

## TrueNAS ES102 Expansion Shelf Basic Setup



# TrueNAS ES102 Expansion Shelf Basic Setup Installation Guide

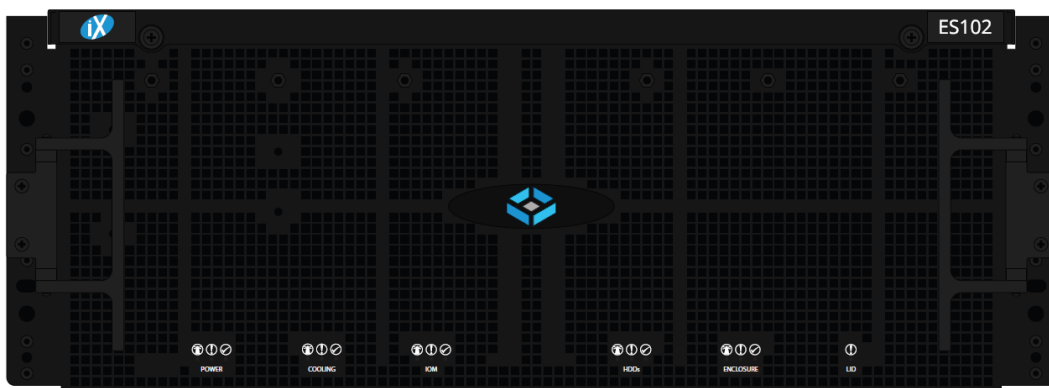
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## TrueNAS ES102 Expansion Shelf Basic Setup



## Introduction

This document guides you through racking your shelf and connecting it to a TrueNAS storage array. See the back page of this document for guidance on where to access in-depth product information and setup recommendations.

## Note – Rack Space

- The ES102 requires 4U of rack space and a #2 Phillips head screwdriver to install in a rack.
- The shelf is 38.9" long with the CMA. The rack posts must be between 30" and 37" apart to install the rail kit.
- Review your rack setup to ensure the ES102 fits in the rack with any front or back rack doors closed.

## Important – Damage or Injury

When handling rails, system components, or drives, never force movement if a part seems stuck or does not insert properly. Gently remove the part and check for pinched cables or obstructing material before installing it again. Installing a part with excessive force can damage the system or cause personal injury.

