



TrueNAS M-Series Basic Setup User Guide

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TrueNAS® M-Series Basic Setup Guide
3rd Generation
Version 3.32

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Introduction

The 3rd Generation M-Series Unified Storage Array is a 4U, 24-bay, hybrid data storage array. It has redundant power supplies, and two TrueNAS controllers.

The 3rd Generation TrueNAS M-Series systems have a unified chassis design that allows customers to upgrade them with more powerful controllers. Customers can upgrade an M30 to an M40, or an M50 to an M60. Speak with an iXsystems Sales or Support Representative for more information.

Your system comes with the TrueNAS operating system preloaded.

Review the safety considerations and hardware requirements before installing an M-Series system into a rack.

1.1 Safety

1.1.1 Static Discharge

Static electricity can build up in your body and discharge when touching conductive materials. Electrostatic Discharge (ESD) is harmful to sensitive electronic devices and components. Keep these safety recommendations in mind before opening the system case or handling non-hot-swappable system components:

- Turn off the system and remove power cables before opening the case or touching internal components.
- Place the system on a clean, hard work surface like a wooden tabletop. Using an ESD dissipative mat can also help protect the internal components.
- Touch the metal chassis with your bare hand to dissipate static electricity in your body before touching any internal components, including components not yet installed in the system. Using an anti-static wristband and grounding cable is another option.
- Store all system components in anti-static bags.

You can find more preventative tips and details about ESD at <https://www.wikihow.com/Ground-Yourself-to-AvoidDestroying-a-Computer-with-Electrostatic-Discharge>.

1.1.2 Handling the System

The M-Series weighs 75 lbs unloaded and requires a minimum of two people to lift.

Never attempt to lift an M-Series system loaded with drives! Install the system in a rack before adding drives, and remove drives before de-racking the system.

When handling rails, system components, or drives, never force movement if a piece seems stuck. Gently removing the part and check for pinched cables or obstructing material before installing it again. Installing a component with excessive force can damage the system or cause personal injury.

Hold the system from the sides or bottom whenever possible. Always be mindful of loose cabling or connectors, and avoid pinching or bumping these elements whenever possible.

These instructions use “left” and “right” according to your perspective when facing the front of a system or rack.

1.2 Requirements

We recommend these tools when installing an M-Series system in a rack:

- #2 Philips head screwdriver
- Flat head screwdriver
- Tape measure
- Level

M-Series Components

TrueNAS units are carefully packed and shipped with trusted carriers to arrive in perfect condition.

If there is any shipping damage or missing parts, please take photos and contact iXsystems support immediately at support@ixsystems.com, 1-855-GREP4-iX (1-855-473-7449), or 1-408-943-4100.

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





Carefully unpack the shipping boxes and locate these components:

	<p>M-Series Unified Storage Array</p>
	<p>Bezel</p>
	<p>Set of rackmount rails. The rails have a specific front end, identified by a label visible on the left above. The front ends of the rails must be installed facing the front of the rack.</p>
	<p>Up to 24 drive trays or air baffles, depending on the number of drives purchased with the system.</p>
	<p>Accessory kit with 2 IEC C13 to NEMA 5-15P power cords, 2 IEC C13 to C14 cords, and a set of velcro cable ties</p>
	<p>DB9 to 3.5mm serial cable</p>
	<p>Hardware for mounting the system in a rack</p>

