# Pegasus R12 Product Manual

Version 1.0

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#### Important data protection information

You should back up all data before installing any drive controller or storage peripheral. PROMISE Technology is not responsible for any loss of data resulting from the use, disuse or misuse of this or any other PROMISE Technology product.

#### **Notice**

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#### Recommendations

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 Pegasus R12 unit. It also describes how to use the PROMISE Utility Pro software that you install and run on your computer. Please notice that there are different setup instructions for Mac users and Windows users.

Although this manual is written specifically for the Pegasus models, many of the functions and descriptions can be applied to previous releases of the PROMISE Pegasus line.

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.

### **Notices for USA**

### Federal Communications Commission (FCC) notice

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.

NOTE: This equipment has been tested and found to comply with the limits for a Class B 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.

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

#### Modification

The FCC requires the user to be notified that any changes or modifications made to this device that are not expressly approved by PROMISE TECHNOLOGY INC. may void the user's authority to operate the equipment.

### Notices for Canada (Avis Canadien)

### CAN ICES-003 (B) / NMB-003 (B)

This Class B digital apparatus complies with Canadian ICES-003.

Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada

### Notices for European Union

The product herewith complies with the requirements of the Low Voltage Directive 2014/35/EU, the EMC Directive 2014/30/EU, the ErP Directive 2009/125/EC, the RoHS Directive 2011/65/EU and carries the CE-marking accordingly.

### Notices for The Republic of Korea

B 급 기기(가정용 방송통신기기)

이 기기는 가정용(B 급)으로 전자파적합등록을 한 기기로서 주로 가정에서 사용하는 것을 목적으로하며, 모든 지역에서 사용할 수 있습니다.

### **Safety Information**

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, observe all precautions included in this guide.

You must become familiar with the safety information in this guide before you install, operate, or service PROMISE products.

#### Use environment

- Make sure that the area in which you install the equipment is properly ventilated and climate controlled. The operate normally in the temperature of  $5 \circ C 35 \circ C$  and relative humidity of 10% 95%.
- Ensure that the voltage and frequency of your power source match the voltage and frequency inscribed on the electrical rating label of the equipment.
- Never use the equipment in a wet location.

#### Chassis

- Do not block or cover the openings to the equipment.
- Never push objects of any kind through openings in the equipment. Dangerous voltages might be present.
- Conductive foreign objects can produce a short circuit and cause fire, electric shock, or damage to your equipment.
- Lift equipment using both hands and with your knees bent.

#### 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.
- Plug the power cord into a grounded (earthed) electrical outlet that is easily accessible at all times.
- Do not place objects on AC power cords or cables. Arrange them so that no one might 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.
- To reduce the risk of electrical shock, disconnect all power cords before servicing the equipment.

### **Equipment Modifications**

Do not make mechanical modifications to the system. PROMISE TECHNOLOGY INC. is not responsible for the regulatory compliance of PROMISE TECHNOLOGY INC. equipment that has been modified.

### **Equipment Repairs and Servicing**

The installation of internal options and routine maintenance and service of this equipment should be performed by individuals who are knowledgeable about the procedures, precautions, and hazards associated with equipment containing hazardous energy levels.

- Do not exceed the level of repair specified in the procedures in the product documentation. Improper repairs can create a safety hazard.
- Remove all watches, rings, or loose jewelry when working before removing covers and touching internal components.
- Do not use conductive tools that could bridge live parts.
- Use gloves when you remove or replace internal components; they can become hot to the touch.

If the equipment sustains damage requiring service, disconnect the equipment from the AC electrical outlet and refer servicing to an 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 equipment or an object has fallen into the product.
- The equipment has been exposed to rain or water.
- The equipment has been dropped or damaged.
- The equipment does not operate normally when you follow the operating instructions.

### **Battery Handling**



### WARNING

Some PROMISE Technology Inc. products may contain internal replaceable battery cells or battery packs. There is a 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 PROMISE Technology Inc. spare battery designed for this product. Dispose of used batteries according to the manufacturer's instructions and local disposal requirements.



### ATTENTION

Risque d'incendie ou d'explosion si la batterie est remplacée par un type incorrect



警告

若置換不同型式之電池有起火或爆炸風險



### CAUTION

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



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



**AVERTISSEMENT** : Pale mobile de ventilateur dangereuses. Tenir à l'écart des pales de ventilateur en mouvement. Pour réduire le risque de blessure par un composant chaud, laissez la surface refroidir avant de la toucher.



### CAUTION

To avoid hand contact with an electrical hazard, do not remove more than one drive carrier a time" or the equivalent.

About this guide	
SAFETY INFORMATION	VI
Equipment Modifications	
EQUIPMENT REPAIRS AND SERVICING	
Introduction to Pegasus R12	1
PACKING LIST	1
SPECIFICATIONS	
Hardware	3
HARDWARE INSTALLATION	5
SUMMARY OF THE SETUP PROCEDURE	
CONNECT THE POWER CORD	
Connect the Thunderbolt cable	7
DRIVER INSTALLATION AND SOFTWARE	8
INSTALLING THE DEXT DRIVER ON MAC	9
INSTALLING THE SOFTWARE ON YOUR MAC	
Desktop menu bar	
CHECK FOR UPDATE	
CHOOSE UPDATE NOW TO START THE SOFTWARE UPDATE	
Preference	
Download Service report	
PROMISE UTILITY PRO TOOLBAR	
Device list	
Dashboard	
Controls	
BACKGROUND ACTIVITY	
CRITICAL EVENT S MENU	21
More	21
DEVICE TAB ON THE CONTROLS PAGE	
Авоит	23
Settings	23
DEVICE SERVICE REPORT	24
FIRMWARE UPDATE	24
Shutdown the Pegasus R12	
Shutdown with Power Button	
SLEEP MODE ON THE PEGASUS R12	
DISK POOLS	31

