

# GR-SS301SJ

## Storage Expansion

# System Installation Guide

REV.1.0  
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## Table of Content

Safety, Care and Regulatory Information.....	3
Chapter 1 Introduction.....	5
1-1: Product Introduction.....	5
1-2: Item Checklist.....	5
Chapter 2 Product Overview.....	6
2-1: Product Features.....	6
2-2: Parts Description.....	8
2-3: System Architecture.....	9
2-4: Front View Description.....	10
2-4-1: Module Description.....	10
2-4-2: LED Description.....	11
2-5: Rear View Description.....	12
2-5-1: Module Description.....	12
2-5-2: Connector Description.....	12
Chapter 3 Product Installation.....	13
3-1: Rail Kit Installation.....	13
3-2: Tower Kit Installation.....	17
3-3: Hard Disk Drive Assembly.....	21
3-4: Host Connection.....	22
3-4-1: One Host Connection Sample.....	22
3-4-2: Two Host Connection Sample.....	22

# Safety, Care and Regulatory Information

## Important safety information

Read and follow all instructions marked on the product and in the documentation before you operate your system. Retain all safety and operating instructions for future use.

- \* The product should be operated only from the type of power source indicated on the rating label.
- \* If your computer has a voltage selector switch, make sure that the switch is in the proper position for your area. The voltage selector switch is set at the factory to the correct voltage.
- \* The plug-socket combination must be accessible at all times because it serves as the main disconnecting device.
- \* All product shipped with a three-wire electrical grounding-type plug only fits into a grounding-type power outlet. This is a safety feature. The equipment grounding should be in accordance with local and national electrical codes. The equipment operates safely when it is used in accordance with its marked electrical ratings and product usage instructions
- \* Do not use this product near water or a heat source.
- \* Set up the product on a stable work surface or so as to ensure stability of the system.
- \* Openings in the case are provided for ventilation. Do not block or cover these openings. Make sure you provide adequate space around the system for ventilation when you set up your work area. Never insert objects of any kind into the ventilation openings.
- \* To avoid electrical shock, always unplug all power cables and modem cables from the wall outlets before removing covers.
- \* Allow the product to cool before removing covers or touching internal components.

## Precaution for Product with Laser Devices

Observe the following precautions for laser devices:

- \* Do not open the CD-ROM drive, make adjustments, or perform procedures on a laser device other than those specified in the product's documentation.
- \* Only authorized service technicians should repair laser devices.

## Precaution for Product with Modems, Telecommunications, or Local Area

### Network Options

Observe the following guidelines when working with options:

- \* Do not connect or use a modem or telephone during a lightning storm. There may be a risk of electrical shock from lightning.
- \* To reduce the risk of fire, use only No. 26 AWG or larger telecommunications line cord.
- \* Do not plug a modem or telephone cable into the network interface controller (NIC) receptacle.
- \* Disconnect the modem cable before opening a product enclosure, touching or installing internal components, or touching an uninsulated modem cable or jack.
- \* Do not use a telephone line to report a gas leak while you are in the vicinity of the leak.

## Federal Communications Commission (FCC) Statement

**Note:** This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

Properly shielded and grounded cables and connectors must be used in order to meet FCC emission limits. Neither the provider nor the manufacturer are responsible for any radio or television interference caused by using other than recommended cables and connectors or by unauthorized changes or modifications to this equipment. Unauthorized changes or modifications could void the user's authority to operate the equipment.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

- (1) this device may not cause harmful interference, and
- (2) this device must accept any interference received, including interference that may cause undesired operation.

## FCC part 68 (applicable to products fitted with USA modems)

The modem complies with Part 68 of the FCC Rules. On this equipment is a label that contains, among other information, the FCC registration number and Ringer Equivalence Number (REN) for this equipment. You must, upon request, provide this information to your telephone company.

If your telephone equipment causes harm to the telephone network, the Telephone Company may discontinue your service temporarily. If possible, they will notify in advance. But, if advance notice is not practical, you will be notified as soon as possible. You will be informed of your right to file a complaint with the FCC.

Your telephone company may make changes in its facilities, equipment, operations, or procedures that could affect proper operation of your equipment. If they do, you will be notified in advance to give you an opportunity to maintain uninterrupted telephone service.

The FCC prohibits this equipment to be connected to party lines or coin-telephone service.

The FCC also requires the transmitter of a FAX transmission be properly identified (per FCC Rules Part 68, Sec. 68.381 (c) (3)).

/ for Canadian users only /

#### **Canadian Department of Communications Compliance Statement**

This digital apparatus does not exceed the Class B limits for radio noise emissions from digital apparatus as set out in the radio interference regulations of Industry Canada.

Le présent appareil numérique n'émet pas de bruits radioélectriques dépassant les limites applicables aux appareils numériques de Classe B prescrites dans le règlement sur le brouillage radioélectrique édicté par Industrie Canada.

#### **DOC notice (for products fitted with an Industry Canada-compliant modem)**

The Canadian Department of Communications label identifies certified equipment. This certification means that the equipment meets certain telecommunications network protective, operational and safety requirements. The Department does not guarantee the equipment will operate to the user satisfaction.

Before installing this equipment, users ensure that it is permissible to be connected to the facilities of the local Telecommunications Company. The equipment must also be installed using an acceptable method of connection. The customer should be aware that compliance with the above conditions might not prevent degradation of service in some situations.

Repairs to certified equipment should be made by an authorized Canadian maintenance facility designated by the supplier. Any repairs or alterations made by the user to this equipment, or equipment malfunctions, may give the telecommunications company cause to request the user to disconnect the equipment.

Users should ensure for their own protection that the electrical ground connections of the power utility, telephone lines and internal metallic water pipe system, if present are connected together. This precaution may be particularly important in rural areas.

Caution: Users should not attempt to make such connections themselves, but should contact the appropriate electric inspection authority, or electrician, as appropriate.

**NOTICE:** The Load Number (LN) assigned to each terminal device denotes the percentage of the total load to be connected to a telephone loop which is used by the device, to prevent overloading. The termination on a loop may consist of any combination of devices subject only to the requirement that the sum of the Load Numbers of all the devices does not exceed 100.

/ for European users only /



### **CAUTION**

- ❖ Danger of explosion if battery is incorrectly replaced.
- ❖ Replace only with the same or equivalent type recommended by the manufacturer.
- ❖ Dispose of used batteries according to the manufacturer's instructions.

## Chapter 1 Introduction

### 1-1: Product Introduction

The GIGABYTE GR-SS301SJ is a SCSI storage expansion. It is ideal for extending server storage capacity. By the high speed Ultra 320 SCSI interface, servers can get a large space to save more data. The storage expansion is designed for continuous serve environment. The redundant and hot-swappable modules help administrators to get the maximum working time without any downtime for repairing.

GR-SS301SJ has two Ultra 320 SCSI channels. Each channel can control seven hot-swappable disks and has one build-in SCSI terminator. In front side, there are four LED to indicate the status of SCSI channel, fan, hard disk, and power. It has two redundant power supplies for continue service. The fourteen hard disk trays all have independent key lock to avoid un-expectative swapping.

For more information about the GR-SS301SJ, please see the following content in this guide.

### 1-2: Item Checklist

When opening the package, please ensure the system components are not damaged during the shipping. Using the following checklist to verify the contents. If any component is missing or damaged in the system, please contact your vendor immediately.

