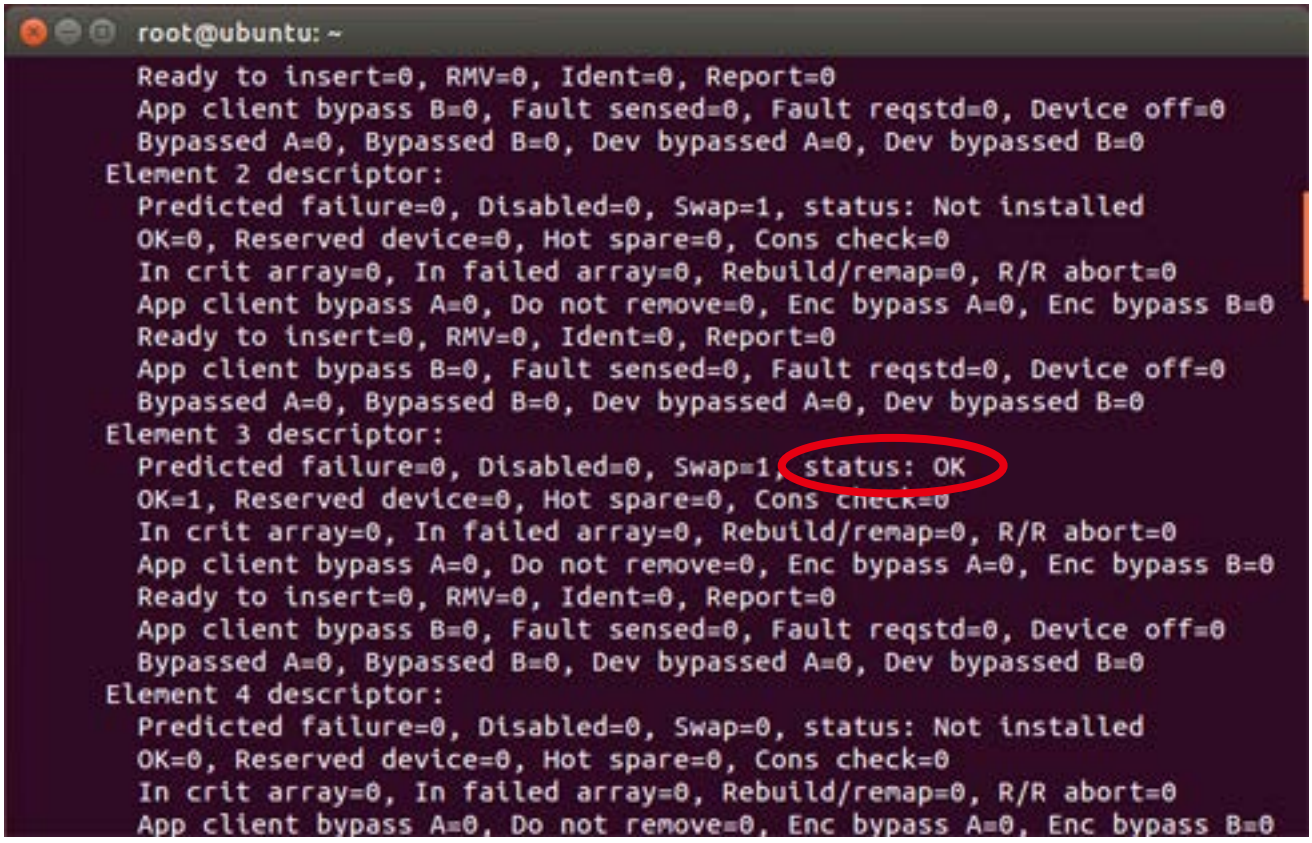
To check Disk004 (element 3) power status is ok

$ sg_ses --page=2 /dev/sg0



Status shows below:

