

ARISTA

QUICK START GUIDE

Arista 7220R Series Enterprise WAN Router



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Overview

This guide is intended for network professionals who need to install the Arista 7220R Series Enterprise WAN Router.

The following topics are covered in this section:

- [Scope](#)
- [Receiving and Inspecting the Equipment](#)
- [Installation Process](#)
- [Safety Information](#)
- [Obtaining Technical Assistance](#)
- [Specifications](#)

1.1 Scope

This section lists the routers that are described in this guide:

- Arista 7220R Enterprise WAN Router



CAUTION: Only technically qualified or trained personnel should install, service, or replace this equipment.

Seul le personnel techniquement qualifié doit installer, service, ou remplacer cet équipement.

1.2 Receiving and Inspecting the Equipment

Upon receiving the router, inspect the packaging and record if there is any external damage. Retain the packing material if you suspect any part of the shipment is damaged; the carrier might need the packing material to inspect. Unpack the kit carefully. Do not discard any accessories that may have been packed in the same box as the router.

Inspect the packing list and confirm that you received all the items listed. Refer to [Parts List](#) to verify that all components are included in the kit.

1.3 Installation Process

This section describes the steps required to install the router.

1. Select the installation site. ([Site Selection](#))
2. Assemble the installation tools listed. ([Tools and Parts Required for Installation](#))
3. Attach the mounting accessories and install the router. ([Rack Mounting the Router](#))
4. Connect the router to the power source, console cables, and management network. ([Cable the Router](#))
5. Configure the router. ([Configuring the Router](#))

1.4 Safety Information

Refer to the Arista Networks document Safety Information and Translated Safety Warnings available at <https://www.arista.com/en/support/product-documentation>.



Important: Class 1 laser product: This product has provisions to install Class 1 laser transceivers which provide optical coupling to the communication network. Once a Class 1 laser product is installed, the equipment is a Class 1 laser product (Appareil à Laser de Classe 1). The customer is responsible for selecting and installing the Class 1 laser transceiver and for ensuring that the Class 1 AEL (allowable emission limit) per EN/IEC 60825, CSA E60825-1, and Code of Federal Regulations 21 CFR 1040 is not exceeded after the laser transceiver has been installed. Do not install laser products whose class rating is greater than 1. Refer to all safety instructions that accompany the transceiver prior to installation. Only Class 1 laser devices certified for use in the country of installation by the cognizant agencies are to be utilized in this product. The ultimate disposal of this product should be in accordance with all applicable laws and regulations.

Produit laser de classe 1: Ce produit a des dispositions pour installer des émetteurs-récepteurs de laser de classe 1 qui offre de couplage au réseau de communication optique. Une fois un produit laser de classe 1 est installé, l'équipement est un produit laser de classe 1 (Appareil à laser de Classe 1). Le client est responsable pour sélectionner et installer l'émetteur/récepteur de laser de classe 1 et pour assurer que la classe 1 AEL (limite d'émission admissible) par EN/IEC 6-825, CSA E60825-1, et Code des règlements fédéraux 21 CFR 1040 ne soit pas dépassée après avoir installé l'émetteur/récepteur de laser. Ne pas installer des appareils à laser dont la cote de classe est supérieure à 1. Voir toutes les consignes de sécurité qui ont accompagné l'émetteur-récepteur avant l'installation. Seuls appareils laser de classe 1 certifiés pour une utilisation dans le pays d'installation par l'organisme compétent doivent être utilisées dans ce produit.



Important: DO NOT open the router case. There are NO user-serviceable parts inside.

N'ouvrez PAS le boîtier du routeur. Il n'y a AUCUNE pièce réparable par l'utilisateur à l'intérieur.

1.5 Obtaining Technical Assistance

Any customer, partner, reseller, or distributor holding a valid Arista Service Contract can obtain technical support in any of the following ways:

- **Email:** support@arista.com

Include a detailed description of the problem with the "show tech-support" output.

- **Web:** <https://www.arista.com/en/support>

A support case may be created through the support portal on our website. You may also download the most current software and documentation, and view FAQs, Knowledge Base articles, Security Advisories, and Field Notices.

- **Phone:** +1 866-476-0000 or +1 408-547-5502

1.6 Specifications

This section lists the specifications of the Arista 7220R Series Enterprise WAN Routers.

Table 1: Dimensions and Weights

Router	Size (W x H x D)	Weight
AWE-7220RP-5TH-2S-F	17.3 x 1.7 x 11 inches (440 x 43.18 x 279.4 mm)	8.82 lbs (4.0 kg)

Table 2: Operating and Storage Temperature

Router	Operating Temperature	Storage Temperature	Operating Altitude	Relative Humidity
AWE-7220RP-5TH-2S-F	32° to 104°F (0° to 40°C)	-4° to 158°F (-20° to 70°C)	0 to 10,000 feet (0 to 3048 meters)	5 to 95% (non-condensing)

Table 3: Power Input

Router	Power Source	Input Power Rating
AWE-7220RP-5TH-2S-F	AC Power	100-240V, 6A Max, 50/60 Hz

Table 4: Power Draw

Router	Power Draw (Typical/Maximum)	Supported Power Supply
AWE-7220RP-5TH-2S-F	200W/360W	Internal open frame PSU

Table 5: System Configurations

Router	Airflow	Power Supply	Fan	Fan Type
AWE-7220RP-5TH-2S-F	Front to rear	1	2	Fixed/built-in

Preparation

This section describes the initial setup and preparation for installing the Arista 7220R Series Enterprise WAN routers.

The following topics are covered in this section:

- [Site Selection](#)
- [Tools and Parts Required for Installation](#)
- [Electrostatic Discharge \(ESD\) Precautions](#)

2.1 Site Selection

The following criteria should be considered when selecting a site to install the router:

- **Temperature and Ventilation:** For proper ventilation, install the router with ample airflow to the front and back of the router.

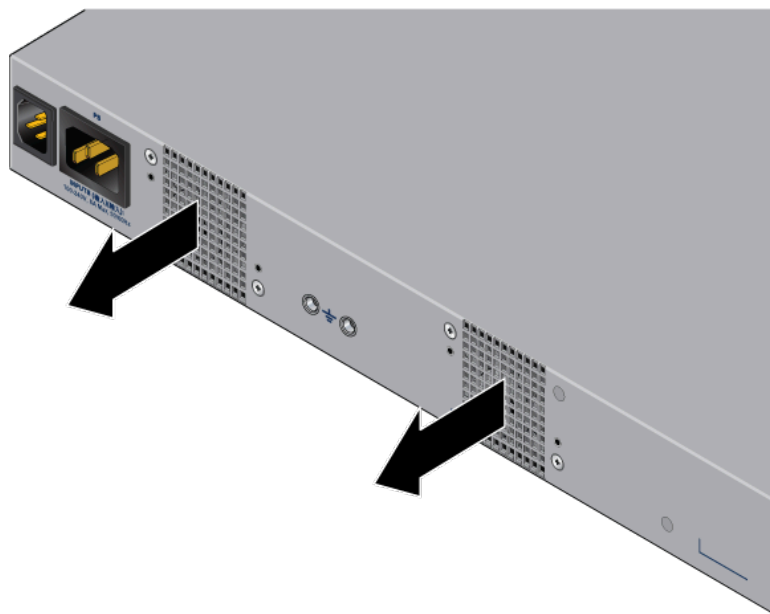


Important: To prevent the device from overheating, do not operate it in an area where the ambient temperature exceeds 104°F (40°C).