- ☐ GR-SS301SJ Chassis
- ☐ Power Supply Module x 2 (Installed)
- ☐ FAN Module (Installed)
- ☐ HDD Tray x 15 (Installed)
- ☐ HDD Key x 2
- ☐ System Installation Guide

## Chapter 2 Product Overview

### 2-1: Product Features

#### Model

GR-SS301SJ	<ul style="list-style-type: none"> <li>Storage Expansion, JBOD</li> </ul>
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#### Controller specifications

Host channel	<ul style="list-style-type: none"> <li>Two Ultra 320 SCSI, VHDCI, LVD</li> </ul>
Disk channel	<ul style="list-style-type: none"> <li>Ultra 320 SCSI, SCA 80, LVD</li> </ul>
System support	<ul style="list-style-type: none"> <li>Operating system independent</li> </ul>

#### RAID Fault Tolerant Features

JBOD	<ul style="list-style-type: none"> <li>Dependent on the connected host</li> </ul>
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#### Storage Enclosure Specifications

Front side LED display status	<ul style="list-style-type: none"> <li>Power, fan/temperature, hard disk, backplane</li> </ul>
Hard disk security	<ul style="list-style-type: none"> <li>Each hard disk with key lock</li> </ul>
Fans	<ul style="list-style-type: none"> <li>Redundant fans in a module</li> </ul>
Fan module hot-swap	<ul style="list-style-type: none"> <li>Supported</li> </ul>

#### Disk Specifications

Hard disk RPM	<ul style="list-style-type: none"> <li>10k, 15k rpm</li> </ul>
Hard disk size	<ul style="list-style-type: none"> <li>36GB, 73GB, 146GB, 300GB</li> </ul>
Hard disk interface	<ul style="list-style-type: none"> <li>Ultra 320 SCSI, SCA 80, LVD</li> </ul>
Hard disk number	<ul style="list-style-type: none"> <li>14</li> </ul>
Hard disk hot-swap	<ul style="list-style-type: none"> <li>Supported</li> </ul>

#### Management

Console interface	<ul style="list-style-type: none"> <li>RS-232, for factory use only</li> </ul>
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#### Power Specifications

Power supply	<ul style="list-style-type: none"> <li>Redundant, 600W+600W</li> </ul>
Power supply hot-swap	<ul style="list-style-type: none"> <li>Supported</li> </ul>
Input	<ul style="list-style-type: none"> <li>50-60Hz, 100-240V, 12-6A</li> </ul>
Output	<ul style="list-style-type: none"> <li>600W</li> </ul>

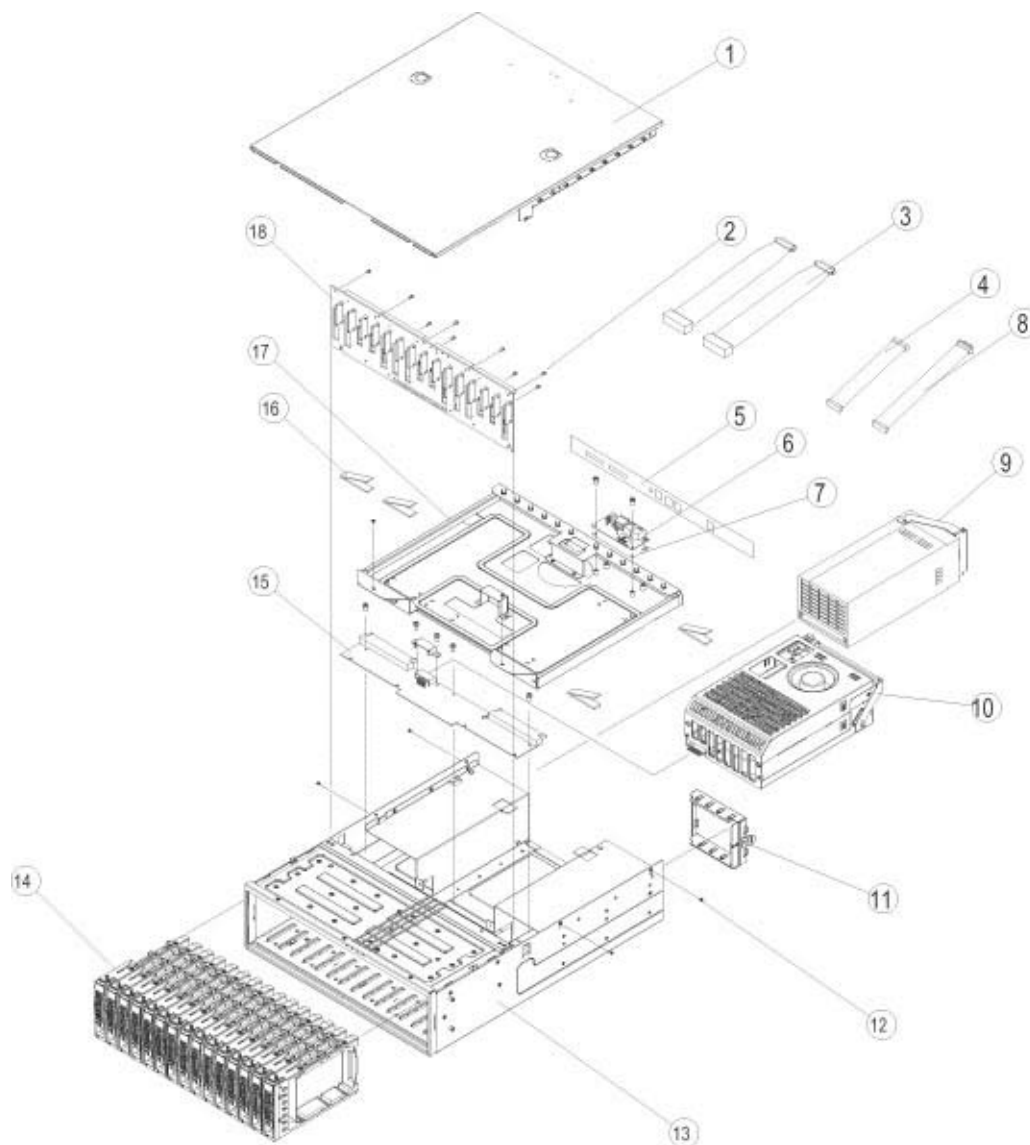
#### Certifications

Certification Acquisition	<ul style="list-style-type: none"> <li>CE, FCC, VCCI, BSMI, CB</li> </ul>
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## Physical specifications

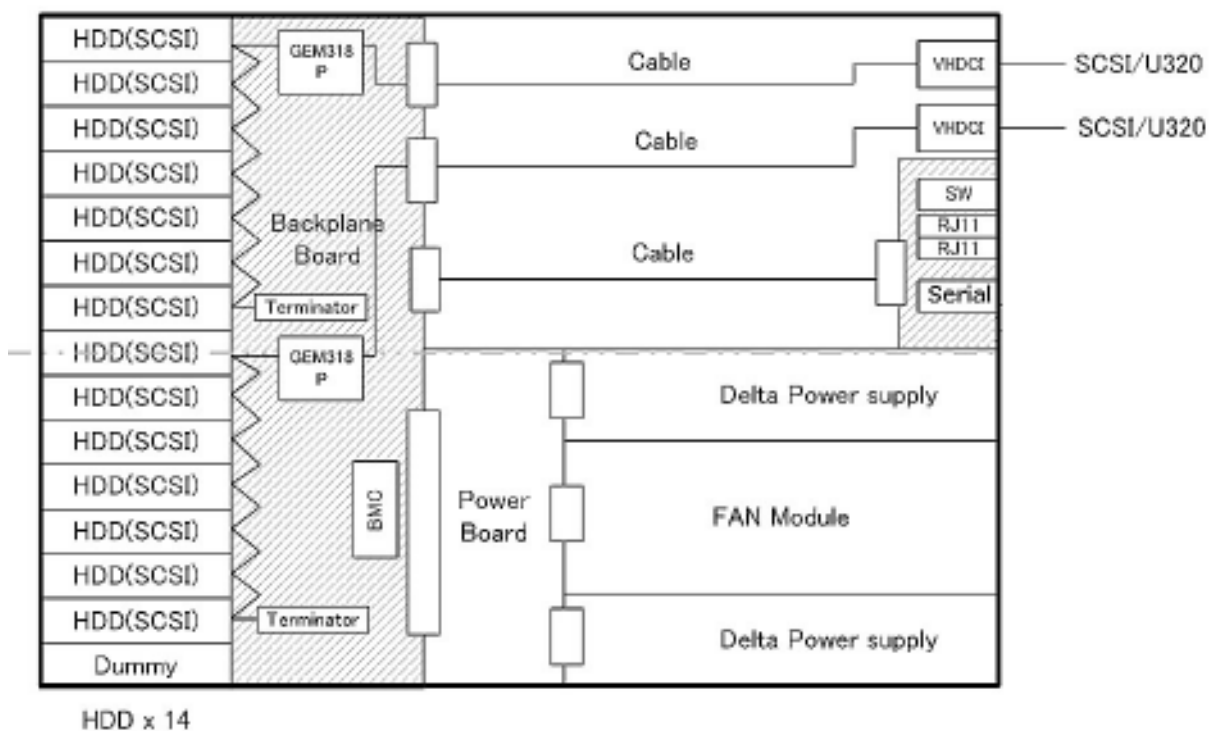
<b>Dimension</b>	<ul style="list-style-type: none"><li>• 583.8mm(L) x 430.7mm(W) x 130mm(H)</li></ul>
<b>Weight (without hard disk)</b>	<ul style="list-style-type: none"><li>• 26kg</li></ul>
<b>Packing</b>	<ul style="list-style-type: none"><li>• 830mm(L) x 590mm(W) x 280mm(H), 31kg</li></ul>
<b>Tower kit</b>	<ul style="list-style-type: none"><li>• Supported</li></ul>
<b>Rail kit</b>	<ul style="list-style-type: none"><li>• Supported</li></ul>
<b>Tower / Rail kit packing</b>	<ul style="list-style-type: none"><li>• 670mm(L) x 521mm(W) x 195mm(H), 10kg</li></ul>
<b>Rack mount space</b>	<ul style="list-style-type: none"><li>• 3U</li></ul>
<b>Operating Temperature</b>	<ul style="list-style-type: none"><li>• 5 to 50°C</li></ul>

