



RSC-4ET

Rackmount Storage Chassis

User Manual

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PREFACE

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- **Trademarks**

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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 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.

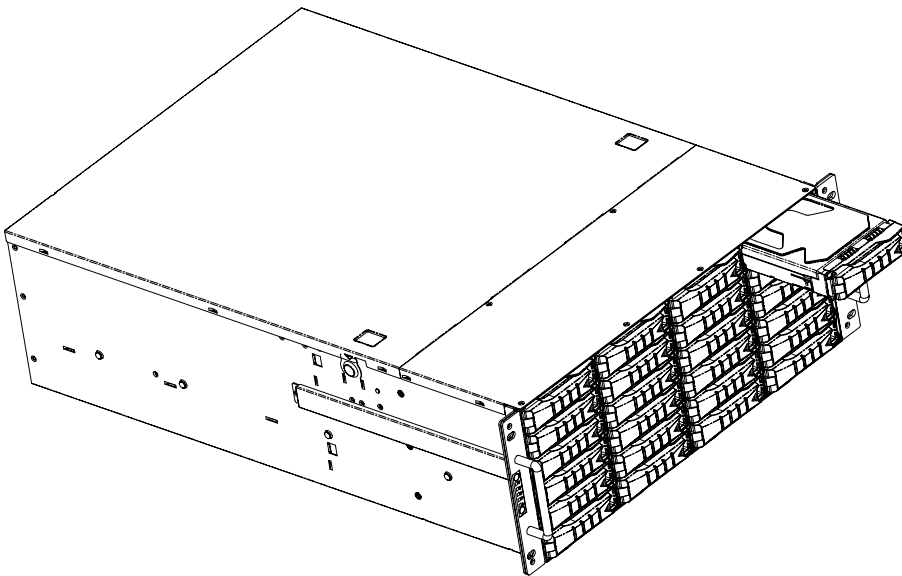
DISPOSE OF USED BATTERIES ACCORDING TO THE INSTRUCTIONS.

AFTER PERFORMING ANY INSTALLATION OR SERVICING, MAKE SURE THE ENCLOSURE ARE LOCK AND SCREW IN POSITION, TURN ON THE POWER.

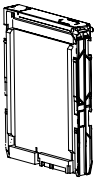
Chapter 1. Product Introduction

1.1 Box Content

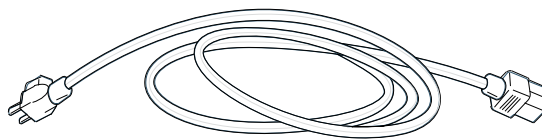
Before removing the subsystem from the shipping carton, visually inspect the physical condition of the shipping carton. Exterior damage to the shipping carton may indicate that the contents of the carton are damaged. If any damage is found, do not remove the components; contact the dealer where the subsystem 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.



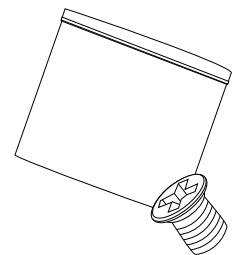
- Enclosure(Power supply, fan, 24 x 3.5" HDD tray included)



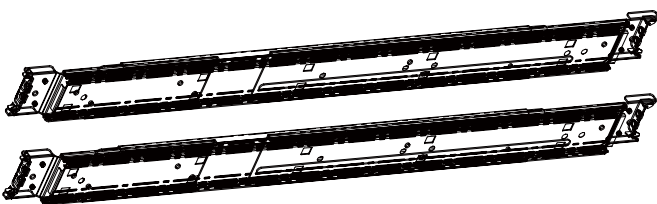
- 3.5" HDD Tray



- Power cord



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



- Slide rail x 1set

◆ PACKAGE CONTENT MAY VARY PER REGION.

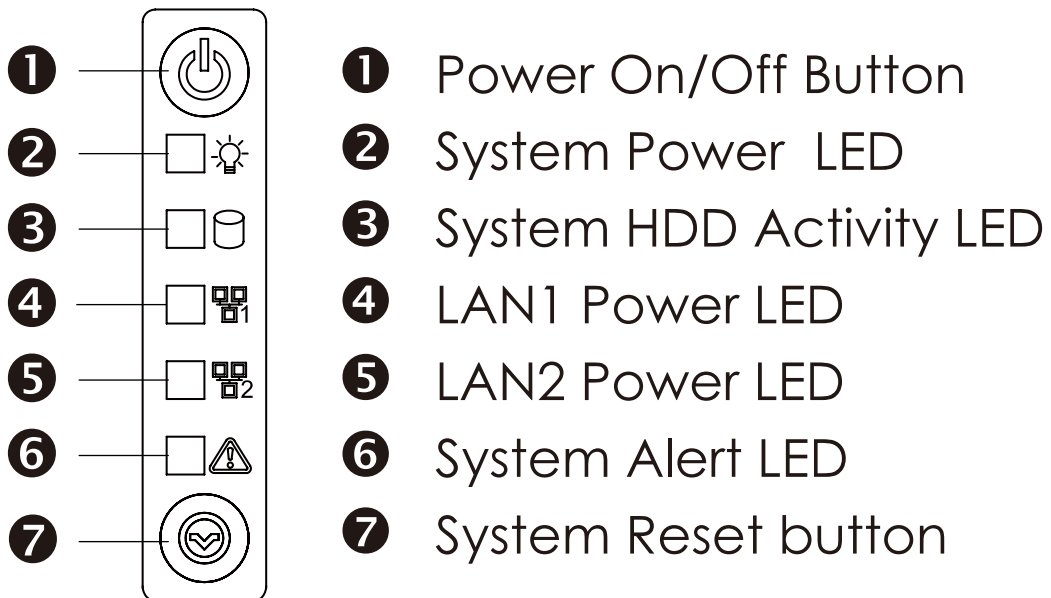
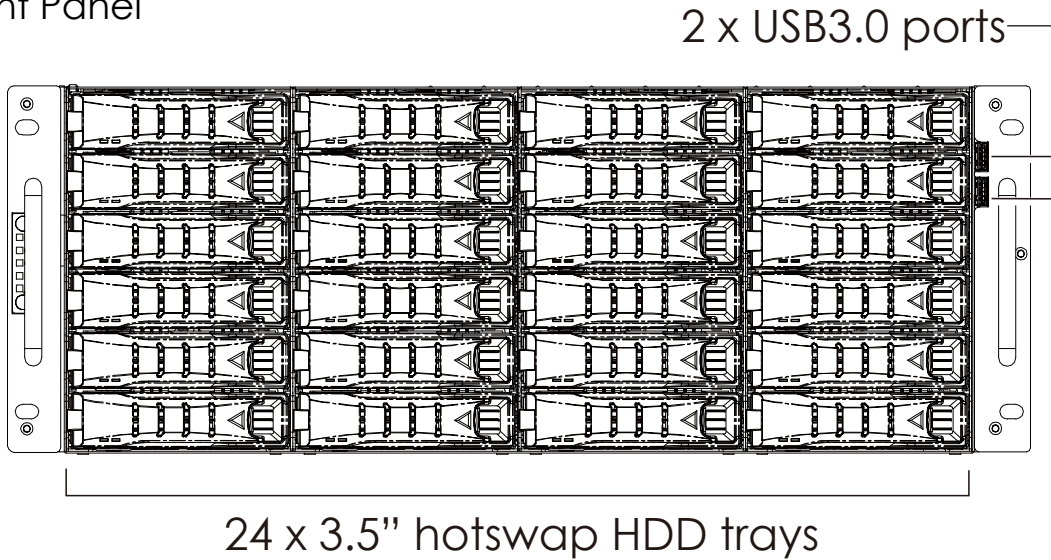
1.2 Specifications

Dimensions (mm)	W x D x H: 483 x 645 x 176		
Cooling	Middle : 3 x 12025mm fans		
Power Supply	1200W 1+1 redundant PSU		
Expansion	7 x full height slots		
Buttons	Power on/off and system reset, 2 x USB3.0		
Indicators	Power, LAN, HDD and alert LEDs		
System Board	Up to 12''(W) x 13''(D) E-ATX/SSI EEB 3.6 compliant MB		
Drive Bay	Externnd	3.5''hot-swap	24
		2.5''hot-swap	Option 1: 2 x hot-swap (external) Option 2: 2 x internal
	Internnd	2.5''HDD	
Gross Weight	(w/ PSU & Rail)		35 kgs / 77 lbs
Backplane	24 ports HDD BP with 12G expander on board		

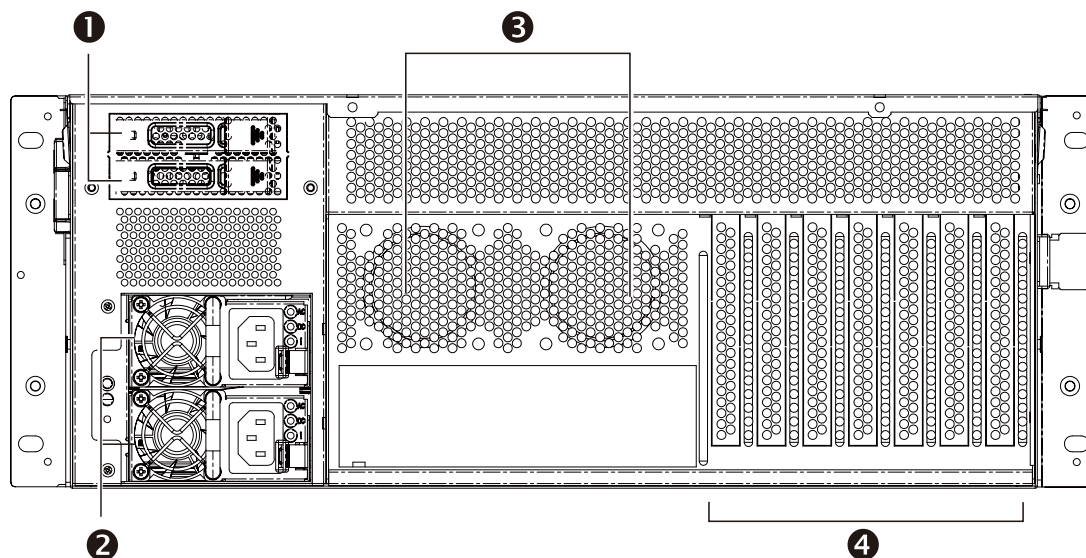
1.3 General Information

RSC-4ET is a 4U rackmount chassis with 24x3.5" HDD hot swap Bays at front and single 12G expander on HDD Backplane which is a high performance server storage product.

- Front Panel

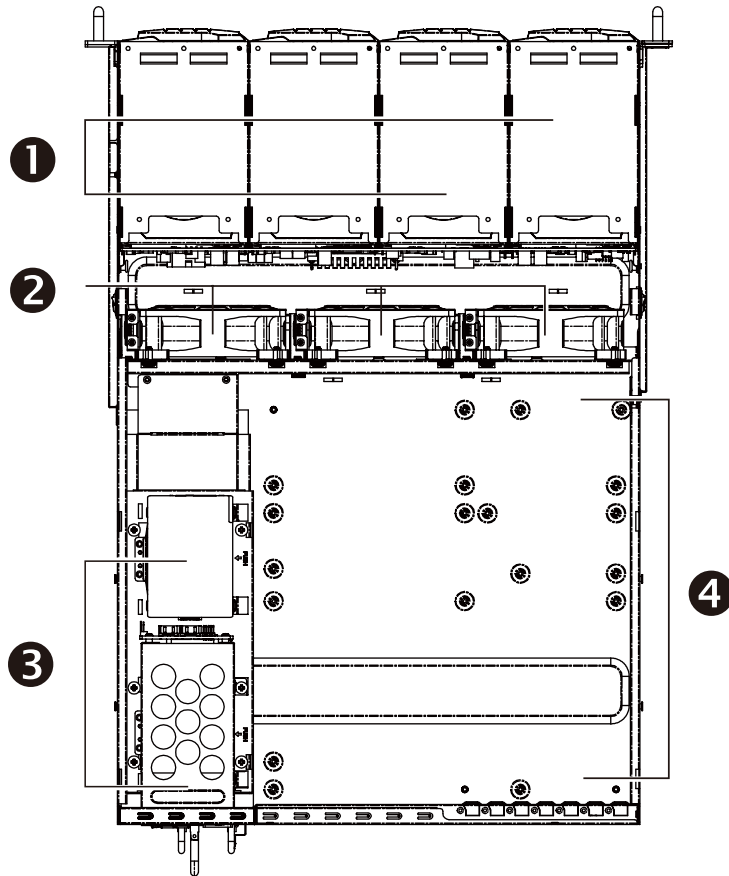


- Rear Panel



- ❶ Standard:
Two 2.5" internal HDD or
Optional:
Two 2.5" hot-swap HDD bays
- ❷ 1200W 1+1 redundant PSU
- ❸ Optional 60x60mm fans
- ❹ 7 x full height slots

- Major Components



- ❶ 24 x 3.5" hotswap external HDD trays
- ❷ 3 x 12025mm fans
- ❸ option1:
2 x internal 2.5" tool-less HDD trays
option2:
2 x external 2.5" hot-swap HDD trays
- ❹ 12"(W) x 13"(D) E-ATX/SSI EEB 3.6 compliant MB

Chapter 2. Hardware Installation

This chapter provides detailed instructions on hardware installation.

2.1 Removing and Installing Top Cover

Push the button on both sides

1



Push the top cover backward.

2



Lift up the top cover from the enclosure.

3



2.2 Removing/Installing a Drive Tray

Release a drive tray by pressing the unlock button.



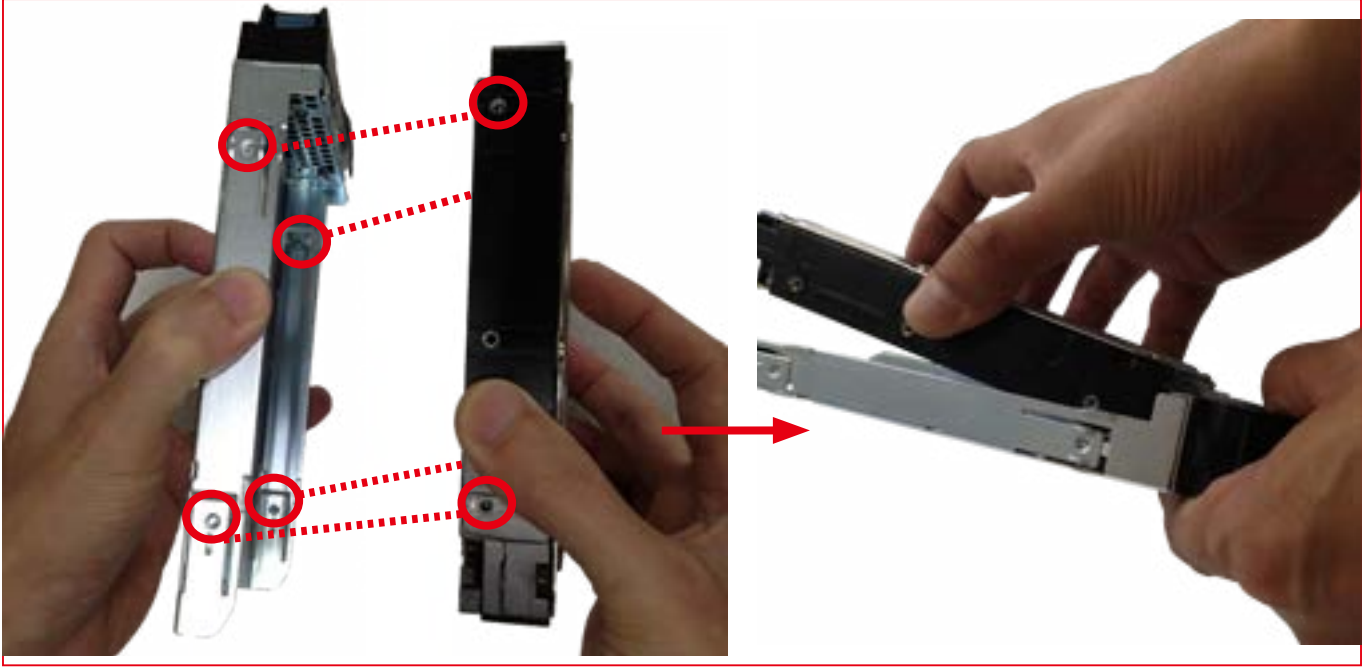
Pull out the HDD tray handle and slide out the HDD tray.



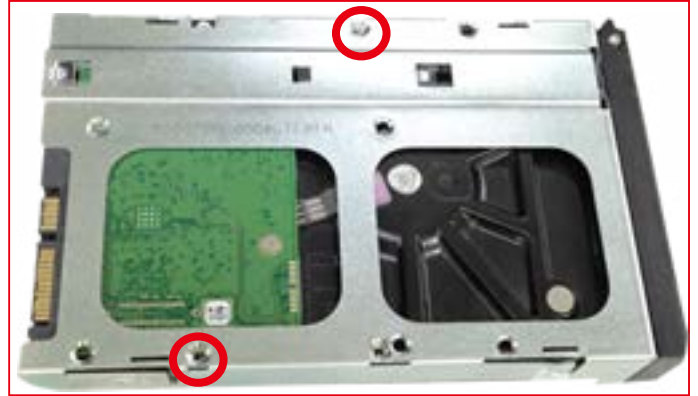
2.3 Installing/ Removing a Hard Disk Drive

2.3.1 Installing a Hard Disk Drive

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



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



- 3 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.



2.3.2 Removing a Hard Disk Drive

Push up HDD from the bottom.



Remove HDD out from HDD tray.



2.4 Removing and Installing a PSU Module

2.4.1 Removing a PSU module

- Removing power cable

2.4.2 Installing a PSU Module

- To install PSU module, follow the reverse order.

Loosen the screw



Pushing the latch



Hold the tray handle



Pull the PSU module tray handle out gently to slides out the PSU module.



2.5 Removing and Installing a Fan Module

2.5.1 Removing a fan module

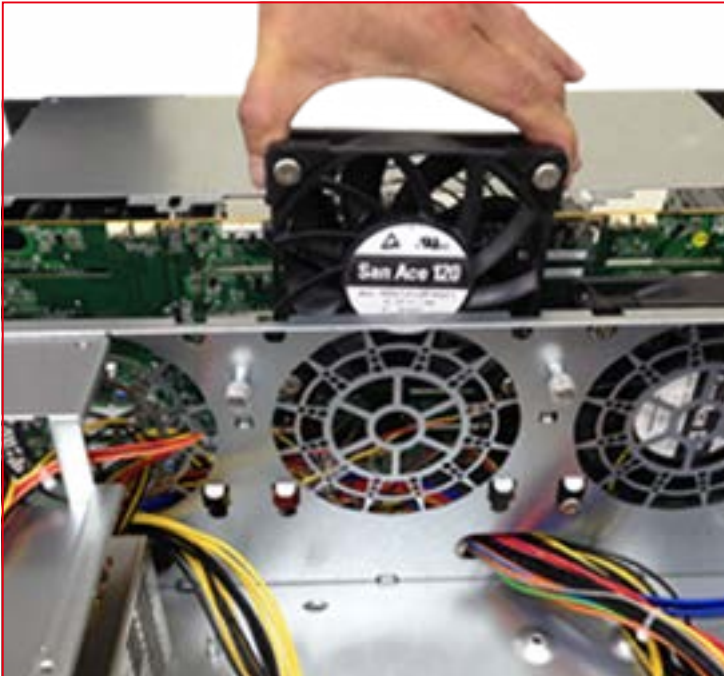
Grabbing and removing the fan module from the fan slot.