Pour empêcher l'interrupteur de surchauffe, ne pas utiliser il dans une zone où la température ambiante est supérieure à 104°F (40°C).

- **Airflow Orientation:** The fan vents determine the airflow direction through front to rear of the router.

Figure 2-1: Airflow Direction



- **Rack Space:** Install the router in a rack or cabinet. The router height is 1.74".

Check for the required rack space before installing the router in a two-post or four-post rack.

When mounting the router in a partially filled rack, load the rack from bottom to top, with the heaviest equipment at the bottom. Load the router at the bottom if it is the only item in the rack.

- **Power Requirements:** Power requirements vary by each device. Refer to [Specifications](#) for information regarding your specific device.



Important: The power supply plug-socket must be always accessible as it provides the primary method of disconnecting power from the system.

La combinaison de la puissance-prise d'entrée doit être accessible en tout temps; Il fournit le principal moyen de coupure d'alimentation du système.



Important: All power connections must be removed to de-energize the device.

Toutes les connexions d'alimentation doivent être enlevées pour hors tension l'appareil.

Refer to the [Cable the Router](#) section for power cable requirements.

- **Other Requirements:** Select a site where liquids or objects cannot fall onto the equipment and foreign objects are not drawn into the ventilation holes. Verify that the following guidelines are met:
 - Clearance areas to the front and rear panels allow for unrestricted cabling.
 - All front and rear panel indicators can be easily read.
 - Power cord can reach from the power outlet to the connector on the rear panel.

2.2 Tools and Parts Required for Installation

Each router has an accessory kit containing [parts](#) that are required to install the router. In addition to the accessory kit, the following tools are required to install the router:

Four-post Rack

- #1 and #3 Phillips head screwdrivers (this may differ based on supplied accessories)
- Screws or rack-mounting nuts and bolts

Two-post Rack

- #1 and #3 Phillips head screwdrivers (this may differ based on supplied accessories)
- Screws or rack-mounting nuts and bolts

2.3 Electrostatic Discharge (ESD) Precautions

Observe these guidelines to avoid ESD damage when installing or servicing the router.



Important: DO NOT open the case of the router. There are NO user-serviceable parts inside.

N'ouvrez PAS le boîtier du routeur. Il n'y a AUCUNE pièce réparable par l'utilisateur à l'intérieur.

- Assemble or disassemble the equipment only in a static-free work area.
- Use a conductive work surface (such as an anti-static mat) to dissipate static charge.
- Wear a conductive wrist strap to dissipate static charge accumulation.
- Minimize handling of assemblies and components.
- Remove all plastic, foam, vinyl, paper, and other static-generating materials from the work area.
- Use tools that do not create ESD.

Rack Mounting the Router

This section provides the instructions to mount the router in different ways.

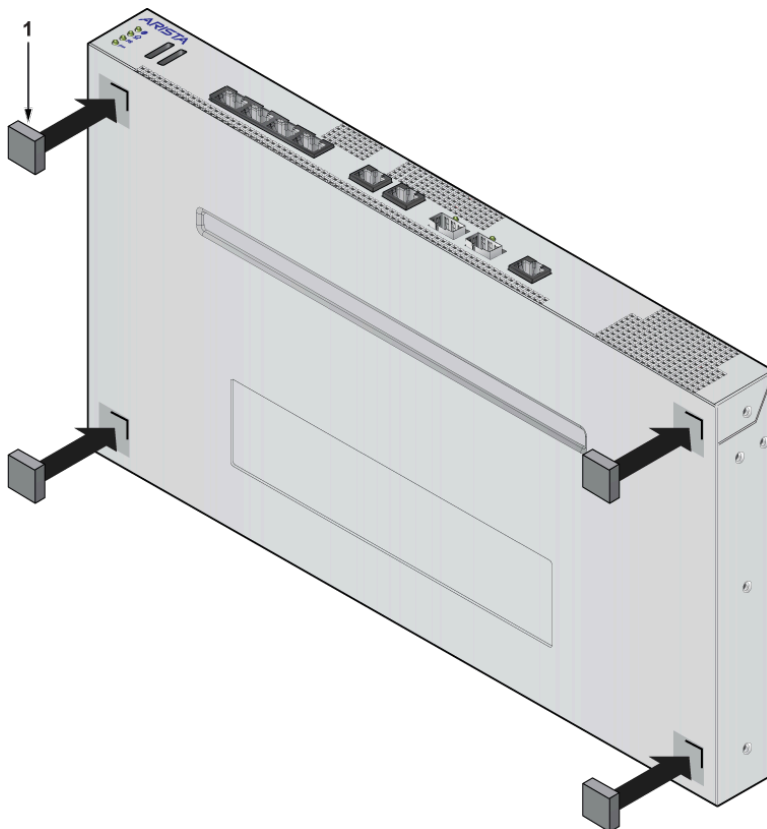
The following topics are covered in this section:

- [Desktop Mount](#)
- [Two-post Rack Mount](#)
- [Four-post Rack Mount \(Optional\)](#)

3.1 Desktop Mount

This section provides instructions to mount the router on the desktop or any flat surface.

Figure 3-1: Attaching Rubber Feet



1 Rubber feet

1. Peel the rubber feet from the master sheet provided in the accessory kit.
2. Attach the adhesive rubber feet to the four corners at the bottom of the router.
3. Place the router on the desktop or any flat surface with a connecting power supply.
The rubber feet prevents the router from sliding from the table surface.

3.2 Two-post Rack Mount

This section provides instructions for mounting the router in a two-post rack.

To mount the router onto a two-post rack, assemble the mounting brackets to the chassis, then attach the brackets to the rack posts. Two-post accessory kits include the following two-post mounting parts.

Two Three-hole Mounting Brackets

Each chassis has attachment pins that align with bracket holes. Pin orientation is symmetric and equidistant, supporting bracket placements where the flange is flush with the front panel, flush with the rear panel, or not flush with either panel. Each bracket hole includes a critical opening for placing the bracket flush with the chassis and then locking it into place.



Important: Attachment pins must engage all three upper bracket holes.

Goupilles de fixation doivent être bloquer tous les trois trous de la bride supérieure.