## 2-2: Parts Description



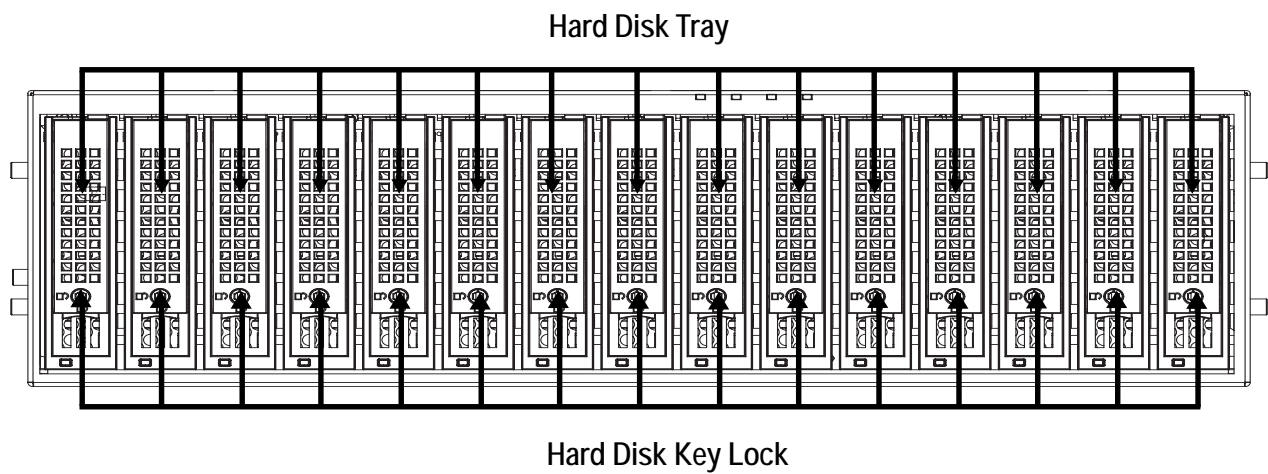
1. Top cover	2. Backplane screw
3. SCSI cable	4. Flat cable
5. Label IO	6. Switch board
7. Mylar for power board	8. Flat cable
9. Power supply	10. Fan module
11. PSU dummy cover	12. Screw flat head
13. Chassis kit	14. HDD tray
15. Power extend board	16. Flat cable clamp
17. Module frame	18. Backplane board