Mara and David and	
MORE OPTIONS FOR POOL MENU	
Expand Pool	
Rename Pool	
Delete Pool	
Adding a Volume/Spare Drive	
RAID OPTIONS	
More options in separate Volume	
Rename Volume	
Delete Volume	
Spare Drive tab in Controls menu	
Add Spare Drive	
VIEW SPARE DRIVE	
More options for Spare Drives	
Change Spare Drive Settings	
Delete Spare Drive	
UNCONFIGURED DRIVES AND SETUP WIZARD	
Smart Wizard (2 steps)	
Advanced Wizard (3 steps)	
LOCK TAB ON THE CONTROLS PAGE	
TROUBLESHOOTING	
CONNECTION PROBLEMS	
Cables	
Replacing a Physical Drive	
DRIVE NUMBERING AND LED INDICATORS	
REMOVING/REPLACING A DRIVE IN THE ENCLOSURE	
Removing/Replacing a Drive in the Disk Carrier	
Maintaining Proper Airflow	
FILE SYSTEM CONVERSION	
Format drives for Mac APFS with Mac Disk Utility	

CONTACTING TECHNICAL SUPPORT	
Limitations	58
RMA METHODS	58
Limited Warranty	62
Disclaimer of other warranties	63
Your Responsibilities	64
RETURNING THE PRODUCT FOR REPAIR	64

## **INTRODUCTION TO PEGASUS R12**

This chapter covers the following topics:

- "Packing List"
- "Specifications"
- "Hardware"

PROMISE Technology's Pegasus R12 is a direct attached storage (DAS) system featuring twelve 3.5" hard drives configured in a RAID storage setup using a Thunderbolt™4 connection for extremely high performance data throughput. The Thunderbolt™4 connection is backward compatible with Thunderbolt™3, capable of being connected to Thunderbolt equipped display monitors as well as other Thunderbolt storage devices in a daisy-chain arrangement. This compact high-performane storage system is especially well suited for video and audio production applications, especially where mobility is a desired attribute.

## **PACKING LIST**

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

- Pegasus R12
- 3.5" HDD Number of HDD installed depends on SKU purchased

- One Thunderbolt 4 cable
- One Power cord

• Quick Start Guide

### **S**PECIFICATIONS

General Information					
Form Factor	12-Bay Tower				
Drive Support	3.5" SATA 6Gbps				
Processor	Storage Processor 4 cores 2.2 GHz				
Memory	8GB DDR4 ECC DIMM				
Interface Type	Thunderbolt™4 40Gbps / USB4 40Gbps / Thunderbolt™3 40Gbps				
Host Interface	Thunderbolt 40Gbps (Port A and D).				
Thunderbolt™ Port	Thunderbolt™4 ports x2 (Upstream x1, Downstream x1)				
External Monitor	One downstream Thunderbolt™4 port can connect dual 4K monitors or one 8K monitor				
Power Delivery	85W (Thunderbolt™ host)				
Port Type	USB Type-C				
RAID & Features					
RAID Level	RAID 0, 1, 5, 6, 10, 50, 60				
Hot Spare	Yes				
Max LUNs	128				
Hot Swap	Yes				
Software Highlights					
Supported OS	macOS/Windows				
Management Tool	Promise Utility Pro				
Product Specific	Intelligent Cooling, Drive SMART health Polling				
Physical Information					
Dimension (HxWxD)	227mm(L) x 227mm(W) x 318mm(H)				
Weight	15.5kg				
Power Supply	100-240V auto-ranging, 50~60Hz, 350W				
Environment					
Temperature Range	Operating: 5° ~ 35° C , Non-operating: -40° ~ 70° C				
Humidity	Operating: 10% ~ 95% non-condensing , Storage: 10% - 95% non-condensing				
Standard	EMC: FCC, CE , Safety: cTUVus, CB				
Green Certificate	ErP/EuP, RoHS, WEEE				
Warranty and Suppo	ort				
Warranty	3-years standard warranty, optional extended warranty, and on-site parts replacement program (PROMISE ServicePlus) available.				
Support	24/7 PROMISE eSupport Portal (support.promise.com), optional 24/7 phone and email support available.				

### HARDWARE

This section provides a brief introduction to the external hardware of the Pegasus R12.

### Pegasus R12 front view

		LED	Description
<b>DPPMMMMMMMMMMMMM</b>	1	RAID Status	Lights WHITE when RAID is operating normally. Lights RED if there is a serious problem such as a failed drive or incomplete RAID array.
	2	Thunderbolt Link	Lights WHITE when Thunderbolt cable is connected; remains dark if no Thunderbolt / link.
<image/> Image: horizontal stateImage: horizontal sta	3	Power/System Status	System Status LED located on the Power button lights WHITE when the Pegasus is operating normally, and flashes slowly during boot up. Red System Status LED indicates a serious problem such as a fan problem or overheating issue.

### Pegasus R12 back view



ed device.
ed host computer.
outlet, grasp the cord n extension cord or or the extension cord

### HARDWARE INSTALLATION

This chapter contains the following topics:

- "Connect the power cord"
- "Connect Pegasus to your Mac"



### CAUTION

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



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



**AVERTISSEMENT** : Pale mobile de ventilateur dangereuses. Tenir à l'écart des pales de ventilateur en mouvement. Pour réduire le risque de blessure par un composant chaud, laissez la surface refroidir avant de la toucher.