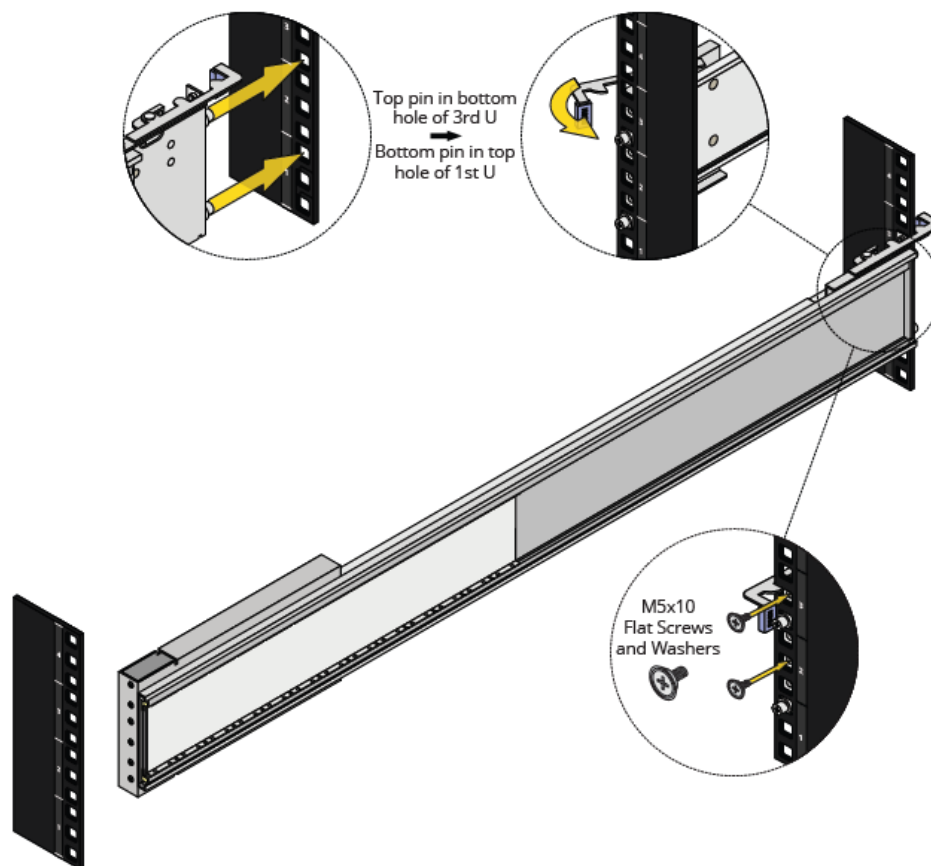
## Warning – Team Lift

The ES102 requires two people to lift safely. Failure to follow safety recommendations can lead to severe system damage or personal injury.

## Installation Instructions

### 1. Attach the Rack Rail to the Rear Rack Post

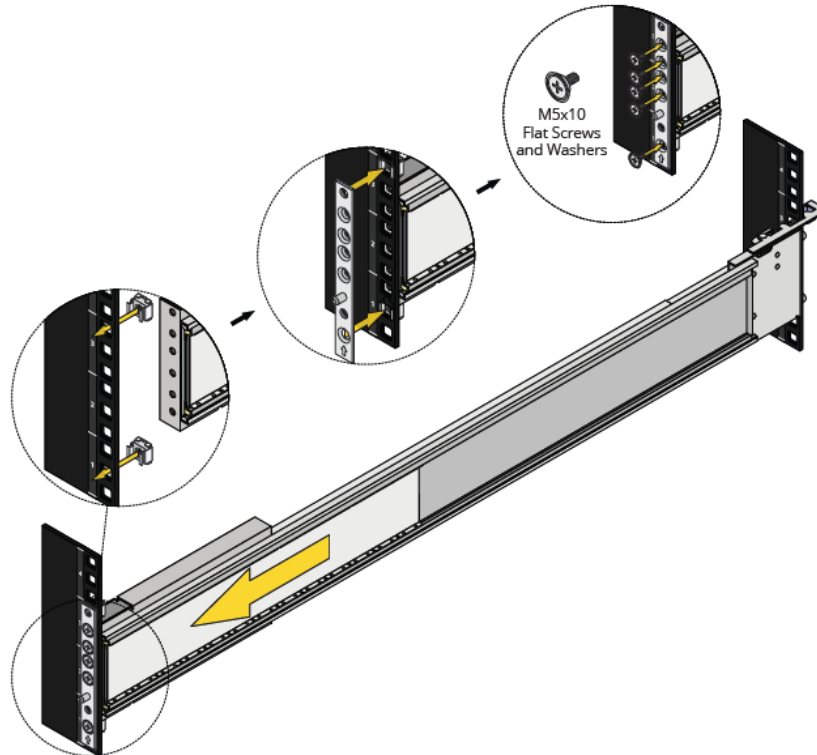
Place the rail in the rack with the “REAR” end at the rear of the rack and align the rail pins with the rack mounting holes. The top pin goes into the bottom hole of the 3rd U. The bottom pin goes into the top hole of the 1st U. Swing the blue latch handle open and pull it to extend the rail until the rail pins are fully seated in the rack holes. Release the latch to lock the rail in place. Secure the rail to the rear rack post using two M5 x 10 flat screws with washers. One in the top rail screw hole, and one in the 4th rail screw hole.



