Avaya INTUITY AUDIX LX

Release 1.1-5.8

Change Description

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Software changes

INTUITY AUDIX ® LX Release 1.1-5.8 includes a number of software updates and enhancements. This section describes the major software changes in this release.

New SSH packages from Red Hat

Buffer overflow problems present security vulnerability issues. Red Hat has delivered a number of new SSH RPMs to address these buffer overflows. This release adds the new SSH RPMs.

SSG now works with LX using a NIU

This release adds all appropriate and necessary code changes required to make the NIU security box work with INTUITY AUDIX LX system.

Apache mod_rewrite module used to deny HTTP TRACE requests

The HTTP TRACE method returns the contents of client HTTP requests in the entity-body of the TRACE response. This behavior could be leveraged by attackers to access sensitive information, such as cookies or authentication data, contained in the HTTP headers of the request.

This release uses the Apache mod_rewrite module to deny HTTP TRACE requests or to permit only the methods needed to meet site requirements and policy.

New Dialogics firmware for Canon G3 High Speed Laser fax

This release adds new firmware that allows the Canon G3 High Speed Laser 3170MS fax machine to send faxes to the Dialogics card.

ASG Guard II now works with LX

This release adds a new option called ASG to the device type drop down menu on the "Install Modem/Terminal" form. The option has the parameters needed to setup the ASG Guard so it works with LX.

Modify system files to support S3210R

The appropriate Audix Intuity LX system files are modified to accept the new S3210R server. These modifications guarantee correct report data and performance.

Installing an S3210R server

INTUITY AUDIX LX Release 1.1-5.8 supports the new S3210R server. This server replaces the old S3210 server for RoHS compliance reasons. The S3210R chassis is designed to be installed in a rack-mount configuration, or in a stackable desktop configuration.

> **Important:**
> This chapter replaces the installation information previously published in the INTUITY AUDIX LX Online Help system and the *Installation Printable Guide for INTUITY AUDIX LX*, which is available from the Online Help system.
>
> When you install an S3210R server, use the instructions in this chapter rather than the instructions currently published in the Online Help or the Printable Guide.

This section includes the following topics:

- General installation considerations on page 7
- Unpacking the system on page 11
- Installing the hardware on page 12

General installation considerations

This section deals with stuff like unpacking the boxes, sit stuff, etc.

This section includes the following topics:

- Site requirements on page 7
- Unpacking the system on page 11
- Packing materials on page 12

Site requirements

This section describes physical requirements for the installation site, which include:

- Environmental considerations on page 8
- Customer-provided cabinet requirements on page 8
- Installation area considerations on page 8

- Weight and space considerations on page 9
- Power requirements for the S3210R on page 10
- Grounding requirements on page 10

Environmental considerations

Place the system in an area where the environmental conditions shown in the following table are maintained.

Operating State	Temperature	Humidity (noncondensing)
Operating	+10 to +35ºC (+50 to +95ºF)	20 to 80% RH
Non-operating (in storage or being shipped)	-20 to +50ºC (-4 to+122ºF)	20 to 90% RH

Customer-provided cabinet requirements

If you are installing an S3210R in a rack-mounted configuration, the customer-provided cabinet must meet the following requirements:

- The cabinet must contain a 4-post rack to support the server's weight.
- The cabinet must be secured to the floor before attempting to mount any units.
- The cabinet must accommodate the sliding rails and extender brackets provided with each server. These sliding Rails and extender brackets are designed for mounting in cabinets 22.5 to 32 inches in depth.
- The cabinet height must accommodate the number of units to be mounted. See Weight and space considerations on page 9 for server dimensions.

Installation area considerations

Observe the following when determining where to place the S3210R server:

- Use only the power cord assembly provided to connect the system to an AC outlet.
- Install the system within 6 feet (2m) of a grounded AC outlet.
- Do not use extension cords with the system.
- Ensure that the AC outlet to be used to power the system (via the power cord) is a grounded outlet. If you are unsure of the ground integrity of the outlet, have a trained and certified electrician check the outlet.

- Consider the server connection to a branch circuit with regard to overload or overcurrent protection. Verify the system ratings to ensure that, together with other equipment connected to the same branch circuit, an overcurrent or overload condition does not exist.
- Maintain an air-distribution system that provides adequately cooled, filtered and humidity-controlled air.
- Do not install the system such that the ventilation or fan openings will be blocked.
- S3210R system installations in Sweden, Finland, Norway, and Australia must be installed in a restricted-access location. The system relies on a ground connection through the main plug with an earth contact. Because of unreliable earthing concerns in Sweden, Finland, Norway, and Australia, the system must be installed by Service Personnel in a restricted access location. A restricted access location is defined as access that can be gained only by Service Personnel or Customers who have been instructed about the reasons for the restricted access and any safety precautions that must be taken. In these cases, access to the system is gained by the use of a tool (such as a lock and key) or other means of security.

Weight and space considerations

The following table lists the approximate weight, height, width, and depth of the S3210R server.

Weight	Height	Width	Depth
41.5 lb. (18.3 kg)	7 in. (17 cm)	17 in. (43.3 cm)	20.5 in. (52 cm)

The following table lists the approximate weight, height, width, and depth for the monitor and keyboard.

Peripheral	Weight	Height	Width	Depth
Monitor (including pedestal)	7.1 LB (3.2 kg)	14 in. (35 cm)	13.5 in. (34 cm)	6 in. (15 cm)
Keyboard	5 LB (2.3 kg)	2.5 in. (6.4 cm)	19 in. (48 cm)	8 in. (20.5 cm)

Note:
A monitor is not necessarily ordered and shipped for each system. The weight and space considerations listed are for those shipments that include a 15-inch monitor.

Power requirements for the S3210R

The following table lists the power requirements for the S3210R server.

Attribute	Requirement
Volts AC (VAC)	90–264 (auto-sensing)
Hertz (Hz)	47-63 (+/- 3 Hz)
Phase	Single
Amps (115V/230V)	6/3
Heat Dissipation	1123 BTU

Grounding requirements

An S3210R server relies on the ground connection through the mains socket-outlet for continued safe operation. Ensure that the AC outlet to be used to power the system (via the UPS or power cord for separate components) is a grounded outlet. If you are unsure of the ground integrity of the outlet, have a trained and certified electrician check the outlet.

In addition, observe the following grounding requirements when determining where to place the server:

- Use only the power cord provided with each unit to connect it to the universal power supply (UPS) or to an AC outlet.
- Install the server within 6 feet (2 m) of a grounded AC outlet.
- Do not use extension cords with the system.
- Use only shielded cables and equipment in conjunction with the system to maintain safe levels of electromagnetic compatibility.

WARNING:
The servers must be connected to an earthed mains socket-outlet. Failure to do so will result in allowing a hazard to be present that could cause severe personal injury or death.

CAUTION:
System grounding must comply with the general rules for grounding provided in article 250 of the National Electrical Code (NEC), National Fire Protection Agency (NFPA), or the applicable electrical code in the country of installation.

Unpacking the system

This section describes the hardware you receive with an S3210R server and how to handle the packing materials.

This section includes the following topics:

- Hardware on page 11
- Packing materials on page 12

Hardware

You should receive boxes containing the computer, keyboard, and monitor (if ordered).

Be sure that the following items are packed in the box or boxes:

- The system chassis.
- One 6-foot to 8-foot (2-meter to 3-meter) power cord (depending on country in which you are doing the installation)
- One keyboard with on-board mouse and split connector cord
- One 4-pin RJ11 cable for each voice port purchased
- One LAN cable
- One monitor and power cord, if ordered
- One Maintenance Modem, and required cables

Packing materials

Save the shipping carton and all packing materials to use in case you have to return the system to the manufacturer. If you ordered multiple systems, saving one carton and one set of packing materials should be sufficient.

Packing materials include:

- Antistatic bags
- Cardboard and foam inlays

Note:
The packing materials also may include a plastic bag designed to protect the system from moisture during shipment. Discard this bag. It is not reusable.

Also save the shipping cartons for the keyboard and monitor.

Installing the hardware

This section provides instructions for installing your hardware, which includes the S3210R server and an optional uninterruptible power system (UPS). A UPS is strongly recommended for the S3210R. The UPS protects the system from most common power problems including power failures, power sags, and power surges.

This section includes these topics:

- Installing the hardware in a rack-mount configuration on page 12
- Installing the hardware in a stackable desktop configuration on page 15

Installing the hardware in a rack-mount configuration

To install your hardware in a rack-mount configuration perform the procedures in the following sections:

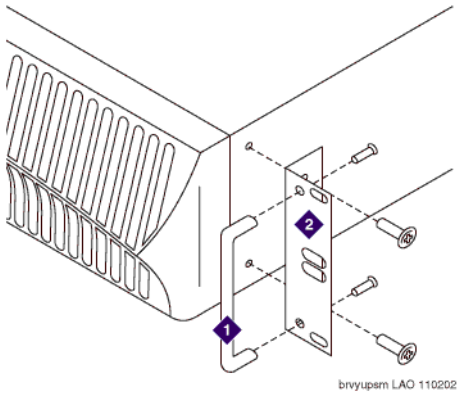
- Installing the UPS on page 12
- Installing the S3210R on page 13

Installing the UPS

Note:
The UPS must be positioned in the rack below the server.

To install the UPS in a rack:

1. Gather the necessary rack-mount hardware, including the mounting handles, brackets, and screws.
2. Place the UPS on a flat, stable surface with the front of the UPS facing toward you.
3. Attach the mounting handle (item 1 in the figure below) to each bracket (Item 2) using the supplied screws.
4. Align the mounting brackets with the screw holes on the side of the UPS and secure using the supplied screws.

