



PegasusPro R16

Product Manual

Version 1.2

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In this *Product Manual*, the appearance of products made by other companies, including but not limited to software, servers, and disk drives, is for the purpose of illustration and explanation only. PROMISE Technology does not recommend, endorse, prefer, or support any product made by another manufacturer.

About this guide

This *Product Manual* describes how to setup, use, and maintain the PegasusPro R16. It also describes how to use the PROMISE Utility Pro software that you install and run on your computer, as well as how to perform advanced system management using the web-based user interface, WebPAM InSight.

This manual is written specifically for the PegasusPro R16.

This manual includes a full table of contents, chapter task lists, and numerous cross-references to help you find the specific information you are looking for.

Also included are four levels of notices:

**Note**

A *Note* provides helpful information such as hints or alternative ways of doing a task.

**Important**

An *Important* notice calls attention to an essential step or point required to complete a task. Important items include things often missed.

**CAUTION**

A *Caution* informs you of possible equipment damage or loss of data and how to avoid them.

**WARNING**

A *Warning* notifies you of probable equipment damage or loss of data, or the possibility of physical injury, and how to avoid them.

Regulatory compliance identification numbers

For the purpose of regulatory compliance certifications and identification, this product has been assigned a unique regulatory model number. The regulatory model number can be found on the product nameplate label, along with all required approval markings and information. When requesting compliance information for this product, always refer to this regulatory model number. The regulatory model number is not the marketing name or model number of the product.

Compliance information

Global notice for Class A equipment

Operation of this equipment in a residential environment could cause radio interference.

Federal Communications Commission notice

Class A equipment

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

- (1) this device may not cause harmful interference, and
- (2) this device must accept any interference received, including interference that may cause undesired operation.

For questions regarding this FCC SDoC, contact us by mail or telephone:

- PROMISE TECHNOLOGY USA
- 3241 Keller St., Santa Clara CA 95054, USA
- Email: sales@promise.com

For questions regarding this product, go to the PROMISE TECHNOLOGY INC. Support Center
Website: <http://www.promise.com>

Canada (Avis Canadian)**Class A equipment**

This Class A digital apparatus meets all requirements of the Canadian Interference-Causing Equipment Regulations. CAN ICES-3(A)/NMB-3(A)

Cet appareil numérique de la class A respecte toutes les exigences du Règlement sur le matériel brouilleur du Canada. CAN ICES-3(A)/NMB-3(A)

European Union Regulatory Notice**Class A device**

A device that is marketed for use in a commercial, industrial or business environment.

A 'Class A' device should not be marketed for use by the general public .

**WARNING**

Operation of this equipment in a residential environment could cause radio interference.

Safety precautions

Retain and follow all product safety and operating instructions. Always refer to the documentation (printed or electronic) supplied with your product. If there is a conflict between this document and the product documentation, the product documentation takes precedence. Observe all warnings on the product and in the operating instructions to reduce the risk of bodily injury, electric shock, fire, and damage to the equipment.

To reduce the risk of personal injury or damage to the product:

- Place the product away from radiators, heat registers, stoves, amplifiers, or other products that produce heat.
- Never use the product in a wet location.
- Avoid inserting foreign objects through openings in the product.
- Move products with casters carefully. Avoid quick stops and uneven surfaces.

The installation and maintenance of products must be carried out by qualified personnel.

If the product sustains damage requiring service, disconnect the product from all power sources and refer servicing to a PROMISE TECHNOLOGY INC. authorized service provider. Examples of damage requiring service include:

- The power cord, extension cord, or plug has been damaged.
- Liquid has been spilled on the product or an object has fallen into the product.
- The product has been exposed to rain or water.
- The product has been dropped or damaged.
- The product does not operate normally when you follow the operating instructions.

Precautions for power products

Power cords

To reduce the risk of electric shock or damage to the equipment:

- Use an approved power cord. If you have questions about the type of power cord to use, contact your PROMISE TECHNOLOGY INC. authorized service provider.
- If you have not been provided with a power cord for your product or for any AC-powered option intended for your product, purchase a power cord that is approved for use in your country.
- You must use a power cord rated for your product and for the voltage and current marked on the electrical ratings label of the product. The voltage and current rating of the cord must be greater than the voltage and current rating marked on the product.
- Do not place objects on AC power cords or cables. Arrange them so that no one may accidentally step on or trip over them.
- Do not pull on a cord or cable. When unplugging from the electrical outlet, grasp the cord by the plug.
- Make sure that the total ampere rating of all products plugged into an extension cord or power strip does not exceed 80 percent of the ampere ratings limit for the extension cord or power strip.

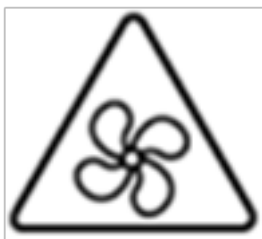
Precautions for maintaining and servicing products

To reduce the risk of electric shock or damage to the equipment when installing, maintaining, or servicing products, observe the following precautions:

- Some products contain power supplies that are capable of producing hazardous energy levels. Refer to the documentation included with your product to determine whether it contains these power supplies. The installation of internal options and routine maintenance and service of this product should be performed by individuals who are knowledgeable about the procedures, precautions, and hazards associated with equipment containing hazardous energy levels.
- Allow the product to cool before removing covers and touching internal components.
- Do not use conductive tools that could bridge live parts.
- Remove all watches, rings, or loose jewelry when working in hot-plug areas of an energized server, storage, networking, or rack product.
- Some products have covers or doors to access hot-plug components and may allow access to hazardous energy circuits or moving fans.
- The doors should remain locked during normal operation.

OR

- The server, storage, networking, or rack product should be installed in a controlled access location where only qualified personnel have access.
- Power down the equipment and disconnect all power cords before removing any access covers for non-hot-plug areas.
- Do not replace non-hot-plug components while power is applied to the product. First, shut down the product and disconnect all power cords.
- Do not exceed the level of repair specified in the procedures in the product documentation. All troubleshooting and repair procedures are detailed to allow only subassembly or module-level repair. Because of the complexity of the individual boards and subassemblies, do not attempt to make repairs at the component level or to make modifications to any printed wiring board. Improper repairs can create a safety hazard.



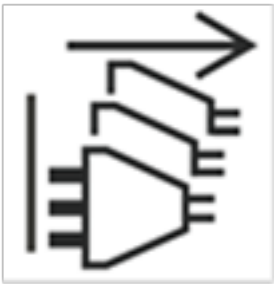
WARNING

Hazardous moving parts. Keep away from moving fan blades. To reduce the risk of injury from a hot component, allow the surface to cool before touching.

Power supplies

Hot-plug power supplies are not designed to be removed or installed with AC power connected to the power supply. To reduce the risk of electric shock or damage to the equipment when handling hot-plug power supplies:

- Install the power supply before connecting the power cord to the power supply.
- Unplug the power cord before removing the power supply from the product.
- If the system has multiple sources of power, you must unplug all AC power cords from the power supplies to completely disconnect power from the system.



WARNING

To reduce the risk of injury from electric shock, remove all power cords to completely disconnect power from the system.

Batteries



WARNING

Some PROMISE TECHNOLOGY INC. products may contain internal replaceable battery cells or battery packs. There is risk of fire, burns, or explosion if the battery pack is not handled properly. To reduce the risk of personal injury:

- Do not attempt to recharge the battery.
- Do not disassemble, crush, puncture, short external contacts, or dispose of the battery in fire or water.
- Replace only with the PROMISE TECHNOLOGY INC. spare battery designated for this product. Dispose of used batteries according to the manufacturer's instructions and local disposal requirements.
- For battery holders (for example, coin cells), observe the correct polarity when changing the battery/cell. There is a danger of explosion if the battery is installed incorrectly.

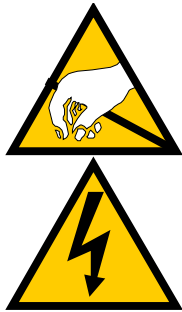
WEEE Information

For EU (European Union) member users:

According to the WEEE (Waste electrical and electronic equipment) Directive, do not dispose of this product as household waste or commercial waste.

Waste electrical and electronic equipment should be appropriately collected and recycled as required by practices established for your country.

For information on recycling of this product, please contact your local authorities, your household waste disposal service or the shop where you purchased the product.



CAUTION

The electronic components within the PegasusPro R16 are sensitive to damage from Electro-Static Discharge (ESD). Observe appropriate precautions at all times when handling the PegasusPro R16 or its sub-assemblies.

ABOUT THIS GUIDE	III
INTRODUCTION	1
PACKING LIST	1
SPECIFICATIONS	2
HARDWARE	3
FRONT PANEL	3
REAR PANEL	6
MOUNTING THE PEGASUSPRO R16 IN A RACK	8
INSTALLATION AND SETUP	12
UNPACKING	13
SUMMARY OF THE SETUP PROCEDURE	13
1 DOWNLOAD SOFTWARE AND DRIVER	13
2 INSTALL PEGASUSPRO DRIVER	14
INSTALL DRIVER ON MAC	14
INSTALL DRIVER ON WINDOWS	16
3 INSTALL PROMISE UTILITY PRO	17
INSTALL UTILITY ON MAC	17
INSTALL UTILITY ON WINDOWS	19
4 CONNECT POWER AND POWER ON	20
5 CONNECT THUNDERBOLT™ 3 (PRIVATE PORT)	21
6 CONNECT 10G NETWORK (SHARE PORT)	22
7 CONNECT 1G NETWORK WEBPAM INSIGHT MANAGEMENT	23
HDD REPLACEMENT	24
REMOVING THE DRIVE CARRIER	24
INSTALLING 3.5" DISK DRIVE IN THE CARRIER	25
USING PROMISE UTILITY PRO	26
PEGAUS UTILITY PRO	27
FIRST TIME SETUP	27
MEMBERS FIRST TIME USING PROMISE UTILITY PRO ON MAC	31
MEMBERS FIRST TIME USING PROMISE UTILITY PRO ON WINDOWS	34
ADDING A FOLDER WITH PROMISE UTILITY PRO	37
USING FILEBOOST	39

USING WEBPAM INSIGHT	42
ACCESSING WEBPAM INSIGHT	42
PERUSING WEBPAM INSIGHT GUI	43
DASHBOARD	44
MEMBER AND GROUP MANAGEMENT	45
CREATING A NEW MEMBER ACCOUNT	46
DELETING AN EXISTING ACCOUNT	47
CREATING A NEW MEMBER GROUP	48
ADDING MEMBERS TO A GROUP	49
NETWORK MANAGEMENT	50
NETWORK INTERFACE BONDING	51
TYPES OF NETWORK BONDING	51
TEAM FOLDERS	52
CREATING A NEW TEAM FOLDER	53
REMOVING A TEAM FOLDER	53
ADDING MEMBERS TO A TEAM FOLDER	54
EDITING/DELETING MEMBERS AND PERMISSION SETTINGS	55
DEVICE INFORMATION	56
DEVICE INFORMATION	56
DEVICE SETTINGS	57
DEVICE HEALTH	58
PHYSICAL DRIVE STATUS	59
ADMINISTRATION	60
EVENTS LOG	60
FIRMWARE UPDATE	60
IMPORT/EXPORT SETTINGS FILES	61
SERVICE	61
PROTOCOL	61
REGISTRATION	61
CONFIGURING A NEW STORAGE VOLUME	62

JBOD EXPANSION	64
CONNECT JBOD HARDWARE	65
CONNECT SINGLE CONTROLLER VESS J3600sS JBOD EXPANSION	66
CONFIGURE JBOD EXPANSION	67
EXPANSION SCENARIO ONE: SEAMLESS POOL EXPANSION WITH JBOD	67
EXPANSION SCENARIO TWO: OPTIMIZED STORAGE CREATION WITH JBOD	68
DELETE POOL	68
CREATE A POOL	68
 CONTACTING TECHNICAL SUPPORT	 69
LIMITED WARRANTY	72
DISCLAIMER OF OTHER WARRANTIES	73
YOUR RESPONSIBILITIES	74
RETURNING THE PRODUCT FOR REPAIR	74

INTRODUCTION

This chapter covers the following topics:

- “Packing List”
- “Specifications”
- “Hardware”
 - “Front Panel”
 - “Rear Panel”

Packing List

Check the shipping package to make sure you have the following items:

- PegasusPro R16 (includes 16 hard disk drives installed in drive carriers)
- Power cord (1.5 meter)
- Thunderbolt™ 3 cable
- Quick Start Guide

Specifications

Interface	
Thunderbolt Ports	2 Thunderbolt™ 3 ports
LAN Ports	Four 10 GbE ports (Base-T)
USB Ports	USB2.0*2 (Front) / USB3.2*4(Back)
Network	1 GbE RJ-45*2
Form Factor	
CPU	Intel CPU i7-8700.3.2 GHz.65W.12MB Cache.6 Cores
Memory	64GB UDIMM DDR4 (4 x 16GB) up to 128GB
Memory Slot	4 x Long-DIMM DDR4
Drives	The PegasusPro is shipped with sixteen 3.5 inch 7200 rpm SATA Hard Disk Drive (HDD) Modules mounted in the drive bays.
Drive Support	3.5" & 2.5" (SAS 12Gb/s; SATA 6Gb/s) HDD/SSD
RAID	RAID level support: RAID 0, 1, 5, 6, 10, 50, 60
OS Support	macOS 10.15 or newer Windows 10 or newer

System	
Power supply	100 - 240V AC, 50 - 60Hz, 8A Max, 550W for each power supply (optional redundant power supply available)
System Fan	System fan: 4500 RPM.12V
Hardware monitoring	Temperature, Enclosure, Physical drives, Logical drives, RAID controller
Temperature	Operating: 5° - 35° C Non-operating: -40° - 70° C
Humidity	Operating: 10% - 95% non-condensing Storage: 5% - 95% non-condensing
Dimensions	131 mm x 447 mm x 503 mm
Weight	35 kg (with HDD installed)

Hardware

The following section provides a summary of the front and back panel hardware features of PegasusPro R16.

Front Panel

The front panel of PegasusPro R16 enclosures provide access to drives carriers. Defective drives can be replaced without interruption of data availability to the host computer. If so configured, a hot spare drive will automatically replace a failed drive, securing the fault-tolerant integrity of the logical drive. The self-contained hardware-based RAID logical drive in the PegasusPro R16 provides maximum performance in a compact external enclosure.

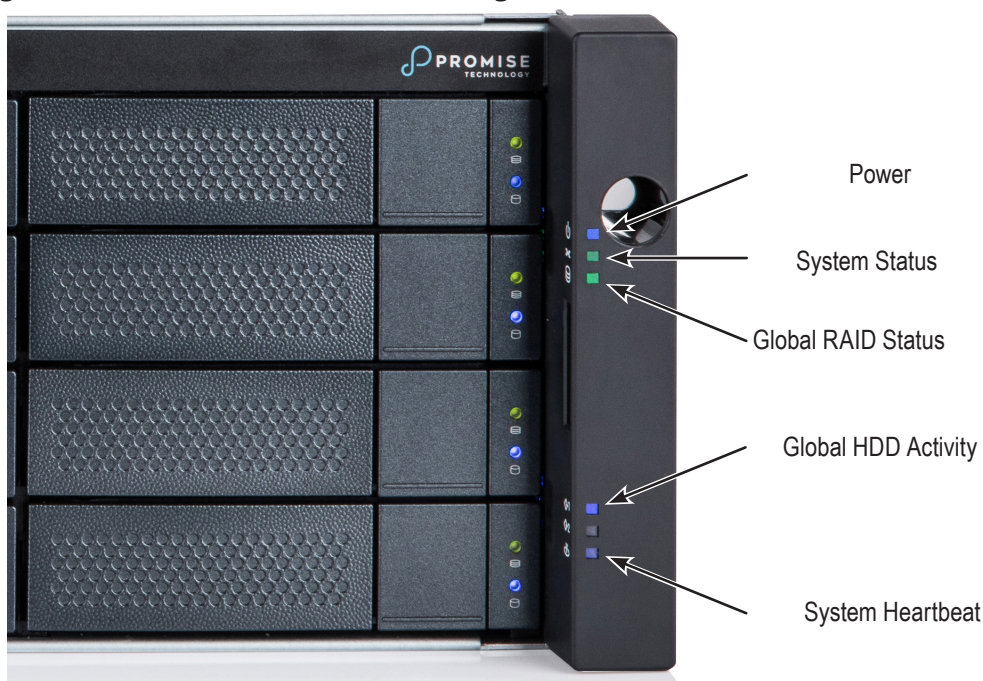
The PegasusPro R16 enclosure features the system power button and two USB ports located on the left side, and the front LED indicators located on the right side.

PegasusPro R16 Front Panel



PegasusPro R16 Front Panel - Left side**Drive carrier LED behavior on PegasusPro R16**

LED	Description
Drive Status	Each drive carrier has two LEDs on the right side of the front, the Drive Status LED located above the Activity LED. The Drive Status LED displays GREEN when a drive is configured and working properly. When the lights are RED the HDD requires manual replacement. ORANGE indicates background RAID activity on this particular HDD, no user action is required.
Drive Activity	Steady BLUE when HDD link is established, flashes BLUE during drive activity.

PegasusPro R16 Front Panel LEDs - Right side

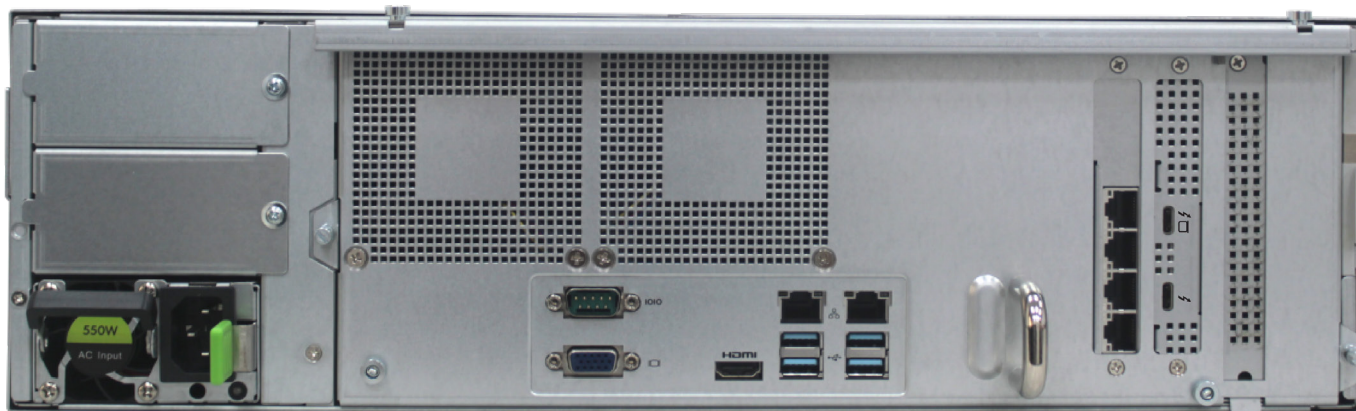
Right side LED behavior for the PegasusPro R16

LED	Description
Power	Lights BLUE to indicate the system is powered on. Blinks BLUE in shutdown mode.
System Status	Lights GREEN when healthy, RED if there is a critical problem (LD offline, fan malfunction, voltage out of range, system temperature alert), blinks RED for HDD high temperature alert remains dark when not ready.
Global RAID Status	Lights GREEN when healthy or RED if any RAID volume is offline, ORANGE for critical state of any logical drive.
Global HDD Activity	Blinks BLUE to indicate one or more drives are being accessed, remains dark when no drives are being accessed.
System Heartbeat	Flashes BLUE slowly at regular intervals to indicate the firmware and software are operating normally.

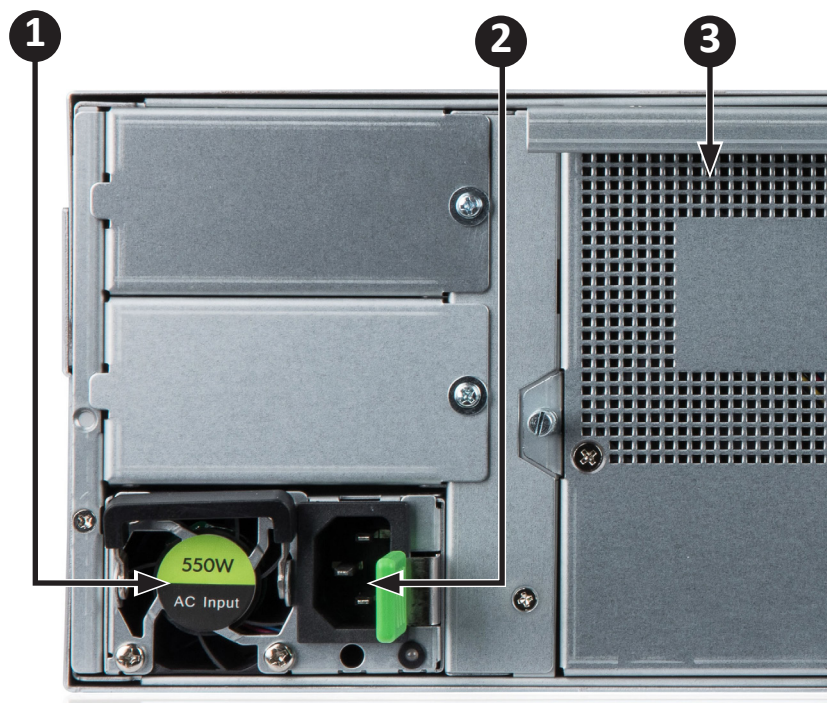
Rear Panel

The rear panel of the PegasusPro R16 enclosure provides access to the power supply, Thunderbolt™ 3 DAS (Private) ports, 10G NAS (Share) ports, VGA and HDMI video monitor connections, 1G Ethernet ports for device management over the local network, and USB 3.2 ports. Available PCI options include SAS 12G HBA for JBOD expansion.

