

TrueNAS® ES24 Expansion Shelf

Basic Setup Guide

Version 1.6

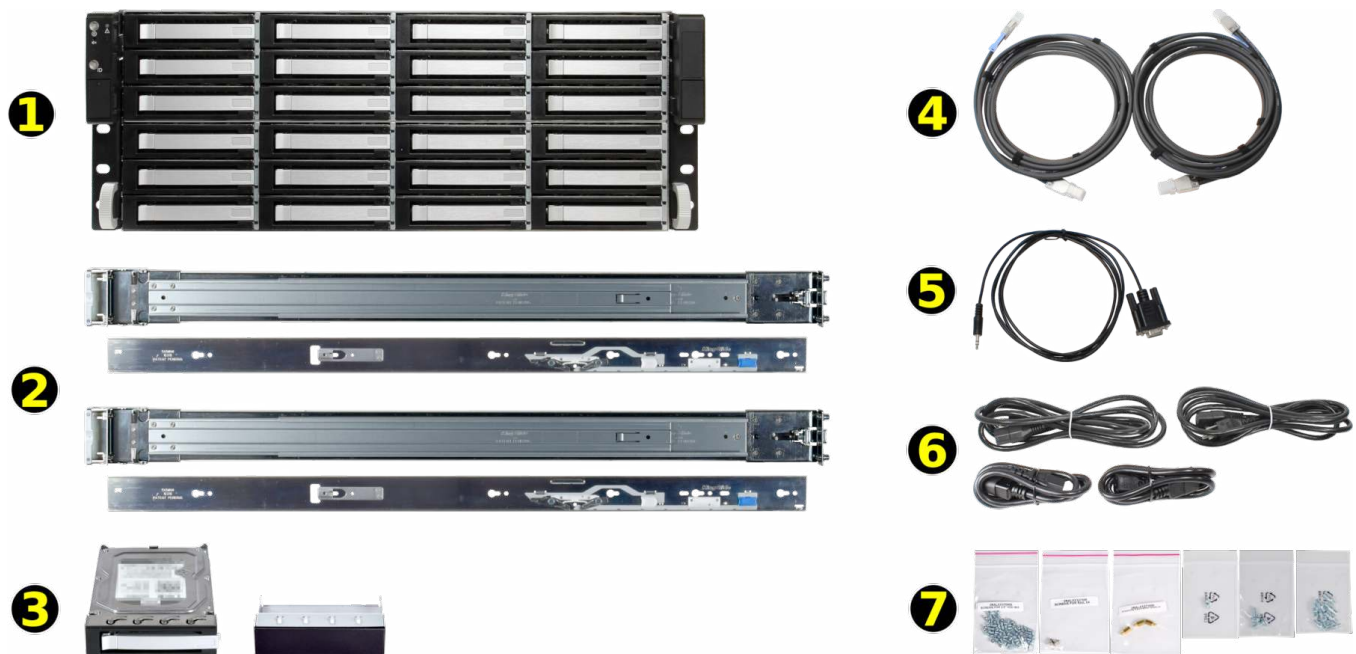


1 ES24 Expansion Shelf

The TrueNAS® ES24 is a 4U, 24-bay, SAS3 (12 Gb/s) expansion shelf with dual expansion controllers and redundant power supplies.

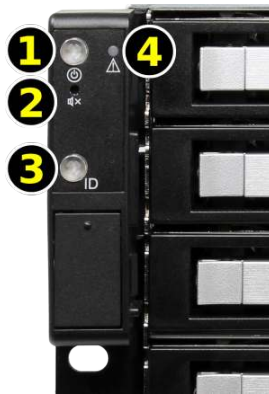
TrueNAS® units are carefully packed and shipped with trusted carriers to arrive in perfect condition. If there is any shipping damage or any parts are missing, please take photos and contact iXsystems support immediately at support@ixsystems.com or **855-GREP4-iX** (855-473-7449) or 408-943-4100.

