Cisco ASR 1013 Router Overview and Installation

This chapter describes the Cisco ASR 1013 Router and provides the procedures for installing the Cisco ASR 1013 Router in equipment racks and hardware upgrade process.

This chapter contains the following sections:

Cisco ASR 1013 Router Description

Note ASR1000-MIP100 is supported only in slot 2 and 3 of Cisco ASR 1013

The Cisco ASR 1013 Router supports full-width card modules. It is designed with a single midplane with connectors on one interface midplane. The Cisco ASR 1013 Router supports:

- Up to 6 ASR1000-SIP40G shared port adapter modules

- Up to 24 shared port adapters (SPAs) and up to six SIPs

- Two embedded services processors (Cisco ASR1000-ESP40, Cisco ASR1000-ESP100, or Cisco ASR1000-ESP200)

- Cisco ASR1000-RP2 route processor

- Quad power supplies (redundant pairs) by default; option of either AC or DC power supplies and two power supply zones. There are two power supplies for power zone 0 and two power supplies for power zone 1 (do not mix AC and DC power supplies).

✎

Note You must have one power supply running at all times from each power supply zone and two power supplies from each power supply zone to support redundancy. For detailed power supply information about the Cisco ASR 1013 Router, see the Connecting Power to the Cisco ASR 1013 Router, on page 27.

Front View

The following image shows the Cisco ASR 1013 Router with modules and filler plates installed.

Figure 1: Cisco ASR 1013 Router—Front View
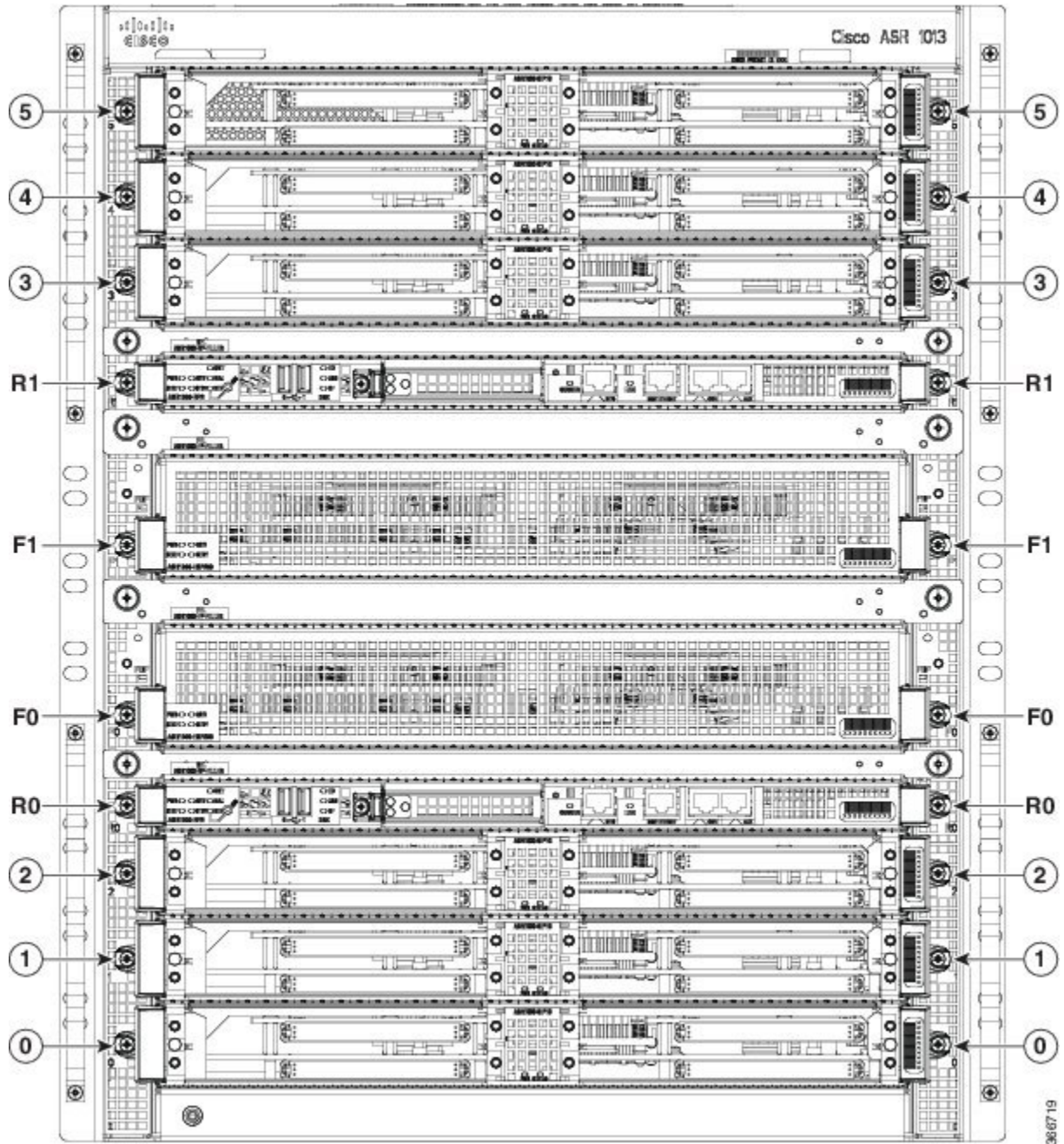
1	ASR 1000 Series SIP slot 0	6	ASR 1000 Series SIP slot 5
2	ASR 1000 Series SIP slot 1	R0	Slot R0 with ASR 1000- RP2
3	ASR 1000 Series SIP slot 2	F0	Slot F0 with Cisco ASR 1000-ESP40, Cisco ASR 1000-ESP100, or Cisco ASR 1000-ESP200

4		ASR 1000 Series SIP slot 3	F1	Slot F1 with Cisco ASR 1000-ESP40, Cisco ASR 1000-ESP100, or Cisco ASR 1000-ESP200
5		ASR 1000 Series SIP slot 4	R1	Slot R1 with ASR 1000-RP2
Note: Slots 10, 9, 8, 7, and 6 reside in power zone 0 and slots 5, 4, 3, 2, and 1 reside in power zone 1.				

Rear View

The following image shows the rear of the Cisco ASR 1013 Router with the AC power supplies installed.

Figure 2: Cisco ASR 1013 Router—Rear View
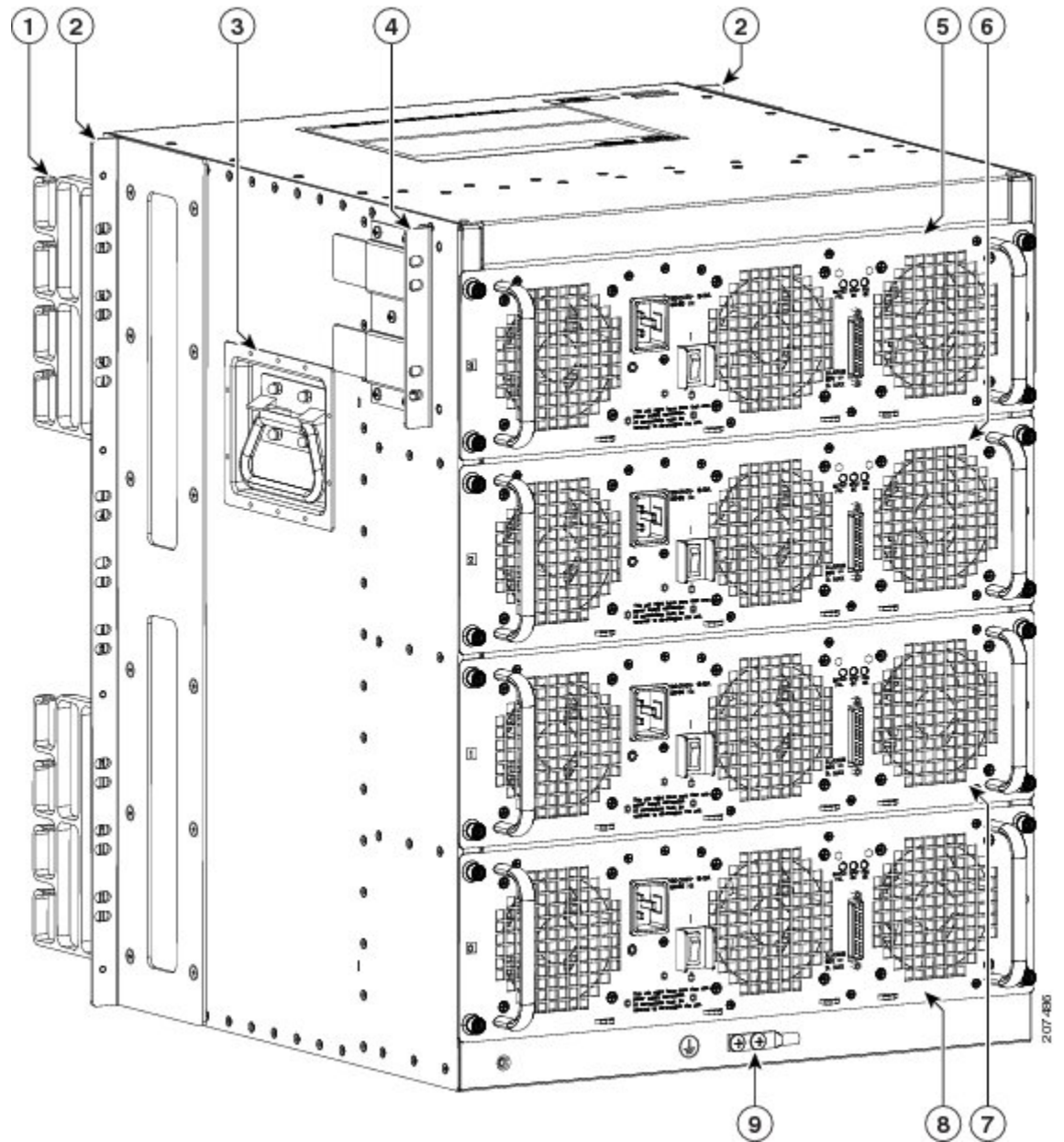
1	Cable-management brackets	6	AC power supply in slot 2 (power supply zone 1)
2	Forward rack-mount ears are shipped installed	7	AC power supply in slot 1 (power supply zone 0)
3	Chassis handle	8	AC power supply in slot 0 (power supply zone 0)
4	Rear rack-mount brackets	9	Chassis ground stud
5	AC power supply in slot 3 (power supply zone 1)	—	—

Cisco ASR 1013 Router Power Zones

Internal fans draw cooling air into the chassis and across internal components to maintain an acceptable operating temperature. (See the preceding figure.) The fans are built into the power supply allowing fan and power supply replacement. A two-hole grounding lug is located on the bottom rear of the chassis (see the preceding figure, callout 6). Four power supplies, either AC power supplies or DC power supplies, are accessed from the rear of the router. The power supply bays are numbered from bottom to top: 0, 1, 2, and 3 respectively.

The Cisco ASR 1013 Router has two power zones:

- Power zone 1(top half of chassis) includes slots:

    - PS1-A

    - PS1-B

    - Carrier card slots 3, 4, and 5

    - RP1

    - FP1

- Power zone 0 (bottom half of chassis) includes slots:

    - PS0-A

    - PS0-B

    - Carrier card slots 0, 1, and 2

    - RP0

    - FP0

Note   Do not combine AC and DC power supplies in the same chassis.

Note   Cisco ASR 1013 Router supports only Cisco ASR1000-RP2.

