



# Installing Avaya Ethernet Routing Switch 3500 Series (NN47203-303 ver 01.01)

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## How to get help

To access the complete range of services and support that Avaya provides, go to [www.avaya.com](http://www.avaya.com).

You can also go to [www.avaya.com/support](http://www.avaya.com/support) to access the following pages:

- technical documentation
- product training
- technical support

If you purchased a service contract for your Avaya product from a distributor or authorized reseller and you need assistance, contact the technical support staff for that distributor or reseller.

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## Notices and alerts

Notice paragraphs alert you about issues that require your attention.

Following are descriptions of the types of notices used in this document.

**Note:**

Notes provide tips and useful information regarding the installation and operation of Avaya products.

**⚠ Electrostatic alert:**

ESD notices provide information about how to avoid discharge of static electricity and subsequent damage to Avaya products.

**⚠ Caution:**

Caution notices provide information about how to avoid possible service disruption or damage to Avaya products.

**⚠ Warning:**

Warning notices provide information about how to avoid personal injury when working with Avaya products.

**⚠ Voltage:**

Danger—High Voltage notices provide information about how to avoid a situation or condition that can cause serious personal injury or death from high voltage or electric shock.

**⚠ Danger:**

Danger notices provide information about how to avoid a situation or condition that can cause serious personal injury or death.

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## Safety messages

Safety messages are an important part of the technical documentation. The messages alert you to hazards to personnel and equipment and provide guidance for the safe operation of your equipment. Failure to comply with the safety messages could result in equipment damage and personal injury.

Following are the most common types of safety messages.

**⚠ Warning:**

Installation must be performed by qualified personnel only. Read and follow all warning notices and instructions marked on the product or included in the documentation.

**⚠ Voltage:**

This equipment relies on the building's installation for overcurrent protection. Ensure that a fuse or circuit breaker no larger than 120 VAC, 15 A U.S. (240 VAC, 16 A International) is used on the phase conductors.

**⚠ Caution:**

This device is a Class A product. In a domestic environment, this device can cause radio interference, in which case the user may be required to take appropriate measures.

**⚠ Caution:**

When mounting this device in a rack, do not stack units directly on top of one another in the rack. Each unit must be secured to the rack with appropriate mounting brackets. Mounting brackets are not designed to support multiple units.

**⚠ Voltage:**

Use only power cords that have a grounding path. Without a proper ground, a person who touches the switch is in danger of receiving an electrical shock. Lack of a grounding path to the switch can result in excessive emissions.

**⚠ Warning:**

Disconnecting the power cord is the only way to turn off power to this device. Always connect the power cord in a location that can be reached quickly and safely in case of an emergency.

**⚠ Warning:**

Fiber optic equipment can emit laser or infrared light that can injure your eyes. Never look into an optical fiber or connector port. Always assume that fiber optic cables are connected to a light source.



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## Installation preparation

**Related topics:**

[Before you begin](#) on page 4

[Installing the ERS 3510GT or ERS 3510GT-PWR+ switch on a table or shelf](#) on page 4

[Installing two ERS 3510GT or ERS 3510GT-PWR+ switches in an equipment rack](#) on page 6

[Installing a single ERS 3510GT or ERS 3510GT-PWR+ switch in an equipment rack](#) on page 10

[Installing the ERS 3524GT, ERS 3524GT-PWR+, ERS 3526T, or ERS 3526T-PWR+ switch in an equipment rack](#) on page 14

[Connecting AC power](#) on page 15

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## Before you begin

Ensure the area where you install and use the switch meets environmental requirements.

You can install a single ERS 3510GT or ERS 3510GT-PWR+ switch on any flat surface that can safely support the weight of the switch and attached cables. An ERS 3510GT switch weighs 3.85 lb (1.75 kg). An ERS 3510GT-PWR+ switch weighs 5.9 lb (2.70 kg). Cable weight varies for each installation.

You can install two ERS 3510GT or ERS 3510GT-PWR+ units together to form one standard width rack-wide system using a 19 inch side-by-side Rack Mount Kit (ordered separately).

You can install the ERS 3524GT, ERS 3524GT-PWR+, ERS 3526T, or ERS 3526T-PWR+ switches in an equipment rack using the brackets provided.

### Environmental requirements

The following list describes the requirements for the switch environment.

- ambient temperature between 32°F and 122°F (0°C and 50°C)
- relative humidity between 0% and 95% noncondensing
- no nearby heat sources such as hot air vents or direct sunlight
- no nearby sources of severe electromagnetic noise
- no excessive dust
- adequate power source within six feet; one circuit required for each power supply
- at least 2 inches (5.1 cm) (or one vertical rack width) on all sides of the switch unit for ventilation
- adequate space at the front and rear of the switch for access to cables

If you are installing a single Ethernet Routing Switch 3524GT, 3524GT-PWR+, 3526T, or 3526T-PWR+ on a table or shelf, ensure the surface can support at least 7 to 10 pounds (3 to 4.5 kilograms) .

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## Installing the ERS 3510GT or ERS 3510GT-PWR+ switch on a table or shelf

### About this task

You can install a single ERS 3510GT or ERS 3510GT-PWR+ switch on any flat surface that can safely support the weight of the switch and attached cables. An ERS 3510GT switch weighs 3.85 lb (1.75 kg). An ERS 3510GT-PWR+ switch weighs 5.9 lb (2.70 kg). Cable weight varies for each installation.

**Hardware included with ERS 3510GT and ERS 3510GT-PWR+ model switches:**

- Avaya Ethernet Routing Switch 3500 Series
- Rubber footpads
- AC power cord (Note: a power cord is not included for the A variant of the switch)
- Base Software License Kit
- Screws (2) and wall anchors (2) for wall mounting

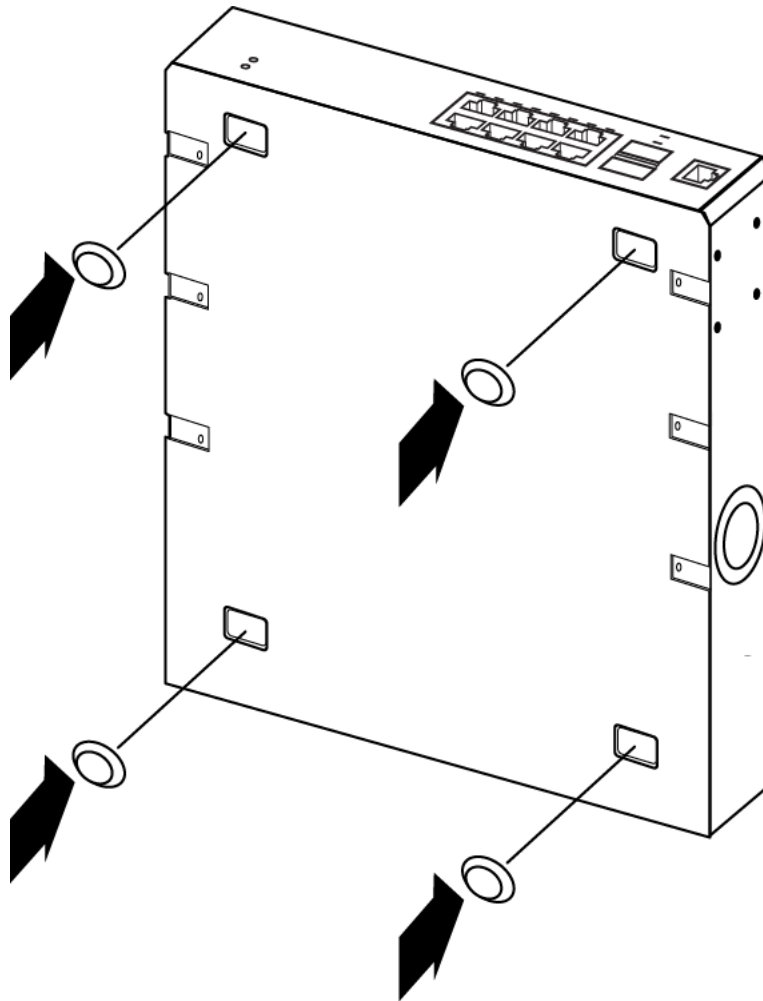
The following procedure provides instructions for installing the switch on a table or shelf.