Please locate and record the hardware serial numbers on the back of each chassis for quick reference.



Carefully unpack the shipping boxes and locate the ES24 expansion shelf (#1), rail kit(#2), a total of 24 drive trays and empty bay fillers (#3), two 3-meter Mini SAS HD cables (#4), a serial cable (#5), two IEC C13 to NEMA 5-15P power cords and two IEC C13 to IEC C14 power cords (#6), and a set of hardware (#7).

1.1 Become Familiar With the ES24



The ES24 has front panel buttons for power (#1), alarm mute (#2), and locate ID (#3). There are lights for power (#1), locate ID (#3), and fault (#4). The fault light illuminates during the initial power-on self-test (POST) or when the TrueNAS® software has issued an alert. See the Alert section in the Additional Options chapter of the TrueNAS® User Guide (<https://www.ixsystems.com/documentation/truenas>).



Fig. 1: Back Panel

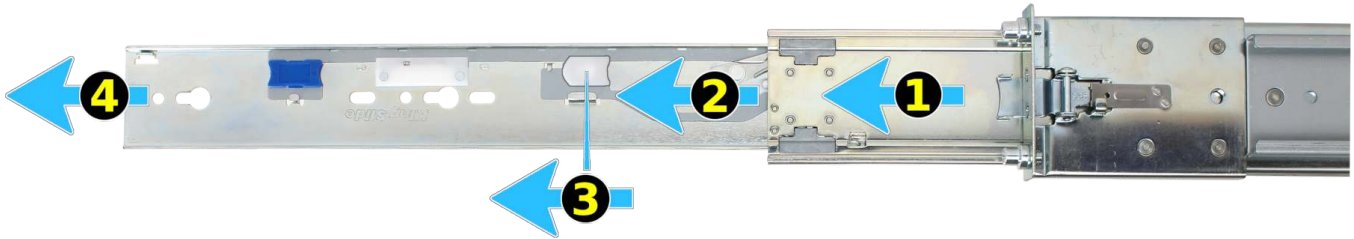
On the back panel is a serial number (#1), two redundant power supplies (#2), and two expansion controllers (#5). Each expansion controller has two HD Mini SAS3 connectors (#3) for connection to a host, and another HD Mini SAS3 connector for expansion (#4).