Warning   This warning symbol means danger. You are in a situation that could cause bodily injury. Before you work on any equipment, be aware of the hazards involved with electrical circuitry and be familiar with standard practices for preventing accidents. Use the statement number provided at the end of each warning to locate its translation in the translated safety warnings that accompanied this device. Statement 1071

Warning   Before you install, operate, or service the system, read the *Regulatory Compliance and Safety Information for Cisco ASR 1000 Series Aggregation Services Routers* publication. This document provides important safety information you should know before working with the system. Statement 200

Note	You have already unpacked your chassis and read all the site requirements for your new equipment. Proceed with the installation.

Cisco ASR 1013 Router Slot Numbering

The Cisco ASR 1013 chassis has two Cisco ASR100-RP2 (R0, R1) slots, two embedded services processor slots (F0, F1) and six dedicated Cisco ASR1000-SIP slots (from bottom of chassis up, 0, 1, 2, 3, 4, 5 respectively).
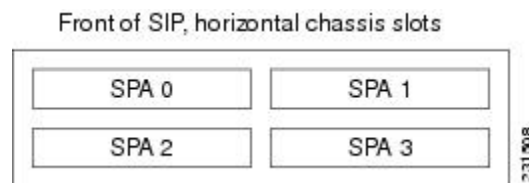
The Cisco ASR 1013 Router is designed with each slot numbered as shown in the "Cisco ASR 1013 Router—Rear View" figure in the *Rear View* section.

Note	Cisco ASR 1013 slots are keyed using rotated guide pins for the plug-in card to be fully inserted in slots where they are intended to operate. This keyed feature prevents cards from being inserted into the wrong slots.

The Cisco ASR 1013 Router contains six SPA Interface Processor (SIPs) slots and supports four subslots for the installation of SPAs. The following shows the Cisco ASR 1013 Router SPA subslot location.

Figure 3: Cisco ASR 1013 Router—ASR1000-SIP Subslots

Installation Methods

One set of forward rack-mount brackets come pre-installed on the Cisco ASR 1013 Router as shown in the "Cisco ASR 1013 Router—Rear View" figure in the *Rear View* section, callout number 2. The accessory kit contains the rear rack-mount brackets as shown in the "Cisco ASR 1013 Router—Rear View" figure in the *Rear View* section, callout number 4, which are optional and another set of forward rack-mount brackets.

You can mount the chassis in a19-inch wide (standard), 4-post equipment rack or two-post, using the rack-mount brackets in the accessory kit. The Cisco ASR 1013 Router supports 6 SIPs and provides superslots (more height and power) for the Cisco ASR1000-RP2s and Cisco ASR1000-ESP cards.

Note	The Cisco ASR 1013 Router usually ships fully loaded. However, you can remove components from the chassis to make the chassis lighter for your rack installation.

General Rack Installation Guidelines

When planning your rack installation, consider the following guidelines:

- T

  he Cisco ASR 1013 Router overall height is 22.75 inches (57.8 cm). You can install three Cisco ASR 1013 routers in a 42RU equipment rack; but must allow at least one to two inches (2.54 cm to 5.08 cm) of vertical clearance between the router and any equipment above or below it. Measure the proposed rack location before mounting the chassis in the rack.

- Before using a particular rack, check for obstructions (such as a power strip) that could impair rack-mount installation. If a power strip does impair a rack-mount installation, remove the power strip before installing the chassis, and then replace it after the chassis is installed.

- Allow sufficient clearance around the rack for maintenance. If the rack is mobile, you can push it back near a wall or cabinet for normal operation and pull it out for maintenance (installing or moving cards, connecting cables, or replacing or upgrading components). Otherwise, allow 19 inches (48.3 cm) of clearance to remove field-replaceable units.

- Maintain a minimum clearance of 3 inches (7.62 cm) on the front, top, and sides of the chassis for the cooling air inlet and exhaust ports, respectively. Avoid placing the chassis in an overly congested rack or directly next to another equipment rack; otherwise, the heated exhaust air from other equipment can enter the inlet air vents and cause an overtemperature condition inside the router.

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Caution   To prevent chassis overheating, never install a Cisco ASR 1013 Router in an enclosed room that is not properly ventilated or air conditioned.

- Always install heavier equipment in the lower half of a rack to maintain a low center of gravity to prevent the rack from falling over.

- Install and use the cable-management brackets included with the Cisco ASR 1013 Router to keep cables organized and out of the way of the cards and processors. Ensure that cables from other equipment already installed in the rack do not impair access to the cards or require you to disconnect cables unnecessarily to perform equipment maintenance or upgrades.

- Install rack stabilizers (if available) before you mount the chassis.

- Provide an adequate chassis ground (earth) connection for your chassis.

In addition to the preceding guidelines, review the precautions for avoiding excessive temperature conditions in the .

The following table provides the Cisco ASR 1013 Router dimensions and weight information.

Table 1: Cisco ASR 1013 Router Dimensions and Weight

Cisco ASR 1013	Dimensions
Depth	22 in. (558.8cm) (including cable-management brackets and power supply handles).
Height	22.8 in. (579.1cm) - 13RU rack-mount per EIA RS-310 standard

Cisco ASR 1013	Dimensions
Width	17.2 in. (437.4 cm)

Weight	• 184.0 lbs (83.46 kg) (with redundant AC power supply, SPA and route processor and SIP blank covers, two Cisco ASR 1000 Series embedded services processors (Cisco ASR1000-ESP40), two Cisco ASR 1000 Series RP2s (ASR1000-RP2), six Cisco ASR 1000 Series 40 Gbps SIPs (ASR1000-SIP40), and no SPAs).
	
	Note Using Cisco ASR1000-ESP100 instead of Cisco ASR1000-ESP40 adds 2.1 lbs to the total weight of the router.
	
	• Total weight with estimated superslot weight with:
	    • A
	    C power supplies —202 pounds (91.6256 kg)
	    • DC power supplies—208.60 pounds (94.6193 kg)

Guidelines for Equipment Rack Installation

The chassis should already be in the area where you will install it. If you have not determined where to install your chassis, see the "Cisco ASR 1000 Series Routers Component Overview" section on page 2-1 for information about site considerations.

When installing the Cisco ASR 1013 Router, consider the following items:

- The Cisco ASR 1013 Router requires at least 3 inches (7.62 cm) of clearance at the inlet and exhaust vents (the front and top/rear sides of the chassis).

- The Cisco ASR 1013 Router should be installed off the floor. Dust that accumulates on the floor is drawn into the interior of the router by the cooling fans. Excessive dust inside the router can cause overtemperature conditions and component failures.

- Maintain a minimum clearance of 3 inches (7.62 cm) for the front and rear of the chassis for proper chassis cooling. Avoid placing the chassis in an overly congested rack or directly next to another equipment rack; otherwise, the heated exhaust air from other equipment can enter the inlet air vents and cause an overtemperature condition inside the router.

- If rack space allows, it is recommended to leave one rack unit (1.75 inch or 4.45 cm) of vertical clearance between the chassis and any equipment directly above it or below.

⚠️

Caution Depending on your installation and co-located equipment power dissipation, it is recommended to have some air gap between chassis, if space allows, to reduce residual heating from one chassis to another.

- Have the cable-management bracket (used in four places on the Cisco ASR 1013 chassis: upper half, lower half, and left and right sides) available if you plan to install it on the front of the chassis.

- An adequate chassis ground (earth) connection exists for your router chassis (see the Attaching a Chassis Ground Connection, on page 23).

- Always follow proper lifting practices as outlined in the "Chassis-Lifting Guidelines" section on page 5-23 , when handling the chassis.

Attaching the Rear Rack-Mount Brackets

This section explains how to attach the rear rack-mount brackets to the chassis. Before installing the chassis in the rack, you must install the rack-mount brackets on each side of the chassis. The forward rack-mount brackets are already installed on the Cisco ASR 1013 chassis when it arrives at your site.

The parts and tools required for installing the rack-mount brackets and cable-management brackets are listed in the "Tools and Equipment" section on page 5-23 .

Note The cable-management brackets are installed on the chassis after you install the chassis rack-mount brackets and mount the chassis in the rack.

If you are rack-mounting the chassis using the rear rack-mount brackets, then this type of installation provides for the chassis being recessed in the rack.

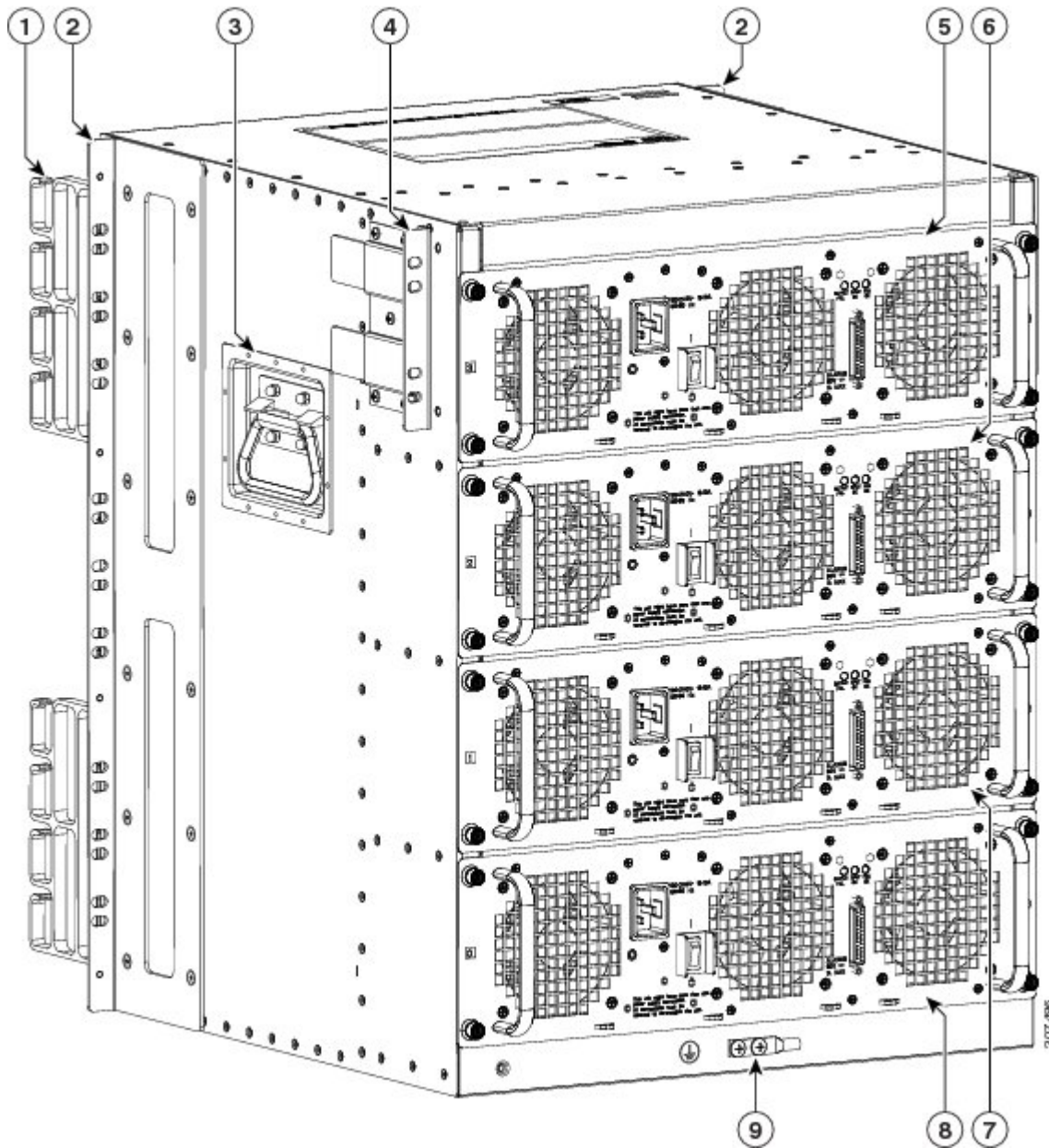To install the rear rack-mount brackets on the Cisco ASR 1013 Router, perform the following steps:

SUMMARY STEPS

1. Locate the threaded holes on the rear side of the chassis. Make certain that you hold the rear t rack-mount bracket with the ear and holes facing outward and towards the rear of the chassis (see the following image, callout number 4).
2. Position the rear rack-mount bracket top hole with the chassis second top hole from the back.
3. Insert and tighten the screws on one side.
4. After the bracket is secured to the side of the chassis, slide the two remaining components into the side rack-mount bracket.
5. Repeat Step 1 through Step 3 on the other side of the chassis. Use all the screws to secure the rear rack-mount brackets to the chassis.