1



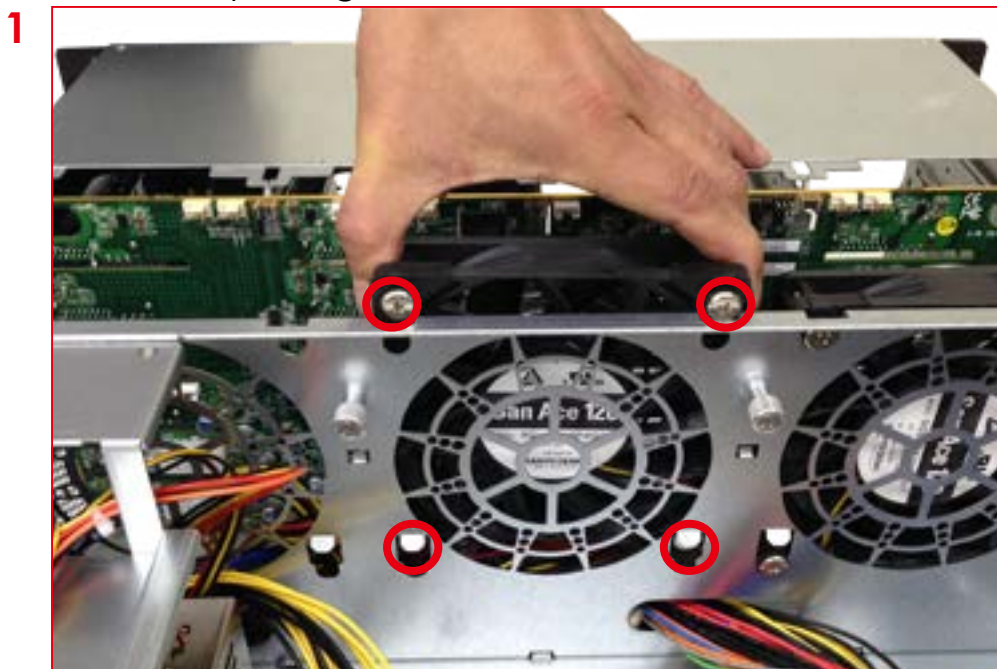
Pull the fan module up gently and taking out the fan module by removing rubbers out from the fan bar.

2



2.5.2 Installing a Fan Module

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



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

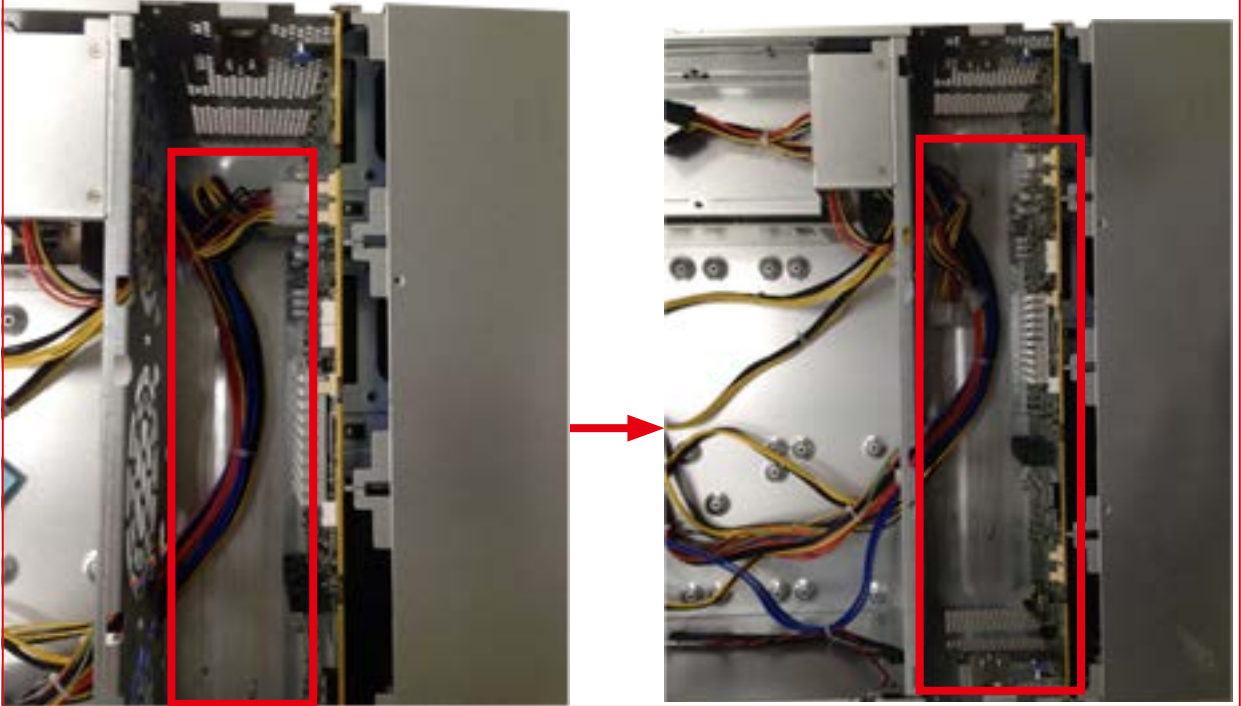


2.6 Removing and Installing HDD Backplane

2.6.1 Removing HDD Backplane

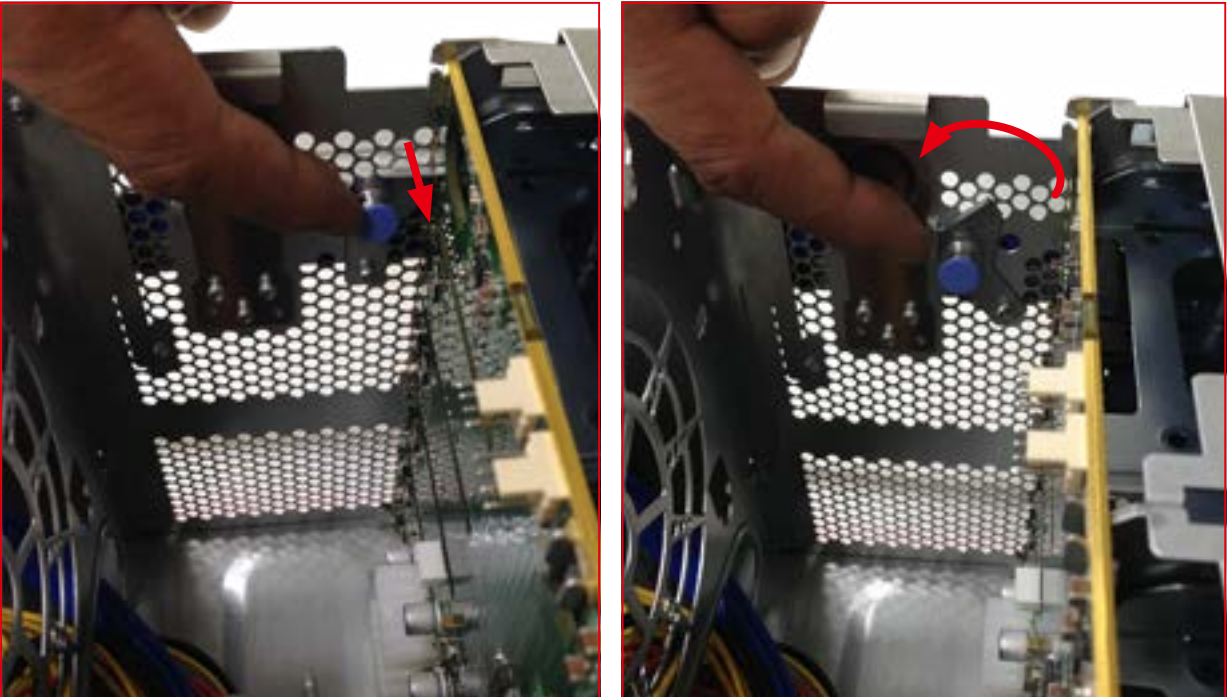
Unplugging all connectors & HDDs from HDD backplane.

1



Release the lock pin.

2



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



2.6.2 Installing a HDD Backplane

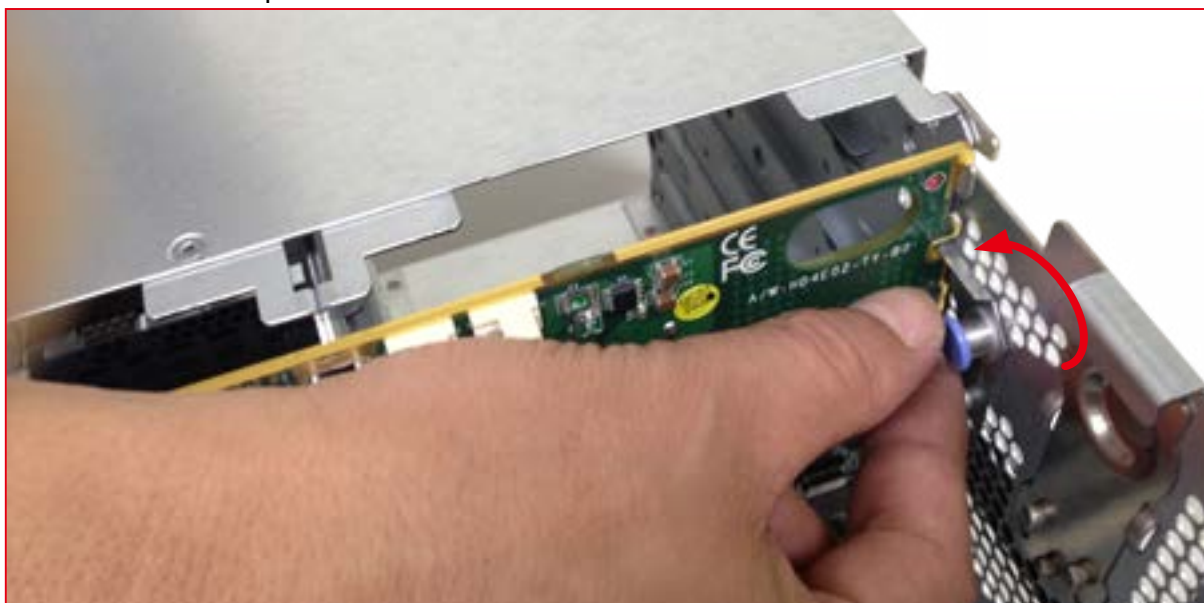
Align the backplane with the hooks, and insert it into the enclosure firmly.

1



Lock the backplane. Follow the reverse order.

2

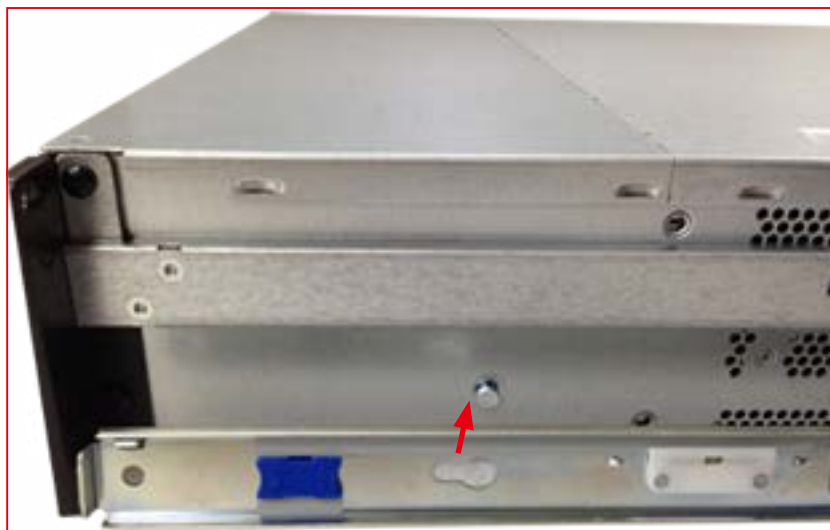


2.7 Tool-less Blade Slide Installation Instruction

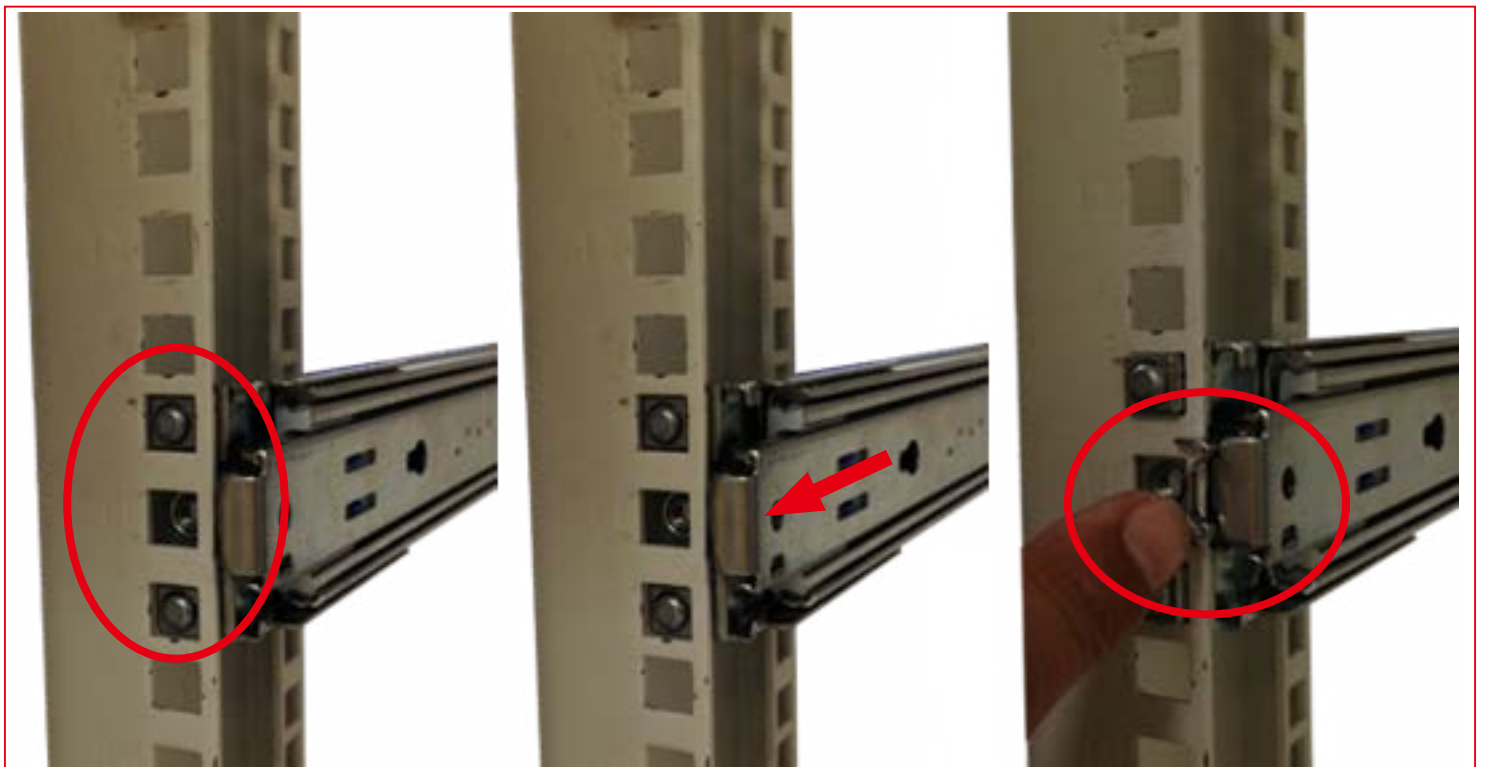
2.7.1 Release and detach the inner rail from the slide.



2.7.2 Attach inner rail to the system.



2.7.3 Attach outer rail to the rack.



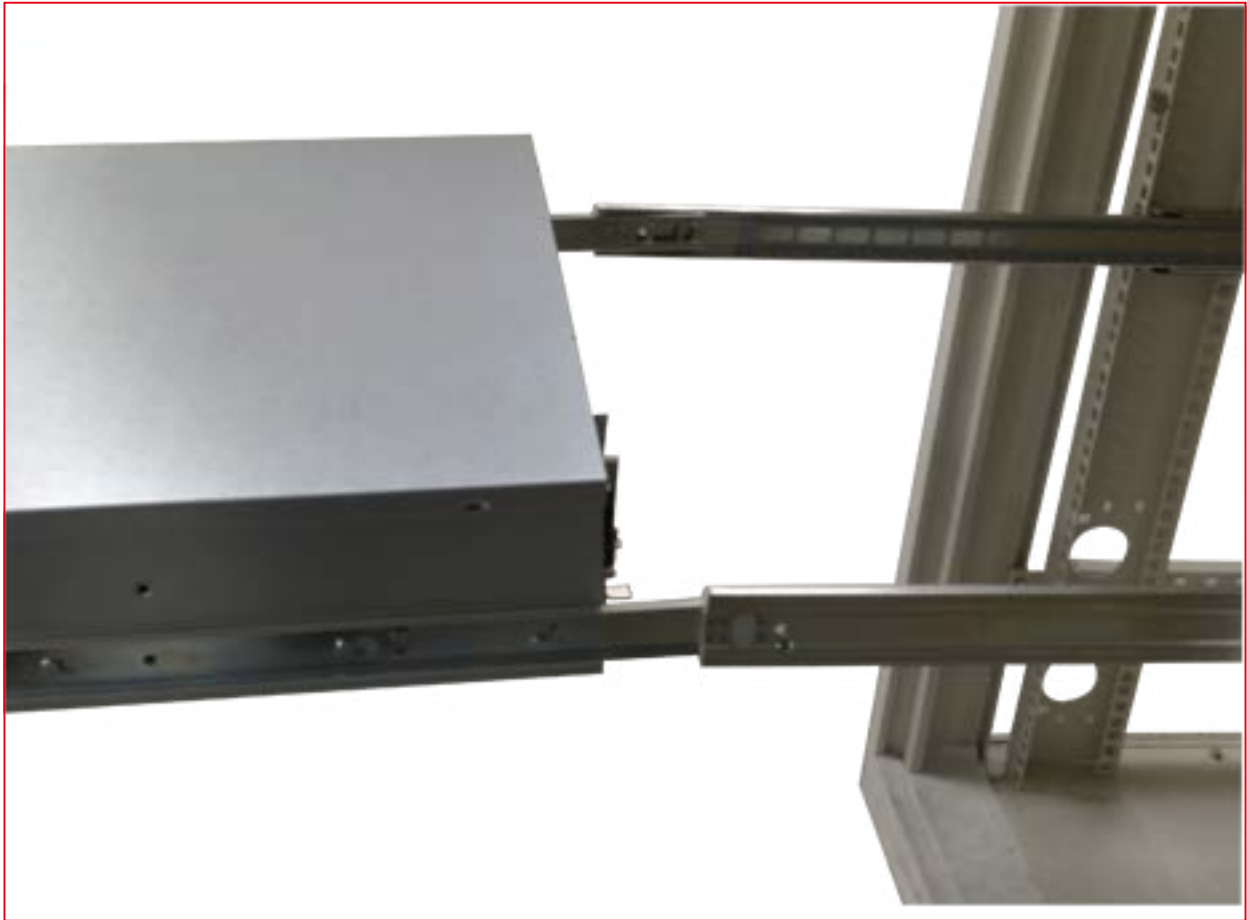
① A L I G N

② P U S H

③ L O C K

Chapter 2 Hardware Installation

- 2.7.4
1. CAUTION! Verify ball bearing retainer is locked forward.
 2. Pull out the intermediate member until locked out.
 3. Slide release tab and push system into rack.