1.2 ES24 and M-Series Rail Assembly

1.2.1 Remove Cabinet Rails from Rack Rails

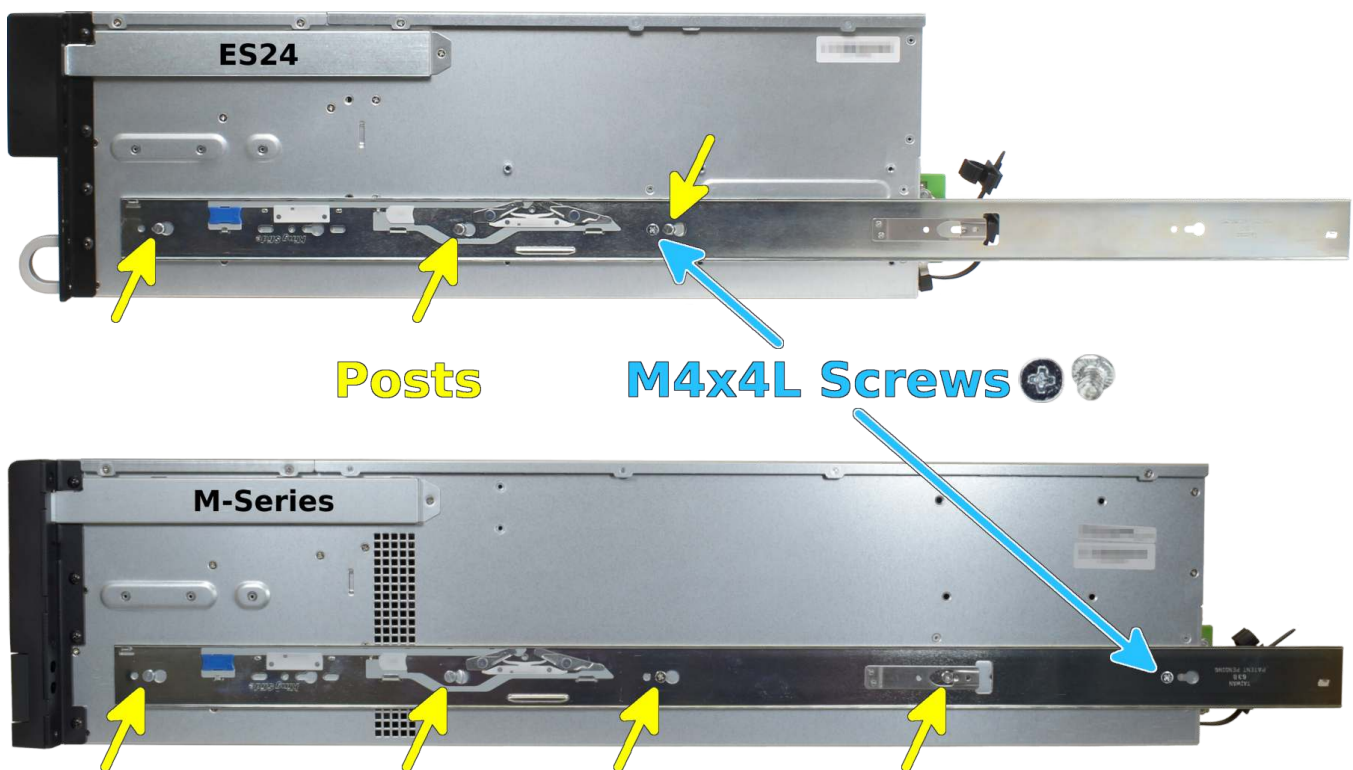
Extend the inner rack rail until it locks in place (1). Slide out the cabinet rail until it stops (2).

Remove the cabinet rail by sliding the white release tab away from the inner rack rail (3), then pull the cabinet rail free (4).



1.2.2 Mount Cabinet Rails

The cabinet rails are mounted on both sides of the system cabinet. Align the cabinet rail keyholes with the three posts (ES24) or four posts (M-Series) on the side of the chassis and slide the rail until the post is secured in the keyhole slot of the rail.

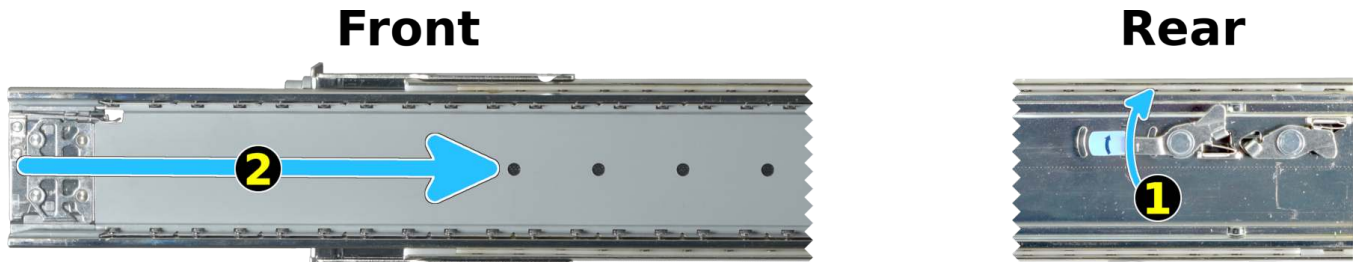


Align the rail hole with the screw hole and secure the rail with one M4x4L screw. Repeat this process to mount and secure the second cabinet rail on the other side.