DETAILED STEPS

Step 1 Locate the threaded holes on the rear side of the chassis. Make certain that you hold the rear t rack-mount bracket with the ear and holes facing outward and towards the rear of the chassis (see the following image, callout number 4).

Figure 4: Location of the Rear Rack-Mount Brackets on the Cisco ASR 1013 Router

Step 2   Position the rear rack-mount bracket top hole with the chassis second top hole from the back.

Step 3   Insert and tighten the screws on one side.

Step 4   After the bracket is secured to the side of the chassis, slide the two remaining components into the side rack-mount bracket.

Step 5   Repeat Step 1 through Step 3 on the other side of the chassis. Use all the screws to secure the rear rack-mount brackets to the chassis.

What to do next

This completes the steps for attaching the rear rack-mount brackets to the Cisco ASR 1013 Router.

Rack-Mounting the Cisco ASR 1013 Router

The Cisco ASR 1013 Router comes installed with front forward rack-mount brackets. The rear rack-mount brackets are optional and are shipped in the accessory kit along with a set of front rack-mount brackets. The chassis rack-mounting flanges must be secured directly to the chassis before you lift it into the rack.

This section includes the following topics:

Verifying Rack Dimensions

Before you install the chassis, measure the space between the vertical mounting flanges (rails) on your equipment rack to verify that the rack conforms to the measurements shown in the following image.

Figure 5: Verifying Equipment Rack Dimensions

SUMMARY STEPS

1. Mark and measure the distance between two holes on the left and right mounting rails.
2. Measure the space between the inner edges of the left front and right front mounting flanges on the equipment rack.

DETAILED STEPS

Step 1 Mark and measure the distance between two holes on the left and right mounting rails.

The distance should measure 18.31 inches ± 0.06 inches (46.5 cm ± 0.15 cm).

Note Measure for pairs of holes near the bottom, middle and top of the equipment rack to ensure that the rack posts are parallel.

Step 2 Measure the space between the inner edges of the left front and right front mounting flanges on the equipment rack.

The space must be at least 17.7 inches (45 cm) to accommodate the chassis which is 17.25 inches (43.8 cm) wide and fits between the mounting posts on the rack.

Installing the Cisco ASR 1013 Router in a Rack

To mount the chassis in an equipment rack, you must secure the rack-mount brackets to two posts or mounting strips in the rack using the screws provided. Because the rack-mount brackets support the weight of the entire chassis, be sure to use all screws to fasten the two rack-mount brackets to the rack posts. You can install the Cisco ASR 1013 chassis in an equipment rack using the forward rack-mount brackets or rear rack-mount brackets.

You can perform one of the following procedures to install the chassis in a rack:

Installing the Chassis Using the Forward Rack-Mount Brackets

⚠️

Caution   Before you mount the ASR 1013 Router in a rack, make certain you read which rack-mount bracket ear holes to use when positioning the chassis in the rack. As a result of using the designated ear holes on the rack-mount bracket, the cable-management bracket installation will be made easier. For cable-management installation instructions, see the Attaching the Cable-Management Bracket, on page 21 .

Determine where in the rack you want the chassis to be mounted. If you are mounting more than one chassis in the rack, then start from the bottom up or the center of the rack. The following image shows the brackets attached to the chassis. Depending on the bracket holes you use, the chassis may protrude in the rack.

✎

Note   The forward rack-mount brackets on the Cisco ASR 1013 Router arrive installed on the chassis and a spare set is included in the accessory kit. However, if you want to install a forward rack-mount bracket on the chassis, then see the instructions in this section.

The following image shows the forward rack-mount brackets, callout number 2 and the rear rack-mount brackets, callout number 4, on the Cisco ASR 1013 Router.

Figure 6: Forward Rack-Mount Brackets on the Cisco ASR 1013 Router
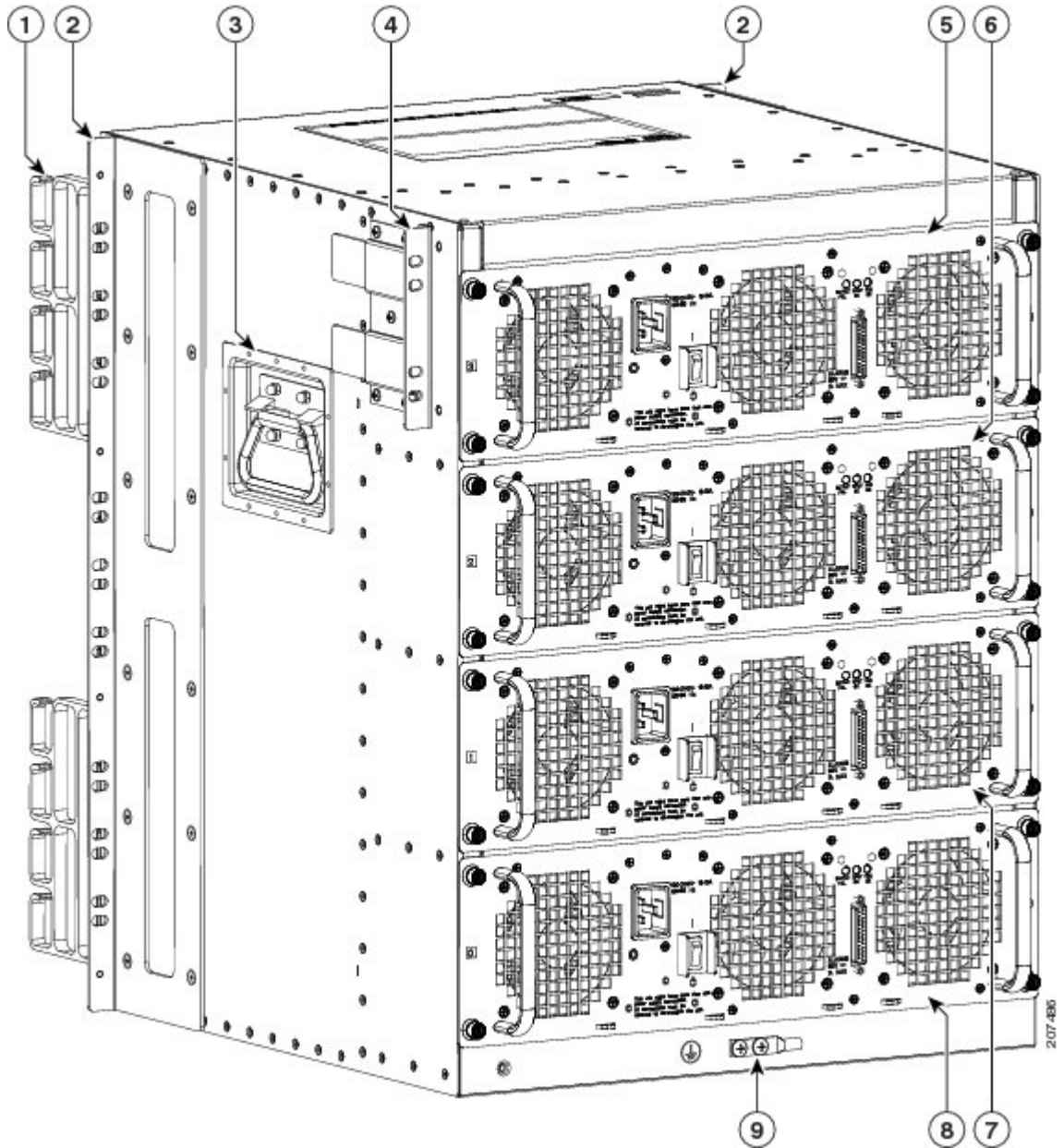
| 2 | Forward rack-mount bracket ear and holes | 4 | Rear rack-mount bracket |

Warning To prevent bodily injury when mounting or servicing this unit in a rack, you must take special precautions to ensure that the system remains stable. The following guidelines are provided to ensure your safety:-This unit should be mounted at the bottom of the rack if it is the only unit in the rack.-When mounting this unit in a partially filled rack, load the rack from the bottom to the top with the heaviest component at the bottom of the rack.-If the rack is provided with stabilizing devices, install the stabilizers before mounting or servicing the unit in the rack. Statement 1006

We recommend that you allow at least 1 or 2 inches (2.54 or 5.08 cm) of vertical clearance between the router and any equipment directly above and below it.

Using Forward Rack-Mount Brackets

To install the chassis in the rack using the forward rack-mount brackets, perform the following steps:

SUMMARY STEPS

1. On the chassis, ensure that all screw fasteners on the installed components are securely tightened.

2. Make sure that your path to the rack is unobstructed. If the rack is on wheels, ensure that the brakes are engaged or that the rack is otherwise stabilized. See the next sections on the types of racks you can use to install the chassis.

3. (Optional) Install a shelf in the rack to support the Cisco ASR 1013 Router. If you use a shelf, this will help support the chassis while you secure it to the rack.

4. With two people, lift the chassis into position between the rack posts.

5. Align the mounting bracket holes with the rack post holes and attach the chassis to the rack.

6. Position the chassis until the rack-mounting flanges are flush against the mounting rails on the rack.

7. Hold the chassis in position against the mounting rails and follow these steps:

8. Tighten all screws on each side to secure the chassis to the equipment rack.

DETAILED STEPS

Step 1   On the chassis, ensure that all screw fasteners on the installed components are securely tightened.

Step 2   Make sure that your path to the rack is unobstructed. If the rack is on wheels, ensure that the brakes are engaged or that the rack is otherwise stabilized. See the next sections on the types of racks you can use to install the chassis.

Step 3   (Optional) Install a shelf in the rack to support the Cisco ASR 1013 Router. If you use a shelf, this will help support the chassis while you secure it to the rack.

Step 4   With two people, lift the chassis into position between the rack posts.

Step 5   Align the mounting bracket holes with the rack post holes and attach the chassis to the rack.

> **Note**   If you are using a shelf then raise the chassis to the level of the shelf. Let the bottom of the chassis rest on the brackets, but continue to support the chassis.

Step 6   Position the chassis until the rack-mounting flanges are flush against the mounting rails on the rack.

Step 7   Hold the chassis in position against the mounting rails and follow these steps:

a)   Insert the bottom screw into the third hole up from the bottom of the rack-mount ear and use a hand-held screwdriver to tighten the screw to the rack rail

> **Tip**   In the next step, insert the top screw diagonally from the bottom screw that you just attached. This helps with keeping the chassis in place.

b)   Insert the top screw into the third hole down from the top of the rack-mount ear and tighten the screw to the rack rail.

c)   Insert a screw in the middle of the rack-mount bracket on both sides of the chassis.

d)   Repeat these steps for the other side of the chassis.

> **Note**   As a result of using the specified rack-mount bracket ear holes, the cable-management bracket can be easily attached to the rack-mount bracket after the chassis is installed in the rack.

Step 8 Tighten all screws on each side to secure the chassis to the equipment rack.