To mount the router in a two-post rack, proceed to the following topics:

- [Attaching Mounting Brackets to the Chassis](#)
- [Inserting the Router into Two-post Rack](#)

3.2.1 Attaching Mounting Brackets to the Chassis

This section describes the steps to attach mounting brackets to the router chassis.

The following figure displays the bracket alignment for mounting the router into a two-post rack.

Figure 3-2: Bracket Mount Configuration for Two-post Rack Mount (Example)

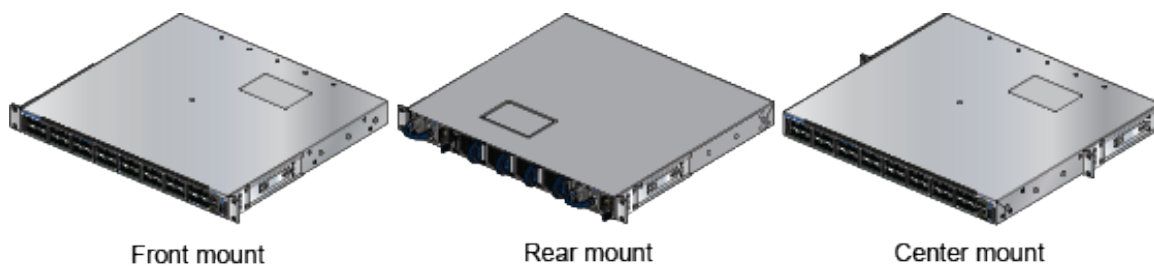
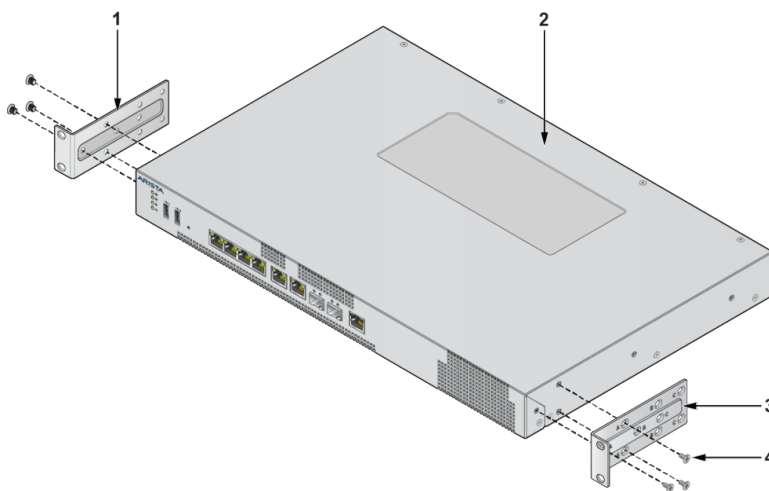


Figure 3-3: Aligning the Mounting Brackets

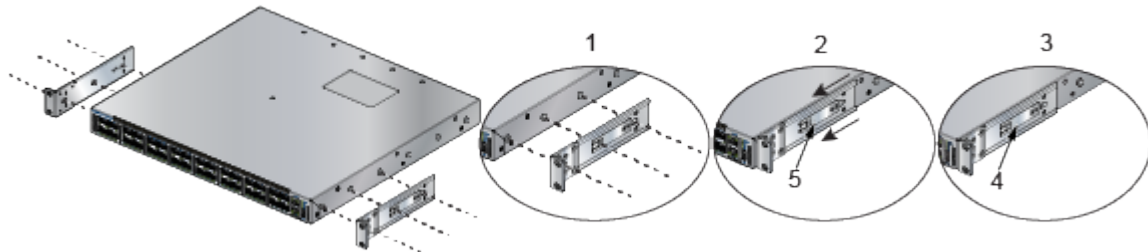


- | | |
|---|--------------------|
| 1 Bracket clip installation (left side) | 2 Front mount |
| 3 Bracket clip installation (left side) | 4 Flat head screws |

1. Align the mounting brackets with the attachment pins to obtain the desired mounting position.
2. Place the bracket flush on the chassis with attachment pins protruding through critical openings.
3. Slide the bracket toward the front flange until the bracket clip locks with an audible click.

The following figure shows the correct bracket attachment for a front mount.

Figure 3-4: Attaching the Mounting Brackets to the Chassis



- | | |
|---|---------------------------|
| 1 Align the mounting brackets with the attachment pins to obtain the desired mounting position. | 4 Bracket clip (attached) |
| 2 Place the bracket flush on the chassis with attachment pins protruding through critical openings. | 5 Bracket clip (aligned) |
| 3 Slide the bracket toward the front flange until the bracket clip locks with an audible click. | |

To remove the mounting bracket from the chassis, lift the front edge of the mounting bracket clip with a flat-head screwdriver and slide the bracket away from the front flange (opposite from the installation direction).

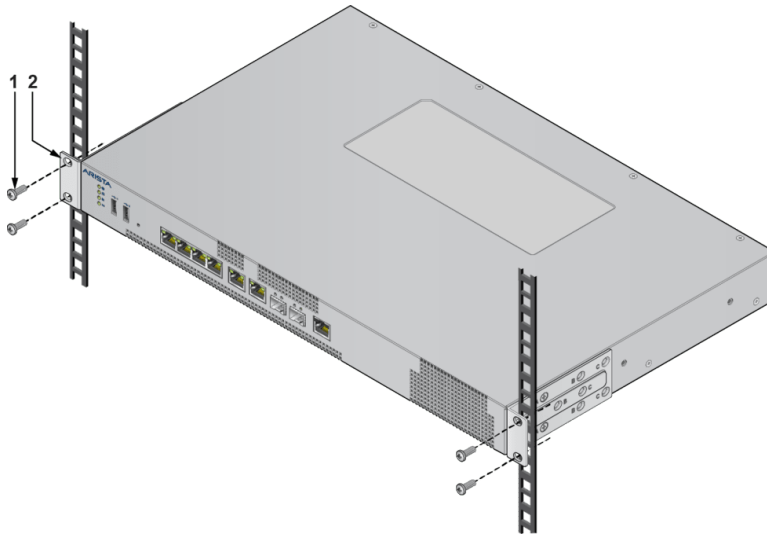
3.2.2 Inserting the Router into Two-post Rack

This section describes the steps to insert the router into the rack.

1. Lift the chassis, with the brackets attached, into the two-post rack.
2. Position the flanges against rack posts.
3. Select mounting screws that fit your equipment rack.

4. Attach the bracket flanges to the rack posts.

Figure 3-5: Inserting the Router into the Rack



- 1 Attaching chassis securely to rack with the screws
- 2 Aligning the bracket with the rack

3.3 Four-post Rack Mount (Optional)

This section provides instructions for mounting the router in a four-post rack.

