



# **Maintaining the Avaya S8730 Server for Modular Messaging**

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# Chapter 1: Safety Information

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## General safety information

Follow these rules to ensure general safety:

- Observe good housekeeping in the area of the system units during and after maintenance.
  - Place removed covers and other parts in a safe place, away from all personnel, while you are servicing the system unit.
  - Keep your tool case away from walk areas so that other people do not trip over it.
- When lifting any heavy object:
  - a. Verify that you can stand safely without slipping.
  - b. Distribute the weight of the object equally between your feet.
  - c. Use a slow lifting force. Never move suddenly or twist when you attempt to lift.
  - d. Lift by standing or by pushing up with your leg muscles. This action removes the strain from the muscles in your back. Do not attempt to lift any objects that weigh more than 16 kg (35 lb.) or objects that you think are too heavy for you.
- Do not perform any action that causes hazards to the customer, or that makes the equipment unsafe.
- Before you start the system unit, ensure that other technical support staff and customer personnel are not in a hazardous position.
- Do not wear loose clothing that can be trapped in moving parts. Ensure that your sleeves are fastened or rolled up above your elbows. If your hair is long, fasten it.
- Insert the ends of your necktie or scarf inside clothing or fasten it with a nonconductive clip, approximately 8 cm (3 inches) from the end.
- Do not wear jewelry, chains, metal-frame eyeglasses, or metal fasteners for your clothing. Metal objects are good electrical conductors.
- Remove items from your shirt pocket, such as pens and pencils, that could fall into the server as you lean over it.
- Wear safety glasses when you are working in any conditions that might be hazardous to your eyes.

- Avoid dropping any metallic objects, such as paper clips, hairpins, and screws, into the server.
- After service, reinstall all safety shields, guards, labels, and ground wires. Replace any safety device that is worn or defective.
- Reinstall all covers correctly before returning the server to service.

 **Warning:**

To prevent access to electrical hazards by unauthorized personnel and to ensure continued compliance with international radiated emissions requirements, tighten all captive screws securely so they cannot be loosened without the use of a tool.

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## Safety Inspection

Use this list to identify potentially unsafe conditions related to the server. Each server, as it was designed and built, had required safety items installed to protect users and technical support staff from injury. If any unsafe conditions are present, determine how serious the apparent hazard is and whether you can safely continue without first correcting the problem.

Consider these conditions and the safety hazards they present:

- Electrical hazards, especially primary power. Primary voltage on the frame can cause serious or fatal electrical shock.
- Explosive hazards, such as a damaged monitor face or bulging capacitor.
- Mechanical hazards, such as loose or missing hardware.

Perform the following safety checks when servicing this unit:

1. Check exterior covers for damage such as loose, broken, or sharp edges.
2. Shutdown the system and unplug the AC power cords.
3. Check the power cord:
  - Verify that the third-ground connector is in good condition. Use an ohmmeter to measure third-wire ground continuity for 0.1 ohm or less between the external ground pin and frame ground.
  - Verify that the power cord is the appropriate type.
  - Verify that insulation is not frayed or worn.
4. Check inside the server for any obvious unsafe conditions, such as metal filings, contamination, water or other liquids, or signs of fire or smoke damage.
5. Check for worn, frayed, or pinched cables.
6. Verify that the power-supply cover fasteners, such as screws or rivets, have not been removed or tampered with.
7. If you notice any damage, replace the appropriate system components.



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## Electrical safety rules

Electrical current from power, telephone, and communication cables can be hazardous. To avoid any shock hazard, you must disconnect all power cords and cables.

Observe the following rules when working on electrical equipment.

- Find the room emergency power-off (EPO) switch, disconnecting switch, or electrical outlet. If an electrical accident occurs, you can then operate the switch or unplug the power cord quickly.
- Do not work alone under hazardous conditions or near equipment that has hazardous voltages.
- Disconnect all power before:
  - Doing a mechanical inspection
  - Working near power supplies
  - Removing or installing servers
- Before you start to work on the server, unplug the power cord. If you cannot unplug it, ask the customer to switch off the wall box that supplies power to the server. Afterwards, lock the wall box in the off position.
- If you must work on a server that has exposed electrical circuits, observe the following precautions:
  - Ensure that another person, familiar with the power-off controls, is near you. Another person must be there to switch off the power if necessary.
  - Stand on suitable rubber mats to insulate you from grounds such as metal floor strips and system unit frames. Obtain the mats locally, if necessary.
  - When using testers, set the controls correctly and use the approved probe leads and accessories for that tester.
  - Use only one hand when working with powered-on electrical equipment. Keep the other hand in your pocket or behind your back. This precaution can prevent a current from passing through your body.
- Regularly inspect and maintain your electrical hand tools for safe operational condition. Do not use worn or broken tools and testers.
- Never assume that power was disconnected from a circuit. First, verify that the unit is turned off.
- Always look carefully for possible hazards in your work area. Examples of hazards are moist floors, non-grounded power extension cables, power surges, and missing safety grounds.
- Do not touch live electrical circuits with the reflective surface of a plastic dental mirror. The surface is conductive. Touching a live circuit can cause personal injury and damage to the server.

- Use only approved tools and test equipment. Some hand tools have handles covered with a soft material that does not insulate you when working with live electrical currents.
- Many customers have, near their equipment, rubber floor mats that contain small conductive fibers to decrease electrostatic discharges. Do *not* use this type of mat to protect yourself from electrical shock.

If an electrical accident occurs:

- Use caution. Do not become a victim yourself.
- Turn off power.
- Send another person to get medical aid.

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## Protecting against ESD damage

Any system component that contains transistors or integrated circuits is 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. The server, the part, the work mat, and the person handling the part must all be 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:

- Limit your movement. Movement can cause static electricity to build up around you.
- Keep the parts in protective packages until you are ready to install them into the server. If it is necessary to set down a part, put it back into its static-protective package. Do not place the part on the server cover or on a metal surface.
- Place parts on a grounded surface before removing them from their containers.
- 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 board by the faceplate or side edges only. Avoid touching pins, leads, or circuitry. Hold devices such as a hard disk drive in the same manner. The ESD-sensitive area of these components is located on the bottom surface.

 **Caution:**

Make sure that the unprotected part of your hand 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.
- Take additional care when handling devices during cold weather. Heating reduces indoor humidity and increases static electricity.
- Verify that the ESD protective devices you use are ISO 9000 certified as fully effective.

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## System battery

The server has an internal battery pack that provides power to the real-time clock. The internal battery pack can be either a lithium manganese dioxide, a vanadium pentoxide, or an alkaline type of battery.

 **Caution:**

Dispose of used batteries according to the instructions provided with the battery.

You risk explosion if you replace the battery with an incorrect type.



# Chapter 2: Site preparation

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## Recommended tools and supplies

- #2 crosspoint (Phillips) screwdriver
- A medium-width flat-blade screwdriver
- T-15 Torx screwdriver (attached to rear of server)
- A small pair of needlenose pliers
- A small pair of wire cutters
- Masking tape or felt-tip pen for marking mounting holes
- A volt/ohm meter

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## Recommended test equipment

Verify that the following test equipment will be available when installation and configuration of the system is complete:

- At least two telephones connected through the switch or private branch exchange (PBX). The telephones must be of the same type as most of the telephones the customer plans to use on the system.
  - Preferably the test telephones will have a data display for testing integration and the Find Me and Call Me features.
  - If the message waiting indicator (MWI) for the system is a lamp, the test telephone must be equipped with a lamp. If the MWI is a stutter tone, the telephone must be able to provide the stutter notification.
  - Place the test telephone so you can easily see the monitor while using the telephones.
- Access to a fax machine if fax messaging will be installed on the system.



# Chapter 3: Server preparation and reinstallation

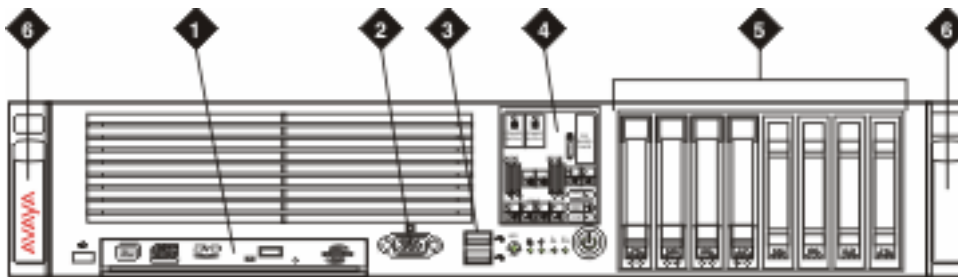
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## Overview

The following descriptions and procedures are required for multiple maintenance tasks.

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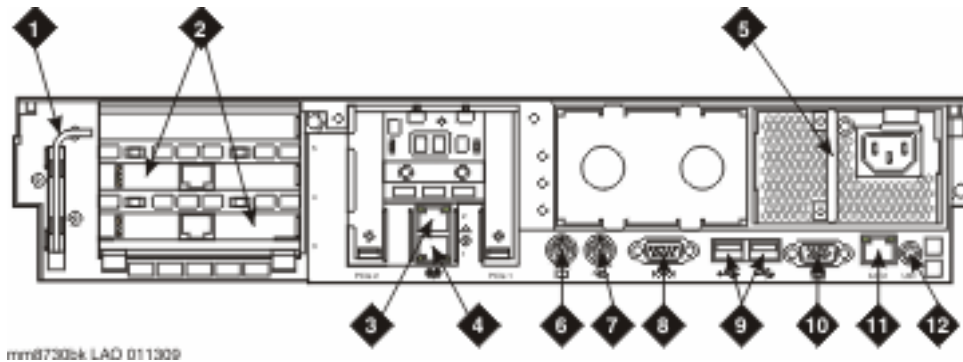
## Front view of server



mm8730fr LAQ 032608

1	Media drive bay. DVD-ROM/CD—RW media drive for model 03; DVD-RAM/RW media drive for models 04 and 05.
2	Video connector
3	USB connectors (2)
4	Systems Insight Display
5	Hard drive bays. Two 146 GB hard drives for models 03 and 04; four or six 72 GB hard drives for model 05.
6	Quick release levers

## Back view of server



mm973026 LAD 011309

1	T-10/T-15 Torx screwdriver
2	Dialogic port boards. E1–QSIG or T1–QSIG type boards shown.
3	Private LAN Ethernet connection
4	Corporate LAN Ethernet connection
5	Power supply. Two power supplies for Model 05; One power supply for models 03 and 04.
6	Keyboard connector
7	Mouse connector
8	Serial connector
9	USB connectors (2)
10	Video connector
11	iLo 2 connector (not used)
12	Unit Identification (UID) LED button

## Shutting down the MAS

### Before you begin

- If the server is already in operation, you must take it out of service to work inside the chassis. Schedule and publicize a time when the server will be out of operation.
- Busy out ports on the MAS.



## Procedure

1. Remove any disk from the DVD drive.
2. Click **Start > Shut Down**.
3. In the Shut Down window, select **Shut Down** and click **OK**.  
The server shuts down and turns off automatically.
4. Verify that the power button on the front of the server is off or shows amber. If the power button remains green, press and hold down the power button to turn off the server.  
If the power button is amber, the system has shut down, but power is still applied.
5. Unplug all AC power cords from the back of the server.

 **Caution:**

You must physically unplug all AC power cords to completely remove power to the S8730 server. Do not open the server without first unplugging AC power.

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### Related topics:

[Busying out ports on the MAS](#) on page 23

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# Shutting down the MSS

## Before you begin

If the server is already in operation, you must take it out of service to work inside the chassis. Schedule and publicize a time when the server will be out of operation.

## Procedure

1. On the Administration main menu, select **Utilities > Shutdown System**.
2. On the Shutdown System page, click **Shutdown**.
3. At the shutdown warning message, click **OK**.  
The server shuts down and when done displays the message `Power down`. The shutdown process takes about 15 minutes.
4. Remove any disk from the DVD drive.
5. To turn off the power, press the power button on the front of the MSS.
6. Verify that the power button on the front of the server is off or shows amber.  
If the power button is amber, the system has shut down, but power is still applied.
7. Unplug all AC power cords from the back of the server.

 **Caution:**

You must physically unplug all AC power cords to completely remove power to the S8730 server. Do not open the server without first unplugging AC power.