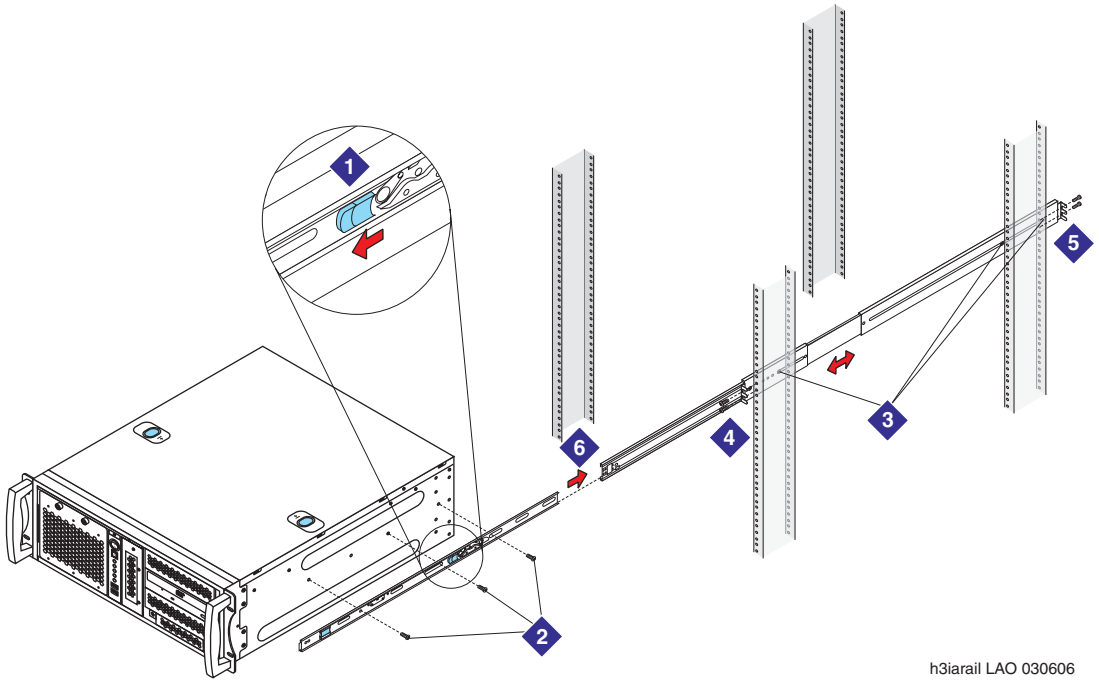


5. Secure the UPS in the rack.

Installing the S3210R

Note:
Install the S3210R directly above the UPS.

Refer to the following illustration as you perform the steps in this section.



To install an S3210R server into a rack:

1. Remove the rail assembly and screws from their packaging.

   Note:
   If more than one set of screws is provided, identify the set of 12 screws that fits the S3210R server hardware. Only one set of thick Phillips round head screws fits tightly to the rails. Any other screws are not needed.

2. Release and detach the inner rail from the slide:
   a. Fully extend the rail.
   b. Pull the release lock out, the arrow tab, forward. See Item 1 in the illustration.
   c. Separate the inner rail from the slide.
3. Attach the inner rail to the server:
   a. Place the S3210R server on a flat, stable surface.
   b. Align the inner rail against the side of the server. Only three holes in the rail line up with the corresponding holes in the server chassis.
   c. Starting with the hole nearest the front of the server, insert a screw into the holes indicated in Item 2 in the illustration.
4. Attach the slide to the frame of the customer-provided cabinet:
   a. Loosen the two Phillips screws inside the front bracket. Extend the bracket to fit the frame. See Item 3 in the illustration.

b. Secure the bracket to the front and rear posts in the customer-provided cabinet. Tighten all three screws. See Items 4 and 5 in the illustration.

c. After the bracket is in place, tighten the two screws inside each rear bracket. See Item 5 in Attaching a rack-mount rail assembly on an S3210R server.

CAUTION:
You need two people for the next step.

5. Mount the server in the cabinet:

   a. Fully extend the slide out the front of the cabinet. See Item 6 in the illustration.

   b. Have one person hold up the front of the server. Have a second person help support the server, and guide the server onto the slide.

6. Continue with Connecting the power cables on page 16.

Installing the hardware in a stackable desktop configuration

To install your hardware in a stackable desktop configuration perform the procedures in the following sections:

1. Installing the UPS on page 15
2. Installing the S3210R on page 15

Installing the UPS

Note:
The UPS must be positioned below the server.

To install the UPS in a stackable desktop configuration:

1. Secure four rubber spacers to the bottom of the UPS, one at each corner.
2. Set the UPS on a stable surface. The UPS forms the base of the server configuration.

Installing the S3210R

To install the S3210R in a stackable desktop configuration:

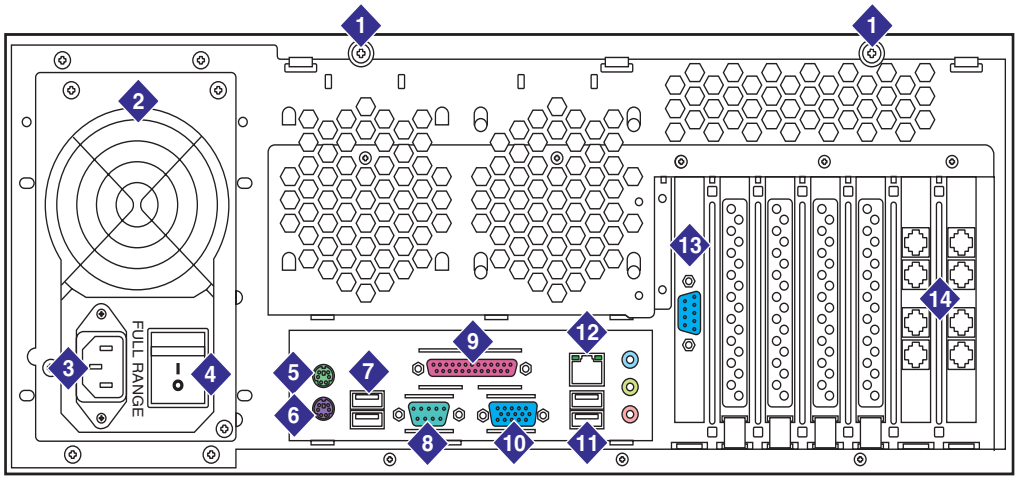
1. Gather the rubber spacers shipped with each S3210R.
2. Attach the rubber spacers to the bottom of the S3210R.

Note:
The S3210R is about two inches deeper than the UPS. Be certain to position the rubber spacers on the S3210R such that all four spacers will rest on the top of the UPS.

3. Place the S3210R on top of the UPS.
4. Continue with Connecting the power cables on page 16.

Connecting the power cables

Refer to the following illustration while performing this task.



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1	Screws for top cover
2	Power supply
3	AC power receptacle
4	On/off switch
5	Mouse connector
6	Keyboard connector
7	USB ports
8	Serial port (COM1)
9	Parallel port (not used)
10	Video connector
11	USB ports
12	LAN interface

13	Serial port (COM2)
14	Analog voice cards

To connect the power cables:

1. Connect the female end of the server power cable to the male power connector (item 3 in the illustration in this section) located on the back of the server.
2. Connect the male end of the power cable to an AC receptacle located on the back of the UPS.
3. Connect the UPS power cable into an appropriate AC power outlet.
4. Continue with Connecting the analog-line interface cards on page 17.

Connecting the analog-line interface cards

This section provides steps for connecting the analog-line interface cards installed in the S3210R (item 14 in the illustration in Connecting the power cables on page 16) to the switch.

To connect the interface cards:

1. Plug a phone cable into each RJ-11 jack on the first analog-line interface card.
2. Plug the other end of each phone cable into the switch.
3. Repeat steps 1 and 2 for each installed analog-line interface card.
4. Continue with Connecting the monitor, keyboard, and mouse on page 17.

Connecting the monitor, keyboard, and mouse

This section includes the following topics:

- Connecting the monitor on page 17
- Connecting the keyboard and mouse on page 18

Connecting the monitor

A monitor is available for purchase for use with the S3210R server or you can supply a monitor. Most standard monitors will work with the S3210R.

Two cables connect the monitor to the system:

- Video cable connector: The video cable connector has a video input connector at one end. The other end of the cable is permanently attached to the monitor.
- Power cable: The power cable for the monitor connects to an AC outlet on the UPS.

To connect the monitor cables:

1. Plug the video cable connector from the monitor directly into the video connector located on the back of the chassis. The video connector is item 10 in the illustration in Connecting the power cables on page 16.
2. Tighten the thumbscrews on the video cable connector with your fingers or with a small flat blade screwdriver.
3. Plug the female end of the power cable into the monitor.
4. Plug the male end of the power cable into an AC outlet on the UPS.

Connecting the keyboard and mouse

Connect the PS/2 cables for the mouse and keyboard to their corresponding connectors on the back of the server. The mouse connector is color-coded green, and the keyboard connector is color-coded purple.

If you choose, you can provide a standard PS2 mouse and plug the mouse cable into the mouse receptacle.

Continue with Connecting the S3210R to the LAN on page 18.

Connecting the S3210R to the LAN

To connect an S3210R server to the corporate LAN:

1. Connect one end of the standard Ethernet cable to the RJ45 connector on the back of the server. This connector is item 12 in the illustration in Connecting the power cables on page 16.
2. Connect the other end of this cable to an Ethernet interface on the corporate LAN.