The router is mounted onto a four-post rack by assembling two rails onto the rear posts, sliding the router onto the rails, and securing the router to the front posts.

The installation kit provides the following four-post mounting parts:

- Two six-hole mounting brackets
- Two rail rods
- Two rail slides

Each chassis side has attachment pins that align with bracket holes. Pin orientation is symmetric and equidistant, supporting bracket placements where the flange is flush with the front panel, flush with the rear panel, or not flush with either panel. Each bracket hole includes a critical opening for placing the bracket flush with the chassis and then locking it into place.

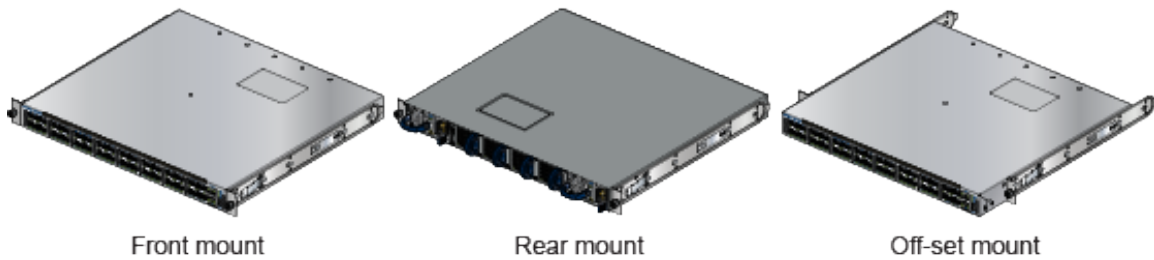


Important: Attachment pins must engage at least five of the six bracket holes.

Goupilles de fixation doivent être lock au moins cinq des trous du six support.

The following figure displays proper bracket mount configuration examples for a four-post mount:

Figure 3-6: Bracket Mount Configuration for Four-post Rack Mount (Example)



To mount the router in a four-post rack, proceed to the following topics:

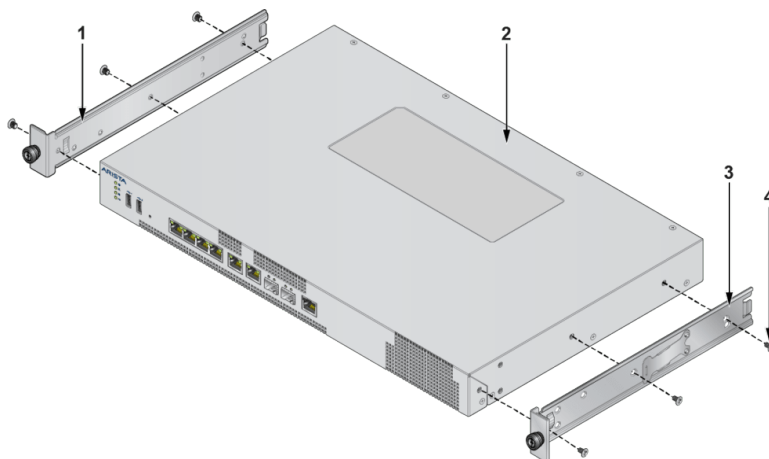
- [Attaching Mounting Brackets to the Chassis](#)
- [Assembling the Rails into the Rack](#)
- [Inserting the Router into Four-post Rack](#)

3.3.1 Attaching Mounting Brackets to the Chassis

This section describes the steps to attach the mounting brackets to the chassis.

The following figure displays the front bracket alignment for mounting the router into a four-post rack.

Figure 3-7: Attaching the Mounting Brackets to the Router Chassis

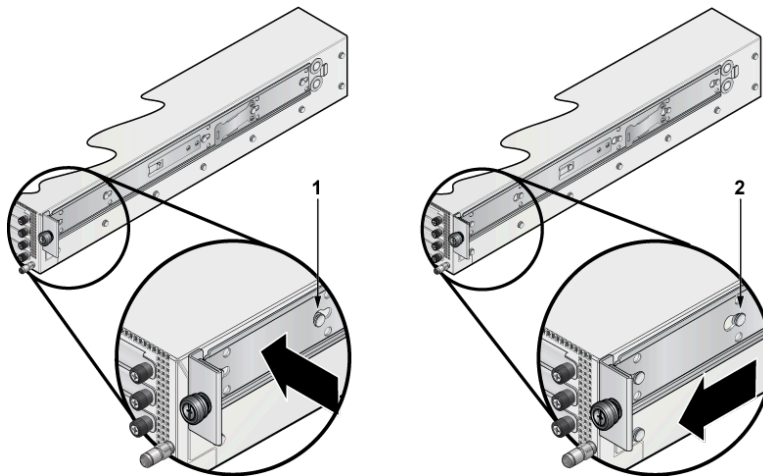


1 Mounting bracket (left)

2 Front mount

3 Mounting bracket (right)

4 Flat head screws

Figure 3-8: Aligning the Rack Plugs to the Bracket Clip

1 Bracket clip before it is locked in the specified place.

2 Bracket clip after it is locked in the specified place.

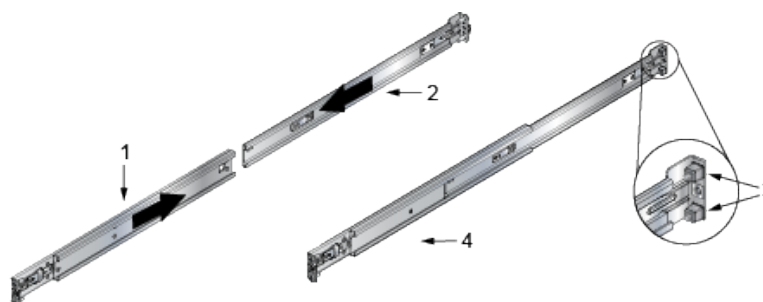
1. Align the mounting brackets with the attachment pins to obtain the desired mounting position.
2. Place the bracket flush to the chassis with the attachment pins protruding through the critical openings.
3. Slide the bracket towards the front flange until the bracket clip locks with an audible click.

To remove the mounting bracket from the chassis, lift the front edge of the mounting bracket clip with a flat-head screwdriver and slide the bracket away from the front flange (opposite from the installation direction).

3.3.2 Assembling the Rails into the Rack

This section describes the steps to attach the mounting brackets to the chassis.

Rail rods and rail slides assemble into identical rails. Each rail connects a front post to a rear post. When the rails are installed, the router slides through the rails into the rack.