1.2 Front Indicators

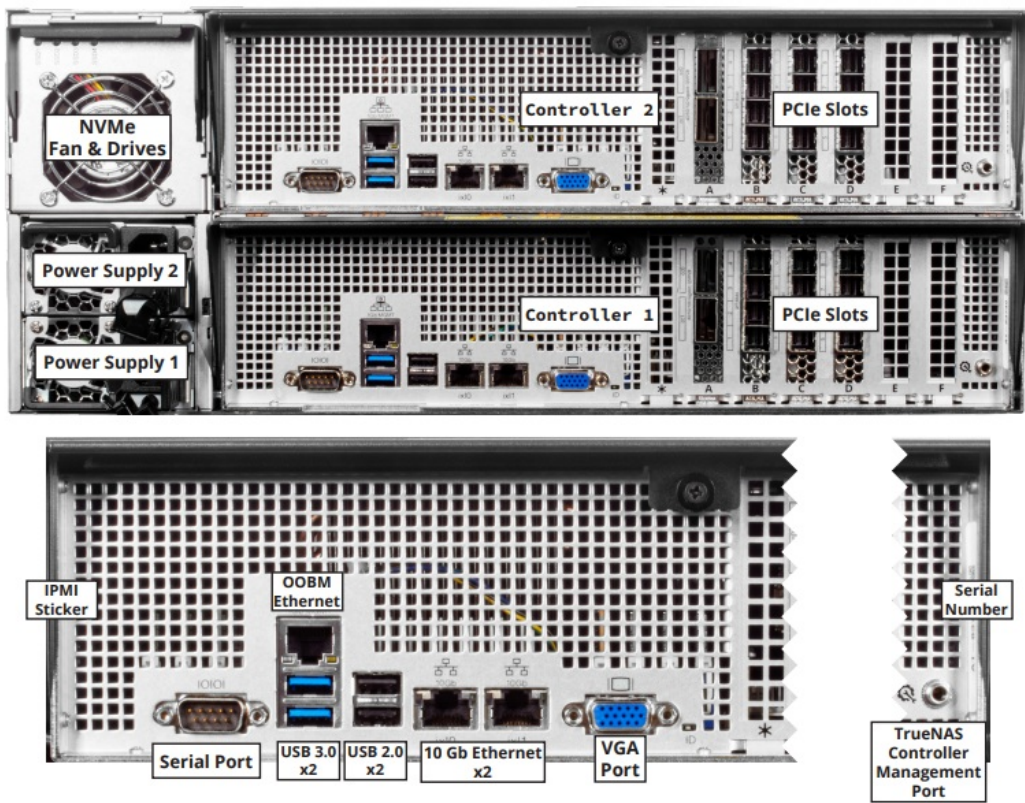
The front ears have power, locate ID, fault, and network activity indicators. The fault indicator is on during the initial power-on self-test (POST) and turns off during normal operation. It turns on if the TrueNAS software issues an alert.



Light / Button	Color and Indication
	Blue: System On
	N/A: Reset Button
ID	Blue: Locate ID Active
	Red: Fault / Alert
	Amber: Link Active

1.3 Rear Components and Ports

The M-Series includes one or two TrueNAS controllers in an over-and-under configuration.

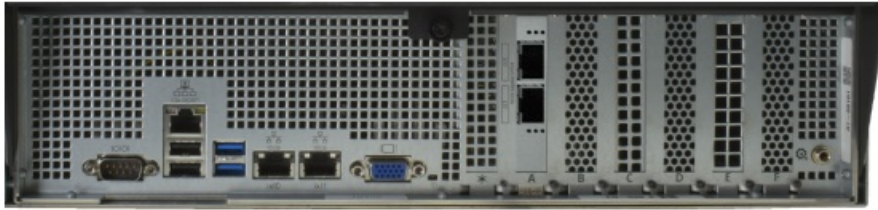


1.4 M-Series Expansion Slots

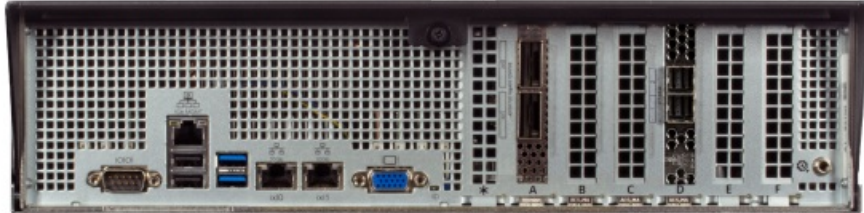
Expansion slots on the M-Series are reserved for specific cards or internal use:

	Slot A	Slot B	Slot C	Slot D	Slot E	Slot F
M30	NIC or FC	N/A	NTB	N/A	Internal SAS	Secondary NIC
M40	NIC	N/A	NTB	External SAS	Internal SAS	4x NVME Riser, NIC2, or K
M50	NIC1	External SAS1	NIC2 or FC	External SAS2	NTB	Internal SAS
M60	NIC1	External SAS1	External SAS3, NIC2, or FC	External SAS2	NTB	Internal SAS

M30 Controller Expansion Slots



M40 Controller Expansion Slots



M50 Controller Expansion Slots



M60 Controller Expansion Slots



Rack the M-Series

The M-Series requires 4U of space in an EIA-310 compliant rack that is 27" (686mm) deep, frame to frame. The vertical rack posts must be between 26" (660.4mm) and 36" (914.4mm) apart to install the rails properly.