### 2. Attach the Rack Rail to the Front Rack Post

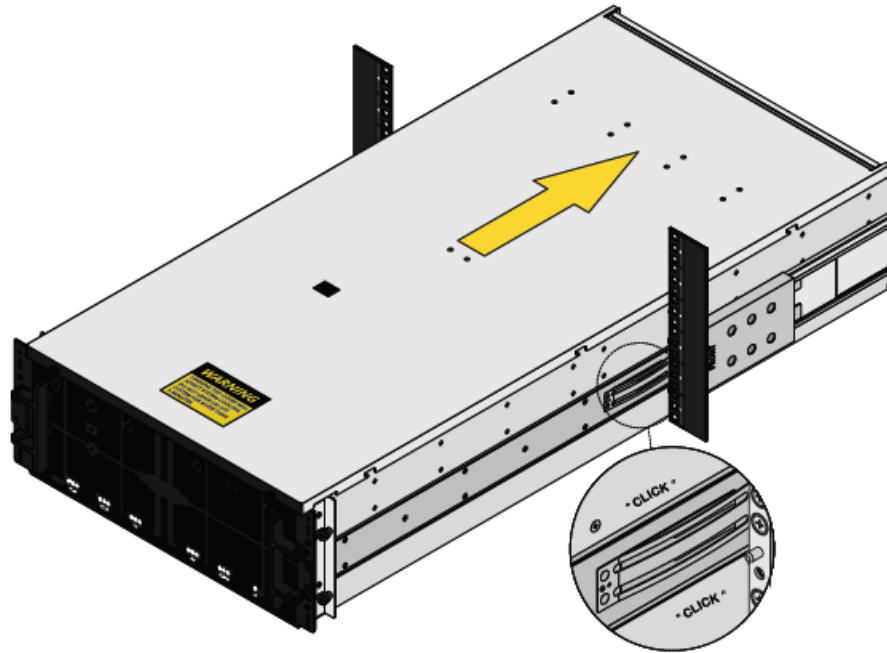
Extend the “FRONT” end of the rail to the front rack post and verify the rail is level. Insert one M5 cage nut into the top hole of the 3rd U, then insert another cage nut in the middle hole of the 1st U. Place the mounting plate

onto the rack post, aligning the top and bottom screw holes with the cage nuts. Secure the rail and mounting plate to the rack post using five M5 X 10 flat screws with washers. Repeat steps 1 and 2 to install the second rail in the rack.

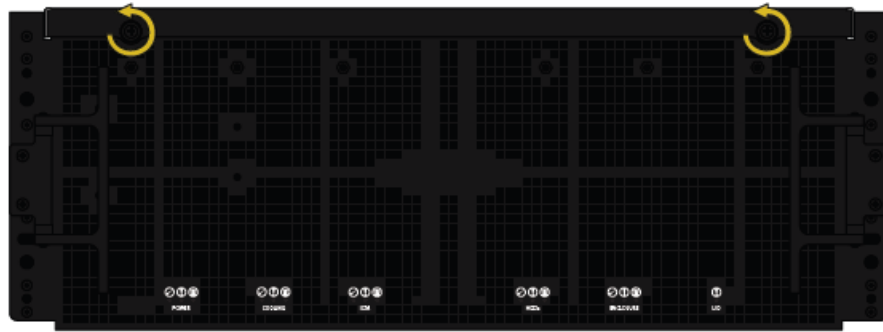


### 3. Install the System into the Service Position

Team-lift the system and align the chassis rails with the rack rails. Slide the ends of the chassis rails into the rack rails and push the system into the rack until the metal safeties click and lock the system into the service position.

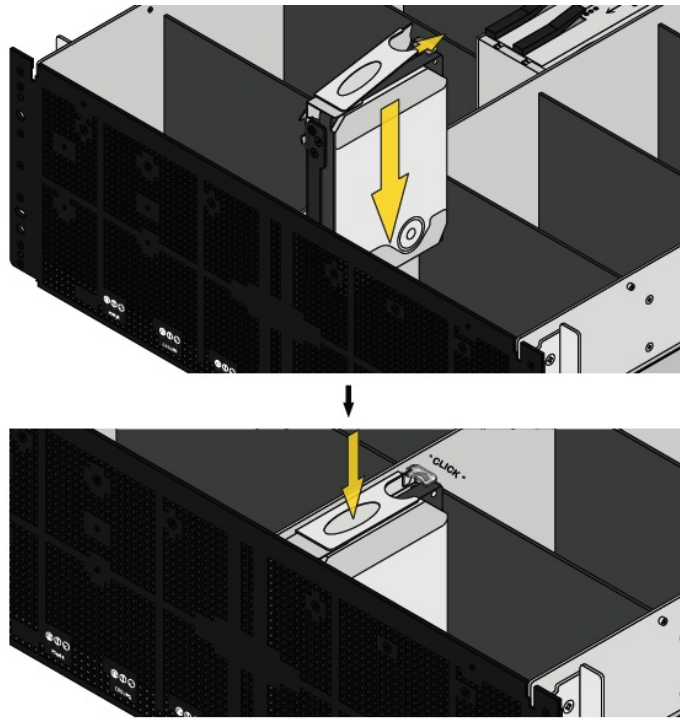


Loosen the thumbscrews on the ES102 lid and pull the lid toward the front of the system until it stops, then lift the lid up and away from the system.