   Note:
   The entity that is responsible for maintaining the corporate LAN should make this connection (see the customer contract or the statement of work).
3. Continue with Connecting the modem on page 18.

Connecting the modem

In North America only, a serial modem is provided for remote maintenance on systems running on the S3210R server. Complete the following procedure to connect the serial modem to the server.

Note:
A USB modem is also available for purchase with the system. If you are using a USB modem or a customer-supplied serial modem, follow the manufacturer's instructions to connect the modem to the system. Then use the Install Modem/ Software page to install the Message Networking system modem software.

To connect the supplied serial modem:

1. Verify that dip switches 3 and 8 are in the down position (this should be the default). If you want the ability to dial in to the modem, set dip switch 5 to the up position. If you do not want to allow dialing in to the modem, leave dip switch 5 in the down position.
2. Connect the 25-pin end of the provided 25-pin to 9-pin cable to the modem. A 25-pin extension cable is also provided for use if needed.
3. Connect the 9-pin end of the 25-pin to 9-pin cable to COM2 on the back of the server. This connector is item 13 in the illustration in Connecting the power cables on page 16.
4. Plug one end of an analog telephone cord into the TELCO jack on the modem.
5. Plug the other end of the analog telephone cord into an analog telephone jack.
6. Plug the modem's power supply into the modem's power jack and into an electrical outlet.
7. Turn on the modem's power and then verify that the light on the front panel of the modem is lit.

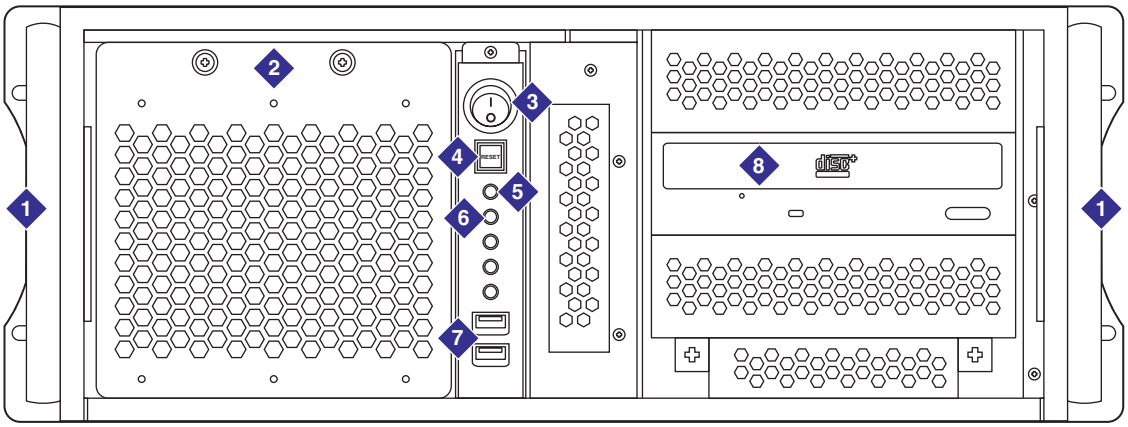
Note:
Once the modem is connected, you must administer its connection in the INTUITY AUDIX LX system software. Instructions for administering the modem connection is located in the *Activate the Modem* section of the INTUITY AUDIX LX online help system, or the Installation Printable Guide for INTUITY AUDIX LX.

8. Continue with Powering up the system on page 19.

Powering up the system

This section provides the steps required to power up the S3210R. This task assumes that you have already assembled and correctly connected all required hardware components.

Refer to the following illustration while performing this task.



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1	Handles
2	Front fan
3	On/off switch
4	System reset switch
5	Power LED indicator
6	Hard disk drive LED indicator
7	USB ports
8	DVD-RW

To power up the S3210R system:

1. Verify that the power cables for the server and all peripheral devices are connected to the UPS or to an appropriate AC power outlet. See the illustration in Connecting the power cables on page 16 for reference. Connections include:
   - UPS: connected to an appropriate AC power outlet.
   - Server: connected to the UPS.
   - External modem: if present, connected to the UPS or to an appropriate AC power outlet.
2. Press the On/Off switch located on the front of the UPS.

   The appropriate lamps should light (see your UPS documentation). Always power up the UPS first.
3. Press the On/Off switch on the monitor.

   The power lamp on the monitor should light.

4. If an external modem is present, press the On/Off switch (if present) and verify that the appropriate lamps light (see the modem documentation for details).
5. Toggle the On/Off switch at the rear of the unit to on (| is on, 0 is off). This switch is item 4 in the illustration in Connecting the power cables on page 16.
6. Press the On/Off switch on the front of the unit. This switch is item 3 in the illustration in this section.

   The LEDs on the front of the unit flash once. Then the LEDs light to indicate system power and drive activity.
7. Wait up to 1 minute for the display to appear on the monitor.
8. Continue with Administering the system on page 21.

Administering the system

Once the hardware is installed, you must follow the system administration instructions provided in the INTUITY AUDIX LX online help system, or the *Installation Printable Guide for INTUITY AUDIX LX*. These instructions begin with the *Accessing the system* section.

You can find this section on page 12 of the Installation Printable Guide, or by navigating to:

Home > Getting Started > Installation > Checking the Voice System, Modem, and Network Addressing

in the Online Help system.

Replacing S3210R components

The INTUITY AUDIX LX S3210R server contains several RoHS-compliant components you can replace as necessary. The replaceable components are:

Description	Part Number
Rack-mount sliding rails	700395882
Front chassis fan (120 MM)	700395908
Rear chassis fan (80 MM)	700395924
Power supply	700395932
40 GB, 7200 RPM, hard disk drive	700395940
DVD-RW drive	700395957
256 MB memory module	700407083

This section contains the following topics:

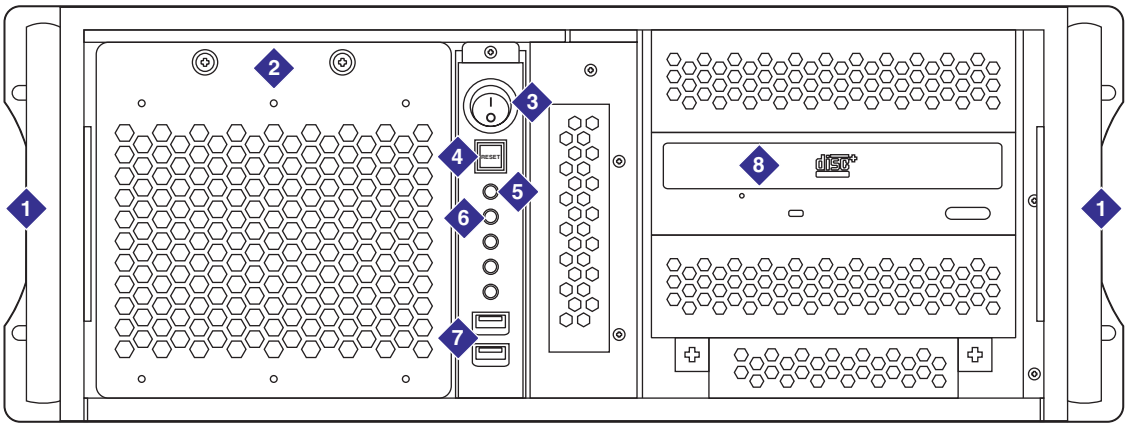
- S3210R components on page 24
- Protecting against ESD damage on page 27
- Replacing components on page 28

S3210R components

This section identifies the components of the S3210R server. You can refer to the illustrations in this section as you perform component replacement tasks.

S3210R front panel components

The following illustration identifies the front panel components of the S3210R server.

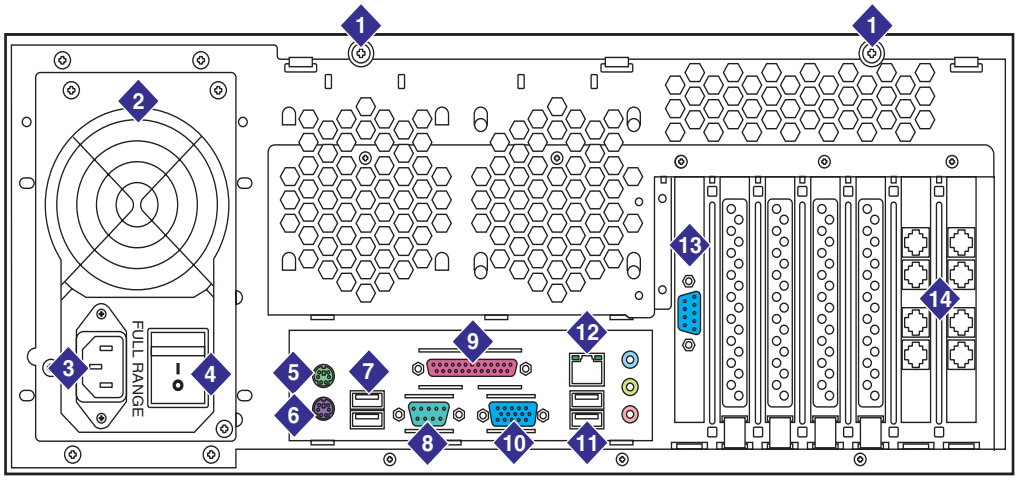


h2ialxfr LAO 040406

1	Handles
2	Front fan
3	On/off switch
4	System reset switch
5	Power LED indicator
6	Hard disk drive LED indicator
7	USB ports
8	DVD-RW

S3210R rear panel components

The following illustration identifies the rear panel components of the S3210R server.

