



45HomeLab

STORAGE SERVER USER MANUAL



15-bay storage server — built for the home lab

Platform 45HomeLab × Unraid, Signature Series

Revision 2026-06-24

Applies to X15 / HL15 chassis



A DIVISION OF 45DRIVES



CONTENTS

Getting Started	3
Hardware	4
Safety Warnings	6
Initial Setup	7
Unboxing	7
Racking	11
Inserting the Storage Drives	19
Rear Panel & Cabling	20
Power Requirements	21
Initial Configuration (Unraid)	22
Out-of-Band Management (IPMI)	23
Troubleshooting	26
Support & Warranty	27



GETTING STARTED

Welcome to the 45HomeLab community. We are so glad you've chosen us.

ABOUT US

Serving our customers well is at the core of everything we do at 45HomeLab. In an industry where technical support is strictly timed, automated, and impersonal, we are real people solving real storage problems. Our storage solutions are non-proprietary, giving you the freedom to run any software you choose.

Our Goal	Provide you with the best storage solution for your data needs — not the most expensive one. Today we provide the most affordable storage solutions in the industry.
Our Mission	To provide affordable open-source storage solutions while staying true to our community roots by giving back to the open-source community that we rely on.
Open Design	Unlike mainstream data storage providers, 45HomeLab maintains an open design and ongoing relationships with the open-source community.

WHY 45HOMELAB

At 45HomeLab we know home labbers have a strong vision of the infrastructure they want, and how to build and configure it. A key pillar of a great home lab is sufficient storage that is customized and configured how you need it.

The problem is that home storage offerings today are underpowered and have locked-down software, while enterprise solutions are too big and too expensive. We understand how frustrating this is, which is why we created the 45HomeLab product line: big, strong, and fast, while also open and flexible so you can easily modify, upgrade, and repair it — all at a price that makes sense for a power home lab user.

The X15 is a 15-bay server designed to provide the power and storage needed for a great home lab.



HARDWARE

Chassis Dimensions (L x W x H): 20" x 17" x 7.5"



Figure 1: Internal layout – motherboard, RAM, PSU, and 15-bay backplane.

Below are the components included in your X15 by default. CPU, motherboard, RAM, boot drives, and other parts may differ based on customization at time of order.



COMPONENT REFERENCE

ID	Component	Model / Specs
1	Backplane	45Drives 15HDD Backplane
2	Boot Drive(s)	Kingston 1 TB NV3 Gen 4×4 NVMe M.2
3	Data Cables	miniSAS HD 0.6 m
4	Chassis	45HomeLab HL15 Chassis
5	CPU	Intel i7-14700
6	HBA Card	LSI 9400-16i 4-port 12G
7	Case Fans	Arctic P12 Pro PST
8	CPU Heatsink	Thermalright Peerless Assassin 120 Mini Black
9	Motherboard	Gigabyte MW34-SPO (Rev. 1.1)
10	Power Supply	Corsair RM1000x 1000 W PSU
11	Network Card	Intel X550T2 10GbE
12	RAM	8 GB / 16 GB / 32 GB DDR4-3200 ECC UDIMM (per order)
13	M.2 Slot	M.2 2280
14	M.2 Slot	M.2 2280
15	M.2 Slot	M.2 2280
16	PCIe Slot	PCIe x16

SUPPORTED DRIVE TYPES

HDD SATA

HDD SAS

SSD SATA



SAFETY WARNINGS

Read this page before you open the chassis or rack the unit.

Power off before servicing	Always disconnect the power cable before opening the chassis, adding or removing drives outside of hot-swap bays, or working near the motherboard.
ESD precautions	Use an anti-static wrist strap, or regularly touch a grounded metal surface, before handling RAM, the motherboard, HBA cards, or boot drives.
Rack stability	Make sure rails are fully and securely seated on both sides before sliding the unit in. Do not extend the unit on its rails beyond the point where it remains supported.
Ventilation	Do not block intake or exhaust fans. Maintain adequate clearance at the front and rear of the rack.
Electrical	Use a grounded outlet and a power cable rated for the PSU's draw. Do not operate the unit with a damaged power cable.



INITIAL SETUP

UNBOXING

- 1 Once you receive your new unit from shipping, inspect the box and make sure there isn't any shipping damage.