## 2-3: System Architecture

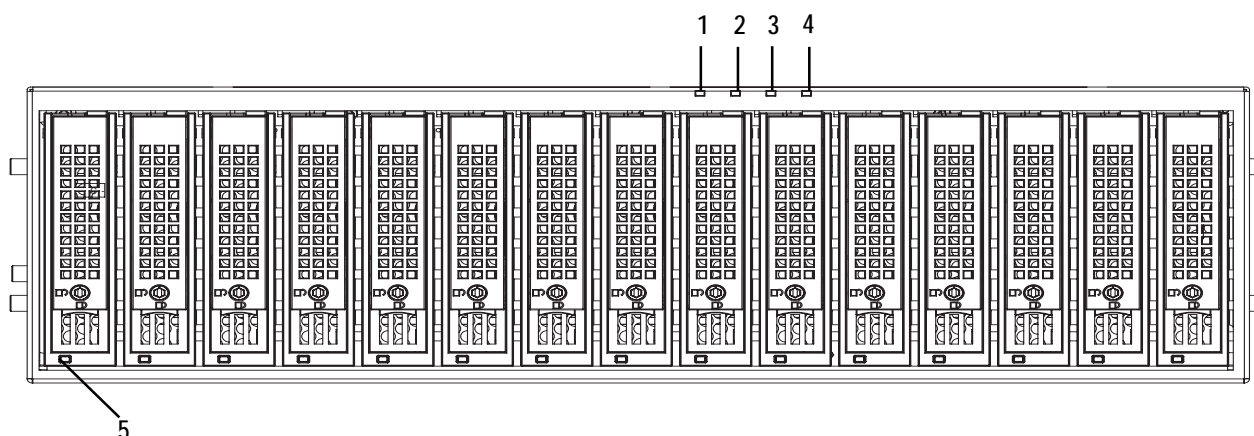


## 2-4: Front View Description

### 2-4-1: Module Description



## 2-4-2: LED Description



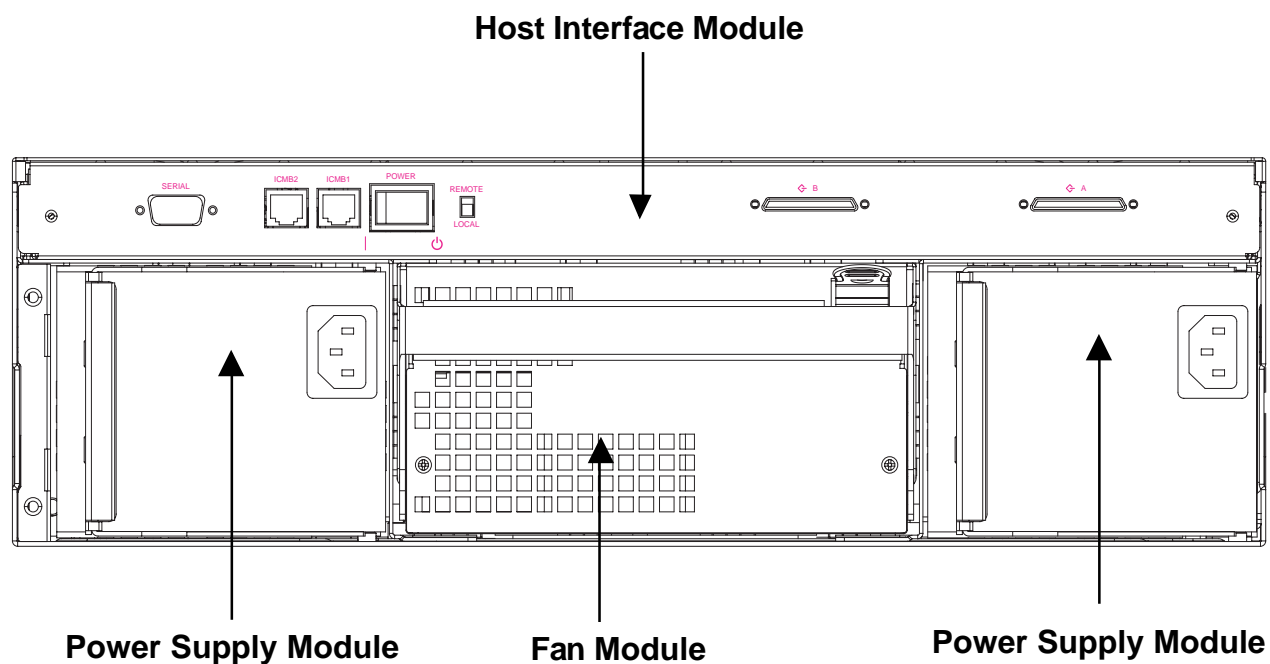
Location	LED	Color	Condition	Comment/Corrective Action
1	POWER	Green	Turn on at normal	---
		Orange	Turn on when one of each has error with 2 power supply	It should replace correct portion after checking at back side power LED.
2	FAN/TEMP Error	Green	Turn on at normal	---
		Orange	Turn on when rotation number for one of 3 FANs become less than limit value. Turn on when it detect more than 60 degree at temperature sensor	Change FAN unit
		Red	Turn on more than 2 FAN error.	Change FAN unit
3	HDD Error	Green	Turn on at normal and also rebuilding without error	---
		Orange	Turn on at detecting failed HDD (Degraded Mode)	Replace Corresponding HDD after checking #5 LED.
		Red	No definition	Replace backplane
4	BMC Controller Error	Green	Turn on at normal	---
		Orange	Turn on at detecting I2C bus failure or any other failure detected on BMC	Replace backplane
		Red	No definition	Replace backplane
5	HDD Status	Green (*1)	Turn on at HDD is ready without any access Turn off with any access at HDD Lit at HDD Spin-up (0.25 seconds on, 0.25 seconds off)	
		Red (*1)	Turn on when there is error on HDD. Lit when rebuilding (Turn on 2 seconds and turn off 2 seconds)	Replace HDD after checking LED

\* 1 It looks orange when it turns on green and red.

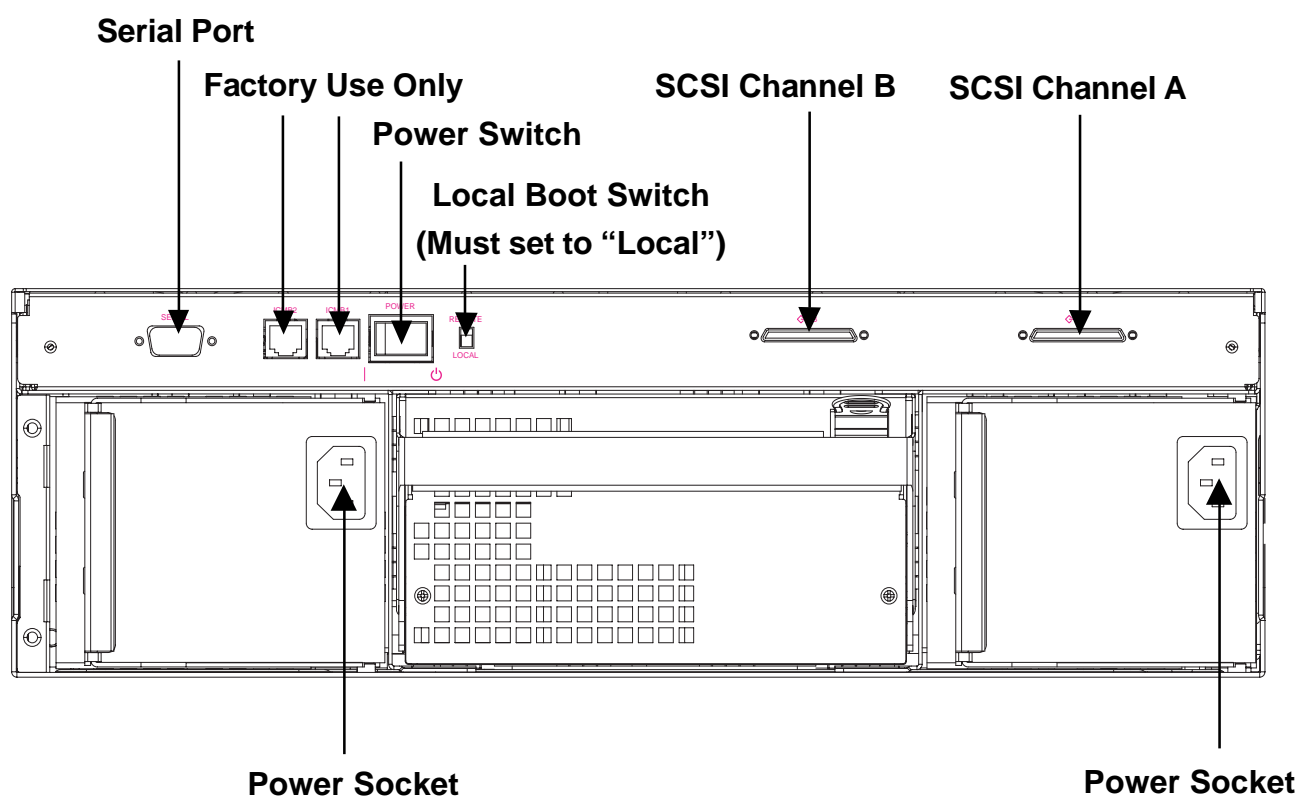
\* 2 After power on it turns on 10 seconds LED at 1, 2, 3 and 4 for orange to check LED itself.