CAUTION Before opening the bottom case, please remove the power cord, and then reinstall the bottom case to its original position before reconnecting the power supply.



### CAUTION

Avant d'ouvrir le boîtier inférieur, veuillez retirer le cordon d'alimentation, puis réinstaller le boîtier inférieur dans sa position d'origine avant de rebrancher l'alimentation électrique.

### Summary of the setup procedure

The setup procedure for the Pegasus 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. Unpack the Pegasus shipping package
- 2. Connect the power cord and power on the Pegasus R12.
- 3. Connect the Pegasus to your computer with a Thunderbolt<sup>™</sup> 4 cable.
- 4. Mac users can locate the PROMISE Utility Pro installation package located on the device.

### **Connect the power cord**

To connect the power cord the Pegasus unit:

- 1. Attach the power cord on the back of the Pegasus unit.
- Plug the other end into a suitable power source.
  Press the power button on the front of the Pegasus unit.
  R12 back



6

### **Connect the Thunderbolt cable**

To connect the Thunderbolt cable to the Pegasus unit:

- 1. Attach the Thunderbolt 4 cable to an available Thunderbolt port on the back of the Pegasus unit.
- Plug the other end of the Thunderbolt 4 cable to an available Thunderbolt port on the computer used with the Pegasus unit.
   Note that Thunderbolt 4 is compatible with Thunderbolt 3 devices so you can connect the R12 to a computer or display monitor equipped with Thunderbolt 3 or Thunderbolt 4.

### Thunderbolt<sup>™</sup> data connection on back



Make sure the computer port is a Type-C female connection and a Thunderbolt™ 3 or 4 port, you will see a Thunderbolt™ icon next to the port.

![](_page_18_Picture_9.jpeg)

### **D**RIVER INSTALLATION AND SOFTWARE

This chapter contains the following topics:

- "Installing the DEXT Driver on Mac"
- "Installing the Software on your Mac"
- "Desktop menu bar"
- "PROMISE Utility Pro Toolbar"
- "Dashboard"
- "Disk Pools"
- "Unconfigured Drives and Setup Wizard"

![](_page_19_Picture_11.jpeg)

### Important

The DEXT Driver needed to use the Pegasus R12 is supported on macOS 12.4 or later.

## Installing the DEXT Driver on Mac

The Pegasus R12 Thunderbolt connection requires a hardware driver in order to work on the Mac. **This driver should be installed before connecting the system to the Thunderbolt port.** 

The Pegasus R12 DEXT Driver is supported on macOS 12.4 or later.

### Download the DEXT Driver installation file (.pkg file) from the Promise website.

#### Check macOS version

You can see what macOS is used on your system by clicking on About This Mac under the Apple symbol in the upper left corner of the desktop.

The installation steps are as follows:

- 1. Double-click the installation file (.pkg) for DEXT Driver Installer. When the installer menu appears, click Continue to begin the installation.
- 2. Click Install to perform a standard installation.
- 3. Enter your password to continue to install DEXT Driver.
- 4. If you have previously installed the DEXT Driver, enter your password to allow the modification of DEXT driver. If you later install the DEXT driver, go to step 5.
- 5. The System Extension Blocked message will appear. To allow the loading of DEXT Driver, choose Open System Settings, or open System Settings and go to the Privacy & Security menu.
- 6. Click Allow in the Privacy & Security menu located in System Settings. The installation will proceed.
- 7. Enter your password to unlock Privacy & Security settings.
- 8. After you are informed that DEXT Driver has been installed successfully, click Close to finish the installation.
- 9. Click on the Finder app and select Applications in the left sidebar. You will find the DEXT Driver Installer application has been installed. (The DEXT Driver Installer is introduced in section DEXT Driver Installer Introduction).
- 10. The DEXT Driver is now installed.
- 11. Power off the Pegasus R12 by pressing the power button to initate power down. Then restart the Pegasus R12 BEFORE connecting it to the host Mac.

## Installing the Software on your Mac

Pegasus R12 ships ready to use without configuration or set-up; however, it is a good idea to install the PROMISE Utility Pro software even if you do not plan to make any changes to the device's configuration. The utility is useful for monitoring the system and getting firmware updates. The utility is necessary if you plan to change the default RAID configuration (Pegasus R12 is shipped with a RAID 5) or if you will swap out any of the hard drives shipped with the device.

The software utility installation package is located on Pegasus. Follow the instructions below to install the utility.

- 1. Double-click on the Pegasus icon on your desktop to view the device's contents.
- 2. Find the file R\_PROMISE\_Utility.dmg and double-click on it to mount the virtual drive containing the installation software package.

### 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 illustration.

3. Double-click on the PROMISE\_Utility.pkg\* file to begin the software installation.

•••	PROMISE_Utility_Pro.pkg	
÷		
PROMISE_Utility_Pro.pkg		

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

	welcome to the PROMISE_Utility_Pro Installer
Introduction	You will be guided through the steps necessary to install this
	software.
	Go Back Contin

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

	Installer
Installer	is trying to install new software.
Enter	your password to allow this.
GUI	
Passwo	
	Install Software
	Cancel

6. 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.