Figure 3-9: Assembling the Rails

1 Rail slide

2 Rail rod

3 Rack plugs

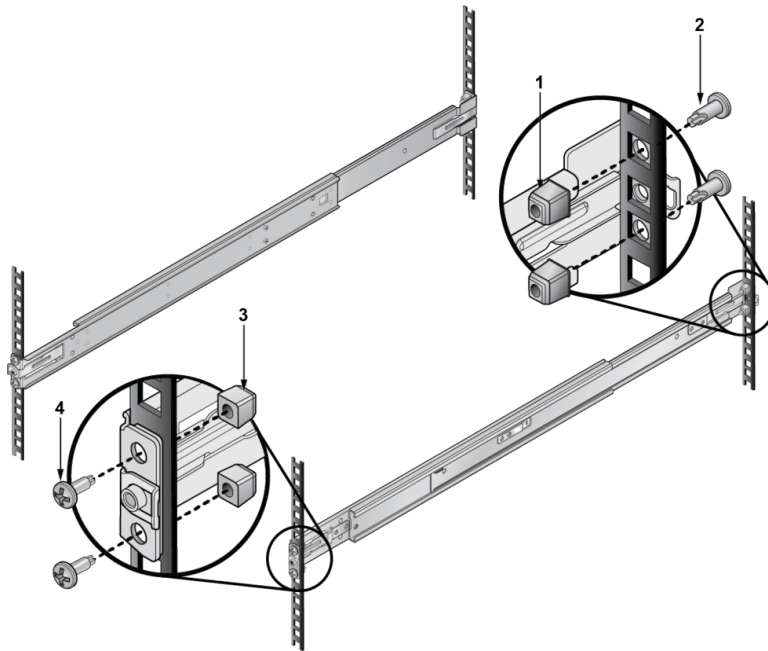
4 Rail (assembled)

1. Slide a rail rod into a rail slide, and assemble it with the rail clip by an audible click.

The rail clip prevents the extension of the rail beyond the maximum supported distance between the front and rear rack posts.

2. Attach the rail to the rack post using the screws and rack plugs in the dedicated slots.

Figure 3-10: Attaching the Rails into Four-post Rack



1 Rack plugs (rear)

3 Rack plugs (front)

2 Screw (rear)

4 Screw (front)

3. Adjust the rail slide of the rail to the front post by extending the rail past the post, then contracting the rail while guiding the rack plugs into the post.



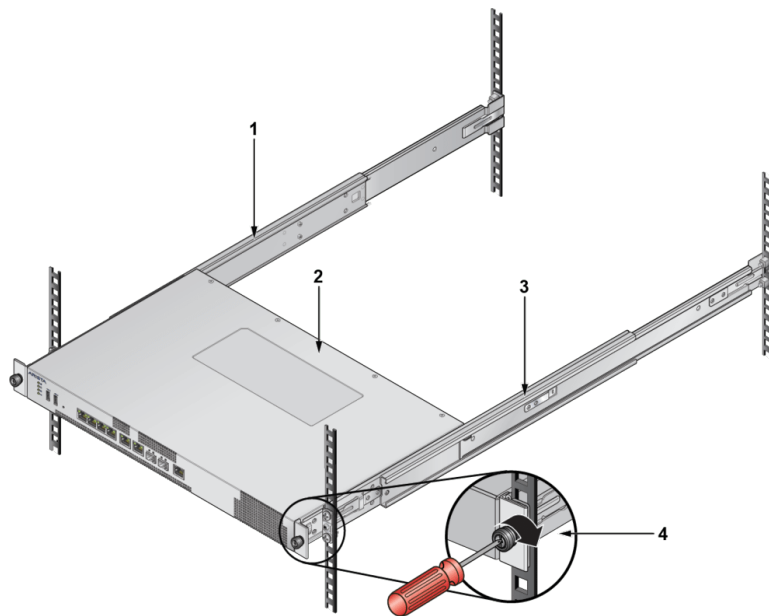
Note: Ensure the rails are on the same horizontal level.

3.3.3 Inserting the Router into Four-post Rack

Once the rails are installed, the router slides into the rack. Each bracket includes a thumb screw that attaches the router to the rail.

1. Lift the router and insert into the four-post rack by sliding the mounting brackets through the rails.

Figure 3-11: Inserting the Router onto the Rails



- | | |
|---------------|--------------|
| 1 Rail rod | 3 Rail slide |
| 2 Front mount | 4 Rack plug |
2. Slide the router through the rails, towards the rear posts, until the mounting bracket flanges are intact with the rail attached to the rack posts.
 3. Attach the bracket flanges to the rack post using the quick-release thumb screws supplied with the brackets.

After completing the four-post rack mount, proceed to [Cable the Router](#) section.

Status Indicators

This section describes the front-panel LED status indicators.

Table 6: LED Status Indicators

LED Name	LED State	LED Status
System Status LED	Off	No power or in the midst of a power cycle.
	Blinking green (default)	The system is powering up.
	Green	The system is operating in a normal initialization sequence.
	Flashing Blue	The indicator function is active.
	Amber	The system is malfunctioning. The system is overheating or temperature sensors have been recorded passing the software-defined critical threshold. The router will automatically execute a reboot/power cycle.
Cloud Connect Status LED	Off (default)	The system is not connected to CloudVision.
	Green	The system is connected to CloudVision.
	Amber	Problem connecting to CloudVision.
Fan Status LED	Green	All fan vents are operating normally.
	Amber	Single fan vent is malfunctioning.
Power Supply Status LED	Off	The power supply unit is not available.
	Green	The power supply unit is functional.
	Amber	The power supply unit has a fault.

Cable the Router

The following topics are covered in this section:

- [Grounding the Router](#)
- [Connecting Power Cables](#)
- [Connecting Serial and Management Cables](#)

5.1 Grounding the Router

This section provides instructions for grounding the router.

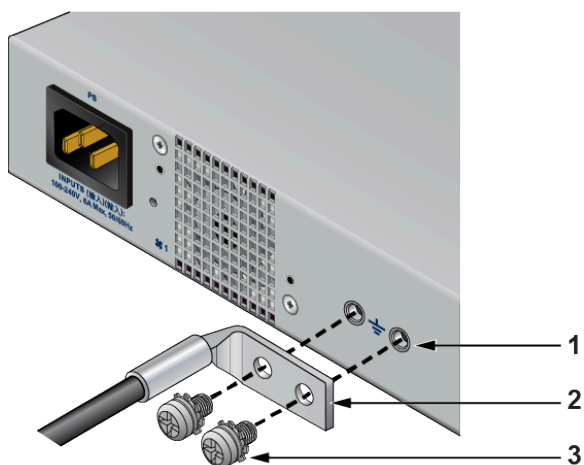


Note: Grounding cable and grounding lugs are not included with the router.



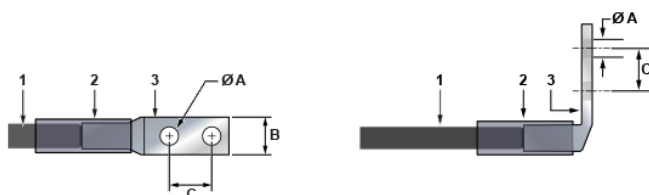
Note: The cable size should meet local and national installation requirements.