What to do next

Using Rear Rack-Mount Brackets

Installing the Chassis Using the Forward Rack-Mount Brackets

To install the chassis in the rack using the rear rack-mount brackets, perform the following steps:

SUMMARY STEPS

1. On the chassis, ensure that all screw fasteners on the installed components are securely tightened.
2. Make sure that your path to the rack is unobstructed. If the rack is on wheels, ensure that the brakes are engaged or that the rack is otherwise stabilized. See the next sections on the types of racks you can use to install the chassis.
3. (Optional) Install a shelf in the rack to support the Cisco ASR 1013 Router. If you use a shelf, this will help support the chassis while you secure it to the rack.
4. With two people, lift the chassis into position between the rack posts.
5. Align the mounting bracket holes with the rack post holes and attach the chassis to the rack.
6. Position the chassis until the rear rack-mounting flanges are flush against the mounting rails on the rack.
7. Hold the chassis in position against the mounting rails and insert all screws that were shipped in the accessory kit.
8. Tighten all screws on each side to secure the chassis to the equipment rack.

DETAILED STEPS

Step 1 On the chassis, ensure that all screw fasteners on the installed components are securely tightened.

Step 2 Make sure that your path to the rack is unobstructed. If the rack is on wheels, ensure that the brakes are engaged or that the rack is otherwise stabilized. See the next sections on the types of racks you can use to install the chassis.

Step 3 (Optional) Install a shelf in the rack to support the Cisco ASR 1013 Router. If you use a shelf, this will help support the chassis while you secure it to the rack.

Step 4 With two people, lift the chassis into position between the rack posts.

Step 5 Align the mounting bracket holes with the rack post holes and attach the chassis to the rack.

Note If you are using a shelf then raise the chassis to the level of the shelf. Let the bottom of the chassis rest on the brackets, but continue to support the chassis.

Step 6 Position the chassis until the rear rack-mounting flanges are flush against the mounting rails on the rack.

Step 7 Hold the chassis in position against the mounting rails and insert all screws that were shipped in the accessory kit.

**Step 8** Tighten all screws on each side to secure the chassis to the equipment rack.

What to do next

You can install your Cisco AR1006 chassis on a two-post rack or a four-post rack. See the and the four-post rack installation, go to the .

Two-Post Rack Installation

The Cisco ASR 1013 Router can be installed on a two-post 19-inch equipment rack. The following image shows the Cisco ASR 1013 Router installed on a two-post rack.

Figure 7: Installing the Cisco ASR 1013 Router on a Two-Post Rack
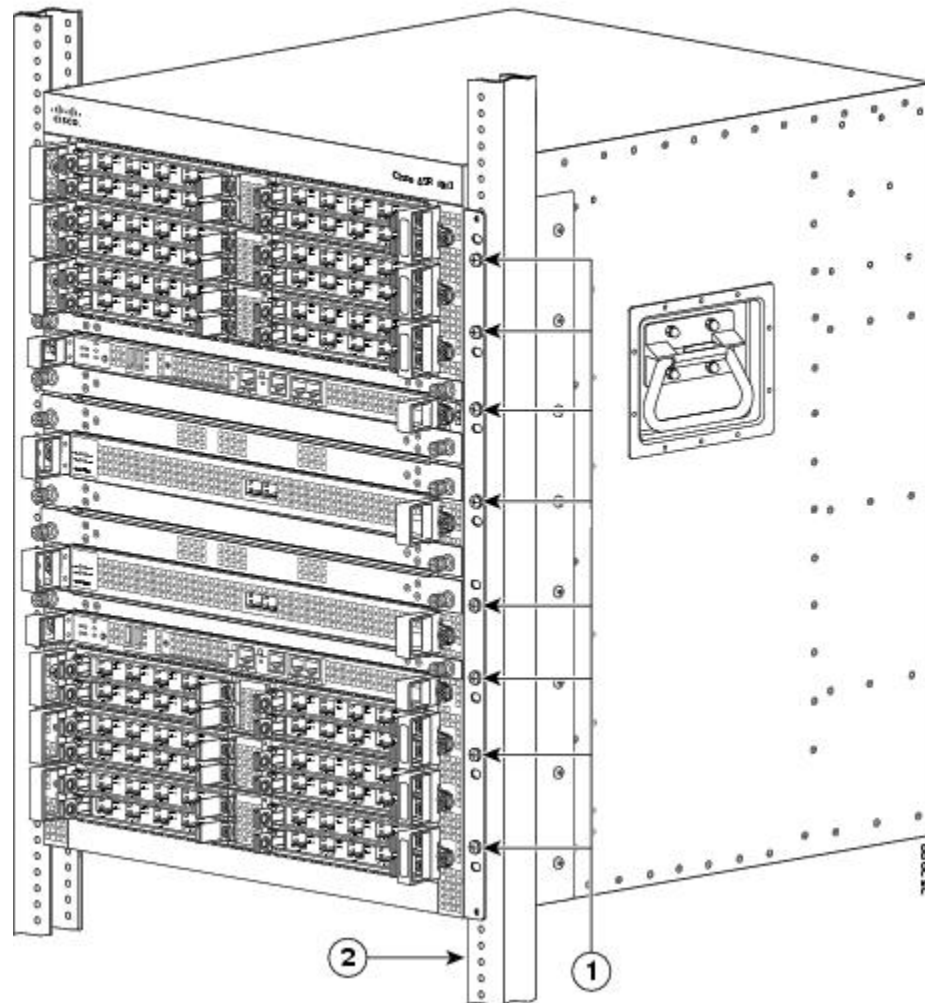
1	Cisco ASR 1013 Router front rack-mount bracket	2	Two-post equipment rack rail

Note   Inner clearance (the width between the inner sides of the two posts or rails) must be at least 19 inches (48.26cm). The height of the chassis is 10.45 inches (26.543 cm). Airflow through the chassis is from front to back.

⚠️ **Caution**   If you are using a two-post rack secure the rack to the floor surface to prevent tipping and avoid bodily injury and component damage.

To install the Cisco ASR 1013 chassis on a two-post equipment rack, with the forward rack-mount brackets, follow these steps:

SUMMARY STEPS

1. Position the chassis so the front is closest to you and lift it carefully into the rack. To prevent injury, avoid any sudden twists or moves.
2. Slide the chassis into the rack, pushing it back until the brackets meet the mounting strips or posts on both sides of the rack.
3. Keeping the brackets flush against the posts or mounting strips, align the holes in the brackets with the holes on the rack or mounting strip.
4. For each bracket, insert and tighten two screws to the rack on both sides.

DETAILED STEPS

Step 1   Position the chassis so the front is closest to you and lift it carefully into the rack. To prevent injury, avoid any sudden twists or moves.

Step 2   Slide the chassis into the rack, pushing it back until the brackets meet the mounting strips or posts on both sides of the rack.

Step 3   Keeping the brackets flush against the posts or mounting strips, align the holes in the brackets with the holes on the rack or mounting strip.

Step 4   For each bracket, insert and tighten two screws to the rack on both sides.

Note   Use the third hole up from the bottom of the rack-mount bracket and the third hole down from the top of the rack-mount bracket. See "Cable-Management Brackets Installed on the Cisco ASR 1013 Router" figure in the *Attaching the Cable-Management Bracket* section for the position and location of the ear holes on the rack-mount bracket.

What to do next

This completes the procedure for installing the chassis on a two-post rack. Proceed to the to continue the installation.

Four-Post Rack Installation

The Cisco ASR 1013 Router can be flush-mounted in a 19-inch equipment rack using the rack-mounting kit provided with your system. The Cisco ASR 1013 Router can be mounted into the rack using two recommended methods:

- Installing the chassis in an existing rack with equipment.
- Installing an empty chassis in a rack with no equipment installed.

| **Note** | Because the Cisco ASR 1013 chassis is very heavy, it is recommended that the chassis be installed at the bottom of the rack if you are planning to install more than one Cisco ASR 1013 chassis in the same rack. |

The following image shows the Cisco ASR 1013 Router installed on a four-post rack.

Figure 8: Installing the Cisco ASR 1013 Router on a Four-Post Rack
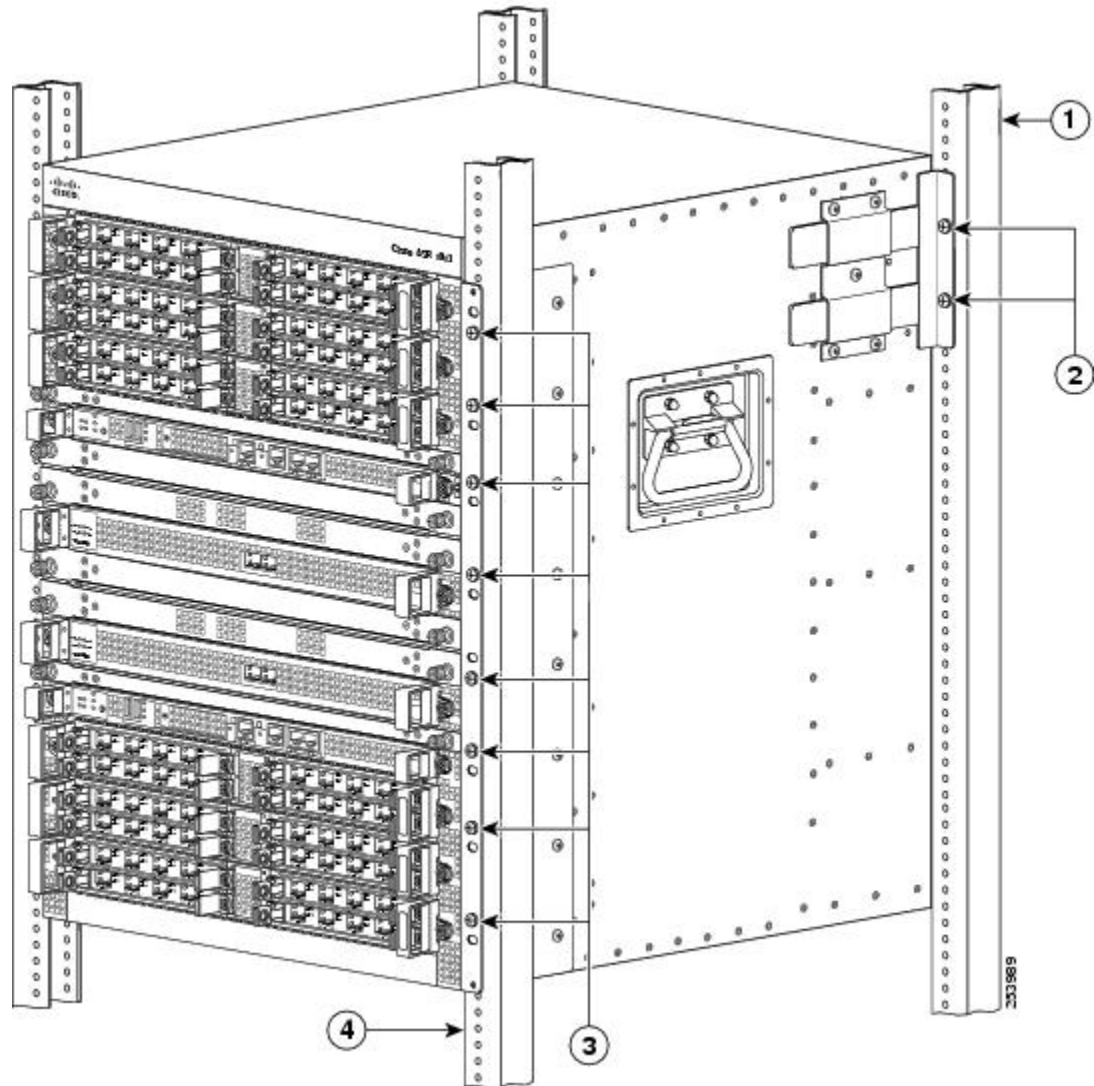
1	Four-post equipment rack rear rail	3	Cisco ASR 1013 front rack-mount brackets
2	Cisco ASR 1013 rear rack-mount brackets	4	Four-post equipment rack front rail

When handling the chassis, always follow proper lifting practices. See the "Chassis-Lifting Guidelines" section.

