



# ApplianceStor212RS

Enterprise Grade Recording Server

User Manual

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## About this Manual

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Conventions

Safety Symbols

Safety Precautions

Regulatory and Integration Information

## ABOUT THIS MANUAL

### CONVENTIONS

To make sure that you perform certain tasks properly, take note of the following symbols used throughout this manual.

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**Warning:**

Provides information to prevent injury in the process of completing a task.

---



**Caution:**

Provides information to prevent damage to the components in the process of completing a task.

---



**Important:**

Provides information required for completing a task.

---



**Note:**

Provides tips to aid in completing a task.

---

## SAFETY SYMBOLS

The following symbols are placed on some components of the system to alert the user to potential hazards.



**WARNING:** Electric Shock Hazard - To reduce risk of injury from electric shock hazards; do not open this component.



**WARNING:** Contains No User or Field Serviceable Parts - To reduce risk of injury from electric shock hazards; do not open this component.



**WARNING:** Hot Surface or Component - To reduce risk of injury from a hot component; allow the surface to cool before touching.

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**WARNING:** Insert Network Interface Only - Any receptacle (e.g. RJ45) marked with this symbol indicates a network interface connection. To reduce the risk of electric shock, fire or damage to equipment, do not plug telephone or telecommunications connectors into this receptacle.



**WARNING:** This symbol, on power supplies or systems, that the equipment is supplied by multiple sources of power. To reduce the risk of injury from electric shock, remove all power cords to completely power down the system.



**WARNING:** This symbol indicates that the component exceeds the recommended weight for one individual to handle safely. To reduce the risk of personal injury or damage to the equipment, observe local occupational health and safety requirements and guidelines for manual material handling.

## SAFETY PRECAUTIONS



### ***Technician Notes***

- Only authorized technicians should attempt to repair this equipment.
- Before installing this system, carefully read all the manuals included with the system.
- All repair procedures allow only module replacement. Because of the complexity of the individual boards and sub-assemblies, no one should attempt to make repairs at the component level or make modifications to any printed wiring board. Improper repairs can create a safety hazard.
- To reduce the risk of personal injury from electric shock and hazardous energy levels, do not exceed the level of repairs specified in these procedures.
- The system is designed to be electrically grounded. To ensure proper operation, plug the AC power cord into a properly grounded AC outlet only.



### ***Electrostatic Discharge Precautions***

- Electrostatic discharge (ESD) can damage static sensitive devices or micro circuitry. Proper packaging and grounding techniques are required to prevent damage.
- Keep electrostatic-sensitive parts in their containers until they

- arrive at a static free work area.
- Use a wrist strap connected to the work surface as well as properly grounded tools and equipment.
  - Keep the area free of nonconductive materials such as ordinary plastic tools and foam packaging.
  - Avoid touching pins, leads, or circuitry.
  - Always place drives with printed circuit board (PCB) assembly-side down.
  - Grasp cards and boards by the edges. Hold drives by the frame. Avoid touching the solder joints or pins.
  - If you need to lay the device down while it is out of the antistatic bag, lay it on the antistatic bag. Before picking it up again, touch the antistatic bag and the metal frame of the system unit at the same time.



### ***Rack Warnings***

- If you plan to rack mount this product, please follow the rack manufacturer's safety instructions.
- Install the enclosure only in a rack that has been properly secured in an area with suitable environmental conditions.
- Have someone assist you during physical installation.
- To properly ventilate the system, you must provide at least 7.6 cm of clearance at the front and back of the system.
- To reduce the risk of personal injury or damage to equipment, always ensure that the rack is adequately stabilized prior to extending a component outside the rack. A rack may become

unstable if more than one component is extended. Extend only one at a time.

- Do not stand or step on any components in the rack.
- If installed in a closed or multi-unit rack assembly, the operating ambient temperature of the rack environment may be greater than room ambient. Therefore, consideration should be given to installing the equipment in an environment compatible with the maximum ambient temperature (T<sub>ma</sub>) specified by the manufacturer.
- Do not overload the AC power supply branch circuit that provides power to the rack. Observe extension cable and power strip ratings. Ensure that the total ampere rating of all equipment plugged into the extension cable or power strip does not exceed 80 percent of the ampere ratings limit for the extension cable or power strip.



### ***System Warnings***

- Avoid dust, humidity, and extreme temperatures; place the system on a stable surface.
- To reduce the risk of personal injury from hot surfaces, allow the hot-plug disk modules and other system modules to cool before touching them.
- To reduce the risk of electric shock or damage to the equipment, do not disable the power cord grounding plug. The grounding plug is an important safety feature.
- Ensure the power cord is inserted into a grounded electrical outlet that is easily accessible at all times. Unplug the power cord from the power supply module to shut off power to the equipment.

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- Protect the storage system from power fluctuations and temporary power interruptions with a regulating uninterruptible power supply (UPS). This device protects the hardware from damage caused by power surges and voltage spikes and keeps the system operational during a power failure.
- The storage system must always be operated with all hot plug modules installed or slot covers in place to ensure proper cooling.
- Route power cords so that they will not be walked on or pinched by items placed upon or against them. Pay particular attention to the plug, electrical outlet, and the point where the cords exit from the product.



## REGULATORY AND INTEGRATION INFORMATION

### ***Regulatory Compliance Identification Numbers***

For the purpose of regulatory compliance certification and identification, this system is assigned a serial number. This system serial number can be found on the product label, along with the required approval markings and information. When requesting certification information for this product, always refer to this serial number. This serial number should not be confused with the marketing name or model number.

### **Product Regulatory Compliance**

#### ***Product Safety Compliance***

This system complies with the following safety requirements:

**Table 1: Safety Compliance**

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IEC 62368-1:2014

Safety of Information Technology  
Equipment

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Worldwide Safety approvals can be supplied upon request. Please contact your sales representative for approvals.

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### ***Product EMC Compliance***

This product has been assembled from components that comply with the following electromagnetic compatibility (EMC) regulations.