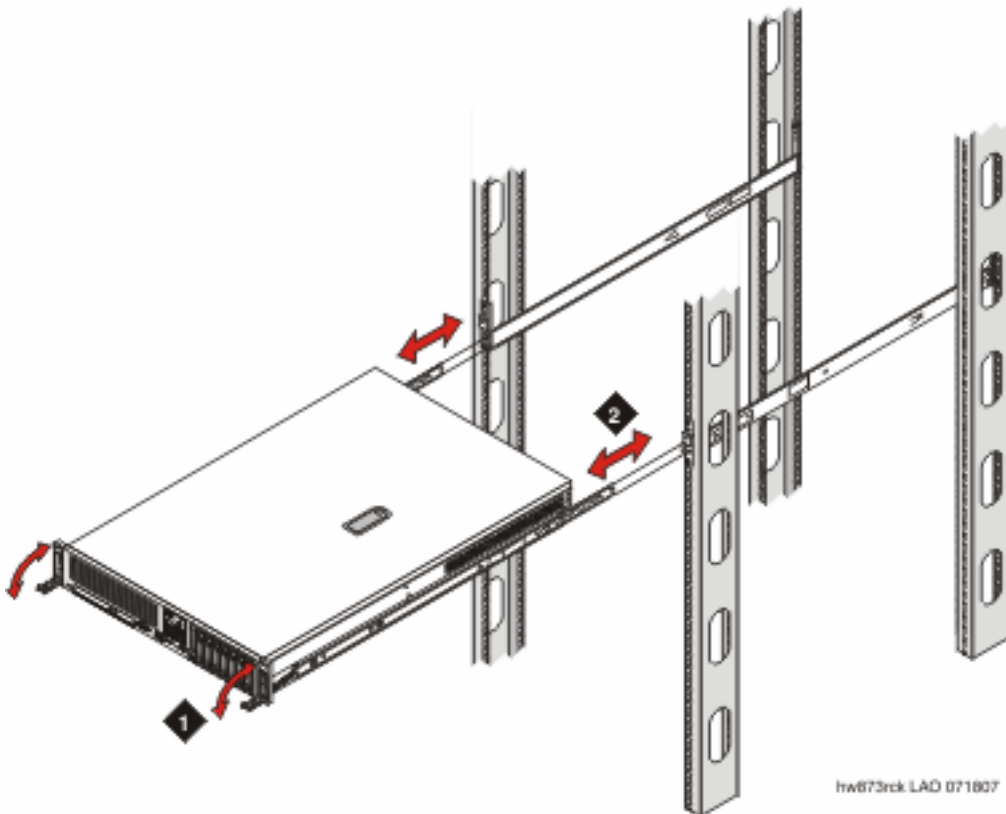
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## Removing the server from the rack

### Before you begin

The server must be shut down and all cables detached from the rear panel before removing the server from the rack for service. Detach the Dialogic port board, LAN Ethernet, keyboard, mouse and monitor cables as well as any other connections on the back of the server. Label all cables so you can easily reconnect them.

### About this task



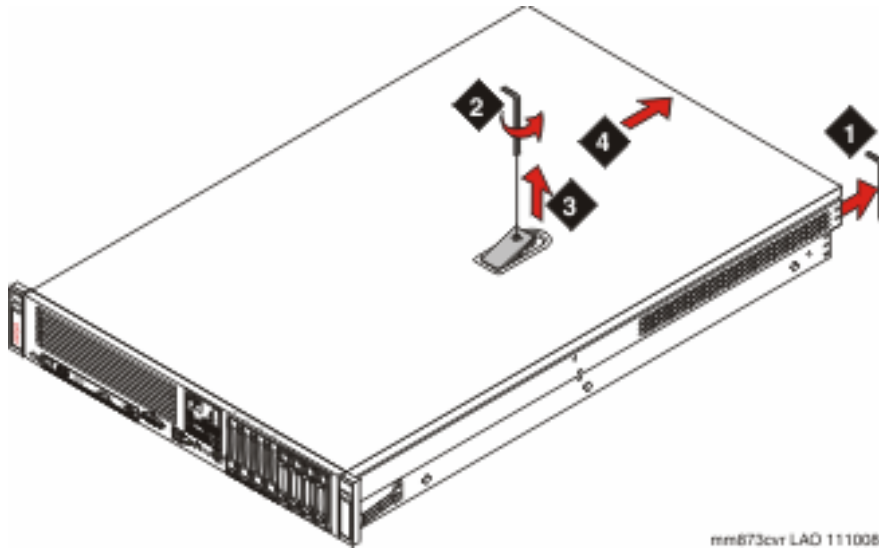
## Procedure

1. Release the latches on both sides on the front of the server.
  2. Extend the server until the server rail-release latches engage.
  3. Pull the server straight out of the rails and remove it from the rack.
  4. Place the server on an antistatic mat.
- 

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## Removing the cover from the server

### About this task



## Procedure

1. Remove the Torx screwdriver from the rear of the server.
  2. With the screwdriver, release the security screw on the latch handle.
  3. Lift the latch handle up.
  4. Slide the cover back, lift it straight up, and set it aside.
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## Replacing the server cover

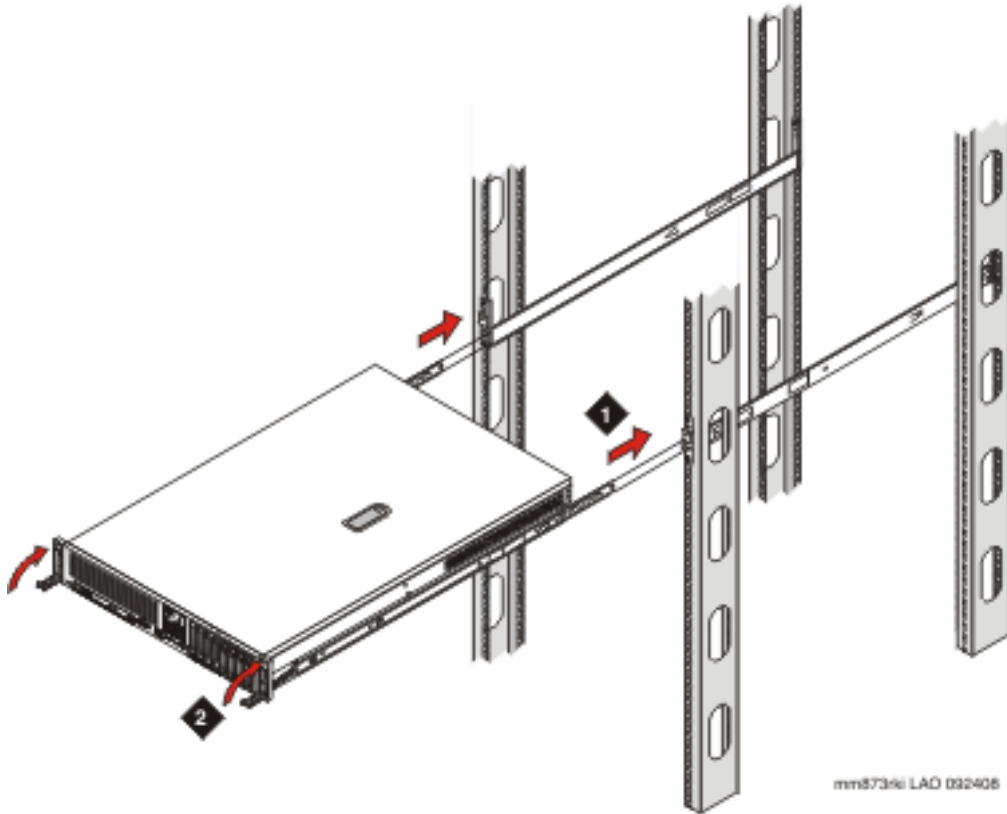
### Procedure

1. Place the cover on the server so that the front alignment tabs are in place.
  2. Push the cover latch down.  
The cover slides forward and locks into place.
  3. Use the Torx screwdriver to tighten the security screw on the cover latch.
  4. Replace the Torx screwdriver in its clip on the rear panel of the server.
-

---

## Replacing the server in the rack

### About this task



### Procedure

1. Align the server on the rails and push the server into the rack until it is flush with the rack.
  2. Close both quick-release levers on the front of the server to secure the server in the rack.
  3. Reattach all cable connections to the back panel of the server.
-

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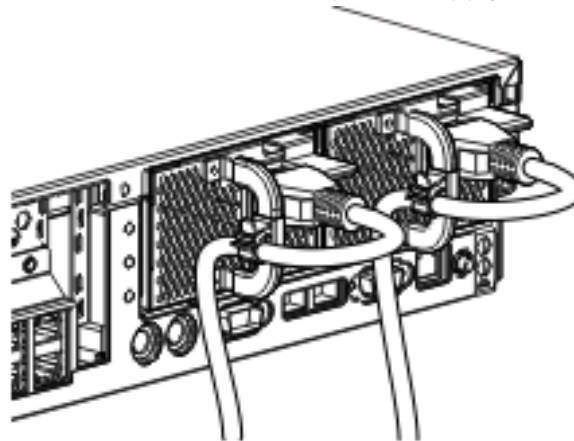
## Restoring power to the server

### About this task

The following graphic illustrates the S8730 server with two power supplies. Models 03 and 04 ship with a single power supply; model 05 ships with the illustrated duplicate power supply.

### Procedure

1. Plug one end of the power cord into the back of the server and connect the power cord anchor to the handle of the power supply.



mm8730pw LAQ 092408

2. Plug the other end of the power cord into the UPS.
3. If the server does not start automatically within 15 seconds of the power cord being connected, turn the server on by pressing the power button on the front of the server.
4. If the server still does not start, verify that the server has AC power. Check the UPS settings, and that the UPS is receiving AC power.

For more information about troubleshooting power problems, see *Installing the Avaya S8730 Server*.

# Chapter 4: Adding and replacing an MAS port board

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## MAS port boards

Dialogic port boards are pre-installed in any new MAS (model 03) server that uses an analog, Digital Set Emulation (DSE), E1-QSIG, or T1-QSIG switch integration protocol. Each server can have only one type of board installed. The server supports only PCI Express (PCI-e) Dialogic cards. Dialogic cards used in the S3400 and S3500 servers do not use the PCI-e form factor and cannot be transferred to the S8730 server. The S8730 supports the following Dialogic boards:

Protocol	Ports per MAS	Supported boards	Maximum number
Analog	12 – 36	<ul style="list-style-type: none"><li>• Dialogic D/120JCT-LS-EW 12-port board</li><li>• Dialogic D/120JCT-LS-EWEU (Europe) 12-port board</li></ul>	3
	4 – 12	<ul style="list-style-type: none"><li>• Dialogic D/41JCT-LS-EW 4-port board</li><li>• Dialogic D/41JCT-LS-EWEU (Europe) 4-port board</li></ul>	2
Digital Set Emulation	8 – 24	Dialogic D/82JCT-U-EW	3
E1-QSIG	30 – 90	Dialogic D/600JCT-E1120-EW	3
T1-QSIG	23 – 69	Dialogic D/480JCT-T1-EW	3

---

## Busying out ports on the MAS

### Before you begin

On the PBX, the PBX administrator must busy out the ports used by the MAS. Depending on the switch integration, the administrator might be able to temporarily reroute calls to other

MASs. If an MAS is unavailable, callers into the system might hear ring-no answer or a busy signal.

### About this task

Use the Port Monitor to disable the MAS ports on the MAS.

### Procedure

1. Click **Start > Programs > Avaya Modular Messaging > Port Monitor**.
  2. In the Port Monitor window, hold down the **Shift** key or **Ctrl**(Control) key and click to select all the ports.
  3. Right-click the port list and select **Disable**.
  4. Verify that the status of all ports is Disabled.
  5. Close the Port Monitor window.
- 

---

## Recording Dialogic Settings

### About this task

Before you shut down the server, record the settings for each Dialogic board in the MAS. You must verify these settings after you replace a board or install a new one.

### Procedure

1. On the MAS, click **Start > Programs > Intel Dialogic System Release > Configuration Manager — DCM**.
2. In the Intel Dialogic Product Configuration Manager — Properties window, click the indicated tab to display the properties that are appropriate to the type of board. Record these properties.
  - For QSIG boards:
    - Click the **Interface** tab and record the **ISDNProtocol** parameter.
    - Click the **Telephony Bus** tab and record the **PCMEncoding** parameter.
    - Click the **Misc** tab and record the **FirmwareFile2** parameter.
    - Click the **Country** tab and record the **Country** parameter.
  - For DSE boards:
    - Click the **Telephony Bus** tab and record the **PCMEncoding** parameter.
    - Click the **Misc** tab and record the **FirmwareFile2** and **PBXSwitch** parameters.