## 2-5: Rear View Description

### 2-5-1: Module Description



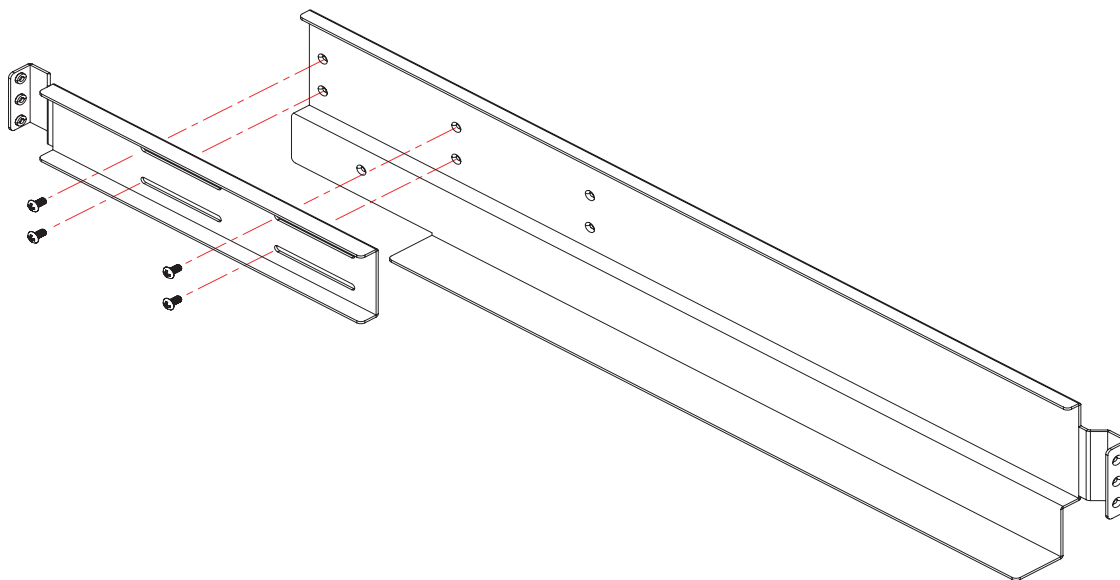
### 2-5-2: Connector Description



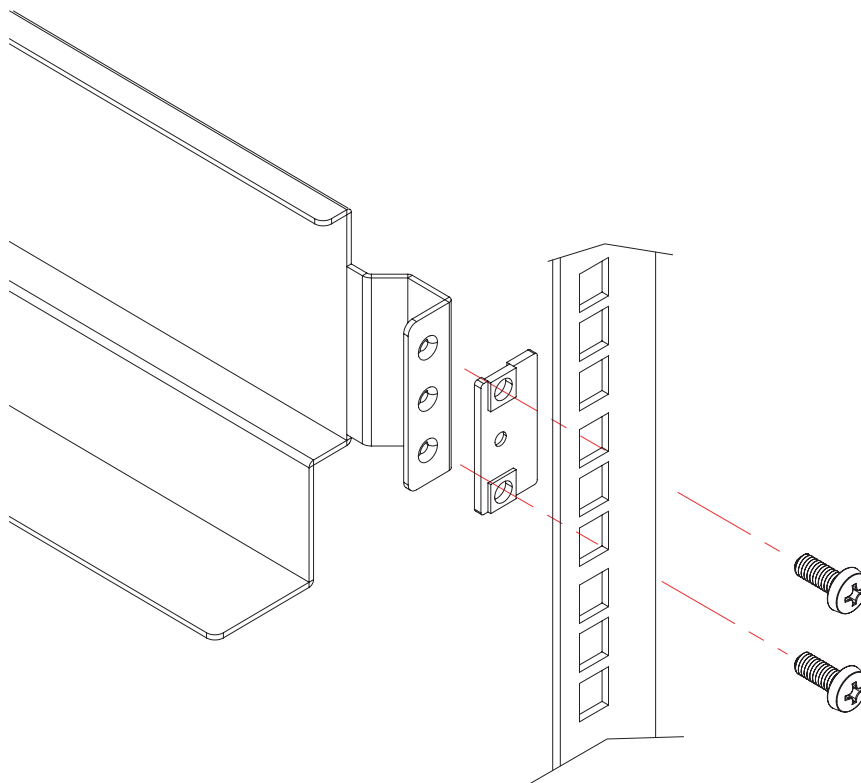
## Chapter 3 Product Installation

### 3-1: Rail Kit Installation

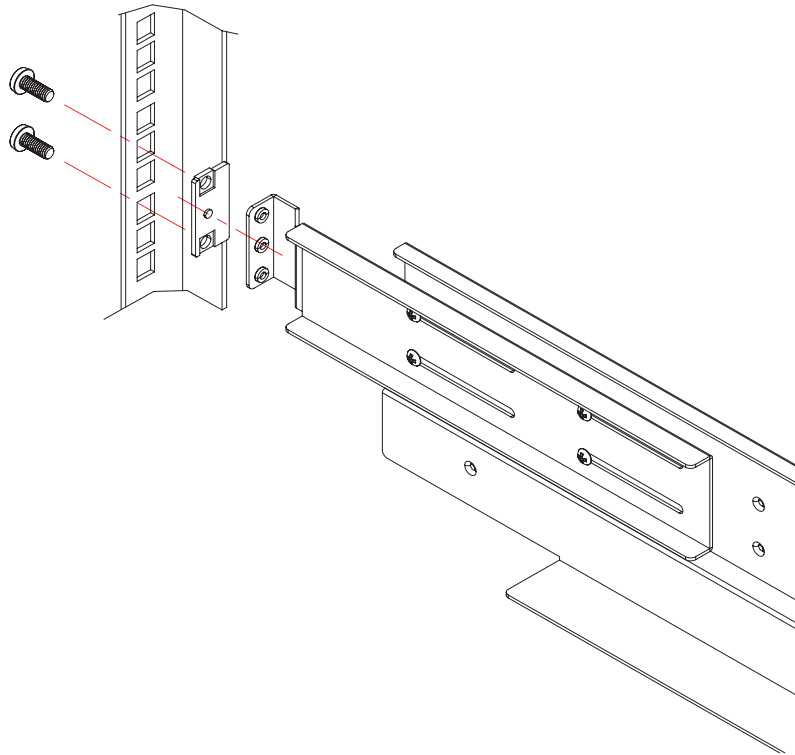
#### Step1. Rail kit assembly.



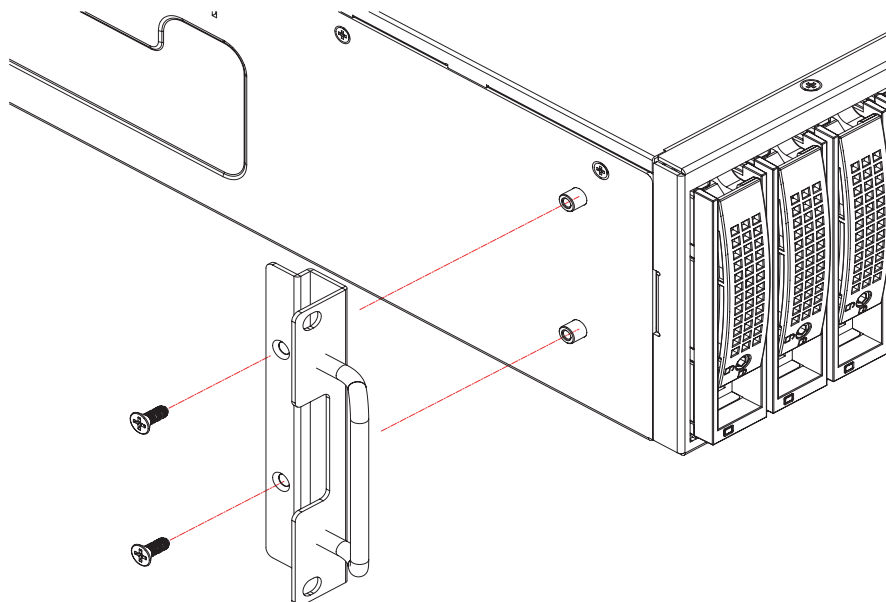
#### Step2. Rack mount front end assembly.

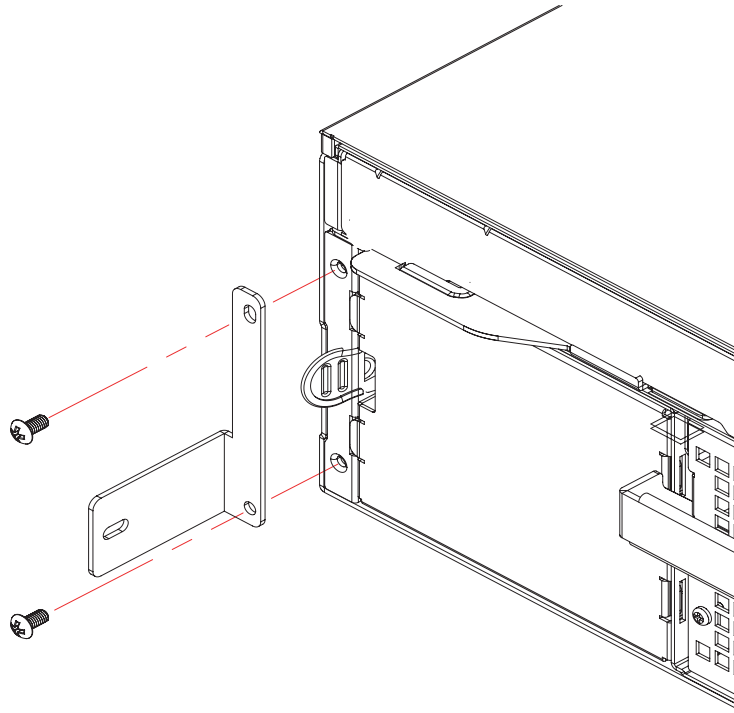
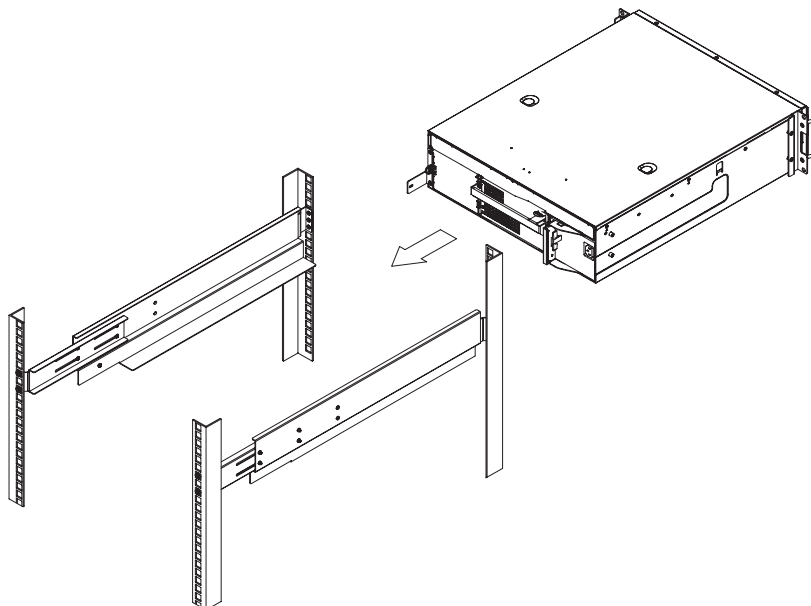