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FCC CFR Title 47 Part 15 Subpart B: 2019 Class A

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EN 55032:2015/A11:2020 , EN 55035:2017/A11:2020 , EN 61000-3-3:2013+A1:2019 ,  
EN IEC 61000-3-2:2019

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### ***Communications Commission Notice***

Part 15 of the Federal Communications Commission (FCC) Rules and Regulations has established Radio Frequency (RF) emission limits to provide an interference-free radio frequency spectrum. Many electronic devices, including computers, generate RF energy incidental to their intended function and are, therefore, covered by these rules. These rules place computers and related peripheral devices into two classes, A and B, depending upon their intended installation. Class A devices are those that may reasonably be expected to be installed in a business or commercial environment. Class B devices are those that may reasonably be expected to be installed in a residential environment (for example, personal computers). The FCC requires devices in both classes to bear a label indicating the interference potential of the device, as well as additional operating instruction for the user.

The rating label on the device shows which class (A or B) the equipment falls into. Class A devices do not have an FCC logo or FCC ID on the label. Class B devices

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have an FCC logo or FCC ID on the label. Once the class of the device is determined, refer to the following corresponding statement.

### ***Class A Equipment***

This equipment has been assembled with components that comply with the limits for a Class A 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 instructions, 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 personal expense.

### ***Declaration of Conformity for Products Marked with the FCC Logo - United States Only***

This device complies with Part 15 of the FCC Rules Operation and is subject to the following two conditions: (1) this device may not cause harmful interference that may cause undesired operation. For questions regarding your product, please contact your sales representative.

To identify this product, refer to the Part, Series, or Model number found on the product.

### ***European Union Notice***

Products with the CE Marking comply with both the EMC Directive (89/336/EEC) and the Low-Voltage Directive (73/23/EEC) issued by the Commission of the European

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Community. Compliance with these directives implies conformity to the following European Norms (items in brackets are the equivalent international standards):

**Table 2: European Union Compliance**

EN 55032:2015/A11:2020	Electromagnetic Interference
EN 55035:2017/A11:2020	Electromagnetic Immunity
EN 61000-3-2: 2014	Power Line Harmonics
EN 61000-3-3: 2013	Power Line Flicker

### ***Canadian Notice (Avis Canadien)***

#### **Class A Equipment**

This Class A digital apparatus meets all requirements of the Canadian Interference-Causing Equipment Regulations.

Cet appareil numérique de la classe A respecte toutes les exigences du Règlement sur le matériel brouilleur du Canada.

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### ***Power Cords***

The power cord set included in the system meets the requirements for use in the country where the system was purchased. If this system is to be used in another country, contact your sales representative to purchase a power cord that is approved for use in that country.

The power cord must be rated for the product and for the 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. In addition, the cross-sectional area of the wires must be a minimum of 1.00mm<sup>2</sup> or 18AWG, and the length of the cords must be between 1.8m (6 feet) and 3.6m (12 feet). If you have questions about the type of power cord to use, contact your sales representative.

The following statement applies only to rack-installed products that are GS-Marked: This equipment is not intended for use at workplaces with visual display units, in accordance with §2 of the German ordinance for workplaces with visual display units

# Chapter 1: Introduction

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Audience Assumptions

About This Guide

Packing Checklist

Specifications

Product Features

System Overview

## INTRODUCTION

### AUDIENCE ASSUMPTIONS

This manual assumes that you are a service technician or network administrator familiar with computer hardware, data storage, and network administration terminology and tasks.

### ABOUT THIS GUIDE

This hardware installation guide provides step by step instructions on how to prepare and install the AS212RS Recording Server. This manual is generally organized as follows:

### PACKING CHECKLIST

Make sure you have all the components shipped with your system. If any item is damaged or missing, please contact your sales representative for replacement. The AS212RS is shipped with the following:

Chassis	2U rack-mounted chassis
Power Supplies	Two (redundant) power supplies.

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Rail Kit	Rail Kit for rack installation.
Disk Drives	Up to 12 hot plug 3.5" Hard Drives or SSDs depending on the configuration.
Power Cords	Two power cords

## SPECIFICATIONS

The table below is the technical specification for the AS212RSRv2

Table 5: Specifications

CPU	2x 3rd Generation Intel Xeon Scalable
GPU	T4, T400
Memory	Up to 1024 GB DDR4-3200 ECC RDIMM
Expansion Slot	9x PCIe Gen4 (6 x8 and 3 x 16)
Storage	2x 240/480/960/GB, 1.9,3.8/TB SSD for OS
	12x 3.5"HDD



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	6, 8, 10, 12, 14, 16,18,20,22TB SAS Drives
Networking	4x GbE, optional 2x 10GbE, 1x Management
Display Output	1x VGA, if T400 GPU is installed 3x mDP
Input/Output	4x USB 3.2 (2x front + 2x rear)
Dimensions (WxHxD)	17.7" x 1.9" x 33.07" /449x48x840 mm
Weight	Max 80 lbs/36 kg
Power	1+1 Redundant, 100-127Vac/ 200-240Vac, 12A/10A (for each inlet), 50/60Hz
Watts	1600 Watts
Operating Temperature	10°C - 35°C

## PRODUCT FEATURES

This chapter describes the features of this AS212RS. It covers each module and the module's features and specifications.

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**Figure 1: AS212RS Front Image**

## SYSTEM OVERVIEW

The AS212RSR integrates VMS and storage in a simple to use, high-performance video surveillance storage solution. It is optimized for Video Surveillance applications and delivers the performance required for the most demanding megapixel installations.

### Powerful

Server and storage system, built around dual high-performance Intel® Xeon® Scalable processors.

### Purpose-built

Open platform to integrate Video Management Software, and Video Analytic Software Providers. All major supported Video Analytic Software providers are prequalified. More are continually added to ensure the widest possible certification coverage.