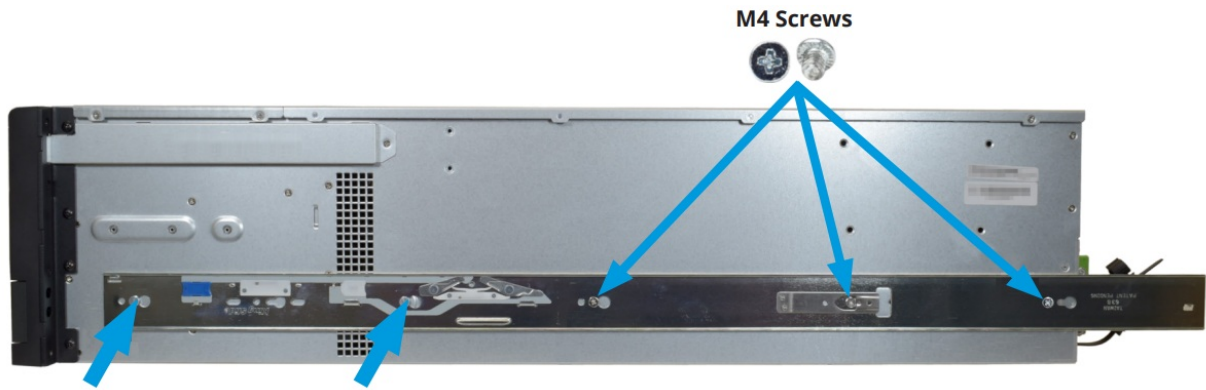
2.1 Install Chassis Rails

Each rack rail has an inner chassis rail you must remove. Extend the chassis rail until you see the white release tab.

Push release tab to the right and remove the chassis rail from the rack rail. Repeat the process for the second rail.



The chassis rails mount on each side of the system. Align the cabinet rail keyholes with the posts on the side of the chassis. Slide the rail towards the rear of the system until the metal tab clicks and secures the rail in place. Secure the rail to the chassis using the low-profile M4 screws. Repeat this process on the other side.



2.2 Install Rack Rails

The rack rails install in the bottom 2U of the total 4U of reserved rack space.

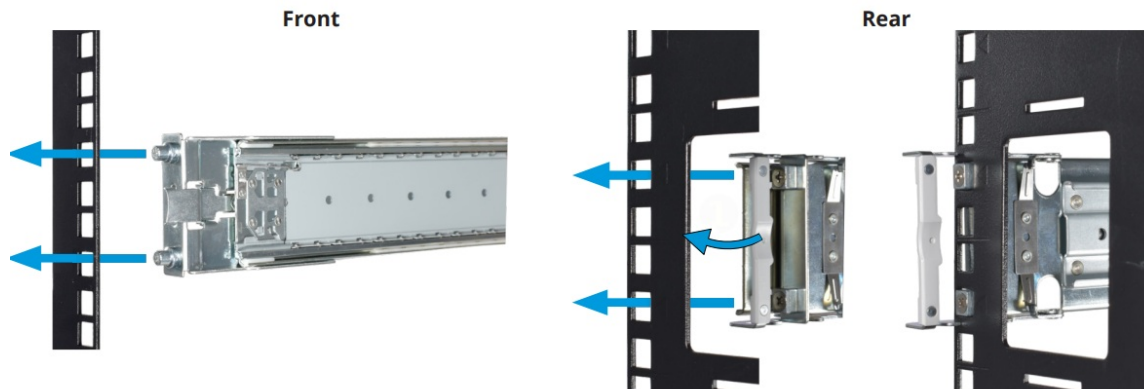
You must unlock and retract the inner rack rail before installing it in the rack. Rotate the release lever on the back of the inner rail as shown on the arrow label, then push the inner rail towards the back of the assembly until it stops.