✎

Note Inner clearance (the width between the inner sides of the two posts or rails) must be at least 19 inches (48.26 cm). The height of the chassis is 22.75 inches (57.8 cm). Airflow through the chassis is from front to back.

✎

Note Make sure the rack is stabilized.

SUMMARY STEPS

1. (Optional) Install a shelf in the rack to support the Cisco ASR 1013 Router. If you are using a shelf then raise the chassis to the level of the shelf. Let the bottom of the chassis rest on the brackets, but continue to support the chassis.Using two people, lift the chassis into the rack using the side handles and grasping underneath the power supply bays.
2. Position the chassis until the rack-mounting flanges are flush against the mounting rails on the rack.
3. Hold the chassis in position against the mounting rails while the second person finger-tightens a screw to the rack rails on each side of the chassis.
4. Finger-tighten 4 more screws to the rack rails on each side of the chassis.
5. Tighten all screws on each side to secure the chassis to the equipment rack.
6. Use a level to verify that the tops of the two brackets are level, or use a measuring tape to verify that both brackets are the same distance from the top of the rack rails.

DETAILED STEPS

Step 1 (Optional) Install a shelf in the rack to support the Cisco ASR 1013 Router. If you are using a shelf then raise the chassis to the level of the shelf. Let the bottom of the chassis rest on the brackets, but continue to support the chassis.Using two people, lift the chassis into the rack using the side handles and grasping underneath the power supply bays.

Step 2 Position the chassis until the rack-mounting flanges are flush against the mounting rails on the rack.

Note Use the third hole up from the bottom of the rack-mount bracket and the third hole down from the top of the rack-mount bracket. See "Cable-Management Brackets Installed on the Cisco ASR 1013 Router" figure in the *Attaching the Cable-Management Bracket* section for position and location of the ear holes on the rack-mount bracket.

Step 3 Hold the chassis in position against the mounting rails while the second person finger-tightens a screw to the rack rails on each side of the chassis.

Step 4 Finger-tighten 4 more screws to the rack rails on each side of the chassis.

Step 5 Tighten all screws on each side to secure the chassis to the equipment rack.

Step 6 Use a level to verify that the tops of the two brackets are level, or use a measuring tape to verify that both brackets are the same distance from the top of the rack rails.

What to do next

This completes the procedure for installing the chassis in the rack. Proceed to the Attaching the Cable-Management Bracket, on page 21 to continue the installation.

Attaching the Cable-Management Bracket

The cable-management brackets mount to each rack-mount bracket on the chassis to provide cable-management to both sides of the chassis (parallel with card orientation). These brackets are screw mounted to the rack-mount brackets to allow easy installation and removal of cables.

The cable-management brackets for the Cisco ASR 1013 are used in four places on the chassis. Each section contain four independent cable-management "U" type feature hooks with two screws each as shown in Figure 9: Cable-Management Brackets Installed on the Cisco ASR 1013 Router, on page 22. For Cisco ASR 1000 SIPs, these brackets work in tandem with shared port adapter product feature cable-management device to allow installation and removal of adjacent cards without the need to remove cables.

✎

Note   Make certain that the cable-management bracket "U" type feature is facing upwards when you attach it to the chassis.

Follow these steps to attach two cable-management brackets to each side of the Cisco ASR 1013 Router in the rack:

SUMMARY STEPS

1. Align the cable-management bracket to the rack-mount bracket on the top of each side of the Cisco ASR 1013 Router. The cable-management bracket aligns to the top hole of the chassis rack-mount bracket.
2. Using a Phillips screwdriver, insert the screw through cable-management bracket and into the chassis rack-mount and tighten the screw.
3. Using the bottom rack-mount ear hole on each side of the chassis, insert the screw through cable-management bracket and into the chassis rack-mount)

DETAILED STEPS

Step 1   Align the cable-management bracket to the rack-mount bracket on the top of each side of the Cisco ASR 1013 Router. The cable-management bracket aligns to the top hole of the chassis rack-mount bracket.

Step 2   Using a Phillips screwdriver, insert the screw through cable-management bracket and into the chassis rack-mount and tighten the screw.

Note   Use the package of screws that came with your chassis containing eight screws.

Step 3   Using the bottom rack-mount ear hole on each side of the chassis, insert the screw through cable-management bracket and into the chassis rack-mount)

The following image shows the cable-management brackets attached to the chassis in a rack.

Figure 9: Cable-Management Brackets Installed on the Cisco ASR 1013 Router
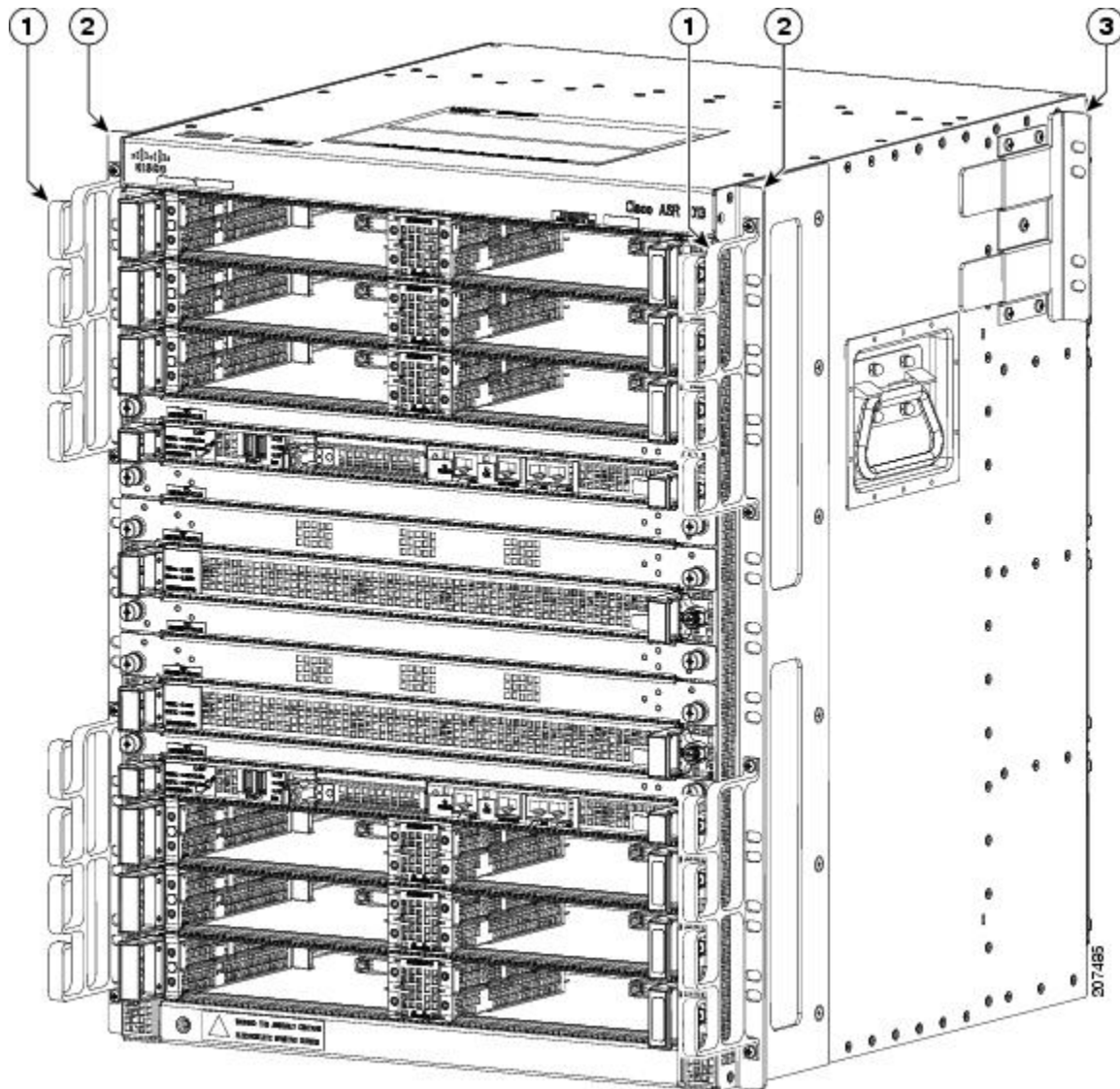
1	Cable-management bracket screw location	3	Chassis front rack-mount bracket
2	Cable-management bracket	—	—

What to do next

This completes the procedure for installing the cable-management brackets on the chassis.

Attaching a Chassis Ground Connection

Connecting the Cisco ASR 1013 Router chassis to ground is required for all DC powered installations and any AC powered installation where compliance with Telcordia grounding requirements is necessary.

⚠ **Caution**   The dual-lug chassis stud must be installed, the SIP and SPA must be fully inserted and screwed in and earthed to prevent a potential hazard in a telecom line.

Have the recommended tools and supplies available before you begin this procedure.

⚠ **Warning**   This equipment must be grounded. Never defeat the ground conductor or operate the equipment in the absence of a suitably installed ground conductor. Contact the appropriate electrical inspection authority or an electrician if you are uncertain that suitable grounding is available. Statement 1024

Before you connect power or turn on power to your chassis, you must provide an adequate chassis ground (earth) connection for the chassis. A chassis ground connector is provided on each Cisco ASR 1013 Router. There is a ground stud on the rear bottom of the chassis as shown in (See the image on the following section "Recommended Tools and Supplies.")

Recommended Tools and Supplies

The following tools, equipment, and supplies necessary to connect the system ground to the chassis:

- Phillips screwdriver
- Dual-lug chassis ground component
- Grounding wire

Attach the Chassis Ground

Use the following procedure to attach the grounding lug to the chassis ground connector on your chassis:

SUMMARY STEPS

1. Use the wire stripper to strip one end of the AWG #6 wire approximately 0.75 inches (19.05 mm).
2. Insert the AWG #6 wire into the wire receptacle on the grounding lug.
3. Use the crimping tool to carefully crimp the wire receptacle around the wire; this step is required to ensure a proper mechanical connection.
4. Attach the grounding lug with the wire so that the grounding wire does not overlap the power supply.
5. Locate the chassis ground connector on the bottom rear of the Cisco ASR 1013 chassis.
6. Insert the two screws through the holes in the grounding lug as shown in Figure 10: Attaching the Cisco ASR 1013 Router Ground Connection, on page 24.
7. Use the Number 2 Phillips screwdriver to carefully tighten the screws until the grounding lug is held firmly to the chassis. Do not overtighten the screws.
8. Connect the opposite end of the grounding wire to the appropriate grounding point at your site to ensure an adequate chassis ground.

DETAILED STEPS

Step 1	Use the wire stripper to strip one end of the AWG #6 wire approximately 0.75 inches (19.05 mm).
Step 2	Insert the AWG #6 wire into the wire receptacle on the grounding lug.
Step 3	Use the crimping tool to carefully crimp the wire receptacle around the wire; this step is required to ensure a proper mechanical connection.
Step 4	Attach the grounding lug with the wire so that the grounding wire does not overlap the power supply.
Step 5	Locate the chassis ground connector on the bottom rear of the Cisco ASR 1013 chassis.

The following image shows how to attach the ground lug on the Cisco ASR 1013 Router.