PegasusPro R16 Rear Panel

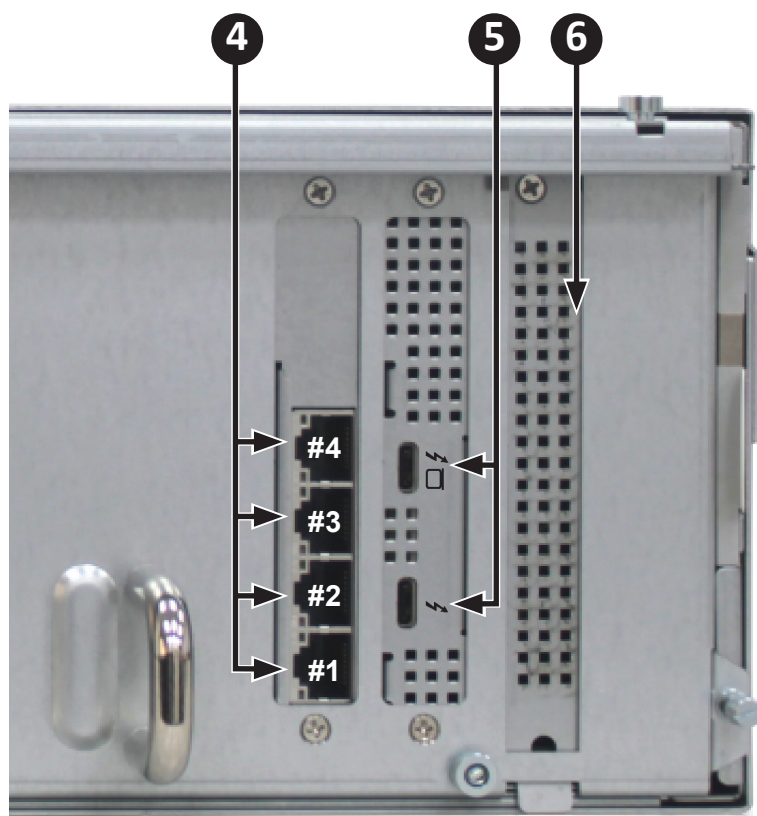


PegasusPro R16 power supply (left side)



1	PSU fan vent
2	Power insert
3	System fan vent (left)

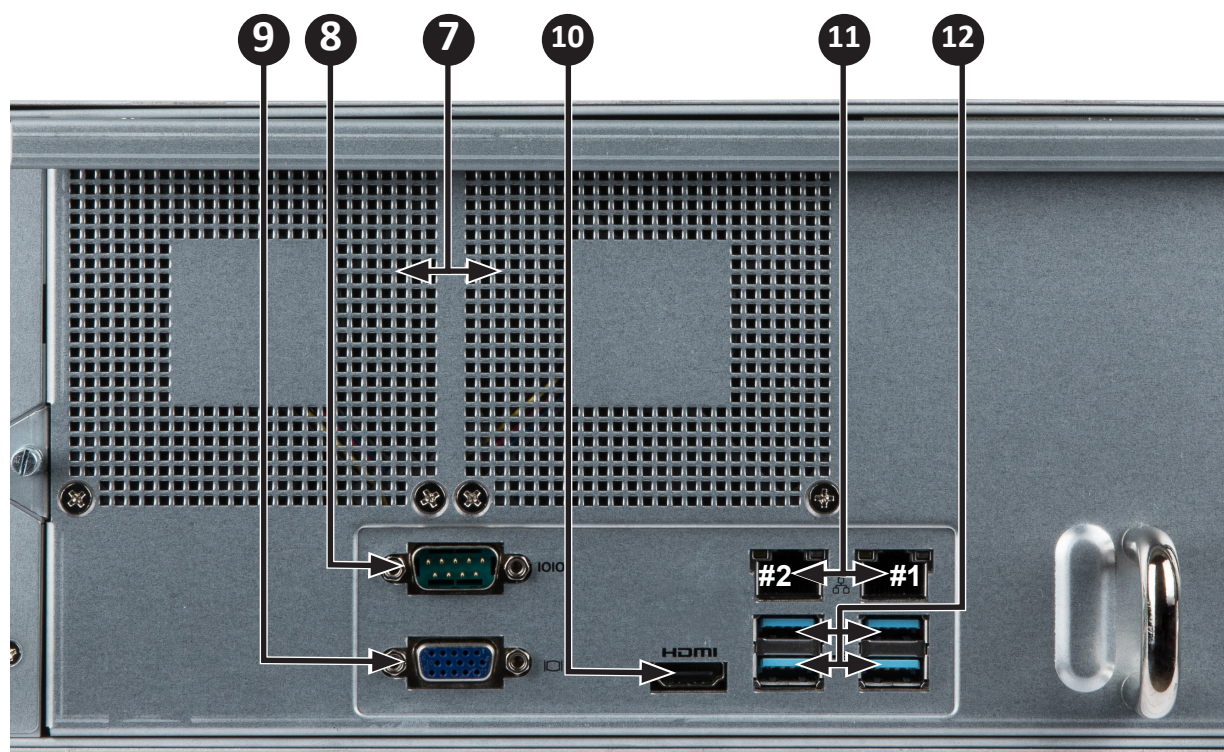
PegasusPro R16 Thunderbolt™3 10G ports and optional PCIe slots (rear panel, right side)



4	Four 10G BASE-T NAS (Share) ports For collaborative accounts accessing over network. Ports are numbered 1-4 starting from the bottom. <i>10G port numbers are printed in white text in the illustration.</i>
5	Two Thunderbolt™ 3 DAS (Private) ports For single user accessing DAS volume
6	PCIe slot available for optional SAS 12G HBA for JBOD expansion

7	System fan vents
8	RS232 Serial port (technical support only)
9	VGA port (technical support only)
10	HDMI (technical support only)
11	LAN RJ-45 ports (LAN2/LAN1) <i>1G port numbers are written in white text in the illustration.</i>
12	USB 3.2 ports (4 ports)

PegasusPro R16 fan vents, USB, Ethernet, serial and graphics ports (rear panel center)



MOUNTING THE PEGASUSPRO R16 IN A RACK

The instructions here apply to 3U 16-bay PegasusPro R16. The sliding rail rack mounting hardware is the same for both form factors.

Cautions



- Do not populate any unit with hard drives until it has been securely installed in the rack.
 - At least two persons are required to safely lift, place, and attach the PegasusPro R16 unit into a rack system.
 - Do not lift or move the PegasusPro R16 unit by the handles, power supplies or the controller units. Hold the system itself.
 - Do not install the PegasusPro R16 unit into a rack without rails to support the system.
 - Only a qualified technician who is familiar with the installation procedure should mount and install the PegasusPro R16 unit.
 - Mount the rails to the rack using the appropriate screws and flange nuts, fully tightened, at each end of the rail.
 - Do not load the rails unless they are installed with screws as instructed.
 - The rails available for the Promise PegasusPro R16 unit are designed to safely support that Promise PegasusPro R16 unit when properly installed. Additional loading on the rails is at the customer's risk.
 - Promise Technology, Inc. cannot guarantee that the mounting rails will support your Promise PegasusPro R16 unit unless you install them as instructed.
-



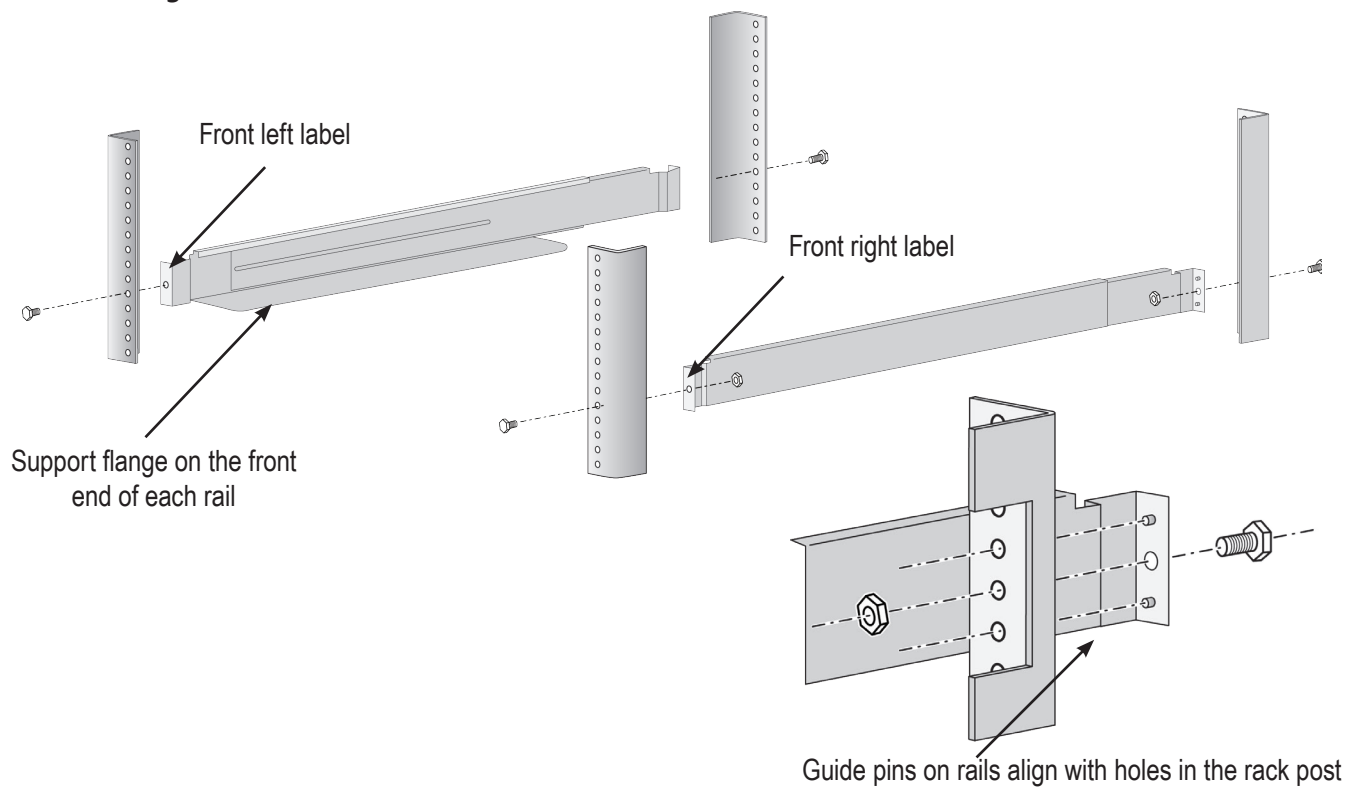
Caution

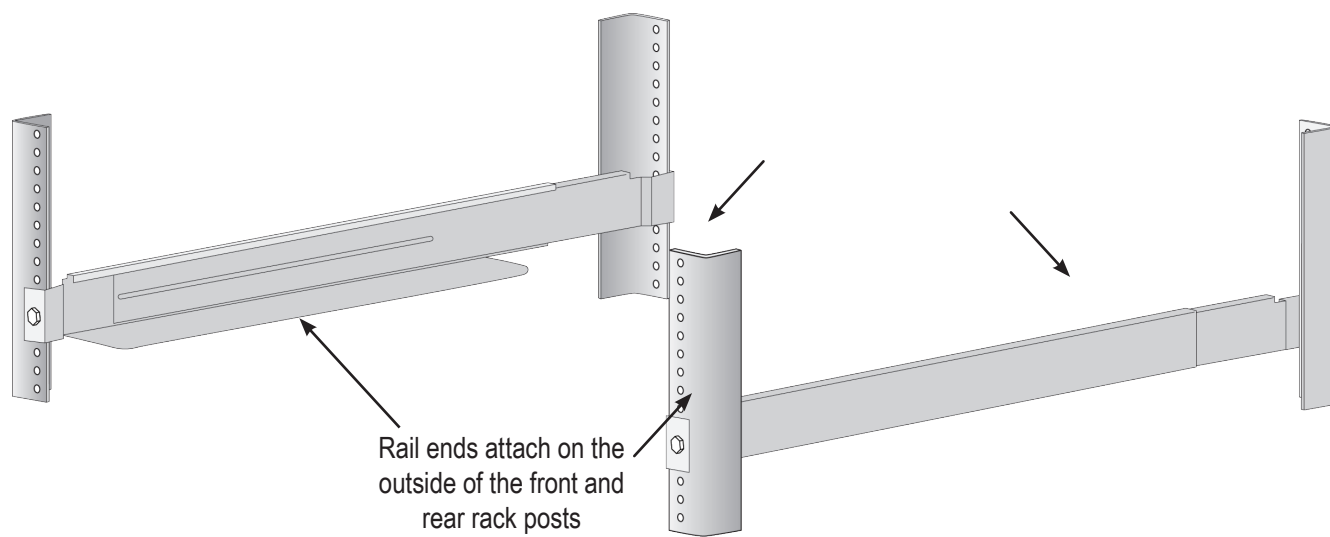
To lighten the enclosure, remove all hard drive carriers. Replace the drive carriers after the unit is mounted in your rack.

To install the PegasusPro R16 into a rack with the supplied mounting rails:

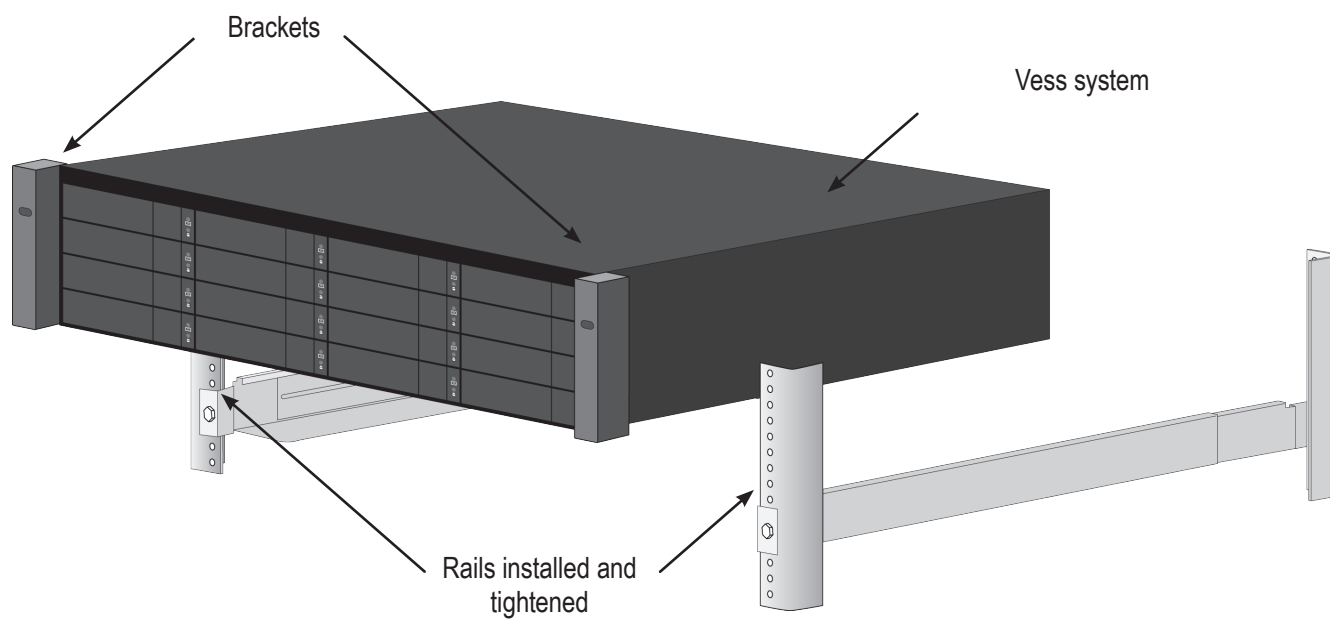
1. Check the fit of the mounting rails in your rack system.
2. Adjust the length of the mounting rails as needed.
 - The rear rail slides inside the front rail. The rail halves are riveted together and use no adjustment screws.
 - The front-left and front-right mounting rail ends are labeled.
 - Be sure the front rail support is on the bottom facing inward
 - All rail ends, front and rear, attach at the outside of the rack posts.
 - The guide pins at the rail ends align with the holes in the rack posts.
 - Use the attaching screws and flange nuts from your rack system. Tighten the screws and nuts according to instructions for your rack system.

Installing the rails onto the rack



Rail ends attach to the outside of each post**3. Place the PegasusPro R16 onto the rails.**

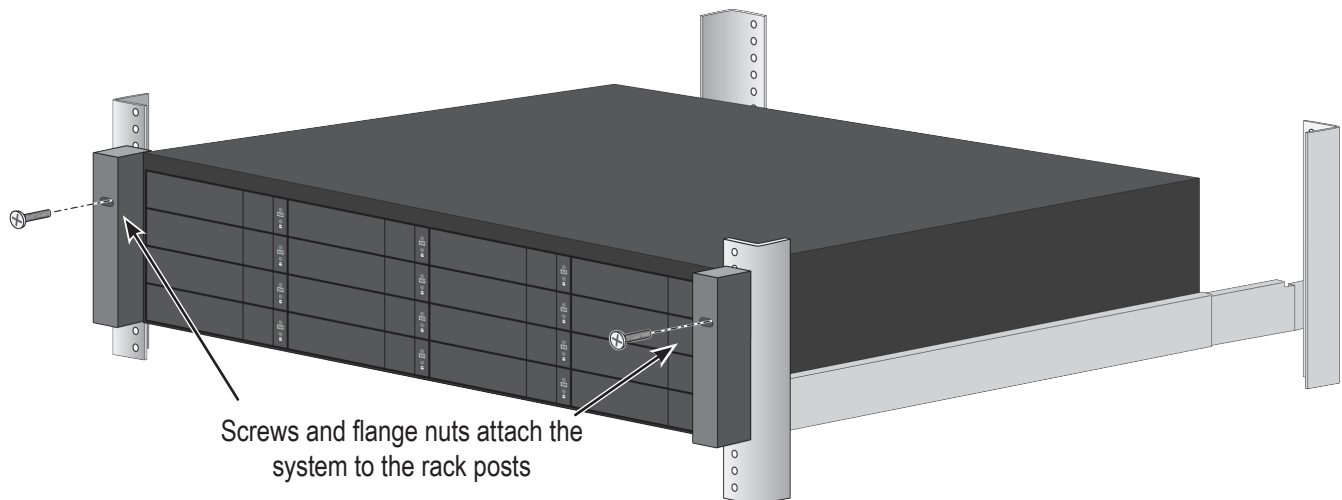
- At least two persons are required to safely lift the system.
- Lift the PegasusPro R16 itself. Do not lift the system by its brackets.

Placing the system onto the rack rails

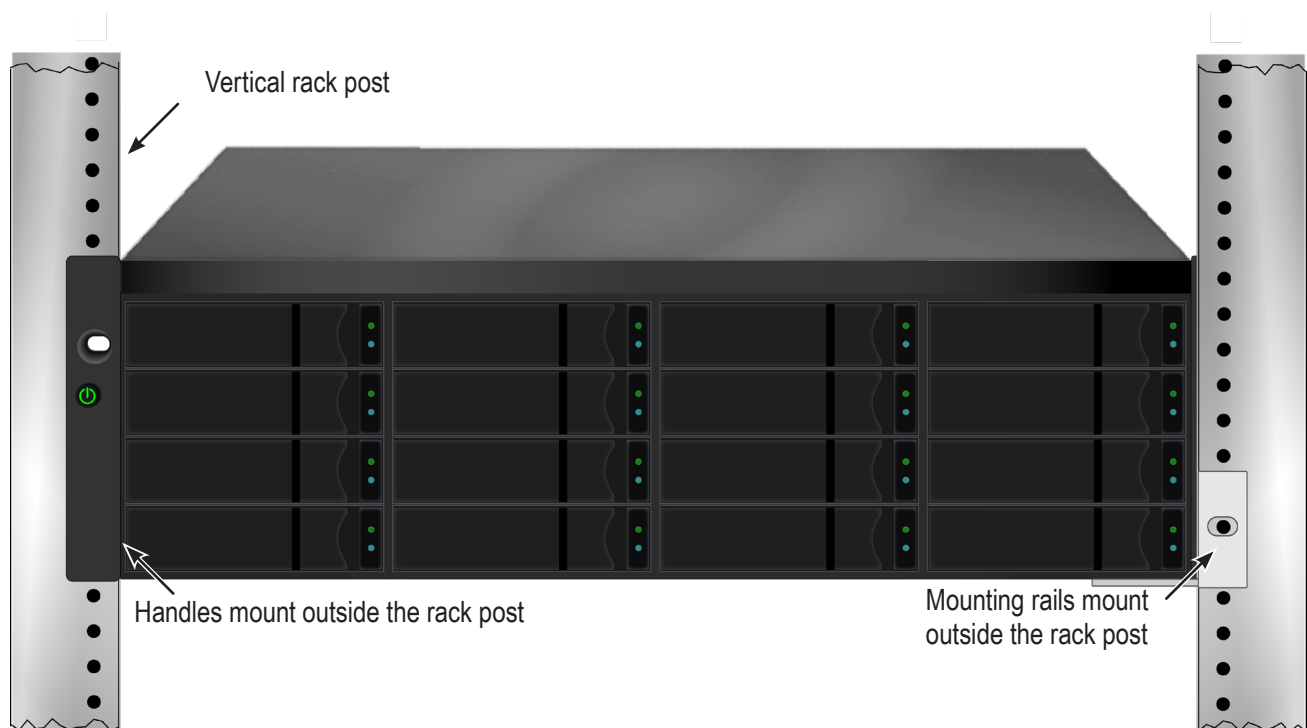
4. Secure the PegasusPro R16 to the rack.

- The unit attaches to the rack posts using the included screws and flange nuts. One screw each side, in the upper hole only.
- Use the attaching screws and flange nuts that came with the PegasusPro R16.

Secure to rack



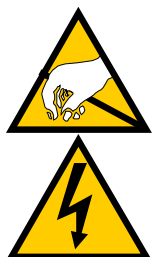
System installed in rack



INSTALLATION AND SETUP

This chapter contains the following topics:

- “Unpacking”
- “Download Software and Driver”
- “Install PegasusPro Driver on your Mac”
- “Install PROMISE Utility Pro on your Mac”
- “Connect Power and power on”
- “Connect Thunderbolt™ 3 (Private Port)”
- “Connect 10G Network (Share Port)”
- “Connect 1G Network WebPAM Insight Management”



CAUTION

The electronic components within the PegasusPro unit are sensitive to damage from Electro-Static Discharge (ESD). Observe appropriate precautions at all times when handling the PegasusPro unit or its subassemblies.



CAUTION

Make sure to protect the PegasusPro from dust, moisture, extreme temperatures and sudden large changes in temperature at all times, even if the unit is not installed.

Unpacking

Carefully remove contents of shipping package, unpack the device and shipped components from the protective packaging. The equipment contained in the shipment is sensitive to electrostatic discharge.

The system is heavy as it is shipped with hard disk drives installed. Use two persons when lifting or carrying the enclosure.

Summary of the setup procedure

The setup procedure for the PegasusPro is simple and easy. The device is shipped with hard disk drives installed and a RAID array configured, so it is just necessary to plug it in and connect the device. However, you should install the PROMISE Utility Pro software used for monitoring and administration of the system. Mac users, please follow the setup procedure here or in the Quick Start Guide.

The setup process is summarized below.

1. Download the latest PegasusPro hardware drivers and software package including PROMISE Utility Pro (download these from PROMISE website) on the Mac computer used for initial setup.
2. Install the PegasusPro Driver
3. Install PROMISE Utility Pro.
4. Connect the power cord and power on the PegasusPro R16.
5. Connect the PegasusPro Private Port to your computer with a Thunderbolt™ 3 cable.
6. Connect the PegasusPro Share Port to the network.

1 Download Software and Driver

Make sure to download and install the hardware drivers for the PegasusPro before you connect the Thunderbolt™ 3 cable.

Go to promise.com > Products > Pegasus > PegasusPro > Download > Drivers

Then download and install PROMISE Utility Pro on the host Mac computer and collaborative user computers. The software download files are the same for all computers that will use the PegasusPro.

Go to promise.com > Products > Pegasus > PegasusPro > Download > Utilities

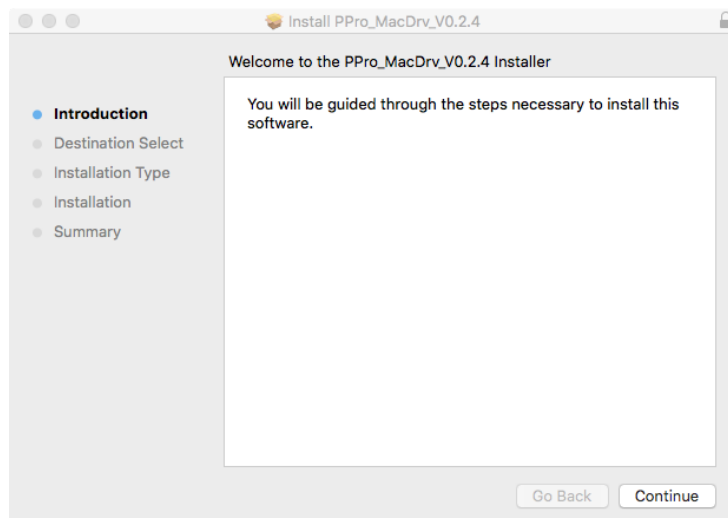
2 Install PegasusPro Driver

If PegasusPro is connected to a Thunderbolt port on your computer, a PROMISE PegasusPro Driver should be installed and loaded before you using PegasusPro on Mac or Windows system. Follow instructions for your OS in the wizard to install the PROMISE Pegasus Driver. The final step will be to restart the computer in order to complete the installation.

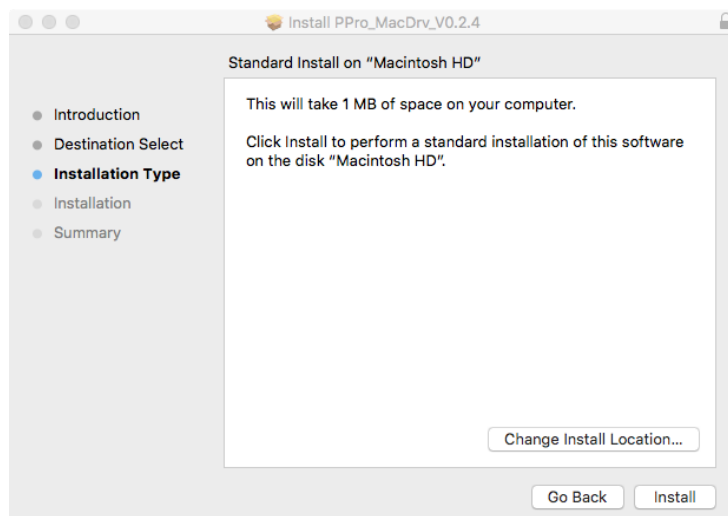
Install Driver on Mac

Follow the instructions below for Mac users. Windows users skip ahead for instructions for WIndows.

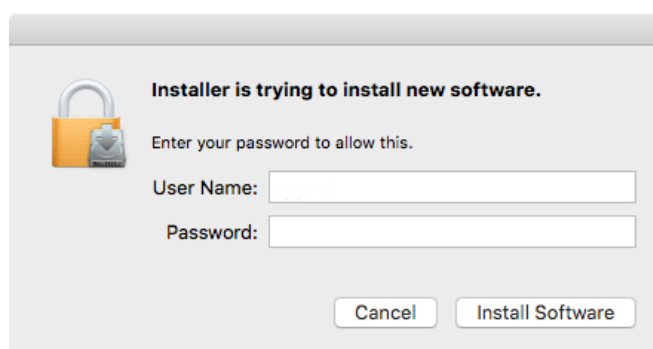
1. Double-click the PKG file for installing the driver. The Installer appears. Click **Continue** to begin the installation.