Figure 2: Inspecting the shipping box.



- 2 Put on protective gloves if needed and use a box cutter to open it.



Figure 3: Opening the box with a box cutter.

- 3 Remove the top foam and take the unit out of the box. Inside you'll also find a smaller box containing any accessories purchased with the server, along with paper documents.



Figure 4: Top foam removed.



Figure 5: Accessories box.



- 4 Lay the unit on a flat surface such as a table and make one more inspection to be sure everything is in order. Lift the unit out by the left and right sides — having a second person help is recommended.



Figure 6: Unit still in bubble wrap.



Figure 7: Unit placed on a table.

- 5 Loosen the thumb-screws at the front of the chassis and remove the top cover.



Figure 8: Removing the top cover.



- 6 Carefully remove any foam or packaging surrounding the CPU heatsink and other internal components.



Figure 9: Foam packaging around the internals.



Figure 10: Removing foam from the CPU heatsink.

- 7 Replace the top cover and secure it with the thumb-screws. Unboxing is complete.



Figure 11: Unboxing complete.

From here you can move on to either racking the unit or placing it in its final destination using the provided rubber feet, which screw into the base of the system for desktop placement.



Figure 12: Attaching the rubber feet for desktop placement.

RACKING

BEFORE YOU START

Do not install the storage hard drives before racking your new unit.

- 1 If you purchased rails with your 45HomeLab unit, or are supplying your own, attach them to the sides of the unit.



- 2 Unbox the rails and disconnect the part that attaches to the unit. There should be a latch on the rail that allows easy disconnection.



Figure 13: Rails unboxed.



- 3 Check the orientation. The rails only go one way – they carry indicators showing which side and which way is up.

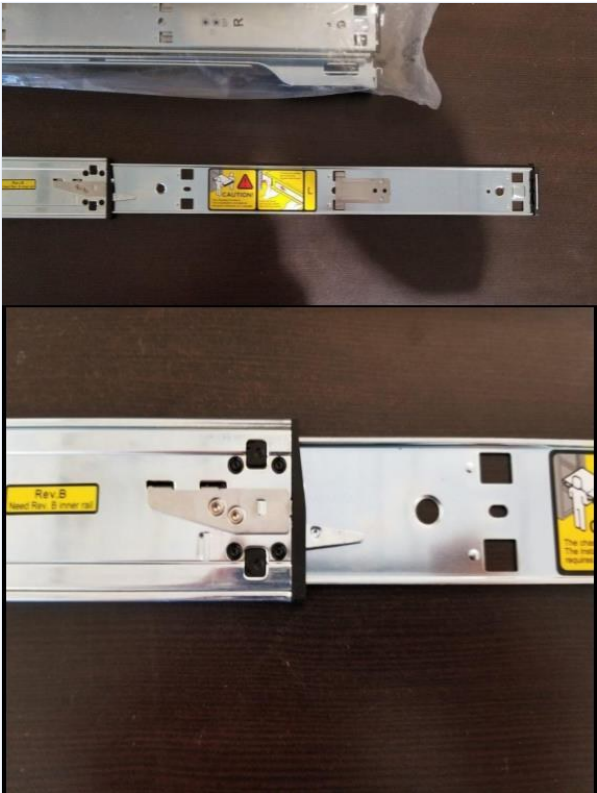


Figure 14: Rail orientation indicators.



- 4 Locate the screws in the included rail mount kit and screw the rails onto each side of the unit. It may be easier if one person holds the rail while a second person drives the screws.



Figure 15: Rail mount screw kit.

- 5 Install the other piece of each rail into the rack, again checking the up/side indicators.



Figure 16: Installing the rail into the rack.



Figure 17: Rail installed in the rack.



- 6 Extend the rails on the rack to full length.



Figure 18: Rails extended, ready for the unit.



- 7 With a second person, pick up the unit and align the rails on the rack with the rails on the unit. Make sure the rails are securely seated, or the unit may fall.



Figure 19: Aligning the unit with the rails.



- 8 Slide the unit onto the rails until you hear a click, then flip the latch to fully move the unit into the rack.



Figure 20: Sliding the unit into the rack.