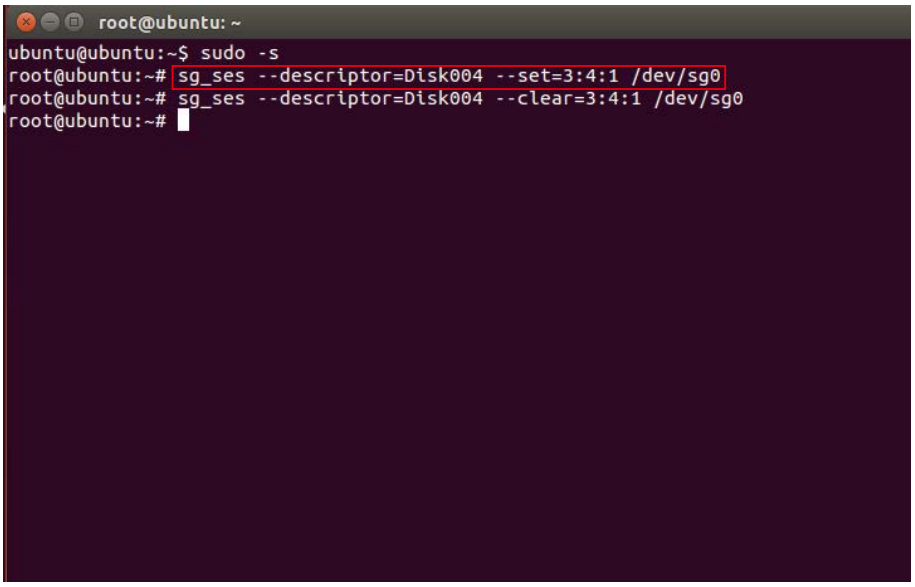
The status of Element 3 is OK.



Step 7:

Turn off a HDD power

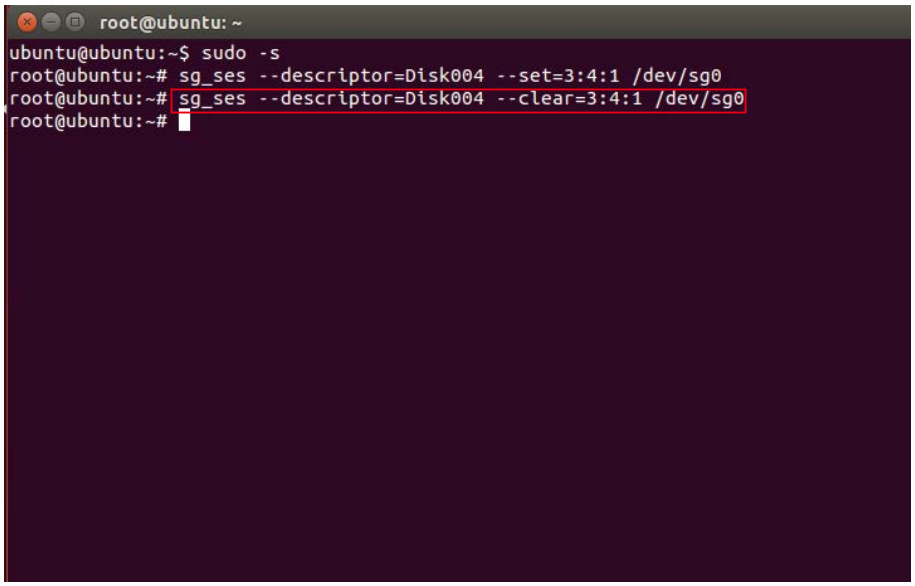
$ sg_ses --descriptor=Disk004 --set=3:4:1 /dev/sg0



Step 8:

Turn on a HDD power

$ sg_ses --descriptor=Disk004 --clear=3:4:1 /dev/sg0



4.5 HDD BP thermal sensor temperature setting

(Only for system cooling Fan controled by expander.)