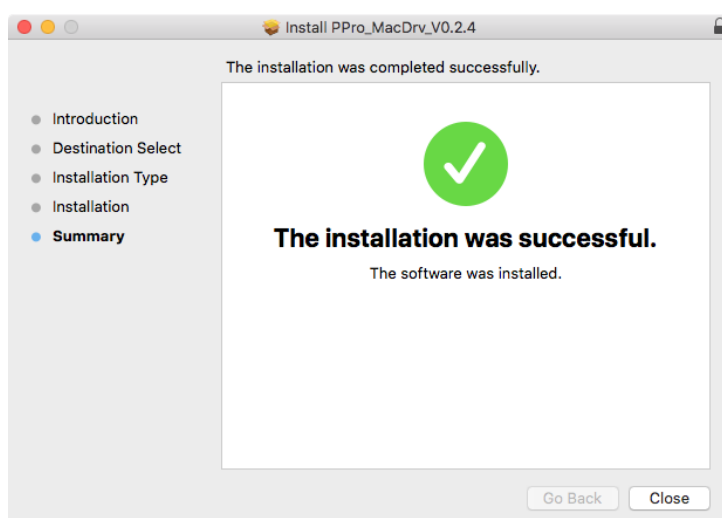
2. Click **Install** to perform a standard installation.



3. Type the administrator password of your computer and click **Install Software**.



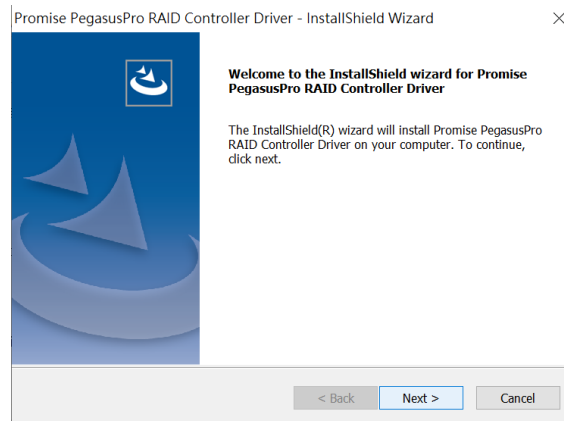
4. Click **Continue Installation** to confirm you want to continue with the installation. It will be necessary to restart your computer.



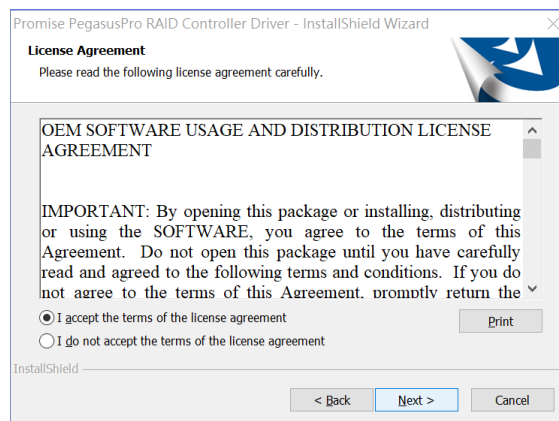
Install Driver on Windows

Download the latest PROMISE Pegasus Driver for Windows, and follow these steps to install the driver on a Windows computer.

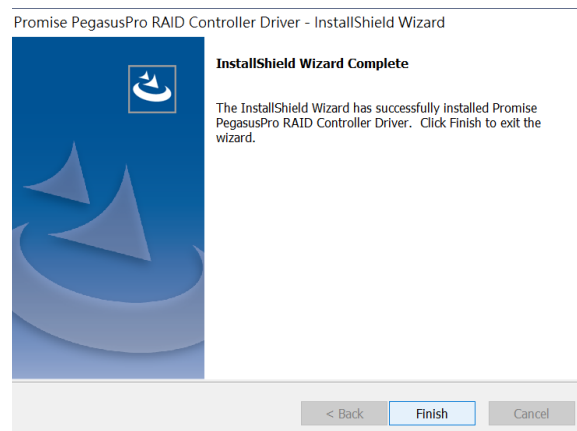
1. Double-click on the driver installation file to launch the install wizard. Click on the **Next** button to begin installation.



2. In the License Agreement dialog, you must click I accept the terms of the license agreement to continue. If you click *agree*, you can click **Next** to continue. The installer will start.



3. Click **Finish** to close the menu. You will need to restart your computer.



3 Install PROMISE Utility Pro

The PROMISE Utility Pro software utility is necessary for managing users and folders, for enabling File Boost, and other important features of the PegasusPro Series.

More advanced configuration such as changing the Disk Pools or RAID type can be done using the web-based management interface, WebPAM InSight, if preferred.

The software utility installation package is located on the PegasusPro. Follow the instructions below to install the utility according to the OS you are using.

Install Utility on Mac

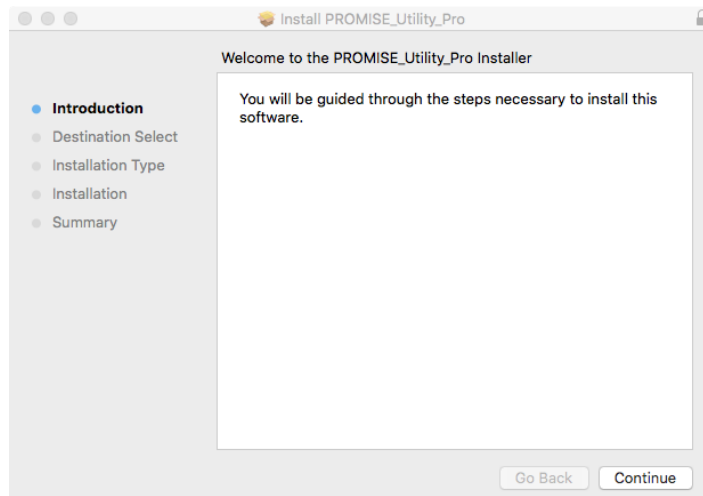
To install the PROMISE Utility Pro on Mac:

1. Double-click on the PegasusPro icon on your desktop to view the device contents.
2. Find the file **R_PROMISE_Utility_Pro.dmg** and double-click on it to mount the virtual drive containing the installation software package.
3. Double-click on the PROMISE_Utility_Pro.pkg* file to begin the software installation.

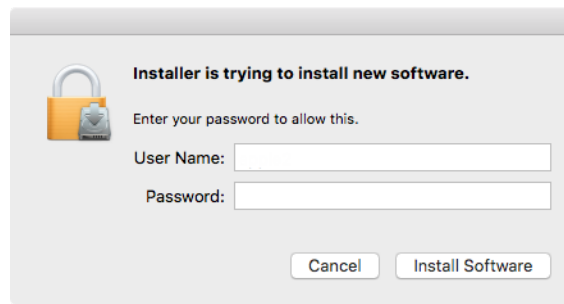
Note that the version number of the .dmg file and .pkg file will change as it is updated. The version number used in this example is just for the purpose of illustration.



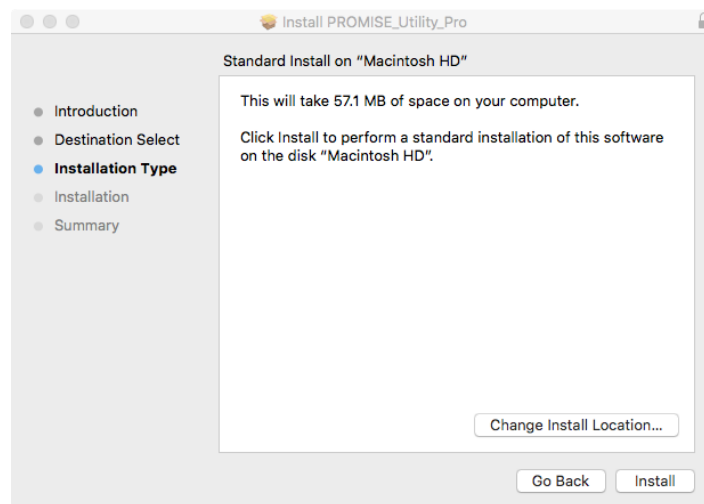
4. The Welcome menu explains that software will be installed on the computer. Click the **Continue** button to proceed with installation.



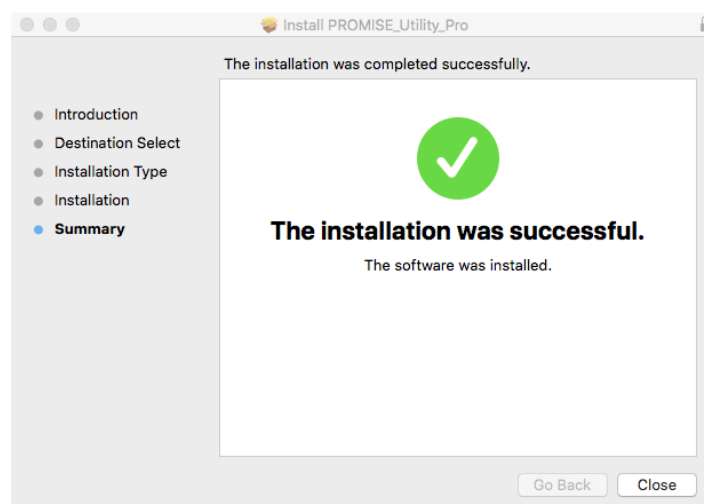
- Administrator permission is required to install the software. Type the administrator password of your computer for permission to install the software.



- You can change the location on your system for the installation if desired by clicking the **Change Install Location** button. Otherwise click on **Install** to continue the installation in the default location.



- It takes a few seconds for the utility software to be installed. When the installation has completed, a message informs you that the installation was successful.



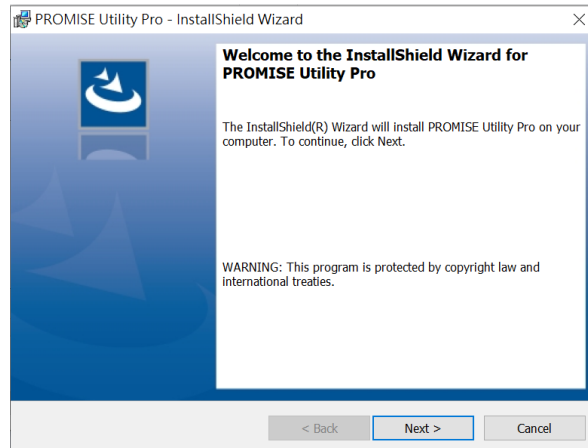
- Click **Close** to end the installation procedure.

The PROMISE Utility Pro is now available to be used with the PegasusPro.

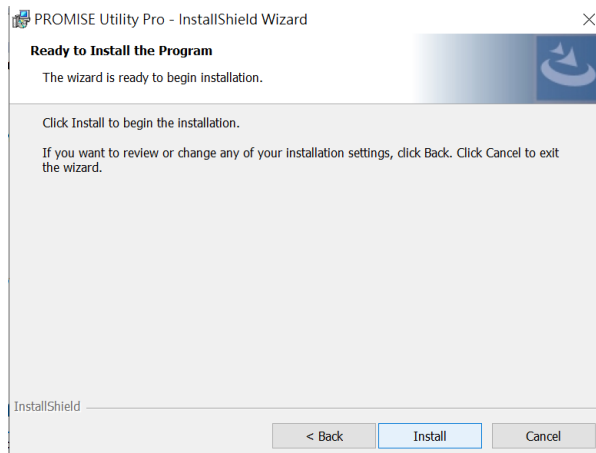
Install Utility on Windows

To install the PROMISE Utility Pro on Windows:

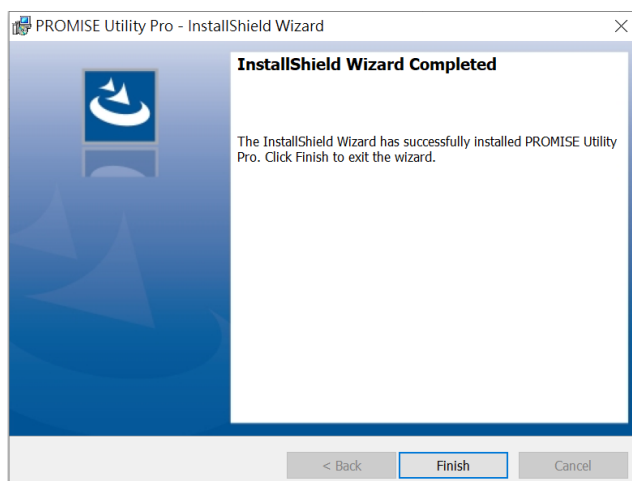
1. Double-click on the utility installation file to launch the install wizard. Click on the **Next** button to begin installation.



2. Click **Install** to continue. The installer will start.



3. Click **Finish** to close the menu.

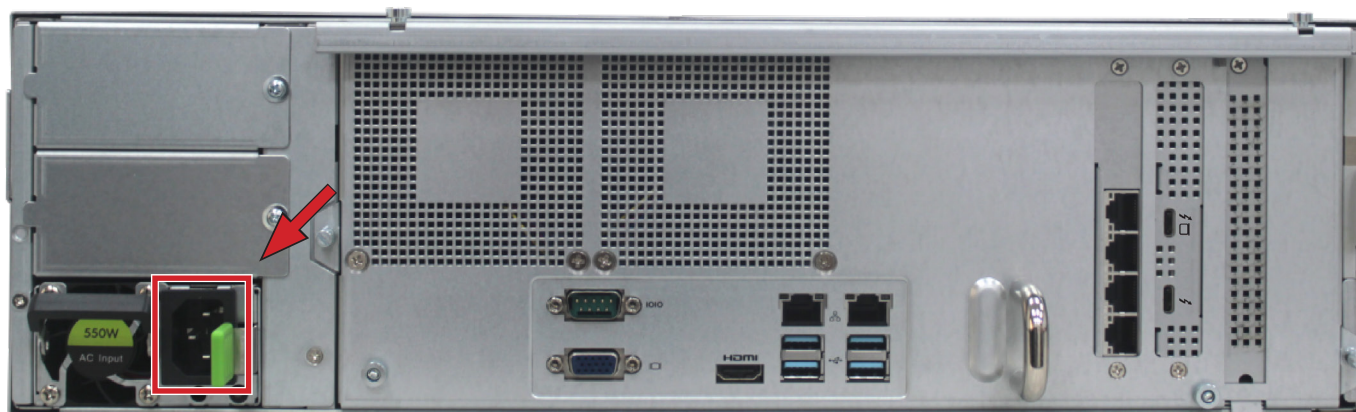


4 Connect Power and power on

PegasusPro R16 enclosures are equipped a single power supply.

1. Insert the female end of one of the supplied power cable in to a power cable receptacle on the power supply unit, and plug the other end in to a suitable power outlet.

Power insert and PSU on rear panel of PegasusPro R16



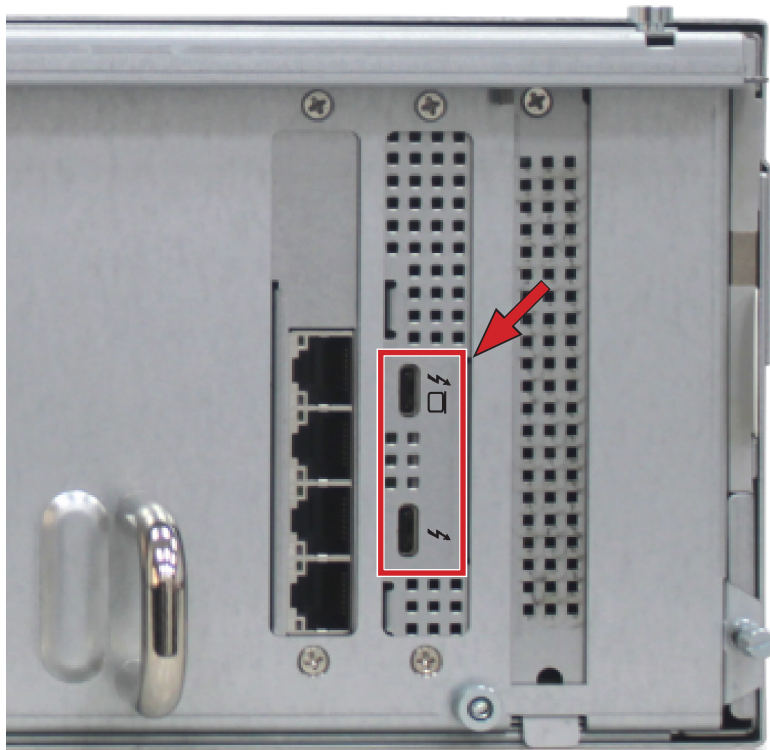
2. Press the **Power** button on the front left bracket facing.



5 Connect Thunderbolt™ 3 (Private Port)

Connect the host computer directly to the PegasusPro R16 with a Thunderbolt 3 cable. There are two Thunderbolt™ 3 ports, use either one. This Direct Attached Storage (DAS) connection is called the Private Port; it is used by one individual with access to two DAS volumes.

PegasusPro R16 Thunderbolt™3 ports on rear panel



After connecting the Thunderbolt™ 3 cable, two DAS volumes appear on the desktop:



PegasusProDAS_1



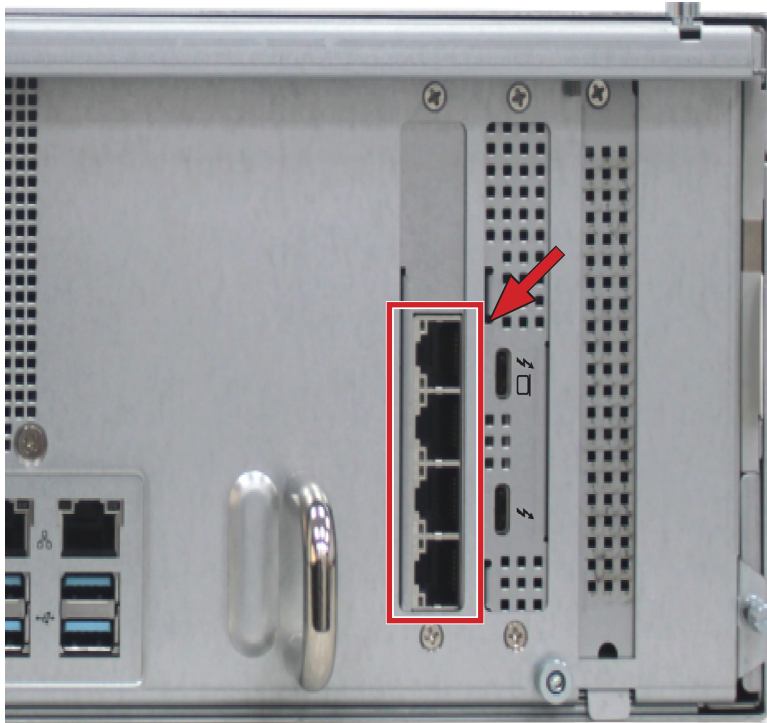
PegasusProDAS_2

Later the host system can use PROMISE FileBoost to move content from the DAS volumes to Shared folders used for team collaboration.

6 Connect 10G Network (Share Port)

Use a suitable Ethernet cabling (Cat. 6e or better) to connect one to four of the Share Ports (10G network ports) on the rear panel. The network cables for the Share Ports can be connected to a switched Ethernet network, or connect directly to a collaborative user computer.

PegasusPro R16 10G ports on rear panel



The 10G network Share Port enables collaborative workflow for users connected via 10G network. Users install the same software, PROMISE Utility Pro, and use it to mount shared folders for collaborative work.

Mac users can use the SANLink3 high performance Ethernet-to-Thunderbolt™ 3 bridge to complete the 10G network connection to their workstation.

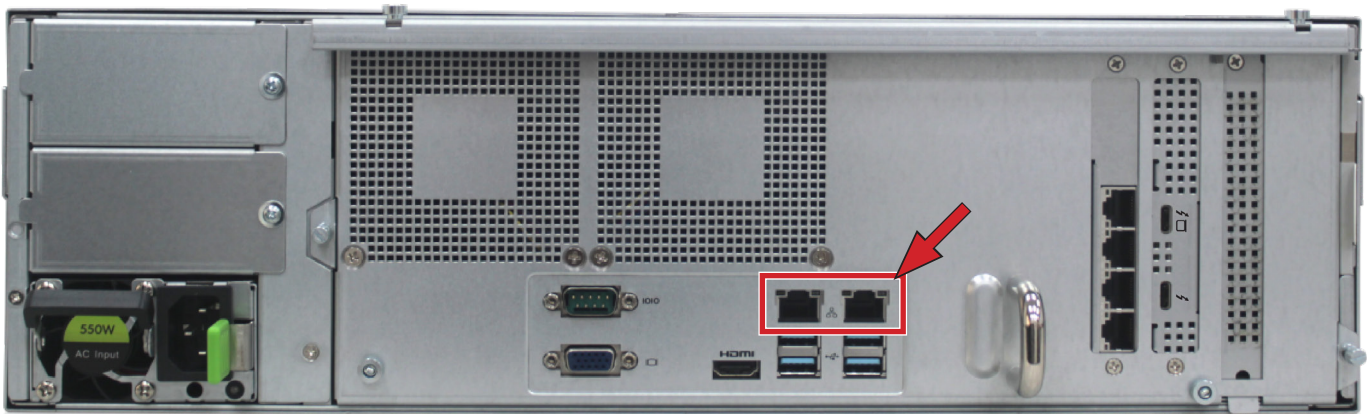


PROMISE SANLink3 Ethernet-to-Thunderbolt™ 3 bridge is recommended for Mac collaborative users that do not have an Ethernet port.

7 Connect 1G Network WebPAM Insight Management

In order to use the web-based management interface, WebPAM Insight, it is necessary to connect the PegasusPro to the same switched network as the computer used to manage the system. Note that this is an optional step, since the device is ready to use as shipped. However, some advanced configuration options can only be accessed using the WebPAM Insight interface.

1G network port on rear panel of PegasusPro R16



The default IP settings on the 1G network interface is DHCP client. If your network used for management has an active DHCP service, use DHCP on the computer used for management to simplify IP settings on both systems.

To complete the physical connection to the WebPAM Insight management interface, connect the computer used for PegasusPro management to a 1G network switch, and connect either of the 1G network ports to the same switch or switched network.

If you do not have an Ethernet port on your computer, use a SANLink3 Ethernet-to-Thunderbolt™ 3 bridge or similar device to complete the physical link. SANLink3 Ethernet port has autonegotiation for the port speed, so connecting to a 1G or 100 Mbs switched network is not a problem.

Also keep in mind that both the management computer and PegasusPro must be in the same IP subnet. If your network has DHCP service, this is easily done by setting the computer IP setting to DHCP client. For more information on configuration of PegasusPro network settings, please see “Network Management” on page 50.

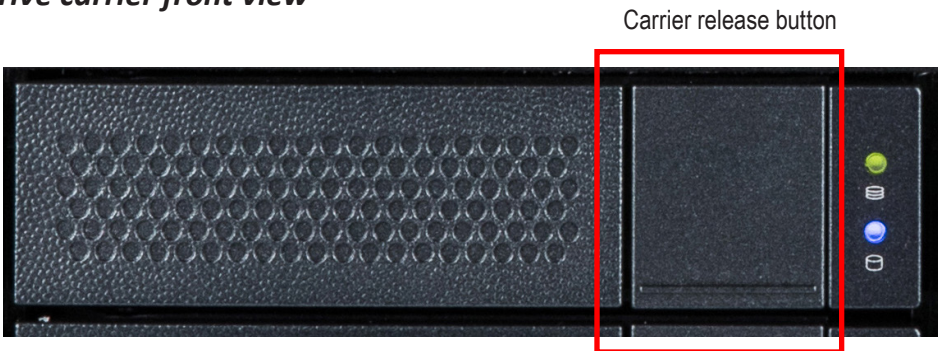
HDD REPLACEMENT

PegasusPro models are shipped with Hard Disk Drives (HDD) installed, so it will not be necessary to install new drives in order to use the device. If it is necessary to change a drive, follow the instructions in this section. It is best to have identical HDD in all bays, or at least identical specifications for capacity and speed. Go to PROMISE Support online to find a list of compatible HDD for the PegasusPro Series.

Removing the Drive Carrier

The drive carrier accommodates 2.5-inch and 3.5-inch drives.

Drive carrier front view



Cautions

Swing open the drive carrier handle before you insert the drive carrier into the enclosure.

To avoid hand contact with an electrical hazard, remove only one drive carrier a time.

1. Press the drive carrier release button.
2. Grasp the handle between thumb and finger, gently pull the empty drive carrier out of the enclosure.
3. Carefully lay the drive into the carrier with the power and data connectors facing away from the carrier handle.

Installing 3.5" Disk Drive in the Carrier

The instructions below apply 3.5" hard disk drives installed in drive carriers intended for use with PegasusPro R16.