- 9 Attach the rack ears with the provided hardware.



Figure 21: Attaching the rack ears.



Figure 22: Unit racked, front view.



Figure 23: Unit fully racked.

Your server is now racked. Next, insert the storage drives.

INSERTING THE STORAGE DRIVES

It is best practice to install drives starting at slot **1-1** and incrementing sequentially. Each drive should fit snugly into its slot, with the back of the drive facing right.

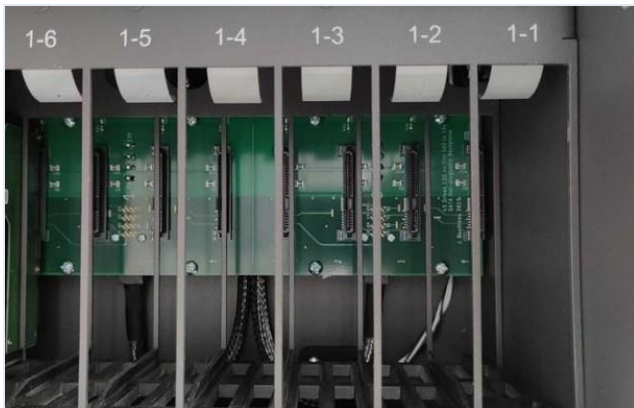


Figure 24: Empty drive bays, showing slot numbering.



Figure 25: Drives inserted.



REAR PANEL & CABLING

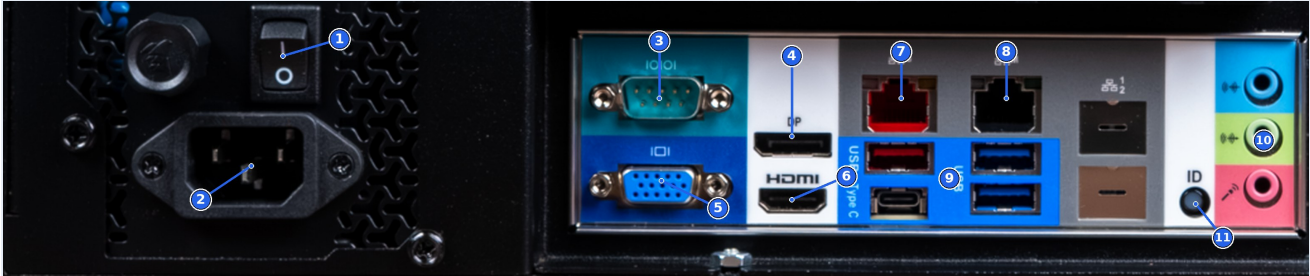


Figure 26: Rear panel ports.

#	Component
1	Power supply on/off switch
2	Power cable port (IEC inlet)
3	Serial console
4	DisplayPort output
5	VGA output
6	HDMI output
7	10GbE ethernet port
8	IPMI / management ethernet port
9	USB Type-A & Type-C ports
10	Audio jacks
11	UID button

Initial cabling

- 1 Connect an ethernet cable from your router or switch to the 10GbE port.
- 2 Connect a monitor to VGA, or to HDMI/DisplayPort.



- 3 Connect a USB keyboard, and a mouse if you want one, for local configuration.
- 4 Plug in the power cable.
- 5 Power on via the rear switch, then the power button.

NOTE

VGA is recommended because it preserves full IPMI remote KVM support. Using HDMI or DisplayPort disables IPMI remote KVM.