**Step3. Rack mount rear end assembly.**

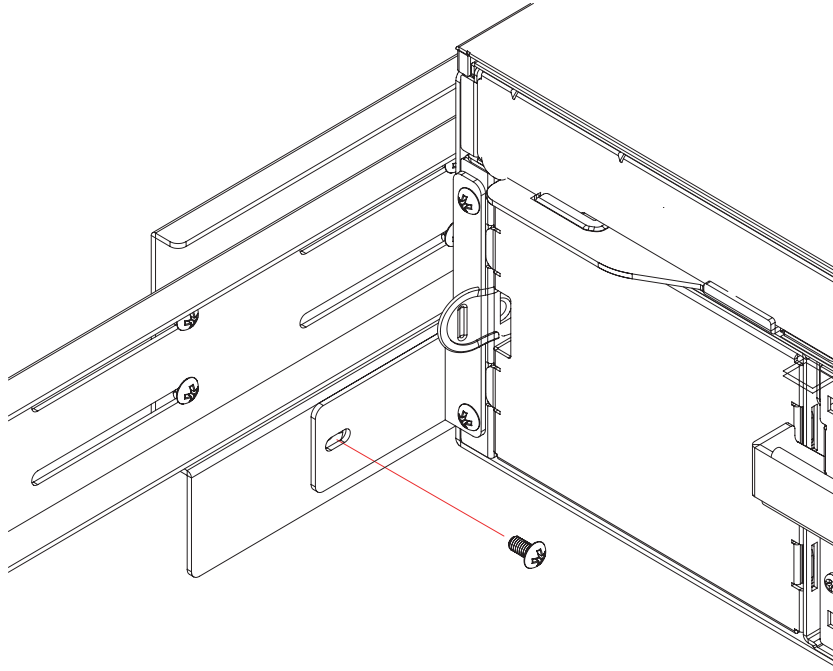


**Step4. Handle assembly.**

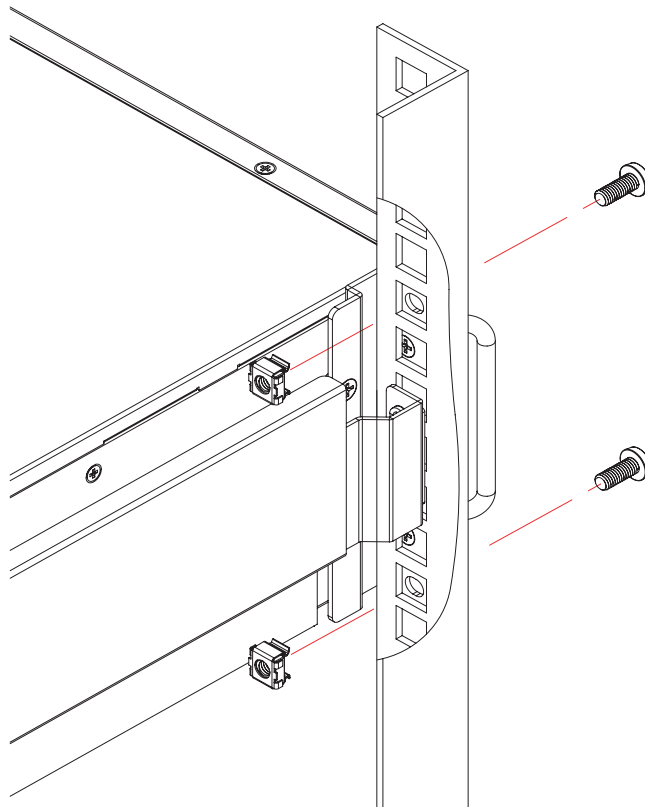


**Step5. Rear fix plate assembly.****Step6. System insert.**

**Step7. System rear assembly.**

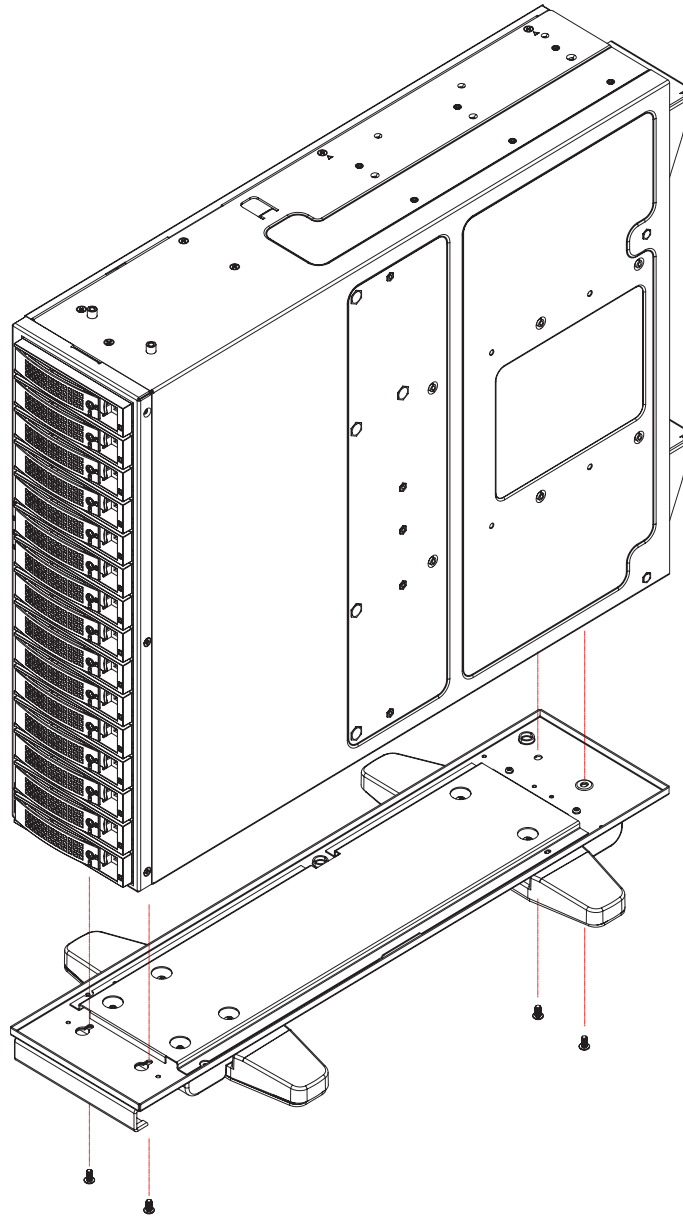