	🥪 Install PROMISE_Utility_Pro		
	Standard Install on "Big Sur"		
Introduction	This will take 239.3 MB of space on your computer.		
Destination Select	Click Install to perform a standard installation of this software		
Installation Type	on the disk "Big Sur".		
	Change Install Location		
	Go Back Install		

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

<ul> <li>Introduction</li> <li>Destination Select</li> <li>Installation Type</li> <li>Installation</li> <li>Summary</li> <li>The installation was successful. The software was installed.</li> </ul>		Install PROMISE_Utility_Pro The installation was completed successfully
	<ul> <li>Introduction</li> <li>Destination Select</li> <li>Installation Type</li> <li>Installation</li> <li>Summary</li> </ul>	The installation was completed successfully.

The PROMISE Utility Pro is now available to be used for the management of the Pegasus series. Use this if you need to change a hard drive, change the default array configuration, or update the device firmware. This is also useful for monitoring the status of the system and for troubleshooting.

## Desktop menu bar

After opening the PROMISE Utility Pro there are some settings on the desktop menu bar. Users can change it to meet their needs.

![](_page_24_Picture_4.jpeg)

Promise Utility Pro - Preference and actions for the PROMISE Utility Pro

Window - Layout and actions for display of the window. The options include moving the window to the left or right side of the monitor screen, close and minimize.

![](_page_24_Picture_7.jpeg)

Help - Guide users to the official website for further help options.

🗯 PROMISE Utility P	ro Window	Help
		Download Center
		Knowledge Base
		Forum
		E-Support Center
		Product Registration
		Contact Us

### Check for update

It is important to make sure the Promise Utility Pro software is up to date. The software version is automatically checked whenever the PROMISE Utility Pro app opens. If Promise Utility Pro is not up-to-date, it will prompt the latest version for the user. Either choose Update now or Remind me tomorrow.

	Software Update
P	New version of PROMISE Utility Pro is available! PROMISE Utility Pro 22.2.2 released-you have 22.0.370 Release Note: Release note Bug Fixes: - General bug fixes and improvements. This update is recommended for all users.
	Remind Me Tomorrow Update Now

Users can also click on the Promise Utility Pro menu tab, and choose to Check for Updates in the dropdown menu to manually check the update.

![](_page_25_Picture_6.jpeg)

### Choose Update Now to start the software update

1. After clicking on the Update now button. PROMISE Utility Pro will automatically download the newest version.

![](_page_26_Picture_4.jpeg)

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

PROMISE Utility Pro	PROMISE Utility Pro
PROMISE Utility Pro wants to make changes.	PROMISE Utility Pro wants to mak changes.
Enter your password to allow this.	Enter your password to allow this
GUI	GUI
	Country

3. It takes a few seconds for the Utility software to be installed. When the installation has been completed, a message informs you that the installation was successful. Restart PROMISE Utility Pro to run the new version.

![](_page_26_Picture_8.jpeg)

### Preference

- Auto Startup It will open PROMISE Utility Pro automatically every time you log into the computer.
- **Privacy** Share analytics to PROMISE Utility Pro to improve the service.

![](_page_27_Picture_5.jpeg)

### Download Service report

A service report can be used by tech support staff for troubleshooting or diagnosing issues on the device. To download a service report to your computer desktop, click on the "Promise Utility Pro" tab, and choose Download Service Report in the drop-down menu. It will automatically download to the user's desktop.

![](_page_27_Picture_8.jpeg)

## **PROMISE Utility Pro Toolbar**

### **Device** list

The PROMISE Utility Pro automatically discovers all Pegasus units that are connected via daisy chained Thunderbolt cable and powered up.

•••						•••				
		<b>۹</b> کړ	ROMISE							
	Select one of yo Those are your devices con Grid EList	D <b>UR Pegasus</b> nected via Thunderbolt / USI					Select one of yo Those are your devices connu Grid E List	<b>ur Pegasus</b> ected via Thunderbolt / US8 / PCIe		
0	Name ↓ VM_143145	Model ↓ Pegasus3 R6	Connection ↓ Thunderbolt 3	Status ↓ Good		0		Cocate this device with LED		
	GUI Team 202211	Pegasus32 R8	Thunderbolt 3	Warning	ccate this device with LED					
	VM_143abc	Pegasus R4i					VM_143145	GUI Team 202211	VM_143abc	
	VM_18902780doc38	Pegasus32 R4		Good			Pegasus3 R6 Thunderbolt 3	Pegasus32 R8 Thunderbolt 3	Pegasus R4i PCIe	
	VM_202211221106	Pegasus32 R8	Thunderbolt 3	Good						
	VM 143	Poppeur 22 PS	Thunderholt 2	Cood						

- To view a list of the Pegasus units, click the List menu.
- To view the Pegasus units image, click the Grid menu.

And then choose the Pegasus unit you want to see.

Note: Pegasus units are listed by the order in which they are recognized, not by the sequence in the daisy chain.

## Dashboard

Displays the Physical Drive, Pool, Volume (includes Volume and PassThru Drive), Spare Drive, Abnormal (failed drives), Temperature, Fan, Power Supply Unit and Voltage status indicators, Physical Capacity and Logical Capacity overview.