**Important:**

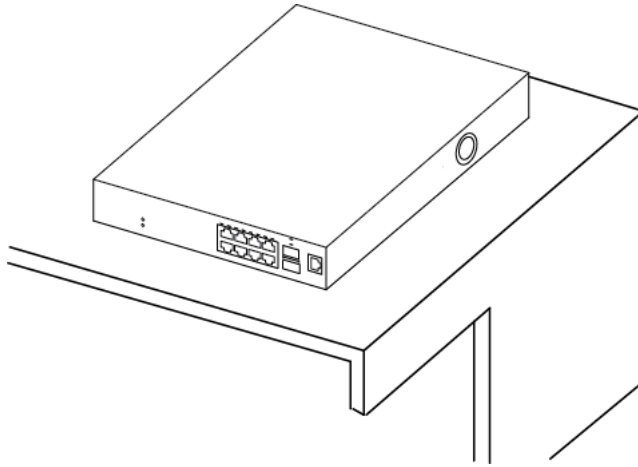
Allow at least 2 inches (5.1 cm) on each side of the switch for proper ventilation and at least 5 inches (12.7 cm) at the back of the switch for power cord clearance.

**Procedure**

1. Attach the rubber feet at the marked locations.



2. Set the switch on a table or shelf.



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## Installing two ERS 3510GT or ERS 3510GT-PWR+ switches in an equipment rack

### Before you begin

**Hardware included (in each box) with ERS 3510GT and ERS 3510GT-PWR+ model switches :**

- Avaya Ethernet Routing Switch 3500 Series
- Rubber footpads
- AC power cord (Note: a power cord is not included for the A variant of the switch)
- Base Software License Kit
- Screws (2) and wall anchors (2) for wall mounting

### Tool requirements

- a Phillips screwdriver to attach brackets to the switch and the switch to the rack.

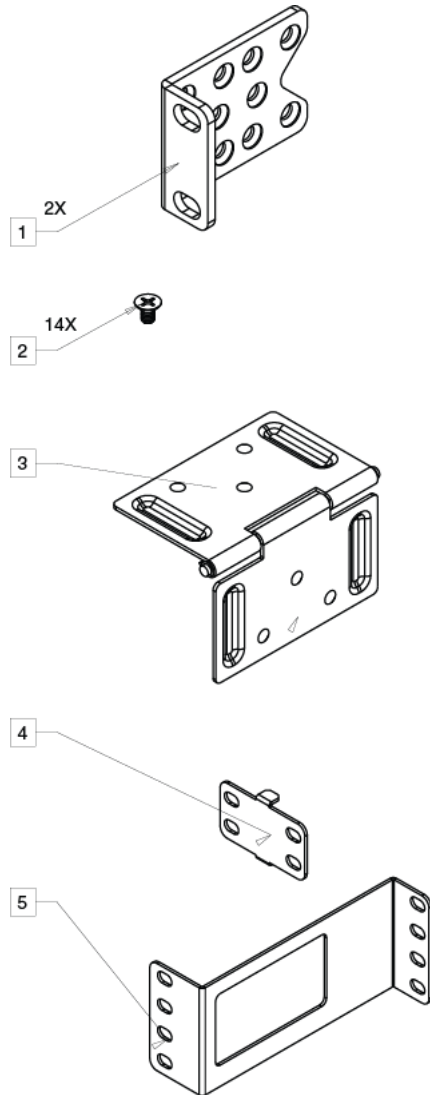
### Bracket requirements

- one 3510–Pair Rack Mount Kit — this accessory kit is used to connect two ERS 3510GT switches together side-by-side.. The kit includes all necessary brackets and fasteners and must be ordered separately (Order Code AL3511002–E6).

The contents of the Side-by-Side Rack Mount Kit are as described below:

- 1. Rack mount brackets — Quantity: 2
- 2. M4 flat head screws — Quantity: 14
- 3. Hinged mating bracket — Quantity: 1
- 4. Rear bracket for mating identical 3510 switches — Quantity: 1

- 5. Rear bracket for mating 3510GT and 3510GT-PWR+ switches — Quantity: 1
- #10–32 rack mounting screws (not shown) — Quantity: 4
- #12–24 rack mounting screws (not shown) — Quantity: 4
- M6 rack mounting screws (not shown) — Quantity: 4



### Rack requirements

- provide the equivalent of one rack of vertical space for each switch in an E1A or 1EC standard 19 inch (48.2 cm) equipment rack and T1A 23 inch (58.5 cm) equipment rack.
- appropriate rack space to accommodate 1U switch height (44 mm).
- rack bolted to floor and braced if necessary
- rack must be grounded to the same grounding electrode used by the power service in the area. The group path must be permanent and must not exceed 1 Ohm of resistance from the rack to the grounding electrode.

Perform the following procedure to install your switch in an equipment rack.

**Note:**

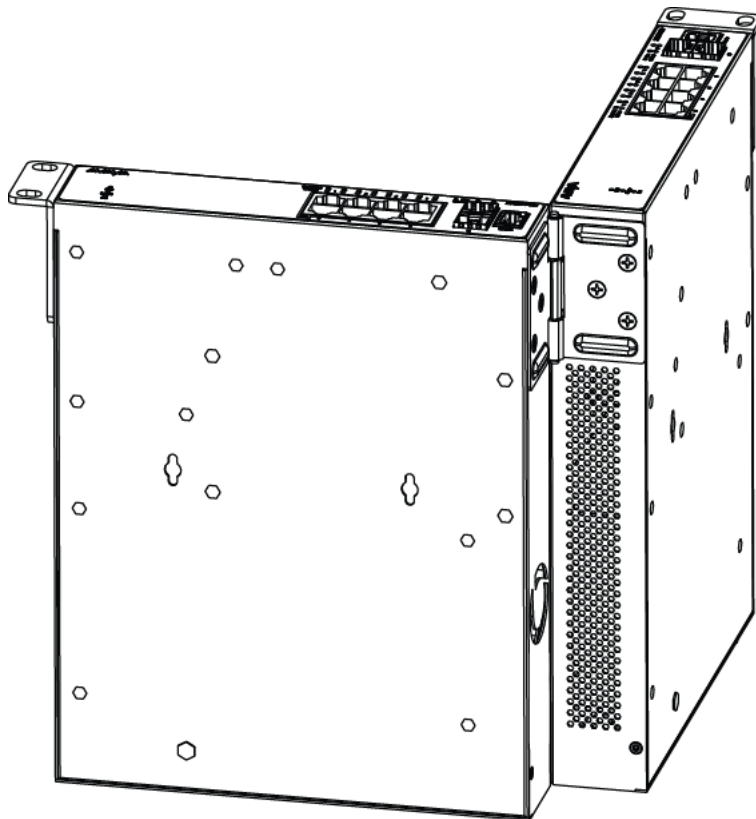
When mounting two 3510GT-PWR+ units side by side in an equipment rack, run the switches in high power mode to ensure adequate airflow. In high power mode, the available power is 170 Watts.

```
#show poe-main-status

PoE Main Status - Stand-alone
-----
Power Mode           : High Power Budget
Available DTE Power  : 170 Watts
DTE Power Status     : Normal
DTE Power Consumption : 0 Watts
DTE Power Usage Threshold : 80%
PD Detect Type       : 802.3af and Legacy
Power Source Present : AC Only
AC Power Status      : Present
DC Power Status      : Not Present
```