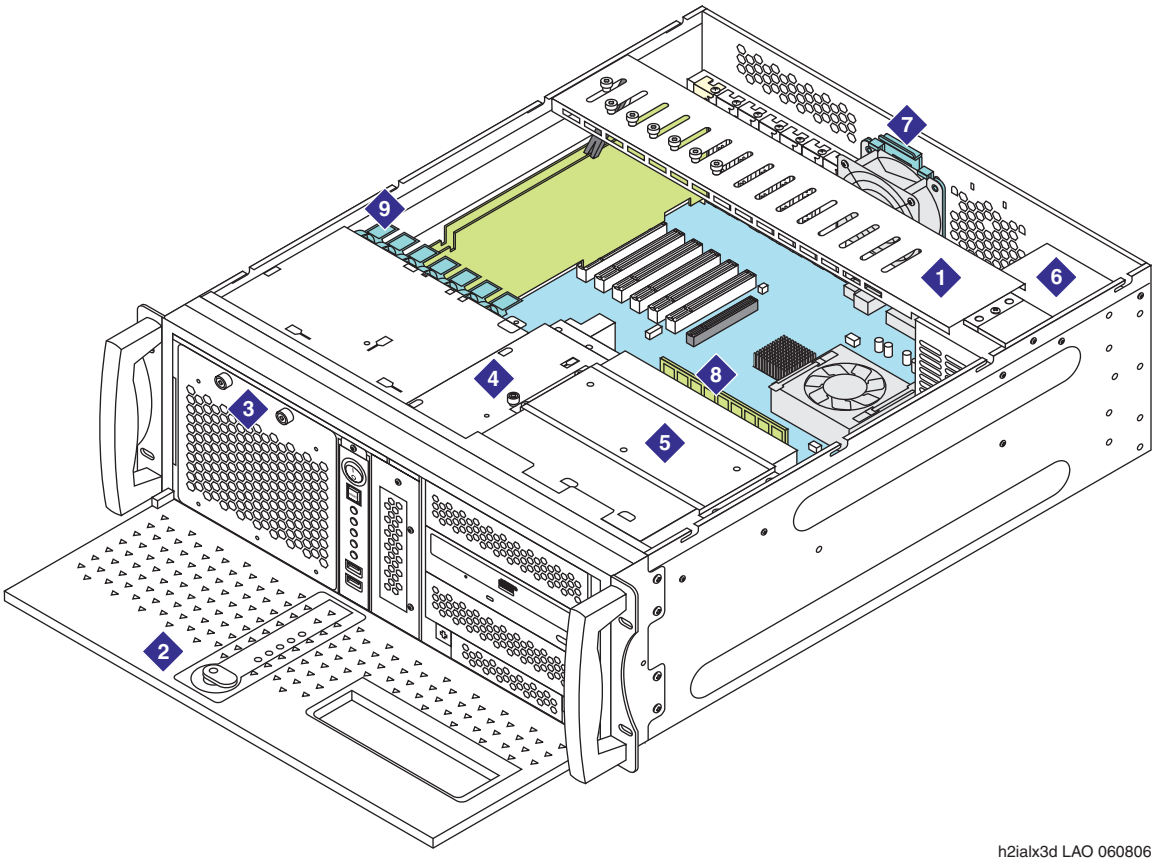


h2ialxbk LAO 030606

1	Screws for top cover
2	Power supply
3	AC power receptacle
4	On/off switch
5	Mouse connector
6	Keyboard connector
7	USB ports
8	Serial port (COM1)
9	Parallel port (not used)
10	Video connector
11	USB ports
12	LAN interface
13	Serial port (COM2)
14	Analog voice cards

S3210R internal components

The following illustration identifies the internal components of the S3210R server.



h2ialx3d LAO 060806

1	Circuit card hold-down bracket
2	Front bezel
3	Front fan
4	Hard disk drive
5	DVD-RW drive
6	Power supply
7	Rear fan
8	Memory module
9	Analog port board fastener

Protecting against ESD damage

Any system component that contains transistors or integrated circuits should be considered sensitive to electrostatic discharge (ESD). ESD damage can occur when there is a difference in charge between objects. Protect against ESD damage by equalizing the charge so that the system unit, the part, the work mat, and the person handling the part are all at the same charge.

Packaging materials that contain ESD sensitive components are usually marked with a yellow and black warning symbol.

CAUTION:
You must observe proper grounding techniques to prevent the discharge of static electricity from your body into ESD sensitive components.

To avoid damaging ESD sensitive components:

- Keep the parts in protective packages until they are ready to be inserted into the product.
- Handle the components only after attaching a wrist strap to your bare wrist. Attach the other end of the wrist strap to a ground that terminates at the system ground, such as any unpainted metallic chassis surface.
- Handle a circuit card by the faceplate or side edges only. Hold devices such as a hard disk drives in the same manner. The ESD sensitive area of these components is located on the bottom surface.

CAUTION:
Make sure that your palm is not in contact with the non-component side of the board.

- Keep components away from plastics and other synthetic materials such as polyester clothing. Most clothing is insulative and retains a charge even when you are wearing a wrist strap.
- Do not hand components to another person unless that person is grounded at the same potential level. In general, avoid contact with other people.
- Use the black side of a grounded work mat to provide a static-free work surface. The mat is especially useful when handling ESD-sensitive devices.
- Make sure that the ESD protective devices you use have been certified (ISO 9000) as fully effective.

Note:
Use product-specific ESD procedures when they exceed the requirements noted here.

Replacing components

This section presents detailed instructions for replacing the RoHS-compliant components in the S3210R server.

Component replacement process checklist

The checklist below represents the general component replacement process, with references to other sections of this chapter where the specific replacement steps for each component are presented.

Procedure	✓
Review electrostatic discharge prevention techniques. See Protecting against ESD damage on page 27.	
Shut down the system and unplug the AC power cord. See Shutting down the system on page 29.	
For a rack-mount system, remove the server from the cabinet. see Removing the server from the cabinet on page 30.	
Remove the top cover if necessary. See Removing the top cover on page 31.	
Remove the circuit card hold-down bracket if required for sufficient access. See Removing the circuit card hold-down bracket on page 32.	
Replace the component: • Front chassis fan. See Replacing the front chassis fan on page 36. • Rear chassis fan. See Replacing the rear chassis fan on page 38. • Power supply. See Replacing the power supply on page 39. • Hard disk drive. See Replacing the hard disk drive on page 41. • DVD-RW drive. See Replacing the DVD-RW drive on page 43. • Memory module. See Replacing the memory module on page 44. • Rack-mount sliding rails. See Replacing the rack-mount sliding rails on page 46.	
Reinstalling the circuit card hold-down bracket if required. See Reinstalling the circuit card hold-down bracket on page 33.	
Reinstalling the top cover if necessary. See Reinstalling the top cover on page 34.	

Procedure	✓
For a rack-mount system, return the server to the cabinet. See Returning the server to the cabinet on page 35.	
Restore power to the system. See Restoring power to the system on page 35	

Shutting down the system

Before you open the S3210R chassis, you must remove system power as follows:

1. Shut down the system:
   a. At the Administration menu, and select **Utilities > Shutdown System**.
   b. The system displays the **Shutdown System** page.
   c. Enter a number between 0 and 600 in the **Wait Time** field.

      This time designates how many seconds the system is to wait for calls in progress to finish before stopping the voice system. New calls are prevented immediately regardless of the wait time selected. If any calls are still in progress after this time, they are dropped, and the system proceeds with stopping the voice system. A wait time of zero indicates an indefinite wait time until all current calls are completed.
   d. Click Shutdown.

      The system displays the following message:

      "This will bring down your system and you will lose access to this system. Are you sure you want to do this?"
   e. Click OK.

      Some messages might appear as the system shuts down.
   f. The system is completely shut down when you see the following message:

      Stopping voice system...Shutting down system.
2. Remove any disk from the DVD drive.
3. Turn off the power by pressing the On/Off switch on the front of the S3210R. See Item 3 in S3210R front panel components on page 24.

   Verify that the green power lamp on the front of the Server is dark. See Item 4 in S3210R front panel components on page 24.

Note:
Users in the United Kingdom who have a modem attached to the system must disconnect the telephone line from the system unit before unplugging any power cords.

4. Press the On/Off switch located on the back of the server to turn off power, and then unplug the AC cord. See Items 3 and 4 in S3210R rear panel components on page 25.