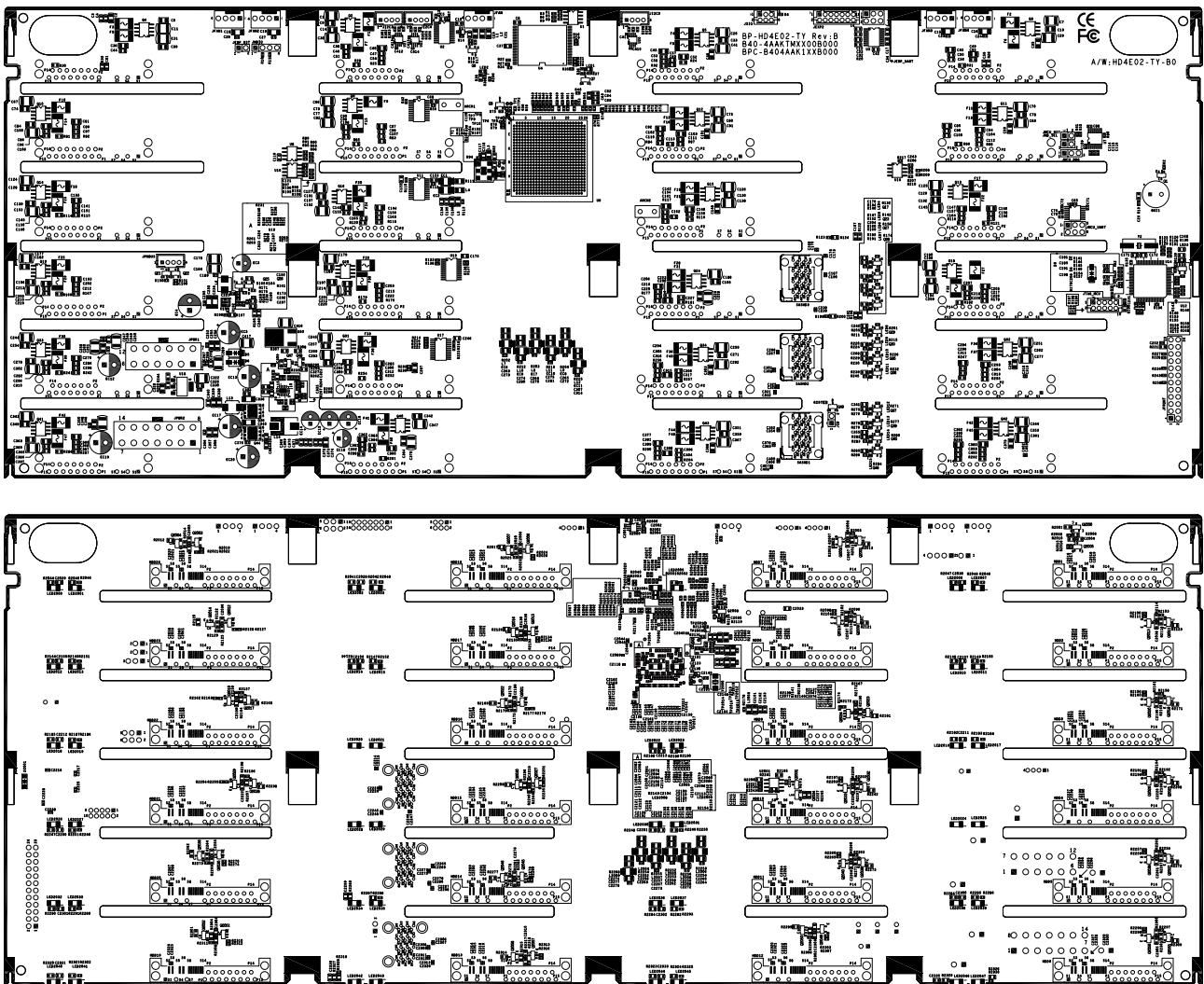
Chapter 3. Hardware Instruction

This chapter provides detailed instruction guide on hardware instruction

3.1 HARDWARE DESIGN SPECIFICATION

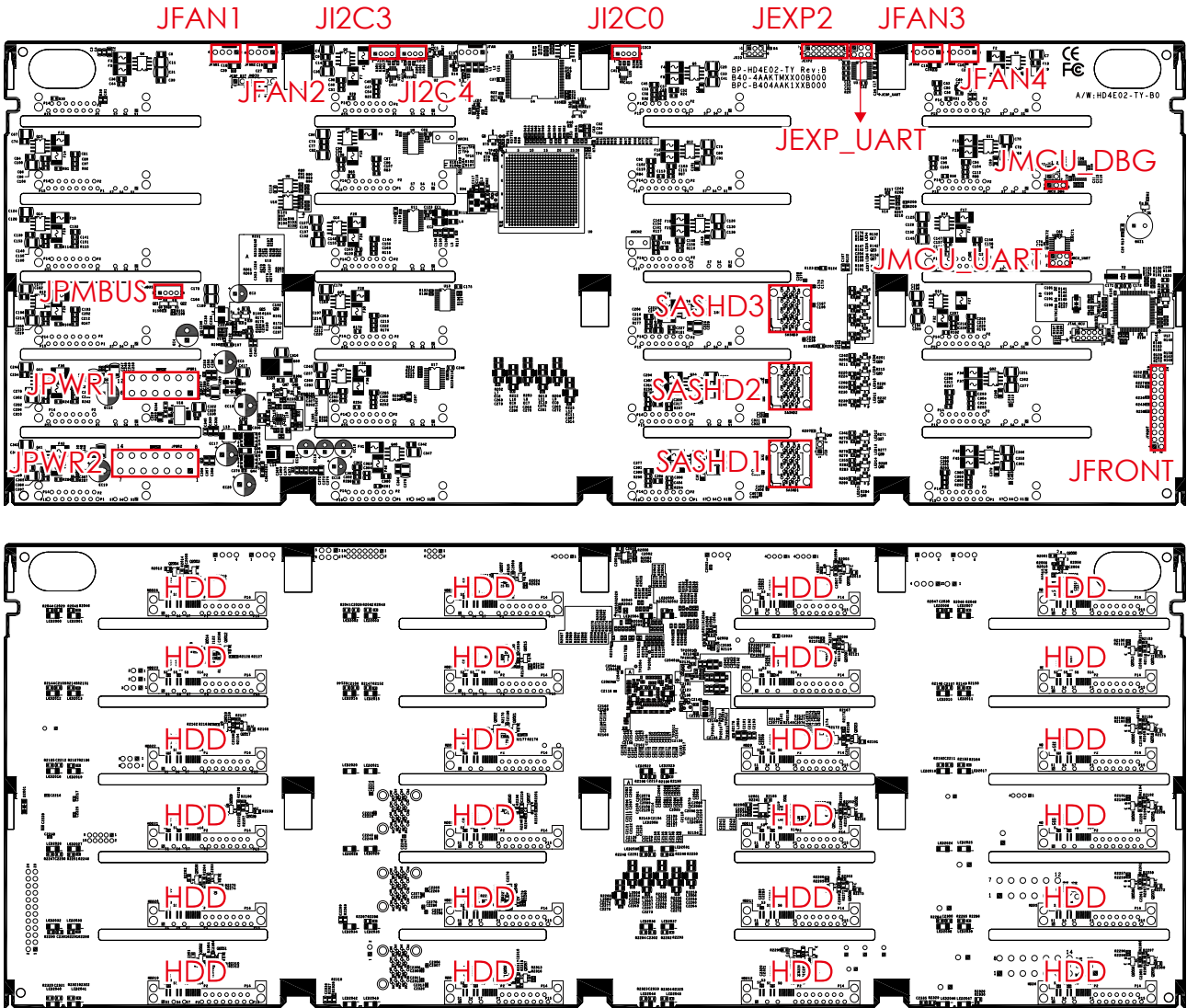
3.1.1 Placement

PCBA Placement



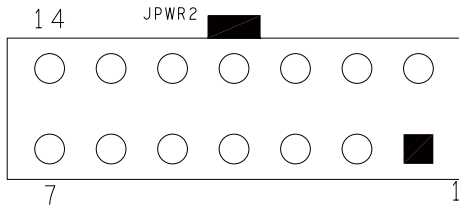
3.1.2 Connector Location

Location



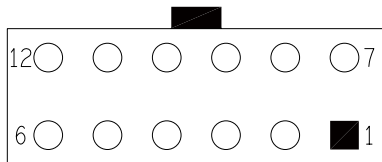
3.1.3 Connectors

Power Connector – JPWR1



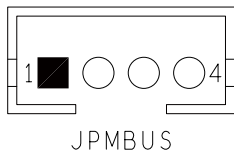
PIN	Description	PIN	Description
7	+12V	1	GND
8	+12V	2	GND
9	+3.3V	3	GND
10	+5V	4	MUTE_L
11	+5VSTBY	5	PSU_N1
12	PS_ON_L	6	GND

Power Connector – JPWR2



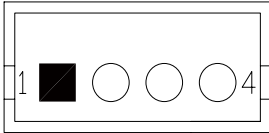
PIN	Description	PIN	Description
8	+12V	1	GND
9	+12V	2	GND
10	+12V	3	GND
11	+12V	4	GND
12	+5V	5	GND
13	+5V	6	GND
14	+5V	7	GND

PMBUS Connector – JPMBUS



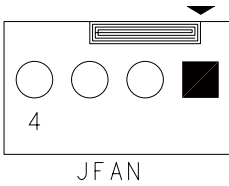
PIN	Description
1	GND
2	PMBUS_CLOCK
3	PMBUS_DATA
4	N/A

I2C Connector – JI2C0, JI2C3, JI2C4



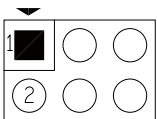
PIN	Description
1	GND
2	I2C_CLOCK
3	I2C_DATA
4	N/A

FAN Connector – JFAN1, JFAN2, JFAN3, JFAN4



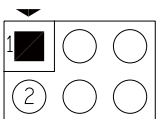
PIN	Description
1	GND
2	I2C_CLOCK
3	I2C_DATA
4	N/A

Console for Expander – JEXP_UART



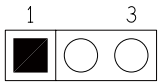
PIN	Description	PIN	Description
2	DEBUG_RXD	1	SMART_RXD
4	+12V	3	GND
6	DEBUG_TXD	5	SMART_TXD

Remote Power Control – JMCU_UART



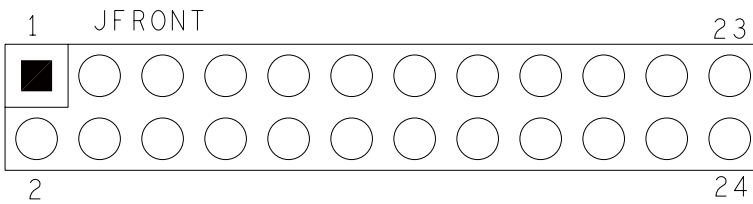
PIN	Description	PIN	Description
2	DOWN_RXD	1	UP_RXD
4	GND	3	GND
6	DOWN_TXD	5	UP_TXD

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

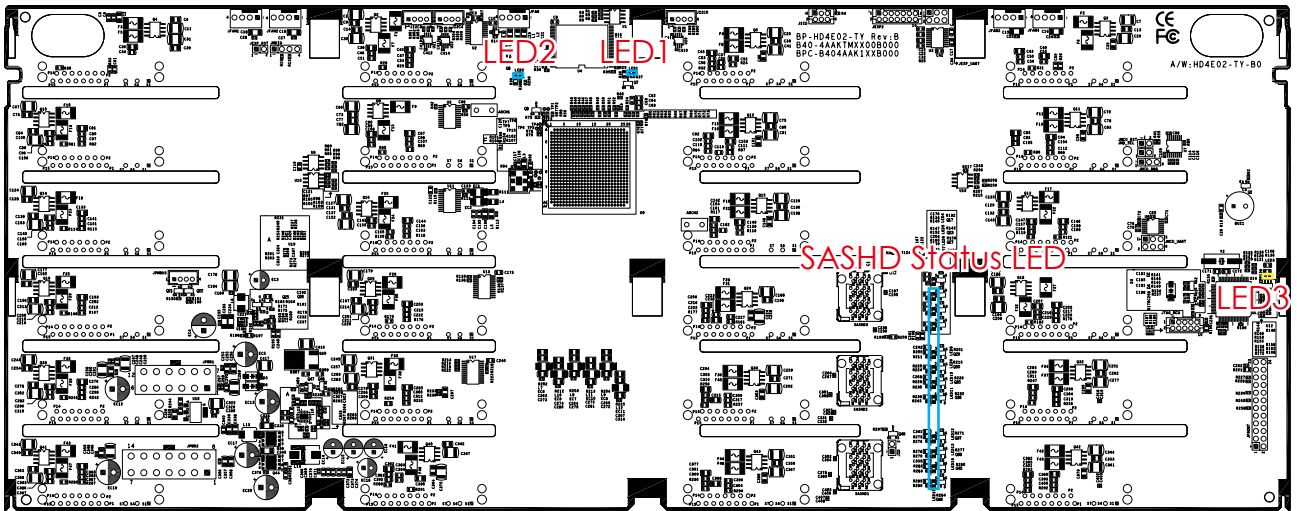
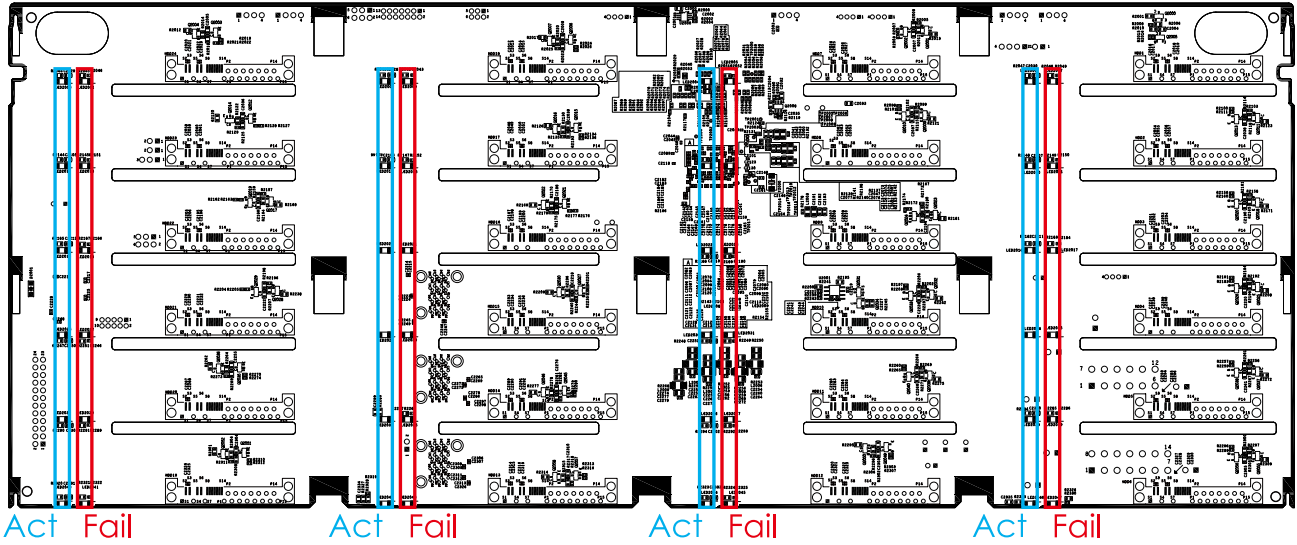
- Power SW

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

- PMBUS Support

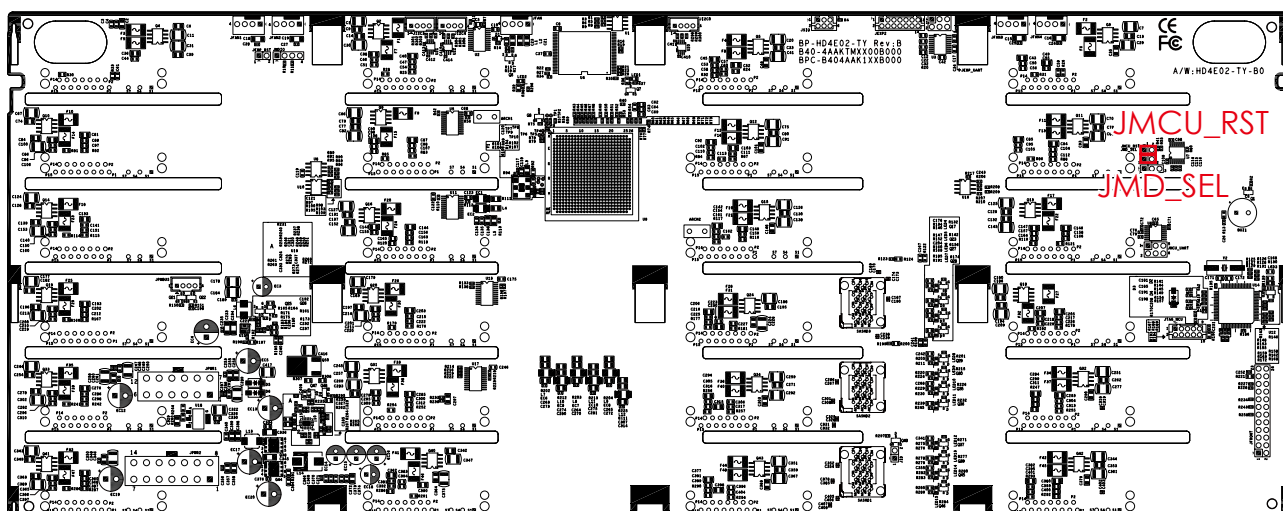
PIN	Description	Remark
23	PMBUS_Disable_N	Active Low
24	GND	