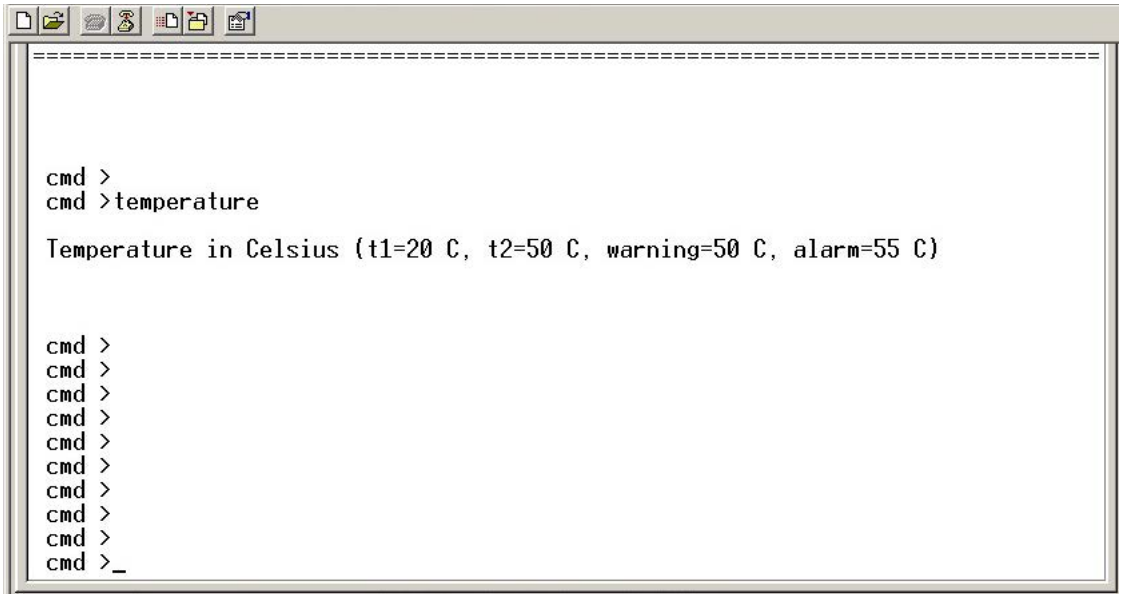
Step 1:

For Install HyperTerminal.exe refer to section 4.1

Step 2:

Get the current temperature settings

cmd> temperature

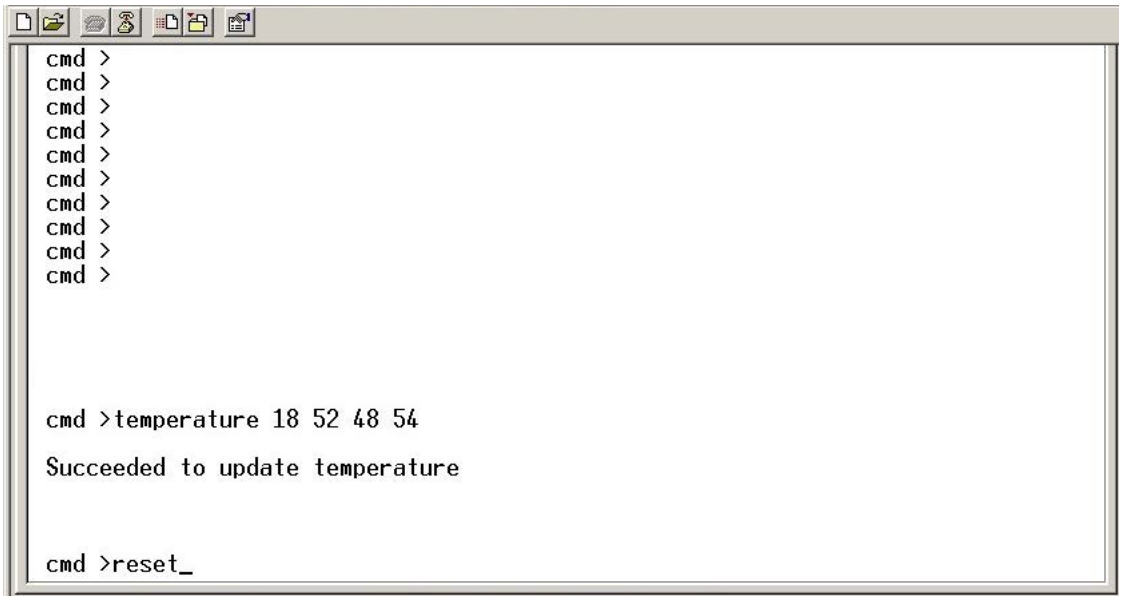


Step 3.