### Effortless installation

Management and administration along with advance RAID

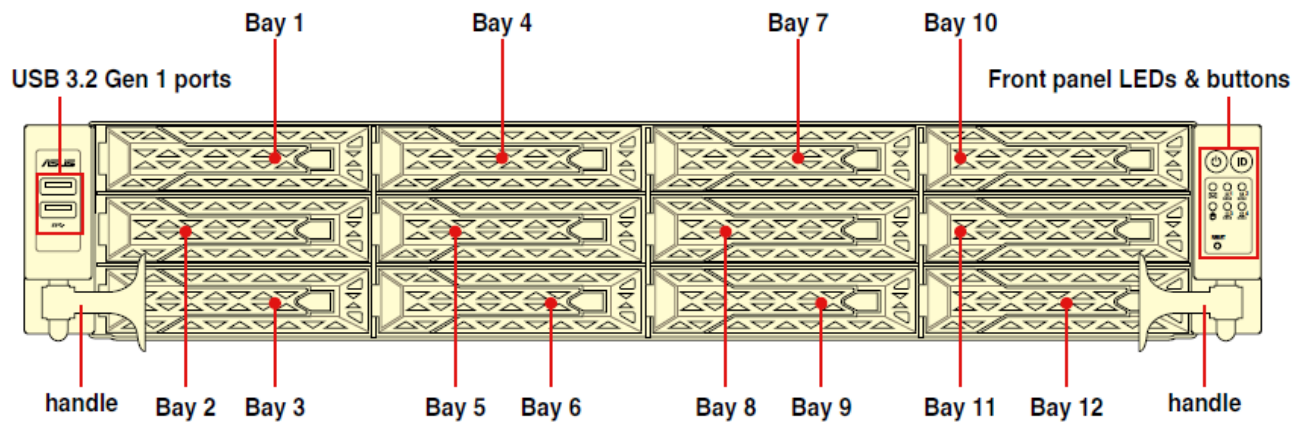
## AS212RS User Guide

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Rasilient provides a complete physical security solution. All necessary components are offered, including high-performance recording, viewing/monitoring and administration servers, and high-performance storage

### **Front View**

The front of the AS212RS allows easy access to the 12 hot plug drive canisters. Each drive canister has a status LED located to the right of the release handle. The power and reset buttons, LED indicators on the front panel.

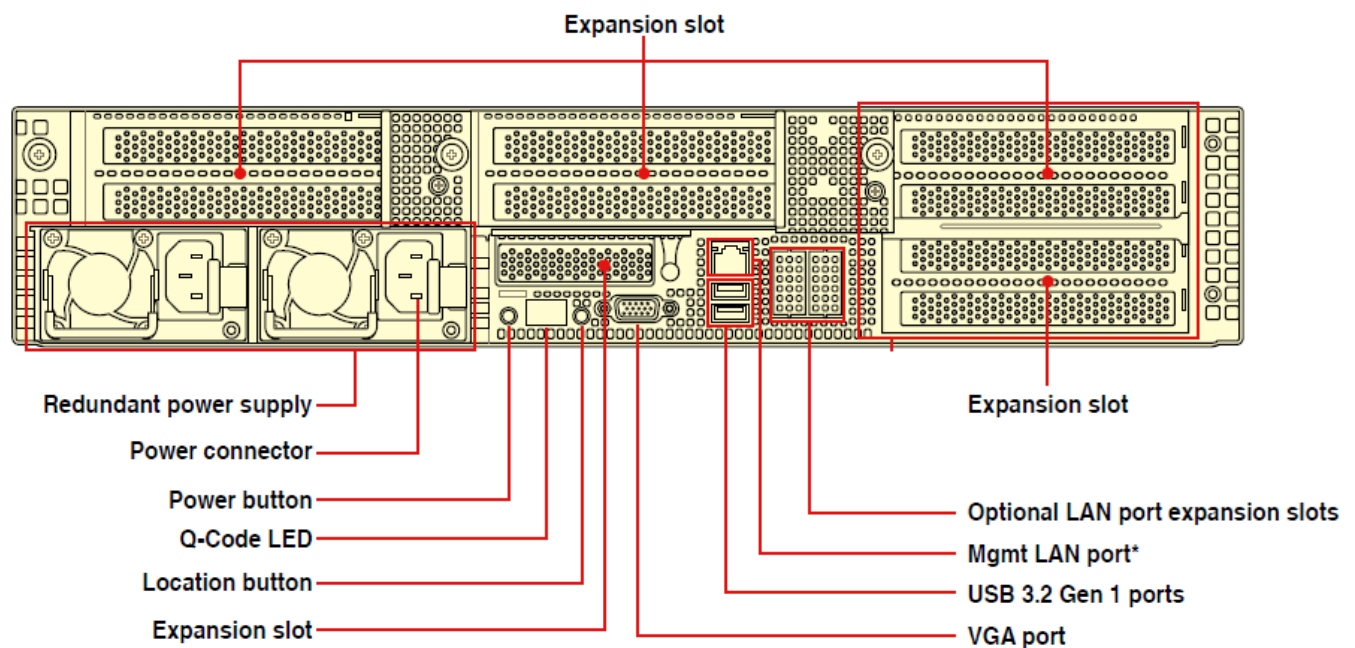


**Figure 2: AS212RS Front Panel**

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### Back View

The back of the AS212RS rear panel includes the expansion slots, system power socket, and rear fans. The middle part includes the I/O shield with openings for the rear panel connectors on the motherboard.



**Figure 3: Back View of AS212RS**

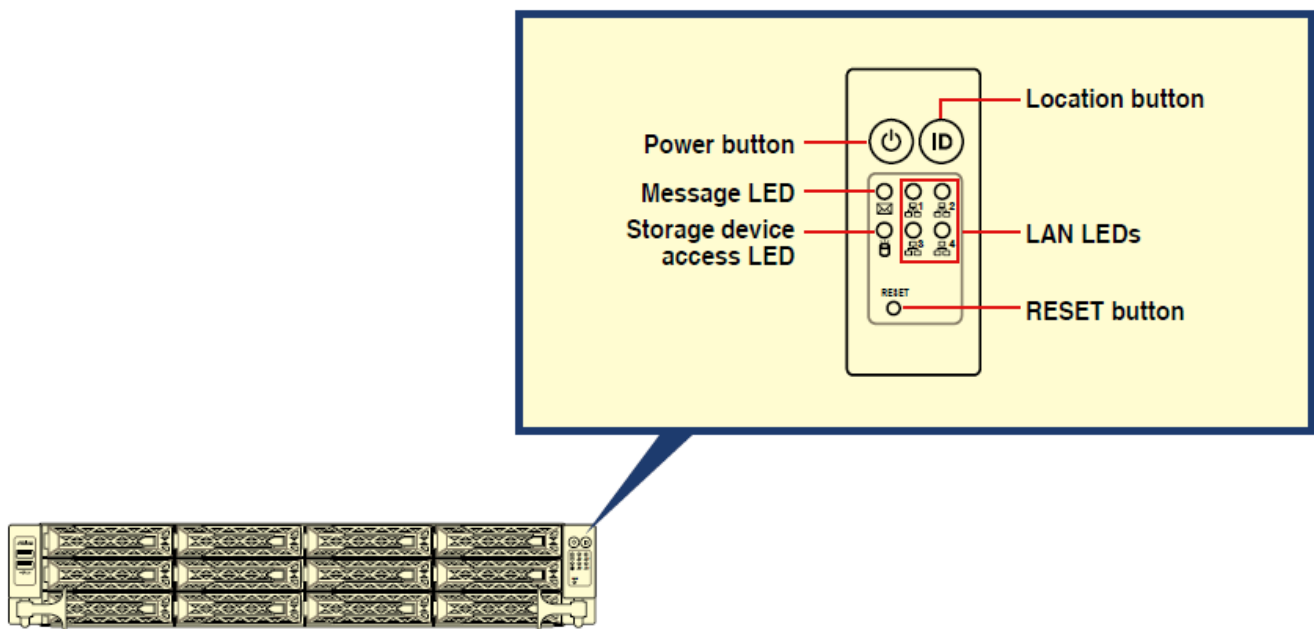
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### ***System LED Information***