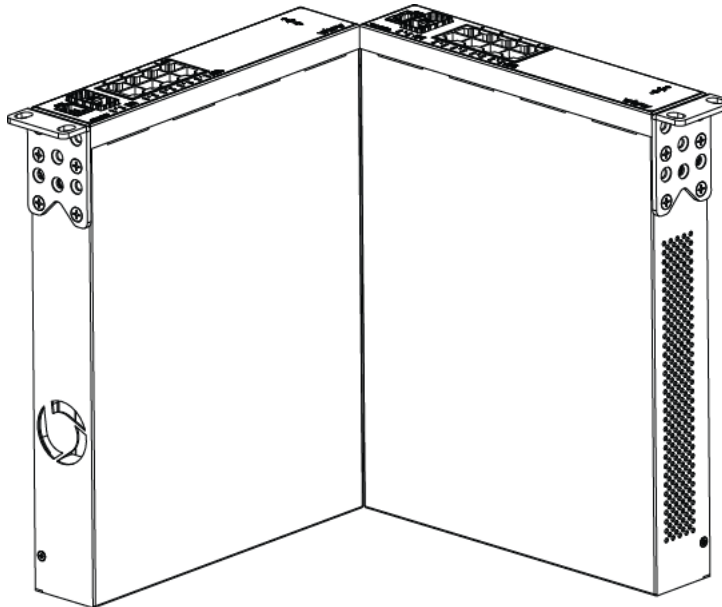
**Procedure**

1. Ensure power is disconnected from the switch.
2. Connect the two ERS 3510GT switches together by opening the hinged bracket to 90° and attaching it to each ERS 3510GT switch with three M4 flat head screws (included), as shown below.

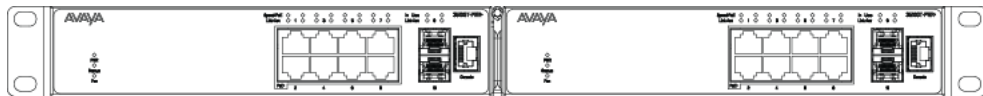




- Attach the standard rack mount bracket ears to the outer end of each switch as shown below.

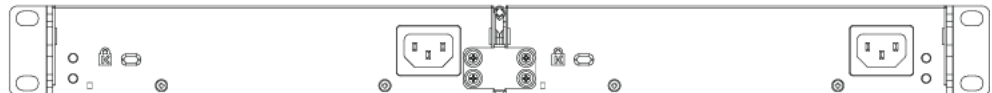


- Once the switches are joined together, fold the hinged bracket inward.



- Perform one of the following

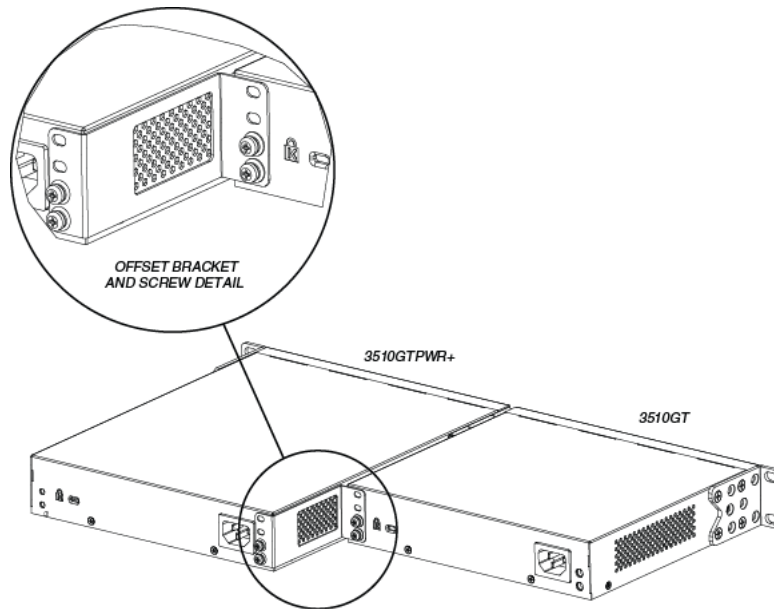
- To connect two ERS 3510GT or two 3510GT-PWR+ switches together** use the rear bracket as shown below, with four M4 pan head screws to secure the switches at the rear. Once the rear bracket has been installed, the switches can be installed in the rack.



- To connect one ERS 3510GT switch and one ERS 3510GT-PWR+ switch together** use the offset rear bracket with four M4 pan head screws to join the switches at the rear. Once the rear bracket has been installed, the switches can be installed in the rack.

**Note:**

If you are mounting a mix of ERS 3510GT and ERS 3510GT-PWR+ units side by side, ensure that the ERS 3510GT unit is mounted on the LEFT side (when viewed from the front) for adequate airflow.



6. Slide the switches into the rack. Insert and tighten the rack mount screws.
7. Verify that the switch is securely fastened to the rack.

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## Installing a single ERS 3510GT or ERS 3510GT-PWR+ switch in an equipment rack

### Before you begin

#### Hardware included with ERS 3510GT and ERS 3510GT-PWR+ model switches:

- Avaya Ethernet Routing Switch 3500 Series
- Rubber footpads
- AC power cord (Note: a power cord is not included for the A variant of the switch)
- Base Software License Kit
- Screws (2) and wall anchors (2) for wall mounting

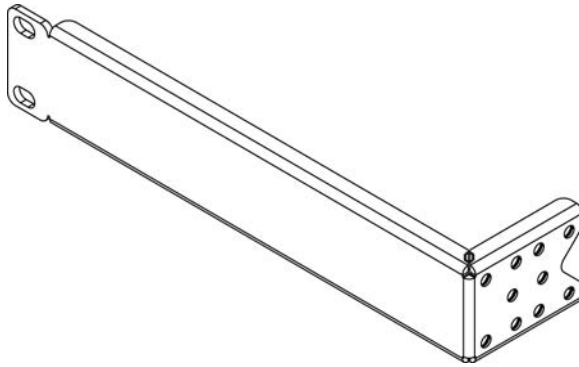
#### Tool requirements:

- a Phillips screwdriver to attach brackets to the switch and the switch to the rack

#### Bracket requirements:

- one 3510–Single Rack Mount Kit — this accessory kit is used to mount a single ERS 3510GT or ERS 3510GT-PWR+ switch in a standard 19 inch rack. The kit contains the necessary

bracket (see Figure below) and all required fasteners and must be order separately (Order Code AL3511003–E6).



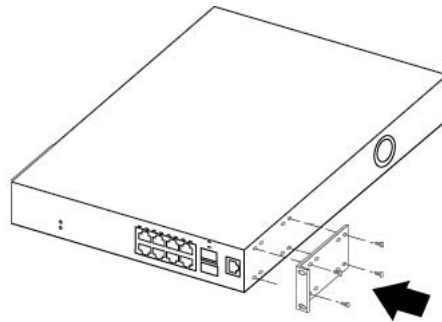
### Rack requirements:

- provide the equivalent of one rack of vertical space for each switch in an E1A or 1EC standard 19 inch (48.2 cm) equipment rack and T1A 23 inch (58.5 cm) equipment rack.
- appropriate rack space to accommodate 1U switch height (44 mm).
- rack bolted to floor and braced if necessary
- rack must be grounded to the same grounding electrode used by the power service in the area. The group path must be permanent and must not exceed 1 Ohm of resistance from the rack to the grounding electrode.