Removing the server from the cabinet

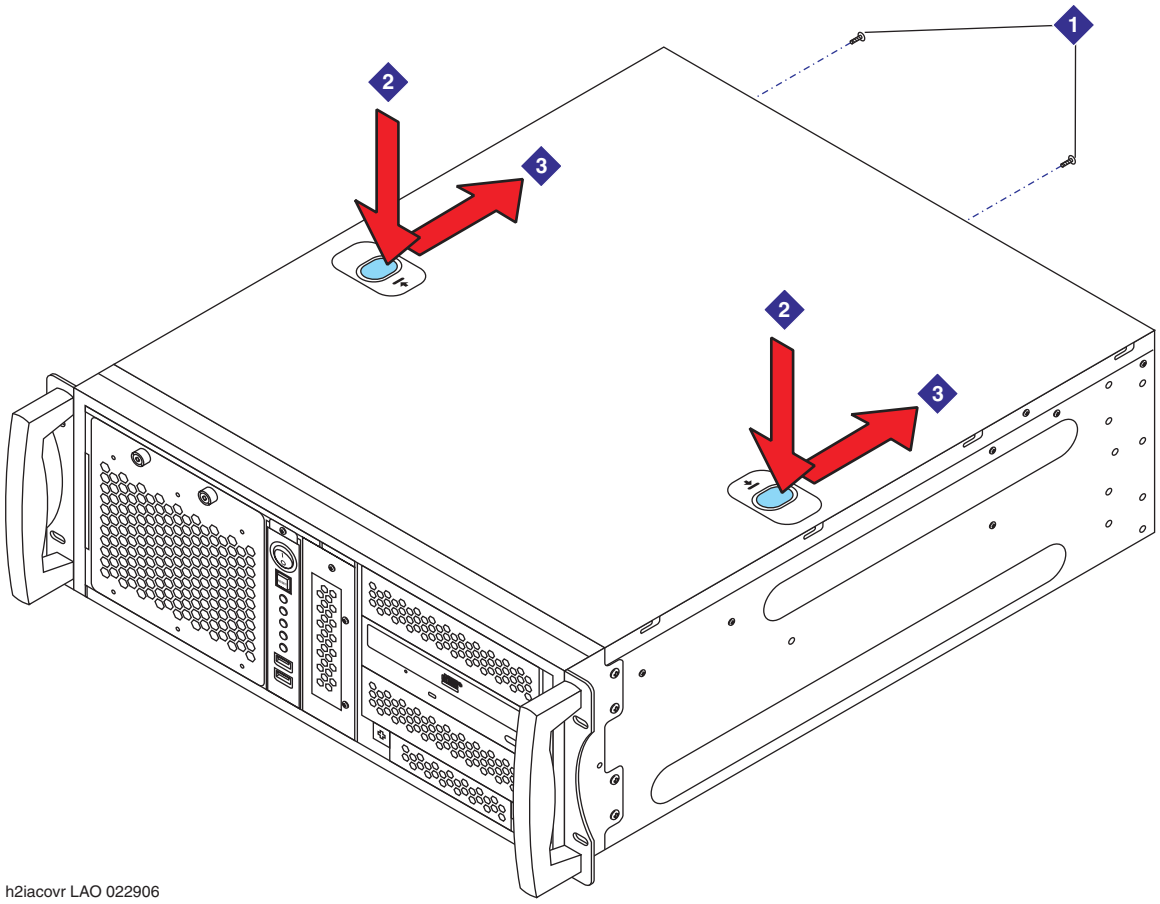
For a rack-mount setup, remove the server from the cabinet to access the server components:

CAUTION:
For safety purposes, get another person to assist you with moving the server.

1. Prepare a clear area as a work surface for the server.
2. Unplug all cables at the back of the server. Label all cables so you can easily reconnect them.
3. Press the release clips on the rails to fully extend the rail.
4. Lift the server off the rails and set the server on the work surface.

Removing the top cover

Refer to the following illustration while performing this task.



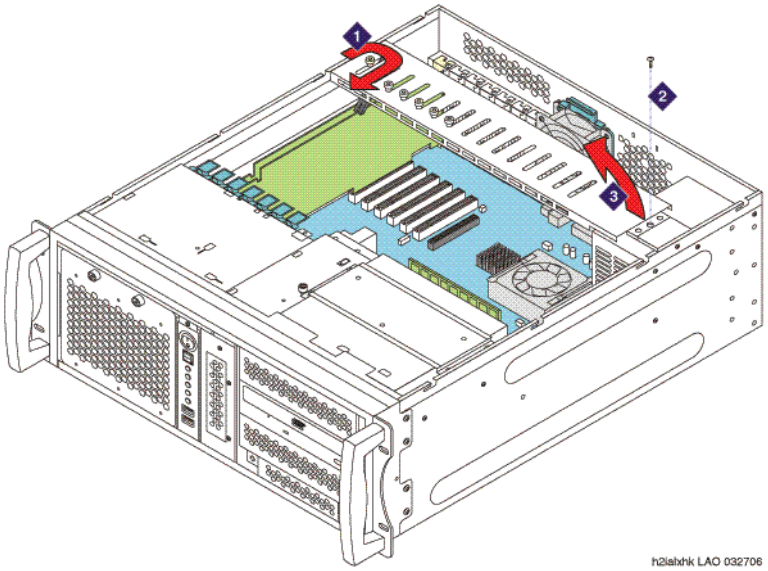
To remove the chassis cover on an S3210R server:

1. Remove the two screws located on the back of the chassis. See item 1 in the illustration.
2. With your thumbs, push down on the cover release buttons. While holding down the buttons, slide the cover towards the back of the server. See items 2 and 3 in the illustration.
3. Slide the cover off the back of the chassis.

The internal components are now accessible for replacement.

Removing the circuit card hold-down bracket

Refer to the following illustration while performing this task.

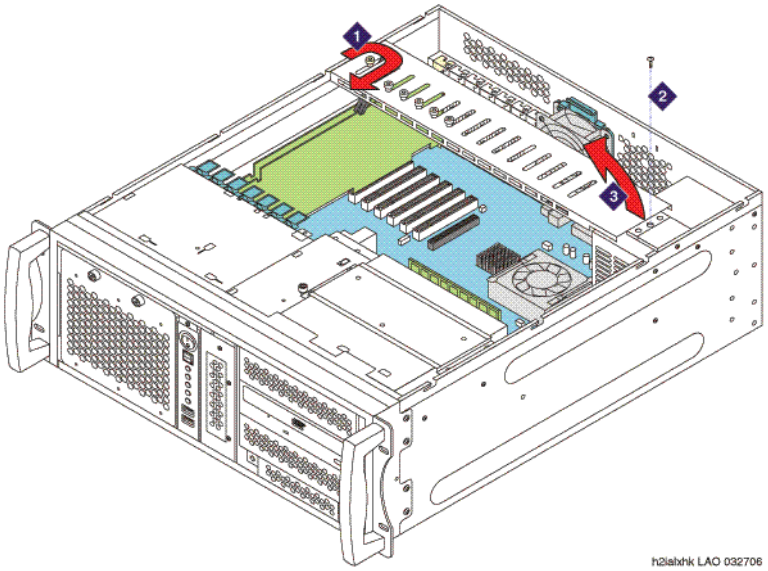


To remove the circuit card hold-down bracket:

1. For each occupied slot, loosen the retaining screw and slide it toward the front of the chassis to release the arm. See Item 1 in the illustration.
2. Unfasten the screw securing the circuit card hold-down bracket to the chassis. See Item 2 in the illustration.
3. Lift the circuit card hold-down bracket and set it aside. See Item 3 in the illustration.

Reinstalling the circuit card hold-down bracket

Refer to the following illustration while performing this task.

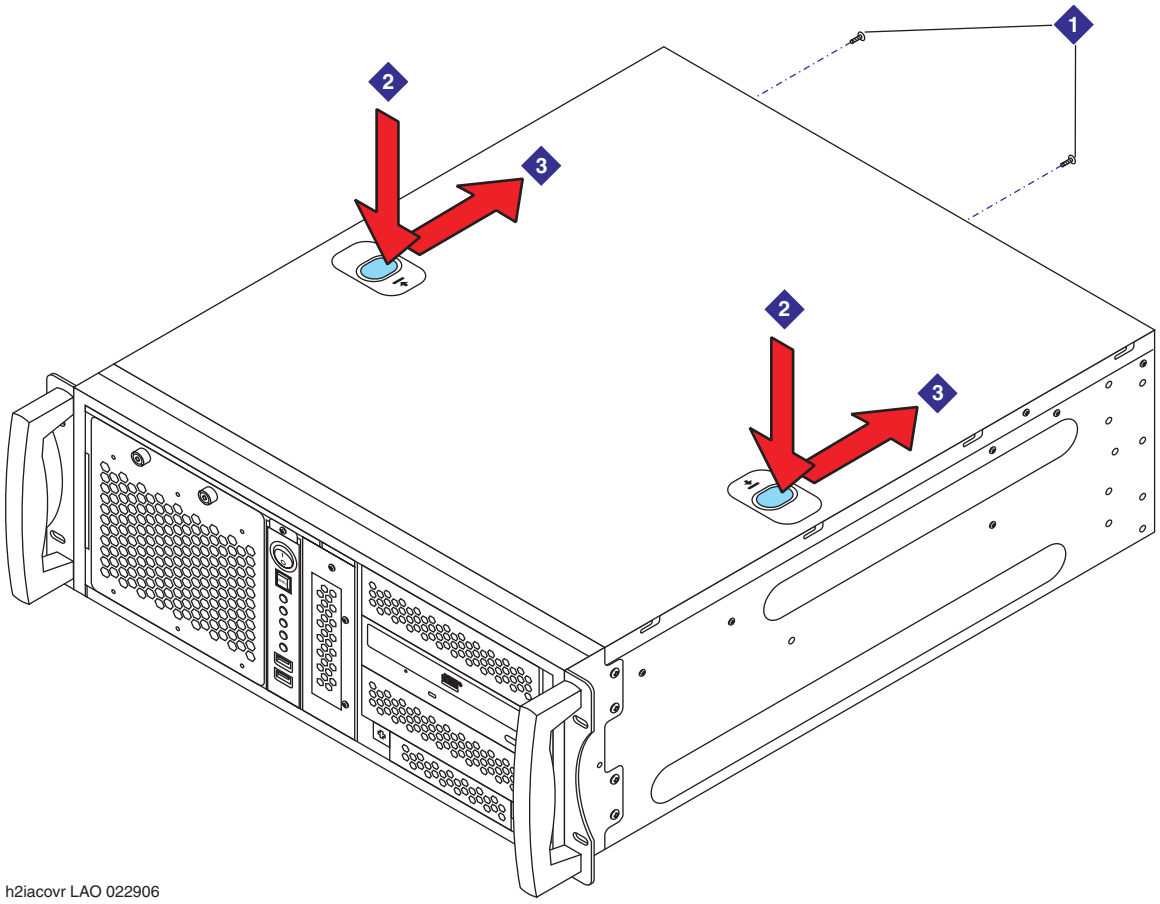


To reinstall the circuit card hold-down bracket:

1. Make sure that all of the securing arms on the circuit card hold-down bracket are up.
2. Position the circuit card hold-down bracket on the chassis so that the holes in the bracket line up with the holes on the chassis. See Item 3 in the illustration.
3. Fasten the screws that secure the circuit card hold-down bracket to the chassis. See Item 2 in the illustration.
4. For each occupied slot, loosen the screw if necessary, slide the screw toward the back of the chassis until the securing arm meets the board, and then tighten the screw. See Item 1 in the illustration.