- Click the **Country** tab and record the **Country** parameter.
  - For analog boards:
    - Click the **Files** tab and record the **TSFFilename** parameter.
    - Click the **Misc** tab and record the **FirmwareFile2** parameter. Also verify that the **TSFFileSupport** and **DisconnectTone** parameters are set to **Yes**.
- 

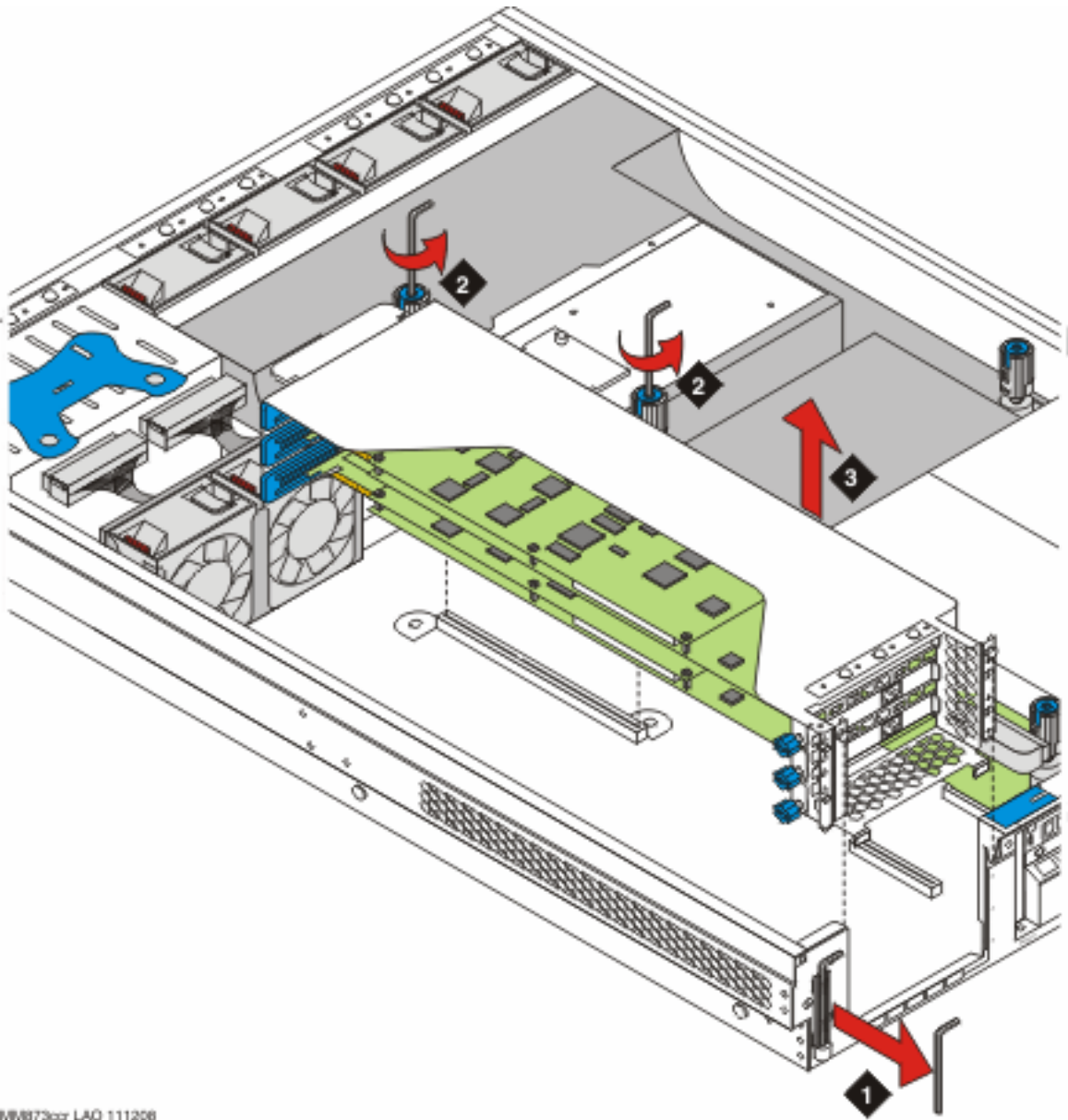
---

## Removing the PCI riser cage

### Before you begin

- Shut down the server.
- Remove the server from the rack.
- Remove the server cover.

## About this task



MW873ocr LAD 111208

## Procedure

1. Remove the Torx screwdriver from the rear of the server.
2. With the screwdriver, loosen the black knobs on the PCI riser cage turning the knobs counter-clockwise.
3. Pull straight up on the riser assembly to free it from its slot.
4. Place the PCI riser cage on an antistatic mat or other static-free work surface.

**Related topics:**

[Shutting down the MAS](#) on page 16

[Shutting down the MSS](#) on page 17

[Removing the server from the rack](#) on page 18

[Removing the cover from the server](#) on page 19

---

## Reseating a port board

**About this task**

A port board may not be functioning properly because of faulty connections. Complete the following steps to verify that the board is properly seated.

**Procedure**

1. Locate the faulty board in the PCI cage.
2. Ensure that the board is securely seated in the slot connector.
3. Verify that all cable attachments to the board are secure. For example, check the Computer Telephony (CT) bus cable that connects multiple port boards.

---

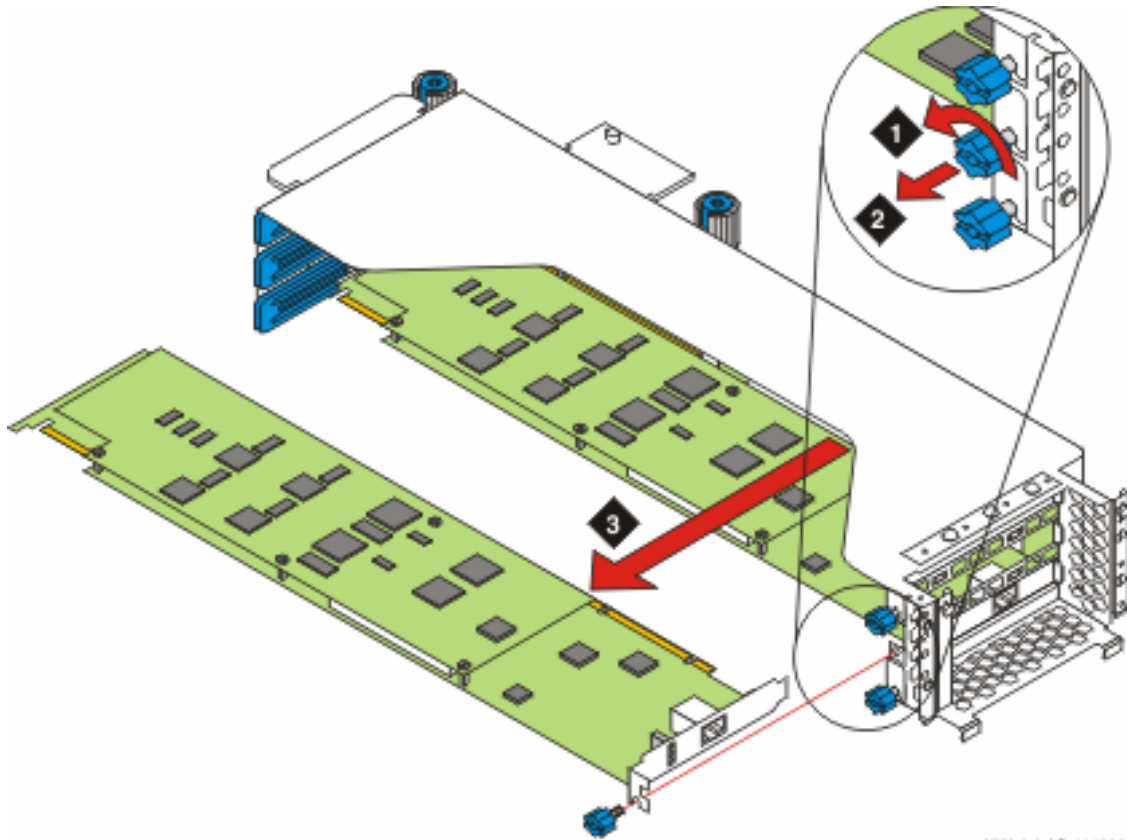
**Next steps**

- If the board and its cables were securely seated, remove the faulty board.
- If the board or cable connections were improperly seated, replace the PCI cage, replace the server cover, return the server to the rack, restore power to the server, and test the board.

---

## Removing a port board

### About this task



mm873bdr LAO 111008

### Procedure

1. In the PCI cage, locate the port board you are removing.
2. Remove any interior cables connected to the port board, such as the CT bus cable.
3. Remove the screw that secures the port board in its slot by turning the screw counterclockwise.
4. While holding the PCI cage steady with one hand, pull the port board directly out of the cage.
5. Cycle power on the MAS to clear out the settings for the board that was removed.
  - a. Leaving the cover off the server, plug in the cables for the monitor, keyboard, and mouse.
  - b. Plug in the AC power cord and let the server boot completely.

- c. After the reboot is complete, shut down the server by clicking **Start > Shutdown** and **OK**.
- d. After the server shuts down, remove the AC power cord.

---

## Next steps

- If you removed the board because it was faulty, set the board aside to be returned.
- If you removed the board to move it to another server, verify that the jumper settings on the board are correct and then follow procedures for installing a new board.

 **Note:**

Port boards from the S8730 server use the PCI-e form factor and cannot be moved to an S3400 or S3500 server. Also, be sure that the port board you are moving is the same switch-integration type as the board in the target MAS.

- The power budgeting jumper must be set to disabled on all Dialogic boards used in the S8730 server. If necessary, verify that the jumper is set correctly on all boards in the server.

---

# Installing a new port board

---

## Preparing the port board

### Before you begin

Verify that you are observing all ESD safety precautions before unwrapping the new port board.

 **Caution:**

Do not remove the board from the anti-static packaging until you are ready to work with it.

### About this task

For each type of port board, you must set certain jumpers and switches. Use the Dialogic documentation to locate required items on the boards or to verify cable connections.

 **Note:**

The Dialogic documentation describes more setups than the ones used for Modular Messaging. If information in the Dialogic documentation conflicts with this document, follow the steps in the Avaya documentation.

The power budgeting jumper must be set to disabled on all Dialogic cards.

### Procedure

1. Remove the port board from its protective packaging and set it on an antistatic mat .  
Handle the board by the edges and avoid touching the board's components.
2. Remove the card retainer bracket that is attached to the board opposite the faceplate.  
You can discard the bracket and screws.
3. Set the jumpers and switches required for the type of board you are installing.

---

## Setting the D/480JCT-T1–EW and D/600JCT-E1120–EW boards

### Before you begin

Determine in which slot in the PCI cage you will be installing the board. Slots in the PCI cage are number 3 (bottom slot), 4 (middle slot) and 5 (top slot). If a system has one board, install it in slot 3 (bottom). If it has two boards install them in slots 3 (bottom) and 4 (middle). If it has three boards install them in slots 3 (bottom), 4 (middle) and 5 (top).

### About this task

For the D/480JCT-T1–EW and D/600JCT-E1120–EW boards, set the board ID and turn off power budgeting.

### Procedure

1. Turn the SW100 rotary switch located on the top of the board to set the board ID according to the number of the slot in which the board is installed.

PCI slot number	Board ID number
3	0
4	1
5	2

2. Move the P3 jumper on the top of the board on to pins 1–2 to disable power budgeting.

---

## Setting the D/82JCT-U–EW board

### About this task

If a system has one board, install it in slot 3 (bottom). If it has two boards install them in slots 3 (bottom) and 4 (middle). If it has three boards install them in slots 3 (bottom), 4 (middle) and

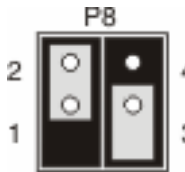
5 (top). For the D/82JCT-U-EW board, set Computer Telephony (CT) bus termination and turn off power budgeting on all boards. CT bus termination is set by adjusting the P8 jumper on the side of the board. Set bus termination based on the following conditions:

Number of boards	P8 jumper	CT bus termination
1	OFF	Do not terminate bus.
2	Board 1: ON pins 1 and 2 Board 2: ON pins 1 and 2	Terminate bus on both boards
3	Board 1: ON pins 1 and 2 Board 2: ON pins 1 and 2 Board 3: ON pins 1 and 2	Terminate bus on all boards

### Procedure

- Set the P8 jumper to the appropriate position for the system configuration:
  - For a system with three boards, move the P8 jumper on to pins 1 and 2.
  - For a system with two boards, move the P8 jumper on to pins 1 and 2.
  - For a system with one board, verify that the P8 jumper is only on pin 1.