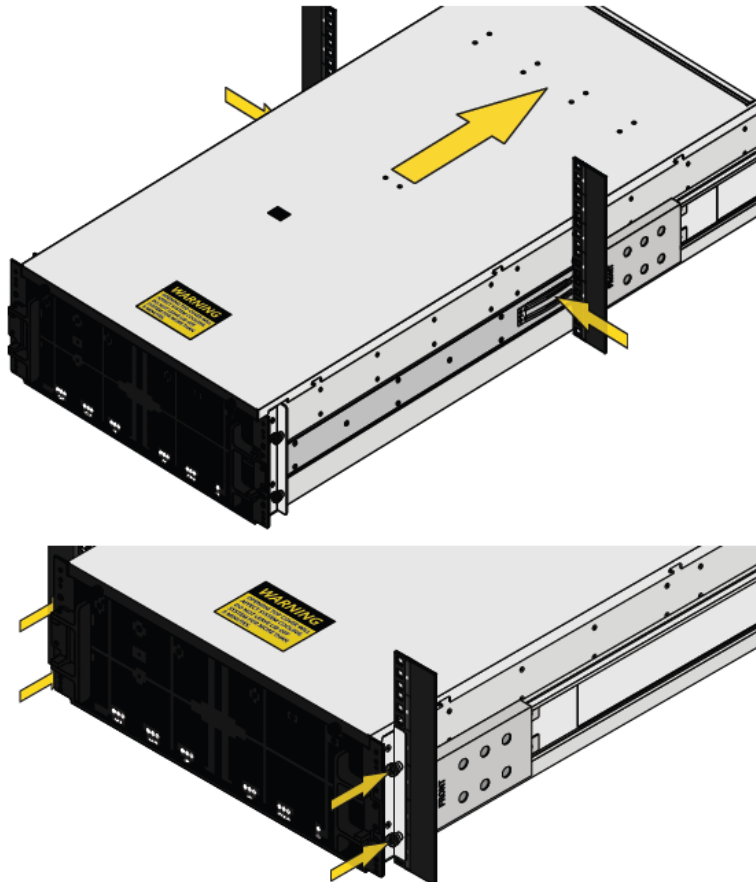
#### 4. Install Hard Drives

The ES102 ships with all the drives and blanks you need to fully populate the enclosure, packaged separately. Drives ship attached to the drive carriers. Open a drive latch by pressing the clear plastic button on the direction of the arrows. Insert the drive carrier into a slot inside the system with the arrows on the clear plastic button pointing towards the back of the system. Gently lower the carrier into the system until the latch begins to close, then push the latch down until it clicks and locks the drive carrier into the system. Repeat for all remaining carriers and blanks.



## 5. Push the System into the Rack

- Replace the lid on the system and tighten the thumbscrews.
- Press the metal safety catches on each chassis rail into the system and push the system all the way into the rack.
- Secure the system to the rack by tightening the two thumbscrews on each chassis ear.