**Step8. Front fix assembly.**

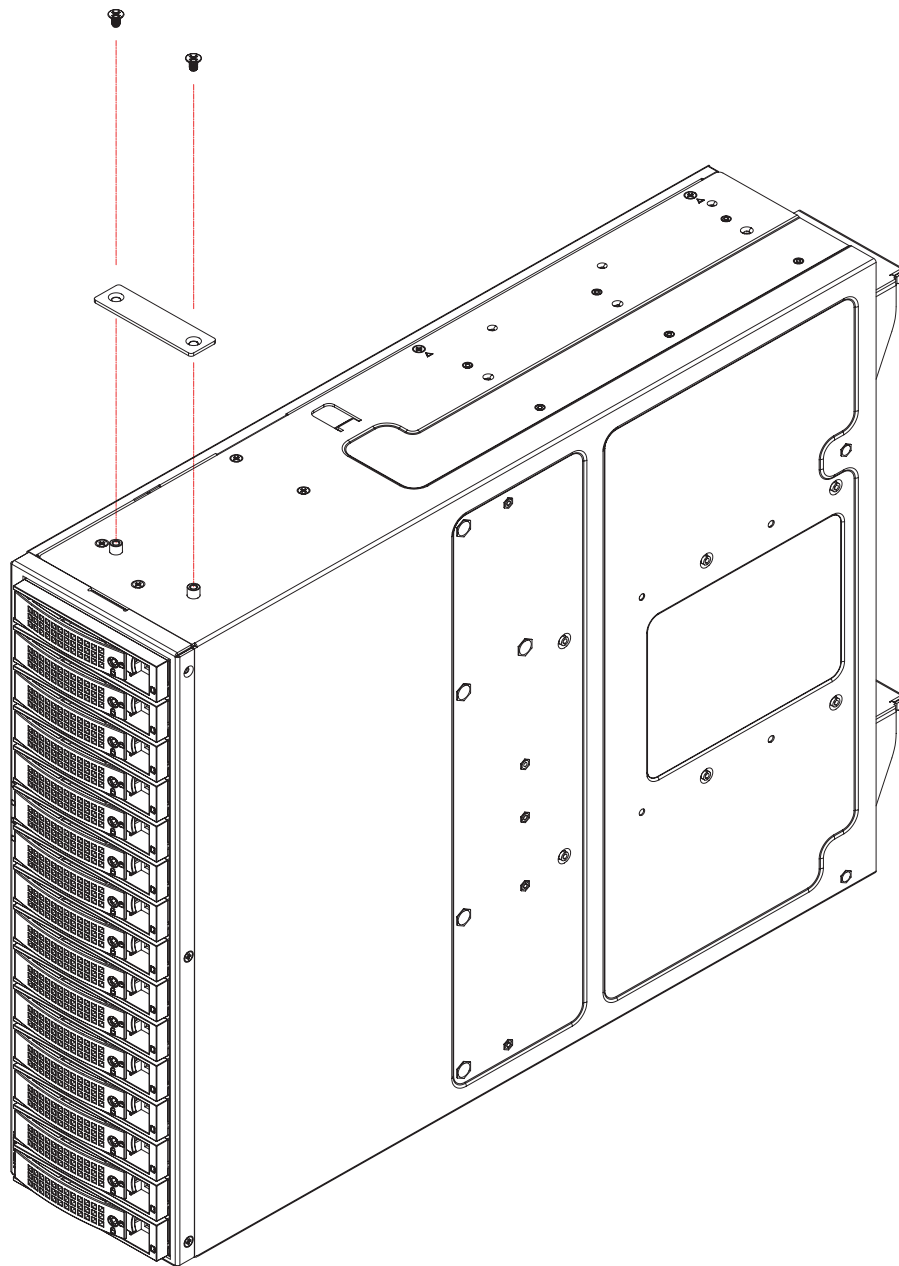


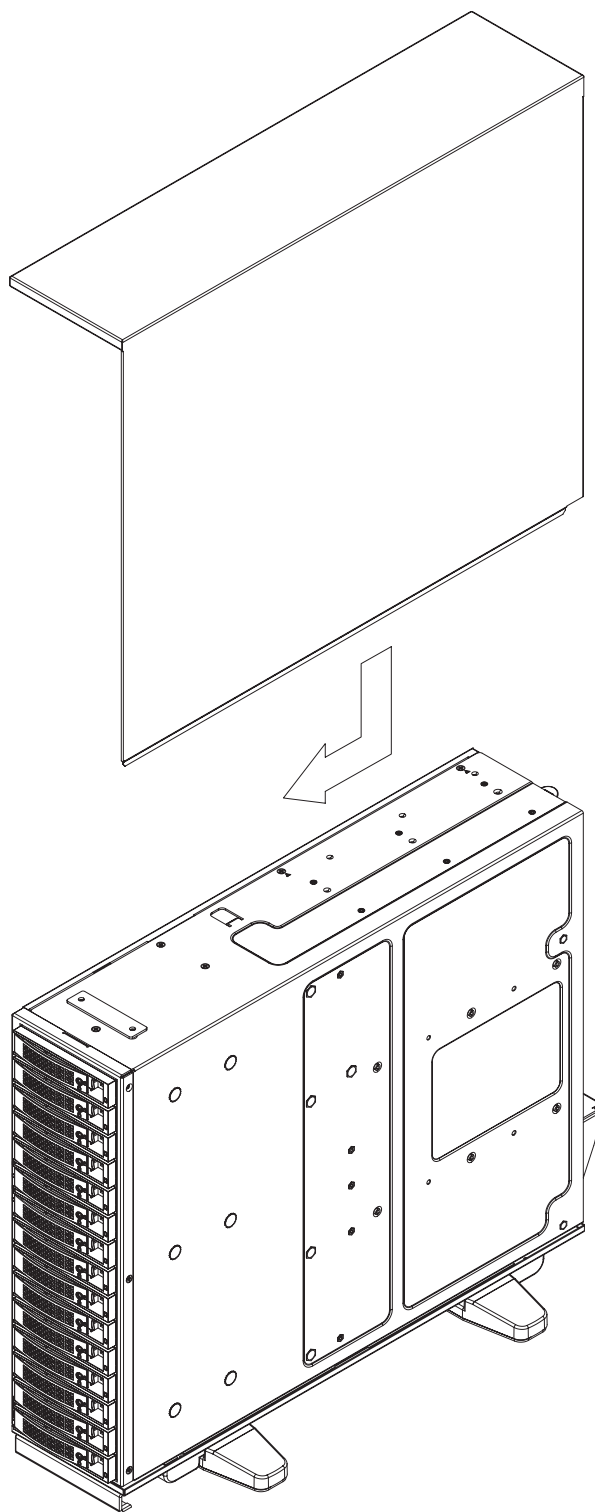
## 3-2: Tower Kit Installation

### Step1. Tower base assembly.

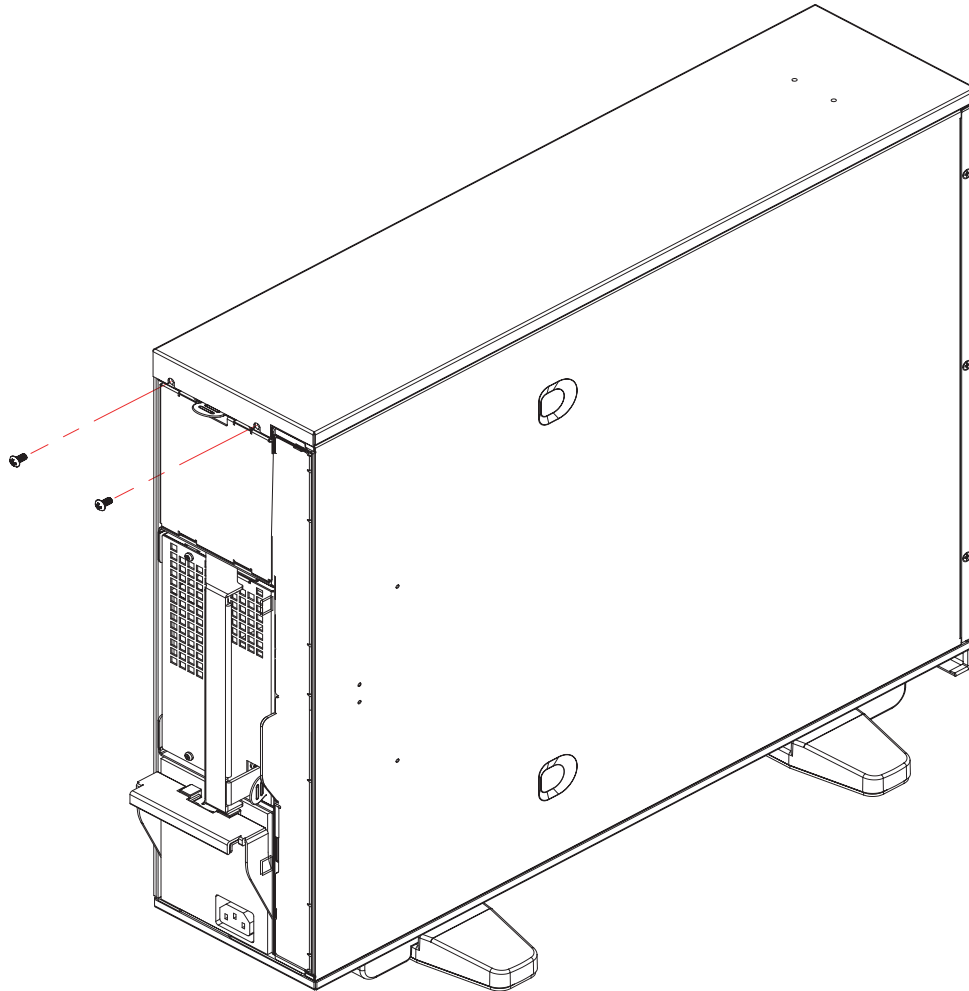


**Step2. Cover fix assembly.**

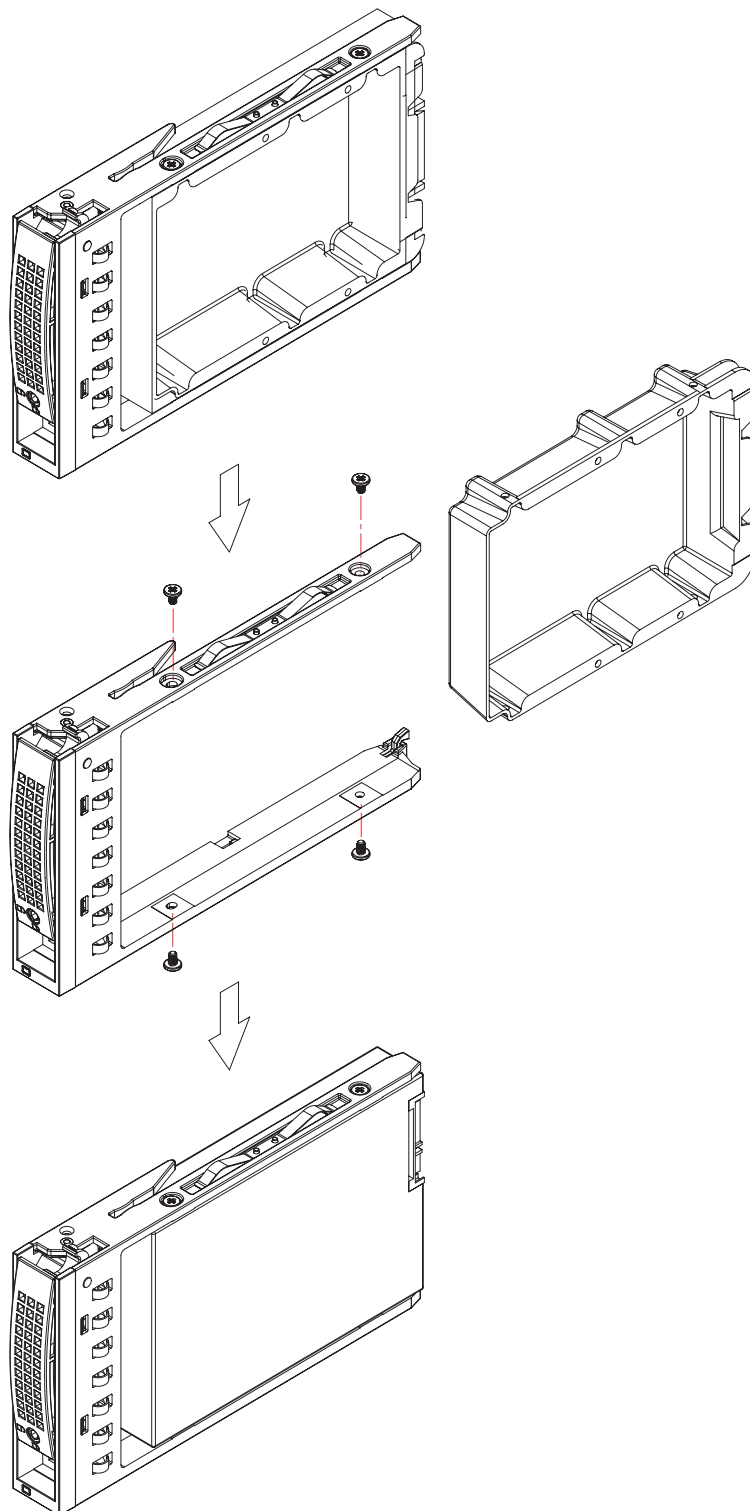