Place the rail in the rack with the front end towards the front of the rack. Align the pins with the front rack mounting holes. Push the pins into the holes until the latch clicks.

At the rear of the rail, align the pins with the rack holes. Swing the gray latch handle outwards 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.

Repeat the process for the second rack rail.



2.3 Mount the System in the Rack

Warning: The M-Series requires two people to safely lift in and out of a rack. Do not install drives until after you mount the M-Series in the rack. Remove all drives before taking the M-Series out of the rack.

Extend both inner rack rails out from the rack until they lock. Align the chassis rails with the rack rails and slide them in until they are fully seated.



When both chassis rails are secured in the rack rails, gently push the chassis until it stops half way in.

Slide the blue release tabs on both cabinet rails towards the front of the system and push the unit into the rack.



To anchor the unit in the rack, insert a long M5 screw through the retention port on each ear. The screw hole is behind a small door on each ear.

Install Drives

TrueNAS systems only support qualified HDs and SSDs. Contact the Sales Team for more drives or replacements. Adding unqualified drives to the system voids the warranty. Call Support if drives are improperly installed in trays. Place a tray on a flat surface. Mount a hard drive by aligning the drive connectors to the rear of the tray and pushing the drive screw holes into the drive tray pegs.



Baffles maintain proper air flow in systems with fewer than 24 drive trays. When installing a new drive, insert a flathead screwdriver in the baffle groove and gently pull to remove the baffle.



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 or a hot spare. The lower light is solid red if a fault has occurred.

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.



We strongly recommend a standard drive tray installation order to simplify support:

- SSD drives for write cache (W), if present
- SSD drives for read cache (R), if present
- Hard drives or SSD drives for data storage
- Air baffle filler trays to fill any remaining empty bays

Install the first drive in the top left bay. Install the next drive to the right of the first. Install remaining drives to the right across the row. After a row is filled, move down to the next row and start again with the left bay.



Install Bezel (Optional)

Slide the right side of the bezel into the attachment points on the right ear, then push the left side of the bezel into the left ear latch until it locks.



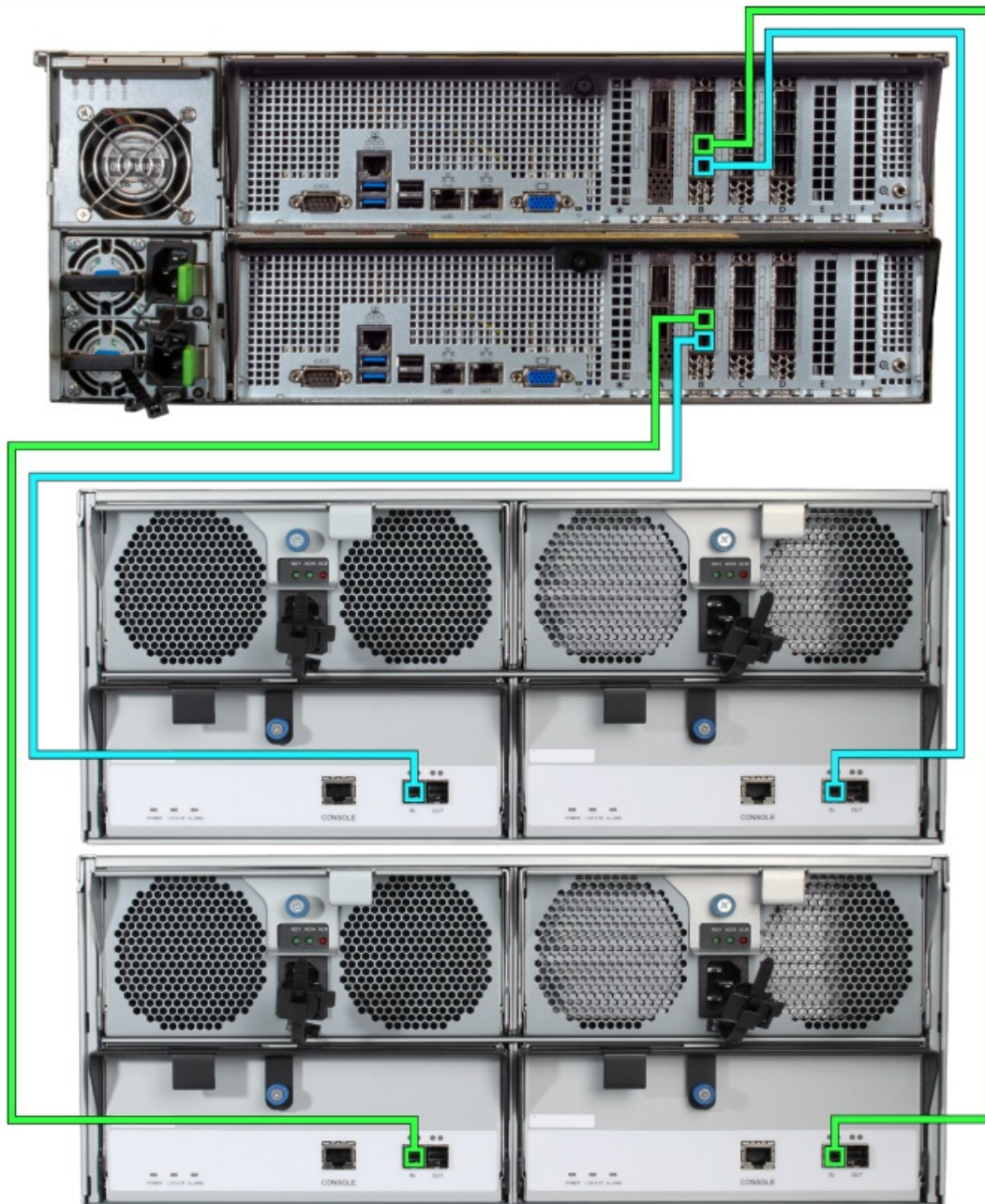
To remove the bezel, push the left ear release tab away from the bezel, then swing the bezel out.