3.1.4 LEDs



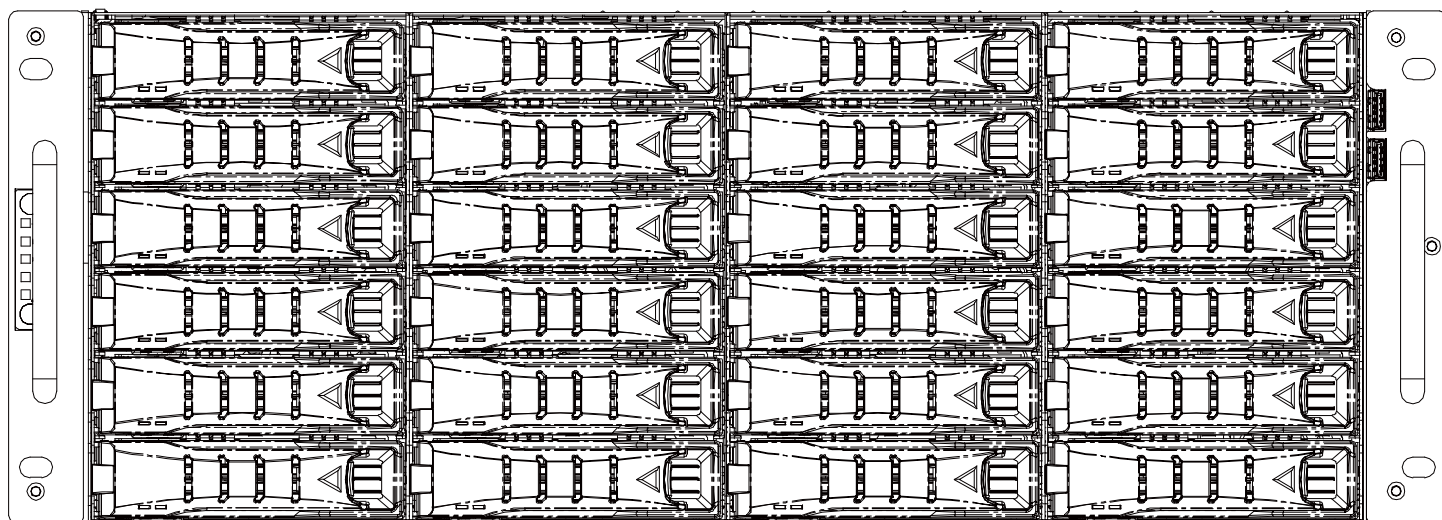
HDD Activity LEDs	Blue (On)	HDD present
	Blue (Blinking)	HDD Activity detected or Locate HDD
	Off	HDD no connect or Power Off
HDD Fault/Status LEDs	Off	Normal
	Red (Blinking)	Re-build status
	Red (On)	HDD Fault or Locate HDD
Remark	Blue (On)	Link up
	Blue (Blinking)	Activity detected
	Off	Link down
Expander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

Chapter 4. HDD Blackplane Instruction

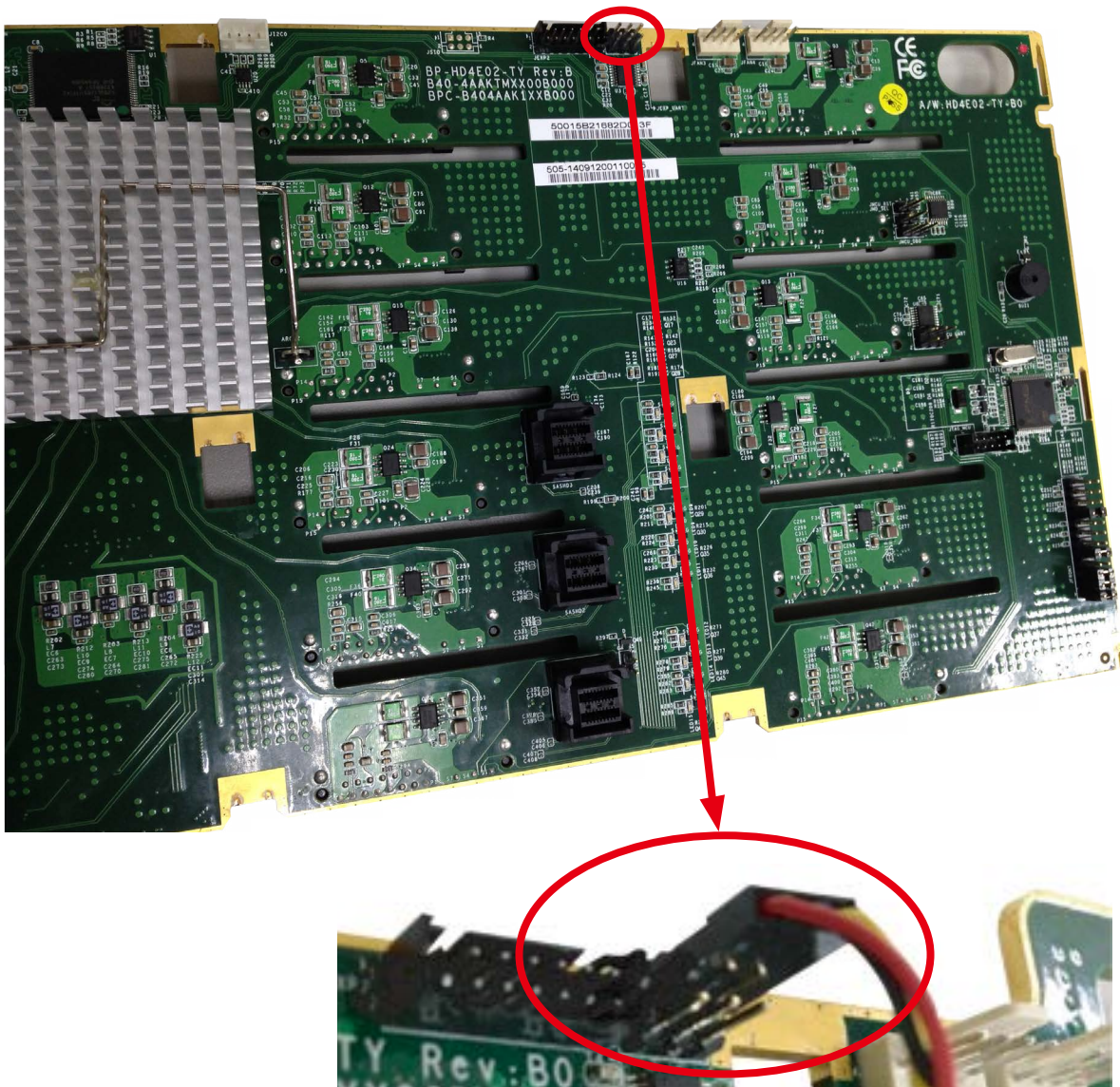
4.1 Expender firmware update through smart console port

4.1.1 Update Expander firmware revision

Step 1: Set up RSC-4ET console serial cable.

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

YOU CAN FIND OUT CONSOLE SERIAL CABLE IN THE PACKAGE BOX.



Chapter 4 HDD Blackplane Instruction

Step 2: Set up RSC-4ET RS232 connection

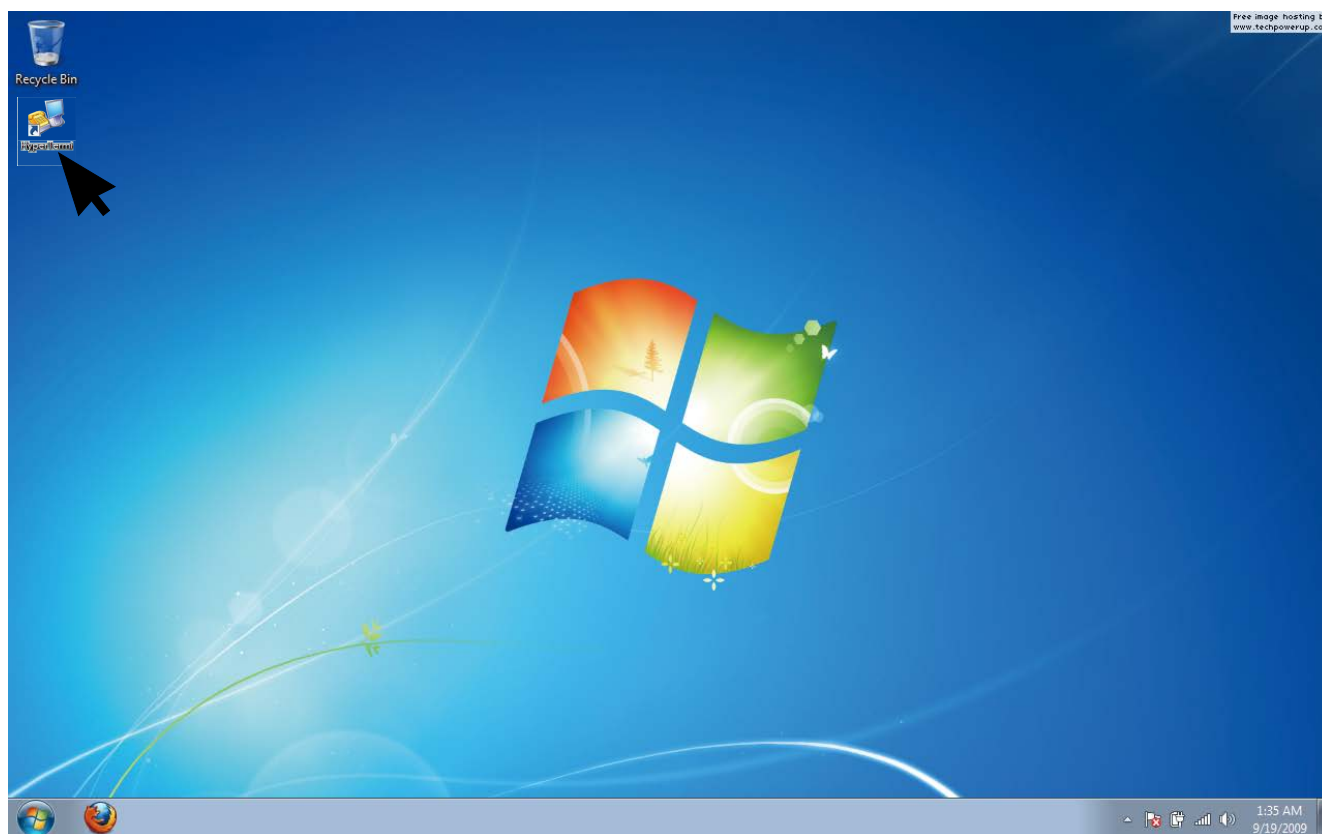
Set up RS232 connection application into your RSC-4ET as shown in the example process below.

For example:

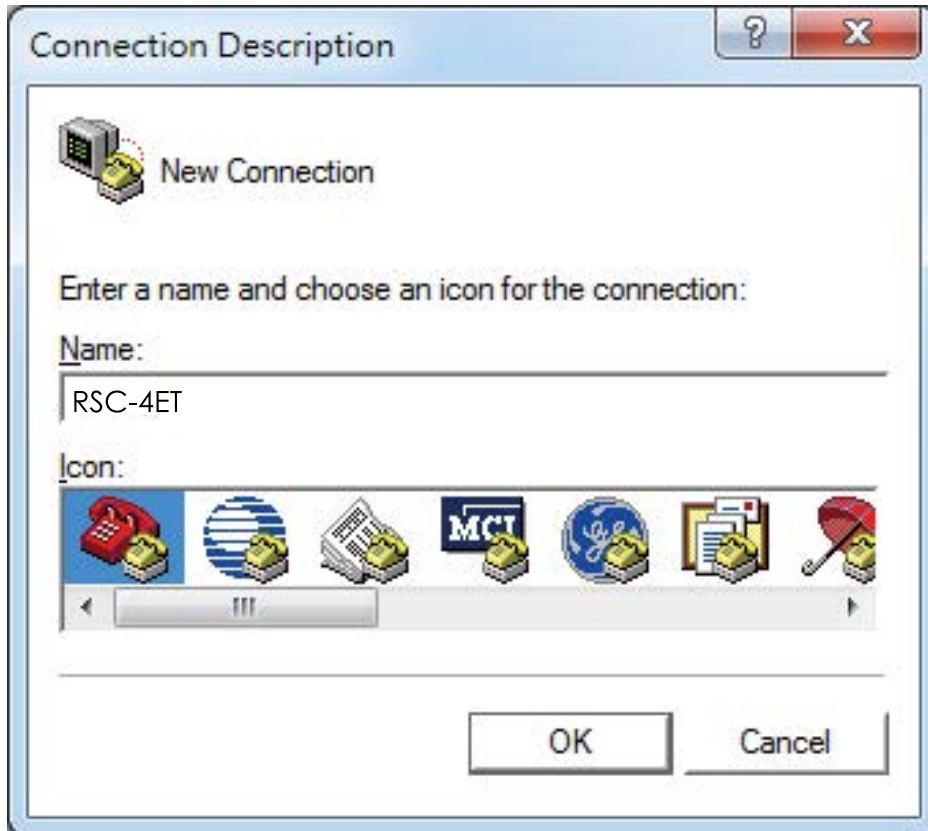
OS: Microsoft Windows

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.

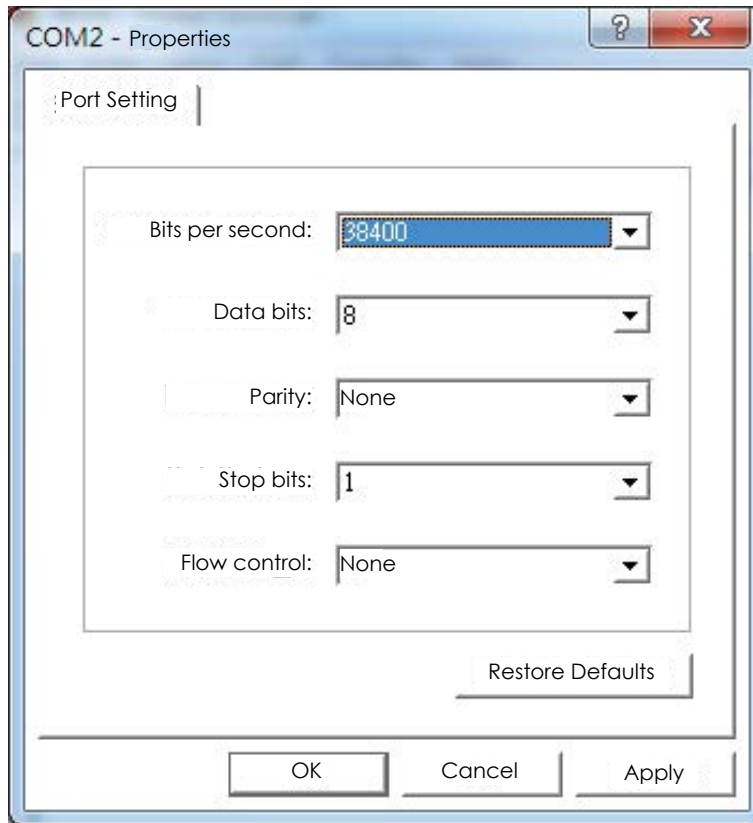


Step 4: Connecting by using selecting an option in the drop down menu circled in red below (we selected COM2 in this example) and click OK.

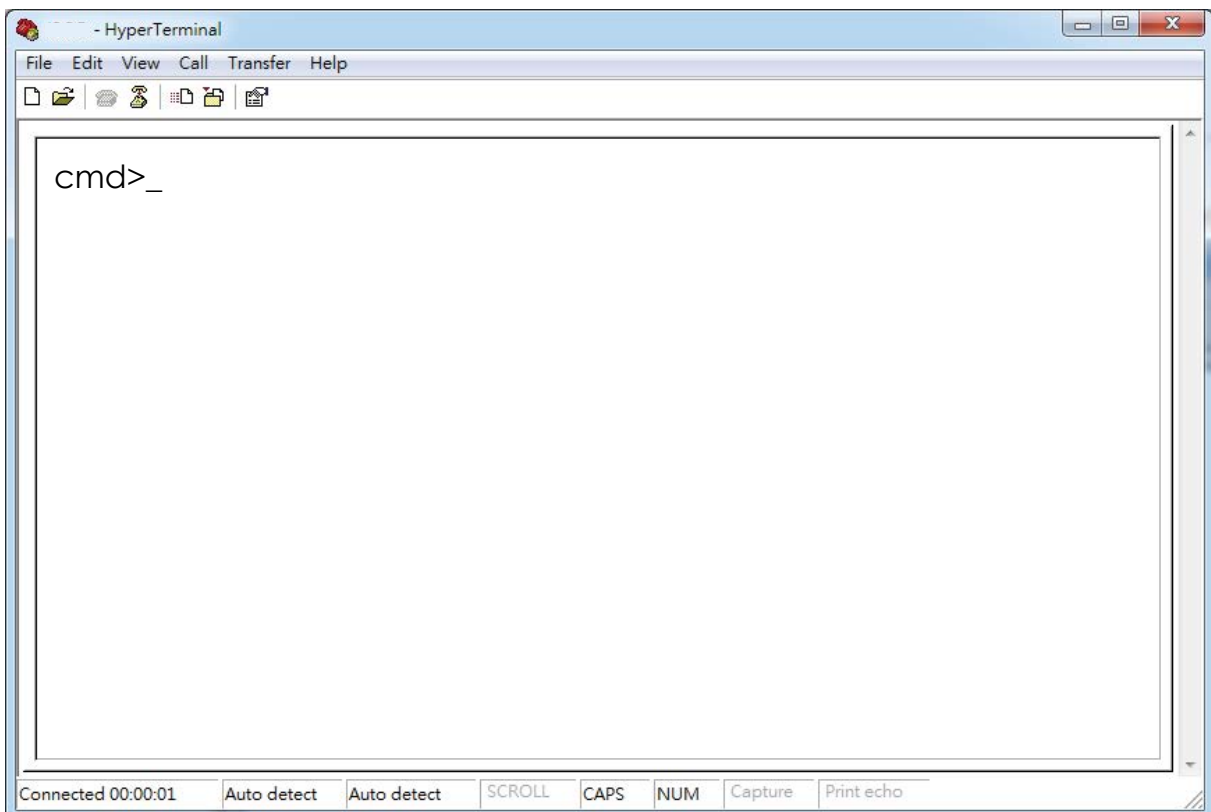


Chapter 4 HDD Blackplane Instruction

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



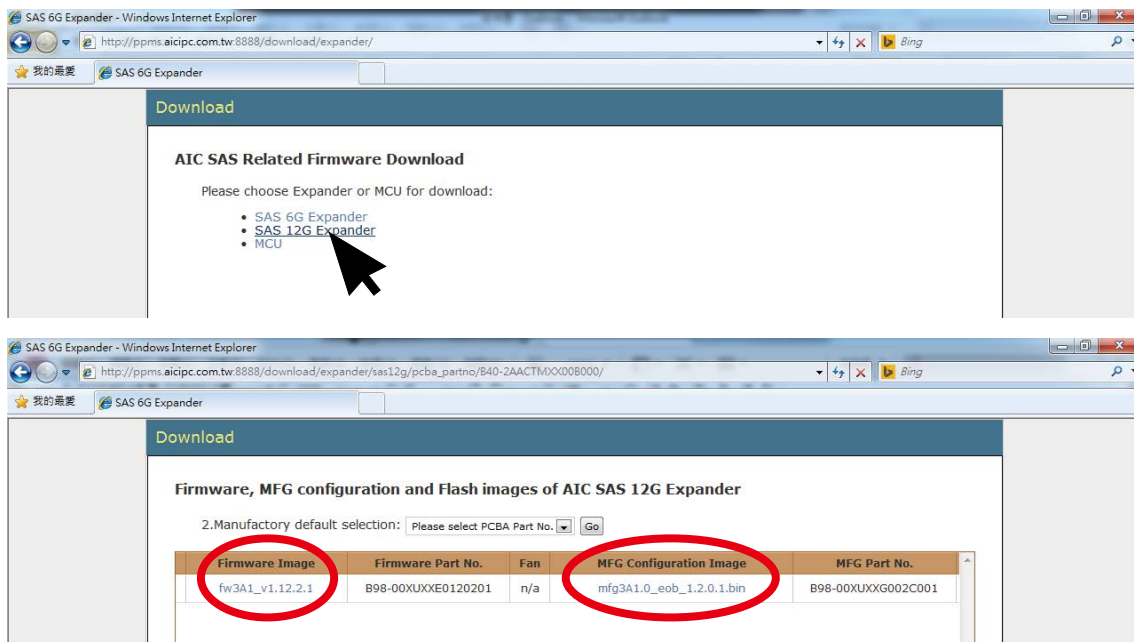
Step 6 : Set up is complete. The diagram below depicts what screen should be displayed.