## 6. Install Cable Management Brackets

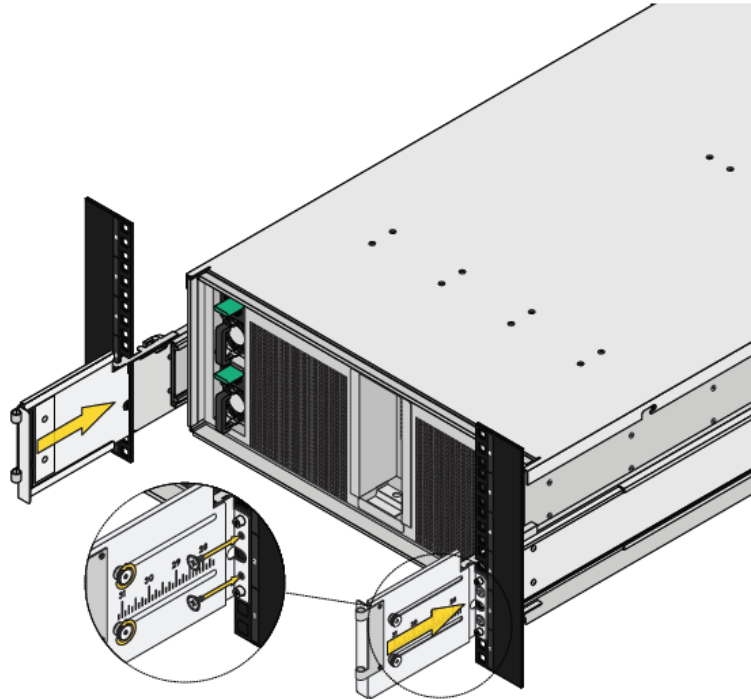
### Note – PDU and Rack Space

If your rack uses a 0U PDU, you might have to temporarily remove it in order to install the screws for the CMA brackets. You might also need a longer screwdriver to properly tighten the screws.

- Align the right bracket with the right rear rack post and fit the top and bottom holes over the rack rail pegs.
- Secure the bracket to the rack post using two M5 X 10 flat screws with washers.
- Repeat for the left bracket.

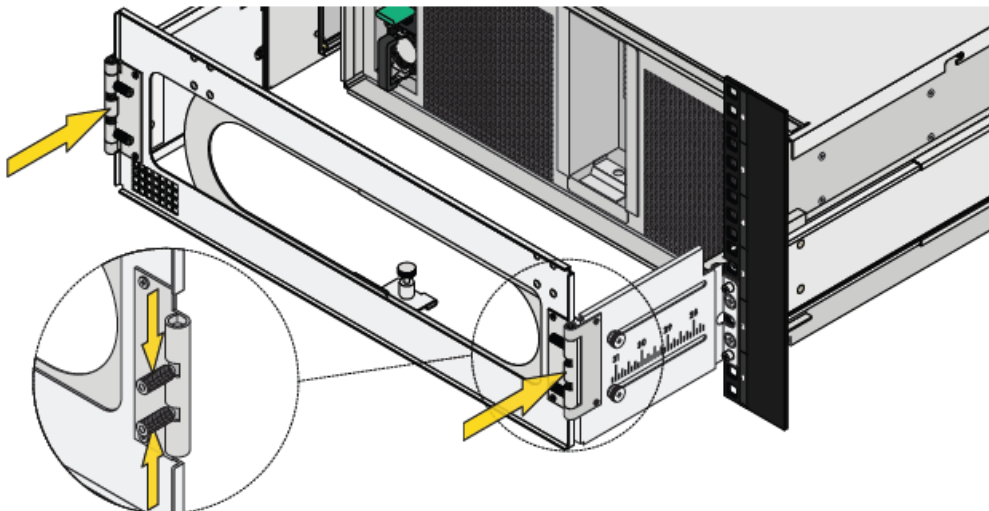
**Tip – Adjustment Screws**

You may find it helpful to loosen the depth adjustment thumbscrews on each cable management bracket to make initial cabling easier.