This system is equipped with LED indicators for all major components of the system. These LEDs provide visual cues to the status of each of these components.

#### Front Panel LEDs



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LED	Icon	Display status	Description
Power LED		ON	System power ON
Storage device access LED		OFF	No activity
		Blinking	Read/write data into the storage device
Message LED		OFF	System is normal; no incoming event
		ON	With the onboard ASMB10-iKVM: a hardware monitor event is indicated
LAN LEDs		OFF	No LAN connection
		Blinking	LAN is transmitting or receiving data
		ON	LAN connection is present
Location LED	ID	ON	Location switch is pressed
		OFF	Normal status (Press the location switch again to turn off)

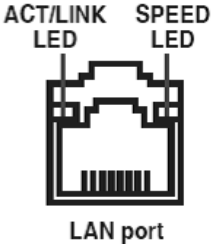
**Figure 4: Front Panel LEDs**

## AS212RS User Guide

### LAN Port (RJ-45) LEDs

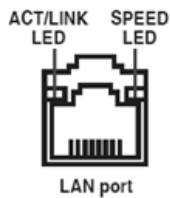
#### 1 GbE LAN port LEDs

Activity/Link LED		Speed LED	
Status	Description	Status	Description
OFF	No link	GREEN	1 Gbps connection
GREEN	Linked		
BLINKING	Data activity		



**Figure 5: 1 GbE LAN Ports LEDs**

#### 10 GbE LAN port LEDs



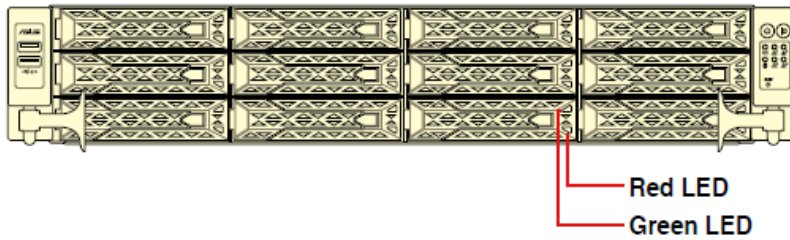
ACT/LINK LED		SPEED LED	
Status	Description	Status	Description
OFF	No link	OFF	10 Mbps / 100 Mbps connection
GREEN	Linked	ORANGE	1 Gbps connection
BLINKING	Data activity	GREEN	10 Gbps connection

**Figure 6: 10 GbE LAN Ports LEDs**



## AS212RS User Guide

### HDD status LED



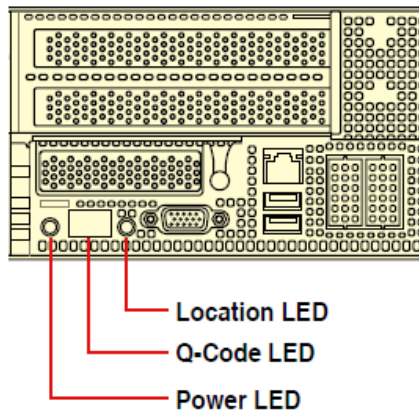
Storage Device LED Description		
GREEN	ON	SATA/SAS storage device power ON
RED	ON	Storage device has failed and should be swapped immediately (For RAID card)
GREEN/ RED	Blinking	RAID rebuilding (For RAID card)
GREEN/ RED	Blinking	Locate (For RAID card)
GREEN/ RED	OFF	Storage device not found
GREEN	Blinking	Read/write data from/into the SATA/SAS storage device

**Figure 7: HDD Status LEDs**

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### Rear Panel LEDs



LED	Display status	Description
Power LED	ON	System power ON
Location LED	OFF ON	Normal status Location switch is pressed (Press the location switch again to turn off)

## Chapter 2: Hardware Installation

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Hard Disk Drives

Power Supply Modules

Mounting the System onto a Rack

## HARDWARE INSTALLATION

### HARD DISK DRIVES

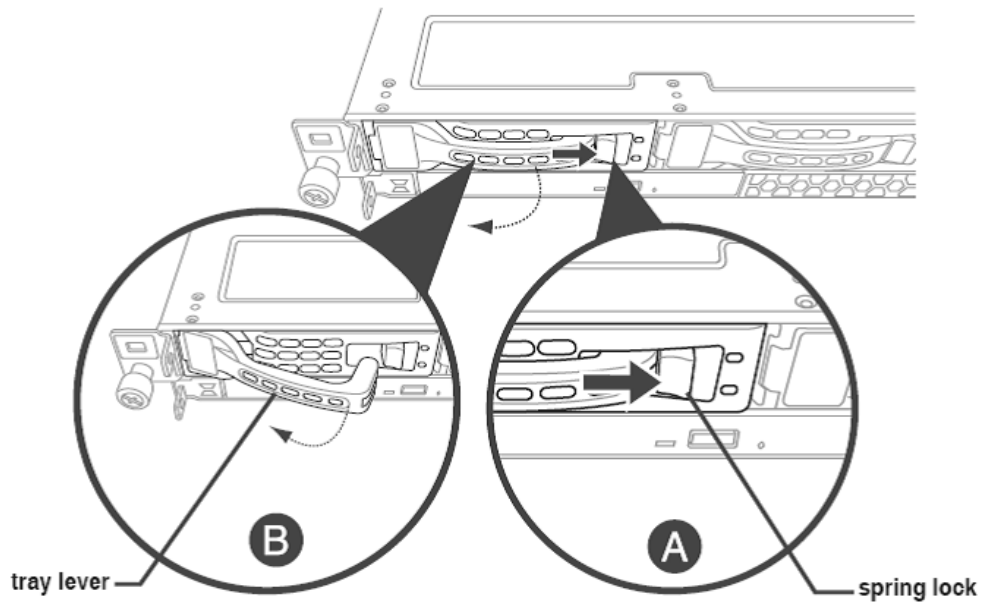
The system supports four hot-swap SATA/SAS hard disk drives. The hard disk drive installed on the drive tray connects to the motherboard SATA/SAS ports via the SATA/SAS backplane.