In the following graphic, the setting on the left with pins 1 and 2 jumpered shows



bus termination set to on. The settings on the right show bus termination set to off.

- Move the P11 jumper on the top of the board on to pins 1–2 to disable power budgeting.

---

## Setting the D/120JCT-LS–EW board

### Before you begin

Determine in which slot in the PCI cage you will be installing the board. Slots in the PCI cage are number 3 (bottom slot), 4 (middle slot) and 5 (top slot). If a system has one board, install it in slot 3 (bottom). If it has two boards install them in slots 3 (bottom) and 4 (middle). If it has three boards install them in slots 3 (bottom), 4 (middle) and 5 (top).

### About this task

For the D/120JCT-LS-EW board, set the board ID, the hook-switch state and turn off power budgeting.

## Procedure

1. Turn the SW100 rotary switch located on the top of the board to set the board ID according to the number of the slot in which the board is installed.

PCI slot number	Board ID number
3	0
4	1
5	2

2. Set the SW1 slide switch located on top of the board to the OFF-hook position by moving the switch toward the bracket of the board.  
This switch position sets the hook-switch state so callers hear a busy signal when the board is not initialized.
3. Move the P3 jumper on the top of the board on to pins 1–2 to disable power budgeting.

## Setting the D/41JCT-LS-EW board

### Before you begin

Determine in which slot in the PCI cage you will be installing the board. Slots in the PCI cage are number 3 (bottom slot), 4 (middle slot) and 5 (top slot). If a system has one board, install it in slot 3 (bottom). If it has two boards install them in slots 3 (bottom) and 4 (middle). If it has three boards install them in slots 3 (bottom), 4 (middle) and 5 (top).

### About this task

For the D/41JCT-LS-EW board, set the board ID, the hook-switch state and Computer Telephony (CT) bus termination. CT bus termination is set by adjusting the JP2 jumper on the side of the board. Set bus termination based on the following conditions:

Number of boards	JP2 jumper	CT bus termination
1	OFF	Do not terminate bus.
2	Board 1: ON pins 1 and 2 Board 2: ON pins 1 and 2	Terminate bus on both boards
3	Board 1: ON pins 1 and 2 Board 2: ON pins 1 and 2 Board 3: ON pins 1 and 2	Terminate bus on all boards



## Procedure

1. Turn the SW30 rotary switch located on the top of the board to set the board ID according to the number of the slot in which the board is installed.

PCI slot number	Board ID number
3	0
4	1
5	2

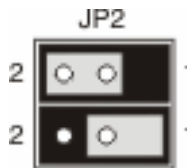
2. Move the SW4 switch located near the top of the board to the OFF-Hook position by moving the switch toward the bracket of the board.

This switch position sets the hook-switch state so callers hear a busy signal when the board is not initialized.

3. Set the JP2 jumper to the appropriate position for the system configuration:

- For a system with three boards, move the JP2 jumper on to pins 1 and 2.
- For a system with two boards, move the JP2 jumper on to pins 1 and 2.
- For a system with one board, verify that the JP2 jumper is only on pin 1.

In the following graphic, the setting on the left with pins 1 and 2 jumpered shows

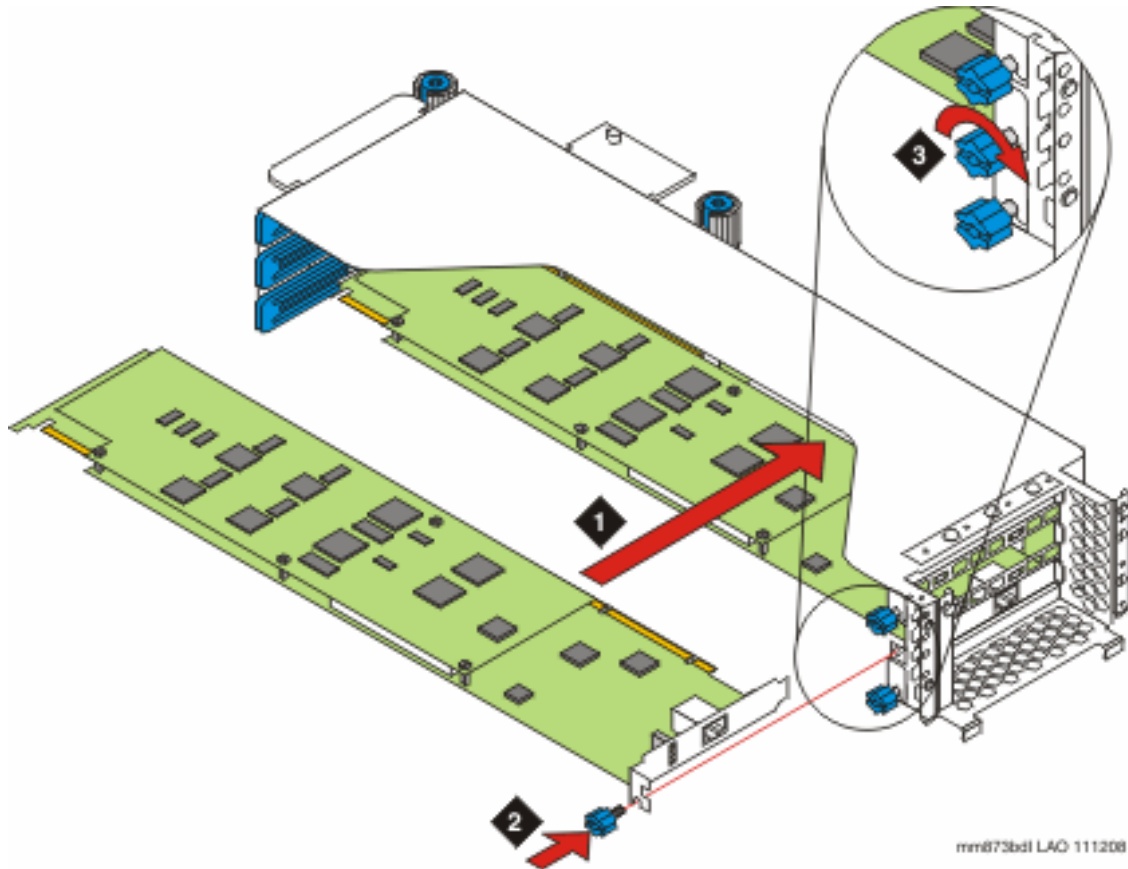


bus termination set to on. The settings on the right show bus termination set to off.

---

## Installing the board

### About this task



### Procedure

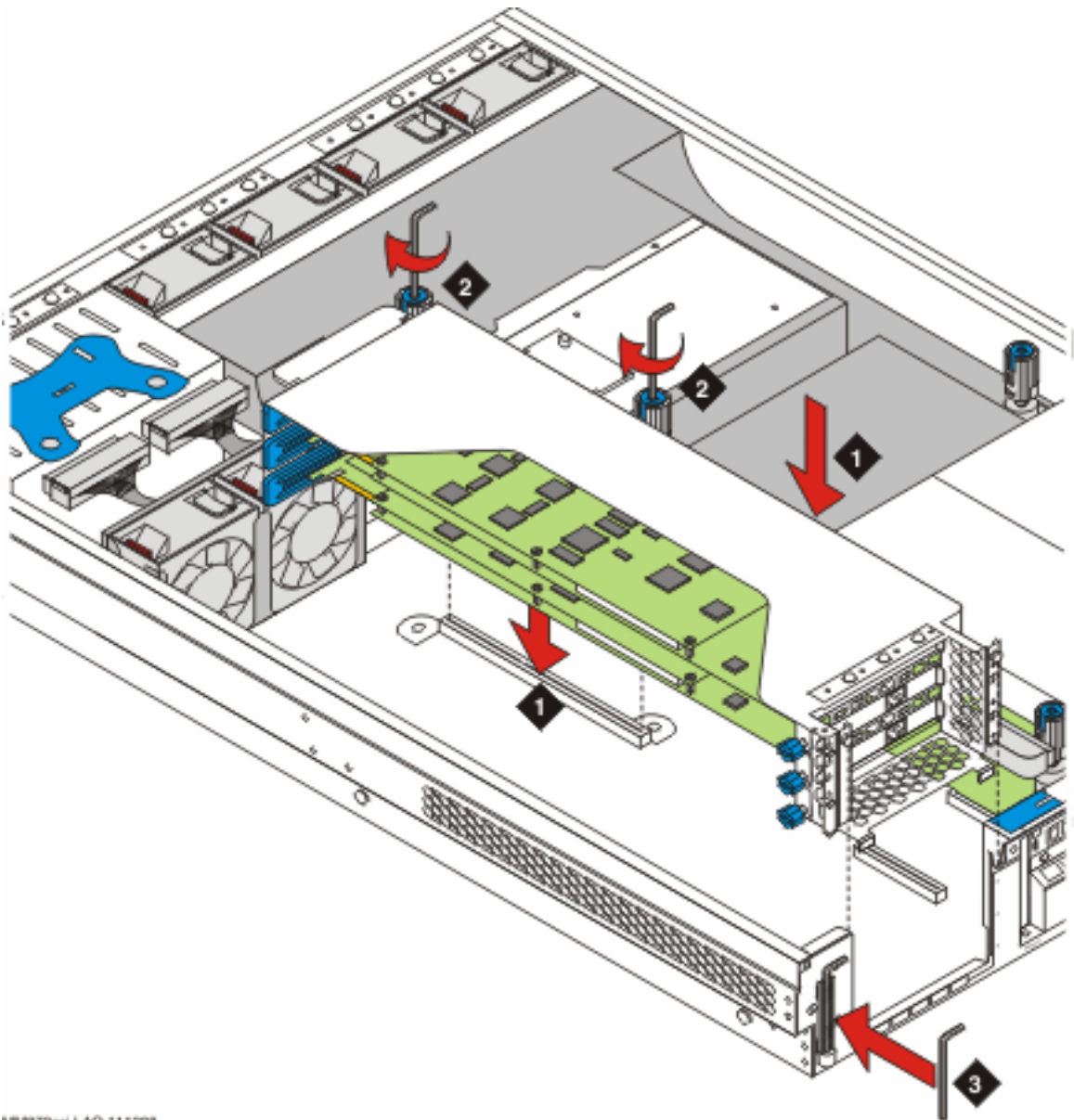
1. While holding the PCI riser cage steady with one hand, align the board with the slot and seat the board into the slot.
2. Replace the mounting screw that secures the board.
3. Turn the screw clockwise and tighten to secure the board in the slot.
4. If the MAS has multiple port boards, attach the Computer Telephony (CT) bus cable to connect the port boards.
  - a. Attach the middle connector on the CT bus cable to the CT bus edge connector at the top of the board located in slot 4 (middle slot).
  - b. Attach the beginning connector to the CT bus edge connector of the second board.

- c. Attach the end connector to the CT bus edge connector of the third board.
5. If the MAS has a single port board, attach the CT bus cable to that board so that it will be available if a board is added later.

---

## Replacing the PCI riser cage

### About this task



## Procedure

1. Align the two tabs of the riser cage with the guides on the server chassis and slide the riser cage in the slots until it rests on the base of the chassis and is aligned with the two thumbscrew holes.
2. Tighten the thumbscrews with the Torx screwdriver.



### Tip:

To start the thumbscrew use one hand to push the spring-loaded screw down into the threaded hole, then turn the screw with the other hand.

3. Replace the Torx screwdriver in the clip at the rear of the server.

---

## Next steps

1. Replace the cover on the server.
2. Replace the server in the rack.
3. Restore power to the server.

## Related topics:

[Shutting down the MAS](#) on page 16

[Replacing the server cover](#) on page 20

[Replacing the server in the rack](#) on page 21

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# Connecting Dialogic port boards

## Procedure

Use the type of cable appropriate to the switch integration to connect the Dialogic port board to the corporate telephone switching system. The organization responsible for maintaining the corporate switch must make the connection to the telecommunications system.