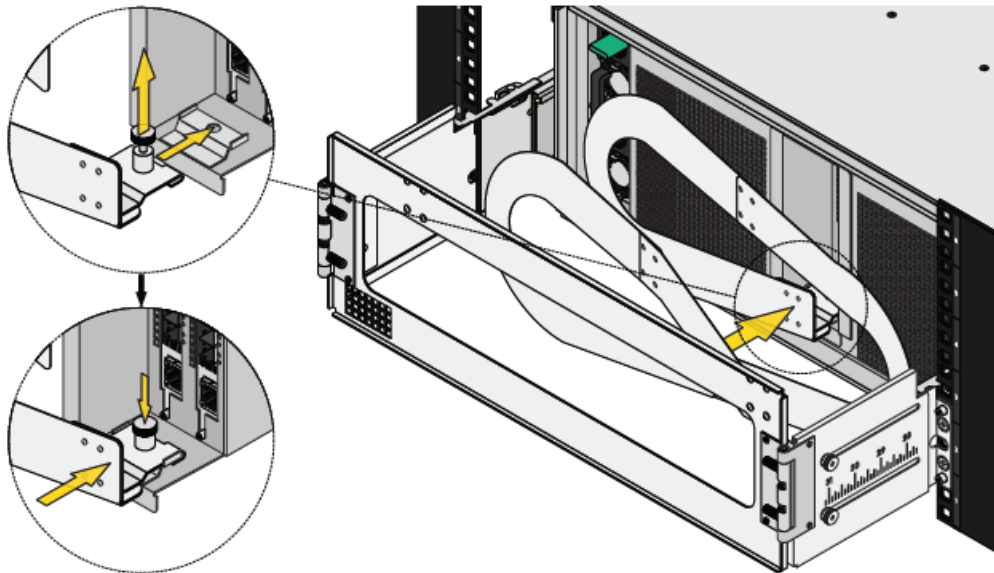


**7. Install Cable Management Arm (CMA)**

Align the right hinge on cable management arm (CMA) with the right hinge on the cable management brackets. Pinch the spring pegs on the CMA hinge together and insert the CMA hinge into the bracket hinge, then release the spring pegs to lock the hinges together. Repeat for the other side.



Pull the CMA attachment pin up and move the pin assembly toward the CMA attachment bracket on the chassis. Fit the pin assembly lip over the CMA attachment bracket on the chassis, then pull it back and release the pin to lock the CMA to the system chassis.

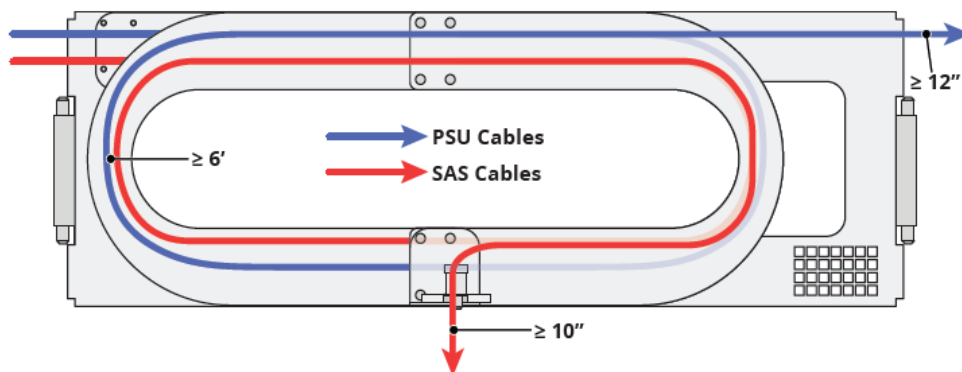


## 8. Install Cables

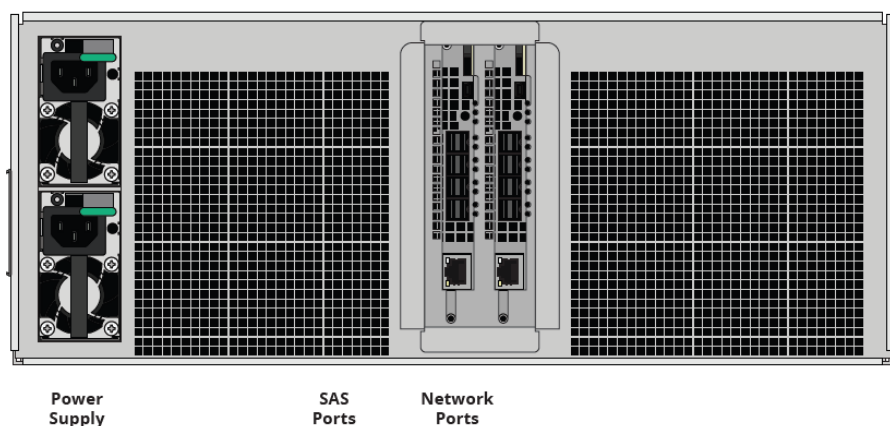
Route the cables around the CMA loop starting at the top where the loop meets the CMA. Ensure the power and SAS cables have enough slack through the CMA loop to account for the CMA loop extending and retracting. We recommend that the PSU cables have at least 12 inches of slack between the system and the CMA. The SAS cables should have at least 10 inches of slack between the system and the CMA. All cables going through the CMA should be at least six feet long overall.

### Important – Cable Damage

To avoid cable damage, ensure the cables have plenty of slack before and after the CMA. Routing the cables around the CMA loop too tightly can damage the cables.



Connect ethernet cables from your local switch or management network to the network ports on both IOMs. Next, connect the power cables to both power supplies, but don't plug them in until after connecting all SAS cables.