Figure 10: Attaching the Cisco ASR 1013 Router Ground Connection
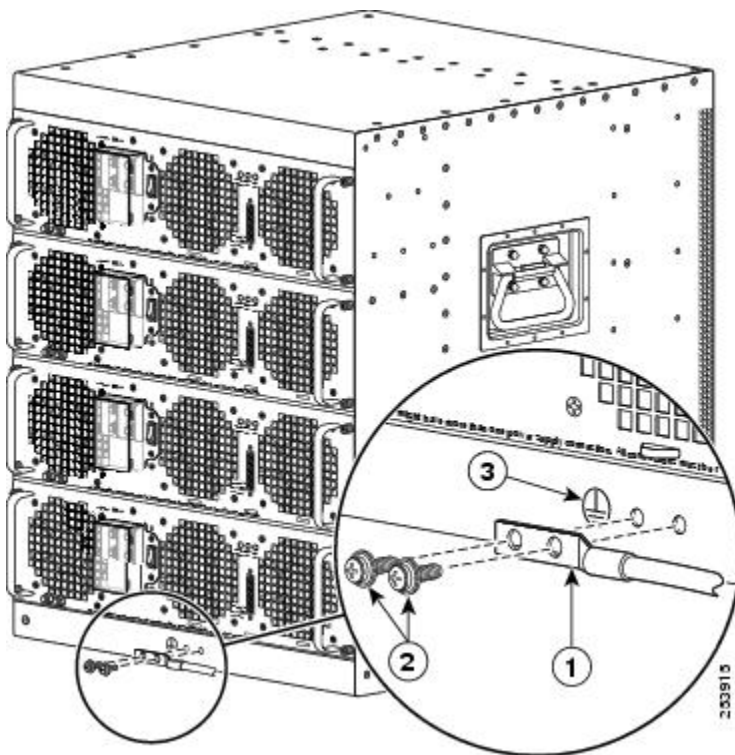
1	Chassis ground studs and lead wire	3	Ground symbol
2	Grounding screws	—	—

Step 6	Insert the two screws through the holes in the grounding lug as shown in Figure 10: Attaching the Cisco ASR 1013 Router Ground Connection, on page 24.
Step 7	Use the Number 2 Phillips screwdriver to carefully tighten the screws until the grounding lug is held firmly to the chassis. Do not overtighten the screws.
Step 8	Connect the opposite end of the grounding wire to the appropriate grounding point at your site to ensure an adequate chassis ground.

What to do next

This completes the procedure for attaching a chassis ground connection. Go to the following cabling sections for information on attaching cables.

Connecting the Shared Port Adapter Cables

The instructions for connecting the cables for the shared port adapter installed in the Cisco ASR 1013 Router are contained in the respective configuration documents for each port adapter. For example, if you are connecting the optical fiber cables for the PA-POS-OC3 port adapter, see PA-POS-OC3 Port Adapter Installation and Configuration at the following location:

http://www.cisco.com/en/US/partner/docs/interfaces_modules/port_adapters/install_upgrade/pos/pa-pos-oc3_install_config/paposoc3.html

Shared port adapter documents are also available on the Cisco Documentation DVD.

Connecting the Console and Auxiliary Port Cables

The Cisco ASR 1013 Router has a DCE-mode console port for connecting a console terminal and an auxiliary port for additional connections to your chassis. The auxiliary port can also be used for diagnostics.

In a fully redundant chassis, each Cisco ASR1000-RP2 is separately connected to each FP and I/O card slot over separate point-to-point connections of the system interconnect over the midplane. The selection of the active RP2s is made separately from the selection of the active embedded services processor.
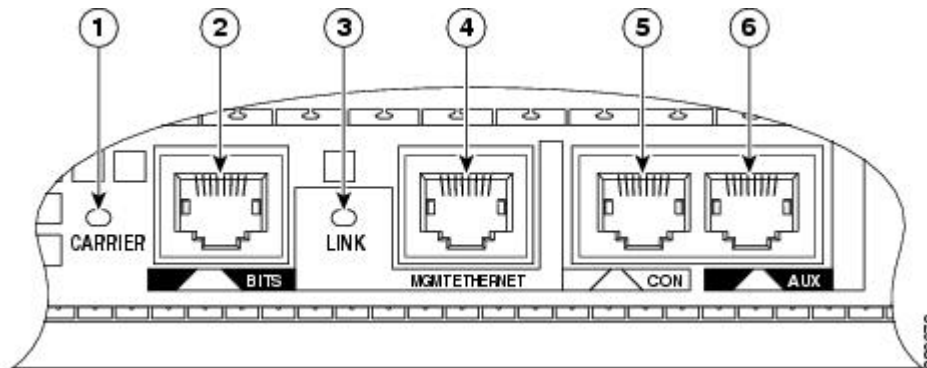
The following image shows the Cisco ASR 1000 Series Route Processor faceplate.

Figure 11: Cisco ASR1000-RP2 Faceplate LEDs
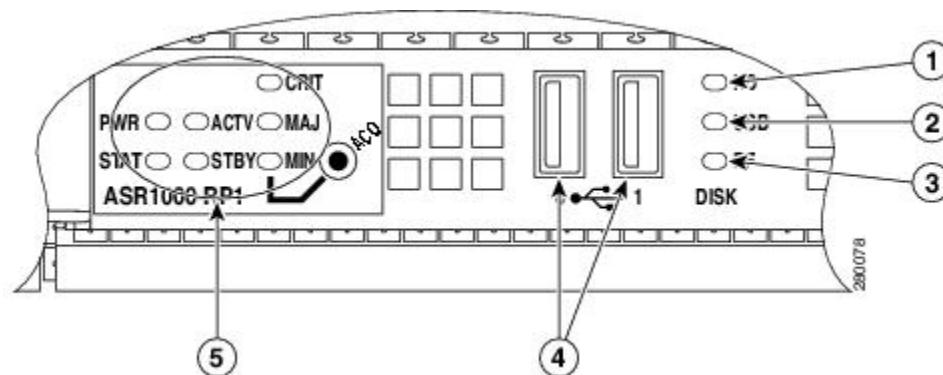
1	Internal hard drive LED	4	USB 0, USB 1 connector
2	External USB Flash LED	5	ASR1000-RP2 LEDs
3	Internal USB bootflash LED	—	—

Figure 12: Cisco ASR 1000 Series Route Processor Faceplate Connectors

1	CARRIER LED	4	MGMT Ethernet connector
2	BITS connector	5	CON connector
3	LINK LED	6	AUX connector

The Cisco ASR 1013 Router uses RJ-45 ports for both the auxiliary port and the console port. Both the console and the auxiliary ports are asynchronous serial ports; any devices connected to these ports must be capable of asynchronous transmission.

For console and auxiliary port pinouts for the RJ-45 connector, see the "Cisco ASR 1000-RP1 Pinout Specifications" section on page B-1 . Both ports are configured as asynchronous serial ports.

SUMMARY STEPS

1. Before connecting a terminal to the console port, configure the terminal to match the chassis console port as follows: 9600 baud, 8 data bits, no parity, 1 stop bits (9600 8N1).
2. After you establish normal router operation, you can disconnect the terminal.

DETAILED STEPS

Step 1 Before connecting a terminal to the console port, configure the terminal to match the chassis console port as follows: 9600 baud, 8 data bits, no parity, 1 stop bits (9600 8N1).

Step 2 After you establish normal router operation, you can disconnect the terminal.

What to do next

Note A connection will not be established when setting up an out-of-band connection or modem connection in the auxiliary port and the console port.

Connecting the Ethernet Management Port

When using the Fast Ethernet Management port ("Cisco ASR 1000 Series Route Processor Faceplate Connectors" figure in the *Connecting the Console and Auxiliary Port Cables* section, callout 4) in the default mode (speed-auto and duplex-auto) the port operates in auto-MDI/MDI-X mode. The port automatically provides the correct signal connectivity through the Auto-MDI/MDI-X feature. The port automatically senses a crossover or straight-through cable and adapts to it.

However, when the Fast Ethernet Management port is configured to a fixed speed (10 or 100 Mbps) through command-line interface (CLI) commands, the port is forced to MDI mode.

When in a fixed-speed configuration and MDI mode:

- Use a crossover cable to connect to an MDI port

- Use a straight-through cable to connect to an MDI-X port

Connecting Power to the Cisco ASR 1013 Router

Warning   The covers are an integral part of the safety design of the product. Do not operate the unit without the covers installed. Statement 1077

Warning   When you install the unit, the ground connection must always be made first and disconnected last. Statement 1046

Warning   Before performing any of the following procedures, ensure that power is removed from the DC circuit. Statement 1003

Warning   Only trained and qualified personnel should be allowed to install, replace, or service this equipment. Statement 1030

Cisco ASR 1013 Router Power Supply Overview

This section provides information about the Cisco ASR 1013 power supply input requirements and power cable options.

The DC power supply for the Cisco ASR 1013, ASR 1006, ASR 1004, and ASR 1002 routers operate at individual specifications. The following table shows the common input ranges and circuit breaker requirements.

Table 2: Cisco ASR 1000 Series Router DC Power Supply System Input Requirements

Cisco ASR 1000 Series Router DC Power Supply	System Input Rating (Amps)	Circuit Breaker Amps		AWG # Wire	
		Minimum	Maximum	Minimum	Maximum
Cisco ASR 1006	40	Always 50	Always AWG #6 wire		
Cisco ASR 1004	24	30	40	10	8
Cisco ASR 1002	16	20	30	12	10
Cisco ASR 1013	40	Always 50	Always AWG #6 wire		
For example, the Cisco ASR 1002 Router DC power supply, with 16 Amp input rating must use an AWG #12 gauge wire for a 20 A circuit breaker and an AWG #10 gauge wire for a 30 A circuit breaker.					

Power Cords Supported by the Cisco ASR 1013 Router

The following power cords are supported by the Cisco ASR 1013 Router:

- CAB-AC20A-90L-IN—20 A AC right-angle power cord—International
- CAB-4000W-US1—Power Cord, 250 VAC 20 A, Right Angle C19, NEMA 6-20 Plug, US
- CAB-US520-C19-US—NEMA 5-15 to IEC-C19 14ft US

The Cisco ASR 1013 Router modular chassis supports redundant power entry modules (PEMs). At least one PEM in each 1+1 redundant power supply zone must be functioning to power the zone and both zones must be functional. In the event of a single fan failure, the remaining fans are sufficient to cool the entire chassis although fan speed may have to be increased.

The Cisco ASR 1013 Router system is configured in a dual zone 1+1 power supply configuration. For ASR 1013 router power consumption specifications, see the "Cisco ASR 1013 Router Specifications" section on page A-14 .

The following items list the maximum input and output of the system power consumption for the two power zones in the Cisco ASR 1013 Router:

- Maximum input (DC): 4,200W
- Maximum input (AC – High Line): 4,000 W
- Maximum output (DC and AC – High Line): 3,390 W

Note　At least one power supply in each of the two power supply zones must be powered on before the software boots up. This prevents the route processor from detecting a power supply failure in a zone that is not being used to power the active route processor. If you plan to connect the four power supplies to two independent circuits for redundancy, you must ensure that a power supply from each power supply zone is connected to each circuit. PS0 and PS1 are in power supply zone 0, and PS2 and PS3 are in power supply zone 1. In this scenario, for example, PS0 and PS2 can be connected to one circuit and PS1 and PS3 can be connected to the other circuit. Alternatively, PS0 and PS3 can be connected to one circuit and PS1 and PS2 can be connected to the other circuit.

Note　Detailed instructions for removing and replacing the Cisco ASR 1000 Series AC and DC power supplies are in the "Removing and Replacing the Cisco ASR 1013 Router Power Supplies" section on page 14-93 .

Connecting AC Input Power to Cisco ASR 1013 Router

Follow these steps to connect an AC-input power supply to the Cisco 1013 chassis:

SUMMARY STEPS

1. At the rear of the chassis, check that the power switch on the power supply is in the Standby position.
2. Plug the power cable into the inlet.
3. Plug the AC power supply cable into the AC power source.