1. Remove a disk drive carrier.
2. Carefully lay the disk drive into the drive carrier at the front, so that the screw holes on the sides line up correctly with the power and data connectors facing away from the carrier handle.
3. Insert the screws through the holes in the drive carrier and into the sides of the disk drive.

Install only the counter-sink screws supplied with the drive.

- Install four screws per drive.
 - Snug each screw. Be careful not to over-tighten.
4. Reinstall the drive carrier into the enclosure.

Hard disk drive mounted in a drive carrier



USING PROMISE UTILITY PRO

Most system management can be done using PROMISE Utility Pro connected directly through the Thunderbolt™ 3 connection or Private Port. Some more advanced system changes however require using the WebPAM Insight web-based system management GUI. For example, if you want to change the RAID, extend or change a Storage Pool, these operations must be done using WebPAM Insight. Keep in mind that the PegasusPro is shipped ready to use, with the Disk Pool and RAID already configured, most users will not need to change any of these. Also note that making changes to the RAID or Storage Pool configuration will erase any data that is stored on the effected disks.

To use the PegasusPro, you first need to install the most up to date hardware drivers and PROMISE Utility Pro software. Pegasus Utility Pro allows the system administrator and collaborative users to copy and transfer files, create private and public folders; this is also where users can enable File Boost to quickly send or retrieve files between the Private DAS volumes and the Public NAS folders.

Pegaus Utility Pro

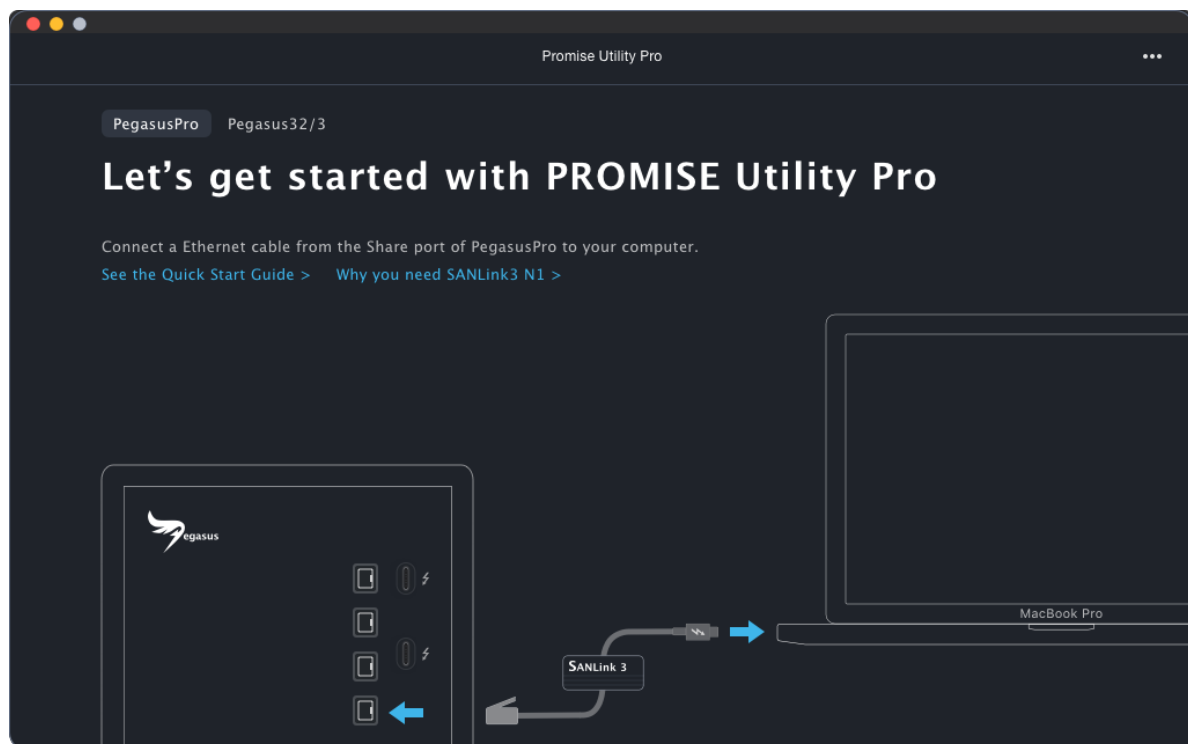
Many users might find it simpler to perform administrative operations using Pegaus Utility Pro. Fortunately, many of the necessary administrative functions can be done easily using either method. In this section we describe most of the basic setup functions and some of the user tasks that can be completed using PROMISE Utility Pro. Also note that PROMISE Utility Pro is used to manage any additional Pegasus3 or Pegasus32 units connected to the PegasusPro via Thunderbolt™ 3 cable.

First Time Setup

If this is the first time using PROMISE Utility Pro, make sure to follow the instructions to power on and connect the device in “Installation and Setup” on page 12. If you have installed the latest driver and software, begin with the section “Connect Power and power on” starting on page 14.

Follow the steps below if you are setting up PegasusPro for the first time.

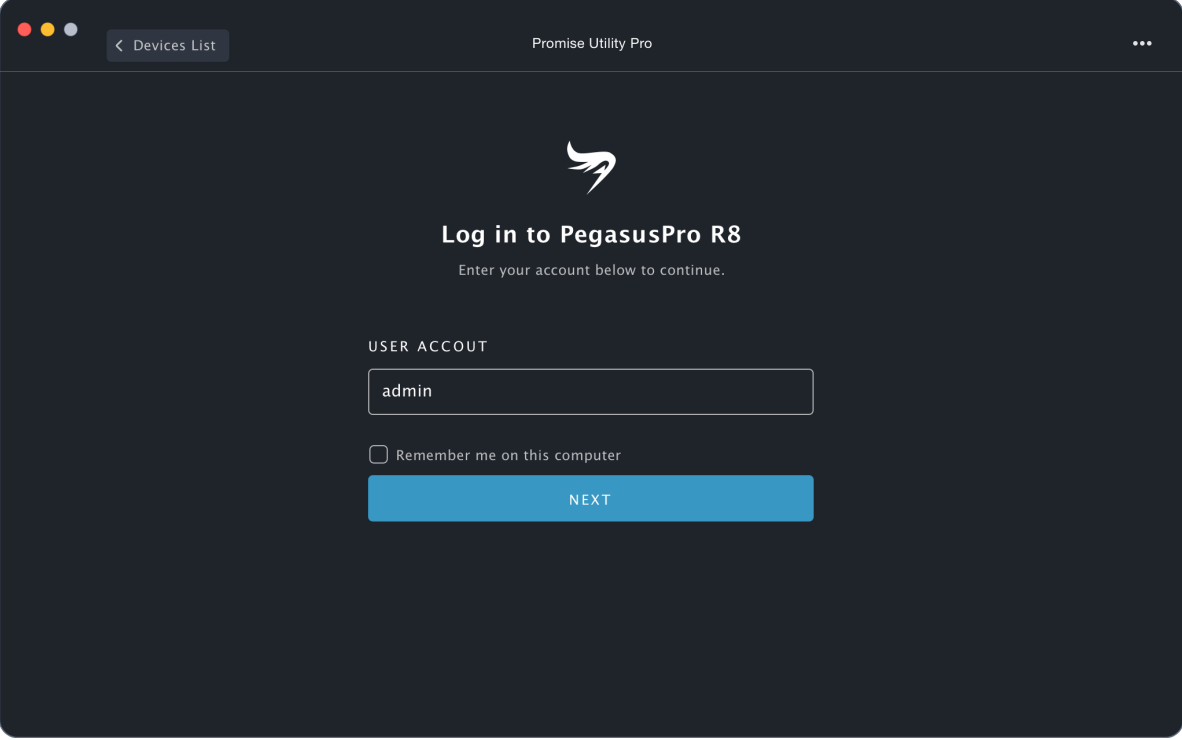
1. Launch the PROMISE Utility Pro and you are presented with instructions on connecting a network cable to a 10G network port.
If you have connected the PegasusPro to one or more Pegasus3 or Pegasus32 units via Thunderbolt™, those will appear in the new menu providing a quick overview of the status of these systems. It is necessary to login for the first time setting up the system.



2. The default login settings are:

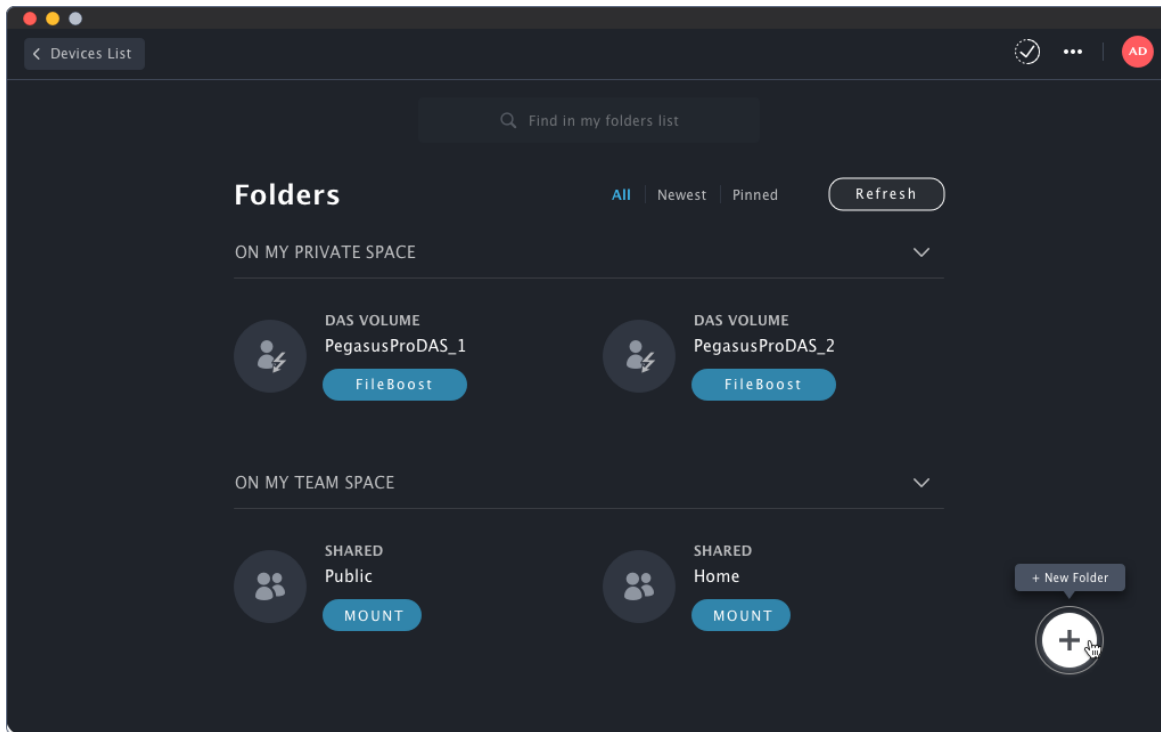
- User Account name: **admin**
- Password: **admin**

The administrator login information is used for accessing the management interface on the network as well. You will need to change the default login settings the first time you set up the system. Upon logging in you are presented with an opportunity to change the login password for the administrator. **You must change the password in order to proceed to the next menu.**



The screenshot shows a web browser window with the title bar containing a back button, "Devices List", "Promise Utility Pro", and a menu icon. The main content area has a dark background. At the top center is a white logo of a stylized bird or wing. Below the logo, the text "Log in to PegasusPro R8" is displayed in white, followed by the instruction "Enter your account below to continue." in a smaller font. Under the heading "USER ACCOUNT", there is a text input field containing the word "admin". Below the input field is a checkbox labeled "Remember me on this computer". At the bottom of the form is a blue button with the text "NEXT" in white.

- The **Folders** menu appears with the default folder configuration (PegasusPro_DAS_1 and PegasusPro_DAS_2) and the shared space folders (Public and Home). The administrator has access to the DAS Volume folders. The shared space Team folders are available to be shared over the 10G network. Only the administrator can create Team folders on the shared space. To create a new folder, click on the **+** icon in the lower right corner of the menu and follow the on screen instruction. *See next page for summary of Folder Type uses and actions.*



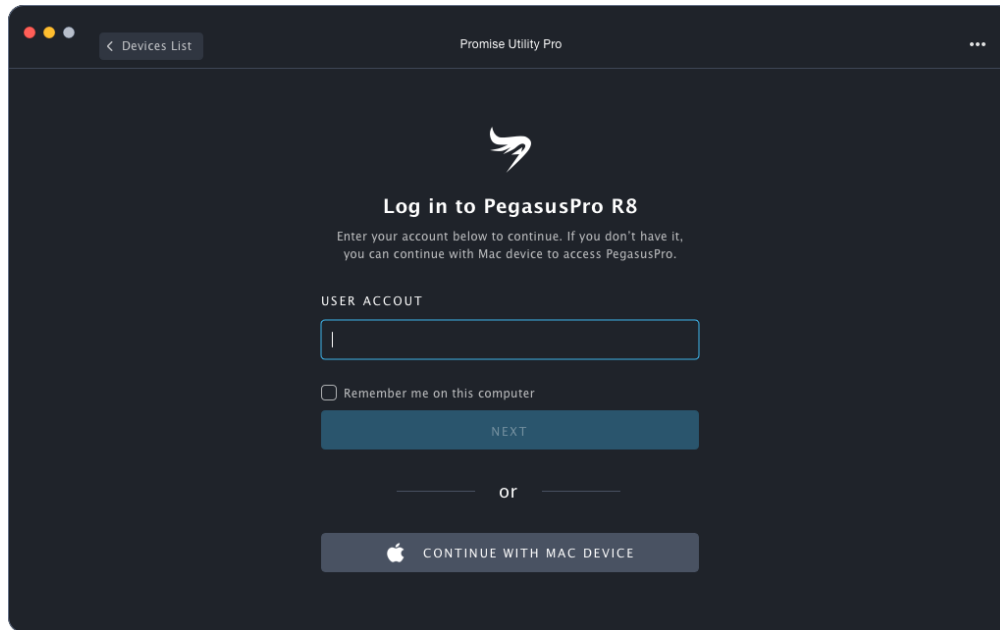
- At this point, the administrator can approve member requests for access, manage member groups, or perform the operations necessary to use the PegasusPro and manage member accounts.

Summary of Folder Types

Folder Type	Administrator account	Member account
DAS Volume	- The Administrator can remove any or all of the files and subfolders in the DAS Volumes. - DAS Volumes appear only when connected to the PegasusPro via Direct Attached Storage (DAS) connection through the Thunderbolt™ 3 cable. - DAS Volumes cannot be renamed. - DAS Volumes cannot be deleted using the PROMISE Utility Pro. DAS Volumes can only be deleted using WebPAM Insight.	DAS Volumes appear only when connected to the PegasusPro via Direct Attached Storage (DAS) connection through the Thunderbolt™ 3 cable. Member accounts connected through the network will not see the DAS Volumes.
Public Folder	- The Public Folder is created automatically. - Only one Public Folder is allowed. - Available for use to the administrator. - Cannot be renamed. - Cannot be deleted.	The Public Folder is available for use to all members
Home (Personal Folder)	- The Home Folder contains member personal folders. - It cannot be renamed. - It cannot be deleted using the PROMISE Utility Pro. - It can be deleted using Finder.	Personal Folders are created automatically for each member when their account is created.
Team Folder	- Team Folders can be created using PROMISE Utility Pro. - The administrator can use any Team Folder. - Can be renamed using PROMISE Utility Pro. - Can be deleted using PROMISE Utility Pro.	Members can use a Team Folder if the account is added to the team using the folder. Team members are managed by the administrator.
External Folder (Pegasus3, Pegasus32 or USB stick)	- The administrator can use any external folder. - Cannot be renamed. - Cannot be deleted.	Members can use any external folder.

Members First Time Using PROMISE Utility Pro on Mac

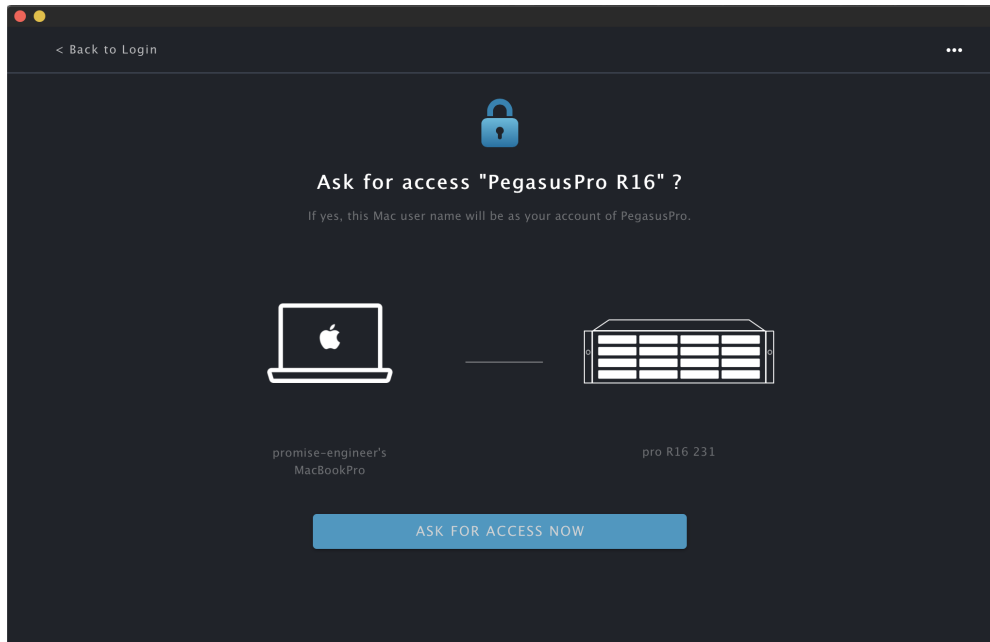
Install the PROMISE Utility Pro on your Mac and launch the utility. The Welcome menu presents with two options for connecting with the PegasusPro. If you have an account already, login normally with your User Name and Password. Notice you that you can click on the *Remember me on this computer* option box to enable automatic login. Click on the **Next** button to continue to the password entry dialog.



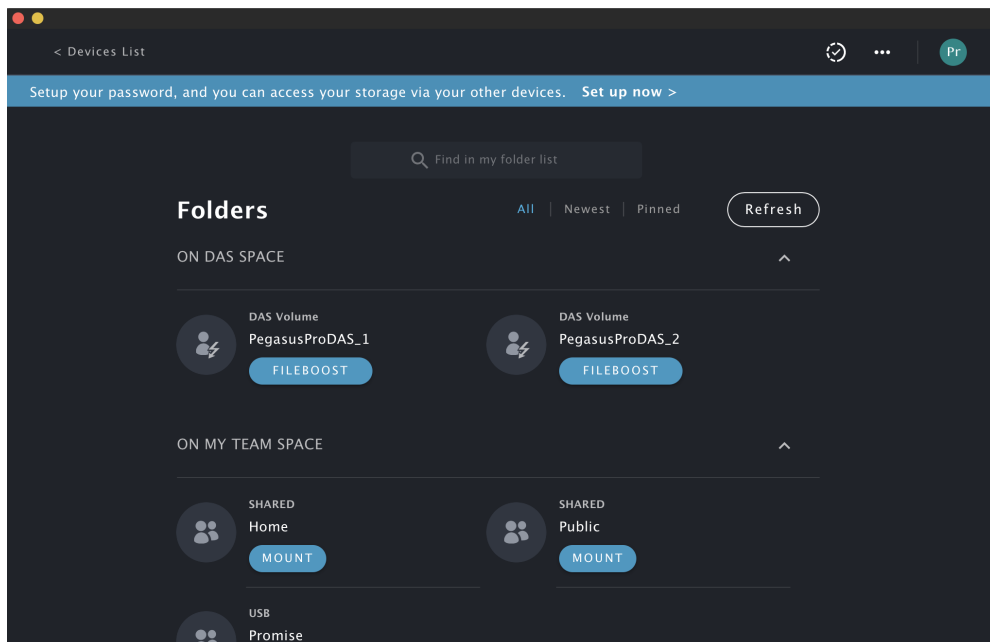
If this is the first time using PROMISE Utility Pro, you have the option to enable **Auto Startup**. *This is used to save time so you do not need to manually mount the storage folders located on the PegasusPro.* After launching the utility a dialog menu asks if you want to allow Auto Startup, click **Allow** to enable it, or click **Deny** if you prefer to manually mount storage folders after restarting the Mac.

Follow the steps below for first time member set up:

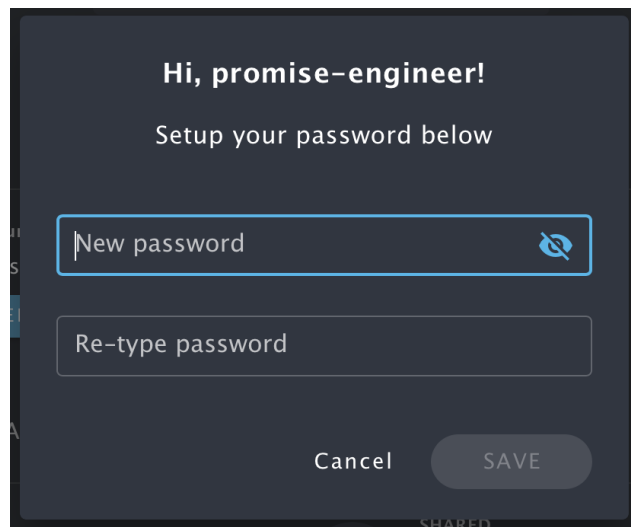
1. If you are using a Mac, click the **Continue with Mac Device** button to proceed with the first time setup.



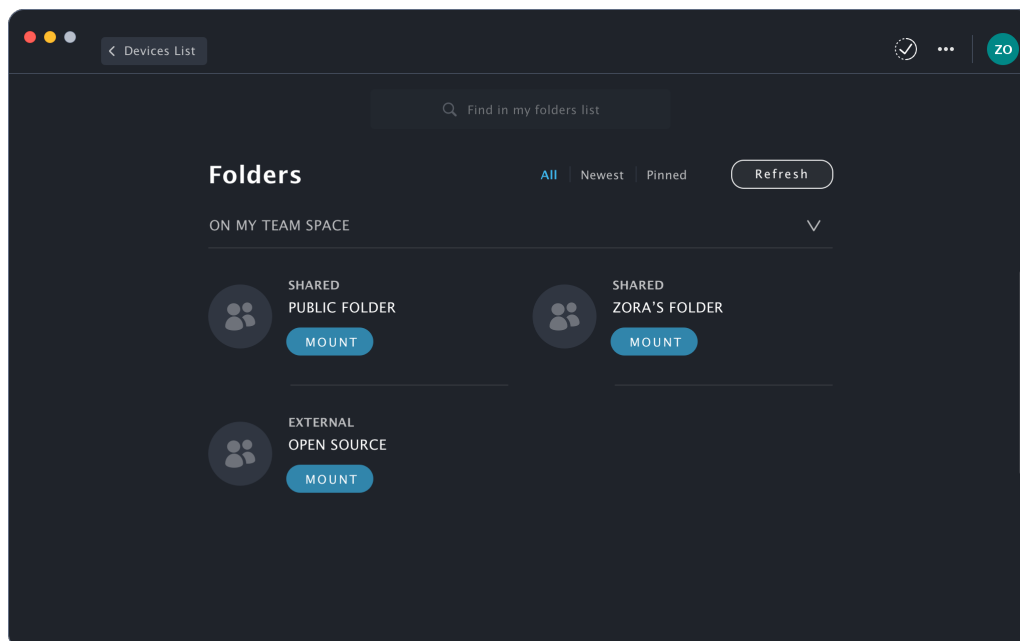
2. To access the PegasusPro, you first need to get permission from the administrator. Click on the **Ask For Access Now** button. A request is sent immediately to the administrator to accept or deny the request. Presumably the administrator will be running PegasusPro and will respond quickly.
While you await a reply, the menu presents the locked icon. If you need to cancel the request, click on the **Cancel Request** button.
When access is granted, the **Folders** menu appears.



- It is first necessary to create a password for your account. Your default account user name is the name of the Mac user account logged in when the request was sent. The user name cannot be changed. Click on the **Set up now** link in the blue banner that appears in the Folders menu.
Note that you will no longer see this banner once you have a password.