Dashboard with all unconfigured drives

![](_page_29_Figure_5.jpeg)

Dashboard with drives in various status conditions

![](_page_29_Figure_7.jpeg)

### Controls

Display Pegasus series information, settings, and functions. Details will be introduced in the chapters below. There is a navigation bar in the Controls page. The tabs sections are:

- **Device** Display this Pegasus series unit information
- Pool List all disk pools
- Other Drives List PassThru Drive, Spare Drives, Unconfigured Drives, Abnormal Drive
- Lock To lock or unlock certain actions to prevent unauthorized changes

••		
< Devices List	Dashboard Controls	🧈 🕂
Device	D	
🚆 Pegasus R12 GUI	Pegasus R12 GUI Pegasus R12 • Thunderbolt • Good	-#- •••
Pools		
📮 Pool 1		
🖬 Pool 2	12 8 4	
Pool 3	95	9
Other Drives	3	
🖴 Spare Drive	7	
📮 Unconfigured Drive		
🖴 Abnormal Drive		
	2 6 10	
🛱 Locked		

### **Background Activity**

Background activities perform a variety of preventive and remedial functions on your Physical Drives, Pools, Volumes, and other components. If the user wants to change each activity settings they can find it listed in the Settings menu.

An alert appears for Background Activities currently running indicated by the number of activities highlighted in the blue circle over the check mark in the upper right corner of the interface. If none are running, the check mark appears with no number over it.

Oevices List	Dashboard Controls	i i i i i i i i i i i i i i i i i i i
Device Pegasus R12 GUI	Pegasus     Background Activities       Pegasus R12 • T     Synchronization "Pool 2"       Running 24%     Running 24%	Clear
Pools Pool 1 Pool 2	12.8.4	
Pool 3 Other Drives		
<ul> <li>Spare Drive</li> <li>Unconfigured Drive</li> </ul>	3 7 11	
Abnormal Drive	2 6 10	
🔊 Unlocked		

### Critical Event s menu

PROMISE Utility Pro filters out the most urgent level of the event and lists it in the Critical Event. Users can click on See all Events as well to see every level of events.

Oevices List	Dashboard Controls 🦪 🕂
Device Pegasus R12 GUI	Pegasus R12 C Pegasus R12 • Thunderbo
Pools	
Pool 2	12 8 4
Pool 3	
Other Drives Spare Drive	
Unconfigured Drive	
Abnormal Drive	2 6 10
🖬 Unlocked	

### More

- Additional options will display in a pop-up menu by clicking on the ••• symbol (*More* menus activator) near the upper right corner of the interface.
- PROMISE download center Website for downloading the product manual, latest firmware, etc...
- Get support 24/7 PROMISE eSupport Portal (support.promise.com), optional 24/7 phone and email support available.
- Product registration Website for registering the Pegasus device.

### Device tab on the Controls page

Shows the device alias, model, connection type, and Status. The front view has the ability to indicate which carriers contain:

- Unconfigured Physical Drives colored gray
- Configured Physical Drives colored blue
- Spare Drives colored green
- PassThru Drives colored blue
- Abnormal Drives colored orange or red

![](_page_33_Figure_9.jpeg)

Mouse over the drive carrier to display the information of the installed physical drive, including the model name, drive type, physical capacity, ID, and operational status. Click on the drive to bring up further drives information and SMART info. To save this logged information to a text file, click the **Save Log** button and save the file to your preferred location.

Additional options will display in a pop-up menu by clicking on the --- symbol (*More* menus activator) near the upper right portion of the menu panel.

![](_page_34_Figure_3.jpeg)

### About

Select the About option to display basic information about the R12.

### Settings

### Device name

Users can change the device name used for display reference in the user interface. Note that the example below is a Pegasus3 since PegasusPro utility can be used for any Pegasus device in a daisy chain.

### Controller

- **Buzzer** When the Pool is rebuilding and the buzzer is enabled, the Pegasus unit emits two quick beeps every five seconds. The beeps stop when the rebuild is done.
- **Low Power Mode** The Pegasus includes a power-saving feature that spins down the hard disk drives if the Volume is idle. The idle time can be changed.
- **Auto Rebuild** Toggle on to allow system to reconstruct data automatically when users swap out the failed drive with a new one.

### **Device Service Report**

A dialog prompt will ask you where you want to save the Zip file containing the service report. Choose a location and click the Save button. A technical support representative might ask you to email this file for system analysis.

### Firmware update

To update firmware on the Pegasus R12, open PROMISE Utility Pro, Click on the *More* (···) options in the up right-hand corner, select Firmware Update from the drop-down menu. Firmware can be updated manually or automatically online. These options appear in a new menu.

![](_page_35_Picture_6.jpeg)

### Important

Before beginning the firmware upgrade procedure, close all open files on all volumes of the Pegasus R12. All volumes will be disconnected when the firmware upgrade begins. Also, it will be necessary to restart your computer once the Pegasus R12 restarts upon completion of the firmware installation.

### **Update Firmware Online**

1. In the Firmware Update menu, use the **Online** option to automatically check the installed firmware version. If the Pegasus firmware is not up-to-date, the user is prompted to Update. Click **Update** to start the firmware update process.

••						
< Back	Back Firmware Update					
Firmware Update						
Make sure your system does not go to sleep or get turned off during the update process. If unsure, check the "Energy Saver" setting in System Preferences						
Online Manual		Device Name	Model	Current Version		
You're up to date Learn More >		P3R8	Pegasus3 Rð	6.06.0000.45	Up-to-date	
Check for Updates again						
- 2. PROMISE Utility Pro will start to download the newest version. After the download is completed, next it will start to update the firmware.
- 3. The process will take several seconds to complete. Once the process has been completed, it is necessary to restart the computer. Click the OK button and restart the computer. Once the computer is powered on and booted up, you may continue to use the Pegasus R12.

• •	•			
	Firmware Upd	ate		
	Make sure your system dose n update process. If unsure, che Perferences	ot go to sleep o ck the "Energy S	or get turned off during the Saver" setting in System	
		no no	w	
	You're up-to-date	Yo	bu must restart your computer with the Pegasus tached to apply these changes.	