DETAILED STEPS

Step 1　At the rear of the chassis, check that the power switch on the power supply is in the Standby position.
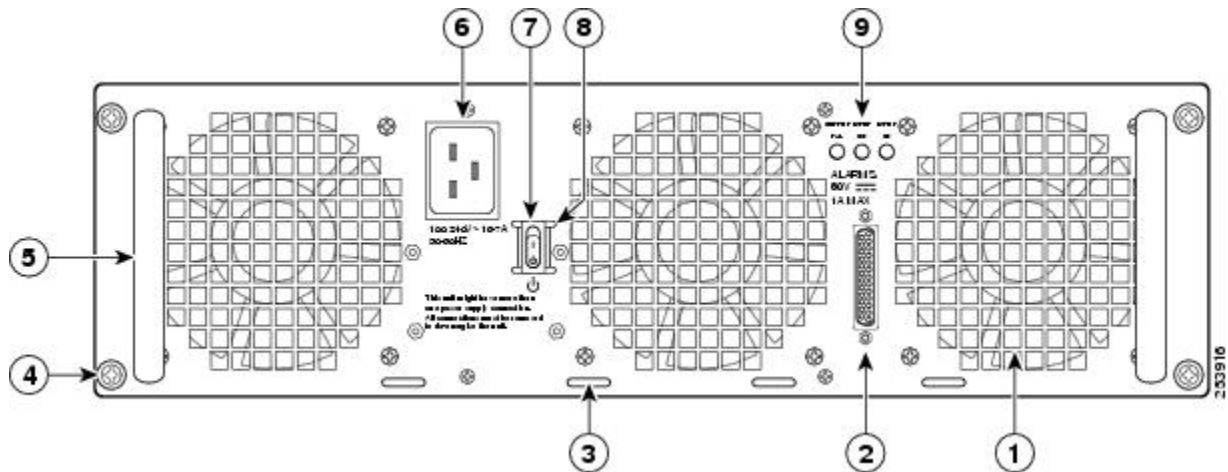
Step 2　Plug the power cable into the inlet.

Note　For additional AC power cable strain relief, secure the cable to the power supply handle by inserting a nylon cable tie through the hole in the handle and around the cable.

The following image shows the Cisco ASR 1013 Router AC power supply.

Figure 13: Cisco ASR 1013 Router AC Power Supply

1	AC power supply fan	6	AC power inlet
2	DB-25 alarm connector	7	AC power supply Standby switch
3	Tie-wrap tab	8	Protective shielding on both sides of the Standby switch
4	AC power supply captive screw	9	AC power supply LEDs
5	AC power supply handle	—	—

Note   Shielded cables must be used to connect to the DB-25 alarm connector on both the AC and DC power supplies in order to comply with FCC/EN55022/CISPR22 Class A emissions requirements. See the "How Cisco ASR1000-RP Alarm Monitoring Works" section on page 2-22 .

**Step 3**   Plug the AC power supply cable into the AC power source.

What to do next

This completes the procedure for connecting AC-input power.

Connecting DC Input Power to Cisco ASR 1013 Router

This section describes how to connect the DC power supply into the Cisco ASR 1013 Router. The following image shows the Cisco ASR 1013 Router DC power supply and labels.

Figure 14: Cisco ASR 1013 Router DC Power Supply
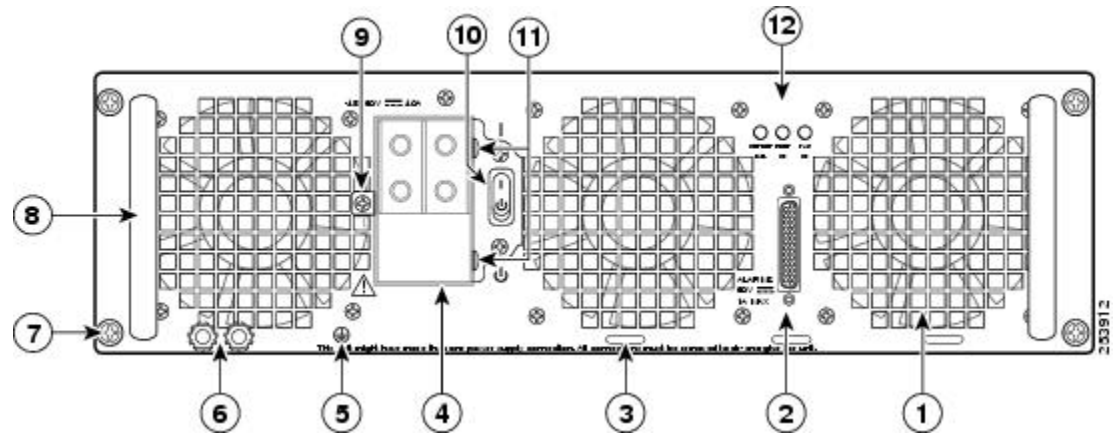
1	Fan	7	DC power supply captive screw
2	DB-25 alarm connector*	8	DC power supply handle
3	Tie-wrap tab	9	Terminal block and plastic cover single screw
4	DC power supply terminal block and plastic cover	10	On/Off (|/O) circuit breaker switch
5	Ground symbol	11	Terminal block and plastic cover slot tab
6	DC power supply ground studs	12	Power supply LEDs

Note Shielded cables must be used to connect to the DB-25 alarm connector on both the AC and DC power supplies, in order to comply with FCC/EN55022/CISPR22 Class A emissions requirements.

Before you begin to install the DC power supply into the Cisco ASR 1013 Router, read these important notices:

- The color coding of the DC input power supply leads depends on the color coding of the DC power source at your site. Typically, green or green/yellow is used for ground (GND), black is used for –48 V on negative (–) terminal and red is used for RTN on the positive (+) terminal. Make certain the lead color coding you choose for the DC input power supply matches lead color coding used at the DC power source.

- For DC input power cables, select the appropriate wire gauge based on the National Electrical Code (NEC) and local codes for 40-amp service at nominal DC input voltage (–48/–60 VDC). Three pairs of cable leads, source DC (–) and source DC return (+), are required for each power distribution unit (PDU). These cables are available from any commercial cable vendor. All input power cables for the chassis should have the same wire gauge and cable lengths should match within 10 percent of deviation.

Each DC input power cable is terminated at the PDU by a cable lug. The cable lugs must be dual-hole, and have a straight tongue. They must be able to fit over 1/4-inch terminal studs at 0.625-inch (15.88-mm) centers.

Note   DC input power cables must be connected to the PDU terminal studs in the proper positive (+) and negative (−) polarity. In some cases, the DC cable leads are labeled, which is a relatively safe indication of the polarity. However, you must verify the polarity by measuring the voltage between the DC cable leads. When making the measurement, the positive (+) lead and the negative (−) lead must always match the (+) and (−) labels on the power distribution unit.

- A ground cable is required for each DC PDU. We recommend that you use at least 6-AWG multistrand copper wire. This wire is not available from Cisco Systems; it is available from any commercial cable vendor.

The ground wire cable lug should be dual-hole (as shown in Figure 15: DC Input Power Cable Lug, on page 32) and able to fit over M6 terminal studs at 0.625 inch (15.88mm) centers. Recommended lug terminal wire size Panduit part number:

- • LCD8-14A-L for 8AWG wire size

  • LCD6-14A-L for 6AWG wire size

Figure 15: DC Input Power Cable Lug
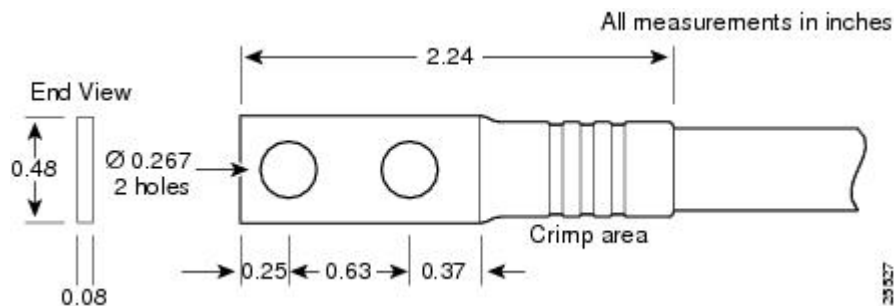
Note   To avoid hazardous conditions, all components in the area where DC input power is accessible must be properly insulated. Therefore, before installing the DC cable lugs, be sure to insulate the lugs according to the manufacturer's instructions.

Warning   When you install the unit, the ground connection must always be made first and disconnected last. Statement 1046

To connect the DC power supply, follow these steps:

SUMMARY STEPS

1. Make certain that the chassis grounding is connected before you begin installing the DC power supply
2. Locate the stud (see Figure 16: Cisco ASR 1013 Router DC Power Supply Grounding Stud and Cable, on page 34, callout 6) on the DC power supply for the **GND** connection which must be connected first and follow these steps:

3. Attach the other end of the cable to the site's ground connection.

4. Remove the plastic cover from the terminal block.

5. You must wrap the positive and negative lead cables with sleeving. Take each lead wire and cover the area from the lug to the wire with heavy shrink sleeving (see the following image).

6. For easier cable-management, insert the negative lead cable first. Replace the ground lug with cable in the following order:

7. Tighten the Kepnut screw to recommended torque of 18 in-lbs minimum to 22 in-lbs maximum for the positive stud and wire.

8. Use tie wraps to secure the wires, so that the wires are not pulled from the terminal block by casual contact. Ti-wrap studs are located below the power supply terminal block (see the "Cisco ASR 1000 Series Route Processor Console Port Connectors" figure in the *Connecting a Terminal to the Cisco ASR 1000 Series RP Console Port* section).

9. Replace the terminal block plastic cover and tighten the screw. The plastic cover is slotted and keyed to fit correctly over the terminal block.

10. Remove the tape from the circuit-breaker switch handle and move the circuit-breaker handle to the on position.

11. Switch the circuit breaker switch to the On (|) position.

DETAILED STEPS

Step 1 Make certain that the chassis grounding is connected before you begin installing the DC power supply

Step 2 Locate the stud (see , callout 6) on the DC power supply for the **GND** connection which must be connected first and follow these steps:

a) Using the grounding lug, replace the washers and Kepnut screw in the following order.

- • Flat washer

  • Grounding cable lug

  • Kepnut screw

b) Tighten the Kepnut screws on the power supply studs.

Figure 16: Cisco ASR 1013 Router DC Power Supply Grounding Stud and Cable
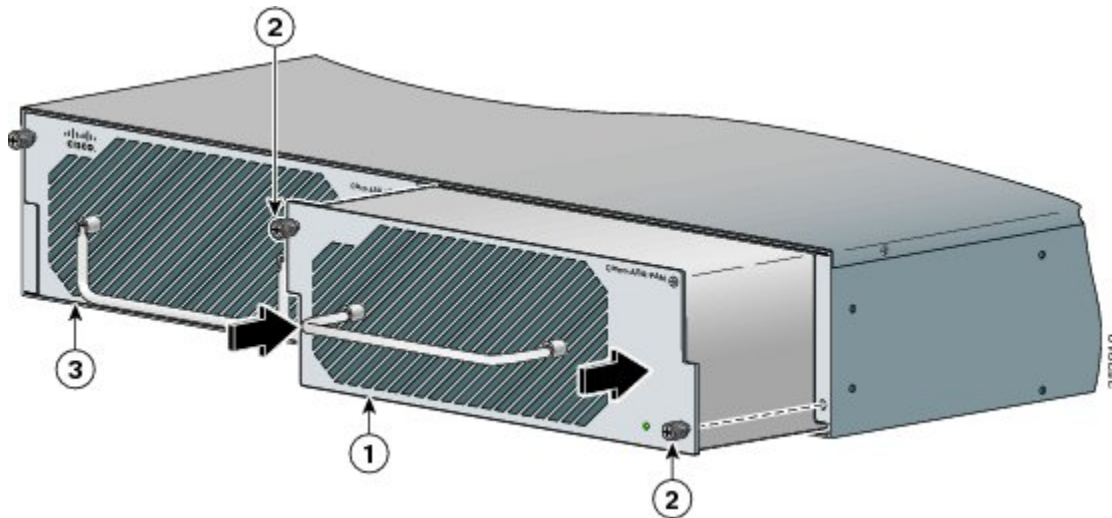
1	DC power supply grounding stud with wire	4	Flat washer
2	Grounding screws	5	Kepnut screw
3	DC Power supply ground symbol	—	—

Note Shielded cables must be used to connect to the DB-25 alarm connector on both the AC and DC power supplies in order to comply with FCC/EN55022/CISPR22 Class A emissions requirements. See the "How Cisco ASR1000-RP Alarm Monitoring Works" section.