Reinstalling the top cover

Refer to the following illustration while performing this task.



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To reinstall the top cover on an S3210R server:

1. Position the top cover so the straight edge is in front.
2. Set the cover on the chassis so the cover is aligned with the sides and slightly overhangs the back of the server.
3. Slide the cover toward the front of the machine until the cover snaps into place.
4. On the back of the server, reinstall and tighten the two screws to secure the top cover to the chassis. See Item 1 in the illustration.

Returning the server to the cabinet

For a rack-mount setup, return the server to the cabinet if you removed it:

CAUTION:
For safety purposes, get another person to assist you with moving the server.

1. Push in the release lock, the front latch, to slide the server into the cabinet.
2. Plug in all of the cables at the back of the server.

Restoring power to the system

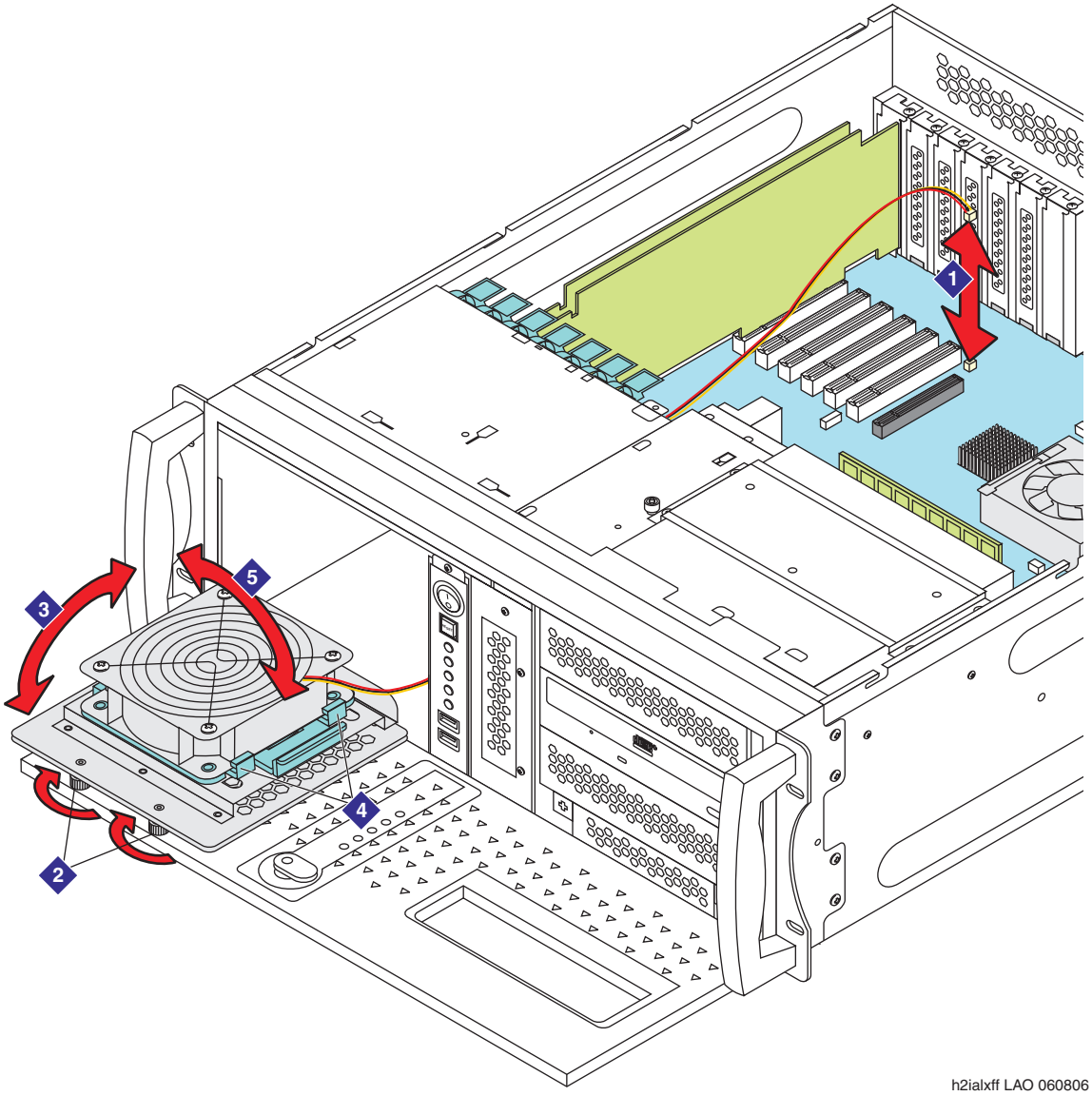
To restore power to the system:

1. For a rack-mounted unit, reattach any cables you might have unplugged from the back of the machine.
2. Plug the AC power cord back into the power outlet and then push the On/Off switch to turn on the power. See Items 3 and 4 in S3210R rear panel components on page 25.
3. Press the On/Off switch on the front of the S3210R. See Item 3 in S3210R front panel components on page 24.

   The green power lamp on the front of the machine should be lit. See Item 5 in S3210R front panel components on page 24
4. Continue with any verification procedures needed to return the system to service.

Replacing the front chassis fan

Refer to the following illustration while performing this task.



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To replace the S3210R front chassis fan:

1. Remove the old fan:
   a. Disconnect the fan cable from the motherboard. See Item 1 in the illustration.
   b. Unscrew the two thumbscrews in the front of the chassis that hold the front panel in place. See Item 2 in the illustration.

c. Lower the fan assembly. See Item 3 in the illustration.

d. Push back the two clips that hold the fan in place. See Item 4 in the illustration.

e. Remove the fan from the faceplate. See Item 5 in the illustration.

f. Set the old fan aside.

2. Insert the replacement fan:

a. Slip the new fan under the clips that hold the fan in place and snap the new fan into the faceplate. See Items 5 and 4 in the illustration.

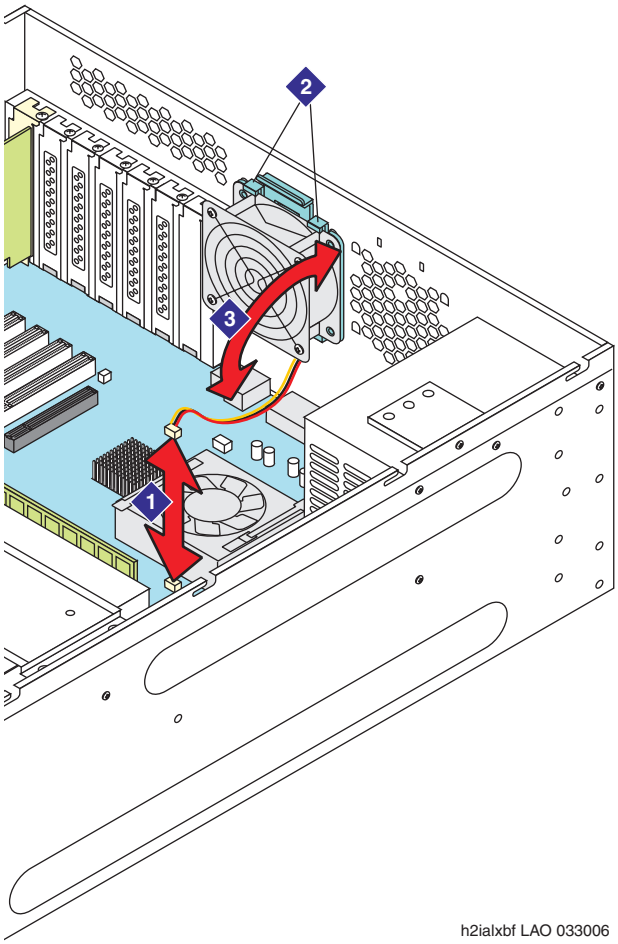
b. Lift the assembly into place. See Item 3 in the illustration.

c. Tighten the thumbscrews in the front of the chassis that hold the front panel in place. See Item 2 in the illustration.

d. Connect the fan cable to the motherboard. See Item 1 in the illustration.

Replacing the rear chassis fan

Refer to the following illustration while performing this task.