1.2.3 Mount the Rack Rails

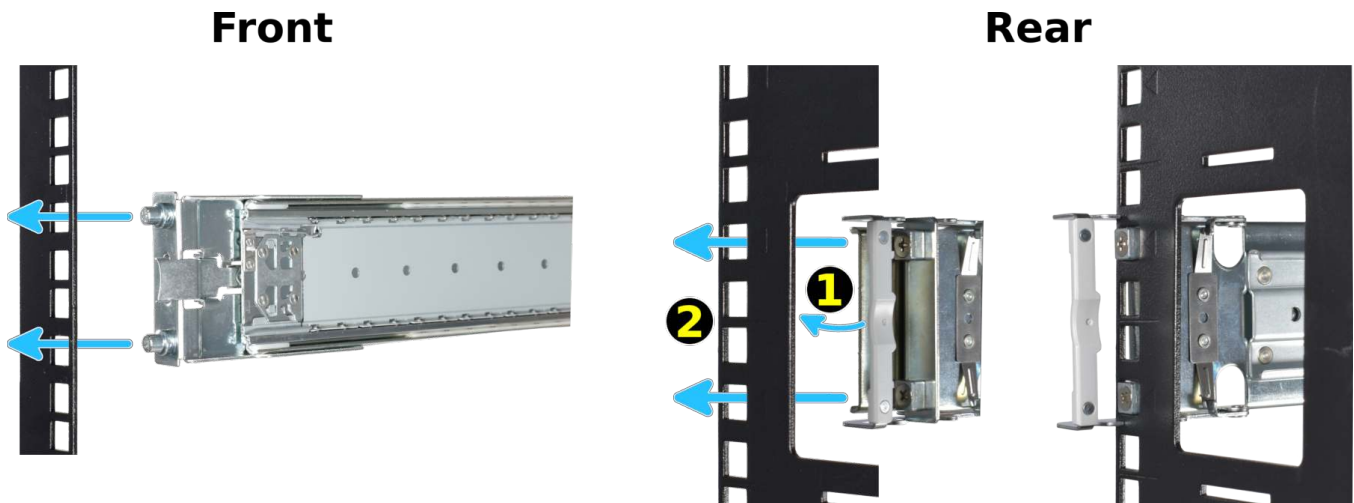
A TrueNAS® M-Series or ES24 requires 4U of vertical rack space. The rack rails are installed in the bottom 2U of the total 4U height.

The inner rack rail must be unlocked and retracted before installing the rail in the rack. Rotate the release lever on the back of the inner rail clockwise as shown on the arrow label (1). Push the inner rail toward the back of the rail assembly until it stops (2).



Place the rail in the rack with the front end toward the front of the rack, aligning the pins with the mounting holes in the front of the rack. Push the pins into the holes until the latch clicks.

At the rear end of the rail, align the pins with the rack holes, making sure the rail is level. Swing the gray latch handle outward (1) and pull it to extend the rail rearwards until the rail pins are fully seated in the rack holes (2). Release the latch to allow it to lock into place. Repeat the process for the second rack rail.