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## Related topics:

[Supported port board connections](#) on page 37

[Port board connections](#) on page 37

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## Supported port board connections

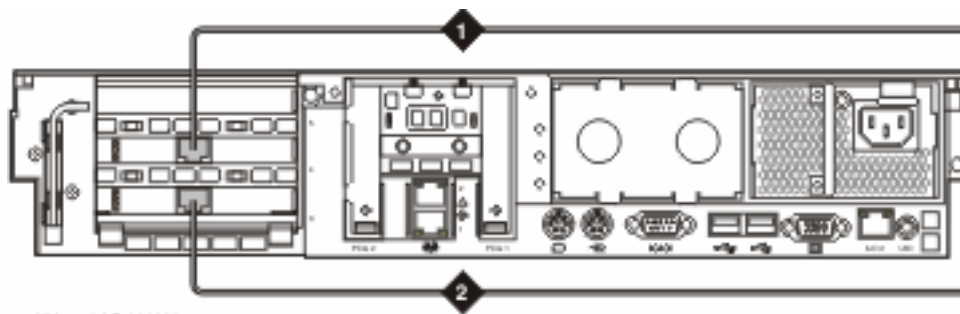
The server supports the following port board connections:

- Analog using a standard RJ-11 tip/ring cord or individual tip/ring cables and a 12–port harmonica.
- E1–QSIG and T1–QSIG using an RJ-48C Ethernet cable.
- Dialogic Set Emulation (DSE) boards using a D/82U cable.

---

## Port board connections

The graphic illustrates two E1–QSIG or T1–QSIG connections from MAS port boards to the corporate telephone switching system. DSE and analog boards connect at the same location on the back of the server.



mms8730pag LA0 121908

1	Port board connection to corporate switch
2	Port board connection to corporate switch

---

## Configuring and testing the port board

### About this task

After the port board hardware installation is complete, you must configure and test the new Dialogic board.

**\* Note:**

The following procedures apply only to an MAS that was already in service. If you installed port boards in a new MAS, you must configure the MAS using the procedures described in *Avaya Modular Messaging Installation and Upgrades*.

## Procedure

1. After the server boots, log on to the server using any valid Modular Messaging account that has local administration privileges.
  2. Use the Dialogic Configuration Manager to configure the new port board.  
For detailed procedures, see the port board appendix of *Avaya Modular Messaging Installation and Upgrades*.
  3. Use the Dialogic Configuration Manager to verify the settings for all Dialogic port boards as you previously recorded them.
  4. If the switch administrator previously busied out the MAS ports on the switch, the administrator must now bring the MAS ports back into service.
  5. Test the Dialogic port board using the Dialogic Line Test application.
    - a. Access the Dialogic Line Test application by clicking **Start > Programs > Avaya Modular Messaging > Dialogic Line Tester**.
    - b. In the **Dialogic QSIG — Line Test Application** (or DL Test) window, verify that all port numbers and channel designations are listed.  
The name of the window varies, depending on the type of port board that is installed.
    - c. Test the incoming call connectivity of all ports by dialing each port individually from the same PBX. For QSIG boards, repeatedly dial the number for that group of ports. The switch connects to the next port in the list for each new call. For analog and DSE boards, dial individual port extensions.
    - d. Check the **Status** column to verify that each port shows **Received call** followed by **Connected**.  
The system should answer each connected call with a standard welcome message.
    - e. Test the outcalling capability of all ports by first selecting a port in the **Dialogic Line Test Application** window under **Port Number**.
    - f. Type the number of an extension on the PBX in the **Dial Number** field and click **Dial Number**.
    - g. When the dialed extension rings, answer the call and hang up.
    - h. Select the next port number and click **Dial Number** again.
    - i. Repeat dialing until all ports are tested.
    - j. After testing is complete, close the **Dialogic Line Test Application** window.

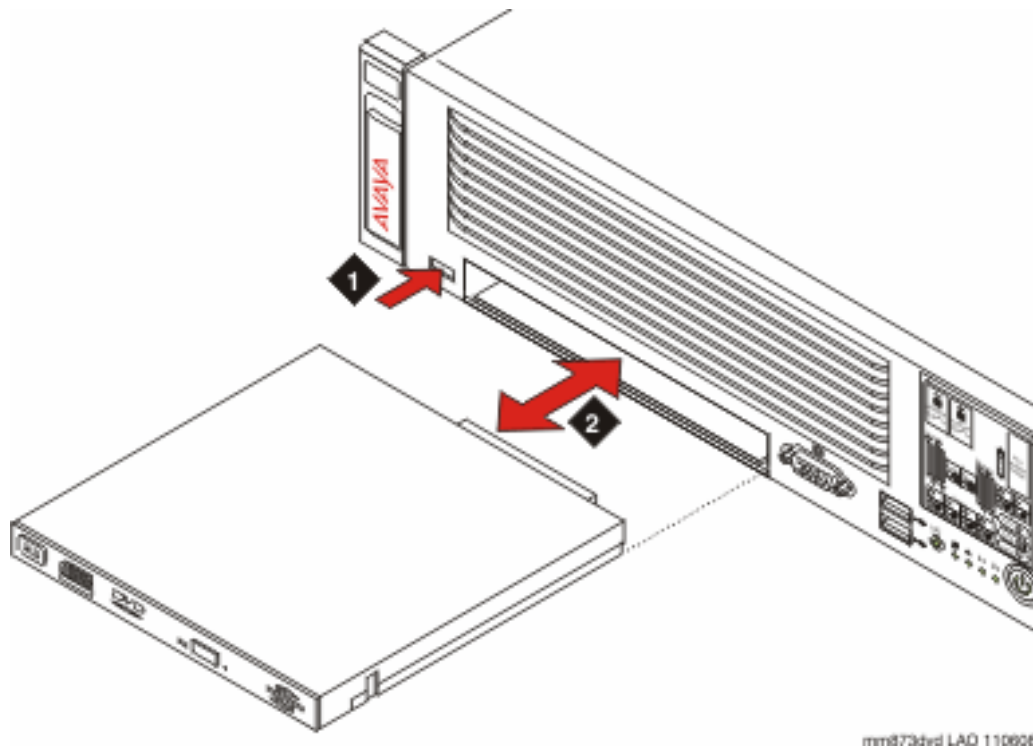
For additional information and a list of Dialogic Line Test Status Messages, see the port board appendix of *Avaya Modular Messaging Installation and Upgrades*.
  6. Verify that all port board alarms are resolved.
-

# Chapter 5: Replacing a DVD drive

## Before you begin

Shut down the server.

## About this task



## Procedure

1. Press the release button to the left of the DVD drive bay.
2. Slip the faulty DVD drive out of the drive bay.
3. Slide the replacement DVD drive into the bay until it is fully seated.

---

## Next steps

Restore power to the server.





# Chapter 6: Adding and replacing a hard drive

---

## Overview

Hard drives in the Avaya S8730 server are hot swappable. It is not necessary to take the server out of service or to turn it off when replacing a hard drive.

The S8730 uses a Redundant Array of Independent Disks (RAID) controller to protect against customer data loss. Models 03 and 04, used for the MAS and MSS-S, provide RAID level 1 redundancy. Model 05, used for the MSS-H, provides RAID level 5 redundancy.

---

## Failed hard drive identification

Hard drives are numbered from left to right starting with number one. There are several way to identify the hard drive that has failed:

- A major alarm is generate when a hard drive fails. The alarm includes the number of the failed drive. For more information about displaying active and resolved alarms, see the maintenance section of *Avaya Modular Messaging Help*.
- For an MAS, when a hard drive fails, error event 1216 displays in the Windows Event Viewer System Event Log. The description of the event gives the number of the failed drive.
- The two LEDs on the front of each hard drive in combination give the drive status.



### Related topics:

[Hard drive LEDs](#) on page 41

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## Hard drive LEDs

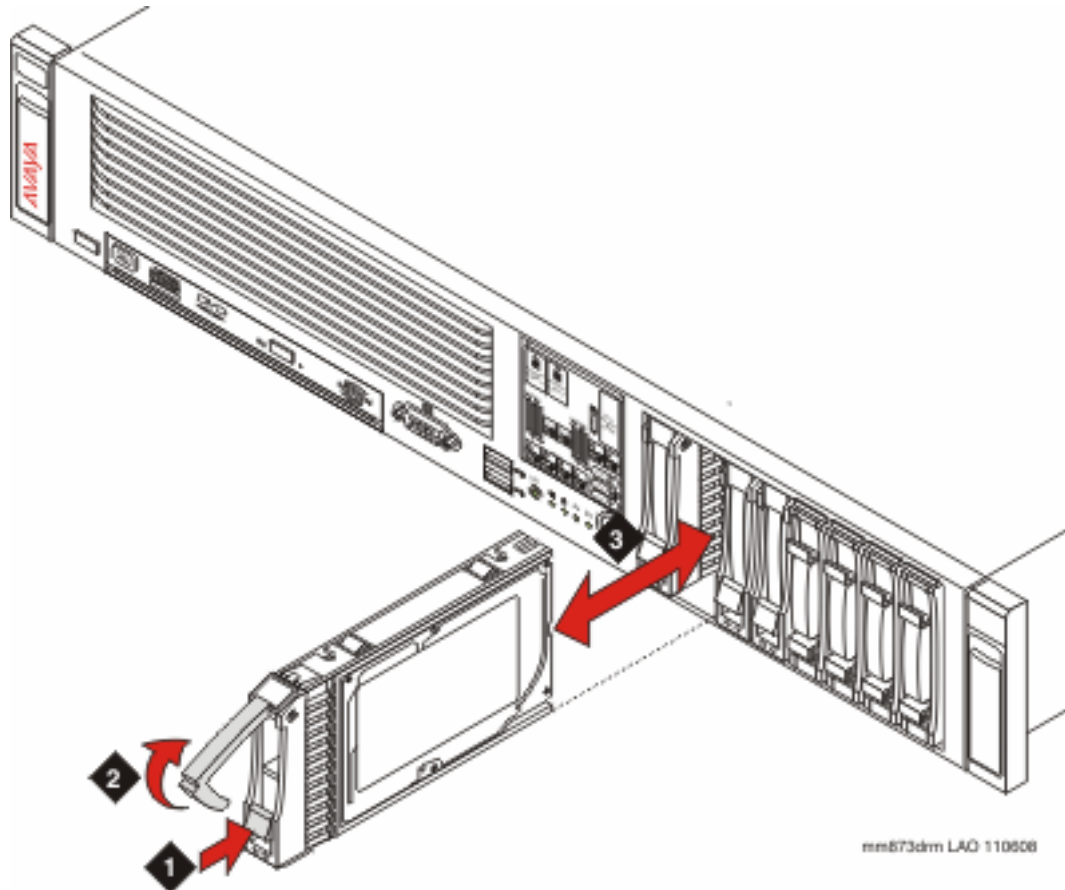
Use the following information from the LEDs located on the front of a drive to diagnose its status.

Online/activity LED (green)	Fault/UID LED (amber/blue)	Description
On, off, or flashing	Alternating amber and blue	The drive has failed or a predictive failure alert has been received for this drive.
On, off, or flashing	Steadily blue	The drive is operating normally.
On	Amber, flashing regularly (1 Hz)	A predictive failure alert has been received for this drive; replace the drive as soon as possible.
On	Off	The drive is online, but is not currently active.
Flashing regularly (1 Hz)	Amber, flashing regularly (1 Hz)	 <b>Caution:</b> Do not remove the drive; removing a drive might terminate the current operation and/or cause data loss. The drive is part of an array that is undergoing capacity expansion or stripe mitigation, but a predictive failure alert has been received for this drive. To minimize the risk of data loss, do not replace the drive until the expansion or migration is complete.
Flashing regularly (1 Hz)	Off	 <b>Caution:</b> Do not remove the drive; removing a drive might terminate the current operation and/or cause data loss. The drive is rebuilding or is part of an array that is undergoing capacity expansion or stripe mitigation.
Flashing irregularly	Amber flashing regularly (1 Hz)	The drive is active, but a predictive failure alert has been received for this drive; replace the drive as soon as possible.
Flashing irregularly	Off	The drive is active and is operating normally.
Off	Steadily amber	A critical fault condition has been identified for this drive and the controller has placed it offline. Replace the drive as soon as possible.
Off	Amber flashing regularly (1 Hz)	A predictive failure alert has been received for this drive; replace the drive as soon as possible.
Off	Off	The drive is offline.

---

## Removing the defective hard drive

### About this task



### Procedure

1. Press down on the locking tab.
2. Lift the release lever.
3. Slide the hard drive out of the bay.

---

## Installing the replacement hard drive

### Before you begin

Verify that you are observing all ESD safety precautions before unwrapping the new hard drive.