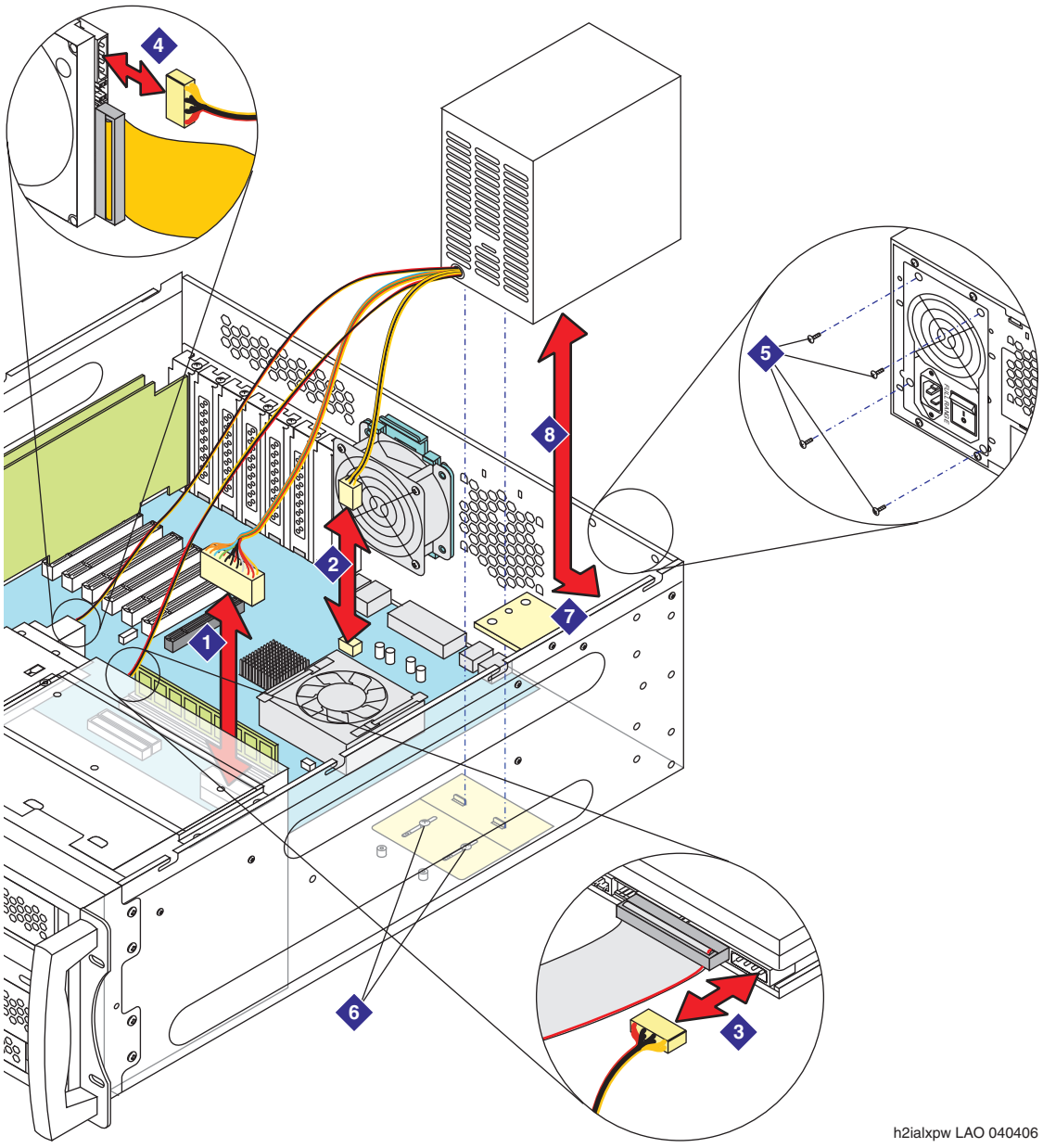
To replace the S3210R rear chassis fan:

1. Remove the old fan:
   a. Disconnect the fan cable from the motherboard. See Item 1 in the illustration.
   b. Push back the two clips that hold the fan in place. See Item 2 in the illustration.
   c. Rotate the fan down and release it from the chassis. See Item 3 in the illustration.
   d. Set the old fan aside.
2. Insert the replacement fan:
   a. Slide the replacement fan into the chassis and snap it into place. See Items 3 and 2 in the illustration.

b. Connect the fan cable to the motherboard. See Item 1 in the illustration.

Replacing the power supply

Refer to the following illustration while performing this task.



To replace the S3210R power supply:

1. Remove the old power supply:

a. Unplug the power cables from the power supply to the motherboard. See Items 1 and 2 in the illustration.

b. Unplug the power cable from the power supply to the DVD drive. See Item 3 in the illustration.

c. Unplug the power cable from the power supply to the hard disk drive. See Item 4 in the illustration.

d. Remove the screws holding the power supply mounting plate to the bottom of the chassis. See Item 6 in the illustration.

e. Remove the four screws holding the power supply to the rear panel of the chassis. See Item 5 in the illustration. Make sure that you remove the screws holding the power supply to the chassis, not the screws outside of the power supply.

f. Slide the power supply mounting plate toward the front of the chassis until it clears the power supply.

g. Lower the power supply to the bottom of the chassis, and then lift the power supply out of the chassis (see Item 8 in the illustration), avoiding the circuit card hold-down bracket (see Item 7 in the illustration).

h. Set the old power supply aside.

2. Install the new power supply:

a. Place the power supply in the chassis (see Item 8 in the illustration), avoiding the circuit card hold-down bracket (see Item 7 in the illustration).

b. Install at least one screw through the rear chassis panel to the power supply to support the power supply. See Item 5 in the illustration.

c. Slide the power supply mounting plate toward the rear of the chassis until the tabs on the mounting plate rest against the front of the power supply. See Item 6 in the illustration.

d. Adjust the placement of the power supply mounting plate so that the screws align with the captive nuts in the chassis.

e. Install the two screws holding the power supply mounting plate to the bottom of the chassis. See Item 6 in the illustration.

f. Install the remaining screws through the rear chassis panel to the power supply. See Item 5 in the illustration.

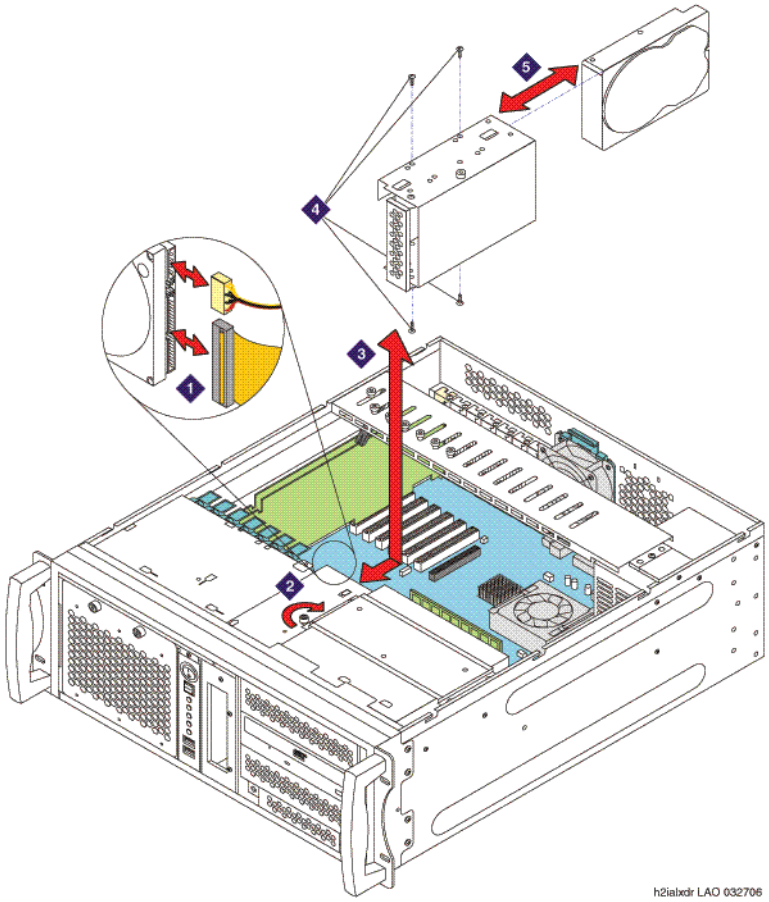
g. Plug in the wires from the power supply to the motherboard. See Items 1 and 2 in the illustration.

h. Plug in the wires from the power supply to the DVD drive. See Item 3 in the illustration.

i. Plug in the wires from the power supply to the hard disk drive. See Item 4 in the illustration.

Replacing the hard disk drive

Refer to the following illustration while performing this task.



To replace the S3210R hard disk drive:

1. Remove the old hard disk drive:
   a. Unplug the IDE and power cables from the rear of the hard disk drive. See Item 1 in the illustration.
   b. Loosen the thumbscrew on the top of the hard disk drive tray. See Item 2 in the illustration.
   c. Slide the hard disk drive tray toward the rear of the cabinet, avoiding the cable connectors, and lift the hard disk drive tray out of the chassis. See Item 3 in the illustration.
   d. Remove the two screws holding the hard disk drive on each side of the hard disk drive tray. See Item 4 in the illustration.

e. Remove the hard disk drive from the hard disk drive tray. See Item 5 in the illustration.

f. Set the old hard disk drive aside.

2. Install the new hard disk drive, power connector up:

a. Slide the hard disk drive into the hard disk drive tray. See Item 5 in the illustration.

b. Secure the hard disk drive to the hard disk drive tray with two screws on each side. See Item 4 in the illustration.