Chapter 4 HDD Blackplane Instruction

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

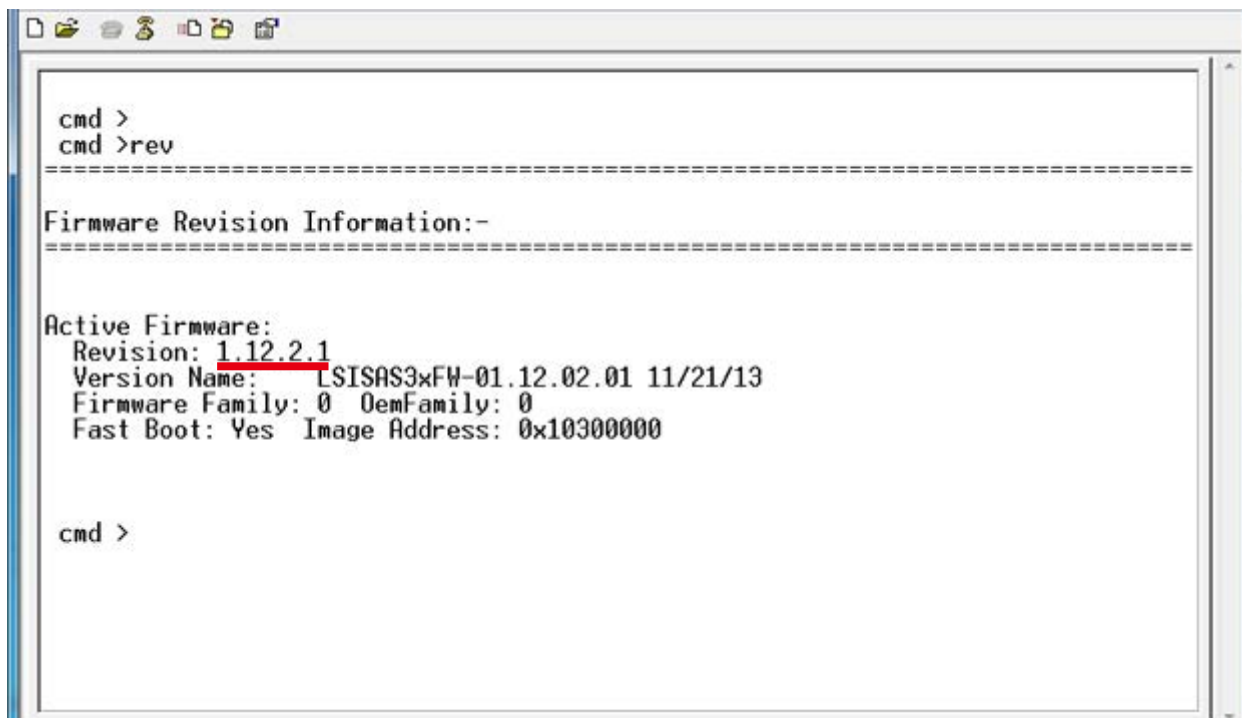
<http://ppms.aicpc.com.tw:8888/download/expander/>



Step 8:

Comand line for show current firmware revision.

cmd>rev



```
cmd >
cmd >rev
-----
Firmware Revision Information:-
-----
Active Firmware:
Revision: 1.12.2.1
Version Name: LSI SAS3xFW-01.12.02.01 11/21/13
Firmware Family: 0 OemFamily: 0
Fast Boot: Yes Image Address: 0x10300000

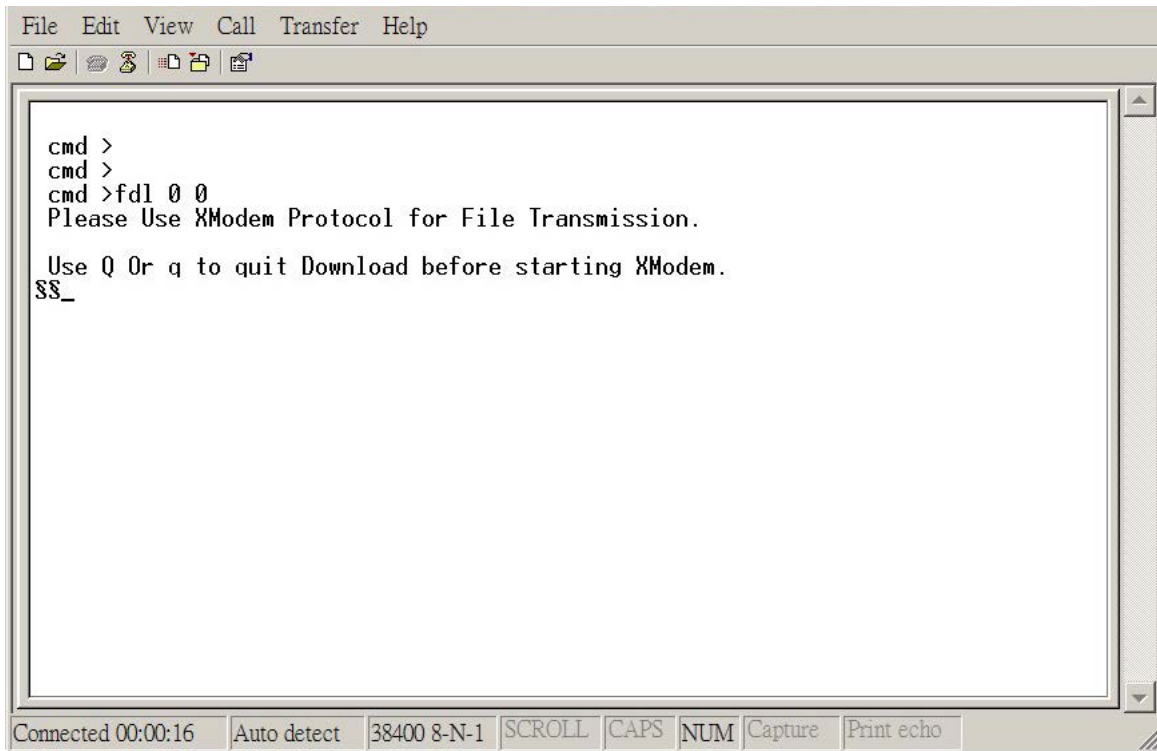
cmd >
```

Chapter 4 HDD Blackplane Instruction

Step 9:

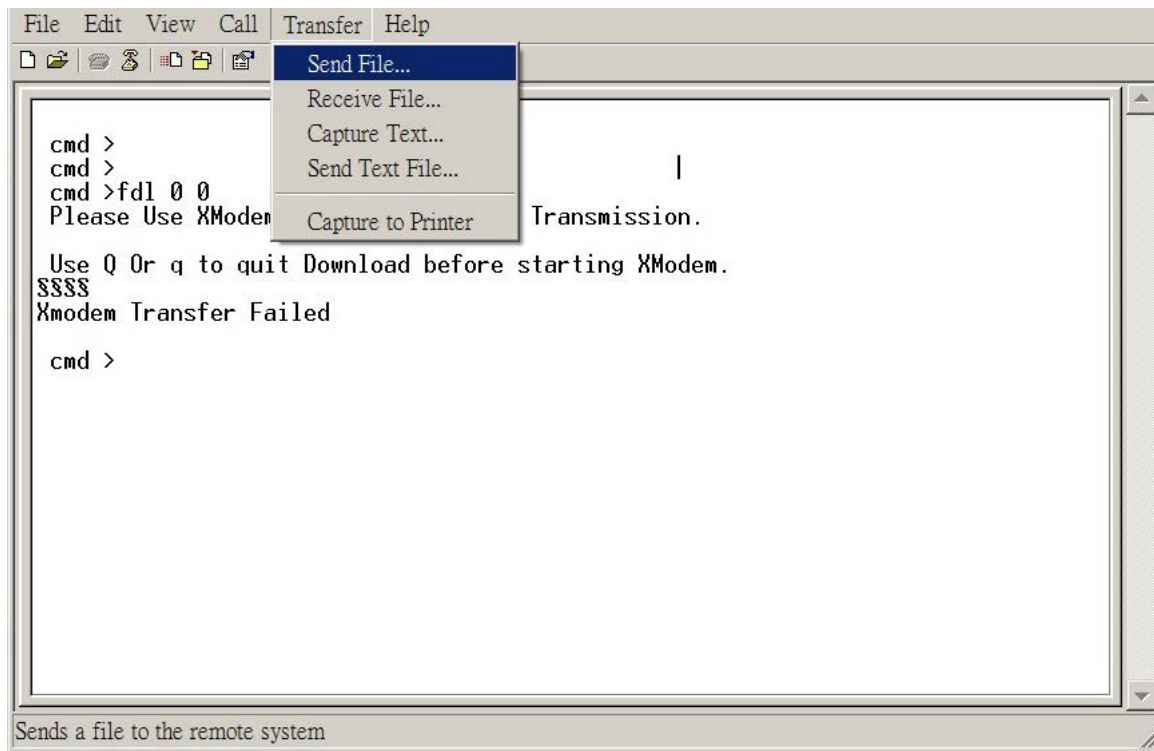
Start to update expander firmware

```
cmd>fdl 0 0_
```



Step 10:

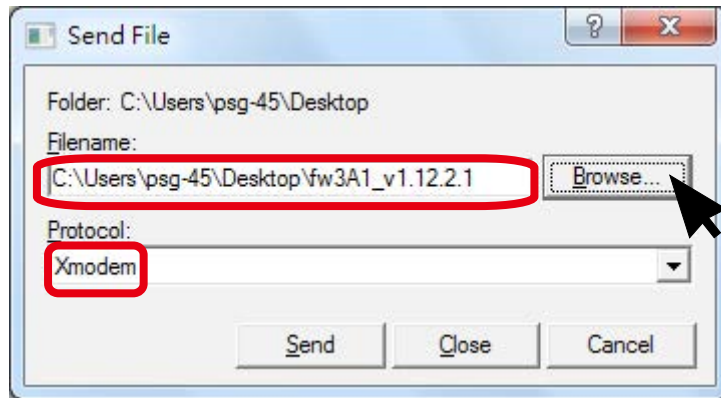
Select the tool bar "Transfer" -> "Send File".



Chapter 4 HDD Blackplane Instruction

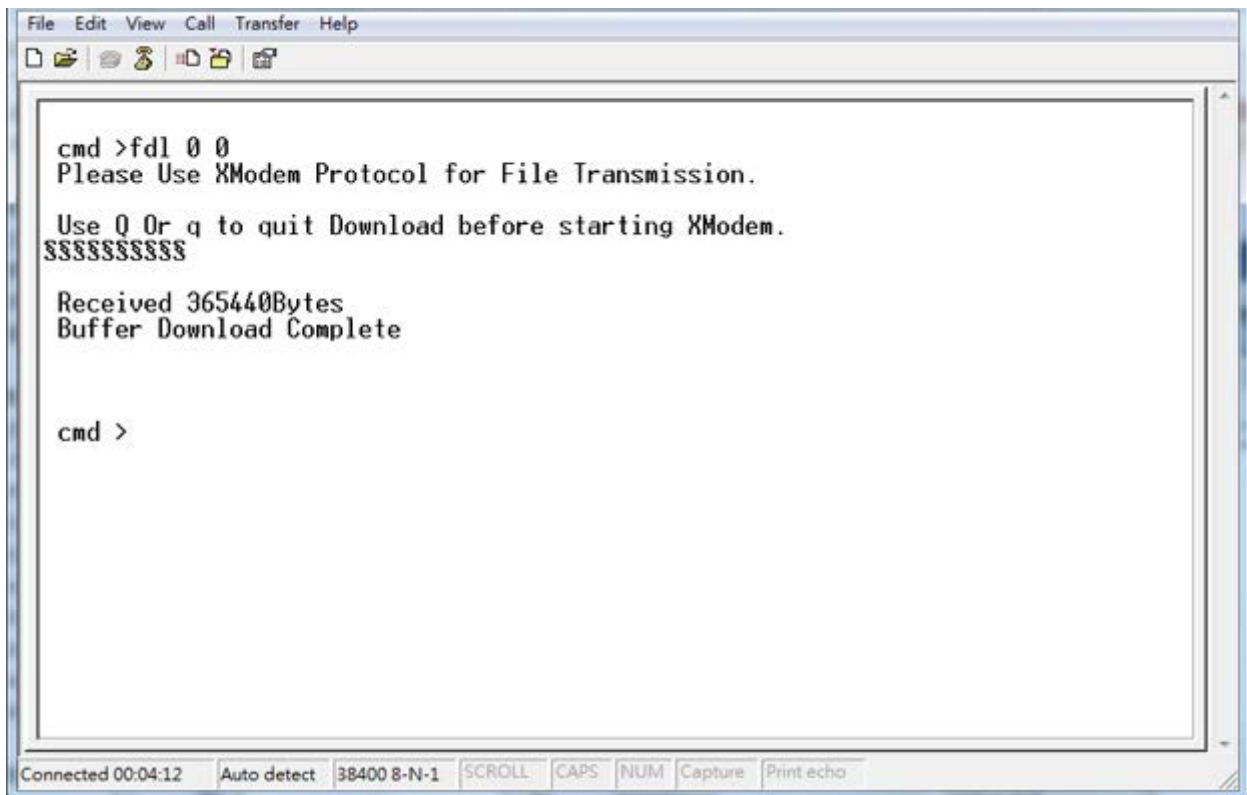
Step 11:

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



Step 12:

Firmware download complete

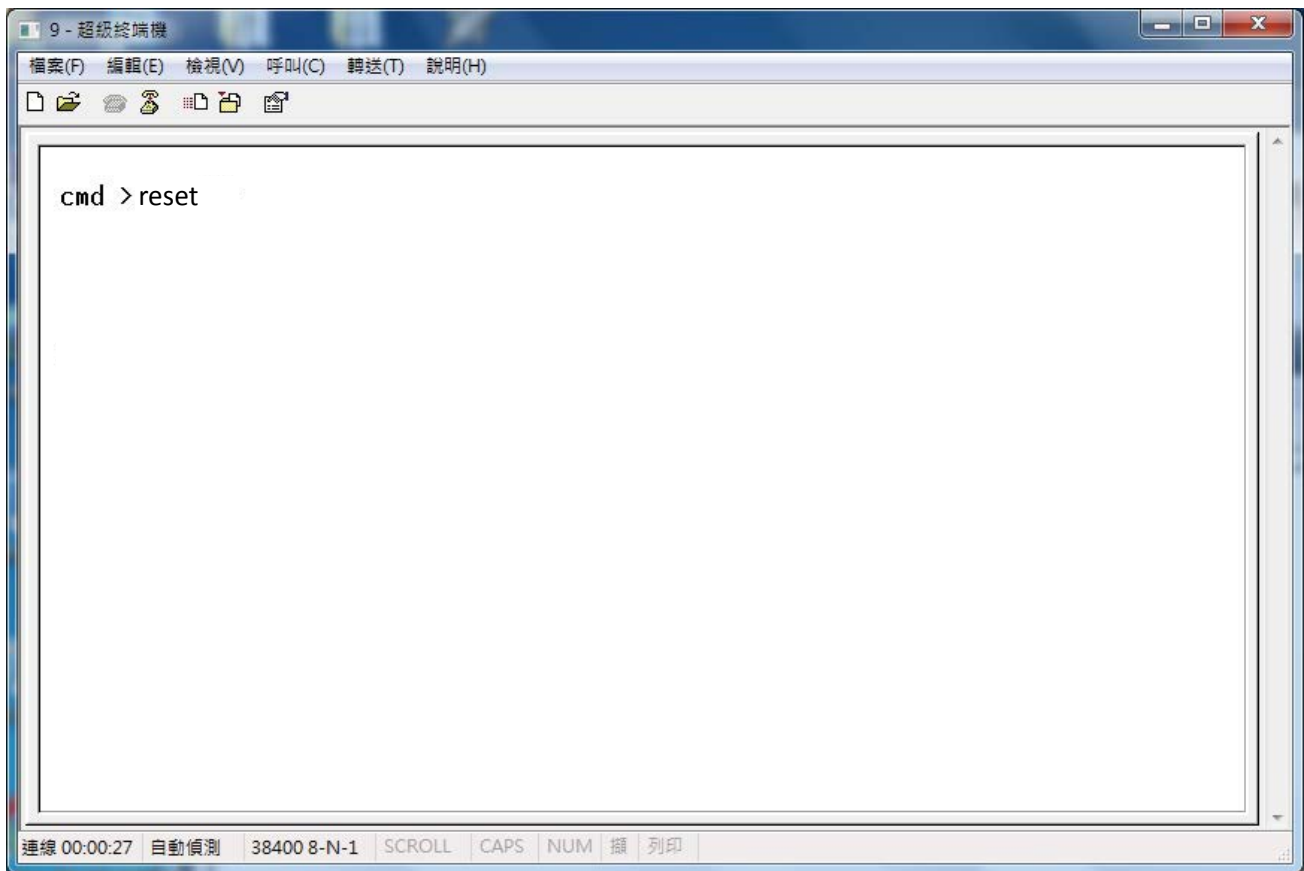


Chapter 4 HDD Blackplane Instruction

Step 13:

Reset computer for success update firmware.

cmd>reset

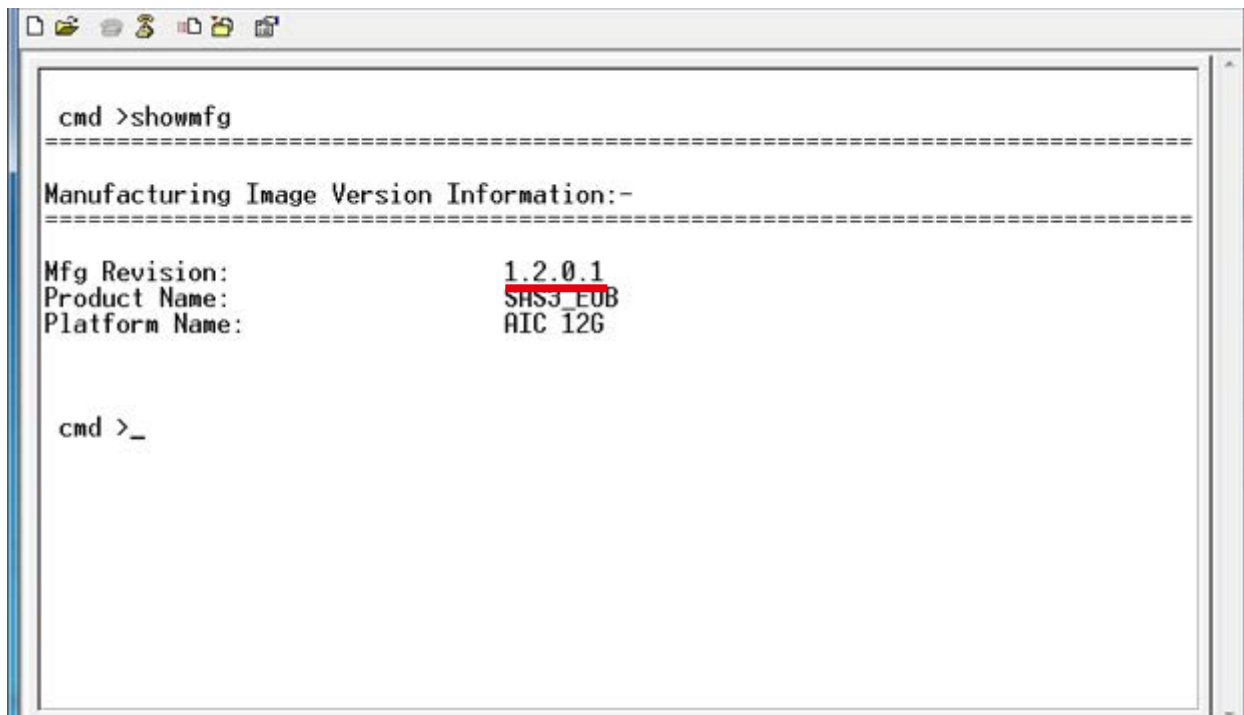


4.1.2 Update expander configuration MFG

Step 1:

Comand line for show current configuration MFG

cmd> showmfg



```
cmd >showmfg
-----
Manufacturing Image Version Information:-
-----
Mfg Revision:          1.2.0.1
Product Name:          SHS3_E0B
Platform Name:         AIC 12G

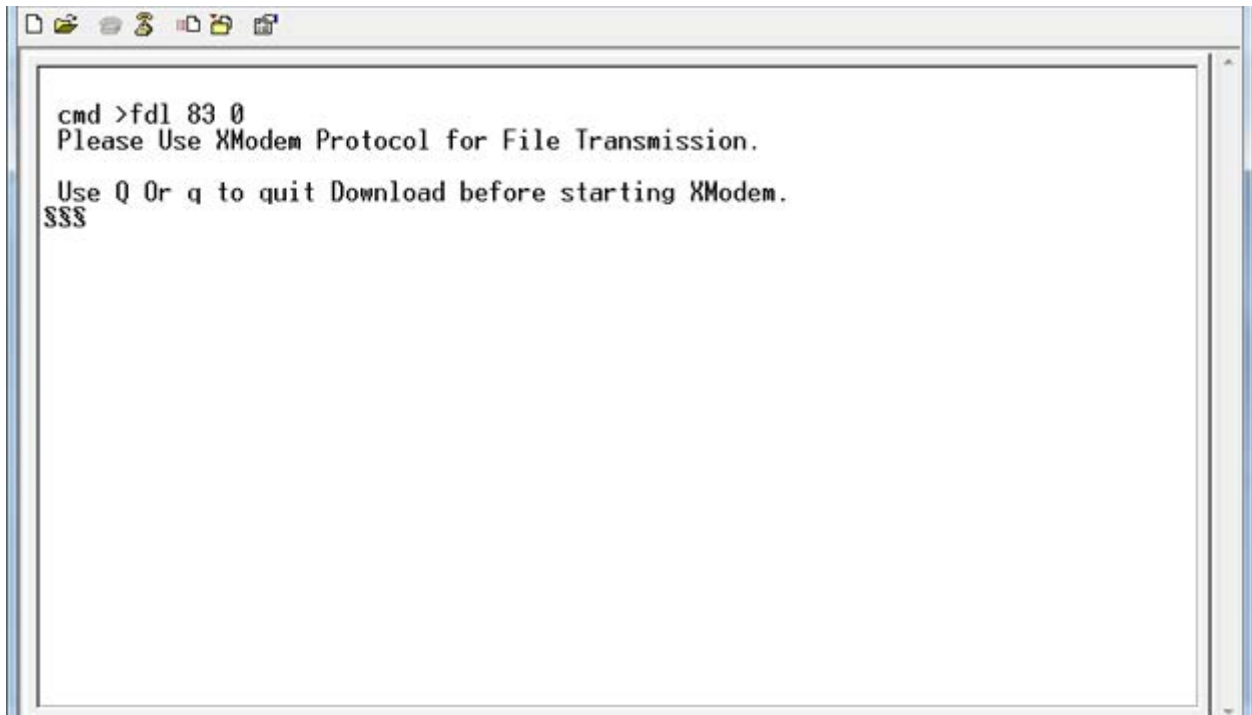
cmd >_
```

Chapter 4 HDD Blackplane Instruction

Step 2:

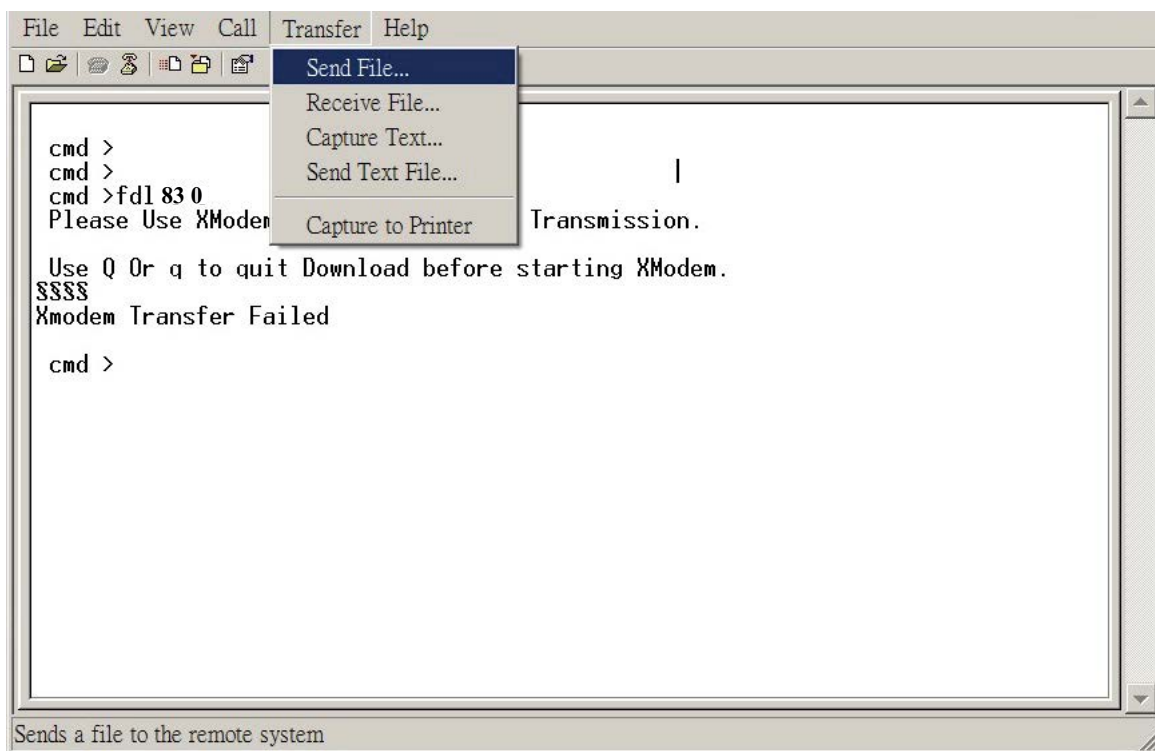
Start to update expander configuration MFG

```
cmd>fdl 83 0_
```



Step 3:

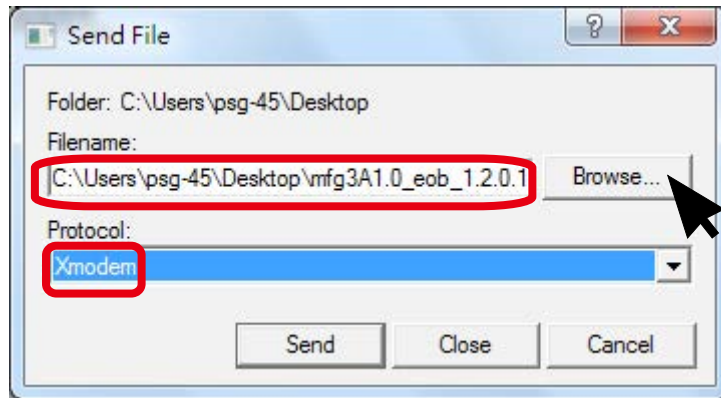
Select the tool bar "Transfer" -> "Send File".



Chapter 4 HDD Blackplane Instruction

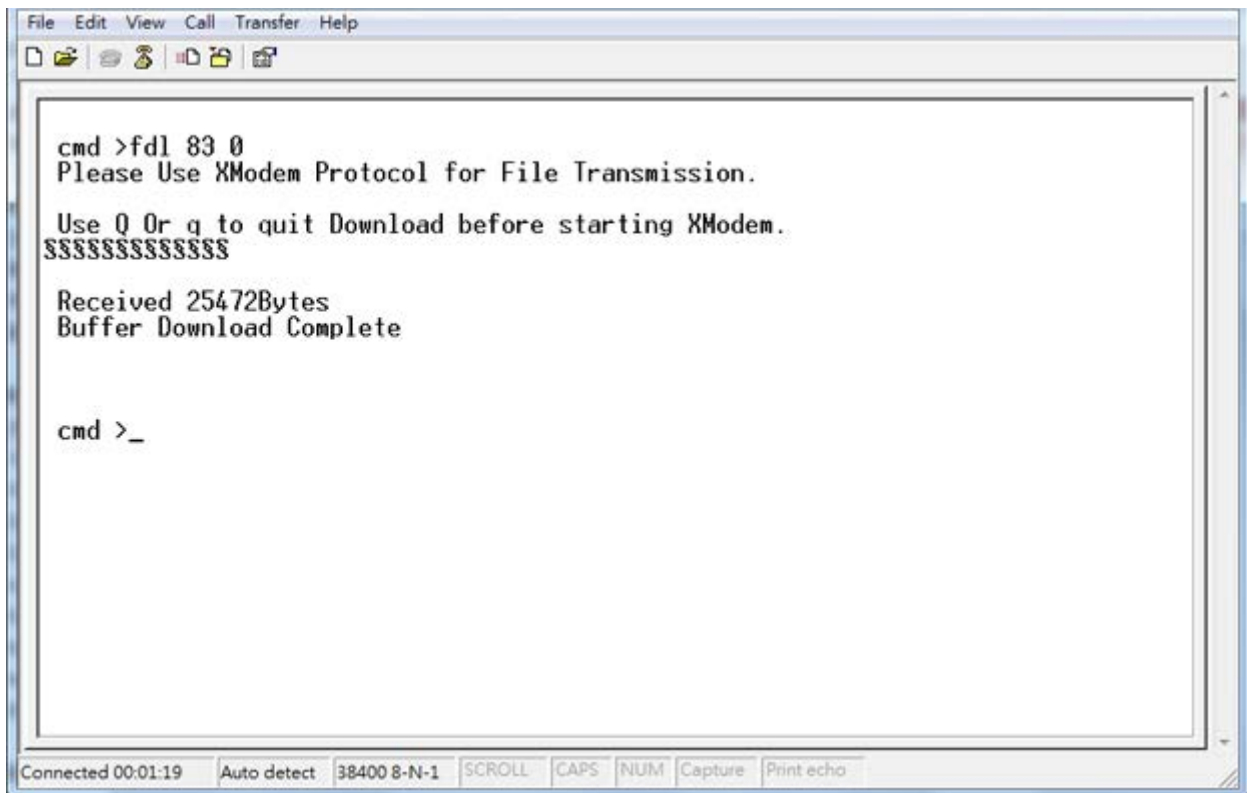
Step 4:

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



Step 5:

MFG download complete.

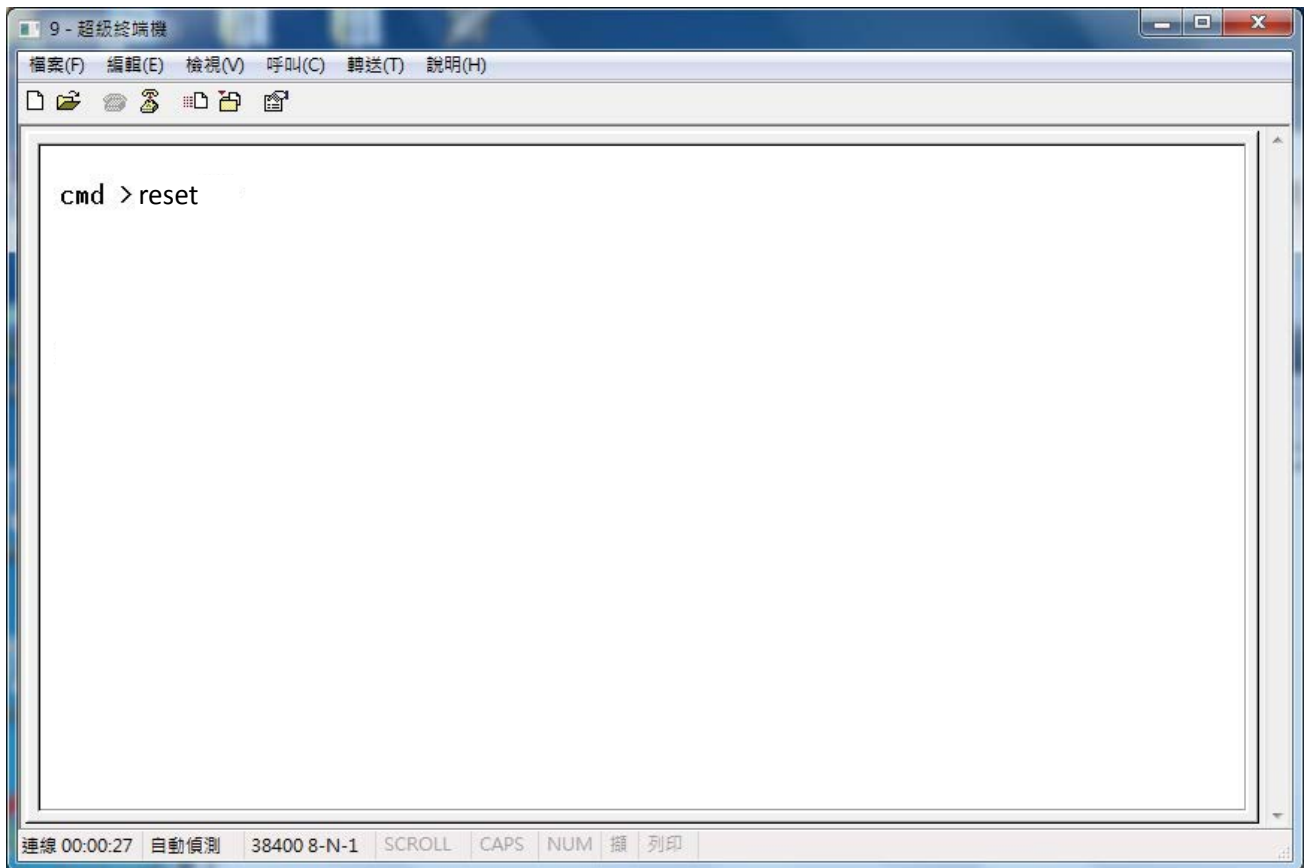


Chapter 4 HDD Blackplane Instruction

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.