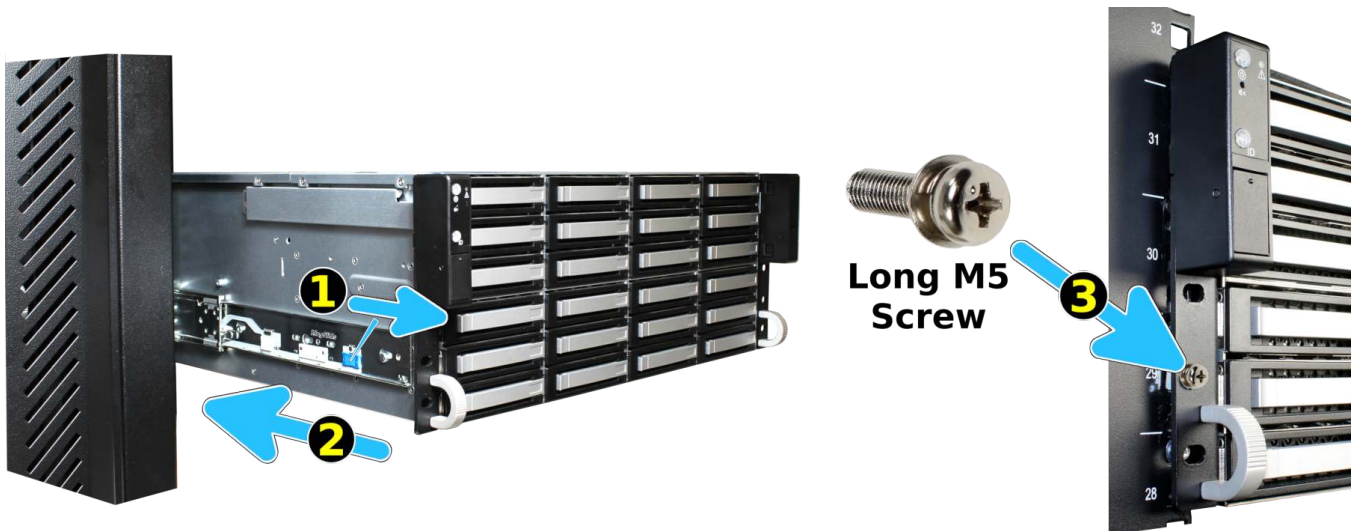
1.2.4 Mount the Unit in the Rack

Caution: Two people are required to safely lift the chassis for rack installation or removal. Do not install drives until after the chassis has been installed in the rack, and remove all drives before removing the chassis from the rack.

Extend both inner rack rails outward from the rack until they lock in place. Align the cabinet rails with the inner rack rails and slide them into the rack rails until they are fully seated.



When both cabinet rails are secured in the rack rails, gently push the chassis until it stops halfway in. Slide the blue release tabs on both cabinet rails toward the front of the system (1) while pushing the unit into the rack. Push the chassis into the rack until it is flush with the front of the rack (2).



Anchor the unit in the rack on both sides with long M5 screws. On the M-Series, the screw hole is behind a small door on each ear.

1.3 Install Drive Trays

Drives are mounted in drive trays, which are then installed in drive bays in the ES24 or M-Series chassis.

Each drive bay in the chassis has two indicator lights to the right of the tray. The upper light is blue when the drive is active. The lower light is solid red if a fault has occurred. Both lights blink to identify drives that are hot spares.

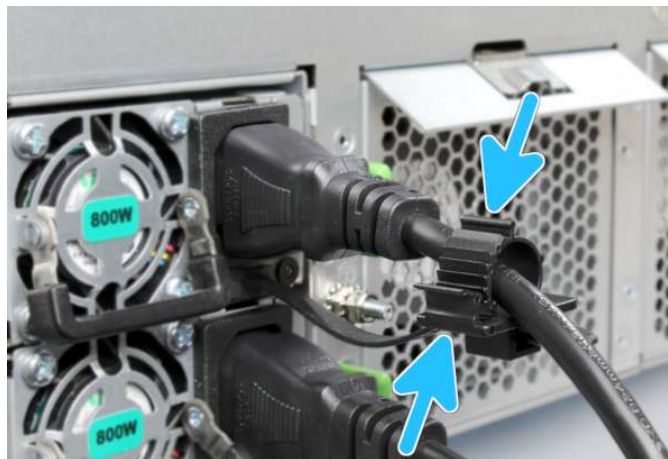
Press the silver button on the drive tray to open the latch. Carefully slide the tray into a drive bay until the right side of the latch touches the metal front edge of the chassis, then gently swing the latch closed until it clicks into place.

All drive bays must be filled to maintain proper airflow for cooling. If fewer than 24 drives are connected, filler blanks must be placed in the empty bays.



1.4 Connect Power Cords

Do not plug the power cords into a power outlet yet. Connect a power cord to the back of one power supply. Place the cord into the plastic clamp and press the tab into the latch to lock it in place. Repeat the process for the second power supply and cord.