For example:

Set new temperature
T1=20 C ▸ 18 C
T2=50 C ▸ 52 C
Warning threshold=50 C ▸ 48 C
Alarm threshold=55 C ▸ 54 C

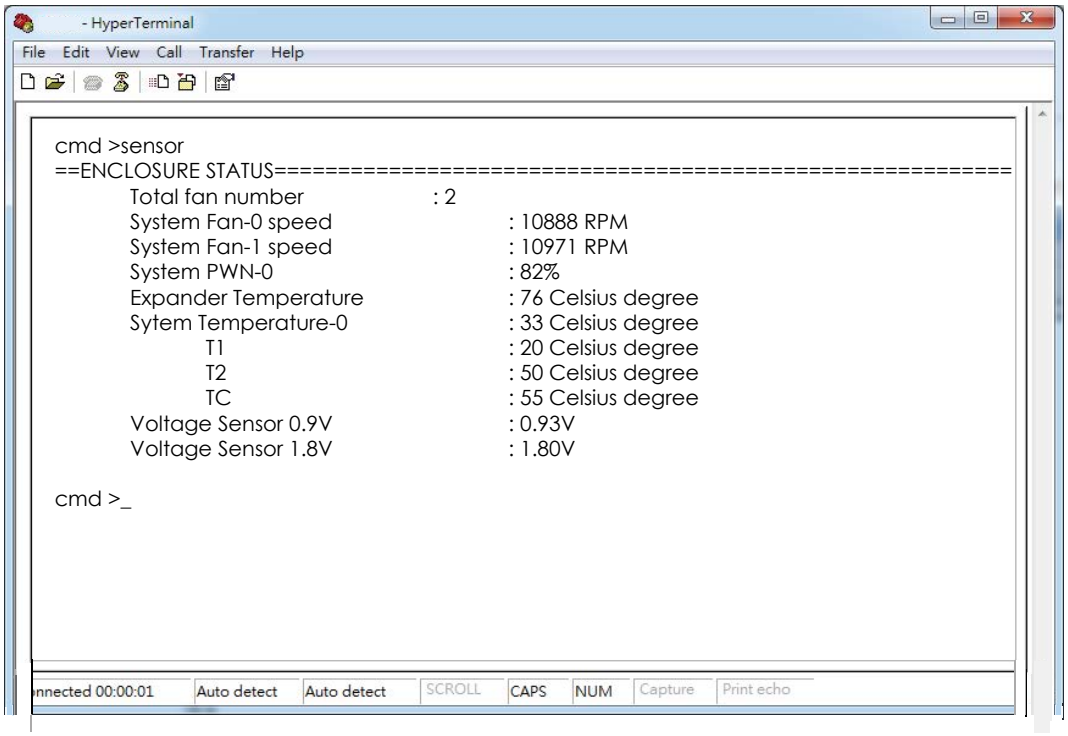
The new setting will take effect after reset.
cmd> temperature 18 52 48 54
cmd> reset



Step 4.

Check fan speed & temperature information.

cmd> sensor



Chapter 5. Technical Support

www.aicipc.com

- **TAIWAN**

Tel: +886 3 433 9188

Fax: +886 3 287 1818

Email : sales@aicipc.com.tw

- **CHINA**

Tel: +86.21.54961421, +86.21.54961422

Fax: Extension: 608

Email Technical Support: support@aicipc.com

- **AMERICA - West coast**

Tel: +1.909.895.8989

Fax: +1.909.895.8999

Email : sales@aicipc.com

- **AMERICA - East coast**

Tel: +1.973.884.8886

Fax: +1.973.884.4794

Email : njsales@aicipc.com

- **EUROPE**

Tel: +31.30.6386789

Fax: +31.30.6360638

Email:sales@aicipc.nl

Email Technical Support: support@aicipc.com