Figure 5-1: Protective Bonding Pad Sockets



- 1 Screw mounting holes
- 2 Lug
- 3 Screw

Figure 5-2: Lug Preparation



1	Insulated cable	A	1/4"
2	Heat-shrink tubing	B	1/2"
3	Lug	C	5/8"



Note: Dimension B is the width of the lug (not visible on the right-angle lug).



CAUTION: The earth connection must not be removed unless all supply connections are disconnected.

1. Ensure the rack is properly grounded and complies with *ETSI EN 300 253*.
2. Ensure a good electrical connection to the grounding point on the rack (no paint or isolating surface treatment).
3. Attach the solder terminal lug to an 18 AWG minimum grounding cable, and connect it to the grounding point on the rear panel of the router.
4. Tighten the screw to secure the lug to the grounding point.
5. Connect the other end of the cable to the nearby grounded surface.

5.2 Connecting Power Cables

To use power cords outside of the United States, they must be ordered separately. Ensure that the power cord is compliant with local and national electrical codes.

The router accommodates one power supply unit (PSU). [Rear Panel](#) displays the location of the power supply unit. To power down the router, remove all the power cords from the power supply unit.



Important: Installation of this equipment must comply with local and national electrical codes. If necessary, consult with the appropriate regulatory agencies and inspection authorities to ensure compliance.

Installation de cet équipement doit être conformes aux codes électriques locaux et nationaux. Si nécessaire, consulter les organismes de réglementation appropriés et des autorités de contrôle pour assurer la conformité.



Important: Read all installation instructions before connecting the system to the power source.

Lire toutes les instructions d'installation avant de brancher le système à la source d'alimentation.



Important: This equipment must be grounded. Never defeat the ground conductor.

Cet équipement doit être mis à la terre. Ne jamais modifier le conducteur de terre.



Important: This unit requires overcurrent protection.

Cet appareil requiert une protection contre les surintensités.

5.3 Connecting Serial and Management Cables

The accessory kit includes the following cables:

- RJ45 to DB9 serial adapter cable
- RJ45 Ethernet cable

[Table 7: RJ45 to DB9 Connections](#) lists the pin connections of the RJ45 to DB9 adapter cable.

Table 7: RJ45 to DB9 Connections

RJ45		DB9			RJ45		DB9	
RTS	1	8	CTS		GND	5	5	GND
DTR	2	6	DSR		RXD	6	3	TXD
TXD	3	2	RXD		DSR	7	4	DTR
GND	4	5	GND		CTS	8	7	RTS

Connect the front or rear panel ports as follows:

- **Console (serial) port:** Connect the router to the computer using the RJ45 to DB9 serial adapter cable. The router uses the following default settings:
 - 9600 baud
 - No flow control
 - One stop bit
 - No parity bits
 - 8 data bits
- **Ethernet management port:** Connect to 10/100/1000 management network with RJ45 Ethernet cable.
- **USB port:** The two USB ports (Type-A and Type-C) may be used for software or configuration updates.



CAUTION: Excessive bending can damage the interface cables.

Flexion excessive peut endommager les câbles d'interface.

Configuring the Router

Arista routers ship from the factory in Zero Touch Provisioning (ZTP) mode. ZTP configures the router without user intervention by downloading a startup configuration file or a boot script from a location specified by a DHCP server.

To manually configure an Arista router, bypass ZTP. The initial configuration provides one username (admin) accessible only through the console port because it has no password.

When bypassing ZTP, access the router by logging in as admin, with no password, through the console port. Then you can configure a password for admin and other password-protected usernames.

The manual configuration procedure described below cancels ZTP mode, logs into the router, assigns a password to admin, assigns an IP address to the management port, and defines a default route to a network gateway.

As the router boots without a **startup-config** file, it displays the following through the console:

```
The device is in Zero Touch Provisioning mode and is attempting to
download the startup-config from a remote system. The device will not
be fully functional until either a valid startup-config is downloaded
from a remote system or Zero Touch Provisioning is cancelled. To cancel
Zero Touch Provisioning, login as admin and type 'zerotouch cancel'
at the CLI.
localhost login:
```

1. Connect the router to a power source ([Cable the Router](#)).



Note: Arista fixed routers take approximately 5 to 10 minutes to boot completely.

2. Connect the console port to a PC ([Connecting Serial and Management Cables](#)).
3. Log into the router by typing **admin** at the login **prompt**

```
localhost login:admin
```

4. Cancel ZTP mode by typing **zerotouch cancel**



Important: This step initiates the router to reboot.

```
localhost>zerotouch cancel
```

5. After the router reboots, log into the router again by typing **admin** at the login prompt.

```
Arista EOS
localhost login:admin
Last login: Fri Mar 15 13:17:13 on console
```

6. Enter global configuration mode.

```
localhost>enable localhost#config
```

7. Assign a password to the admin username with the `username secret` command. In this example, the assigned password is "**pxq123**".

```
localhost (config) #username admin secret pxq123
```

8. Configure a default route to the network gateway. In this example, the default route is 192.0.2.1.

```
localhost (config) #ip route 0.0.0.0/0 192.0.2.1
```

9. Assign an IP address to an Ethernet management port. In this example, the IP address is 192.0.2.8/24.

```
localhost (config) #interface management 1/1  
localhost (config-if-Ma1/1) #ip address 192.0.2.8/24
```

10. Save the configuration by typing `write memory` or `copy running-config startup-config`.

```
localhost#copy running-config startup-config
```

11. When the management-port IP address is configured, use the following command to access the router from a host using the address configured in **Step 9**.

```
ssh admin@192.0.2.8
```

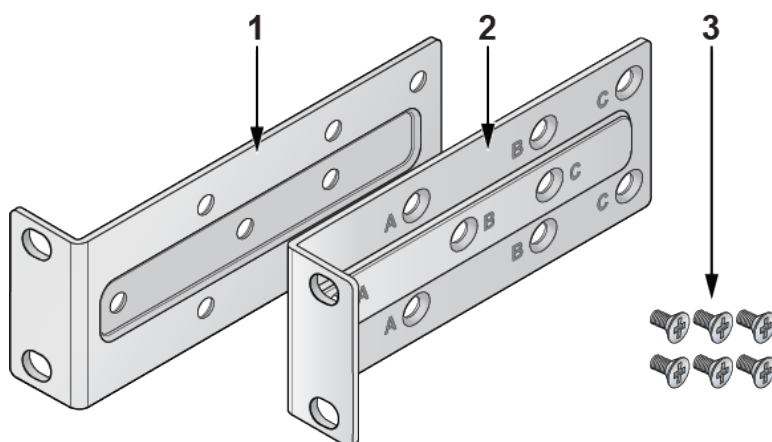
Refer to the ***Arista Networks User Manual*** for the complete router configuration information.