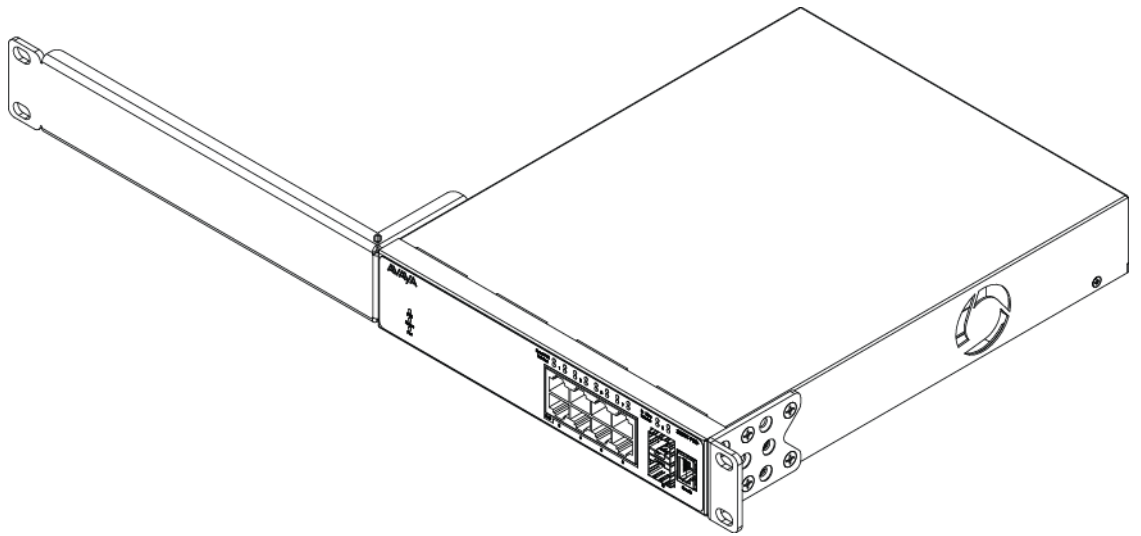
Perform the following procedure to install your switch in a equipment rack.

### Procedure

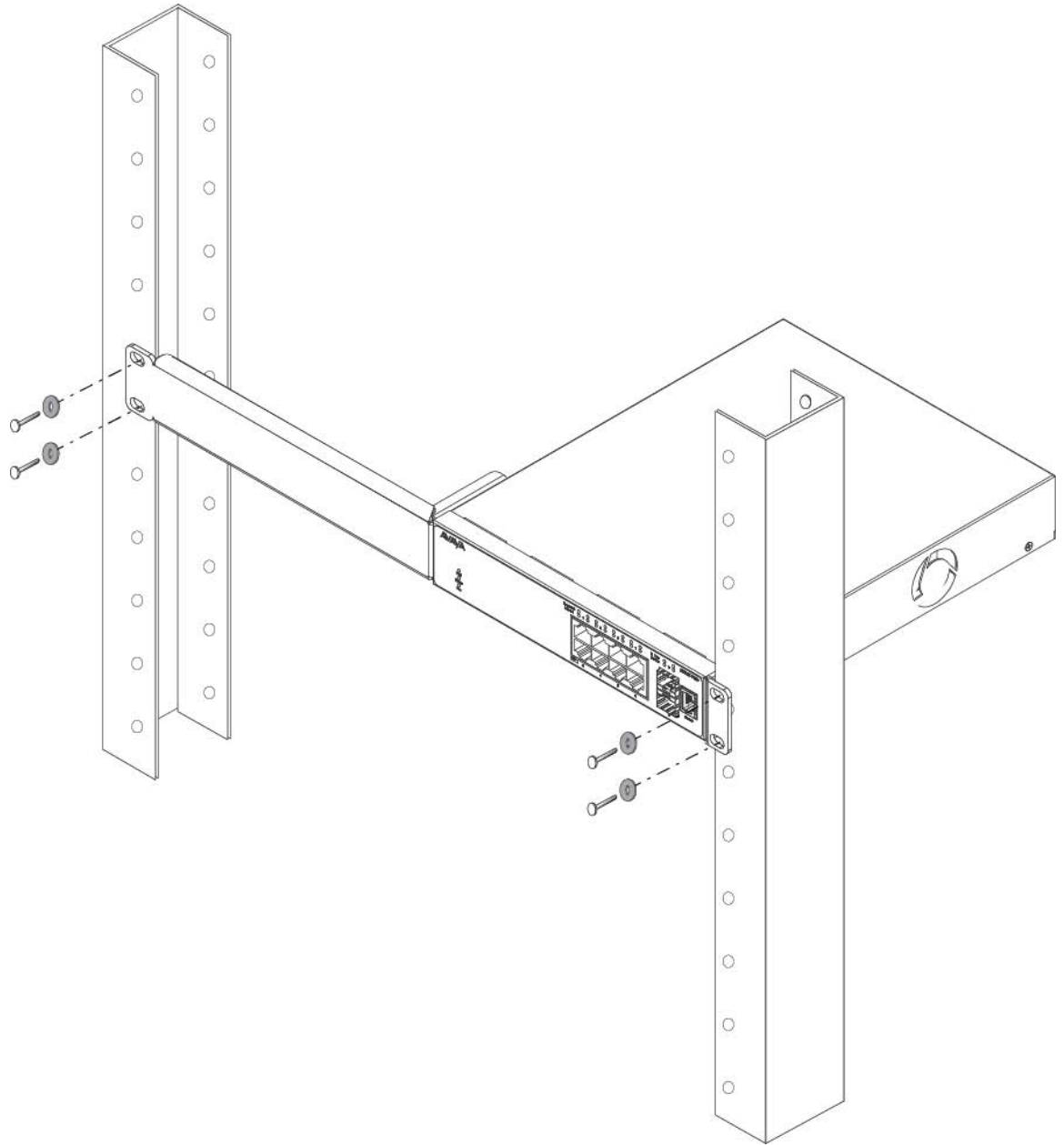
1. Ensure power is disconnected from the switch.
2. With the front of the ERS 3510GT or ERS 3510GT-PWR+ unit facing you, attach the small bracket from the optional kit to the right side of the switch using the flathead screws provided.



3. With the front of the ERS 3510GT or ERS 3510GT-PWR+ unit facing you, attach the long bracket from the optional kit (see Figure that follows) to the left side of the switch using the flathead screws provided.



4. Slide the switch into the rack as shown in the figure that follows. Insert and tighten the rack mount screws.

**Note:**

The ERS 3500 Series mounting hardware is specific for each switch model. Do not mix screws or brackets between different ERS 3500 Series switches.

5. Verify that the switch is securely fastened to the rack.

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## Installing the ERS 3524GT, ERS 3524GT-PWR+, ERS 3526T, or ERS 3526T-PWR+ switch in an equipment rack

### Before you begin

Hardware included with ERS 3524GT/3524GT-PWR+ and ERS 3526T/3526T-PWR+ switch models:

- Avaya Ethernet Routing Switch 3500 Series
- Rack-mounting hardware that includes:
  - Rack-mount brackets (2)
  - Screws to attach brackets to the switch (8)
  - Screws to attach the switch to the equipment rack (2x4)
- AC power cord (Note: a power cord is not included for the A variant of the switch)
- Base Software License Kit

### Tool requirements

- a Phillips screwdriver to attach brackets to the switch and the switch to the rack.

### Bracket requirements

- one Spare Rack Mount Kit — this kit can be used as a replacement rack mount kit for ERS 3524GT, ERS 3524GT-PWR+, ERS 3526T or ERS 3526T-PWR+ systems and must be ordered separately (Order Code AL3511001–E6).

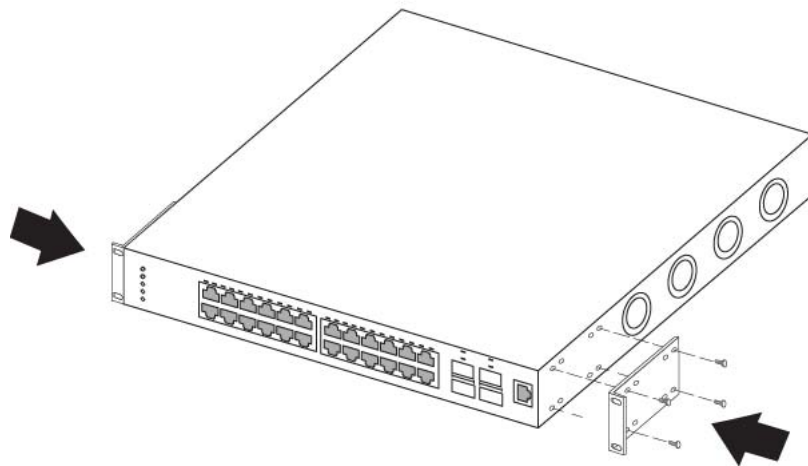
### Rack requirements

- space of 2.8 inches (7.1 cm) (or one vertical rack width) for each switch in an E1A or 1EC standard 19 inch (48.2 cm) equipment rack and T1A 23 inch (58.5 cm) equipment rack.
- appropriate rack space to accommodate 1U switch height (44 mm).
- rack bolted to floor and braced if necessary
- rack must be grounded to the same grounding electrode used by the power service in the area. The ground path must be permanent and must not exceed 1 Ohm of resistance from the rack to the grounding electrode.