Connect Expansion Shelves

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 systems require another cable from the first port on the second TrueNAS Controller to the first port on the second Expansion Shelf Controller. We DO NOT recommend other cabling configurations. Contact iX Support if you need other cabling methods.

Warning: When setting up SAS connections, please adhere to the wiring example below. Connecting expansion shelves incorrectly causes errors. Never cable a single controller to different expanders on the same shelf. The guide included with your Expansion Shelf has instructions for SAS connections. The example below shows an M60 connected to two ES60s. Detailed diagrams are also available in the **TrueNAS SAS Connections Guide**.

Note: The M30 does not support expansion shelves.



Connect Network Cables

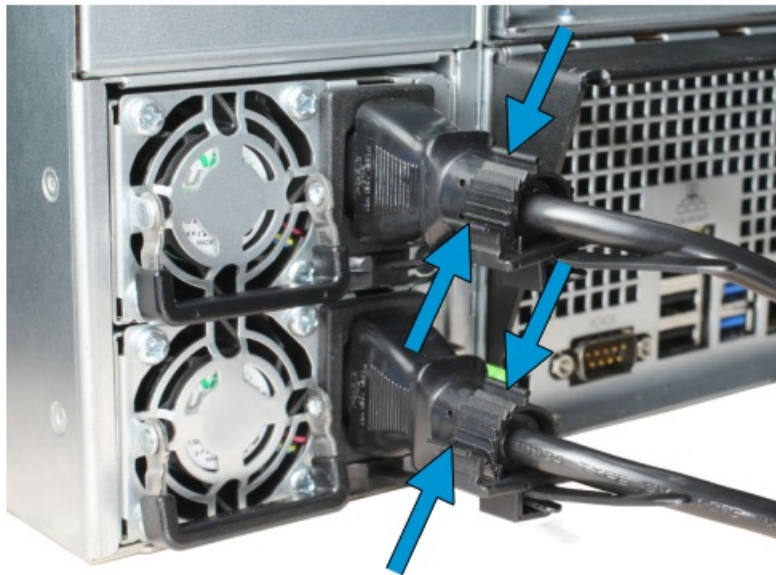
Connect network cables before powering on the M-Series. Cable specifications and requirements vary by configuration, so they do not come with the system. We recommend you connect network cables from the local switch or management network to the Out-of-Band (OOB) IPMI management port on each TrueNAS Controller. Refer to the network port labels in section “1.3 Rear Components and Ports” on page 3 as needed. iXsystems preconfigures network ports to customer specifications before shipping.