To install a 3.5" hot-swap SATA/SAS HDD:

Push the spring lock to the right (A) then pull the tray lever outward (B) to release the drive tray. The drive tray ejects slightly after you pull out the lever.

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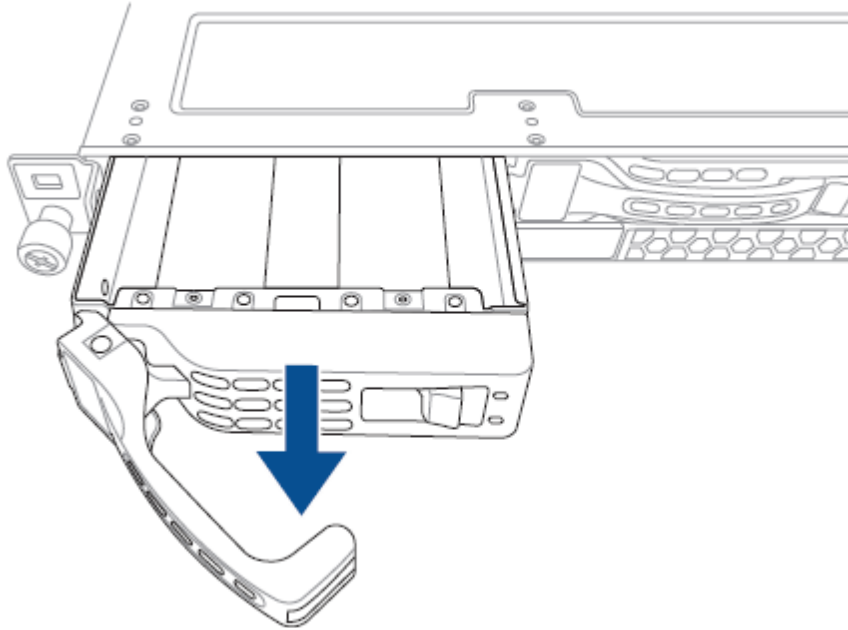
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**Figure 8: HDD Installation**

To remove a 3.5" hot-swap SATA/SAS HDD:

Firmly hold the tray lever and pull the drive tray out of the bay.



**Figure 9: HDD Removal**

## POWER SUPPLY MODULES

The AS212RS contains two 1600 watt power supply modules to provide redundant power for the entire enclosure. One power supply provides enough power to boot up and run a fully loaded system. The second power supply serves as a backup in the event of a system failure.

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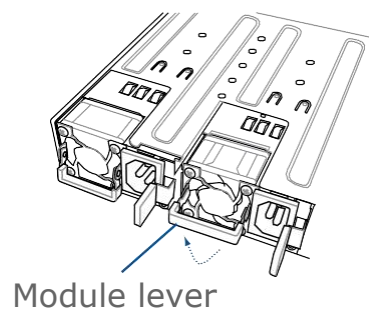
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To remove a power supply, follow the figure below. To insert the power supply reverse the steps.

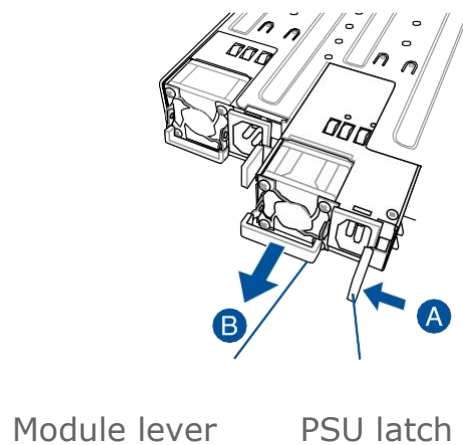
The redundant power supply module is hot pluggable.

### ***To replace a failed redundant power supply module:***

1. Lift up the power supply module lever.



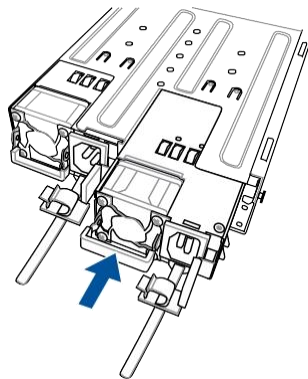
2. Hold the power supply module lever and press the PSU latch, then pull the power supply module out of the system chassis.



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3. Prepare the replacement power supply module.
4. Insert the replacement power supply module into the chassis then push it inwards until the latch locks into place.