**Step3. Tower cover assembly.**

**Step4. Fix cover.**

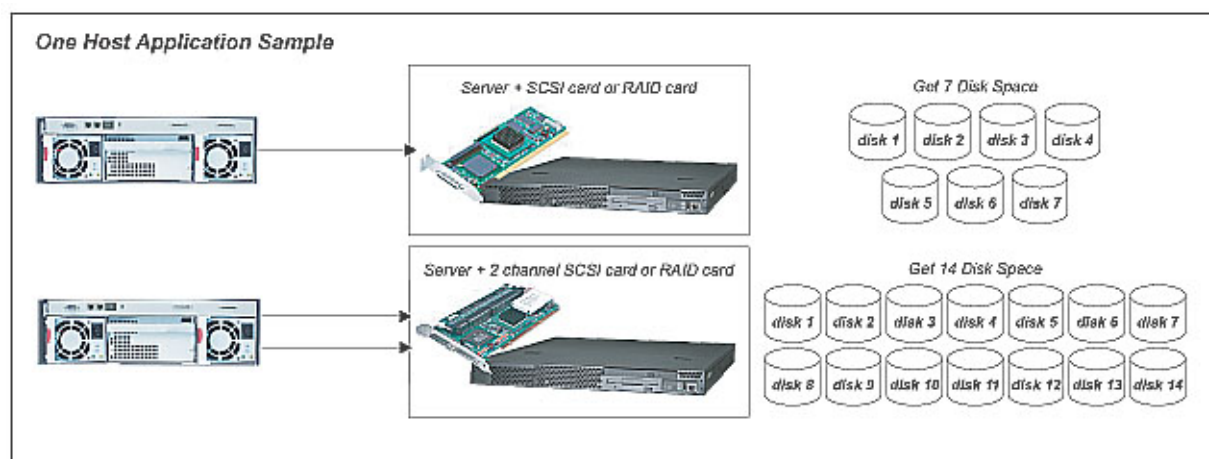


### 3-3: Hard Disk Drive Assembly



### 3-4: Host Connection

#### 3-4-1: One Host Connection Diagram



#### 3-4-2: Two Hosts Connection Diagram