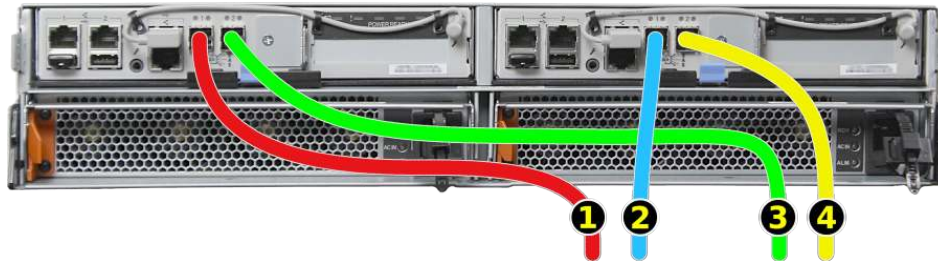
1.5 Connect The Expansion Shelf

Plug the ES24 power cords into power outlets. **Wait two minutes for the drives to start.**

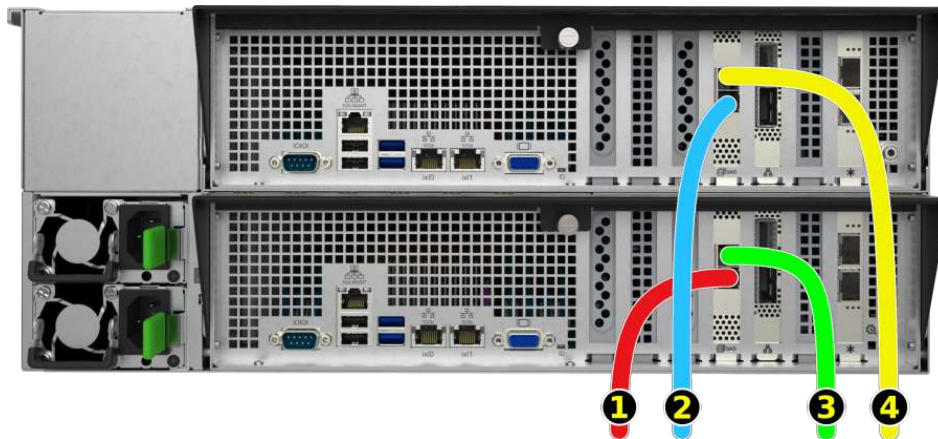
If the TrueNAS® system is on, it can remain on while the expansion shelf is connected.

The ES24 is compatible with several TrueNAS® systems. Typical SAS cable connections for connecting one or two ES24 units to TrueNAS® High Availability (HA) systems are shown here. When a TrueNAS® unit with only a single storage controller is used, only cables #1 and #3 are connected.