**Figure 10: AS212RS PSU Insert / Removal**



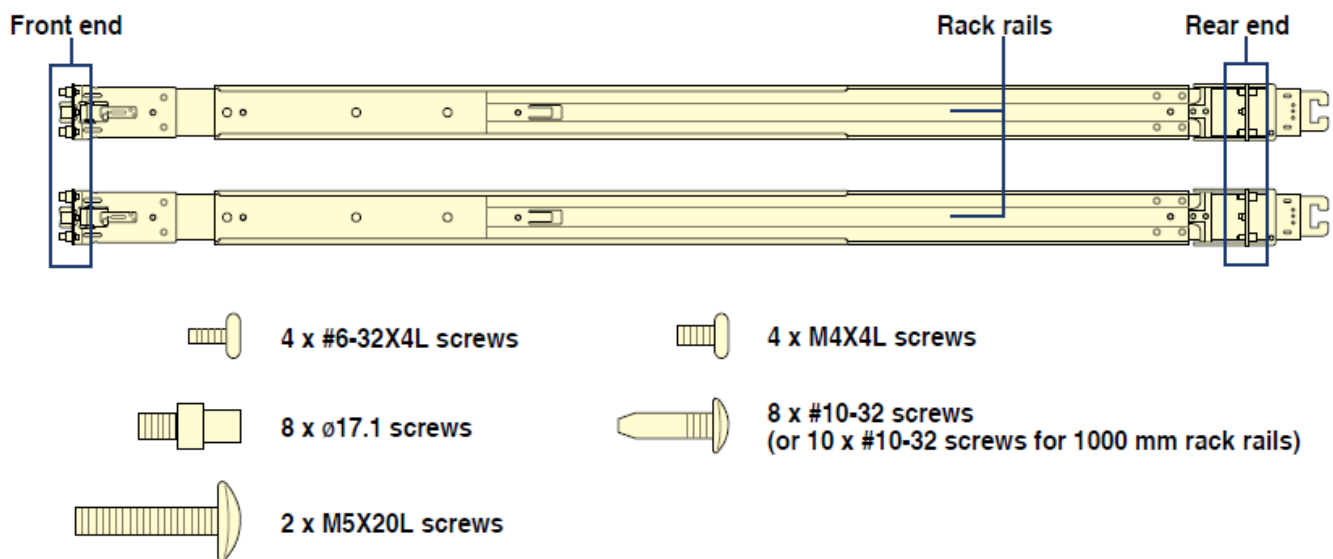
Before you remove or install the power supply module from the AS212RS, disconnect the power supply cords.



## MOUNTING THE SYSTEM ONTO A RACK

### *Rail kit installation*

The Rail kit package includes:



**Figure 11: Rail Kit Package**

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### ***Installing the rack rail***

To install the rack rails into the rack:



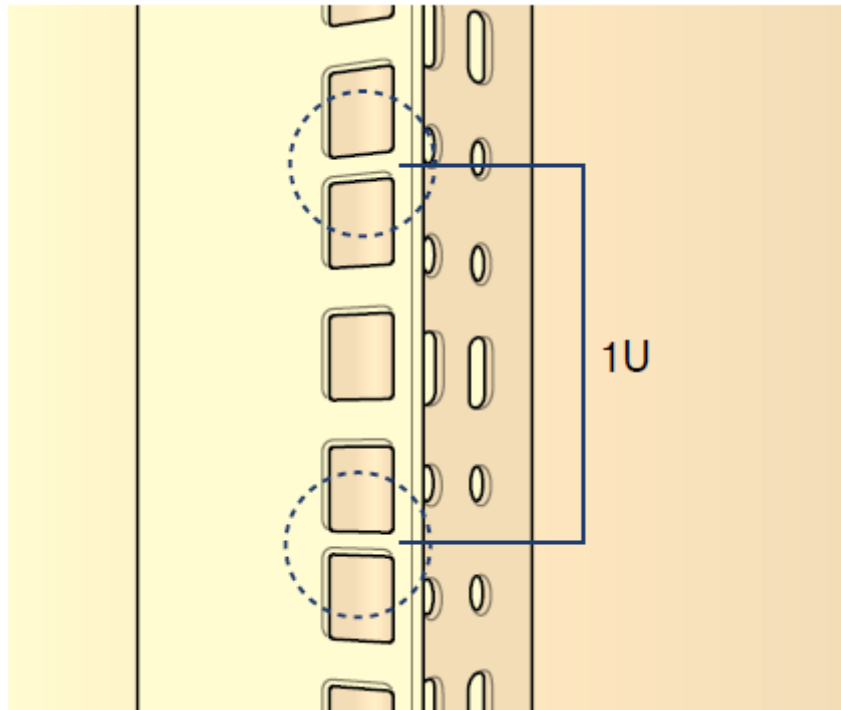
- 
- Ensure that the rack rail cabinet and the rack posts are stable and standing firmly on a level surface.
  - We strongly recommend that at least two able-bodied persons perform the steps described in this guide.
  - We recommend the use of an appropriate lifting tool or device, if necessary.
- 

1. Select a desired space on the rack.

A 1U space consists of three square mounting holes with two thin lips on the top and the bottom.

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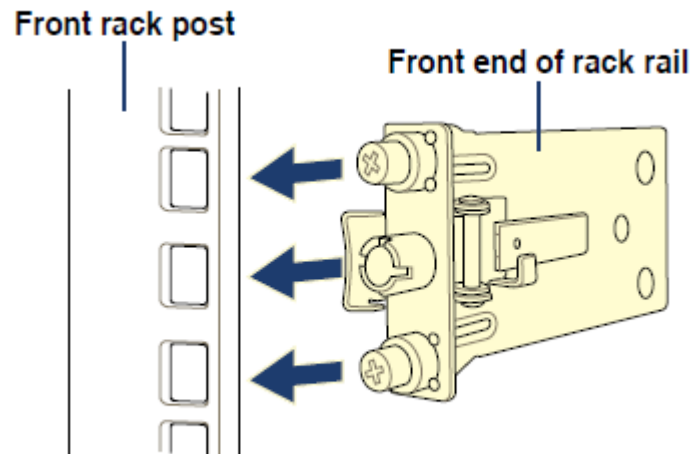
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2. Align and insert the front end of the appropriate rack rail (left and right) into the front rack post.