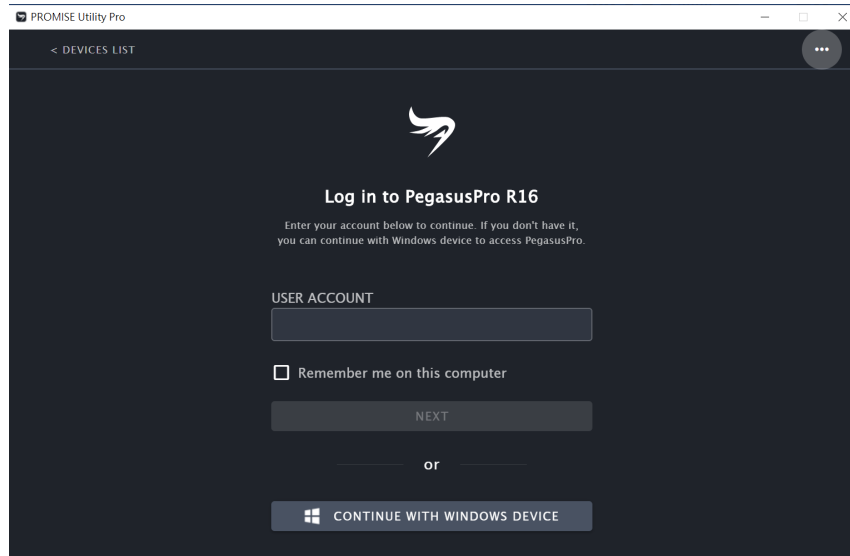


- Once you are accepted by the administrator, you can Mount the folders available to your account. When you mount a folder it appears in Finder and becomes available for use. These folders function the same as a network drive, you can read or write to the Team folder and your personal folder. You can also be granted read and write access to other shared folders; access to other folders is controlled by the administrator.



Members First Time Using PROMISE Utility Pro on Windows

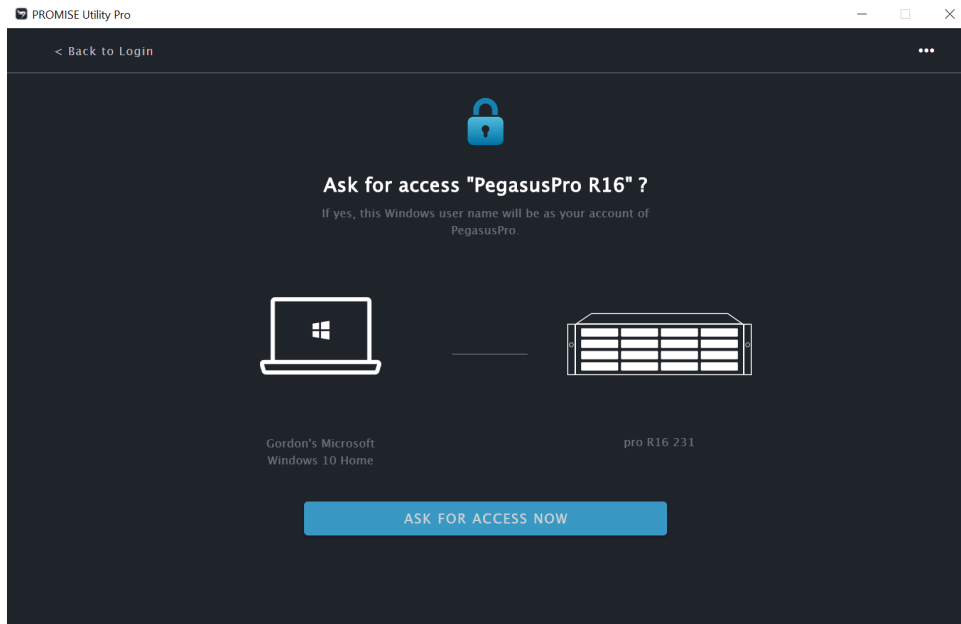
Install the PROMISE Utility Pro on your Windows 10 (or later) system and launch the utility. The Welcome menu presents with two options for connecting with the PegasusPro. If you have an account already, login normally with your User Name and Password. Notice you that you can click on the *Remember me on this computer* option box to enable automatic login. Click on the **Next** button to continue to the password entry dialog.



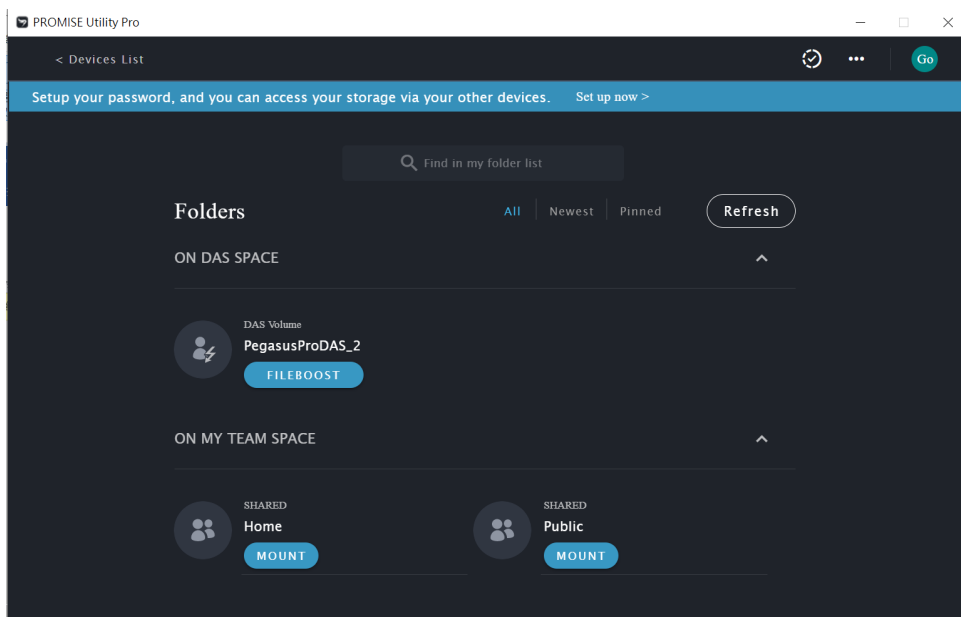
If this is the first time using PROMISE Utility Pro, you have the option to enable **Auto Startup**. *This is used to save time so you do not need to manually mount the storage folders located on the PegasusPro.* After launching the utility a dialog menu asks if you want to allow Auto Startup, click **Allow** to enable it, or click **Deny** if you prefer to manually mount storage folders after restarting Windows.

Follow the steps below for first time member set up in Windows:

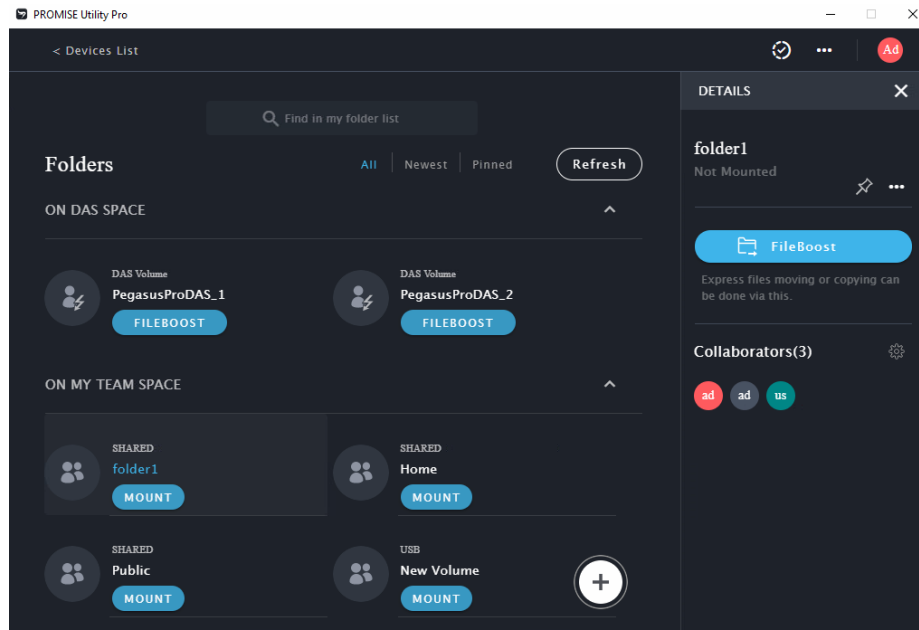
1. If you are using Windows, click the **Continue with Windows Device** button to proceed with the first time setup.



2. To access the PegasusPro, you first need to get permission from the administrator. Click on the **Ask For Access Now** button. A request is sent immediately to the administrator to accept or deny the request. Presumably the administrator will be running PegasusPro and will respond quickly.
While you await a reply, the menu presents the locked icon. If you need to cancel the request, click on the **Cancel Request** button.
When access is granted, the **Folders** menu appears.



3. It is first necessary to create a password for your account. Your default account user name is the name of the Windows user account logged in when the request was sent. The user name cannot be changed. Click on the **Set up now** link in the blue banner that appears in the Folders menu. *Note that if your Windows user account is named Administrator, a different name will automatically be assigned using the account name 'Administrator' with an index number attached with an underscore. There can be only one account named Administrator.*

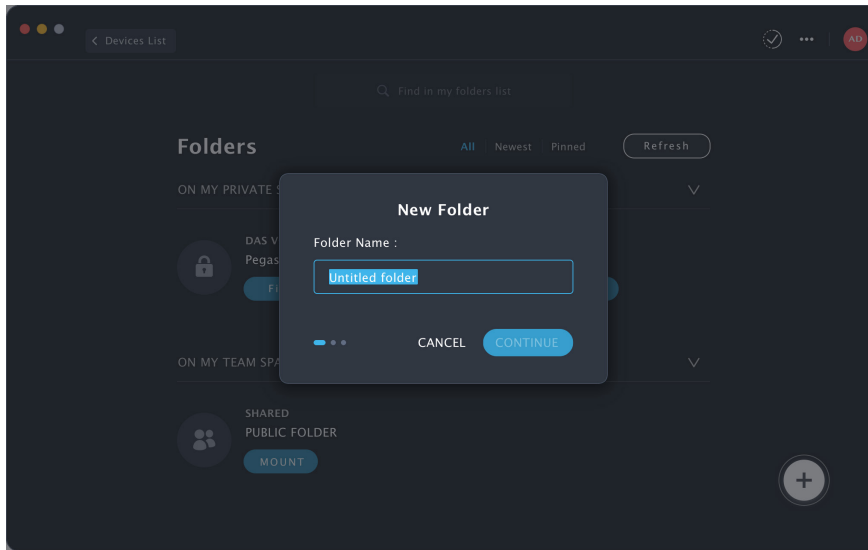


4. Once you are accepted by the administrator, you can Mount the folders available to your account. When you mount a folder it appears in Finder and becomes available for use. These folders function the same as a network drive, you can read or write to the Team folder and your personal folder. You can also be granted read and write access to other shared folders; access to other folders is controlled by the administrator.

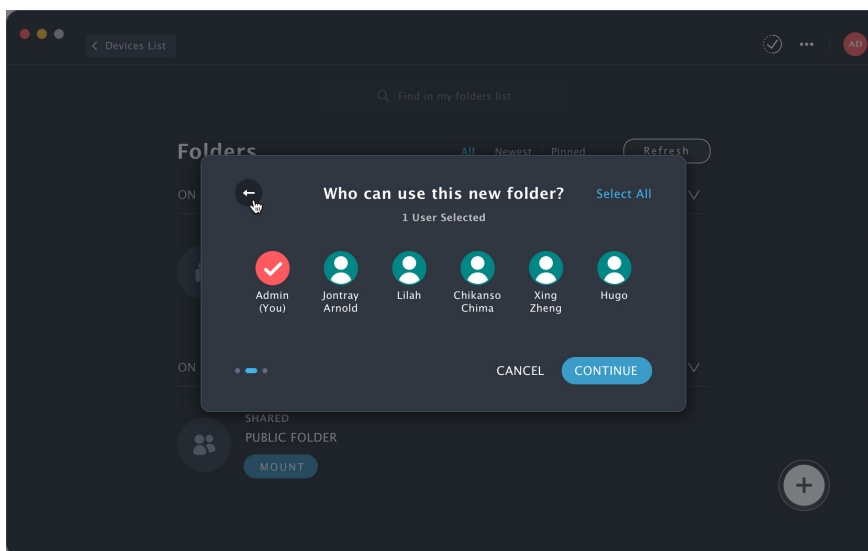
Adding a folder with PROMISE Utility Pro

To add a folder to a Team Volume, follow these steps:

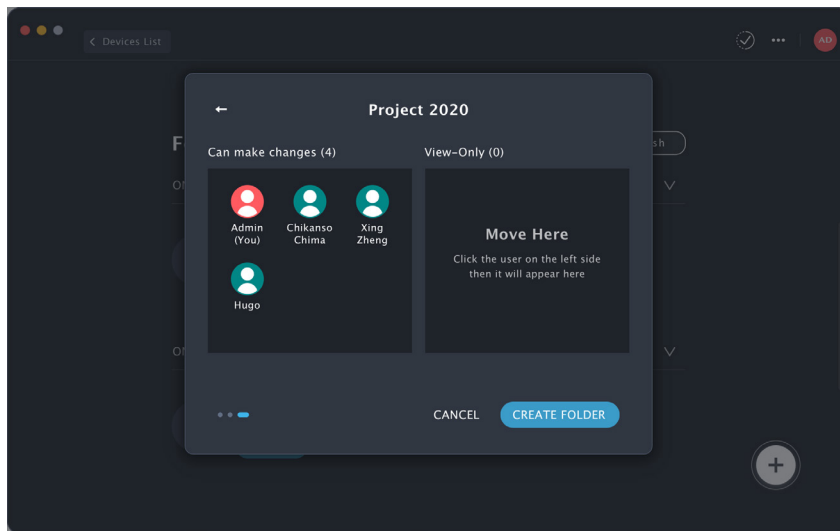
1. Click on the **+** icon in the lower right corner, enter a name for the new folder. If there are more than one Team Volume, first choose the *New Team Volume* option that appears.



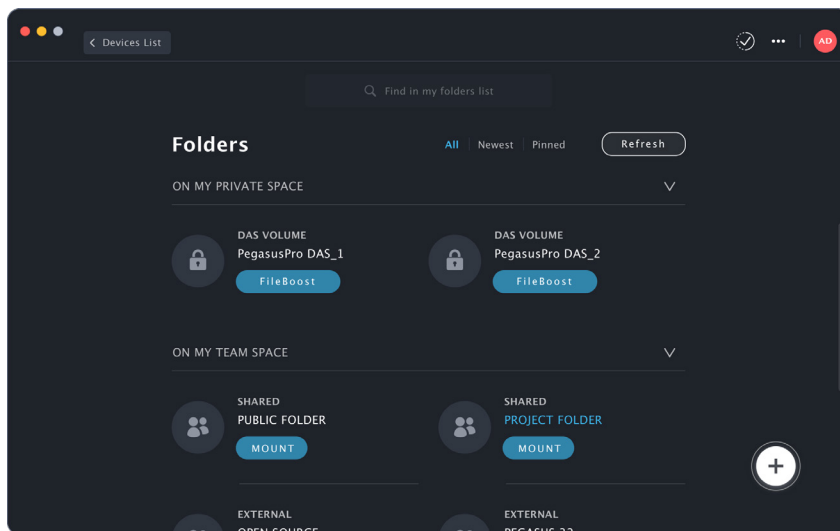
2. Add Members to group allowed to access the new Team Folder. Click on the icons for the Members you want to add, and click on **Continue**. Up to 20 members can be added to a Team folder.



- There are two categories for Members: Members which are allowed to add, delete or edit their files in the Team folder (read/write) and Members that can view content but not make changes (read only). Hover the cursor over Members to move from one category to the other, then click **Create Folder** to finish.



- The new Team folder appears in the Folders list.



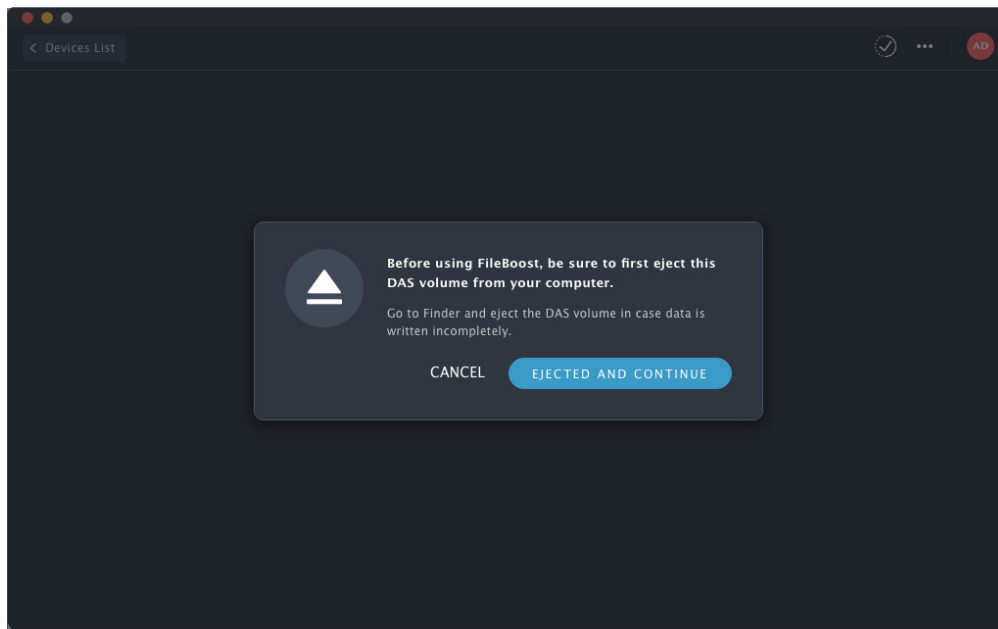
Using FileBoost

FileBoost is a PROMISE proprietary technology that makes possible very rapid data transfers to and from the DAS Volume and the NAS folder accessible on Member computers. This is a key feature of the PegasusPro system and is especially useful when large amounts of data need to be moved between folders mounted on Member computers.

It is possible to perform the same operation using only Finder in Mac, but FileBoost greatly increases data transfer performance to reduce time needed for completion. Again, the time savings is significant when large quantities of data are routinely being moved from one Member folder to another.

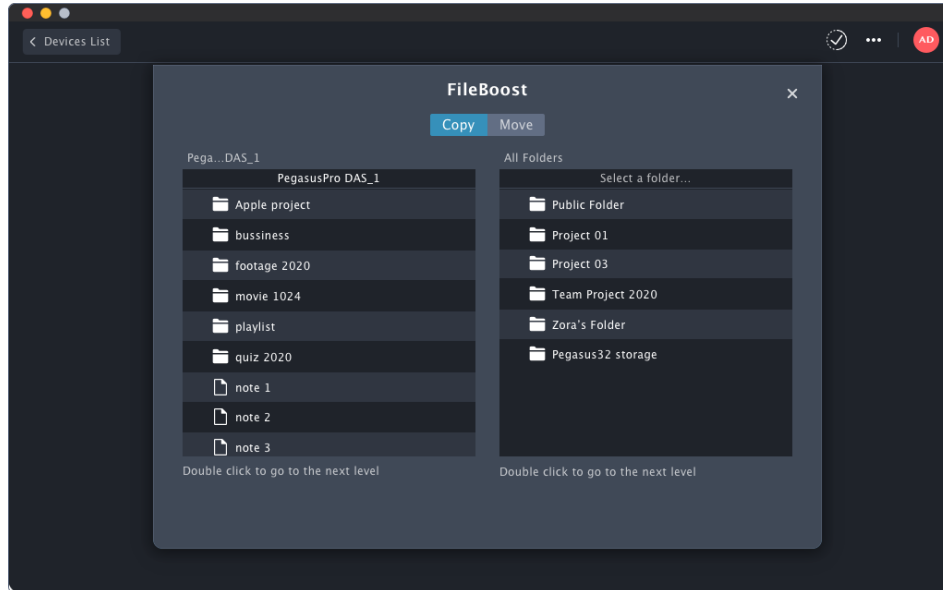
For the administrator, or any user connected to PegasusPro via Thunderbolt™ 3 DAS, it is necessary to eject the DAS Volumes first before launching FileBoost. You can use the Eject function in Finder to eject the DAS Volumes, then begin using FileBoost.

If you try to start FileBoost before ejecting the DAS Volumes, a warning appears instructing the administrator or DAS user to first eject the volumes. Members connected only via 10G network do not need to do this since they are not connected to the DAS Volumes.

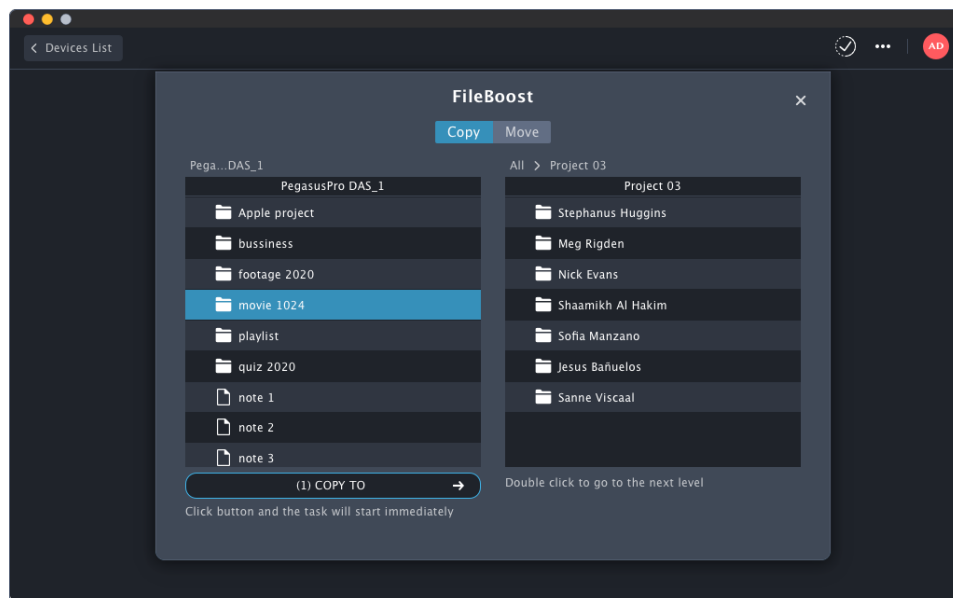


To start using FileBoost:

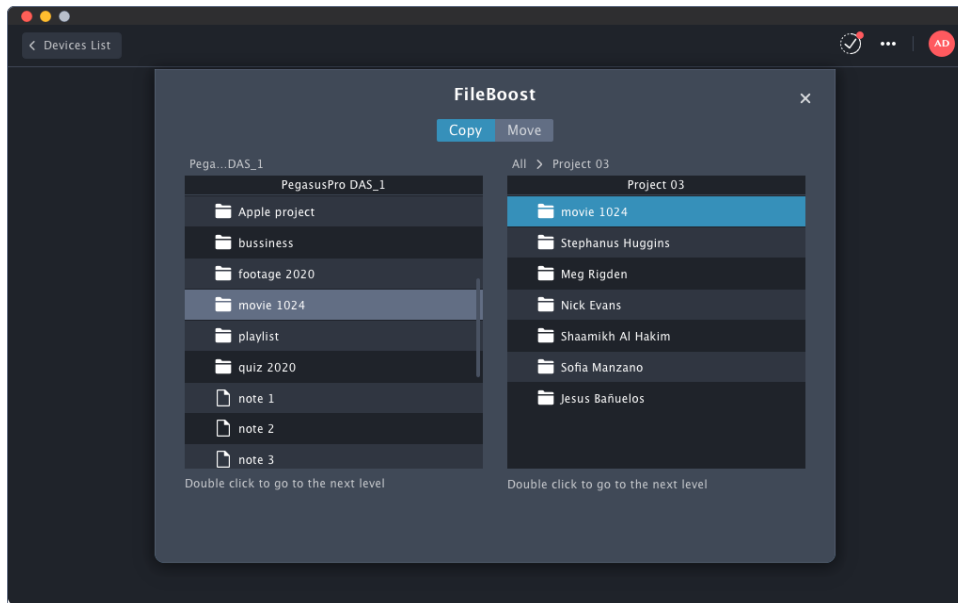
1. Click on the **FileBoost** button, the FileBoost menu appears. The menu reveals the content of the Source Volume in the left panel, with the Target folders available to the Member in the right panel. You can use the **Copy** and **Move** buttons to first choose the action you want to perform, then use the menu buttons or drag and drop function to move or copy files to the desired location.