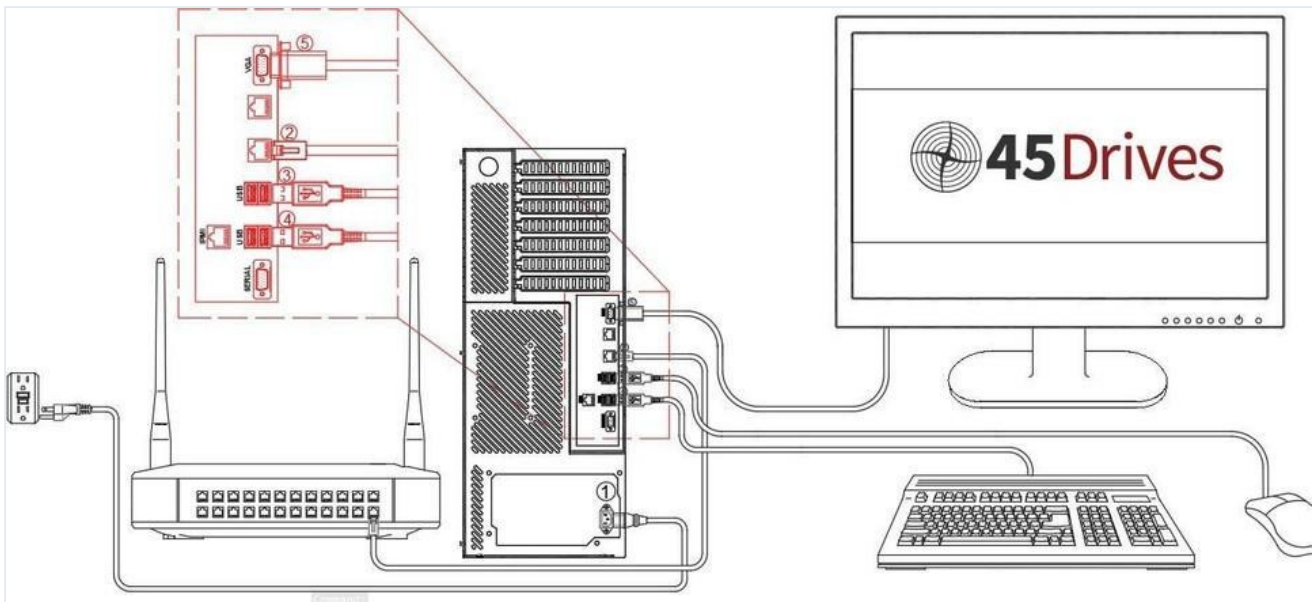


Figure 27: Initial cabling diagram.

POWER REQUIREMENTS

- › Plug the power cable into the power supply, turn on the power switch, then press the power button on the back of the server to turn it on.
- › The X15 ships with a **Corsair RM1000x 1000 W PSU**. See the component reference table for the exact unit included with your build.
- › If sourcing your own power supply, ensure at least 20 A of 5 V power as a minimum guideline.
- › If you plan to add a graphics card or anything else that increases power draw, you may need a more powerful supply.
- › Corsair Modular ATX power supplies are guaranteed to fit.



INITIAL CONFIGURATION (UNRAID)

Before proceeding, confirm the following.

- › The power cable is connected.
- › The network port is connected.
- › A monitor is connected so you can read the Unraid IP address on boot.
- › A keyboard, and a mouse if you want one, is connected for local input.
- › The server is powered on.

Press the round power button located in the top right when looking at the server from the back.



Figure 28: Rear of the unit, with the power button circled at top right.

Unraid should be reachable at the IP address shown on the login screen. Enter that IP into your browser's address bar — you should see a login screen.

IF YOU SEE 169.254.X.X

The server could not get an IP address from your router or switch. Check your network cable and reboot.

For post-setup steps and to activate your included licence, see the official Unraid documentation:
docs.unraid.net › [Getting Started](#) › [Complete your post-setup essentials](#)



OUT-OF-BAND MANAGEMENT (IPMI)

OPTIONAL

IPMI is not required for regular use of the system, but it helps with remote monitoring and management. You can skip this section if you prefer.

IPMI (Intelligent Platform Management Interface) is an open, industry-standard interface for managing server systems over the network. It supports FRU inventory reporting, system monitoring, event logging, and remote system recovery such as reset and power off.

- 1 Turn on the server using the power button on the back panel.
- 2 As the server boots, the BMC/IPMI IP address is shown in the bottom-left corner of the screen.



Figure 30: BMC IP address shown at boot.

- 3 From a PC or laptop on the same network, open a browser and go to https://<BMC_IP>.



- 4 Log in with the username `admin` and the unique motherboard password printed on a sticker on the CPU heatsink.

The screenshot shows the MegaRAC SP-X login interface. It has a blue header with the text 'MegaRAC SP-X'. Below the header are three input fields: 'Username', 'Password' (with a toggle icon), and a language dropdown menu currently set to 'US - English'. There is a checkbox labeled 'Remember Username' and a large blue 'Sign me in' button. At the bottom, there is a link that says 'I forgot my password'.