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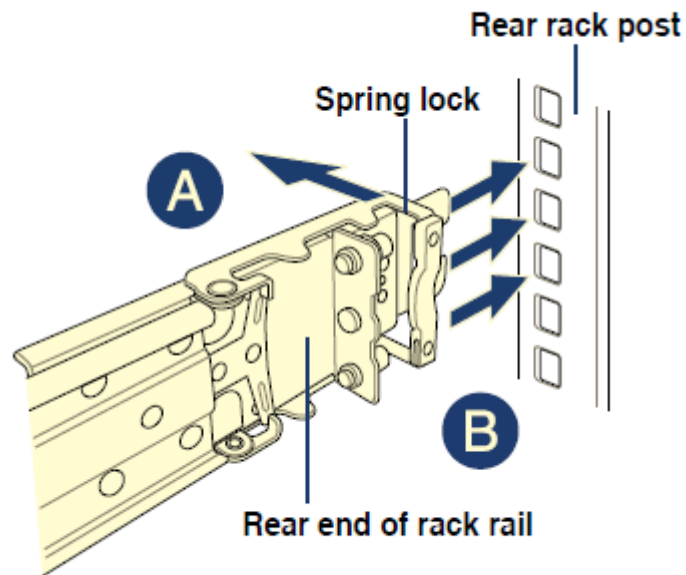
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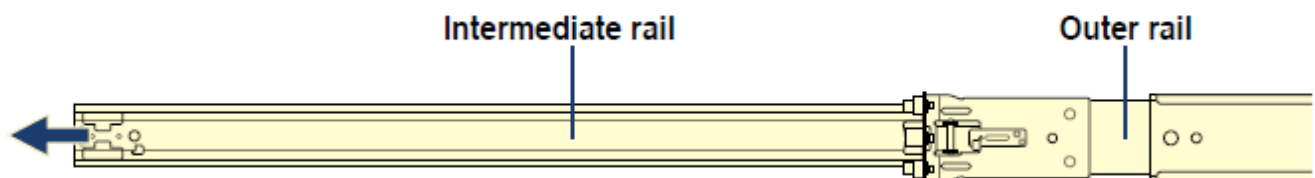
3. Press the spring lock on the rear end Rear rack post of the rack rail and insert the studs into the selected mounting holes on the rear rack post.

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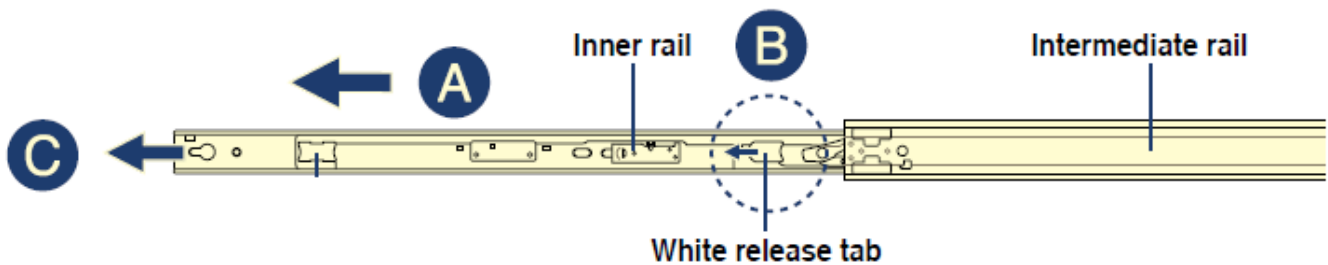
- Slide the intermediate rail out of the outer rail until it clicks to a stop.



- Slide the inner rail out of the intermediate rail until it clicks to a stop. Slide the white release tab outwards and remove the inner rail completely from the intermediate rail.

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6. Repeat steps 2 to 5 for the other rack rail.

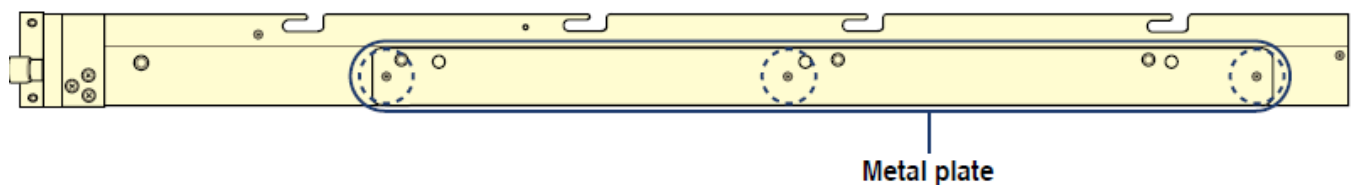
Ensure that the installed rack rails (left and right) are aligned, secured, and stable in place.

7. Remove the three (3) screws from both left and right sides of the server system chassis, then remove the metal plate.

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The illustration below only shows one side of the server system chassis, but the screws on the other side should be at the same place.

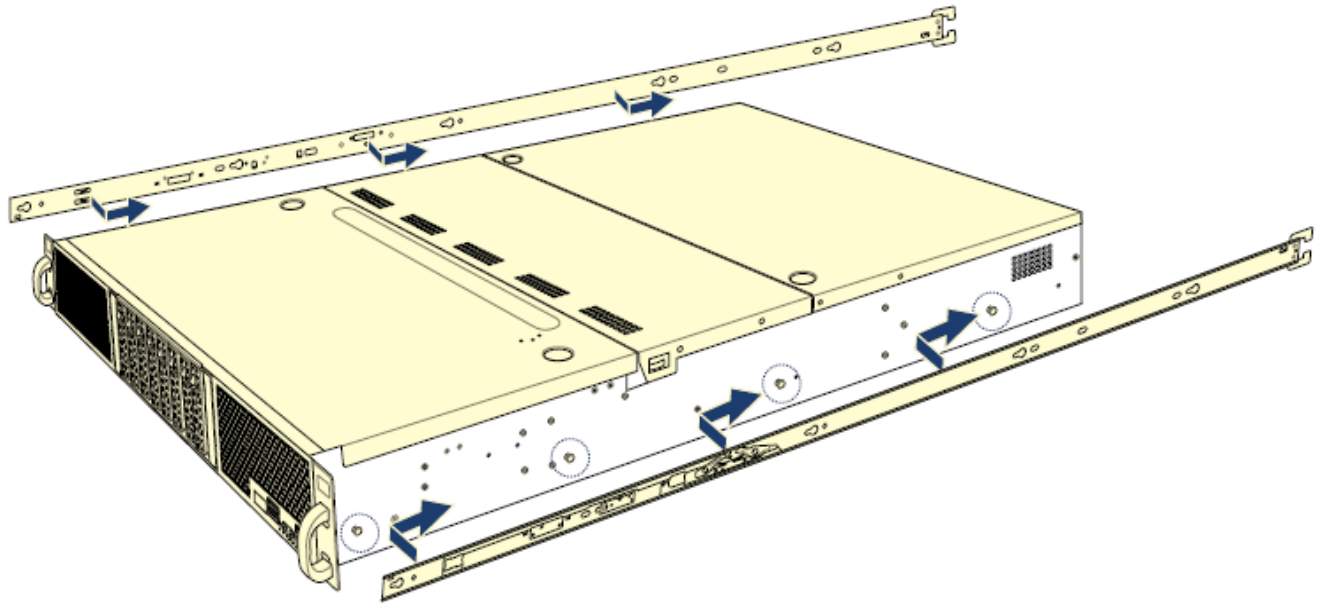
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8. Align the inner rails with the studs on both sides of the server system, install the inner rails to the server system, then slide the inner rails toward the rear of the server system until it locks in place.