#### Manual Firmware Update

1. Download the latest firmware from the PROMISE website at www.PROMISE.com/support/ download and place the .img file on your computer.

Open the PROMISE Utility Pro to the Firmware Update page. Click Update in the Firmware Update menu, then click Update in the pop-up menu to confirm your decision.

Back	Firmware Update		
Firmware Up	odate		
Make sure your system doe process. If unsure, check th	es not go to sleep or get turned off during the update ne "Energy Saver" setting in System Preferences		
Online Manu			
PgsR-multi-24_0_02_0 Version 24.00.02.0 Done! Click "Update" to st	Please close the files you have opened on this device's volumes, because the firmware update will disconnect the volumes on this device. After the device finishes the restart, please restart your computer accordingly.	000	Ready to Update

2. Drag the file into the PROMISE Utility Pro menu. PROMISE Utility Pro will start to upload the .img file from your computer. After the upload is completed, next it will start to update the firmware.



3. The process will take several seconds to complete. Once the process has been completed, it is necessary to restart the computer. It is the same for Online Firmware update.

• •					
< Back		Firmware Upo	late		
Firmware Update	2				Update
Make sure your system does not go to process. If unsure, check the "Energy !	o sleep o Saver" s	or get turned off etting in System	during the update Preferences	2	
Online Manual		Device Name	Model	Current Version	
You're up to date		Pegasus R12 GUI	Pegasus R12	24.00.02.0000	
Learn More >		P2R6	Pegasus2 R6	5.04.0000.62	
Check for Updates again					

### Shutdown the Pegasus R12

There are two options for safely shutting down the Pegasus R12, using the power button or using PROMISE Utility Pro.



#### Important

Before shuting down the Pegasus R12, first eject or dismount the connected Pegasus R12 volume or volumes.



To shut down the Pegasus using PROMISE Utility Pro:

- 1. Open PROMISE Utility Pro, in the Controls menu click on the Device.
- 2. Click on the Power Button icon, select the *Shut down the device* option.

3. To prevent accidental shutdown, a warning dialog pop-up will appear. If the unit is daisy chained (connected via Thunderbolt to other devices) the connected devices will also shutdown.

••		
< Devices List	Dashboard Controls	🧈 ¢ …
Device		
PegasusR12-03	Pegasus R12 • Thunderbolt • Good	р () •••
Pools		
Other Drives	Shut down Pegasus series devices This action will shut down this Pegasus series and all Pegasus series devices that are connected behind it.	
	Cancel Shut Down	
	2 6 10	
🖬 Unlocked		

4. The shutdown process will take a few minutes. If you want to move the device, wait until the system is completely powered off before disconnecting the power cord. The Power Button LED on the front of the device will light red during the shutdown process. When this LED is off, go ahead and disconnect the power cord.

#### Shutdown with Power Button

The Pegasus R12 can be shutdown manually by touching the Power Button continuosly for about four seconds. Before shuting down the Pegasus R12, first eject or dismount the connected Pegasus R12 volume or volumes. For Mac, just drag the volume icon into the trash/eject symbol, or right click on the icon and choose he *Eject* option.

The shutdown process is exactly the same as using PROMISE Utility Pro to iniate the shutdown. The Power Button LED will light red during shutdown and any devices connected via Thunderbolt behind the R12 will also go into shutdown mode.



#### Important

Before shuting down the Pegasus R12, first eject or dismount the connected Pegasus R12 volume or volumes.

#### Power Button on front



#### Sleep Mode on the Pegasus R12

Disconnecting interuption of the Thunderbolt connection will put the powered on Pegasus R12 into sleep mode, it DOES NOT completely power down when the Thunderbolt connection is interupted. The Thunderbolt connection is interupted when the connected Mac is powered off or restarted; or when the Thunderbolt cable is physically disconnected from the Pegasus R12.



#### Important

When your Mac is powered off or restarted, the Pegasus R12 will go into sleep mode; it is not shut down completely. Likewise if the Thunderbolt cable is disconnected, the R12 goes into sleep mode.

# **Disk Pools**

< Devices List		Dashboard Co	ntrols		<i>.</i>	ф.
Device Pegasus R12 GUI	649.9 <sub>GB</sub>	PoolNam	e 1 • 7.35 TB Unus	ed • OK	+ 🛢 "	
Pools	Volum					I
Pool 1	voluli	ie				I
Pool 2		Name	Capacity			Γ_
Pool 3		VolumeName1	100 GB	ОК		1
		VolumeName2	200 GB	ОК		I
Other Drives		VolumeName8	50 GB	ОК		
📮 Unconfigured Drive	8	VolumeName3	300 GB	ОК		1
Abnormal Drive	Spare	Drive				
		PD Settings	Cap	bacity Status		Γ_
		5 Dedicated t	o Pool	6 ТВ ОК		1

Pool information including the assigned Alias are displayed in the Pool status display menu.

Information of the selected Pool displayed in the right panel include ID, RAID configuration, Capacity, Status, Volumes, and Spare Drives. Use the sidebar can view the status of Physical Drive in this Pool.