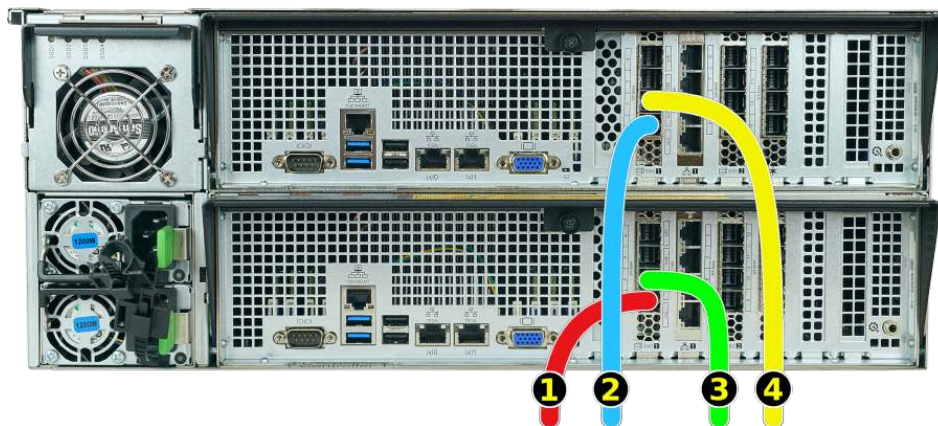
X-Series



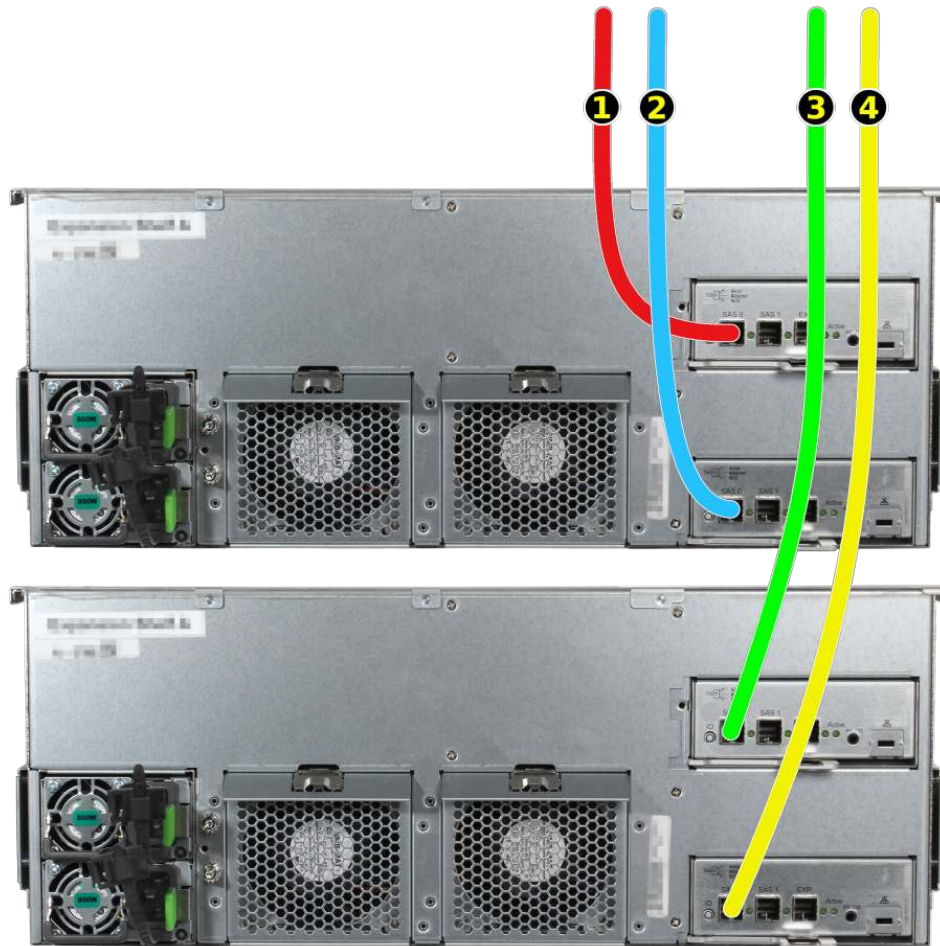
M40



M50



The SAS cables from the TrueNAS® system connect to these ports on the ES24:



- Connect cable #1 to the first ES24, expansion controller 1 SAS 0 port.
- Connect cable #2 to the first ES24, expansion controller 2 SAS 0 port.

If a second ES24 is present:

- Connect cable #3 to the second ES24, expansion controller 1 SAS 0 port.
- Connect cable #4 to the second ES24, expansion controller 2 SAS 0 port.

1.6 User Guide

The TrueNAS® User Guide has complete software configuration and usage instructions. It is available by clicking *Guide* in the TrueNAS® web interface or going directly to <https://www.ixsystems.com/documentation/truenas/>.

2 Contacting iXsystems

For assistance, please contact iX Support:

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