Step 3 Attach the other end of the cable to the site's ground connection.

Step 4 Remove the plastic cover from the terminal block.

Caution Before you continue to install the terminal block ground wires, stop and perform Step 5. To prevent any contact with metal lead on the ground wire and the plastic cover.

Step 5 You must wrap the positive and negative lead cables with sleeving. Take each lead wire and cover the area from the lug to the wire with heavy shrink sleeving (see the following the image).

Figure 17: DC Power Supply Terminal Block Ground Cable Lugs
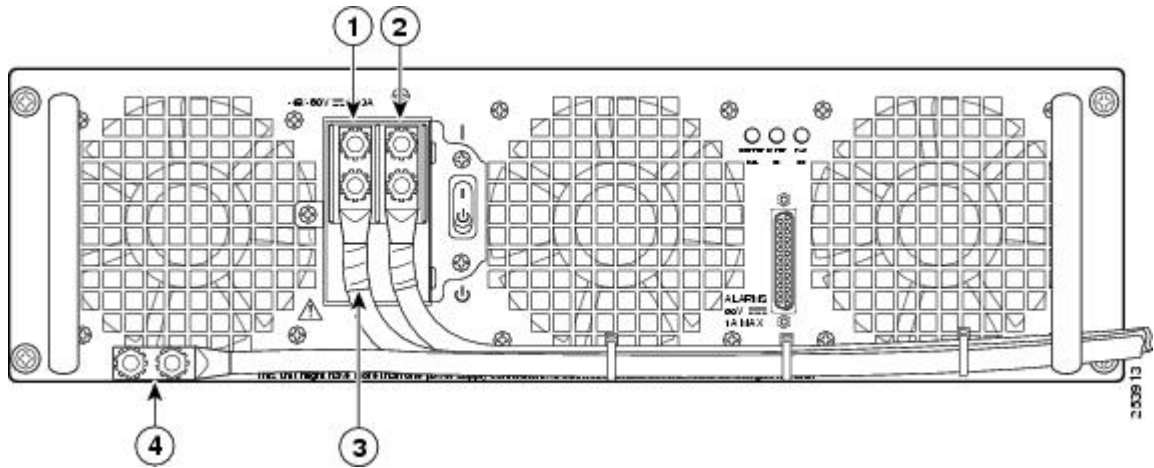
1	Negative lug and wire with sleeving wrapped around the wire and end of lug	3	Location of sleeving wrapped around the wire and end of the grounding stud
2	Positive lug and wire with sleeving wrapped around the wire and end of lug	4	Ground lug and wire

Step 6 For easier cable-management, insert the negative lead cable first. Replace the ground lug with cable in the following order:

a) Flat Washer
b) Ground lug with negative wire
c) Kepnut screw

Step 7 Tighten the Kepnut screw to recommended torque of 18 in-lbs minimum to 22 in-lbs maximum for the positive stud and wire.

Note Secure the wires coming in from the terminal block so that they cannot be disturbed by casual contact.

Step 8 Use tie wraps to secure the wires, so that the wires are not pulled from the terminal block by casual contact. Ti-wrap studs are located below the power supply terminal block (see the "Cisco ASR 1000 Series Route Processor Console Port Connectors" figure in the *Connecting a Terminal to the Cisco ASR 1000 Series RP Console Port* section).

Step 9 Replace the terminal block plastic cover and tighten the screw. The plastic cover is slotted and keyed to fit correctly over the terminal block.

Step 10 Remove the tape from the circuit-breaker switch handle and move the circuit-breaker handle to the on position.

Step 11 Switch the circuit breaker switch to the On (|) position.

What to do next

This completes the procedure for connecting the DC power supply in the Cisco ASR 1013 Router.

Connecting a Terminal to the Cisco ASR 1000 Series RP Console Port

The Cisco ASR 1013 route processor has an asynchronous serial (EIA/TIA-232) RJ-45 console port labeled CON on its front panel as shown in Figure 18: Cisco ASR 1000 Series Route Processor Console Port Connectors, on page 37, callout 5. You can connect this port to most types of video terminals through use of the console cable kit that is included with your Cisco ASR 1013 Router. The console cable kit contains:

- One RJ-45 to RJ-45 crossover cable

- One RJ-45 to DB-25 (female) adapter

- One RJ-45 to DB-9 (female) adapter

A crossover cable reverses pin connections from one end to the other. In other words, it connects pin 1 (at one end) to pin 8 (at the other end), pin 2 to pin 7, pin 3 to pin 6, and so on. You can identify a crossover cable by comparing the two modular ends of the cable. Hold the cable ends in your hand, side-by-side, with the tabs at the back. Ensure that the wire connected to the outside (left) pin of the left plug (pin 1) is the same color as the wire connected to the outside (right) pin of the right plug (pin 8).

Use the following procedure to connect a video terminal to the console port on a route processor.

Note   Each Cisco ASR 1000 Series Route Processor must have a console port connection (typically to a terminal server) if you are running a redundant configuration in the chassis.

Users using the console port to access the router are automatically directed to the IOS command-line interface, by default.

If a user is trying to access the router through the console port and sends a break signal (a break signal can be sent by entering Ctrl-C or Ctrl-Shift-6, or by entering the send break command at the Telnet prompt) before connecting to the IOS command-line interface, the user is directed into diagnostic mode by default if the non-RPIOS sub-packages can be accessed.

These settings can be changed by configuring a transport map for the console port and applying that transport map to the console interface.

The following image shows the Cisco ASR 1000 Series route processor console port connectors.

Figure 18: Cisco ASR 1000 Series Route Processor Console Port Connectors
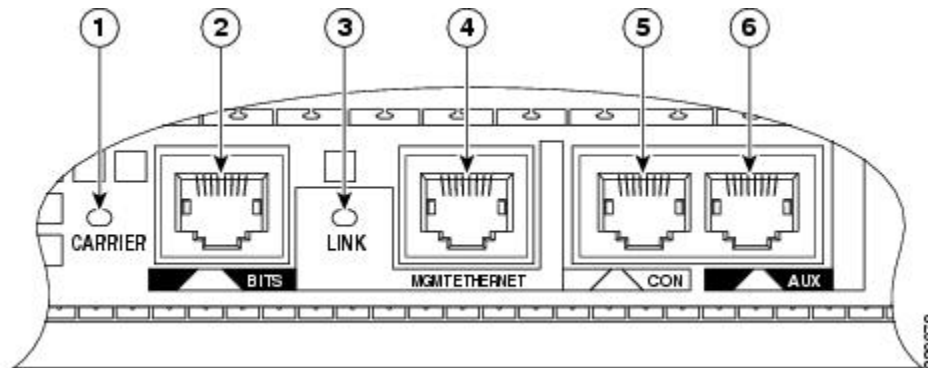
SUMMARY STEPS

1. Connect one end of the RJ-45 cables to the serial RJ-45 port (CON) on the Cisco ASR1000-RP2 route processor.
2. Run the cable up and through the cable-management bracket and connect the other end of the RJ-45 cable to the RJ-45 adapter,
3. Connect the adapter to your video terminal to complete the cable connection.
4. Power on your video terminal.
5. Configure your video terminal to match the following default console port settings: 9600 baud, 8 data bits, No parity generation or checking, 1 stop bit, and No flow control.
6. Go to the Connecting the System Cables, on page 37 to continue the installation.

DETAILED STEPS

Step 1   Connect one end of the RJ-45 cables to the serial RJ-45 port (CON) on the Cisco ASR1000-RP2 route processor.

Step 2   Run the cable up and through the cable-management bracket and connect the other end of the RJ-45 cable to the RJ-45 adapter,

Step 3   Connect the adapter to your video terminal to complete the cable connection.

Step 4   Power on your video terminal.

Step 5   Configure your video terminal to match the following default console port settings: 9600 baud, 8 data bits, No parity generation or checking, 1 stop bit, and No flow control.

Step 6   Go to the Connecting the System Cables, on page 37 to continue the installation.

Connecting the System Cables

Keep the following guidelines in mind when connecting external cables to the Cisco ASR 1013 Router:

• To reduce the chance of interference, avoid crossing high-power lines with any interface cables.

• Verify all cabling limitations (particularly distance) before powering on the system.

Attaching Cable Retention Bracket on AC Power Supply

This section explains how to attach the cable retention bracket on AC power supply of the chassis.

The following image shows the cable retention bracket attaching to the AC power supply.

Figure 19: Cable Retention Bracket Attaching to the AC Power Supply
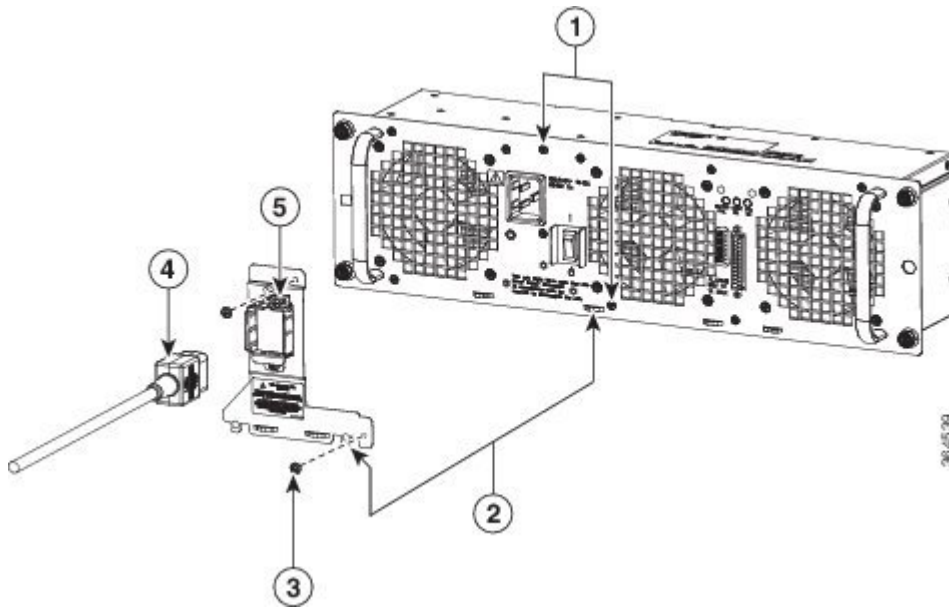
SUMMARY STEPS

1. Remove the two M3X5mm screws and discard.
2. Install AC cord retainer by inserting tabs into lance features on panel.
3. Secure AC cord retainer with two M3X8mm screws included in kit.
4. Connect AC power cord.
5. Secure AC cord by tightening retainer screw.

DETAILED STEPS

Step 1   Remove the two M3X5mm screws and discard.

Step 2   Install AC cord retainer by inserting tabs into lance features on panel.

Step 3   Secure AC cord retainer with two M3X8mm screws included in kit.

Step 4   Connect AC power cord.

Step 5   Secure AC cord by tightening retainer screw.