### Procedure

1. Lift the release lever and insert the new hard drive into the bay until the locking tab engages.
  2. Close the release lever to securely seat the hard drive in the bay.
  3. Monitor the RAID rebuild of the new hard drive.
    - For an MSS, on the **Messaging Administration** menu, under **Server Information**, select **Rebuild RAID Status**. The RAID Rebuild Status page shows the percent complete of the disk drive recovery.
    - For an MAS, information event 1216 displays in the Windows Event Viewer System Event Log when the failed drive is replaced. The MAS major alarm is resolved, and a minor alarm is raised. When the RAID rebuild is complete, information event 1200 displays in the Windows Event Viewer System Event Log. The event description should give a status of 2 indicating that the drive is OK. The MAS minor alarm is resolved when event 1200 displays.
  4. Verify that the hard drive failure alarm has resolved. For more information about displaying active and resolved alarms, see the maintenance section of *Avaya Modular Messaging Help*.
-

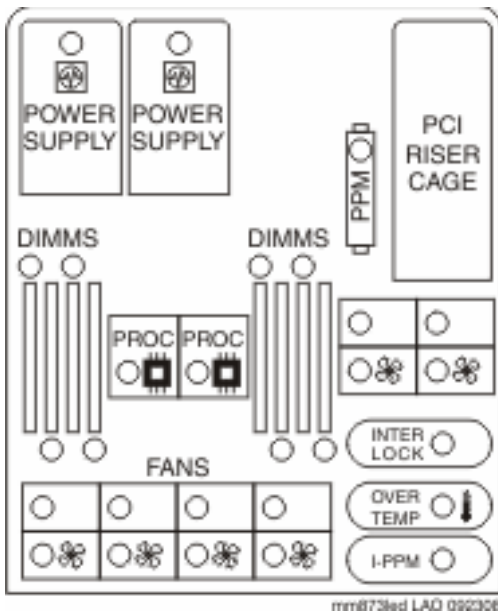
# Chapter 7: Replacing a fan

## Before you begin

- Shut down the server.
- Remove the server from the rack.
- Remove the server cover.

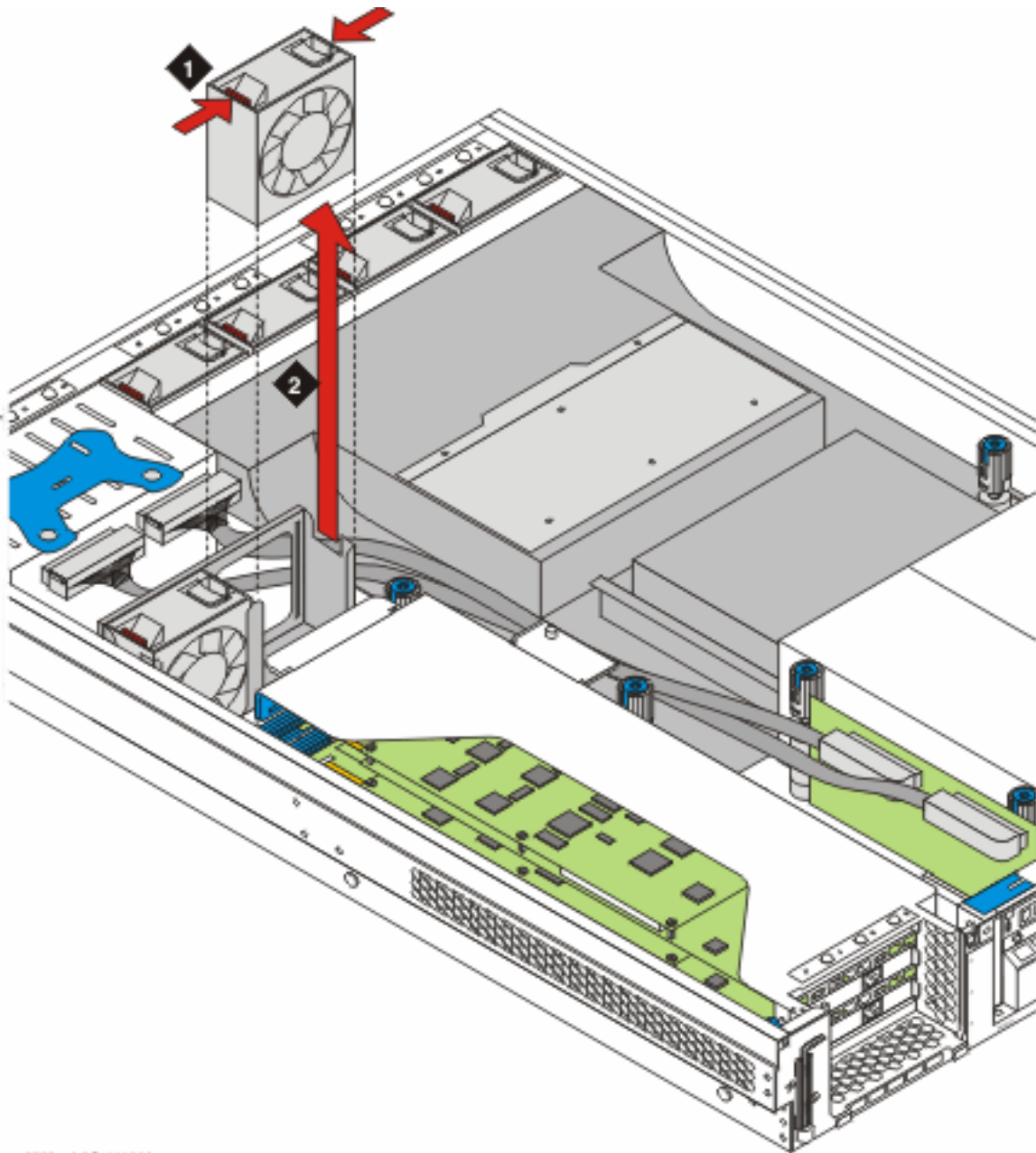
## About this task

When a fan fails, its LED lights amber on the system insight display. The position of the LED on the display corresponds to the position of the fan in the server. Four fans are located at the front of the server and two are located in front of the PCI riser cage.



Refer to the following graphic for steps to replace a fan in any location within the chassis.

## Replacing a fan



mm873fan LAO 111208

### Procedure

1. Press the release tabs located on top of the fan.
2. Pull the faulty fan directly up and out of the bracket.
3. Push the replacement fan into the bracket until it is fully seated.

## **Next steps**

1. Replace the cover on the server.
2. Replace the server in the rack.
3. Restore power to the server.





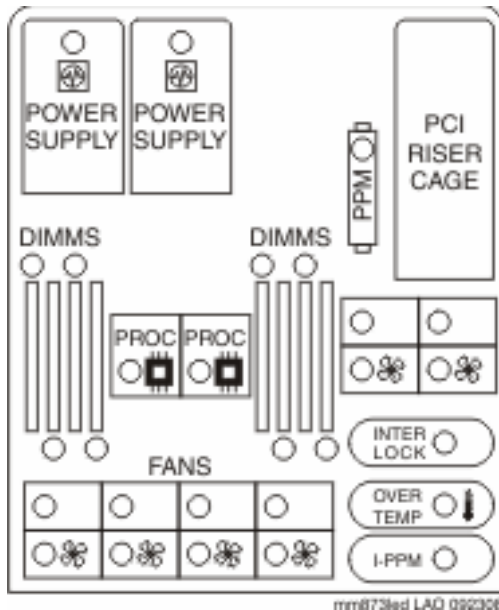
# Chapter 8: Replacing a power supply

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## Overview

The S8730 comes equipped with either a single or redundant power supply. Models 03 and 04, used for the MAS and MSS-S have a single power supply. Model 05, used for the MSS-H, has redundant power supplies. Use the replacement procedure that apply to the model you are servicing.

When a power supply fails, its LED lights amber on the system insight display. The position of the LED on the display corresponds to the position of the power supply on the back of the server.



---

## Replacing a single power supply

### Before you begin

Shut down the server, if it has not already shut down.

## About this task

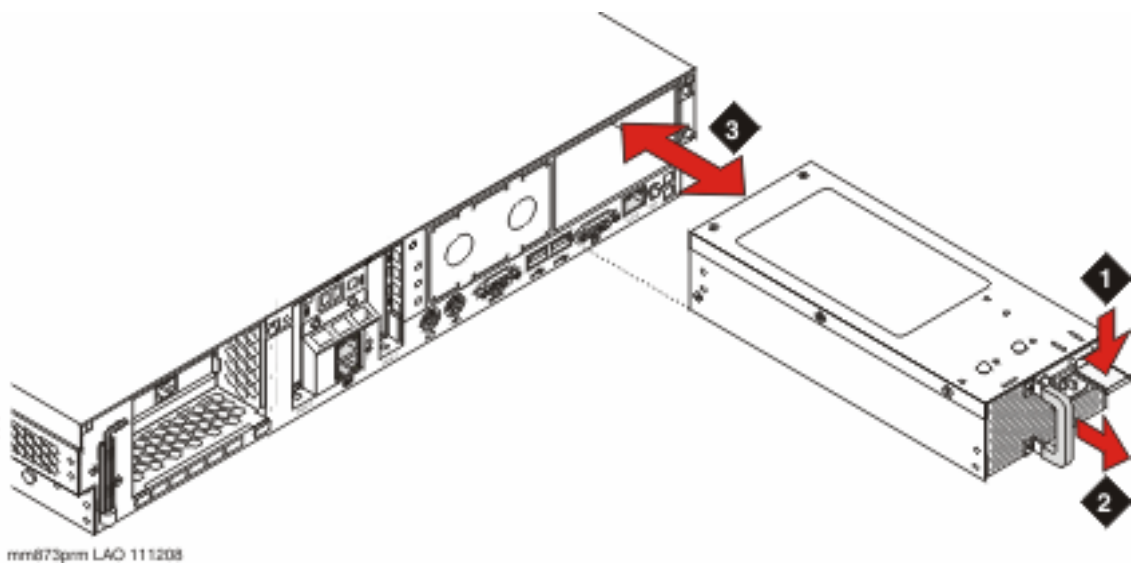
### Warning:

To reduce the risk of personal injury from hot surfaces, allow the power supply to cool before touching it.

To reduce the risk of personal injury, electric shock, or damage to the equipment, remove the power cord to remove power from the server. The front panel Power On/Standby button does not completely shut off system power. Portions of the power supply and some internal circuitry remain active until you remove AC power.

### Caution:

To prevent improper cooling and thermal damage, do not operate the server unless all bays are populated with either a component or a blank.



## Procedure

1. Remove the power cord from the defective power supply.
2. Press the release tab on the power supply with your thumb.
3. Grasp the handle.
4. Pull the defective power supply out of the bay.
5. Slide the replacement power supply into the power supply bay.
6. Ensure that the tab is locked into place and that the power supply is securely seated in the bay.
7. Restore power to the server.

8. Verify that the power supply LED is green.
9. Verify that the front panel external health LED is green.

---

**Related topics:**

[Shutting down the MAS](#) on page 16

[Shutting down the MSS](#) on page 17

[Restoring power to the server](#) on page 22

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## Replacing a duplicate power supply

### About this task

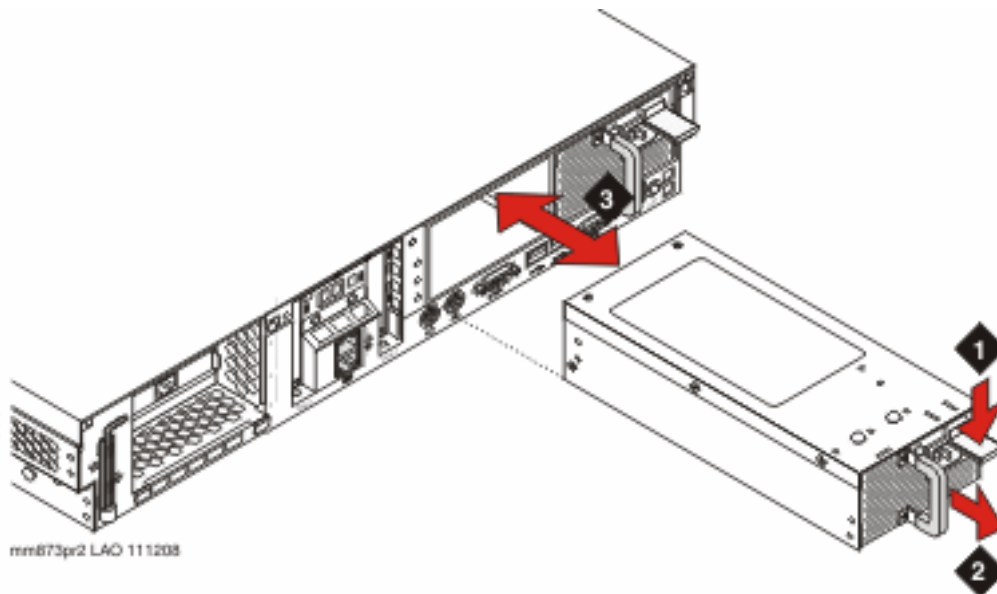
It is not necessary to power down the server to replace a power supply in a server with a duplicate power supply.