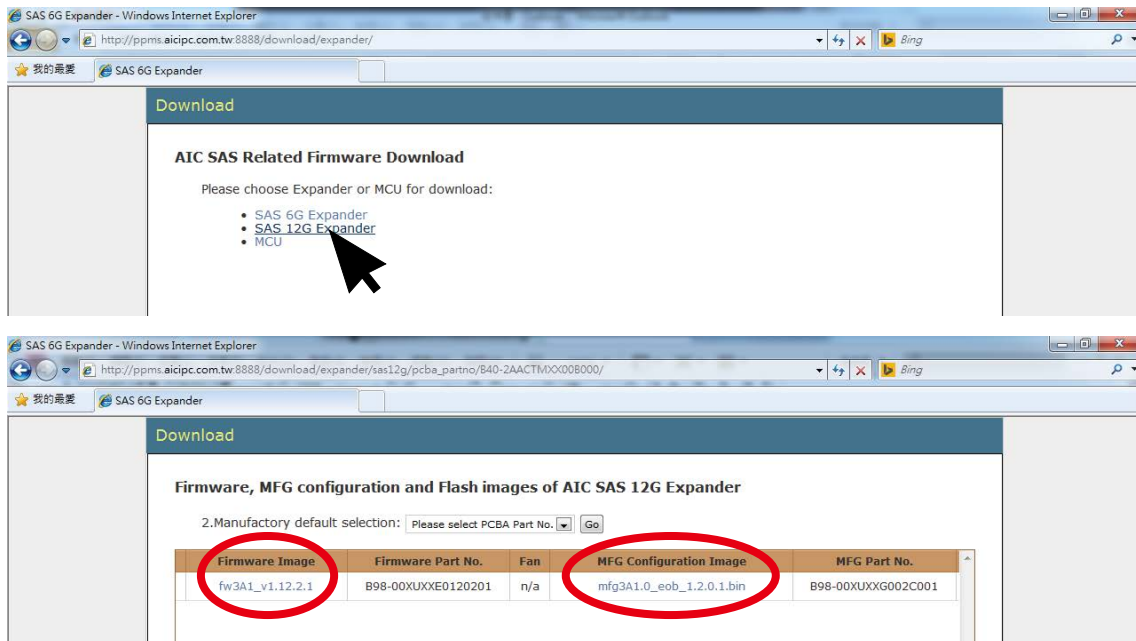
From website http://sg.danny.cz/sg/sg3_utils.html website

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/>

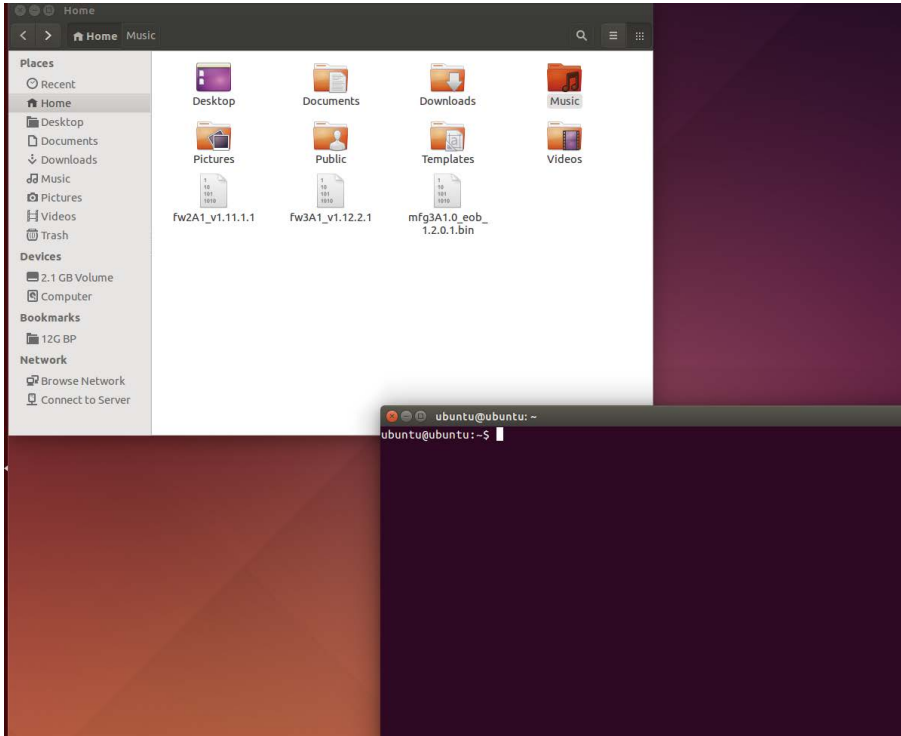


Chapter 4 HDD Blackplane Instruction

Step 3:

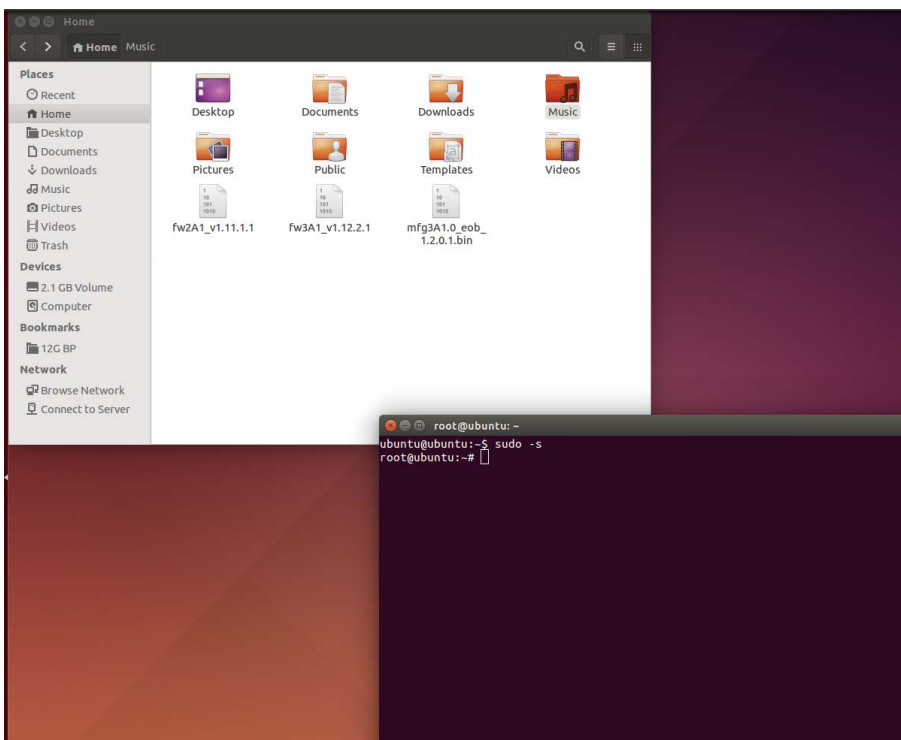
Execute terminal under the same new firmware folder.

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.

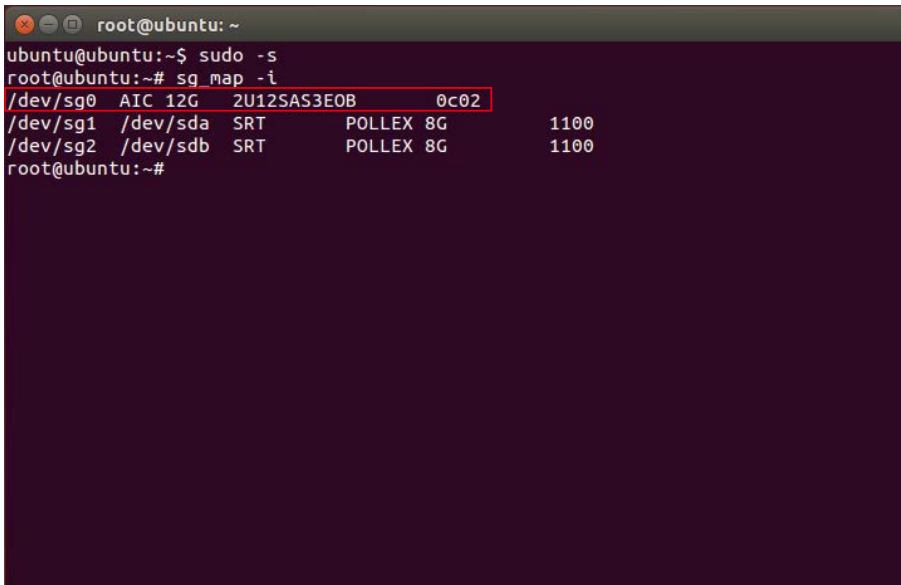


Chapter 4 HDD Blackplane Instruction

Step 5:

Find expander location.

```
$ sg_map -i
```

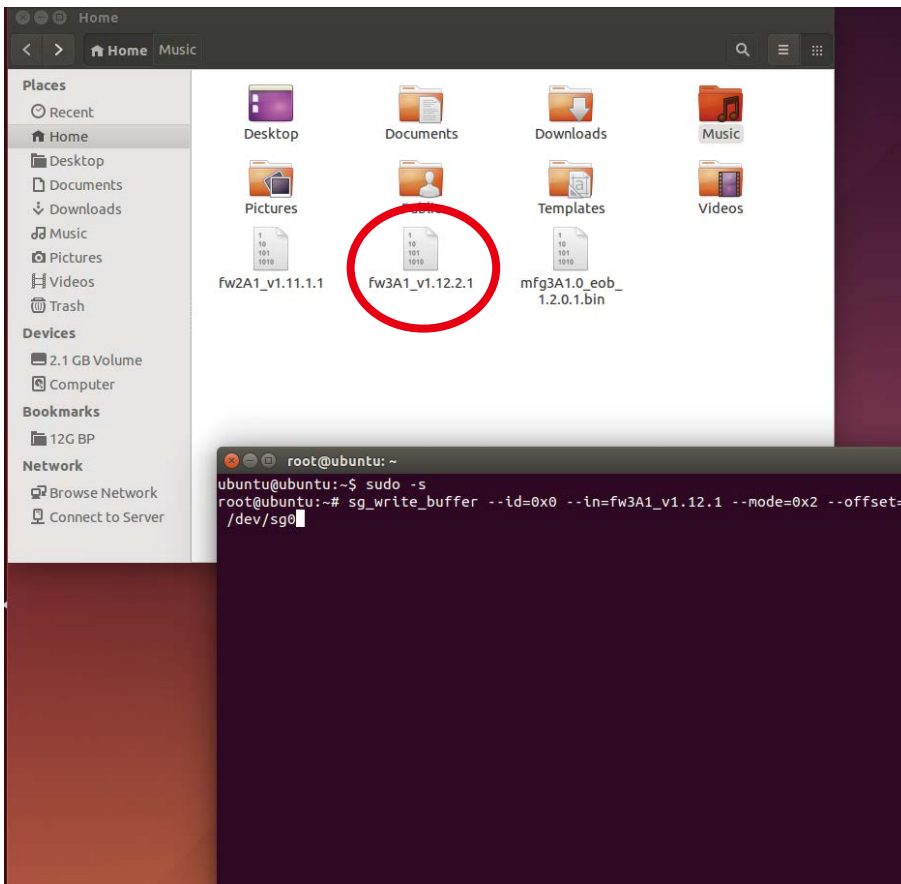


```
root@ubuntu: ~
ubuntu@ubuntu:~$ sudo -s
root@ubuntu:~# sg_map -i
/dev/sg0 AIC 12G 2U12SAS3E0B 0c02
/dev/sg1 /dev/sda SRT POLLEX 8G 1100
/dev/sg2 /dev/sdb SRT POLLEX 8G 1100
root@ubuntu:~#
```

Step 6:

Update Expander firmware

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

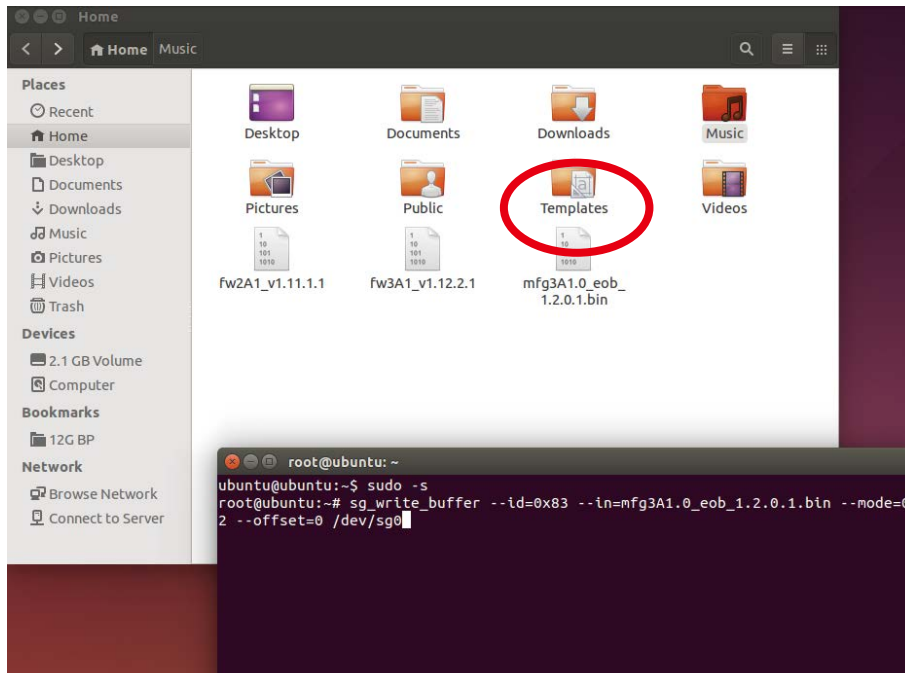


Chapter 4 HDD Blackplane Instruction

Step 7:

Update Expander MFG

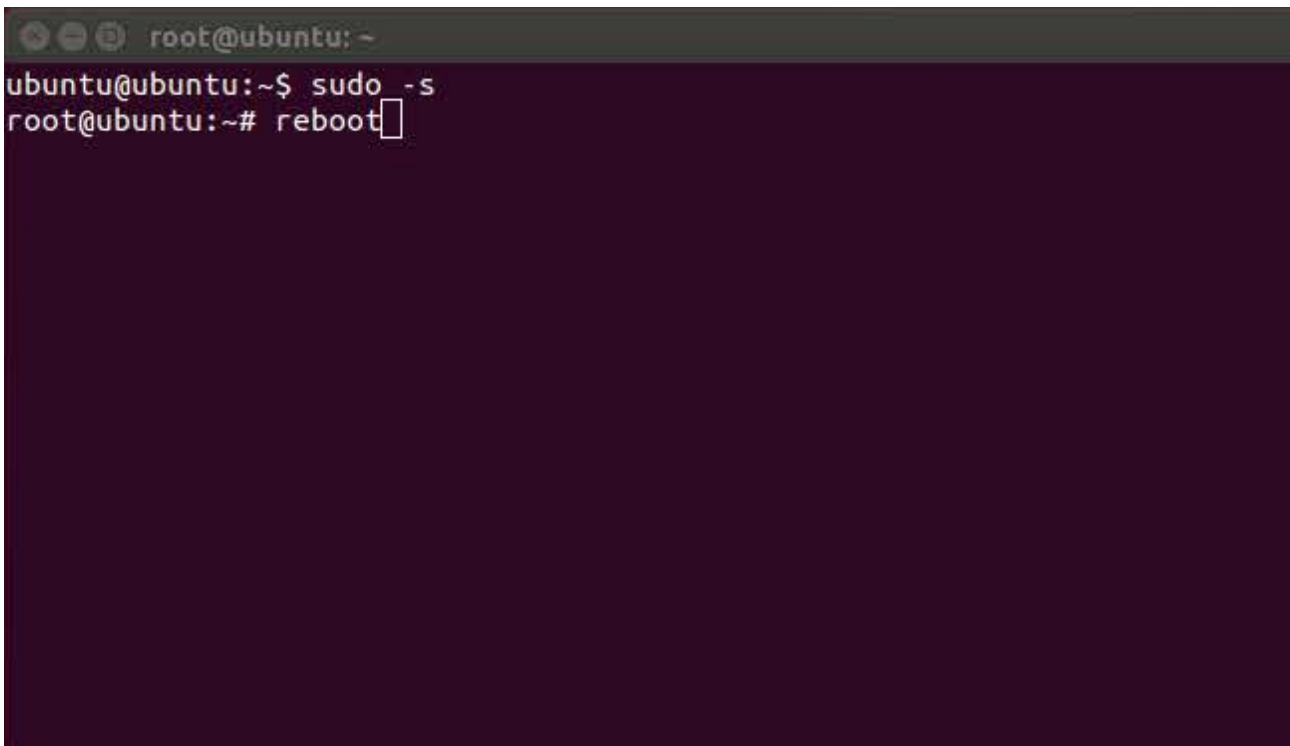
```
$ sg_write_buffer --id=0x83 --in=mfg3A1.0_eob_1.2.0.1.bin --mode=0x2  
--offset=0 /dev/sg0
```



Step 8:

Reboot computer for success update firmware & MFG.

```
root@ubuntu:~# reboot
```



4.4 Slot HDD power setting

(Only for system cooling Fan controled by expander.)

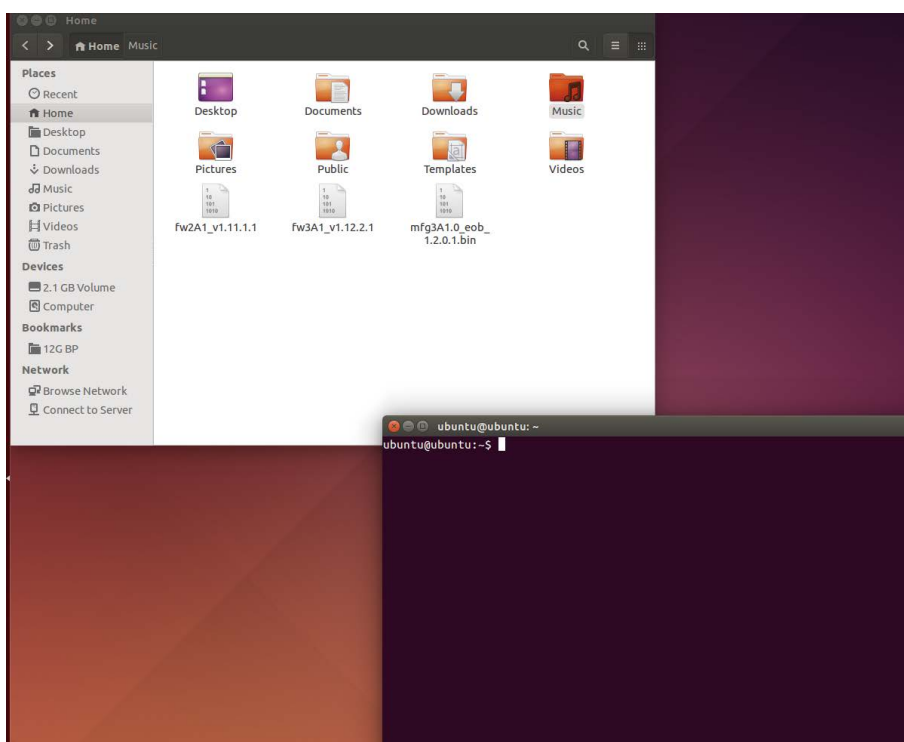
Step 1:

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.