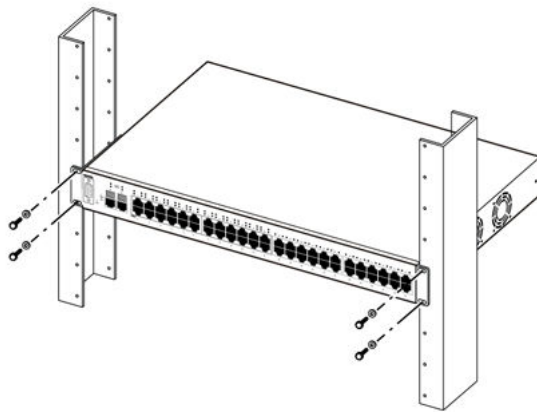
Perform the following procedure to install your switch in an equipment rack.

### Procedure

1. Ensure power is disconnected from the switch.
2. Attach a bracket to each side of the switch with the included screws.



3. Slide the switch into the rack. Insert and tighten the rack mount screws.



**Note:**

The ERS 3500 Series mounting hardware is specific for each switch model. Do not mix screws or brackets between different ERS 3500 Series switches.


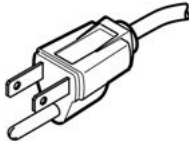
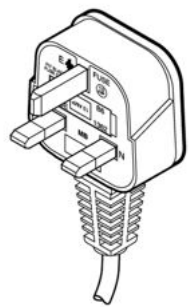
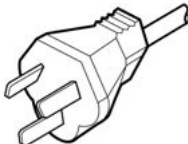
4. Verify that the switch is securely fastened to the rack.

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## Connecting AC power

Required cable: AC power cord that meets the requirements of your local electrical code. The following table describes the International power cord specifications.

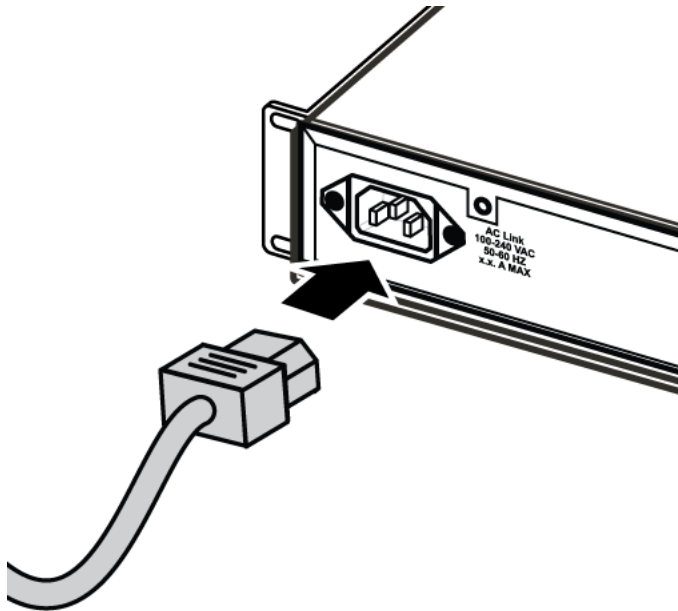
**Table 1: International power cord specifications**

Country and plug description	Specifications	Typical plug
Continental Europe <ul style="list-style-type: none"> <li>• CEE7 standard VII male plug</li> <li>• Harmonized cord (HAR marking on the outside of the cord jacket to comply with the CENELEC Harmonized Document HD-21)</li> </ul>	220 or 230 VAC 50 Hz Single phase	 <p style="text-align: center;">228FA</p>
U.S./Canada/Japan <ul style="list-style-type: none"> <li>• NEMA5-15P male plug</li> <li>• UL-recognized (UL stamped on cord jacket)</li> <li>• CSA-certified (CSA label secured to the cord)</li> </ul>	100 or 120 VAC 50-60 Hz Single phase	 <p style="text-align: center;">227FA</p>
United Kingdom <ul style="list-style-type: none"> <li>• BS1363 male plug with fuse</li> <li>• Harmonized cord</li> </ul>	240 VAC 50 Hz Single phase	 <p style="text-align: center;">229FA</p>
Australia AS3112-1981 male plug	240 VAC 50 Hz Single phase	 <p style="text-align: center;">230FA</p>

The Ethernet Routing Switch 3500 series does not have a power switch. When you connect the AC power cord to a suitable AC power outlet, the switch powers up immediately.

Connect the AC power cord to the back of the switch, and then connect the cord to a power outlet.





**Figure 1: Connecting the AC power cord to the Ethernet Routing Switch 3500 Series**

Connect the AC power cord to the back of the switch, and then connect the cord to a power outlet.

## AC power specifications

The following table describes the AC power specifications for the Ethernet Routing Switch 3500 Series.

Model	Input current	Input voltage (rms)	Power consumption	Thermal rating
3510GT	Maximum 0.18 A	100–240 VAC at 50–60 Hz	Maximum 18 W	61Btu/h maximum
3510GT-PWR+	Maximum 2.1 A	100–240 VAC at 50–60 Hz	Maximum 210 W	156 Btu/h maximum
3524GT	Maximum 0.28 A	100–240 VAC at 50–60 Hz	Maximum 28.5 W	95 Btu/h maximum
3524GT-PWR+	Maximum 5.0 A	100–240 VAC at 50–60 Hz	Maximum 500 W	357 Btu/h maximum
3526T	Maximum 0.28 A	100–240 VAC at 50–60 Hz	Maximum 28.5 W	65 Btu/h maximum

Model	Input current	Input voltage (rms)	Power consumption	Thermal rating
3526T-PWR+	Maximum 5.0 A	100–240 VAC at 50–60 Hz	Maximum 500 W	350 Btu/h maximum

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## Avaya Ethernet Routing Switch 3500 series stacking

The Avaya Ethernet Routing Switch 3500 Series provides fail-safe stackability. You can connect up to eight 3500 Series devices in a stack to provide uninterrupted connectivity for up to 192 to 208 ports. You can manage the stack as a single unit.

By default, all units default to standalone mode, which enables the rear ports to act as front panel ports. To install or add a unit to a stack, you must change the default mode from standalone to stacking mode and reboot the unit. From ACLI, the commands are as follows:

```
>enable
#config t
#rear-ports mode stacking
#save config
#reboot
```

### Related topics:

[Stack connectors](#) on page 18

[Initial installation unit number assignment](#) on page 21

[Stack MAC address](#) on page 21

[Temporary base unit](#) on page 22

[Redundant cascade stacking](#) on page 22

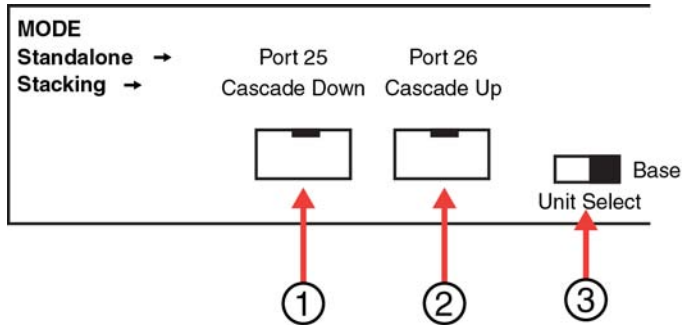
[Replacing or adding a stack unit](#) on page 24

[Removing a stack unit](#) on page 25

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## Stack connectors

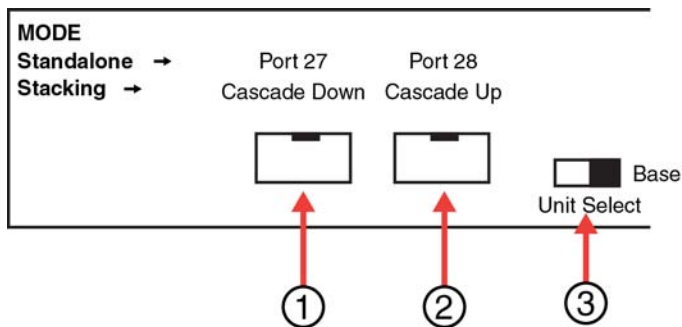
The stack connectors of the Avaya Ethernet Routing Switch 3500 Series rear panel consist of the Base Unit Select switch, Cascade Down port, and Cascade Up port. The following diagram illustrates the stack connectors for the ERS 3524GT/3524GT-PWR+ units.