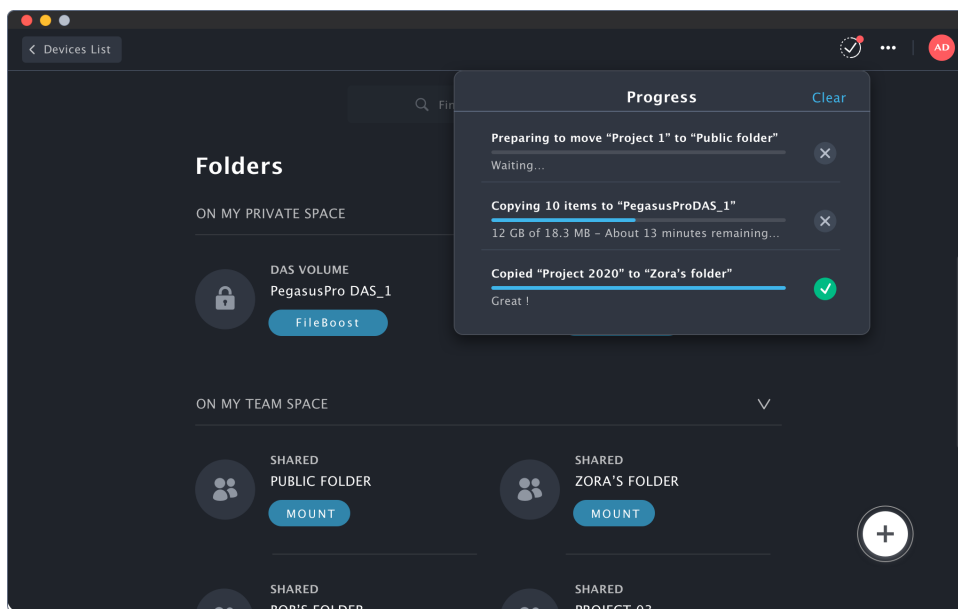
2. Choose the items to copy or move from the Source Volume, and click on the action button (i.e. **COPY TO** or **MOVE TO** button located under the panel). Alternatively, select the items, drag them to the destination and release the (left) mouse button.



- The items appear in the target location. Click **X** to close the menu when you are finished copying or moving files.



- Status on the transfers appear above the menu. Click outside the menu to close it.



USING WEBPAM INSIGHT

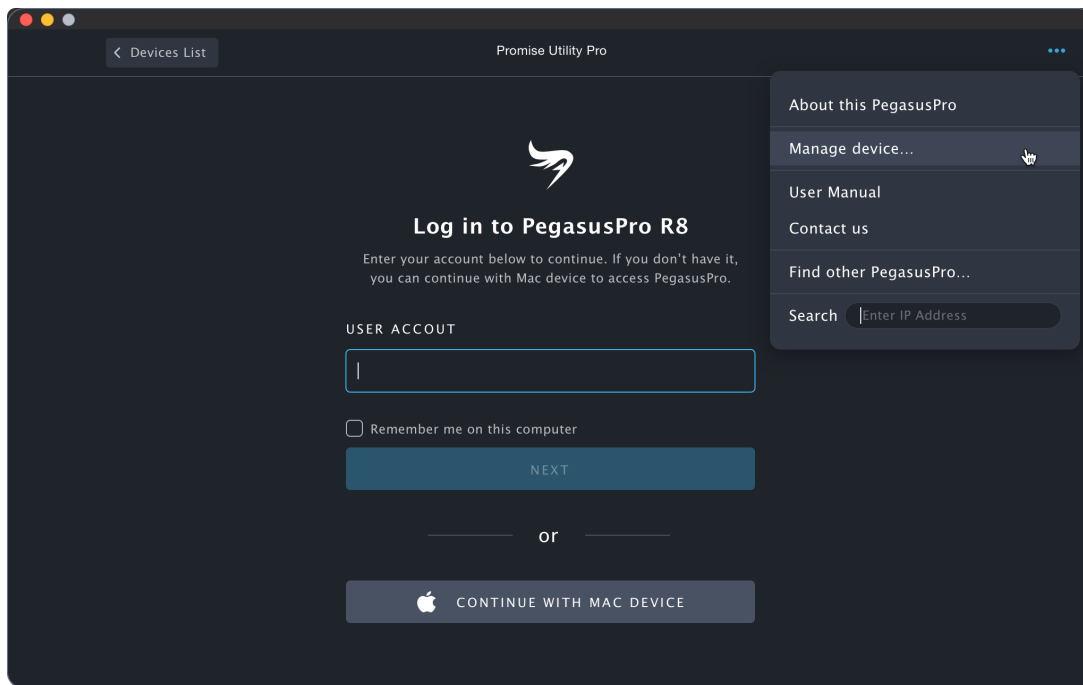
In order to connect to WebPAM Insight, the computer used for management and the PegasusPro must be connected to the same switched 1G network, and be in the same IP subnet.

Accessing WebPAM Insight

The simplest way to access WebPAM Insight is to click on the link embedded in the PROMISE Utility Pro interface.

To launch WebPAM Insight in the default web browser, click the **⋮** icon to view the various options and select *Manage device*.

Link to WebPAM Insight management in PROMISE Utility Pro interface



Your default browser will launch and present the Dashboard menu of WebPAM Insight.

Perusing WebPAM Insight GUI

The WebPAM Insight interface consists of menu icons in the left panel, each leading you to a specific function; a virtual front view of the PegasusPro R16 with drives indicating their working status; a system health status indicator, capacity indicator that informs of total and available storage capacity; and a real-time graphical performance monitor. Note that the icons in the main display are interactive, if you float the cursor over an icon a tool tip appears telling its function. The icons labeled on the left side in the example below (*Dashboard*, *Storage*, *Members*, *Network*, *Device* and *Administration*) are links to functional menu groups. All configuration and administrative actions can be completed using the linked menus.

WebPAM Insight interface with the Dashboard displayed



- **Dashboard** – Show the Dashboard
- **Storage** – Storage Pool List, Spare Drive List
- **Members** - Member Account and Member Group management
- **Network** - Network interface management
- **Device** – Device Information, Basic Settings, Physical Drive List
- **Administration** – Enclosure (PegasusPro hardware) Information, Events, Background Activities, Firmware Update, Performance Monitor and Restore Factory Default (Settings)

Dashboard

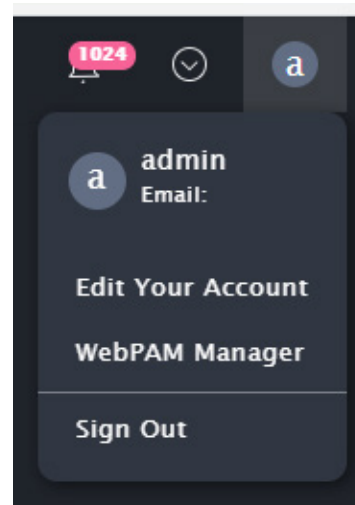
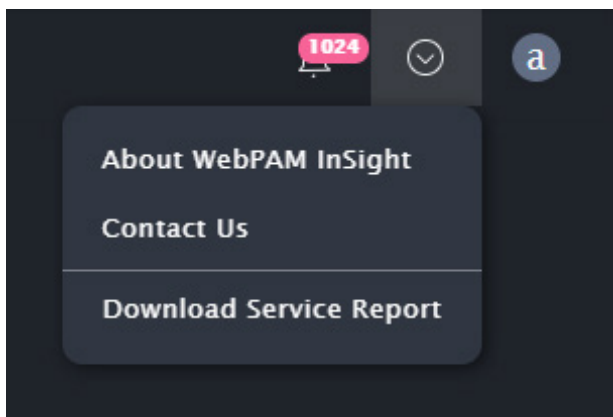
The Dashboard menu is the starting point on WebPAM Insight after login. This display menu provides a quick overview of the real time status to the physical enclosure hardware and functional systems of the PegasusPro.

Dashboard



Click on the arrow icon to view a drop-down menu to create a **Service Report**, find the current version of WebPAM Insight, or link to the **Support** menu on the PROMISE website. Click on the Bell icon to view the events menu. Click on the 'a' to logout of the administrator account, or to edit details for the account.

WebPAM Insight drop-down menus



Member and Group Management

Management of accounts and groups can be done by the administrator using PROMISE Utility Pro or WebPAM Insight. In WebPAM Insight, click the **Members** icon in the left panel to go to the Members main menu.

Member accounts are listed in the main menu in alphabetical order by **Account** name. Other information in the menu includes **Display Name**, **Primary Group** (individual accounts can be in more than one group) and the **Status** of the account. By default, there is only a single account for the administrator; newly added accounts appear as they are created.

Members Main menu

The screenshot displays the 'All Accounts' page in the PROMISE Technology interface. The left sidebar shows navigation options: MEMBERS (selected), Account, Group, and Domain. The main content area is titled 'All Accounts' and includes a search bar labeled 'Search by account name'. Below the search bar is a table listing accounts. The table has four columns: ACCOUNT, DISPLAY NAME, PRIMARY GROUP, and STATUS. The accounts listed are: admin, aaa, ivy, ken, ken1, ken2, ken3, user1, user2, user3, user4, user5, and user6. The 'admin' account has a primary group of '-', while others are in the 'users' group. All accounts have a status of 'Ready'. A '+ CREATE ACCOUNT' button is located in the top right corner.

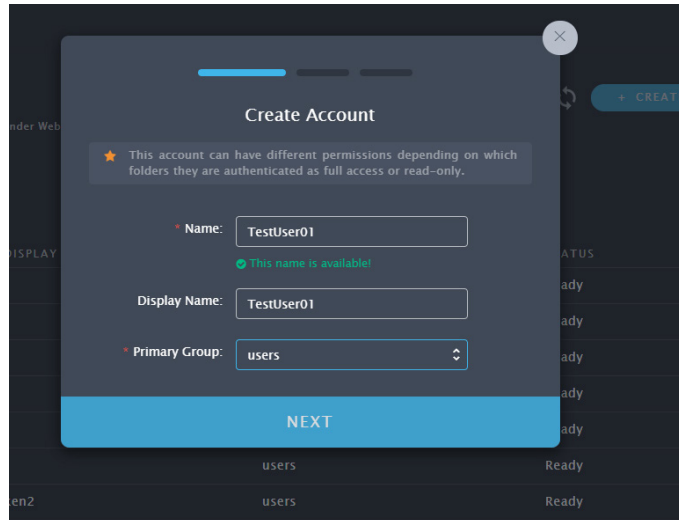
ACCOUNT	DISPLAY NAME	PRIMARY GROUP	STATUS
admin		-	Ready
aaa		users	Ready
ivy		users	Ready
ken		users	Ready
ken1		users	Ready
ken2	ken2	users	Ready
ken3		users	Ready
user1		users	Ready
user2		users	Ready
user3		users	Ready
user4		users	Ready
user5		users	Ready
user6		users	Ready

Creating a New Member Account

To create a new account, in the **Members** menu:

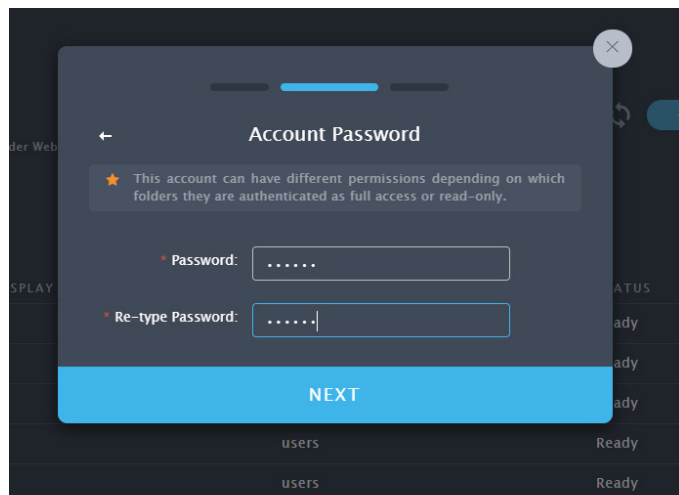
1. Click on the **Create Account** button, a new menu appears.
2. Enter a **Name** and a **Display Name** for the account.
3. Choose the **Primary Group** in which the account is placed and click **Next**. A new menu appears.
4. Enter a **Password**, **Re-type** the password to verify it is correct, and click **Next**.
5. The new account appears in the Members list.

Create Account menu



The screenshot shows the 'Create Account' dialog box. It has a title bar with a close button. Below the title bar is a progress indicator with three steps, the second of which is active. A message box states: 'This account can have different permissions depending on which folders they are authenticated as full access or read-only.' Below this, there are three input fields: 'Name' with the value 'TestUser01' and a green checkmark indicating 'This name is available!'; 'Display Name' with the value 'TestUser01'; and 'Primary Group' with a dropdown menu showing 'users'. At the bottom is a large blue button labeled 'NEXT'.

Account Password menu



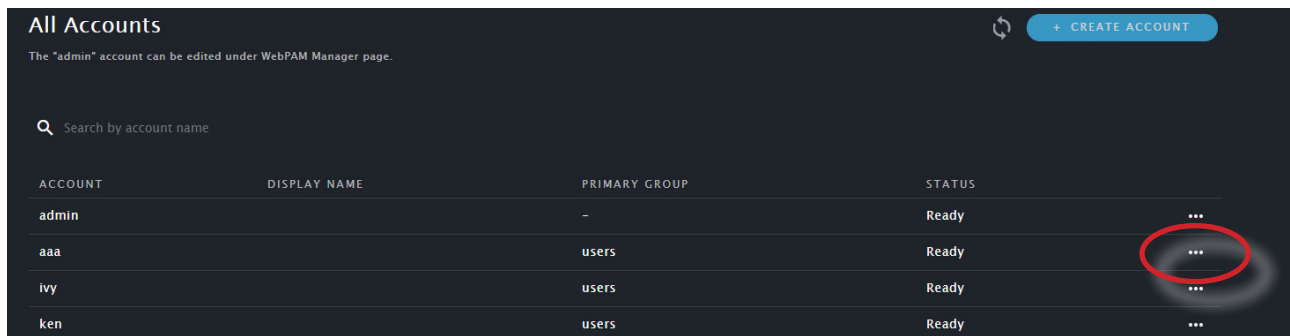
The screenshot shows the 'Account Password' dialog box. It has a title bar with a close button. Below the title bar is a progress indicator with three steps, the third of which is active. A message box states: 'This account can have different permissions depending on which folders they are authenticated as full access or read-only.' Below this, there are two input fields: 'Password' and 'Re-type Password', both containing six dots. At the bottom is a large blue button labeled 'NEXT'.

Deleting an Existing Account

To remove an existing account:

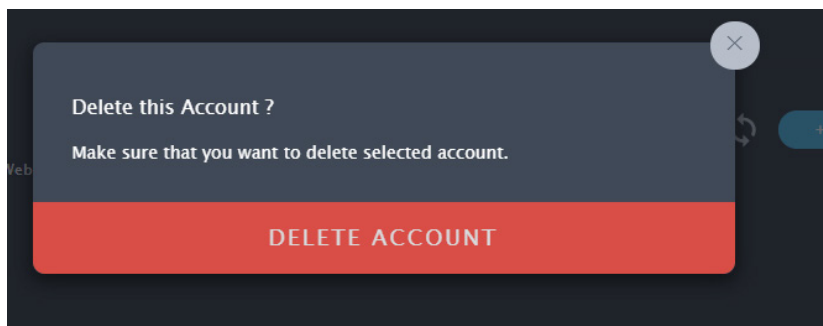
1. Go to the Members Main Menu, click on the **...** icon in the right column for the account to be removed, and select the *Delete* option; a new menu appears.

Members menu



ACCOUNT	DISPLAY NAME	PRIMARY GROUP	STATUS
admin		-	Ready
aaa		users	Ready
ivy		users	Ready
ken		users	Ready

2. Confirm that you want to remove the account, click on **Delete Account**.

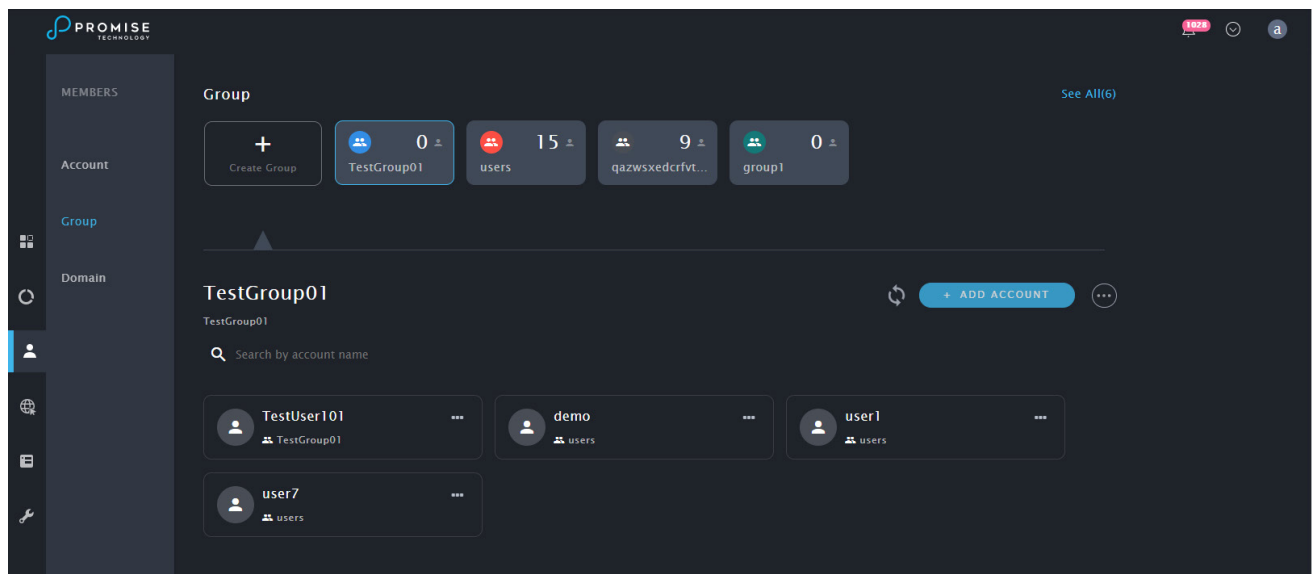


Creating a New Member Group

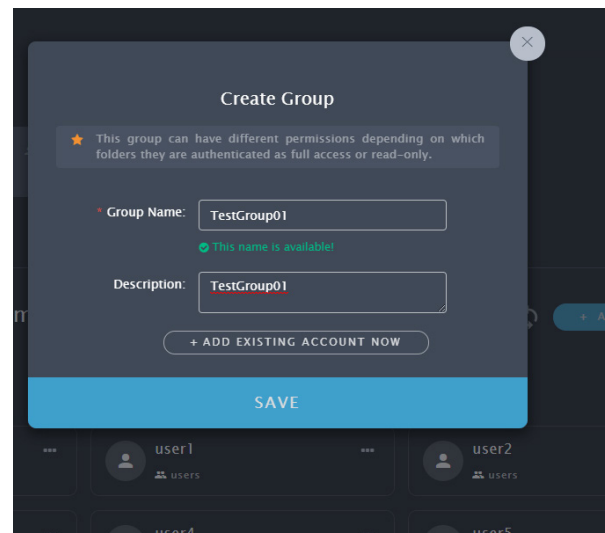
To create a new member group:

1. In the Group menu, click on the **Create Group +** icon, a new menu appears.

Group menu



2. Enter a **Group Name** and a **Description** for the account.
3. Click on **Save**. The new group appears listed in the **Group** menu.

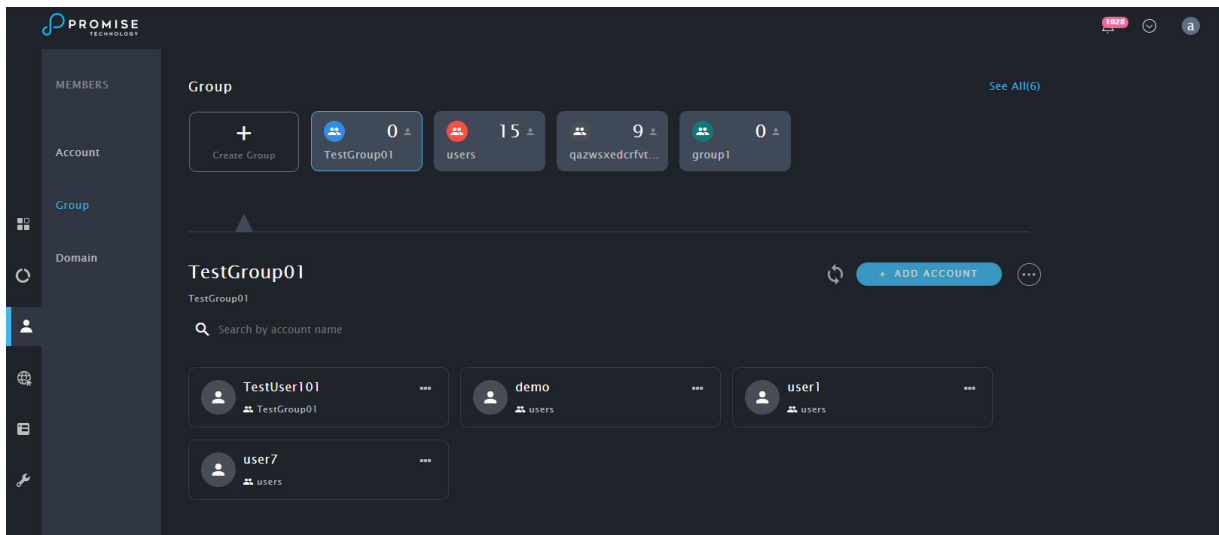


Adding Members to a Group

To add members to an existing group:

1. In the **Group** menu, click on the **Group** icon to view details for that group.
2. Click on the **Add Account** button, a new menu appears.
3. Select existing users from the list and click **Save**. The users are added to the group.

Group Details



Network Management

Network management on the PegasusPro R16 includes managing network settings for the 10G and 1G Ethernet interfaces, as well as enabling and configuring bonding for the Ethernet interfaces. **Device management over the network is done through the 1G Ethernet interface. Note that if you change the IP address or other network settings on this interface, you will need to reconnect to the device for further management changes.**

The 10G and 1G Ethernet network settings are managed via the Ethernet menu. To view this menu, click on the Network icon in the left tool bar, then click on Ethernet in the left panel.

Ethernet Interface List

The screenshot shows the 'Ethernet' configuration page in the Promise Technology PegasusPro web interface. The left sidebar contains a 'NETWORK' menu with options for 'Bond', 'Ethernet', and 'Thunderbolt'. The main content area is titled 'Ethernet' and includes a note: 'After Network Bonding is enabled, bond IP will use DHCP. You can modify bond settings in Bond page and related Ethernet settings can't be modified.' Below this, there are two sections: 'Ethernet 1G' and 'Ethernet 10G'. Each section has a 'Bond Enabled' toggle switch. The 'Ethernet 1G' section shows a table with 2 rows of interface data. The 'Ethernet 10G' section shows a table with 4 rows of interface data. Each row includes columns for ID, Protocol Family, IP Address, Link Speed, Current Speed, Subnet Mask/Prefixlen, Gateway, and Link Status. The 'Link Status' column contains a settings icon (three dots) for each interface.

ID	PROTOCOL FAMILY	IP ADDRESS	LINK SPEED	CURRENT SPEED	SUBNET MASK/PREFIXLEN	GATEWAY	LINK STATUS
1	IPv4 (Enabled)	10.92.52.96	1000	1000	255.255.255.0	10.92.52.254	up
	IPv6 (Enabled)	fe80::f4e4:3bd7:3698:c9ec	-	-	64	-	-
2	IPv4 (Enabled)	10.92.52.97	1000	1000	255.255.255.0	10.92.52.254	up
	IPv6 (Enabled)	fe80::2f84:821e:ebd6:a58b	-	-	64	-	-

ID	PROTOCOL FAMILY	IP ADDRESS	LINK SPEED	CURRENT SPEED	SUBNET MASK/PREFIXLEN	GATEWAY	LINK STATUS
1	IPv4 (Enabled)	10.35.10.112	10000	10000	255.255.255.0	10.35.10.254	up
	IPv6 (Enabled)	fe80::fa67:1995:6b57:cff	-	-	64	-	-
2	IPv4 (Enabled)	10.35.10.110	10000	10000	255.255.255.0	10.35.10.254	up
	IPv6 (Enabled)	fe80::4d74:fe20:18d6:5e98	-	-	64	-	-
3	IPv4 (Enabled)	10.17.10.10	10000	10000	255.255.0.0	-	up
	IPv6 (Enabled)	fe80::92bd:47b5:b80e:a29a	-	-	64	-	-
4	IPv4 (Enabled)	10.17.10.11	10000	10000	255.255.0.0	-	up
	IPv6 (Enabled)	fe80::cee:3e35:19cc:85f	-	-	64	-	-

To configure network settings on any Ethernet interface, click the settings icon for the interface (•••) and choose the Network Settings option. In the new menu, configure network IP settings for the 10G or 1G interface and click **Submit**.

Network Interface Bonding

Network bonding is a process of combining or joining two or more network interfaces together into a single interface. Network bonding offers performance improvements and redundancy by increasing the network throughput and bandwidth. If one interface is down or unplugged the other one will work. It can be used in situations where you need fault tolerance, redundancy or load balancing networks. In Linux, a special kernel module named bonding is used to connect multiple network interfaces into a single interface. Two or more network interfaces can be connected into a single logical “bonded” interface. The behavior of the bonded interfaces depends on the type of bonding method used.