Connect Power Cables

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 in 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.

If you are using TrueNAS expansion shelves with the M-Series, connect them to the M-Series, then power them on the and wait at least two minutes before connecting power cables to the M-Series.

The M-Series automatically turns on when connected to power. It also automatically turns back on when power is restored after a power failure.



Add TrueNAS Controllers

To avoid data loss, contact iXsystems before replacing a controller or upgrading to High Availability.
To avoid data loss in an NVDIMM SLOG, power off TrueNAS controllers before removing them from the chassis.

8.1 Remove Shipping Brace

M-Series systems with only one TrueNAS controller have an internal shipping brace you must remove before adding a second TrueNAS controller.

Remove the cover plate thumbscrew and controller slot cover.



Remove the retention screw and take the brace out of the chassis. Put the retention screw back in.
Confirm there are no obstructions in the TrueNAS controller slot, then continue installing the TrueNAS controller.



8.2 Install Second TrueNAS Controller

Use both hands to lift and carry the TrueNAS controller from the bottom only.

Insert the controller into the chassis. Only press on the controller bottom, sides, or handle. Slide it into the chassis until it stops. Lift the black release handle to lock the controller in place, then tighten the thumb screw to lock it.



8.3 Remove a TrueNAS Controller

Unlock the controller handle by turning the thumb screw counter clockwise until it releases the handle. Do not pull or press on any portion of the TrueNAS controller except the black release handle. Pull the release handle down to release the controller. Use both hands to grasp the controller only by the sides, bottom, or handle. Slide the TrueNAS controller out of the chassis.



Boot the System

Your system is equipped with the optimal BIOS and IPMI firmware out of the box.

DO NOT UPGRADE your system's BIOS and IPMI firmware.

We recommend that IPMI be on a separate and secure network without Internet access.

Please contact support if you need to upgrade your system's BIOS or IPMI firmware.

After plugging the power cables into outlets, the M-Series powers on and boots into TrueNAS.

When booted, the system console displays the TrueNAS web UI IP address. The IP address is either preconfigured according to customer guidelines, or automatically generated with DHCP. Example:

The web user interface is at:

<http://192.168.100.231>

<https://192.168.100.231>

Enter the IP address into a browser on a computer on the same network to access the web user interface.

9.1 Default Credentials

The TrueNAS web interface uses default credentials for first-time logins:

Username: root

Password: abcd1234

After logging in with the default credentials, change the root account password to a new, stronger password before storing any sensitive data.

Out of band logins have separate credentials from the TrueNAS web interface. The credentials are randomized and attached to the back of the TrueNAS chassis. For more details, see <https://www.truenas.com/docs/sb-327>.

For additional details about out of band management, see the M-Series Out of Band Management guide:

<https://www.truenas.com/docs/hardware/mseries/mseriesoobm/>

Additional Resources

The TrueNAS Documentation Hub has complete software configuration and usage instructions.

Click Guide in the TrueNAS web interface or go directly to: <https://www.truenas.com/docs/>

Additional hardware guides and articles are in the Documentation Hub's Hardware section:

<https://www.truenas.com/docs/hardware/>

The TrueNAS Community forums provide opportunities to interact with other TrueNAS users and discuss their configurations: <https://www.truenas.com/community/>

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: 1-855-473-7449 option 2 • Local and international: 1-408-943-4100 option 2
Telephone	Telephone After Hours (24x7 Gold Level Support only): <ul style="list-style-type: none"> • US-only toll-free: 1-855-499-5131 • International: 1-408-878-3140 (International calling rates will apply)



Documents / Resources

<p>TrueNAS® M-Series Basic Setup Guide</p>	<p>TrueNAS M-Series Basic Setup [pdf] User Guide M-Series Basic Setup, M-Series, Basic Setup</p>
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References

- </hardware/mseries/>
- [User Manual](#)

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