< Devices List	Dashboard Controls	🞝 🤣
Device		Details X
🚆 Pegasus R12 GUI		12 8 4
Pools		<b>9</b> <b>5</b> 1
Pool 1	Volume	
Pool 2	ID Name	2 6 10
Pool 3	1 VolumeName1	PD 02 • OK 4 TB
	2 VolumeName2	Drive Model ST4000NM0033-9ZM170
Other Drives	7 VolumeName8	Used Capacity 3.64TB
<ul> <li>Spare Drive</li> <li>Unconfigured Drive</li> </ul>	8 VolumeName3	Sequence Number 1
Abnormal Drive	Seara Drive	PD 03 • OK 4 TB
	Spare Drive	Drive Model
	ID PD Settings	HGST HMS5C4040BLE640
	0 5 Dedicated to Pool 1, Revertible	Used Capacity 3.64TB
🖬 Unlocked		Sequence Number

#### More options for Pool menu

Click the *More* (···) options link and choose the one of the following actions:

- Expand to expand the capacity of an existing pool. This requires available unconfigured drives.
- *Rename* to change the name of the Pool.
- *Transport* to prepare to move the drive to a new location or to another Pegasus device.
- *Predictive Data Migration* to begin the process of duplicating drive contents to a Spare Drive. This is done as a precaution for a drive that may be in danger of failing. For example, if the drive status appears as Orange, this drive may be in danger of failing and it would be prudent to begin Predictive Data Migration before that happens. *Note that this option first requires that a Spare Drive be created for the Pool or that an unconfigured drive be available.*
- Delete to remove the Pool. Note that all data contained on the Pool will be lost..

••	
< Devices List	Dashboard Controls 🤣 🖑
Device 🖀 Pegasus R12 GUI	649.99 GB PoolName1 + € … ID 1 • RAID 5 • 7.35
Pools	Expand
Pool 1 Pool 2	ID Name Ca Transport Click this before you move the physical drives to
Pool 3	Click kind before you indee the physical direction     the new location     Predictive Data Migration     Traductive be sense to be sense.
Other Drives	2 VolumeName2 2 VolumeName2 2 VolumeName8 Delete
<ul> <li>Spare Drive</li> <li>Unconfigured Drive</li> </ul>	8 VolumeName3 300 GB OK
Abnormal Drive	Spare Drive
	ID PD Settings Capacity Status
🖬 Unlocked	Dedicated to Pool 0 5 Dedicated to Pool 1, Revertible

#### **Expand** Pool

To expand capacity on an existing pool, click the *More* (···) options link and choose the Expand option. *Note that in order to expand a Pool there must be unconfigured drives available for use.* 

In the Expand pool dialog, select the drive or drives to be added to the pool and click the Expand button.

		Dashboard C	ontrols		🧈 ¢ …
Device 🚍 Pegasus R12 GUI	759.99	PoolNam Expand poo	e1  1●	+ \$	9
Pools Pool 1 Pool 2	Select Physical Drive V PD 1 (4 TB)				
Pool 3	<ul> <li>✓ PD 5 (6 TB)</li> <li>✓ PD 8 (6 TB)</li> <li>✓ PD 9 (1 TB)</li> </ul>		<sup>3</sup> 7 11 2 6 10		
Other Drives  Spare Drive			- oncomgarca		
Unconfigured Drive			Cancel Expand (4)		
n Unlocked					

#### Rename Pool

To rename a Pool, click the *More* (···) options link and choose the Rename option. Type the new Pool name and click the Rename button.

#### Delete Pool

To delete a Pool, click the *More* (···) options link and choose the Delete option. You will need to confirm that you want to remove the Pool by typing 'confirm' and clicking on the Confirm button.

#### Adding a Volume/Spare Drive

Use the Pool menu to add a Volume or Spare Drive. Click the Add button (*Plus* sign icon) to *Add Volume* or *Add Spare Drive*.

< Devices List	Dashboard Controls	<u>ې م</u> -
Device Pegasus R12	PoolName1 ID 1 • RAID 5 • 7 TB Unused • OK, Backg	+ 曼 …
Pools Pool 1	Volume	Add Spare Drive
Other Drives Spare Drive Unconfigured Drive	ID Name Capacity Status	ironizing

#### Volume

Use the Add Volume dialog to determine the Capacity and File Format used for the Volume. Click the Add button to create the new volume.

			Contr					ۍ ۲	<u>џ</u>
		DoolN	20001					ı 👄	
Pegasus R12		FUUIN	ameı					+ = …	
	A	dd Volum	e for P	ool	1			Activity Running	
Pool 1	Pool available capaci	ity : 7 TB							
	Volume								
	Name	Capacity	Unit		Format				
Spare Drive	VolumeName2	1.75	ТВ		HFS+		=	Ig	
	VolumeName3	1.75	ТВ	-	HFS+	-	-		
	VolumeName4	1.75	ТВ	-	HFS+	-	_		
	VolumeName5	1.75	Тв	-	HFS+	-	_		
					Cancel	Ac	id		
🖬 Unlocked									

Up to 128 Volumes can be added. Enter a unique Volume name, choose a RAID configuration type, capacity, and file system format. Click on the minus icon will delete the Volume from the list.

Note that the RAID will consist of the Volumes in this list. The options available for type of RAID configuration is dependent upon the number of drives in the RAID. See below.