Types of Network Bonding

- **mode=0 (balance-rr)** This mode is based on Round-robin policy and it is the default mode. This mode offers fault tolerance and load balancing features. It transmits the packets in Round robin fashion that is from the first available slave through the last.
- **mode=1 (active-backup)** This mode is based on Active-backup policy. Only one slave is active in this band, and another one will act only when the other fails. The MAC address of this bond is available only on the network adapter part to avoid confusing the switch. This mode also provides fault tolerance.
- **mode=2 (balance-xor)** This mode sets an XOR (exclusive or) mode that is the source MAC address is XOR'd with destination MAC address for providing load balancing and fault tolerance. Each destination MAC address the same slave is selected.
- **mode=3 (broadcast)** This method is based on broadcast policy that is it transmitted everything on all slave interfaces. It provides fault tolerance. This can be used only for specific purposes.
- **mode=4 (802.3ad)** This mode is known as a Dynamic Link Aggregation mode that has it created aggregation groups having same speed. It requires a switch that supports IEEE 802.3ad dynamic link. The slave selection for outgoing traffic is done based on a transmit hashing method. This may be changed from the XOR method via the `xmit_hash_policy` option.
- **mode=5 (balance-tlb)** This mode is called Adaptive transmit load balancing. The outgoing traffic is distributed based on the current load on each slave and the incoming traffic is received by the current slave. If the incoming traffic fails, the failed receiving slave is replaced by the MAC address of another slave. This mode does not require any special switch support.
- **mode=6 (balance-alb)** This mode is called adaptive load balancing. This mode does not require any special switch support.

Team Folders

Management of production teams for collaboration will likely be one of the main activities of the PegasusPro administrator. The user interface and menus are user friendly and intuitive in order to simplify overall system management. Folders, teams and users can also be managed using the PROMISE Utility Pro.

To view the menu for team and user management, click the Storage menu icon in the left panel of the interface. The first menu that appears is the **Team Volume and Team Folder List**. The default configuration of the PegasusPro R16 has a shared team volume, **Team_Volume_01**, already set up. If you want to change the name of the volume you need to go to the **Pool** configuration menus. Note however that making changes to the existing disk pool should be done before you start using the PegasusPro R16 since the data will be lost if you change the default pool set up.

Team Folders List

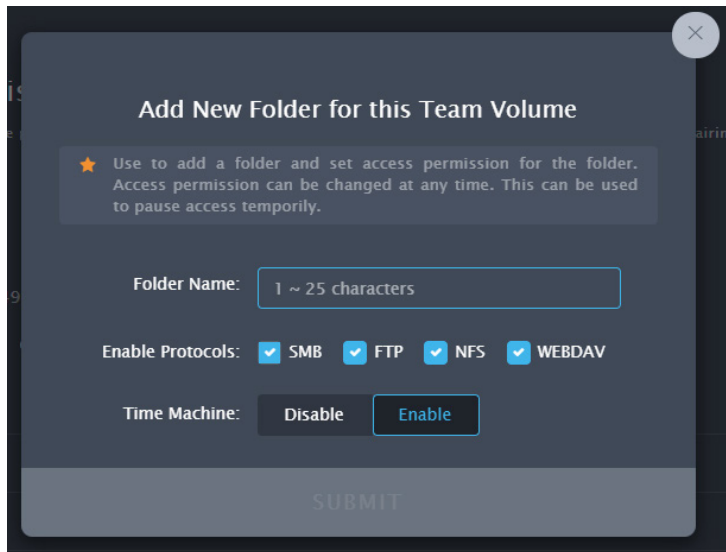
The screenshot shows the 'Team Volume & Team Folder List' interface. On the left is a sidebar with a 'STORAGE' menu and icons for Pool, Team (selected), DAS, and External. The main area displays information for 'TeamVolume_01', including a circular progress indicator showing 33.59 TB free out of 38.19 TB total, and a status of 'Good'. Below this is a table of folders with columns for Folder Name and Protocol. The folders listed are PUBLIC, home, folder1, folder2, folder3, folder4, and folder5. Each folder has a protocol selection (SMB, NFS, FTP, WebDav) and a '+ ADD FOLDER' button. A 'REFRESH' button is in the top right, and a 'HIDE FOLDER LIST' button is at the bottom.

FOLDER NAME	PROTOCOL	
PUBLIC	SMB NFS FTP WebDav	...
home	SMB	...
folder1	SMB NFS FTP WebDav	+ ADD FOLDER ...
folder2	SMB NFS FTP WebDav	+ ADD FOLDER ...
folder3	SMB NFS FTP WebDav	+ ADD FOLDER ...
folder4	SMB NFS FTP WebDav	+ ADD FOLDER ...
folder5	SMB NFS FTP WebDav	+ ADD FOLDER ...

Creating a New Team Folder

To create a new Team Folder, click the **+ Add Folder** button, the **Add New Folder** menu appears.

Add New Folder to Team Volume menu



To create a new Team Folder:

1. Type a **Folder Name**, and click to **enable** or **disable** protocols for the folder (*SMB*, *FTP*, *NFS* or *WEBDAV* all enabled by default).
2. The option of enabling Time Machine backups for the team folder can also be **enabled** or **disabled** (enabled by default).
3. Click the **Submit** button to create the new team folder. The new folder appears in the Team Folder list for the volume.

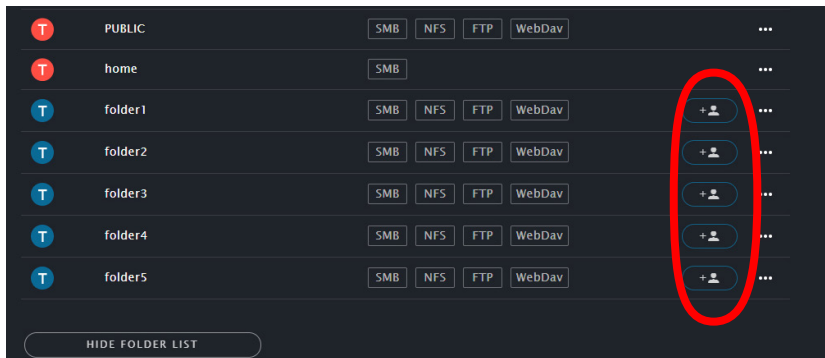
Removing a Team Folder

To delete a team folder, go to the Folders List, click on the Details icon for the folder (•••) and choose the *Delete* option. A pop-up menu asks you to confirm your decision to delete the folder. To confirm, type the name of the folder and click on **Confirm** to remove the folder.

Adding Members to a Team Folder

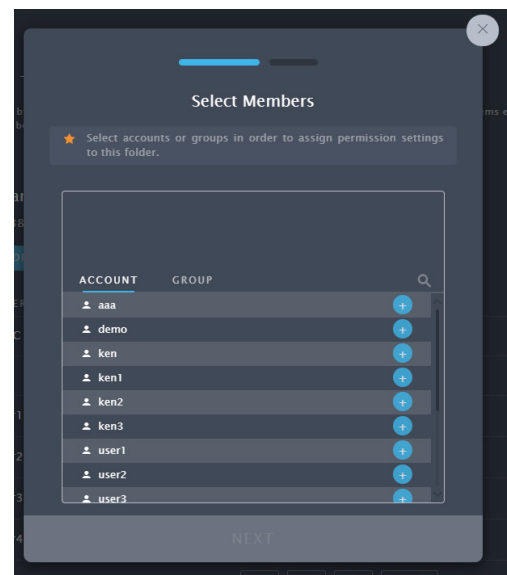
1. To add members to a team folder, click on the **Add Member** icon for an eligible team folder. *Note that team folders with the blue T icon are eligible for member management in this menu.*

Click icon to add members

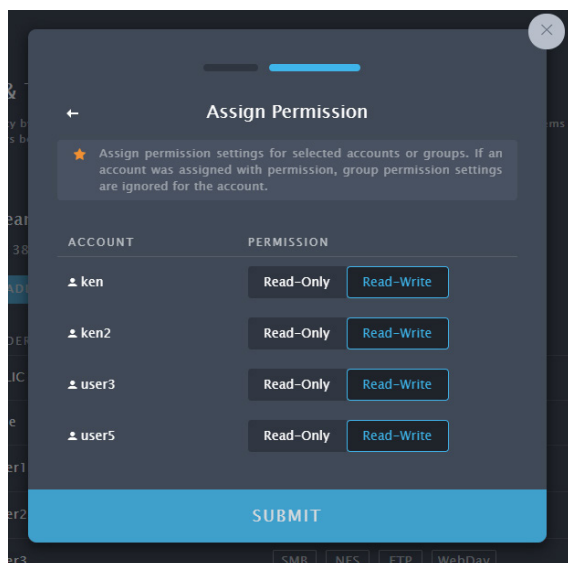


2. In the menu that appears, click on the + icon for the members you want to add to the team folder.

Select members to add to the team folder



Assign permission level for added members

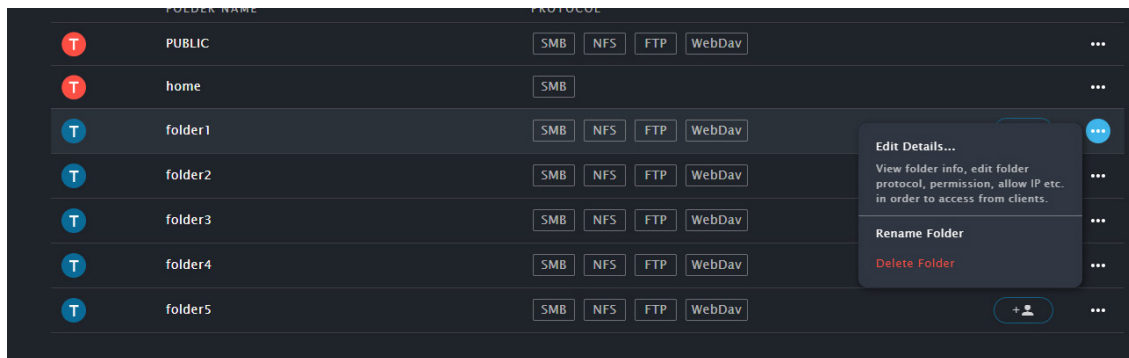


3. Choose the permission level (*Read-Write, Read-Only*) for the newly added members.
4. Click the **Submit** button.

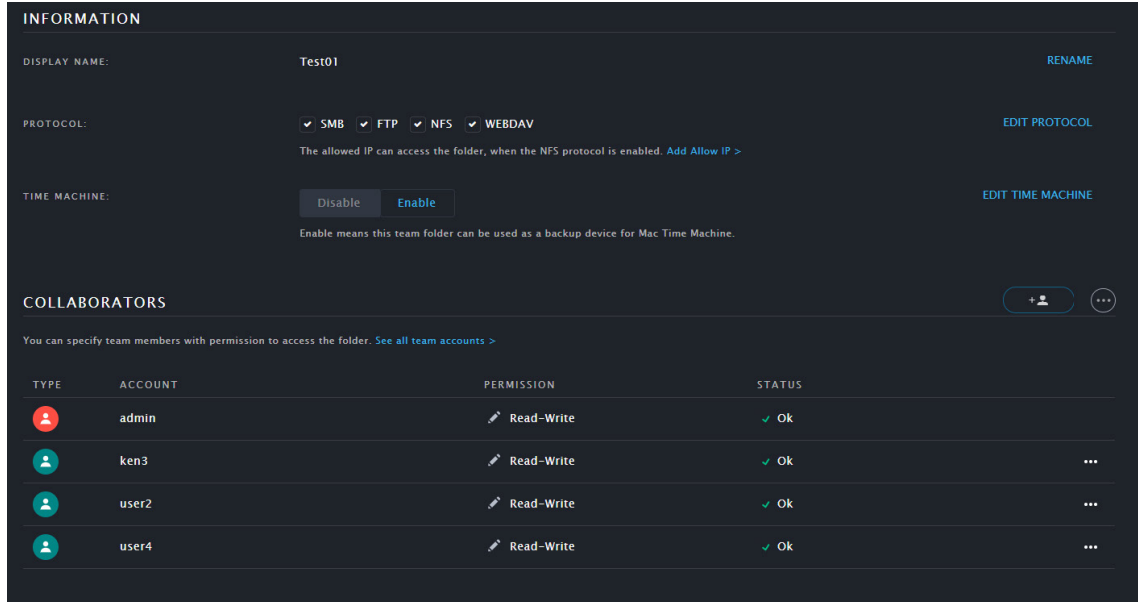
Editing/Deleting Members and Permission Settings

To delete members from a team folder or to change settings such as read-write permission settings, go to the Folders List, click on the Details icon for the folder (⋮) and choose the *Edit Details* option. *Note that this is also where you can change the name of the folder.*

Team Folders list, Edit Details



Folder Information

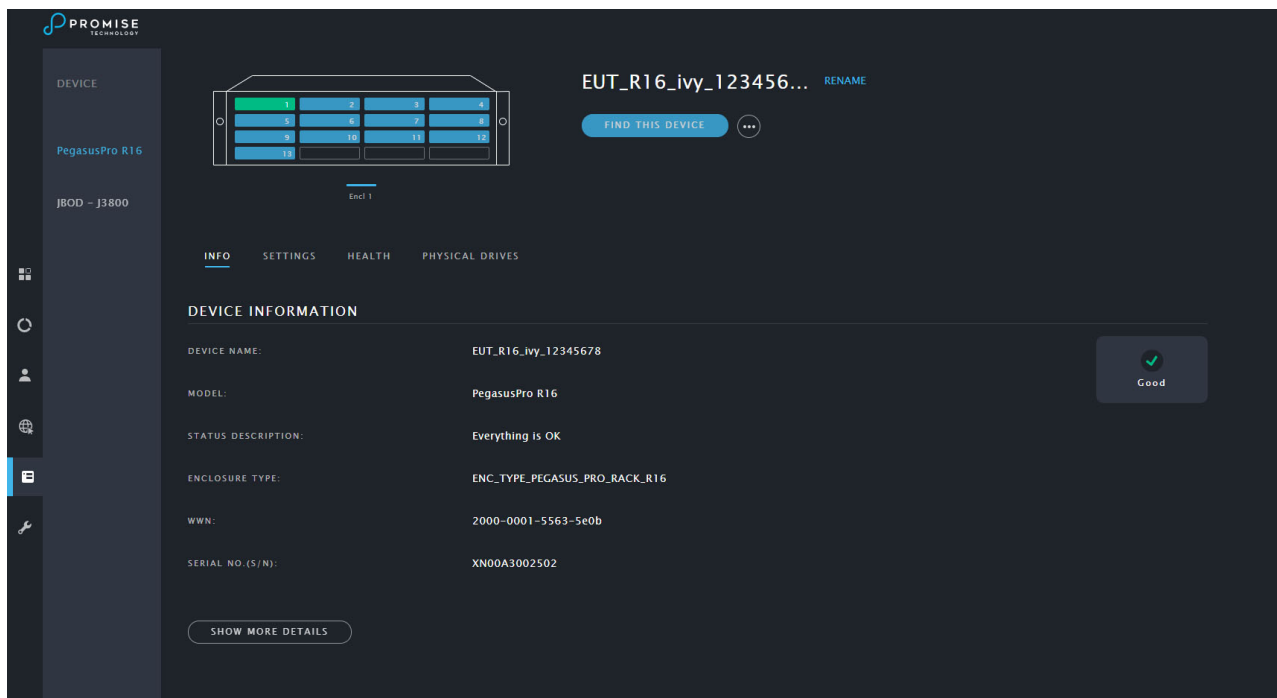


To delete members from a team folder, click on the Details icon for the user (⋮) and choose the *Remove user from this folder* option.

Device Information

The Device menu includes a few settings menus for system alarm and system time. This is also where you can reset the device to the factory default settings. Most of the menus under the Device banner are used to present information about the enclosure.

Device Information Menu



Device Information

Information presented in the Device main menu includes:

- Device Name
- Model
- Status Description
- Enclosure Type
- WWN
- Serial Number
- Click *See more details* to expand the menu.
- SCSI Protocol Supported
- Cache Usage
- Hardware Version
- Host Cache Flushing (*Disabled by default*)
- Dirty Cache Usage
- Firmware Version
- Software
- Version

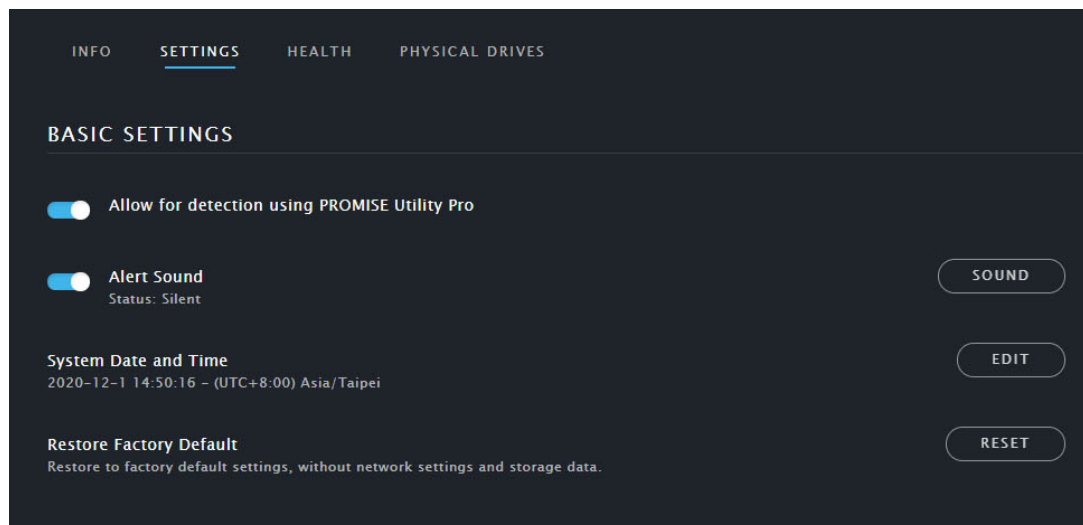
Device Settings

Click the Settings link in the Device menu to view the basic settings menu for the device.

The actions available in the Basic Settings menu are:

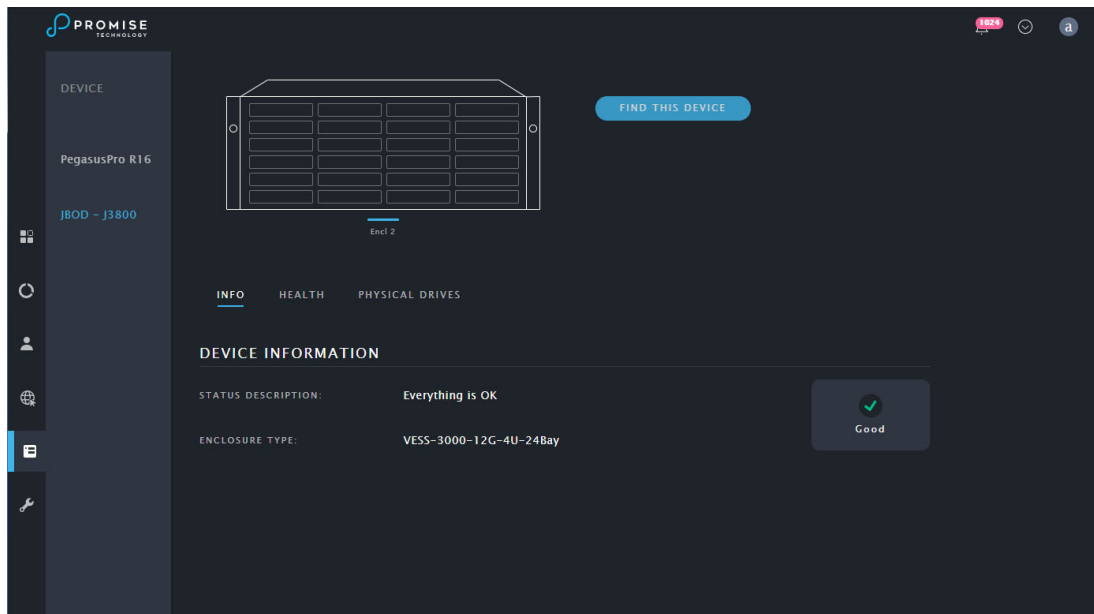
- **Allow detection using PROMISE Utility Pro**
Enabled by default. Use this to enable or disable autodetection for PROMISE Utility Pro on the network. PROMISE Utility Pro uses autodetection to locate available PegasusPro devices on the 10G network.
- **Alert Sound (Sound/Mute)**
Enabled by default. Use this to enable or disable the audible alarm on the PegasusPro.
- **System Date and Time**
Click the Edit button to change Date and Time settings.
- **Restore Factory Default**
Click on Reset to restore system settings to factory default settings. Note that if a reset is conducted, all data in the Home folder will be moved to the administrators Home folder, and all Members and permission settings will be lost. *Note that you can backup settings for Members and Storage settings using the Import/Export settings menu in the Administration tab.*

Device Settings menu



If additional JBOD systems are connected, a link on the left panel provides a quick view of the status.

JBOD Status in Device menu



Device Health

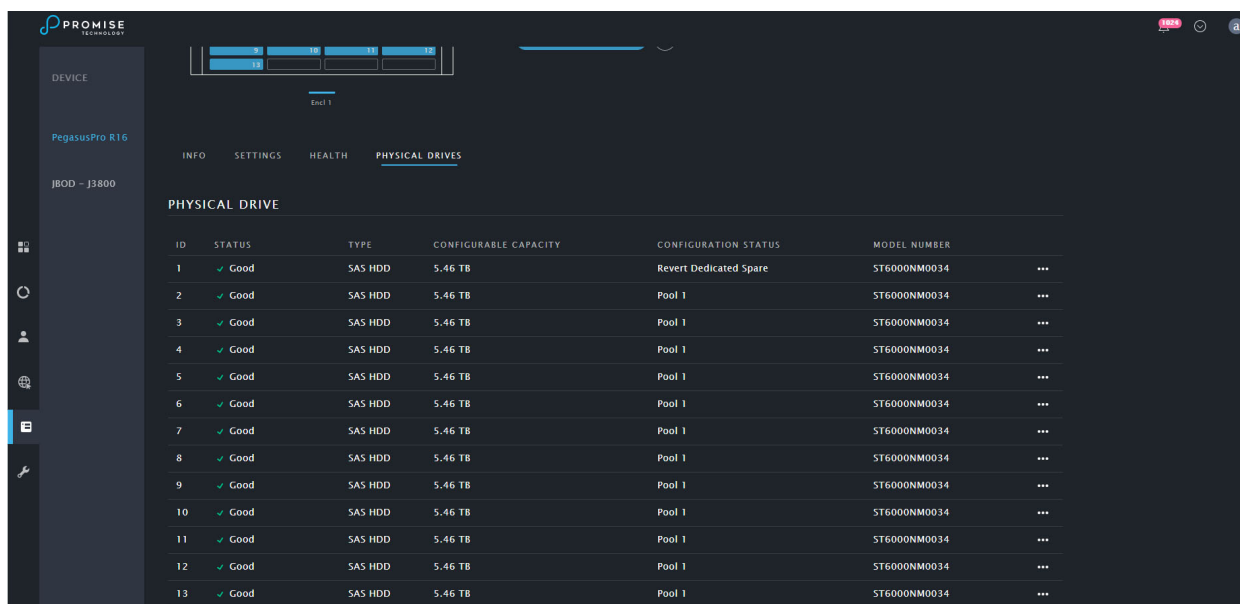
Click the Health link in the Device menu to view system health status information for the following:

- **Controller**
- **Power Supply Unit**
- **PSU Fan**
- **Blower**
- **Temperature Sensors**
- **Voltage Sensors**

Physical Drive Status

Click on the **Physical Drives** link in the Device menu to view the current status of the physical drives populating the enclosure. Basic information includes that drive health, the type, capacity and configuration status.

Physical Drives Status



ID	STATUS	TYPE	CONFIGURABLE CAPACITY	CONFIGURATION STATUS	MODEL NUMBER
1	✓ Good	SAS HDD	5.46 TB	Revert Dedicated Spare	ST6000NM0034
2	✓ Good	SAS HDD	5.46 TB	Pool 1	ST6000NM0034
3	✓ Good	SAS HDD	5.46 TB	Pool 1	ST6000NM0034
4	✓ Good	SAS HDD	5.46 TB	Pool 1	ST6000NM0034
5	✓ Good	SAS HDD	5.46 TB	Pool 1	ST6000NM0034
6	✓ Good	SAS HDD	5.46 TB	Pool 1	ST6000NM0034
7	✓ Good	SAS HDD	5.46 TB	Pool 1	ST6000NM0034
8	✓ Good	SAS HDD	5.46 TB	Pool 1	ST6000NM0034
9	✓ Good	SAS HDD	5.46 TB	Pool 1	ST6000NM0034
10	✓ Good	SAS HDD	5.46 TB	Pool 1	ST6000NM0034
11	✓ Good	SAS HDD	5.46 TB	Pool 1	ST6000NM0034
12	✓ Good	SAS HDD	5.46 TB	Pool 1	ST6000NM0034
13	✓ Good	SAS HDD	5.46 TB	Pool 1	ST6000NM0034

Administration

Administration menus include the Events, Firmware Update, Import/Export settings, Service, Protocol Registration menus.