Parts List

This section lists the default and optional installation parts available in the accessory kit. Each router comes with an accessory kit containing the necessary parts required to install the router.

The following accessories are available along with the router:

Figure 7-1: Two-post Rack Mount Kit



- 1 Mounting bracket (left)
- 2 Mounting bracket (right)
- 3 Flat head screws

- Rubber feet
- Cables
 - RJ45 Ethernet cable
 - Console cable
- Power cable (country-specific, included if specified before purchase)

Table 8: SKU and Product Description

SKU	Product Description
AWE-7220RP-5TH-2S-F	Arista 7220R, router up to 2Gbps, 4x 1GBASE-T POE++ ports, 1x 1GBASE-T port, 2x 10G SFP+ ports, front to rear air, 1x AC.

Front Panel

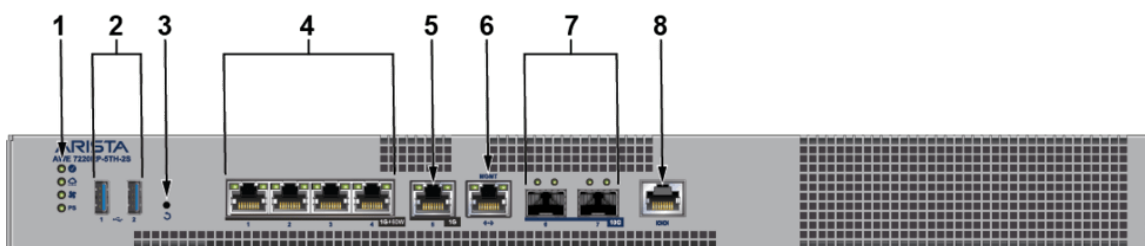
This section describes the front panel of the following router:

- [7220R Enterprise WAN Router](#)

8.1 7220R Enterprise WAN Router

The Arista 7220R Enterprise WAN router front panel includes the following key components:

Figure 8-1: Front Panel



- | | | | |
|---|------------------------|---|-------------------------------|
| 1 | System status LEDs | 5 | 1x1GBASE-T port |
| 2 | USB port Type-A | 6 | RJ45 Ethernet management port |
| 3 | Reset button | 7 | 2x10G SFP+ ports |
| 4 | 4x1GBASE-T POE++ ports | 8 | RJ45 Console port |

Rear Panel

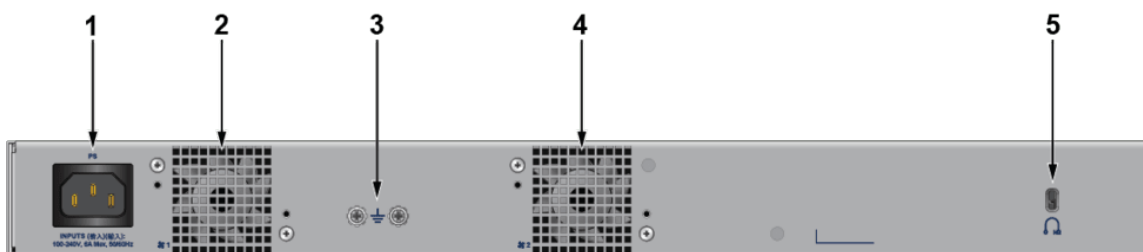
The section describes the rear panel of the following router.

- [7220R Enterprise WAN Router](#)

9.1 7220R Enterprise WAN Router

The Arista 7220R Enterprise WAN router rear panel includes the following key components:

Figure 9-1: Rear Panel



- | | | | |
|---|----------------------------|---|-----------------|
| 1 | Power supply 1 (PS1) | 4 | Fan 2 |
| 2 | Fan 1 | 5 | Kensington lock |
| 3 | Functional grounding point | | |

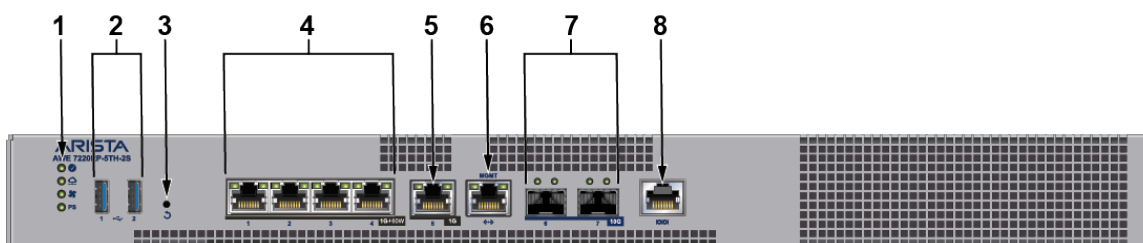
Interface Configuration of the Router

This section describes the front panel ports of the Arista 7220R Enterprise WAN router from a physical layer perspective. This section includes the following topics:

- [Hardware Description](#)
- [Interface Capabilities](#)
- [Speed Configuration](#)
- [Show Commands for Speed and Auto-negotiation Capabilities](#)
- [Supported Transceivers](#)

Hardware Description

Figure 10-1: 7220R Enterprise WAN Router Front Panel



- | | | | |
|---|-------------------------|---|-------------------------------|
| 1 | System status LEDs | 5 | 1x 1G BASE-T port |
| 2 | USB port Type-A | 6 | RJ45 Ethernet management port |
| 3 | Reset button | 7 | 2x 10G SFP+ ports |
| 4 | 4x 1GBASE-T POE++ ports | 8 | RJ45 Console port |

The Arista AWE-7220R Enterprise WAN routing system provides up to 1Gbps IPsec encrypted throughput and 5Gbps IP routing with 4x 1GBASE-T POE++ ports, 1x 1G BASE-T port, and 2x 10G SFP+ ports

Label	Port Number	Port Type	EOS Interface
1	1, 2, 3, 4	RJ45 with POE ++ (60W)	Et1, Et2, Et3, Et4
2	5	RJ45	Et5
3	6, 7	SFP+	Et6, Et7

Interface Capabilities

This section describes interface capabilities such as speed and Forward Error Correction (FEC). For additional information, see the EOS User Guide. The capabilities are displayed with the following command:

```
show interfaces <INTF> hardware default
```

The speed/auto-negotiation depends on the MAC/PHY capabilities, the front panel connector, and the type of transceiver inserted. The default capabilities of the Arista 7220R Enterprise WAN Router are as follows:

Ports	Speed/ Auto-negotiation
RJ45 (Et1-Et4)	1G/100M Full duplex/100M Half duplex/10M Full duplex/10M Half duplex autoneg clause 28
Et5	1G/100M full duplex/10M full duplex autoneg clause 28
SFP (Et6-Et7)	1G/10G full duplex (Auto-negotiation 1G is not supported)

When a transceiver is inserted, EOS recognizes the transceiver type. To see which types of transceivers are supported, refer to the [Supported Transceivers](#). EOS decides the capable speed/auto-negotiation satisfied by the hardware and the modules. To view the show commands and example outputs, refer to [Show Commands for Speed and Auto-negotiation Capabilities](#).