 **Warning:**

To reduce the risk of personal injury from hot surfaces, allow the power supply to cool before touching it.

 **Caution:**

To prevent improper cooling and thermal damage, do not operate the server unless all bays are populated with either a component or a blank.



## Procedure

1. Remove the power cord from the defective power supply.
2. Press the release tab on the power supply with your thumb.
3. Grasp the handle.
4. Pull the defective power supply out of the bay.
5. Slide the replacement power supply into the power supply bay.

 **Warning:**

To reduce the risk of electric shock or damage to the equipment do not connect the power cord to the power supply until you install the power supply.

6. Ensure that the tab is locked into place and that the power supply is securely seated in the bay.
7. Restore power to the server.
8. Verify that the power supply LED is green.
9. Verify that the front panel external health LED is green.

---

### Related topics:

[Restoring power to the server](#) on page 22

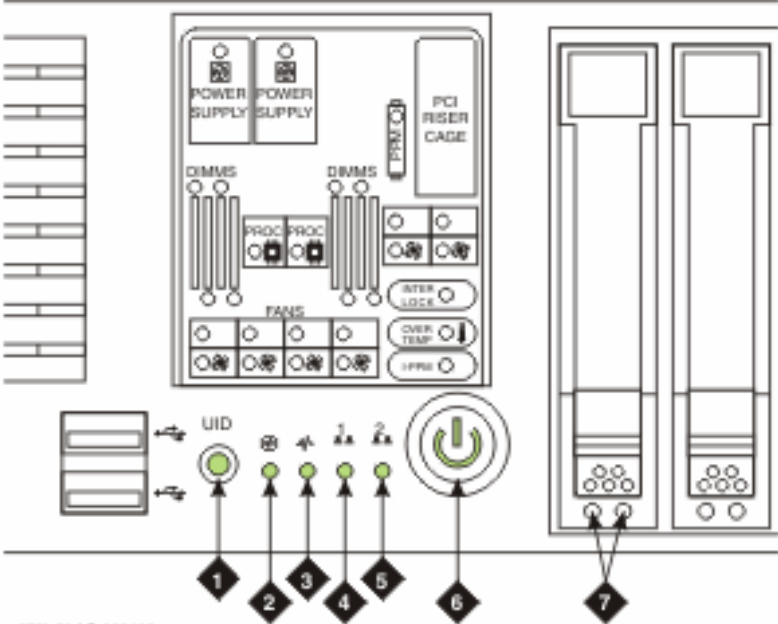
# Chapter 9: LED indications

## LED Overview

The server has LEDs in the following locations:

- Front panel
- Rear panel
- Insight display, located on the front of the server
- Hard drive
- PCI riser cage
- Battery pack

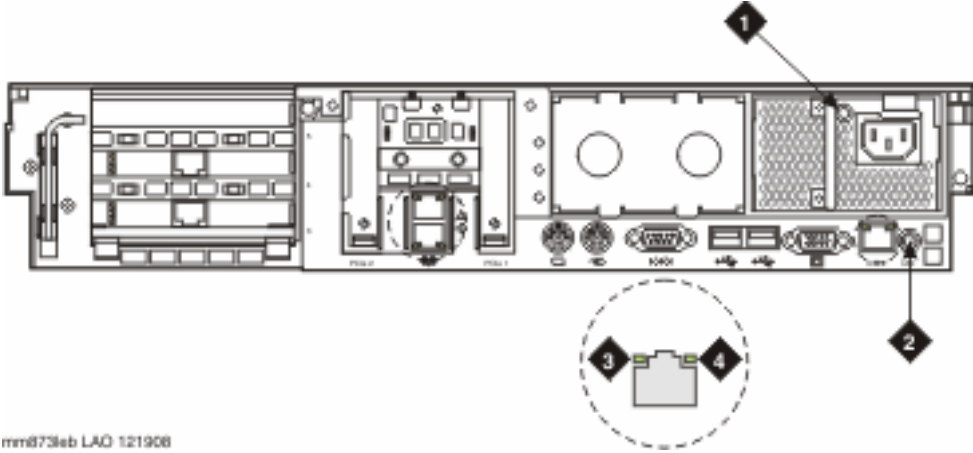
## Front panel LEDs



LED indications

1	UID LED button	Blue — Activated
		Flashing — System being remotely managed
		Off — Deactivated
2	Internal health LED	Green — Normal
		Amber — System degraded. To identify component in degraded state, see Systems Insight Display LEDs.
		Red — System critical. To identify component in critical state, see Systems Insight Display LEDs.
3	External health LED	Green — Normal
		Amber — Power redundancy failure. To identify component in degraded state, see Systems Insight Display LEDs.
		Red — Critical power supply failure. To identify component in critical state, see Systems Insight Display LEDs.
4	NIC 1 link/activity LED (Corporate Network)	Green — Network link
		Flashing — Network link and activity
		Off — No link to network
5	NIC 2 link/activity LED (Private Network)	Green — Network link
		Flashing — Network link and activity
		Off — No link to network
6	Power On/Standby button/system power LED	Green — System on
		Amber — System shut down, but power still applied
		Off — Power cord not attached or power supply failure
7	Hard drive LEDs	Left-hand LED — Online LED (green)
		Right-hand LED — Fault/UID LED (amber/blue)

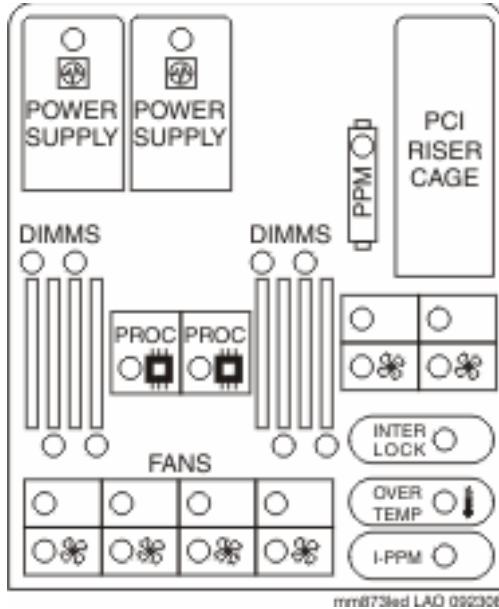
# Back panel LEDs



rmm873leb LAO 121908

1	Power supply LED	Green — Normal
		Off — System is off power or power supply has failed
2	UID LED button	Blue — Activated
		Flashing — System being remotely managed
		Off — Deactivated
3	NIC/iLO 2 activity LED	Green — Network activity
		Flashing — Network activity
		Off — No network activity
4	NIC/iLO 2 link LED	Green — Network link
		Off — No network link

## Systems Insight Display LEDs



Indication	Status
Amber	Failure
Off	Normal

### Related topics:

[Systems Insight Display Interpretation](#) on page 56

## Systems Insight Display Interpretation

The Systems Insight Display LEDs in combination with the internal health LED provide information about the status of the server.

System Insight Display LED and color	Internal Health LED color	Status
Processor failure, socket X (amber)	Red	One or more of the following conditions may exist: <ul style="list-style-type: none"> <li>• Processor in socket X has failed.</li> <li>• Processor X is not installed in the socket.</li> </ul>





System Insight Display LED and color	Internal Health LED color	Status
		<ul style="list-style-type: none"> <li>Processor X is unsupported.</li> <li>ROM detects a failed processor during POST.</li> </ul>
	Amber	Processor in socket X is in a pre-failure condition.
PPM failure (amber)	Red	<p>One or more of the following conditions may exist:</p> <ul style="list-style-type: none"> <li>PPM for processor 2 has failed.</li> <li>PPM is not installed, but processor 2 is installed.</li> </ul>
I-PPM failure	Red	Embedded I-PPM for processor 1 has failed.
DIM failure, slot X (amber)	Red	<p>One or more of the following conditions may exist:</p> <ul style="list-style-type: none"> <li>DIMM in slot X has failed.</li> <li>Memory group is populated with different DIMM types (all DIMMs are mismatched).</li> </ul>
	Amber	<p>One or more of the following conditions may exist:</p> <ul style="list-style-type: none"> <li>DIMM in slot X is in a pre-failure condition.</li> <li>Memory group is populated with different DIMM types (at least one DIMM is good).</li> </ul>
DIMM failure, all slots in one bank (amber)	Red	One or more DIMMS has failed.
DIMM failure, all slots in all banks (amber)	Red	One or more DIMMS has failed.
Overtemperature (amber)	Red	The server has detected a hardware critical temperature level.
Fan (amber)	Amber	One fan has failed in redundant mode.
	Red	<p>One or more of the following conditions may exist:</p> <ul style="list-style-type: none"> <li>One fan has failed in a non-redundant mode.</li> <li>The minimum fan requirements are not being met. Two or more fans have failed or are missing.</li> </ul>

System Insight Display LED and color	Internal Health LED color	Status
Power supply X (amber)	Red	Power supply X has failed.
PCI riser cage interlock (amber)		PCI riser cage is unseated.

## Hard drive LEDs

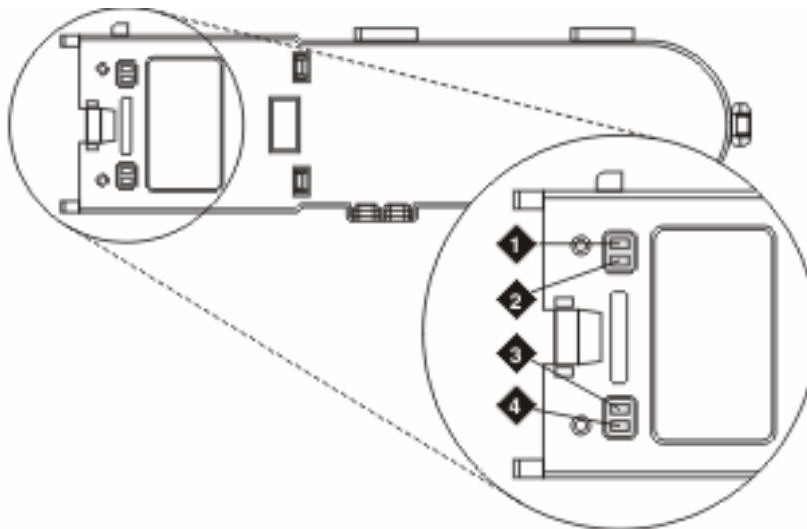
Use the following information from the LEDs located on the front of a drive to diagnose its status.

Online/activity LED (green)	Fault/UID LED (amber/blue)	Description
On, off, or flashing	Alternating amber and blue	The drive has failed or a predictive failure alert has been received for this drive.
On, off, or flashing	Steadily blue	The drive is operating normally.
On	Amber, flashing regularly (1 Hz)	A predictive failure alert has been received for this drive; replace the drive as soon as possible.
On	Off	The drive is online, but is not currently active.
Flashing regularly (1 Hz)	Amber, flashing regularly (1 Hz)	 <b>Caution:</b> Do not remove the drive; removing a drive might terminate the current operation and/or cause data loss. The drive is part of an array that is undergoing capacity expansion or stripe mitigation, but a predictive failure alert has been received for this drive. To minimize the risk of data loss, do not replace the drive until the expansion or migration is complete.
Flashing regularly (1 Hz)	Off	 <b>Caution:</b> Do not remove the drive; removing a drive might terminate the current operation and/or cause data loss. The drive is rebuilding or is part of an array that is undergoing capacity expansion or stripe mitigation.

Online/activity LED (green)	Fault/UID LED (amber/blue)	Description
Flashing irregularly	Amber flashing regularly (1 Hz)	The drive is active, but a predictive failure alert has been received for this drive; replace the drive as soon as possible.
Flashing irregularly	Off	The drive is active and is operating normally.
Off	Steadily amber	A critical fault condition has been identified for this drive and the controller has placed it offline. Replace the drive as soon as possible.
Off	Amber flashing regularly (1 Hz)	A predictive failure alert has been received for this drive; replace the drive as soon as possible.
Off	Off	The drive is offline.