1 = Cascade down port  
2 = Cascade up port  
3 = Base Unit Select Switch - used to designate the Base Unit in a stack. When set to the RIGHT position, this unit acts as the Base Unit for the stack

**Figure 2: Rear view of stack connectors on ERS 3524GT/3524GT-PWR+**

The following diagram illustrates the stack connectors for the ERS 3526T/3526T-PWR+ units.



1 = Cascade down port  
2 = Cascade up port  
3 = Base Unit Select Switch - used to designate the Base Unit in a stack. When set to the RIGHT position, this unit acts as the Base Unit for the stack

**Figure 3: Rear view of stack connectors on ERS 3526T/3526T-PWR+**

**Related topics:**

- [Base Unit select switch](#) on page 19
- [Cascade Down port](#) on page 20
- [Cascade Up port](#) on page 20

**Base Unit select switch**

Use the Base Unit Select switch to designate a switch in the stack as the base unit. Slide the Base Unit Select switch to the right to designate a switch as the base unit. You can designate only one switch in a stack as the base unit; that is, with the switch in the base unit position.

For all other switches in the stack, the Base Unit Select switch must be in the left position. The base unit designation for a switch appears on the front panel LED display.

## Cascade Down port

Use the Cascade Down port to connect a switch to the next unit in the stack through a cascade cable. Connect the other end of the Cascade Down cable to the Cascade Up port of the next switch in the stack. A return cable from the Cascade Down port of another unit to the Cascade Up port of the first unit completes the stack connection. Refer to [Cascade Up port](#) on page 20 for more information on the Cascade Up port.

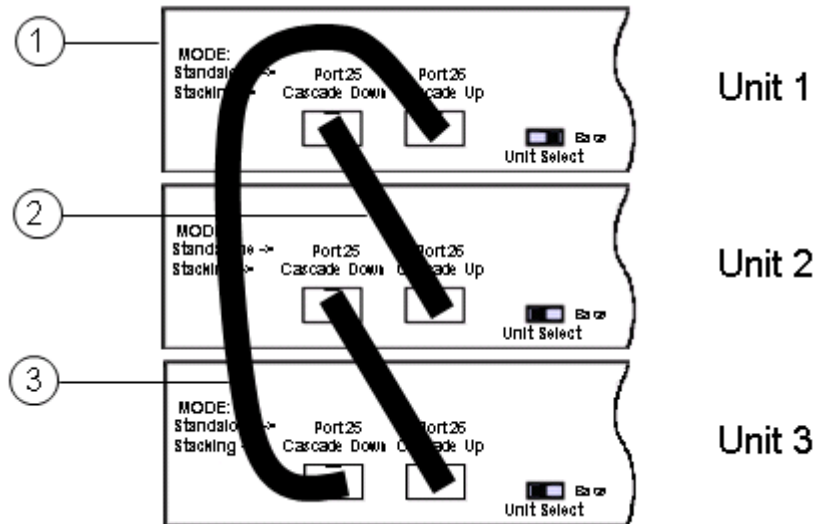
### **Important:**

To create a stack connection, order the appropriate Avaya Ethernet Routing Switch 3500 Series cascade cables to ensure fail-safe stacking. For stacking three or more units (maximum eight units per stack), order the 46 cm, 1.5 m, or 3 m cables as applicable. See *Avaya Ethernet Routing Switch 3500 Series Release Notes (NN47203–400)* for stack cable Order Codes.

## Cascade Up port

The Cascade Up port provides an attachment point that accepts a cascade cable connection from another unit in the stack. A return cable from the Cascade Down port of the last switch to the Cascade Up port of the first switch completes the stack connection, providing maximum resiliency.

The following figure illustrates a simple, three-switch stack cable configuration.



**Figure 4: Simplified three-switch stacking illustration**

1. Base Unit
2. Cascade/Stack Cable
3. Cascade/Stack Cable (Used for return)

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## Initial installation unit number assignment

When you install the stack, the software automatically determines the physical order of all units in the stack according to the position of the base unit within the stack. Thereafter, the individual units maintain their original unit numbering, even if you change the position of one or more units in the stack.

For example, when you initially power the stack, the base unit becomes unit 1 and the unit that the base unit connects to (across the Cascade Down cable) becomes unit 2. The next unit is designated as unit 3, this continues until the maximum stack configuration (up to eight units) is reached. If another unit in the stack is designated as the base unit, the new base unit keeps its originally designated unit number in the stack.

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## Stack MAC address

When a switch participates in a stack configuration, stack initialization automatically assigns a stack MAC address. The stack MAC address is the base unit MAC address plus 1. If another unit in the stack is assigned as the base unit, the new stack MAC address is the MAC address of the new base unit plus 1. The original stack IP address still applies to the new base unit.

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## Temporary base unit

If an assigned base unit fails, the next unit in the stack order automatically becomes the new temporary base unit. The LED display on the front panel of the temporary base unit changes to a steady amber state to indicate the change. When this happens, use the Base Unit Select switch to designate the temporary base unit as the base unit until you repair or replace the failed base unit.

You must designate a base unit because the automatic failover is only a temporary safeguard and, if the original unit rejoins the stack, it does not resume base unit status. Also, if the stack configuration loses power, the temporary base unit does not resume base unit status when power is restored.

**Important:**

If the temporary base unit is not assigned as the new base unit, and the temporary base unit fails, the next unit in the stack order becomes the temporary base unit. This process continues after successive failures until only two units are left in the stack.