Events Log

The log of Events appears. Events are added to the top of the list. Each item includes:

- **Index number** – Begins with 0 at system startup.
- **Time Stamp** – Date and time the event happened.
- **Device** – Pool, Volume, Physical Drive by its ID number.
- **Severity** – See below:
 - Information – Information only, no action is required
 - Warning – User can decide whether or not action is required
 - Minor – Action is needed but the condition is not serious at this time
 - Major – Action is needed now
 - Critical – Action is needed now and the implications of the condition are serious
 - Fatal – Non-Recoverable error or failure has occurred
- **Description** – A description of the event in plain language.

To download the Events log, click on the Download Events button to save a zipped file listing the contents of the log.

To clear the log, click the **...** icon and selection the *Clear Events* option.

Firmware Update

To update system firmware, make sure to first download the latest firmware from the PROMISE website, and save the file to the administrator's computer. The Firmware Update menu allows drag and drop, or Browse functions to locate the downloaded firmware update file. You can also use TFTP from a remote system if preferred.

Choose the update file and follow the on screen instructions to install the new firmware. A system reboot will be required. Make sure there are no active users during the update process.

Import/Export Settings Files

The Import/Export settings menu allows back up of Members and Storage settings, which can be loaded back onto the system. This menu can also be used to generate a Service Report.

To import settings, drag and drop the previously saved settings file or Browse to locate it, then click on the **Import** button.

To export settings, click on the type of setting you want to save and click the **Export** button.

Service

Use the Service menu to start, stop or configure SSH, Email and Webserver functions. Click on the ... icon for the service and choose the option to configure *Settings*, *Start*, *Stop* or *Restart*.

Protocol

The Protocol menu is used to enable, disable or configure settings for SMB, NFS, FTP and HTTP protocols. Note that SMB, NFS and HTTP must be enabled for client Members to use the PegasusPro.

Registration

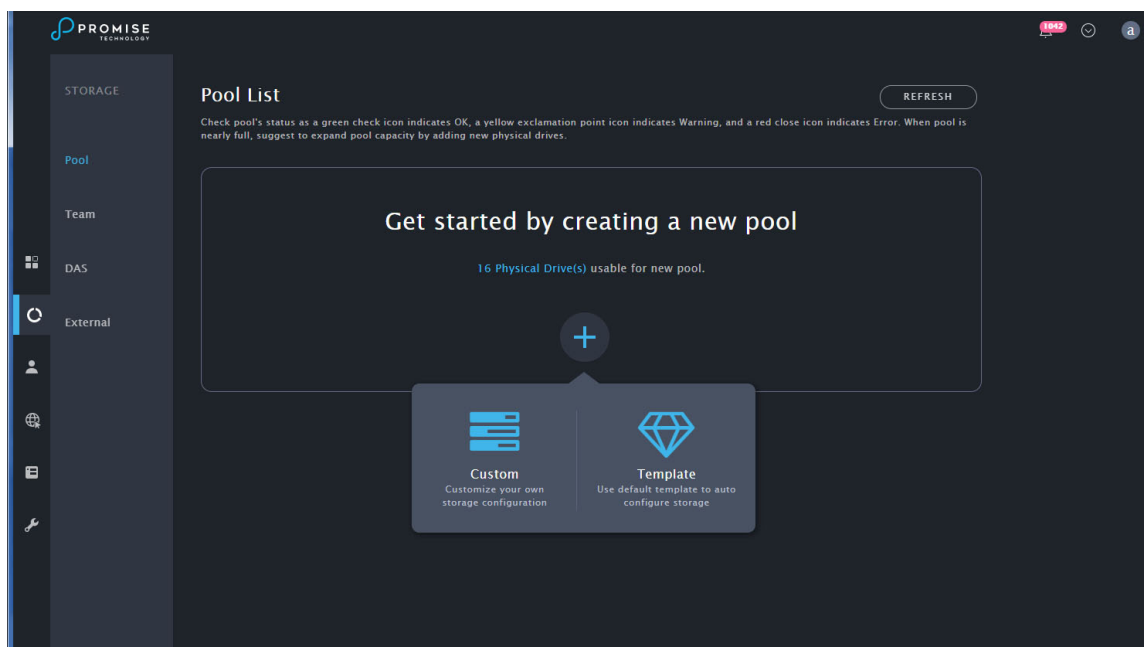
It is strongly recommended that you register your PegasusPro to enable optimum service if you should require assistance or technical support. To register, you must login with your PROMISE account. If you do not have an account, it is easy and quick to get one. To create a new PROMISE account, click on the Sign Up link in the Registration menu and proceed to register the PegasusPro. If you have an account already, just follow the instructions in the menu to complete the registration.

Configuring A New Storage Volume

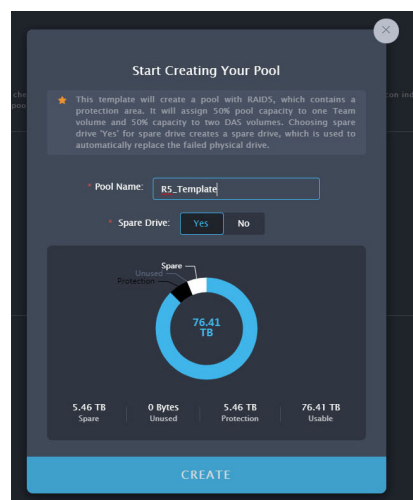
The PegasusPro is shipped with the storage configured ready to use. However, if you should want to delete the existing storage volumes and create a new storage configuration, the instructions in this section explain how to do it. The default storage configuration on the PegasusPro R16 contains one storage pool with storage volumes (*PegasusPro_DAS1*, *PegasusPro_DAS1*, and *Team_Volume_01* with *Public* and *Home* folders).

If you have deleted the default storage pool, the **Pool** menu will instruct you to create a new storage pool to begin the configuration. You have the option of using the **Template** option to create the default storage setup (one pool, two equal sized volumes) or you choose the **Custom** option to customize the storage configuration.

Pool List with no storage configuration



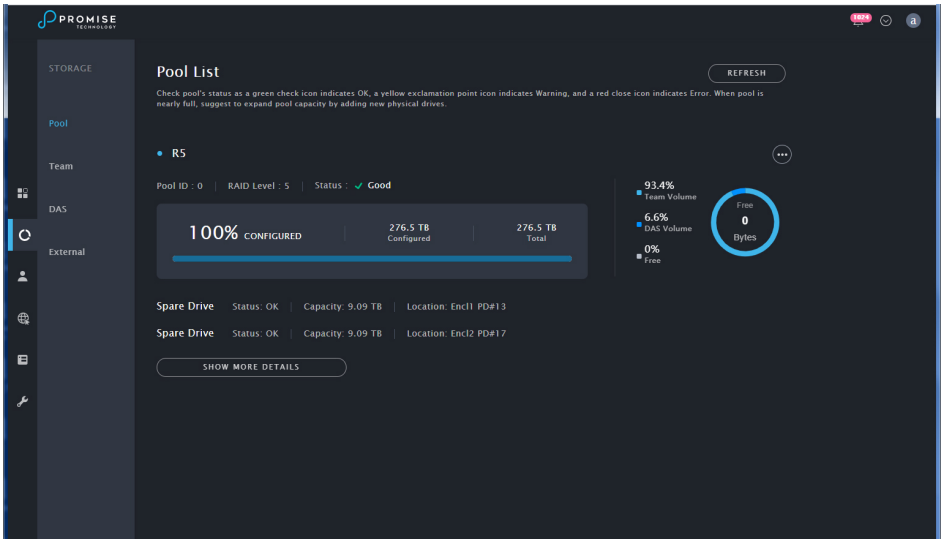
Create New Pool from Template



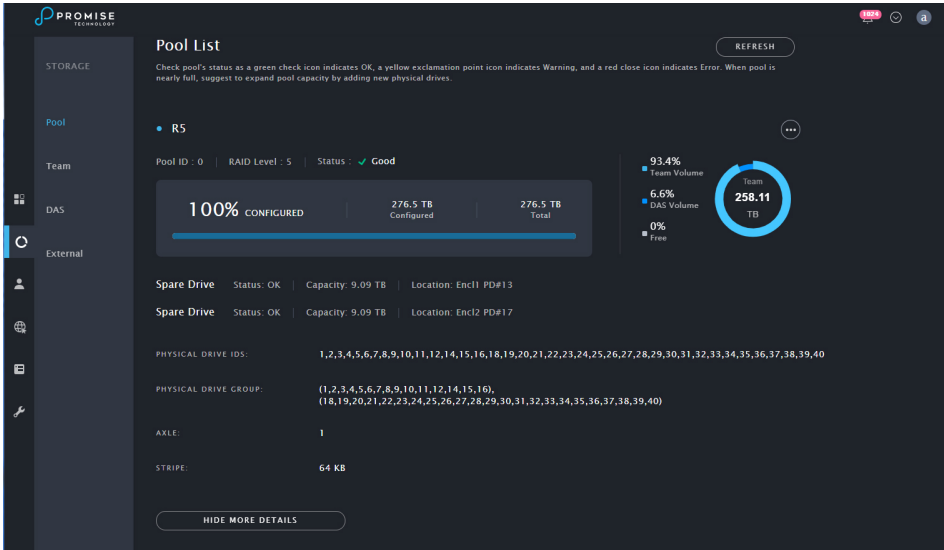
Template Option

The Template option will create everything in one step. You simply need to enter a name for the storage pool, click **Yes** or **No** to create or not create a spare drive and click on **Create**. The new pool will use all available drives for one storage pool with two volumes. When completed the **Storage Pool List** will look like the example here.

Pool List with Default Storage Configuration



Pool List Details



JBOD EXPANSION

The Vess J3600 JBOD can be used to expand capacity of the PegasusPro R16. This section first describes how to connect the JBOD hardware using SFF-8644 SAS cabling to a PegasusPro R16 equipped with a SAS PCIe card, then follow the instructions to configure the new setup with WebPAM Insight, described in the second part of this section.

JBOD expansion requires one SFF-8644 to SFF-8644 external SAS cable for each JBOD unit. The single controller Vess J3600sS is intended for use with the PegasusPro R16 as well as other PROMISE storage systems. Up to 6 Vess J3600sS unit can be used with each PegasusPro R16

To add Vess J3600 Series units, connect the SAS expansion port on the rear of the PegasusPro R16 to the left SAS port on the I/O module of the first Vess J3600 unit. Please see illustration and instructions on the pages that follow.

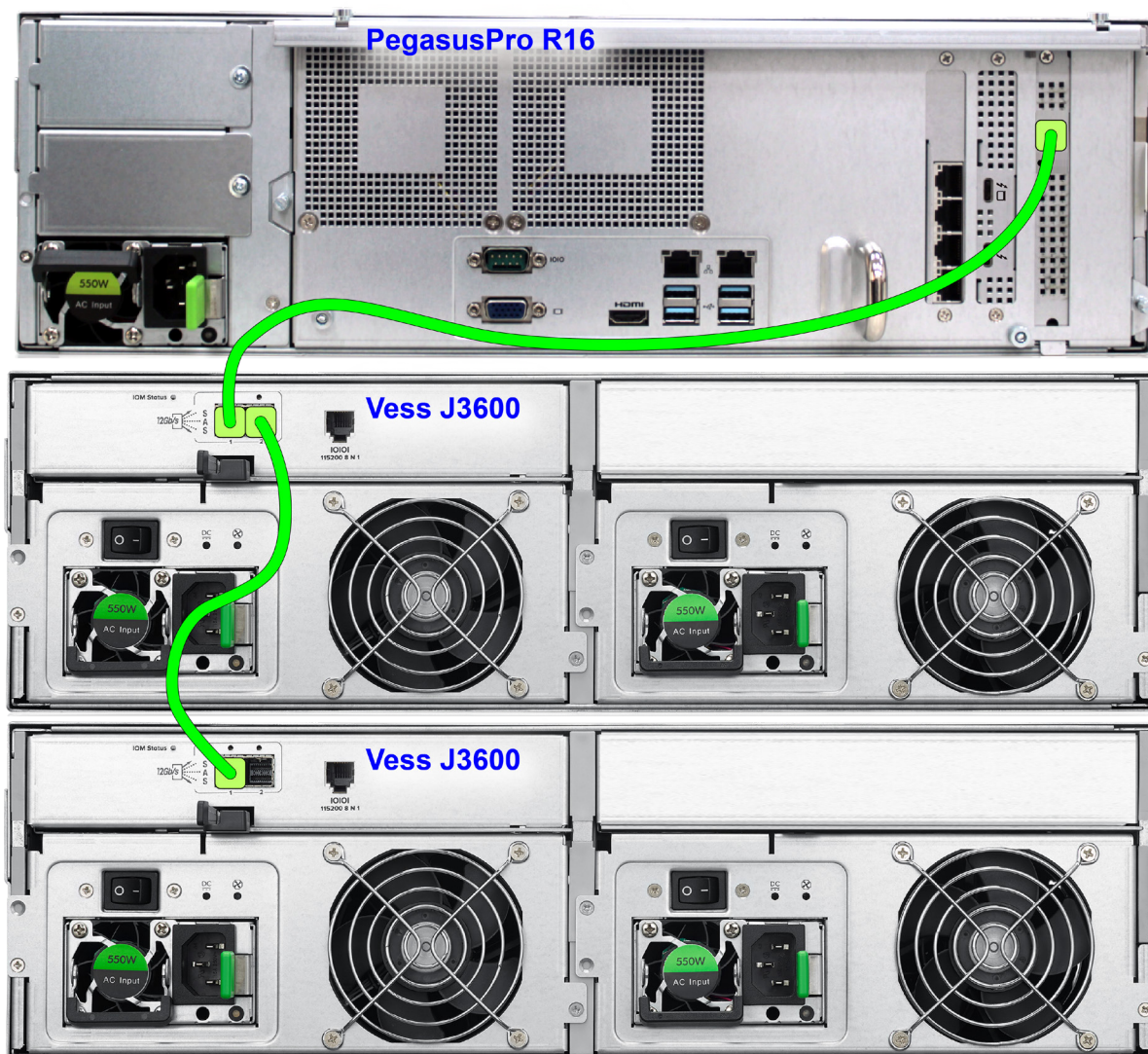
Connect JBOD Hardware



Important

Power off the PegasusPro R16 and any JBOD units to be attached before connecting them. Please refer to the user documentation included with the Vess J3600 system for more information.

PegasusPro R16 with Vess J3600sS SAS cabling



Connect Single Controller Vess J3600sS JBOD Expansion

Before connecting the Vess J3600 JBOD(s), make sure all systems including the PegasusPro R16 are powered off. Connect the systems with SFF-8644 cabling as described below. Once connected, attach the power cables and power on the JBODs first, allow them to boot up, then power on the PegasusPro R16 and proceed to configure the storage expansion.

To connect Vess J3600sS JBODs to the PegasusPro R16, follow these steps:

1. Connect the SFF-8644 SAS port in the host PegasusPro R16 system to SAS Port 1 on the uppermost Vess J3600sS unit in the rack.
2. Connect SAS Port 2 on the same Vess J3600sS to the SAS Port 1 on the next Vess J3600sS in the stack.
3. Connect the remaining Vess J3600sS enclosures in the same manner.



Important

After connecting the SAS cabling, power on the JBOD units first, allow them to boot up, then power on the PegasusPro R16.

Configure JBOD Expansion

Up to six Vess J3600 expansion units can be used to scale up storage capacity of the PegasusPro r16.

Not that there are two scenarios possible for completing this task:

1. **Scenario One:** Seamless Pool Extension allows you to continue to use the existing storage pool; the pool will be expanded using the addition capacity available on the attached JBOD system(s).
2. **Scenario Two:** For optimal performance and capacity utilization, you can create a new storage pool combining the added drives of the JBOD. To do this however it will be necessary to delete the default storage pool and create the new larger capacity pool.



Important

A single Team Volume has a maximum limit of 240 TB. If your storage pool has a bigger capacity, please create multiple volumes accordingly.

Please follow the steps below for JBOD expansion according to which scenario is used.

Expansion Scenario One: Seamless Pool Expansion with JBOD

1. Ensure the JBOD is properly connected and powered on.
2. Access the WebPAM website, navigate to the Storage page, and proceed to the 'Pool' section.
3. Click "More" in the upper-right corner, then choose "Expand."
4. Follow the instructions in the dialog to complete the pool expansion.

Expansion Scenario Two: Optimized Storage Creation with JBOD

1. Access the WebPAM website, navigate to the Storage page, and proceed to the 'Pool' section.
2. Delete the default pool on PegasusPro R16. See instructions below to delete the existing pool.
3. Ensure the JBOD is properly connected and powered on.
4. Click "+" in the middle and follow the instructions in the dialog to complete the pool creation.

Delete pool

1. Go to the **Storage** page and navigate to the **Pool**.
2. Click "More" in the upper-right corner, then choose **Delete**.
3. Confirm in the dialog you want to proceed with pool deletion.



Important

Deleting the pool removes data volumes and spare drives permanently; this action cannot be undone.

Create a pool

If the default storage pool is deleted, WebPAM Insight will guide you to establish a new storage pool for configuration. You can either utilize the Template option for the default storage setup (one pool, two equal-sized volumes) or select the Custom option for personalized storage configuration. 100% use to create 1 pool.



Note

The Template option for creating a storage pool cannot be used when a JBOD is connected to the PegasusPro R16.

CONTACTING TECHNICAL SUPPORT

PROMISE Technical Support provides several support options for PROMISE users to access information and updates. We encourage you to use one of our electronic services, which provide product information updates for the most efficient service and support.

PROMISE E-Support: <https://support.promise.com>

PROMISE web site: <http://www.promise.com/>

When you contact us, please have the following information available:

- Product model and serial number
- Service Report, if possible. Please refer to the PROMISE knowledge base for instructions to acquire a Service Report.
- Firmware version
- A description of the problem / situation
- System configuration information

AMERICAS

United States/Canada

39889 Eureka Drive,
Newark, CA 94560, USA

Technical Support (E-Support): <https://support.promise.com>

Web site: <http://www.promise.com/>

Central and South Americas

Technical Support (E-Support): <https://support.promise.com>

Web site: <http://www.promise.com/>

APAC

Taiwan

2F, 30 Industry E.Rd. IX, Hsinchu Science Park, Hsinchu County, Taiwan, R. O. C.

Technical Support (E-Support): <https://support.promise.com>

Web site: <http://www.promise.com/>

China

Room 205B, 2F, HuaXia Plaza, NO.8,Zhongguancun

Software Park, NO.8,Dongbeiwang West Rd.,Haidian District, Beijing

Technical Support (E-Support): <https://support.promise.com>

Web site: <http://www.promise.com/>

Japan

3F, Mura Matsu Bldg, 3-8-5, Hongo Bunkyo-ku

Tokyo 113-0033, Japan

Technical Support (E-Support): <https://support.promise.com>

Web site: <http://www.promise.com/>

Korea/ Hong Kong/ Singapore/ Australia/ New Zealand/ Thailand/ Malaysia/ Philippines/ Indonesia/ Vietnam/ India

Technical Support (E-Support): <https://support.promise.com>

Web site: <http://www.promise.com/>

Europe

Netherlands

Beatrix de Rijkweg 8 (2F),

5657 EG, Eindhoven, Netherlands

Technical Support (E-Support): <https://support.promise.com>

Web site: <http://www.promise.com/>

United Kingdom

Technical Support (E-Support): <https://support.promise.com>

Web site: <http://www.promise.com/>

Germany/ Austria/ France/ Sweden/ Switzerland/ Norway/ Belgium/ Luxembourg/Eastern Europe

Technical Support (E-Support): <https://support.promise.com>

Web site: <http://www.promise.com/>

Middle East

United Arab Emirates/ Egypt

Technical Support (E-Support): <https://support.promise.com>

Web site: <http://www.promise.com/>

Limited Warranty

PROMISE Technology, Inc. ("PROMISE") warrants that this product, from the time of the delivery of the product to the original end user:

- a) all components, except the cache backup battery, for a period of three (3) years;
- b) the cache backup battery, for a period of one (1) year;
- c) will conform to PROMISE's specifications;
- d) will be free from defects in material and workmanship under normal use and service.

This warranty:

- a) applies only to products which are new and in cartons on the date of purchase;
- b) is not transferable;
- c) is valid only when accompanied by a copy of the original purchase invoice.
- d) Is not valid on spare parts.

This warranty shall not apply to defects resulting from:

- a) improper or inadequate maintenance, or unauthorized modification(s), performed by the end user;
- b) operation outside the environmental specifications for the product;
- c) accident, misuse, negligence, misapplication, abuse, natural or personal disaster, or maintenance by anyone other than a PROMISE or a PROMISE-authorized service center.

Disclaimer of other warranties

This warranty covers only parts and labor, and excludes coverage on software items as expressly set above.

Except as expressly set forth above, PROMISE disclaims any warranties, expressed or implied, by statute or otherwise, regarding the product, including, without limitation, any warranties for fitness for any purpose, quality, merchantability, non-infringement, or otherwise. PROMISE makes no warranty or representation concerning the suitability of any product for use with any other item. You assume full responsibility for selecting products and for ensuring that the products selected are compatible and appropriate for use with other goods with which they will be used.

PROMISE does not warrant that any product is free from errors or that it will interface without problems with your computer system. It is your responsibility to back up or otherwise save important data before installing any product and continue to back up your important data regularly.

No other document, statement or representation may be relied on to vary the terms of this limited warranty.

PROMISE's sole responsibility with respect to any product is to do one of the following:

- a) replace the product with a conforming unit of the same or superior product;
- b) repair the product.

PROMISE shall not be liable for the cost of procuring substitute goods, services, lost profits, unrealized savings, equipment damage, costs of recovering, reprogramming, or reproducing of programs or data stored in or used with the products, or for any other general, special, consequential, indirect, incidental, or punitive damages, whether in contract, tort, or otherwise, notwithstanding the failure of the essential purpose of the foregoing remedy and regardless of whether PROMISE has been advised of the possibility of such damages. PROMISE is not an insurer. If you desire insurance against such damage, you must obtain insurance from another party.

Some states do not allow the exclusion or limitation of incidental or consequential damages for consumer products, so the above limitation may not apply to you.

This warranty gives specific legal rights, and you may also have other rights that vary from state to state. This limited warranty is governed by the State of California.

Your Responsibilities

You are responsible for determining whether the product is appropriate for your use and will interface with your equipment without malfunction or damage. You are also responsible for backing up your data before installing any product and for regularly backing up your data after installing the product. PROMISE is not liable for any damage to equipment or data loss resulting from the use of any product.

Returning the Product For Repair

If you suspect a product is not working properly, or if you have any questions about your product, contact our Technical Support staff, and be ready to provide the following information:

- Product model and serial number (required)
- Return shipping address
- Daytime phone number
- Description of the problem
- Copy of the original purchase invoice

The technician helps you determine whether the product requires repair. If the product needs repair, the technician issues an RMA (Return Merchandise Authorization) number.



Important

Obtain an RMA number from Technical Support **before** you return the product and write the RMA number on the label. The RMA number is essential for tracking your product and providing the proper service.

Return **ONLY** the specific product covered by the warranty. Do not ship cables, manuals, CDs, etc.

USA and Canada: PROMISE Technology, Inc. Customer Service Dept.
Attn.: RMA # _____ 39889 Eureka Drive,
Newark, CA 94560, USA

Taiwan PROMISE TECHNOLOGY, INC.
2F, 30 Industry E.Rd. IX, Hsinchu Science Park, Hsinchu County, 30075, Taiwan, R. O. C.
Tel: +886-3-5782391 Fax: +886-3-5798407
Attn: Promise Warehouse Receiving unit
RMA # _____

UK and Europe PROMISE TECHNOLOGY, INC.
Beatrix de Rijkweg 8 (2F),
5657 EG, Eindhoven, Netherlands

Other Countries: Return the product to your dealer or retailer.
Contact them for instructions before shipping the product.

You must follow the packaging guidelines for returning products:

- Use the original shipping carton and packaging
- Include a summary of the product's problem(s)
- Write an attention line on the box with the RMA number
- Include a copy of your proof of purchase

You are responsible for the cost of insurance and shipment of the product to PROMISE. Note that damage incurred due to improper transport or packaging is not covered under the Limited Warranty.

When repairing returned product(s), PROMISE may replace defective parts with new or reconditioned parts, or replace the entire unit with a new or reconditioned unit. In the event of a replacement, the replacement unit is under warranty for the remainder of the original warranty term from purchase date, or 30 days, whichever is longer.

PROMISE pays for standard return shipping charges only. You must pay for any additional shipping options, such as express shipping.