Figure 31: BMC login screen.



Figure 32: Motherboard password sticker on the heatsink.



- 5 The dashboard shows product info, firmware versions, network info, and sensor health.

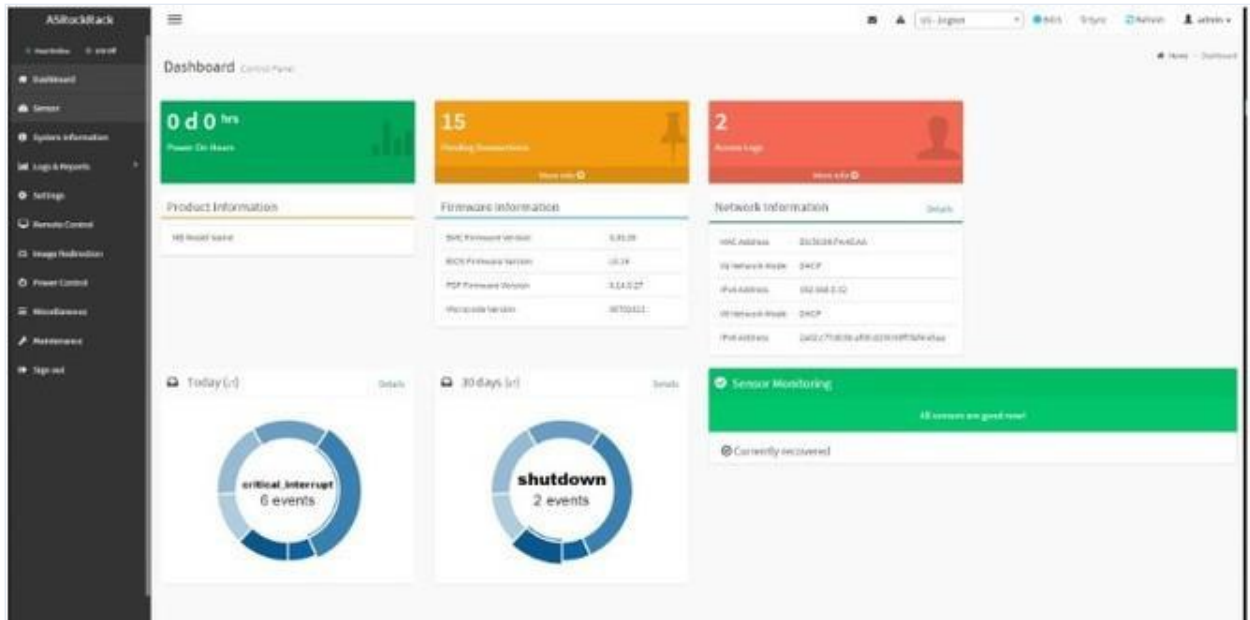


Figure 33: BMC dashboard overview.

- 6 To open a remote console, go to **Remote Control** → **Launch**, then choose **Launch H5Viewer** (HTML5) or **Launch JViewer** (Java). This opens a remote desktop session you can log into using your normal OS credentials.



TROUBLESHOOTING

SERVER WON'T POWER ON

- › Check for lights on the motherboard and PSU.
- › Check whether the fans are spinning.
- › Check the health event logs via IPMI, if equipped.
- › If you are not getting any video output, it is most likely a motherboard or CPU issue. Replace the faulty component and try again.

SYSTEM WILL NOT BOOT INTO THE OS

- › If the system is stuck in a boot loop, try accessing the server via the IPMI web UI, if equipped.
- › Try the boot menu by pressing **F10** during reboot.
- › In the boot menu, try manually selecting the boot drive. If that works, check that the boot order is set correctly.
- › Press **Delete** to enter BIOS and check the boot order directly.



SUPPORT & WARRANTY

Documentation	docs.45homelab.com
---------------	---

Community	The 45HomeLab forum
-----------	---------------------

Support contact	info@45homelab.com
-----------------	--

Warranty period	1 year from purchase date for the X15
-----------------	---------------------------------------

For hardware or software assistance, visit support.unraid.net and log in with your Unraid account to get help.