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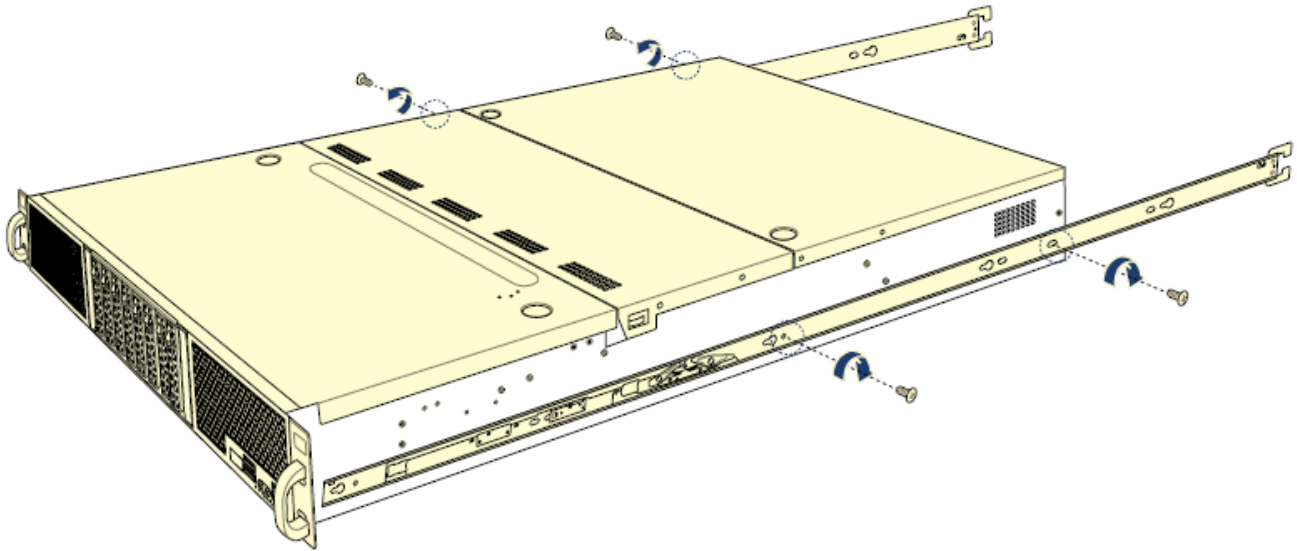
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9. Secure the inner rails on both sides of the server system using the #6-32X4L screws.

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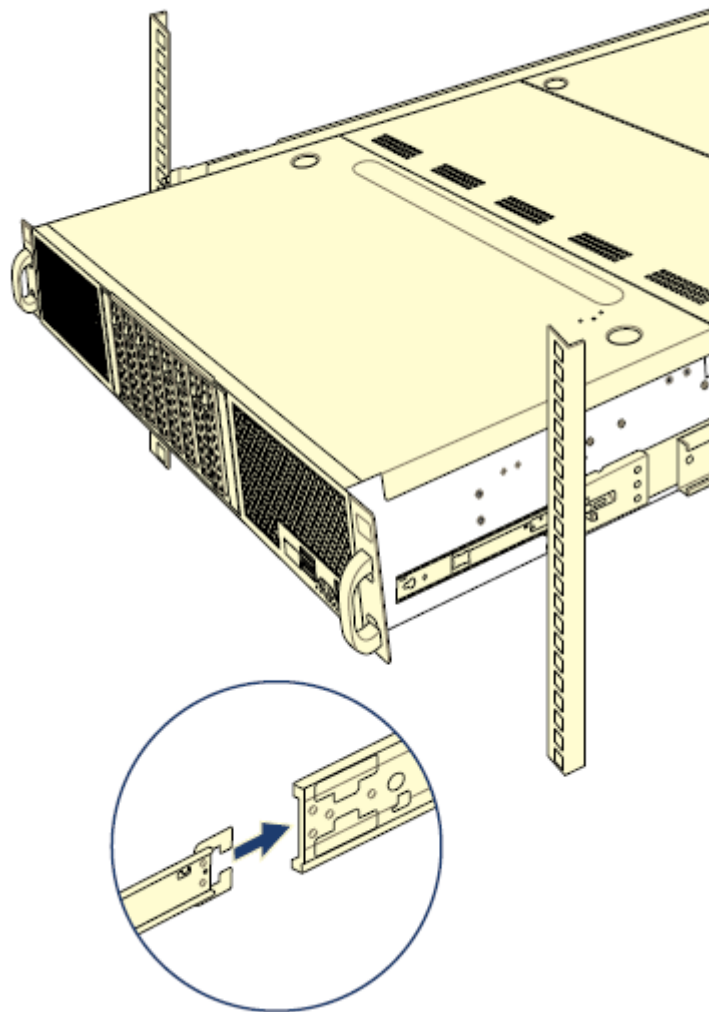


10. Align the server system and gently insert it into the rack rails.



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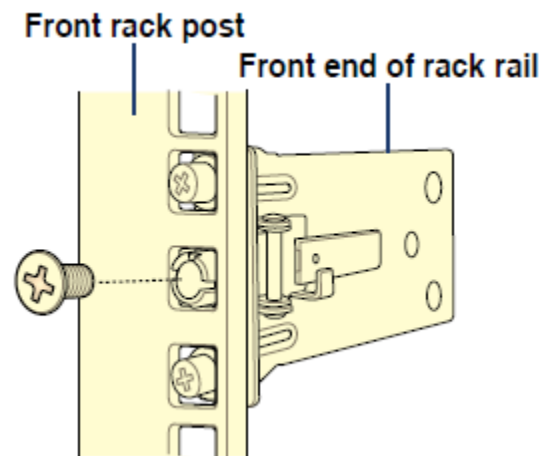
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11. (optional) Use the M5X20L screws to secure the rack rails to the rack post. Front end of rack rail.

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12. Gently push the server system until it is completely installed into the rack rail.