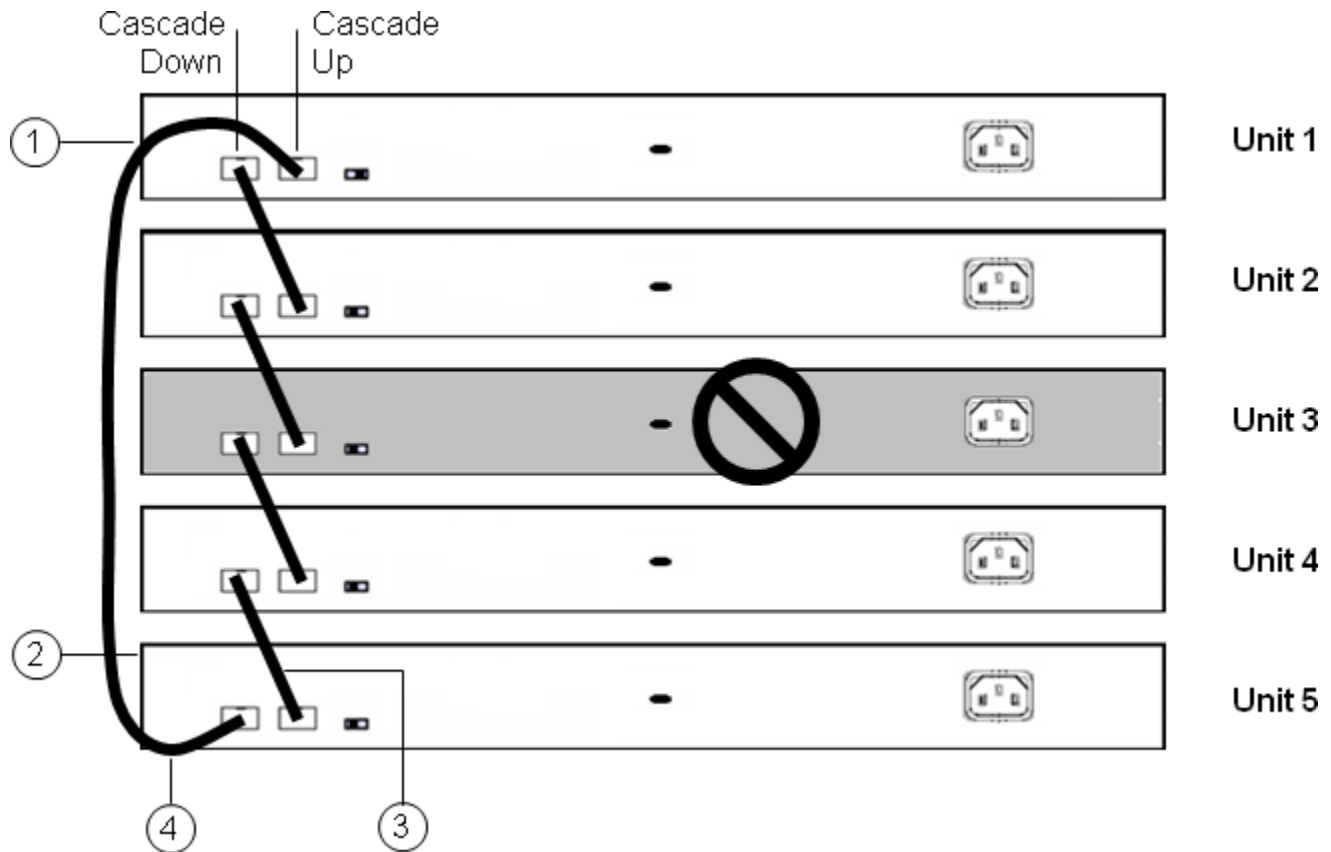
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## Redundant cascade stacking

The Avaya Ethernet Routing Switch 3500 Series allows a stack of up to eight units into a dualpath cascade stack. If any single unit fails, or if a cable is accidentally disconnected, other units in the stack remain operational.

In addition to increasing bandwidth, the software uses the cables to provide two paths between units. If one path is interrupted, the data travels over the remaining path at half the normal interswitch bandwidth.

The following figure shows a typical example of a stack configuration reacting to a failed connection in the stack configuration.



**Figure 5: Redundant cascade stacking**

1. Base Unit
2. Last Unit
3. Cascade/Stack Cable
4. Cascade/stack Cable (Return cable to make stack resilient. Use longer stack cable if required.)

In the example, the following occur:

- Unit 3 becomes nonoperational due to a unit failure, cable disconnection, or a loss of power.
- Units 2 and 4, directly upstream and downstream from Unit 3, sense the loss of link signals from unit 3. The software directs all the data to traverse the remaining path.
- The Cascade Down LED for Unit 2 and the Cascade Up LED for Unit 4 turn amber to indicate an error.
- The remaining stack units remain connected and continue to operate.

---

## Replacing or adding a stack unit

Use this procedure to replace a failed stack unit or insert a new unit into a stack.

### Important:

Automatic Unit Replacement (AUR) for both configuration and software is enabled for the Avaya Ethernet Routing Switch 3500 Series switches in Release 5.1. This means that the agent code image on a replacement unit, is automatically upgraded or downgraded to match the software running on the stack. In addition, when a like-for-like replacement of a failed unit occurs, any port-specific configuration is restored.

### Procedure

1. Remove the failed switch from the stack.

2. Obtain a like-for-like replacement switch.

The replacement unit must have software version 5.1 already installed. Before adding the unit to the stack, you must change to stacking mode and reboot.

```
>enable
#config t
#rear-ports mode stacking
#save config
#reboot
```

3. With the new unit turned off, physically insert the new unit in the stack and reconnect the stack cables.

### Important:

If you replace the base unit, remember that the stack has elected a temporary base unit and the new unit does not automatically assume the base unit status. Configure the new unit as the base unit (using the Base Unit Select switch) and reset the Base Unit Select switches of the other stack members to nonbase units.. See [Base Unit select switch](#) on page 19,

4. Turn on the new unit. Depending on the software load on the replacement switch, it can automatically restart one or two times before joining the stack as a fully operational member.
  5. Check the log file on the stack to ensure that the replacement unit correctly joined the stack. The log file displays AUR information messages.
-



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## Removing a stack unit

If you remove a unit from the stack (to operate in standalone mode), the following switch configuration settings revert to those configured before the unit became a member of the stack:

- IP address
- Web, Telnet, and SNMP passwords
- SNMP community strings

To use the unit in standalone mode, you must change the rear-ports mode to standalone and reboot. The `rear-ports` command will not appear if the unit is stacked with stacking mode enabled.

```
>enable
#config t
#rear-ports mode standalone
#save config
#reboot
```

---

## Stack configurations

Because stack parameters are associated with the base unit, the physical stack order depends on the base unit position and whether you configure the stack cascade up (stack up) or cascade down (stack down). This designation depends on the stack cabling arrangement. Avaya recommends that you use Cascade Down configuration.