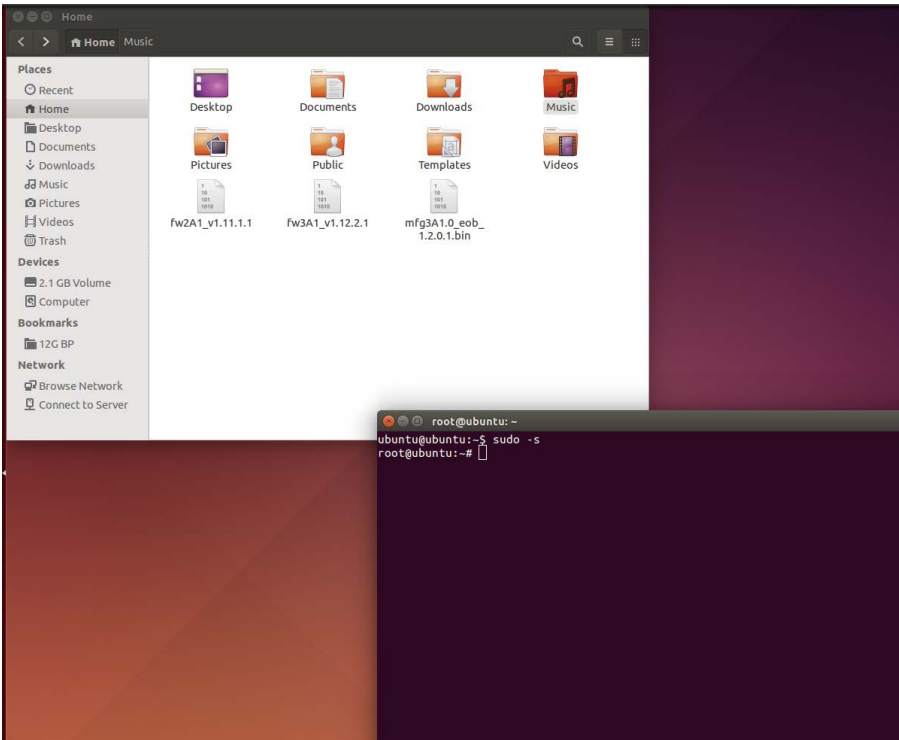
example: Setting a new firmware folder on "Home" page. Open Terminal by click to the right button of mouse in the same window "Home".



Chapter 4 HDD Blackplane Instruction

Step 3:

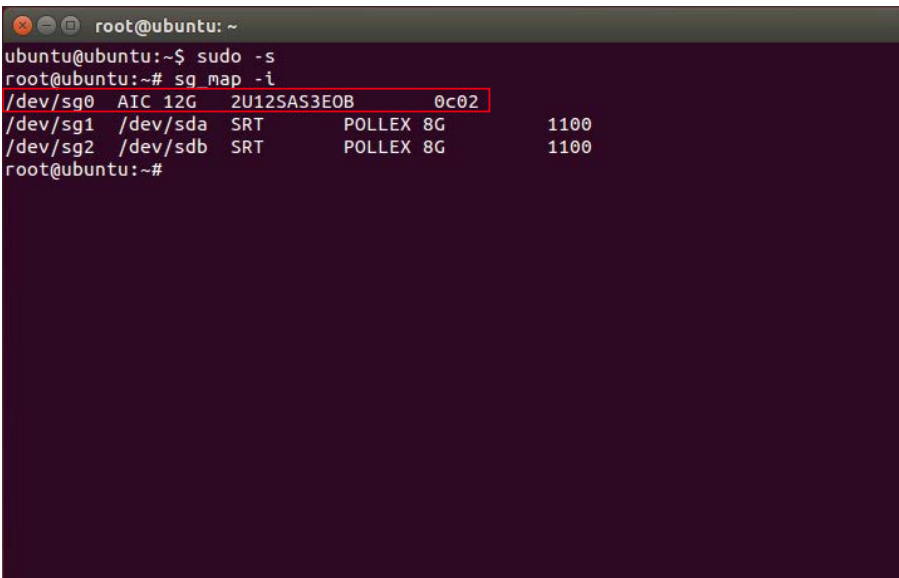
Typing "sudo -s" to into administrator mode.



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.

```
root@ubuntu: ~
root@ubuntu:~# sg_ses --page=7 /dev/sg0
AIC 12G 2U12SAS3E0B 0c02
Primary enclosure logical identifier (hex): 500605b0000272bf
Element Descriptor In diagnostic page:
generation code: 0x0
element descriptor list (grouped by type):
Element type: Array device slot, subenclosure id: 0 [ti=0]
Overall descriptor: ArrayDevicesInSubEnclsr0
Element 0 descriptor: Disk001
Element 1 descriptor: Disk002
Element 2 descriptor: Disk003
Element 3 descriptor: Disk004
Element 4 descriptor: Disk005
Element 5 descriptor: Disk006
Element 6 descriptor: Disk007
Element 7 descriptor: Disk008
Element 8 descriptor: Disk009
Element 9 descriptor: Disk010
Element 10 descriptor: Disk011
Element 11 descriptor: Disk012
Element type: Temperature sensor, subenclosure id: 0 [ti=1]
Overall descriptor: TempSensorsInSubEnclsr0
Element 0 descriptor: TempSense01
Element 1 descriptor: TempSense02
```

```
root@ubuntu: ~
Element 5 descriptor: Disk006
Element 6 descriptor: Disk007
Element 7 descriptor: Disk008
Element 8 descriptor: Disk009
Element 9 descriptor: Disk010
Element 10 descriptor: Disk011
Element 11 descriptor: Disk012
Element type: Temperature sensor, subenclosure id: 0 [ti=1]
Overall descriptor: TempSensorsInSubEnclsr0
Element 0 descriptor: TempSense01
Element 1 descriptor: TempSense02
Element type: Voltage sensor, subenclosure id: 0 [ti=2]
Overall descriptor: VoltageSensorsInSubEnclsr0
Element 0 descriptor: VoltageSense01
Element 1 descriptor: VoltageSense02
Element type: Enclosure, subenclosure id: 0 [ti=3]
Overall descriptor: EnclosureElementInSubEnclsr0
Element 0 descriptor: EnclosureElement01
Element type: Power supply, subenclosure id: 0 [ti=4]
Overall descriptor: PowerSupplyInSubEnclsr0
Element 0 descriptor: PowerSupply01
Element 1 descriptor: DiskPowerSupply
```

Chapter 4 HDD Blackplane Instruction

Step 6:

To check Disk004 (element 3) power status is ok

```
$ sg_ses --page=2 /dev/sg0
```

```
root@ubuntu: ~  
ubuntu@ubuntu:~$ sudo -s  
root@ubuntu:~# sg_map -i  
/dev/sg0 AIC 12G 2U12SAS3E0B 0c02  
/dev/sg1 /dev/sda SRT POLLEX 8G 1100  
root@ubuntu:~# sg_ses --page=2 /dev/sg0
```

Status shows below:

The status of Element 3 is OK.

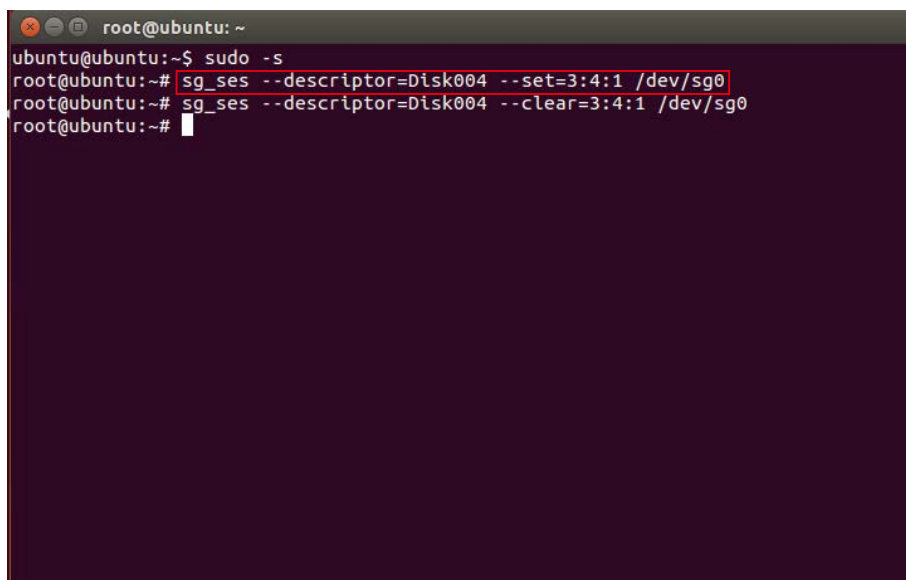
```
root@ubuntu: ~  
Ready to insert=0, RMV=0, Ident=0, Report=0  
App client bypass B=0, Fault sensed=0, Fault reqstd=0, Device off=0  
Bypassed A=0, Bypassed B=0, Dev bypassed A=0, Dev bypassed B=0  
Element 2 descriptor:  
Predicted failure=0, Disabled=0, Swap=1, status: Not installed  
OK=0, Reserved device=0, Hot spare=0, Cons check=0  
In crit array=0, In failed array=0, Rebuild/remap=0, R/R abort=0  
App client bypass A=0, Do not remove=0, Enc bypass A=0, Enc bypass B=0  
Ready to insert=0, RMV=0, Ident=0, Report=0  
App client bypass B=0, Fault sensed=0, Fault reqstd=0, Device off=0  
Bypassed A=0, Bypassed B=0, Dev bypassed A=0, Dev bypassed B=0  
Element 3 descriptor:  
Predicted failure=0, Disabled=0, Swap=1, status: OK  
OK=1, Reserved device=0, Hot spare=0, Cons check=0  
In crit array=0, In failed array=0, Rebuild/remap=0, R/R abort=0  
App client bypass A=0, Do not remove=0, Enc bypass A=0, Enc bypass B=0  
Ready to insert=0, RMV=0, Ident=0, Report=0  
App client bypass B=0, Fault sensed=0, Fault reqstd=0, Device off=0  
Bypassed A=0, Bypassed B=0, Dev bypassed A=0, Dev bypassed B=0  
Element 4 descriptor:  
Predicted failure=0, Disabled=0, Swap=0, status: Not installed  
OK=0, Reserved device=0, Hot spare=0, Cons check=0  
In crit array=0, In failed array=0, Rebuild/remap=0, R/R abort=0  
App client bypass A=0, Do not remove=0, Enc bypass A=0, Enc bypass B=0
```

Chapter 4 HDD Blackplane Instruction

Step 7:

Turn off a HDD power

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

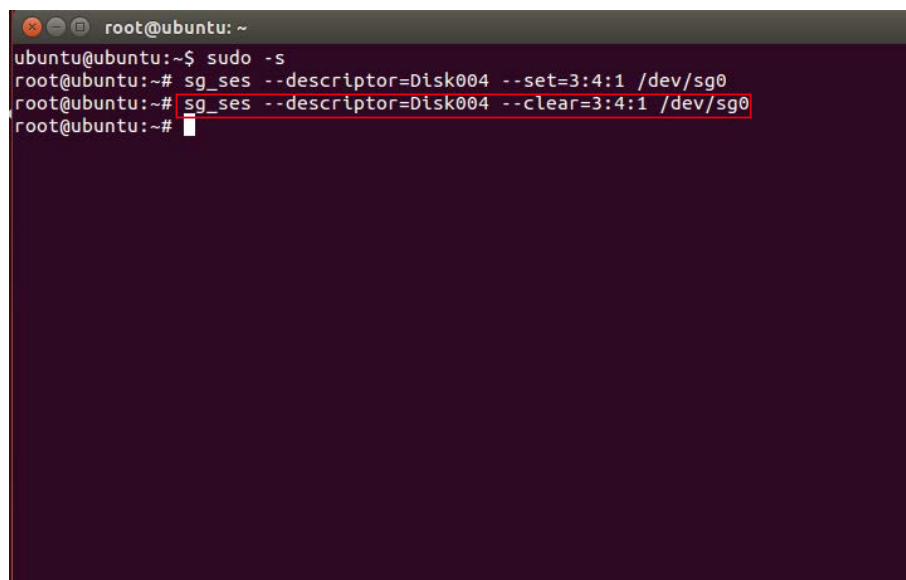
A terminal window showing the execution of the sg_ses command to turn off HDD power. The prompt is root@ubuntu:~. The user enters 'sudo -s' to become root. Then, the command 'sg_ses --descriptor=Disk004 --set=3:4:1 /dev/sg0' is entered and executed. The prompt returns to root@ubuntu:~. Finally, the user enters '#' to exit root mode, and the prompt returns to root@ubuntu:~.

```
root@ubuntu: ~
ubuntu@ubuntu:~$ sudo -s
root@ubuntu:~# sg_ses --descriptor=Disk004 --set=3:4:1 /dev/sg0
root@ubuntu:~# sg_ses --descriptor=Disk004 --clear=3:4:1 /dev/sg0
root@ubuntu:~#
```

Step 8:

Turn on a HDD power

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

A terminal window showing the execution of the sg_ses command to turn on HDD power. The prompt is root@ubuntu:~. The user enters 'sudo -s' to become root. Then, the command 'sg_ses --descriptor=Disk004 --set=3:4:1 /dev/sg0' is entered and executed. The prompt returns to root@ubuntu:~. Finally, the user enters the command 'sg_ses --descriptor=Disk004 --clear=3:4:1 /dev/sg0' and the prompt returns to root@ubuntu:~.

```
root@ubuntu: ~
ubuntu@ubuntu:~$ sudo -s
root@ubuntu:~# sg_ses --descriptor=Disk004 --set=3:4:1 /dev/sg0
root@ubuntu:~# sg_ses --descriptor=Disk004 --clear=3:4:1 /dev/sg0
root@ubuntu:~#
```

4.5 HDD BP thermal sensor temperature setting

(Only for system cooling Fan controled by expander.)

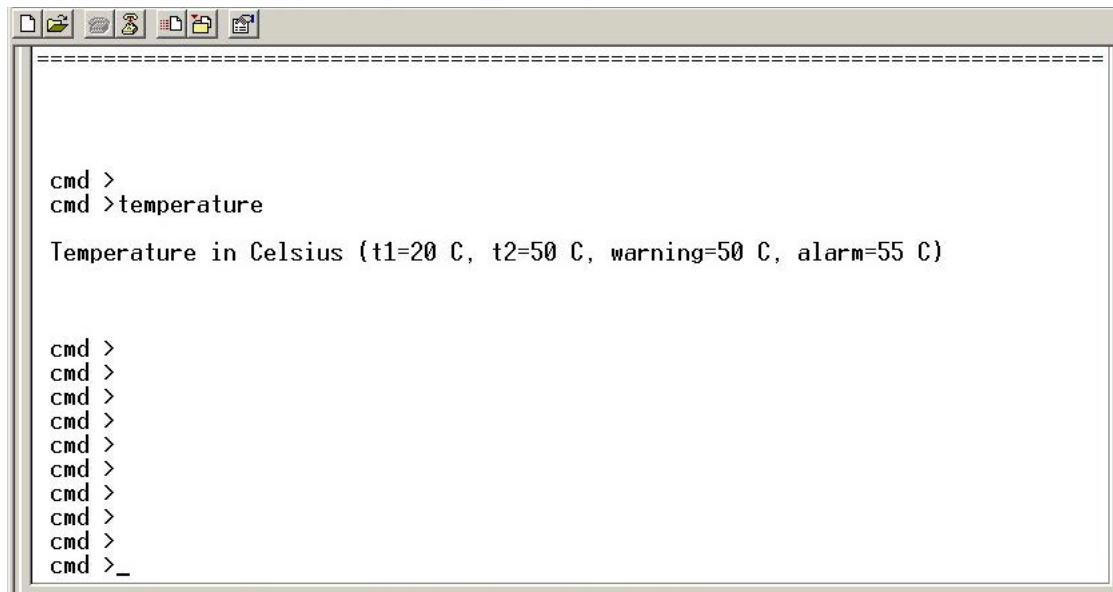
Step 1:

For Install HyperTerminal.exe refer to section 4.1

Step 2:

Get the current temperature settings

cmd> temperature



```
cmd >
cmd >temperature

Temperature in Celsius (t1=20 C, t2=50 C, warning=50 C, alarm=55 C)

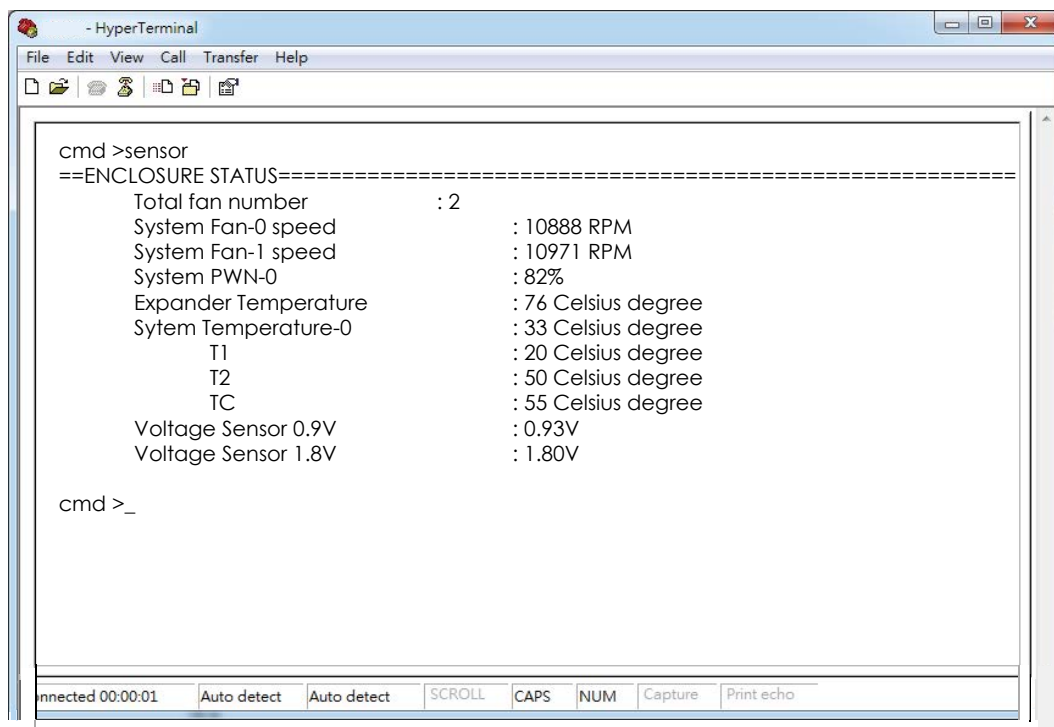
cmd >
cmd >
cmd >
cmd >
cmd >
cmd >
cmd >
cmd >
cmd >
cmd >
cmd >_
```


Chapter 4 HDD Blackplane Instruction

Step 4.

Check fan speed & temperature information.

```
cmd> sensor
```



```
cmd >sensor
==ENCLOSURE STATUS=====
Total fan number           : 2
System Fan-0 speed         : 10888 RPM
System Fan-1 speed         : 10971 RPM
System PWN-0               : 82%
Expander Temperature       : 76 Celsius degree
Sytem Temperature-0       : 33 Celsius degree
    T1                     : 20 Celsius degree
    T2                     : 50 Celsius degree
    TC                     : 55 Celsius degree
Voltage Sensor 0.9V        : 0.93V
Voltage Sensor 1.8V        : 1.80V

cmd >_
```

Connected 00:00:01 | Auto detect | Auto detect | SCROLL | CAPS | NUM | Capture | Print echo

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