## Battery pack LEDs

The battery pack has four LEDs that combine to give information about the status of the battery pack and of the data in the cache.



mm87bled LAD 120908

Number	Color	Description
1	Green	System power LED. This LED glows steadily when the system is powered up and 12 V system power is available. This power supply is used to maintain the

Number	Color	Description
		battery charge and provide supplementary power to the cache microcontroller.
2	Green	Auxiliary power LED. This LED glows steadily when 3.3V auxiliary voltage is detected. The auxiliary voltage is used to preserve Battery-Backed Write Cache (BBWC) data and is available any time that the system power cords are connected to a power supply.
3	Amber	Battery health LED.
4	Green	BBWC status LED.

**Related topics:**

[Battery pack LED patterns](#) on page 60

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## Battery pack LED patterns

The battery health LED and Battery-Backed Write Cache (BBWC) status LED in combination provide information about the status of the battery and information in cache.

Battery Health LED	BBWC LED	Status
	One blink every two seconds	The system is powered down and the cache contains data that has not yet been written to the drives. Restore system power as soon as possible to prevent data loss. Data preservation time is extended when 3.3 V auxiliary power is available — as indicated when the auxiliary power LED is lit. In the absence of auxiliary power, battery power alone preserves the data. A fully charged battery can normally preserve data for at least two days.
	Double blink, then pause	The cache microcontroller is waiting for the host controller to communicate.
	One blink per second	The battery pack is below the minimum charge level and is being charged. Features that require a battery (such as write cache) are temporarily unavailable until charging is complete.
	Steady glow	The battery pack is fully charged and posted write data is stored in the cache.
	Off	The battery pack is fully charged and there is no posted write data in the cache.
One blink per second	One blink per second	An alternating green and amber blink pattern indicates that the cache microcontroller is executing from within its

Battery Health LED	BBWC LED	Status
		boot loader and receiving new flash code from the host controller.
Steady glow		There is a short circuit across the battery terminals or within the battery pack. BBWC features are disabled until the battery pack is replaced.
One blink per second		There is an open circuit across the battery terminals or within the battery pack. BBWC features are disabled until the battery pack is replaced.

---

## PCI riser cage LED

The PCI riser cage LED is located on the top right of the PCI riser cage.

Indication	Status
On	AC power connected
Off	AC power disconnected

LED indications

# Chapter 10: Upgrading the S8730 server

---

## Overview

This section describes the procedure to configure a Modular Messaging MSS-H or MAS S8730 server to a hardware configuration that supports System Platform, Messaging, and Modular Messaging Single Server Configuration.

The upgrade procedure involves:

- Adding DIMM memory.
- Removing a port board.
- Adding hard disk drives.
- Configuring RAID arrays.



**Note:**

RAID configuration process destroys any data present on the hard disk drives. Therefore, ensure that you back up the data before running the RAID configuration tool.

---

## Preparing for the upgrade

---

### Prerequisites

Before you upgrade the S8730 server:

- Obtain the S8730 upgrade kit. The following table lists the S8730 upgrade kits that are supported for Messaging.

Existing S8730 server	Upgrade kit	Upgrade to
MSS-H (6 disk version)	S8730 MSS-H MG KIT LG SYS (266020)	Messaging <i>high capacity storage server</i> .

Existing S8730 server	Upgrade kit	Upgrade to
MSS-H (4 disk version)	S8730 MSS-H MG KIT MED SYS (266021)	Messaging <i>standard server</i> with the storage server role. Or Modular Messaging Single Server Configuration.
MAS	S8730 MAS-H MG KIT (266022)	Messaging <i>standard server</i> . Or Modular Messaging Single Server Configuration.

For more information on upgrade kits, see [Upgrade kits](#) on page 64.

- Obtain a PS/2 or USB keyboard and a VGA monitor to connect to the S8730 server.
- Back up the configuration files.
- Ensure that the customer has a local area network (LAN) that is set up and running and a network administrator is available to assist you on the date of the server upgrade.
- Ensure that you have the IP addresses and the unique names for the servers.

## Upgrade kits

You need one of the following upgrade kits to complete the upgrade process.

**Table 1: S8730 MSS-H MG KIT LG SYS**

Component	Description
DIMM	2 x 4GB DRAM DIMM
Disk drive	4 x 146 GB 15K SAS HDD
RAID configuration tool	S8730 Raid Configuration Tool CD

**Table 2: S8730 MSS-H MG KIT MED SYS**

Component	Description
DIMM	2 x 4GB DRAM DIMM
Disk drive	3 x 146 GB 15K SAS HDD
RAID configuration tool	S8730 Raid Configuration Tool CD



**Table 3: S8730 MAS MG KIT**

Component	Description
DIMM	2 x 4GB DRAM DIMM
Disk drive	1 x 146 GB 15K SAS HDD
RAID configuration tool	S8730 Raid Configuration Tool CD

---

## Performing upgrade tasks

---

### Upgrading the server

#### Before you begin

Obtain server upgrade kit. For more information, see [Upgrade kits](#) on page 64.

#### Procedure

1. Shut down the server.
  - For shutting down the MAS, see [Shutting down the MAS](#) on page 16.
  - For shutting down the MSS, see [Shutting down the MSS](#) on page 17.
2. For a rack-mount setup, remove the server from the cabinet. For more information, see [Removing the server from the rack](#) on page 18.
3. Remove the top cover. For more information, see [Removing the cover from the server](#) on page 19.
4. Add DIMM memory. For more information, see [Adding DIMM memory](#) on page 66.
5. Remove Dialogic port boards. For more information, see [Removing a port board](#) on page 67.
6. Add hard disk drives. For more information, see [Installing the hard disk drive](#) on page 68.
7. Replace the top cover. For more information, see [Replacing the server cover](#) on page 20.
8. For a rack-mount setup, return the server to the cabinet. For more information, see [Replacing the server in the rack](#) on page 21.
9. Connect a keyboard and a monitor to the server.

10. Turn on the server.
11. Configure RAID array. For more information, see [Configuring the RAID array](#) on page 69.

---

### Next steps

- To install Avaya Aura® Messaging, see *Implementing Avaya Aura® Messaging*.
- To install Modular Messaging on a Single Server Configuration, see *Installing Avaya Modular Messaging on a Single Server Configuration*.

---

## Adding DIMM memory

### Before you begin

Ensure Safe ESD practices. Always use an electrostatic-discharge wrist strap or other grounding system when you work inside the server. For more information, see [Protecting against ESD damage](#) on page 10.

### Procedure

1. Locate the memory module (DIMM card) near the center of the motherboard.
2. Hold the new DIMM card by the edges, and remove the card from its antistatic package.
3. Position the memory module in the correct orientation over the appropriate socket (dimm3b or dimm4b).
4. Gently push the memory module into the appropriate socket.
5. When the DIMM 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.

6. Repeat Steps 1 through 5 to add the second 4 GB DIMM card in the memory module.

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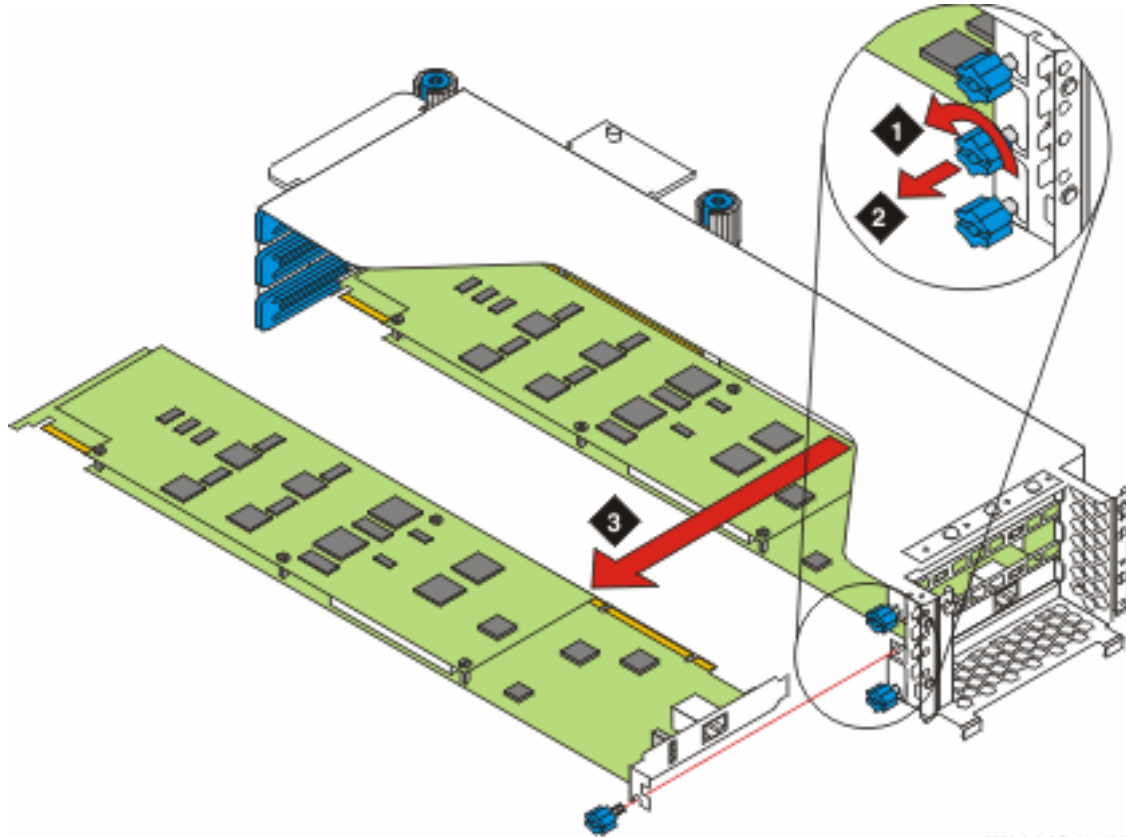
### Next steps

Remove Dialogic port boards. See [Removing a port board](#) on page 67.

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## Removing a port board

### About this task



mm873bdr LAO 11 1008

### Procedure

1. In the PCI cage, locate the port board you are removing.
2. Remove any interior cables connected to the port board, such as the CT bus cable.
3. Remove the screw that secures the port board in its slot by turning the screw counterclockwise.
4. While holding the PCI cage steady with one hand, pull the port board directly out of the cage.
5. Re-secure PCI card cage into server.

---

### Next steps

Add hard drives. See [Installing the hard disk drive](#) on page 68.

## Adding hard drives

### Removing the hard drive

#### Procedure

1. Press down on the locking tab.
  2. Lift the release lever.
  3. Slide the hard drive out of the bay.
- 

### Installing the hard disk drive

#### Before you begin

- Verify that you are observing all ESD safety precautions before unwrapping the new hard drive.
- Ensure that server is powered off.

#### Procedure

1. Lift the release lever and insert the new hard drive into the bay until the locking tab engages.
  2. Add 146 GB HDD(s) starting with first vacant slot.
    - If upgrading an MSS server, remove all 72 GB HDDs.
    - If upgrading an MAS server, leave the existing 146 GB HDDs installed in slots 1 and 2.
  3. Close the release lever to securely seat the hard drive in the bay.
- 

#### Next steps

- Connect a keyboard and a monitor to the server.
- Turn on the server.
- Configure the RAID array. See [Configuring the RAID array](#) on page 69.

## Configuring the RAID array

### Before you begin

- For a rack-mount setup, return the server to the cabinet.
- Restore power to the server.

### Procedure

1. Power up server and Insert the *S8730 Raid Configuration Tool* CD in the server DVD drive.  
The server boots from the CD. As the server is powering up, the Microknoppix boot screen appears. The boot screen displays the progress of the RAID array configuration. Ignore mis-configured RAID array messages.
2. After the RAID array is configured, the system displays the following screen.

```

Welcome to MMYN toolkit based on MICROKNOPPIX!
MMYN found at: /dev/hda
>>> Starting in Live-mode.
>>> Please do not remove medium until shutdown!
INIT: version 2.86 booting

System Setup... [Progress Bar] OK.
INIT: Entering runlevel: 2
-----S8730 RAID Configuration for P400i Array cntrl!-----

2 HDDs Installed --> Array Configured for RAID 1
3 or 4 HDDs Installed --> Array Configured for RAID 5

Deleting current array configuration...

Auto-detecting number of hard disk drives...
Port number of RAID controller is: 21
3 hard drives detected...
Applying RAID 5 3-disk configuration...
3-disk RAID 5 array creation successful!

Press ENTER to continue_

```

3. Press **Enter** to continue.
4. Press **Enter** to reboot the server.  
The server ejects the CD and starts the reboot process.

### Next steps

- To install Avaya Aura® Messaging, see *Implementing Avaya Aura® Messaging*.
- To install Modular Messaging on a Single Server Configuration, see *Installing Avaya Modular Messaging on a Single Server Configuration*.



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