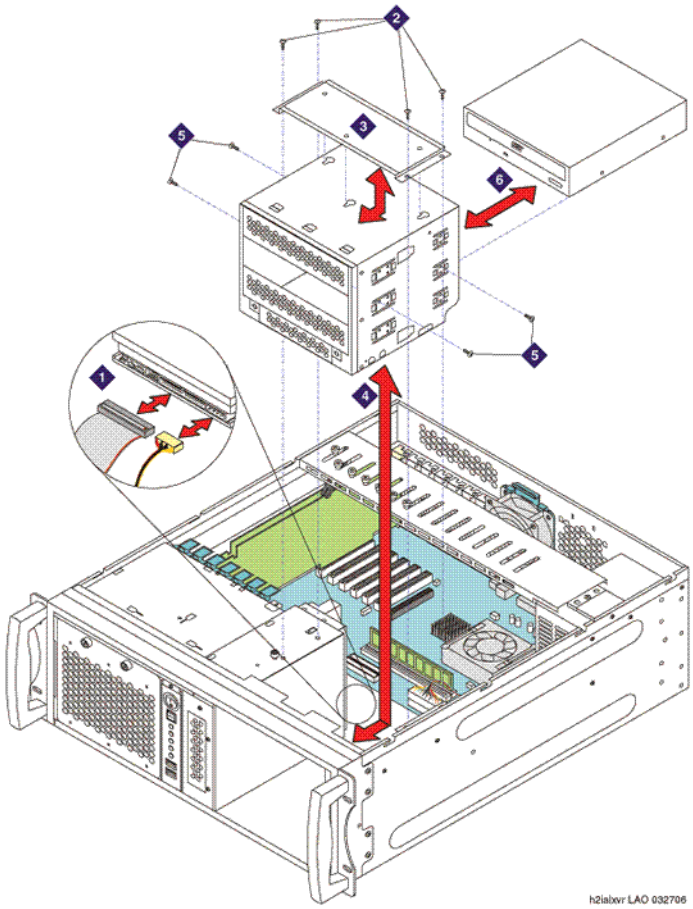
c. Place the hard disk drive tray into the chassis and slide the hard disk drive tray toward the front of the chassis, avoiding the cable connectors. See Item 3 in the illustration.

d. Tighten the thumbscrew on the top of the hard disk drive tray. See Item 2 in the illustration.

e. Plug in the IDE and power cables to the rear of the hard disk drive. See Item 1 in the illustration.

Replacing the DVD-RW drive

Refer to the following illustration while performing this task.



To replace the S3210R DVD-RW drive:

1. Remove the old DVD-RW drive:
   a. Unplug the IDE and power cables from the rear of the DVD-RW drive. See Item 1 in the illustration.
   b. Remove four screws from the 5.25" media bay support bracket. See Item 2 in the illustration. You may want to use a magnetic screwdriver for this step to avoid dropping the screws into the chassis.
   c. Slide the 5.25" media bay support bracket toward the rear of the chassis to clear the keyhole tabs and then remove the support bracket. See Item 3 in the illustration.

d. Slide the 5.25" media bay toward the rear of the chassis and then remove the media bay. See Item 4 in the illustration.

e. Remove the two retaining screws from each side of the 5.25" media bay. See Item 5 in the illustration.

f. Remove the old DVD-R/W drive from the media bay and set it aside. See Item 6 in the illustration.

2. Install the new DVD-RW drive:

a. Mount the new drive into the middle rack in the 5.25" media bay, flush with the front of the 5.25" media bay. See Item 6 in the illustration.

b. Secure the DVD-RW drive to the 5.25" media bay with two screws on each side. See Item 5 in the illustration.

c. Place the 5.25" media bay into the chassis and then slide it toward the front of the chassis. See Item 4 in the illustration.

d. Reinstall the 5.25" media bay support bracket, engaging the keyhole tabs. See Item 3 in the illustration.

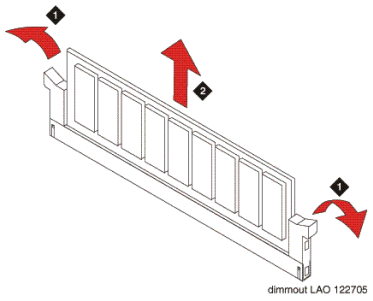
e. Reinstall the four screws to the 5.25" media bay support bracket. See Item 2 in the illustration. You may want to use a magnetic screwdriver for this step to avoid dropping the screws into the chassis.

f. Plug in the IDE and power cables to the rear of the DVD-RW drive. See Item 1 in the illustration.

Replacing the memory module

To replace the memory module:

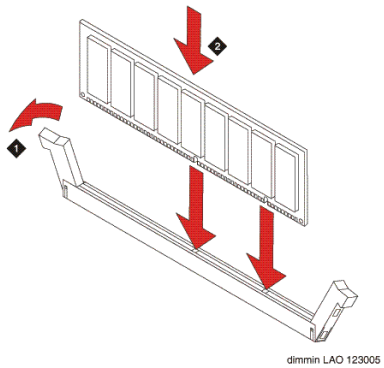
1. Press the holding clips on both sides of the socket outward to release the currently installed memory module. See the following illustration.



2. Gently pull the memory module out of the socket.

CAUTION:
The memory module can be damaged by electrostatic discharge. See Protecting against ESD damage on page 27 for more information.

3. Hold the memory module card by the edges, and remove the card from its antistatic package.
4. Position the replacement memory module in the correct orientation. See the following illustration.

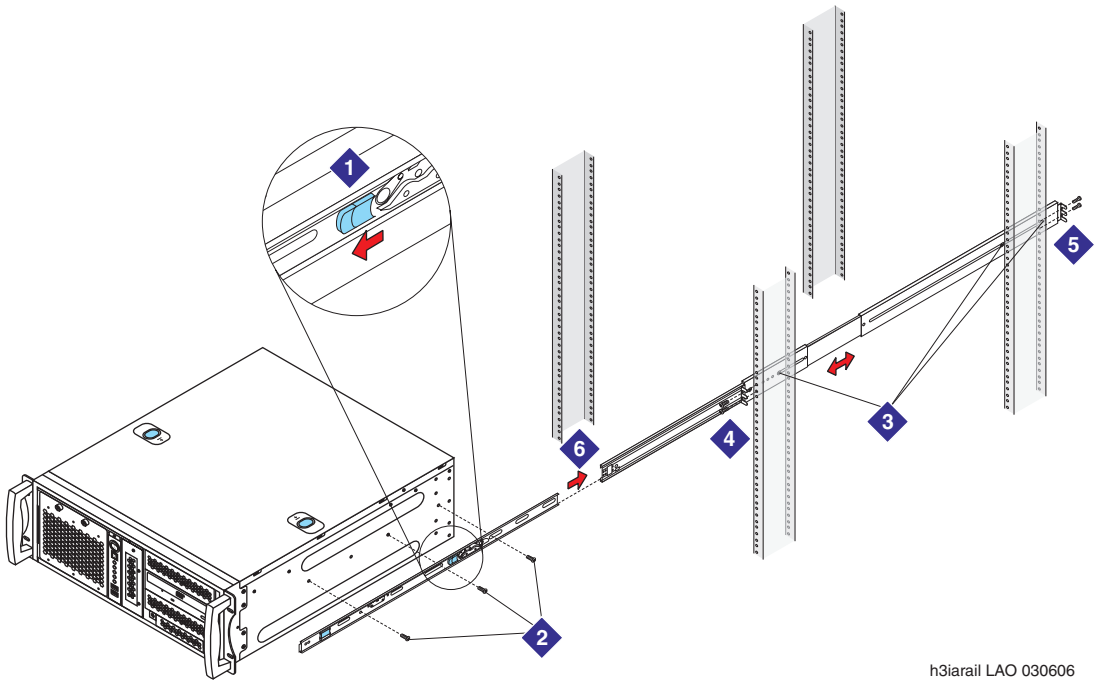


5. Gently push the replacement memory module into the appropriate socket. See Item 2 in the illustration.
6. When the memory module card is seated firmly, the holding clips spring shut to lock it into position. Verify that the clips are firmly in place.

CAUTION:
Do not force the memory module into or out of the socket. This can damage the socket, the memory module, or both.

Replacing the rack-mount sliding rails

Refer to the following illustration while performing this task.



To replace the rack-mount sliding rails:

1. Remove the server from the cabinet:
   a. Unplug all cables at the back of the server.
   b. Press the release clips on the rails to fully extend the rail.
   c. Lift the server off the rails and set the server aside.
2. Remove the old rack-mount sliding rail assembly and set aside.
3. Remove the new rail assembly and screws from their packaging.

Note:
If more than one set of screws is provided, identify the set of 12 screws that fits the S3210R server hardware. Only one set of thick Phillips round head screws fits tightly to the rails. Any other screws are not needed.

4. Release and detach the inner rail from the slide:

a. Fully extend the rail.

b. Pull the release lock out, the arrow tab, forward. See Item 1 in the illustration.

c. Separate the inner rail from the slide.

5. Attach the inner rail to the server:

a. Place the S3210R server on a flat, stable surface.

b. Align the inner rail against the side of the server. Only three holes in the rail line up with the corresponding holes in the server chassis.

c. Starting with the hole nearest the front of the server, insert a screw into the holes indicated in Item 2 in the illustration.

6. Attach the slide to the frame of the customer-provided cabinet:

a. Loosen the two Phillips screws inside the front bracket. Extend the bracket to fit the frame. See Item 3 in the illustration.

b. Secure the bracket to the front and rear posts in the customer-provided cabinet. Tighten all three screws. See Items 4 and 5 in the illustration.

c. After the bracket is in place, tighten the two screws inside each rear bracket. See Item 5 in Attaching a rack-mount rail assembly on an S3210R server.

CAUTION:
You need two people for the next step.

7. Mount the server in the cabinet:

a. Fully extend the slide out the front of the cabinet. See Item 6 in the illustration.

b. Have one person hold up the front of the server. Have a second person help support the server, and guide the server onto the slide.

c. Plug in all cables at the back of the server.