When there is no speed configuration on the interface, EOS applies the default speed. On an RJ45 port, the default configuration is auto-negotiation enabled with 10G. On an SFP+ port, the default configuration is auto-negotiation disabled with 10G.

Speed Configuration

This section describes the configuration of interface speed and auto-negotiation.

Interface speed and auto-negotiation are configured using the `speedspeed-lane-token` commands as shown in the following examples:

To configure 10G speed with auto-negotiation disabled:

```
Arista(config-if-Et1)#speed 10g
```

To configure 1G speed with auto-negotiation disabled:

```
Arista(config-if-Et1)#speed 1g
```

To configure 10G speed with auto-negotiation enabled:

```
Arista(config-if-Et5)#speed auto 10gfull
```

To configure 1G speed with auto-negotiation enabled:

```
Arista(config-if-Et1)#speed auto 1gfull
```

To remove speed configuration:

```
Arista(config-if-Et1)#no speed
```



Note: If the selected speed and auto-negotiation combination is unsupported (either based on the inserted transceiver or due to the interface capabilities), the interface is put into an error-disabled state with “speed-misconfigured” as the cause.

Use the following show command to check whether interfaces are connected, not connected, or error-disabled:

```
Arista(config)#show interface status
Port      Name      Status      Vlan      Duplex  Speed  Type           Flags Encapsulation
Et1       Et1       connected   1         full    1G     1000BASE-T
Et2       Et2       connected   routed    full    1G     1000BASE-T
Et3       Et3       connected   routed    full    1G     1000BASE-T
Et4       Et4       connected   routed    full    1G     1000BASE-T
Et5       Et5       connected   routed    full    1G     1000BASE-T
Et6       Et6       connected   routed    full    10G    10GBASE-SR
Et7       Et7       connected   routed    full    10G    10GBASE-SR
```

Use the following show command to display why an interface is error-disabled:

```
Arista(config)#show interfaces ET1 status errdisabled
Port      Name      Status      Reason
-----
Et1       Et1       errdisabled speed-misconfigured
```

When a transceiver is in an error-disabled state due to a misconfigured speed, the following syslog message is logged:

```
bessd[4392]: %ETH-1-LINKMODEUNSUPPORTED: Unsupported link mode 100G/full for
interface Ethernet1
Ebra: %ETH-4-ERRDISABLE: speed-misconfigured error detected on Ethernet1.
```

Show Commands for Speed and Auto-negotiation Capabilities

Supported speed and auto-negotiation are displayed by the following command when the transceiver is inserted:

```
show interfaces <INTERFACES> hardware
```

RJ45 port output:

```
Arista(config)#show interfaces Ethernet1 hardware Ethernet1
Model: AWE-7220RP-5TH-2S
Type: 1000BASE-T
Speed/duplex: 10M/half,10M/full,100M/half,100M/full,1G/full,auto(default)
Flowcontrol: rx-(off),tx-(off)
Autoneg CL28: 10M/half,10M/full,100M/half,100M/full,1G/full
Error correction: unsupported
```

SFP port output:

```
Arista(config)#show interfaces Ethernet6 hardware Ethernet6
Model: AWE-7220RP-5TH-2S
Type: 1000BASE-SX
Speed/duplex: 1G/full,auto(default)
Flowcontrol: rx-(off),tx-(off)
Error correction: unsupported
```

Supported Transceivers

The on-board SFP ports support a wide range of 1G and 10G pluggable transceivers.

- 10GBASE-CR: 0.5m/1m/3m/5m
- 10GBASE-SR(SRL)
- 10GBASE-LR(LRL)
- CAB-Q-4S-40G: 0.5m/1m/3m/5m

- 10GBASE-AOC
- 1000BASE-SX
- 1000BASE-LX

For details about the different transceiver modules and cables, visit <https://www.arista.com/en/products/transceivers-cables>.

Regulatory Model Numbers

This section lists the Regulatory Model Number (RMN) of the routers described in this document.

Table 9: Regulatory Model Number (RMN)

SKU	Regulatory Model Number (RMN)
AWE-7220RP-5TH-2S-F	AN2218

Taiwan RoHS Information

This appendix provides Taiwan RoHS information for the routers described in this guide.

台灣RoHS相關資訊請參考下列網址：<https://www.arista.com/assets/data/pdf/AristaBSMIRoHS.pdf>.

Safety Instructions (Hebrew)

הוראות בטיחות לנתב רשת מדגם AN2218

- טמפרטורה ואוורור: לאוורור נאות, התקן את הנתב במקום שבו יש זרימת אוויר חופשי לחלק הקדמי והאחורי של הנתב. טמפרטורת הסביבה לא צריכה לרדת מתחת ל-0° או לעבור 40 מעלות צלזיוס.
- הערה: כדי למנוע מהנתב להתחמם, אין להפעיל אותו באזור שבו טמפרטורת הסביבה עולה על 40 מעלות צלזיוס.
- התקנה במסד: התקן את הנתב במדף או בארון. גובה הנתב הוא 1.74".
- ערכת האביזרים כוללת מספק ציוד כגון תושבות הרכבה וברגים הנדרשים להתקנה.
- בעת הרכבת הנתב במסד מלא חלקית, תרכיב את המסד מלמטה למעלה, עם הציוד הכבד ביותר בתחתית. תרכיב את הנתב בתחתית אם זה הפריט היחיד במסד.
- דרישות חשמל: דרישות החשמל משתנות לפי הנתב ודגם ספק הכוח. יש לבחור בספק עם דירוג המתאים למערכת הספציפית שלך.
- הערה: שילוב שקע-תקע של כניסת החשמל חייב להיות נגיש בכל עת; זה השיטה העיקרית לניתוק חשמל מהמערכת.
- דרישות אחרות: בחר אתר שבו נוזלים או חפצים אינם יכולים ליפול על הציוד וחפצים זרים אינם נמשכים לתוך חורי האוורור.
- דא שההנחיות הבאות מתקיימות:
- מרווחים ללוח הקדמי והאחורי מאפשרים אזורי כפוף כבלים בלתי מוגבלים.
- ניתן לקרוא בקלות את כל מחווני הפנל הקדמי והאחורי.
- כבלי חשמל יכולים להגיע משקע החשמל למחבר בפאנל האחורי.
- הערה: כדי לנתק את היחידה יש להסיר את כל חיבורי החשמל

אזהרה

מוצר זה הוא מוצר Class A. בסביבה ביתית, מוצר זה עלול לגרום הפרעות בתדר רדיו, ובמקרה זה, המשתמש עשוי להידרש לנקוט אמצעים מתאימים.