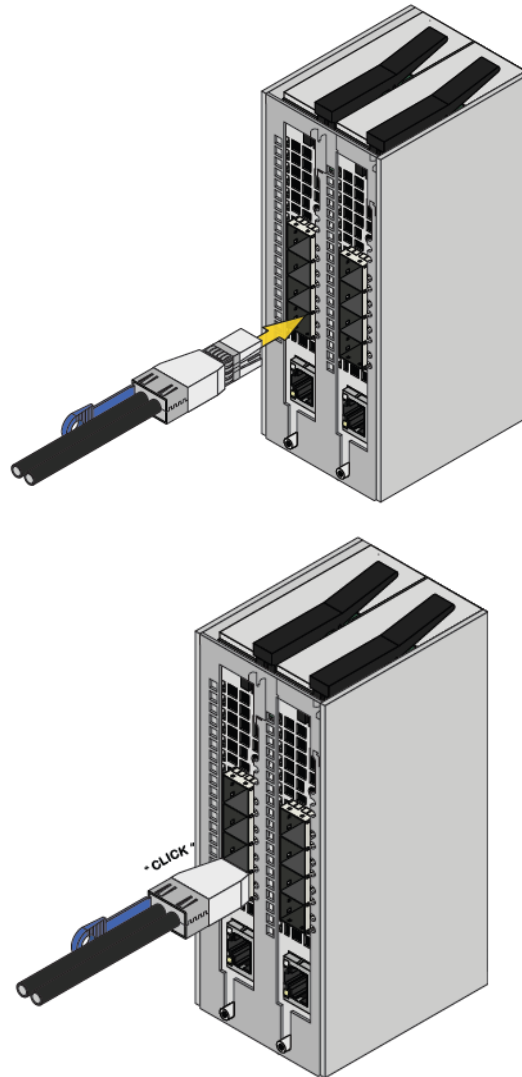


## Tip – Cable Management

Before continuing, test your cable setup by sliding the system out of the rack. The cables should move freely with the CMA without pinching or coming loose.

### 1. SAS Cabling

To set up SAS between your TrueNAS system and expansion shelves, cable the first port on the first TrueNAS controller to the first port on the first expansion shelf controller. High Availability (HA) systems require another cable from the first port on the second TrueNAS controller to the first port on the second expansion shelf controller. Line the SAS3 cable connector up with the SAS port on the back of the system. Ensure the blue tab on the SAS cable is facing toward the left (toward the PSUs). Gently push the connector into the port until it clicks. For more specific SAS configurations, refer to the ES102 User Manual.



## Boot the System

Plug the power cables into PDU outlets and wait for the ES102 to boot up. After booting, the ES102 connects to the TrueNAS system it is connected to.

## Additional Resources






- ES102 User Manual: <https://www.truenas.com/docs/files/ES102Gen2PUM.pdf>
- ES102 Resources: <https://www.truenas.com/docs/hardware/ES102Gen2/>

## Contact iXsystems

Having issues? Please contact iX Support to ensure a smooth resolution.

Contact Method	Contact Options
Web	<a href="https://support.ixsystems.com">https://support.ixsystems.com</a>
Email	<a href="mailto:support@ixsystems.com">support@ixsystems.com</a>
Telephone	Monday-Friday, 6:00AM to 6:00PM Pacific Standard Time: <ul style="list-style-type: none"> <li>• US-only toll-free: <a href="tel:1-855-473-7449">1-855-473-7449</a> option 2</li> <li>• Local and international: <a href="tel:1-408-943-4100">1-408-943-4100</a> option 2</li> </ul>
Telephone	Telephone After Hours (24x7 Gold Level Support only): <ul style="list-style-type: none"> <li>• US-only toll-free: <a href="tel:1-855-499-5131">1-855-499-5131</a></li> <li>• International: <a href="tel:1-408-878-3140">1-408-878-3140</a> (International calling rates will apply)</li> </ul>

## Documents / Resources

	<a href="#">TrueNAS ES102 Expansion Shelf Basic Setup [pdf]</a> Installation Guide ES102 Expansion Shelf Basic Setup, ES102, Expansion Shelf Basic Setup, Shelf Basic Setup, Basic Setup, Setup
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## References

- [support.ixsystems.com](https://support.ixsystems.com)
- [User Manual](#)