### Related topics:

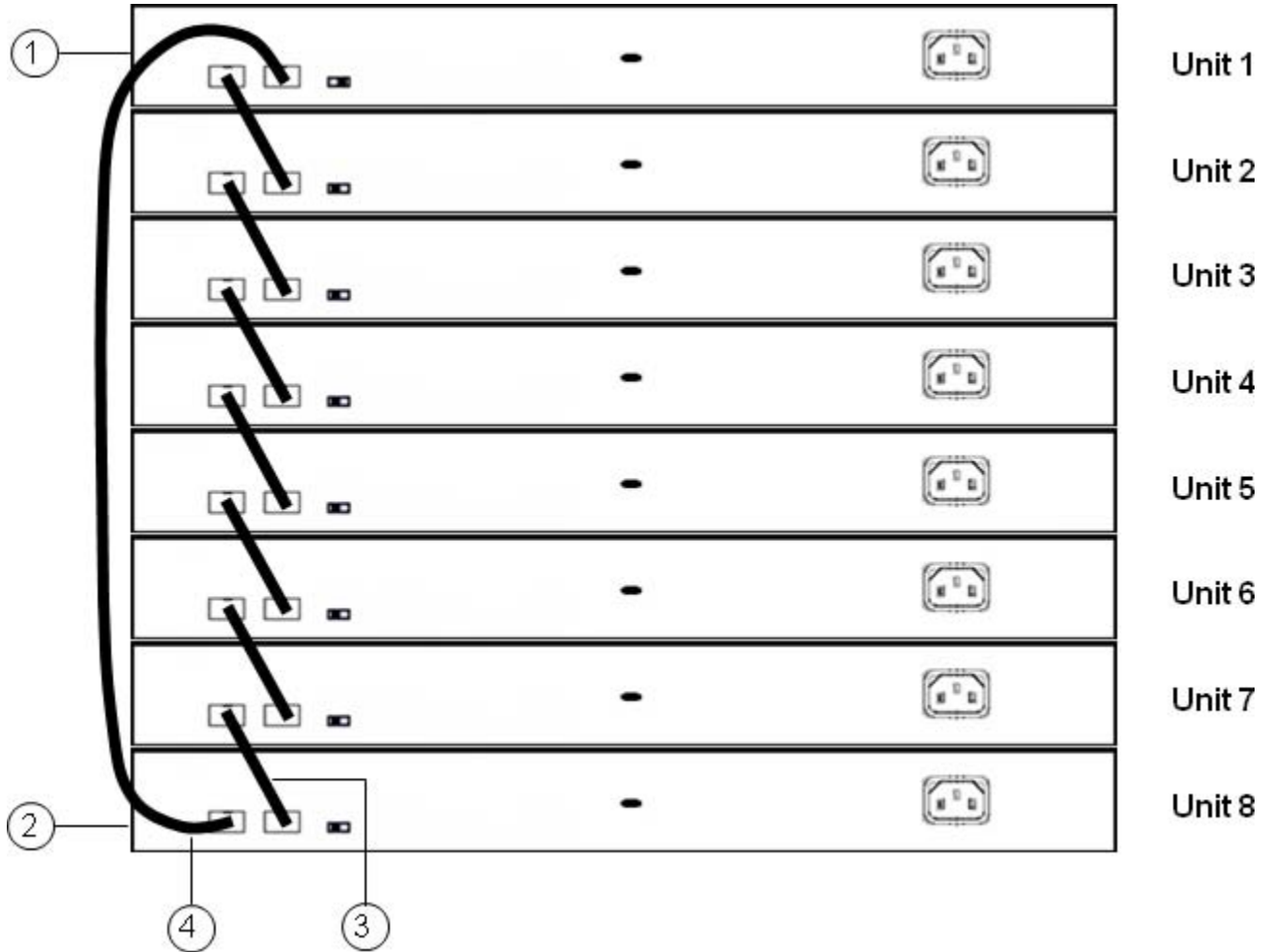
[Cascade down](#) on page 25

[Cascade up](#) on page 26

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## Cascade down

In a cascade down configuration, the base unit is located at the top of the stack. The system automatically numbers the physical units based on the designated base unit (unit 1). The cable connected to the Cascade Down connector of the base unit terminates in the Cascade Up connector on the next unit in the stack, which is located below the base unit. This next unit is designated unit 2. The stack is wired downward through the units and the system continues to number in this manner throughout the stack. In this configuration, the base unit discovers the stack in a cascade down (stack down) direction. The following illustration demonstrates a typical cascade down (stack down) configuration.



**Figure 6: Cascade Down (Stack Down) configuration**

1. Base Unit
2. Last Unit
3. Cascade/Stack Cable
4. Cascade/Stack Cable (Return cable to make stack resilient. Use longer stack cable if required.)

**Important:**

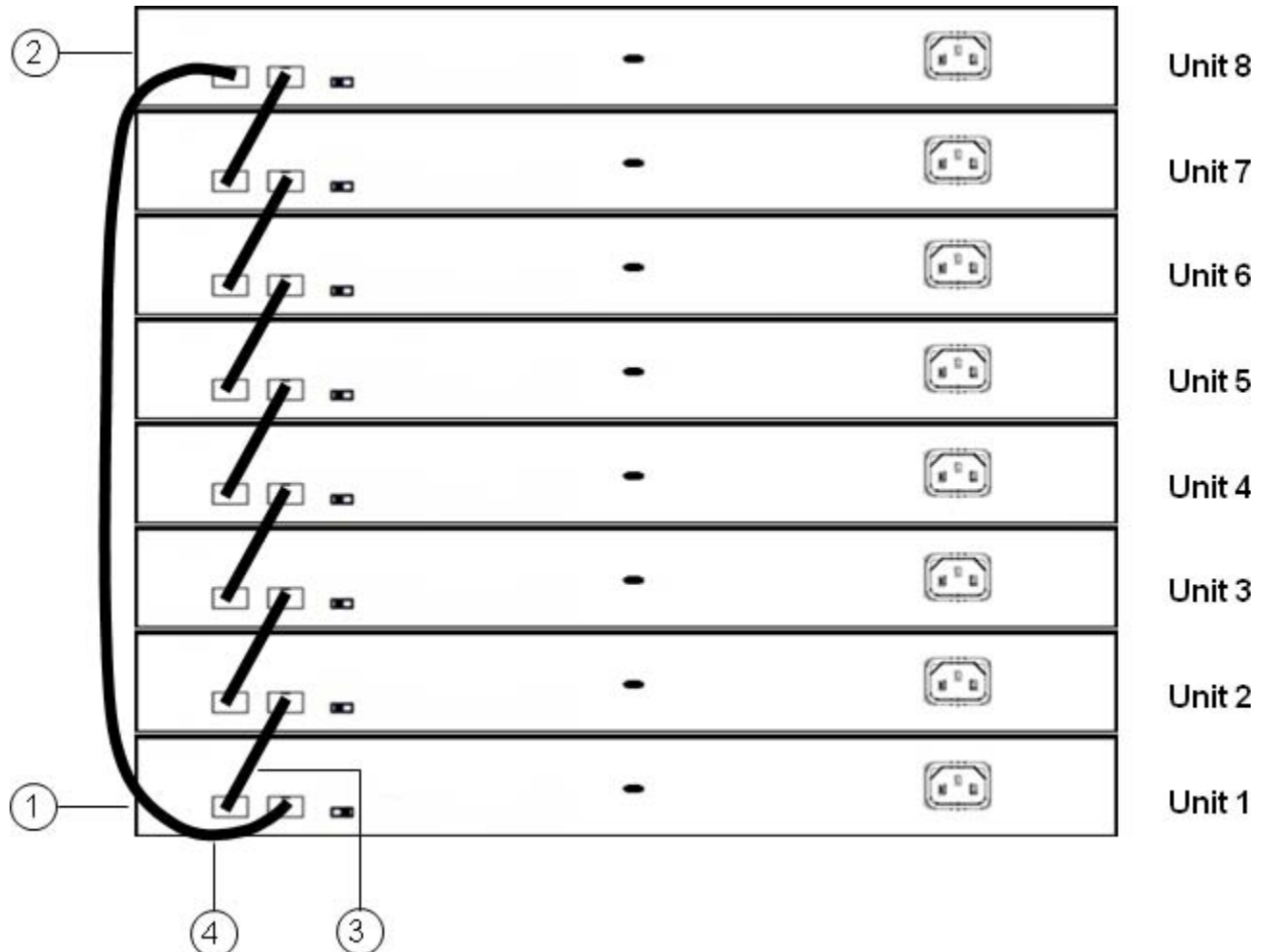
Because many network management software packages assume a cascade down (stack down) configuration, Avaya recommends that you use a cascade down configuration.

---

## Cascade up

In a cascade up (stack up) configuration, the base unit is physically the bottom unit in the stack. The cable connected to the Cascade Down connector of the base unit terminates in the

Cascade Up connector physically at the bottom of the stack. The next unit is designated unit 2. The stack is wired upward through the units and the system continues to number in this manner throughout the stack. In this configuration, the base unit discovers the stack in a cascade up (stack up) direction. The following illustration demonstrates a typical cascade up (stack up) configuration.



**Figure 7: Cascade Up (Stack Up ) configuration**

1. Base Unit
2. Last Unit
3. Cascade/Stack Cable
4. Cascade/Stack Cable (Return cable to make stack resilient. Use longer stack cable if required.)

**Important:**

Because many network management software packages use a cascade down (stack down) configuration, Avaya recommends that you use a cascade down configuration. See [Cascade down](#) on page 25.

The following guidelines apply for stack configuration:

- When you apply power to the stack, the base unit initializes, typically within 60 seconds, and the entire stack powers up as a single logical unit.
- You can attach an RS-232 communications cable to the console port of any switch in the stack to establish a console connection.
- You can perform a software upgrade on the stack from any switch using a Telnet session, the Web-based Management Interface, or any SNMP-based management software.
- You can manage the stack using a Telnet session, Web-based Management Interface, or any SNMP-based management software through any stack switch port.
- When you stack three or more switches, use the 1.5 m stack cable (AL3518002–E6) or 3 m stack cable (AL3518003–E6) to complete the link from the last unit in the stack to the base unit.