#### **RAID Options**

Number of physical drives	RAID Options
1 to 12	<ul> <li>RAID 0: RAID 0 means there is no redundancy in the RAID configuration, meaning if any drive in the RAID fails, all data on the RAID is lost.</li> <li>IMPORTANT If you choose this option, make sure you back up data on the RAID to another storage system.</li> </ul>
2	<b>RAID 1:</b> This is the simplest RAID format, it effectively creates a duplicate drive. If either drive fails, there is a copy of it available to rebuild the RAID when the defective drive is replaced.
3 to 12	<b>RAID 5:</b> This is the default RAID used, recommended for most users. This provides the best combination of performance and redundancy.
4 to 12	<b>RAID 6:</b> This provides two drives worth of redundancy, but sacrifices capacity as a result. The effective capacity of RAID 6 with 4 drives is the capacity of 2 drives.
4 to 12	<b>RAID 10:</b> Combines both of the RAID 1 and RAID 0 features. Uses an even number of physical drives.
6 to 12	<b>RAID 50:</b> Combines both RAID 5 and RAID 0 features. The data capacity RAID 50 logical drive equals the capacity of the smallest physical drive times the number of physical drives minus two.
8 to 12	<b>RAID 60:</b> Combines both RAID 6 and RAID 0 features. The data capacity RAID 50 logical drive equals the capacity of the smallest physical drive times the number of physical drives minus four.

#### Spare Drive

If you have an unconfigured drives installed, click on the Add button (*Plus* sign icon) and select the Add Spare Drive option.

< Devices List	Dashboard Controls	🧢 o .
		. џ .
Device		
📕 Pegasus R12	1000 CB PoolName1	+ 9 …
	ID 1 • RAID 5 • 7 TB Unused • OK, Backgrou	Add Volume
Pools	Volume	Add Spara Drive
Pool 1		Add Spare Drive
	ID Name Capacity Status	
Other Drives	1 VolumeName1 1000 GB OK, Synchron	izing
Spare Drive		
Unconfigured Drive		
🖬 Unlocked		

Select an Unconfigured Drive to use as Spare Drive for the assigned pool. You can toggle the Revertible switch to enable the drive to be revertible. Revertability is NOT enabled by default. A revertible spare drive returns to its spare drive assignment after you replace the failed Physical Drive in the Pool and run the Transition function.

< Devices List		Dashboard <b>Controls</b>	🧈 o
Device Pegasus R12		PoolName1	+ 🛢 …
		Add Spare Drive for Pool	1 O
	D PD	Revertible	
Spare Drive			
📮 Unconfigured Driv			<ul> <li>Unconfigured</li> </ul>
	4		
			Cancel Add(0)
🖬 Unlocked			

#### More options in separate Volume

Click the *More* (···) options link for a Volume and choose to Rename or Delete the volume.

< Devices List	Dashboard Controls	. ب 🖑
Device		
🚆 Pegasus R12	PoolName1	+ 🛢 …
	ID 1 • RAID 5 • 7 TB Unused • OK,	Background Activity Running
Pools	Volume	
Pool 1		
	ID Name Capacity State	
Other Drives	1 VolumeName1 1000 GB OK,	Synchronizing
		Rename
Unconfigured Drive		
		Delete

#### Rename Volume

To rename a Volume, click the *More* (···) options link for a Volume and choose the Rename option. In the new menu that appears, type the new name for the Volume and click the Rename button.

#### Delete Volume

To delete a Volume, click the 'More' options link for a Volume and choose the Delete option. You will need to confirm that you want to remove the Volume by typing 'confirm' and clicking on the Confirm button.

### Spare Drive tab in Controls menu

Click the Spare Drive tab to view status, add or delete a spare drive. Mouse over the Spare Drive to view the current status.

••							
< Devices List		Da	shboard <b>Controls</b>			<i>.</i>	ф
Device							
🚆 Pegasus R12 GUI	Spar	e Dr	ive			+ 🛢	
	If a drive reconstr	fails, th ucted da	ne spare drive is automati ata.	ically substitute	d for the faile	d drive and	
Pools							
Pool 1		PD	Settings	Capacity			
📮 Pool 2			Dedicated to Pool 1, Revertible	6 TB	ОК		
Pool 3							
Other Drives							
Spare Drive							
Unconfigured Drive							
🖴 Abnormal Drive							
🖬 Unlocked							

#### Add Spare Drive

To add a Spare Drive, select an unconfigured drive and change the settings as required. Spare drives serve as global or dedicated to a specified Pool. Swipe the Revertible switch. A revertible spare drive returns to its spare drive assignment after you replace the failed Physical Drive in the Pool and run the Transition function.

#### View Spare Drive

Use this button to open the sidebar to display the Spare Drive as a physical drive. The Spare Drive is the highlighted physical drive.

< Devices List	Dashboard <b>Controls</b>	5	<i>.</i>	ф
Device			Details	×
🚆 Pegasus R12 GUI	Spare Drive	+ 🛢	12.9.4	
Pools	If a drive fails, the spare drive is automatically s failed drive and reconstructed data.	substituted for the		9 5 1
Pool 1	ID PD Settings		7	
Pool 2	0 5 Dedicated to Pool 1, Revertib	ble	2 6	5 10
Pool 3			PD 05 • OK	6 ТВ
			Drive Model	14640
Other Drives			HG31 HU3726060/	ALA64U
Spare Drive				
Unconfigured Drive				
🚇 Abnormal Drive				
🖬 Unlocked				

#### More options for Spare Drives

Click the *More* (····) options to change settings or delete a Spare Drive.

#### Change Spare Drive Settings

Choose the options for a selected spare drive. Use the slider to toggle Global and/or Revertible settings. For Non-global Spare Drives, an additional option allows the spare to be dedicated to a specific disk pool to function as the dedicated spare for that pool. Swipe the Global or Revertible switch to toggle these states on or off. Click the Edit button to apply the new settings.

#### **Delete Spare Drive**

To delete the Spare Drive (i.e. to remove Spare Drive status from a designated Spare Drive), choose the Delete option in the *More* (···) options list. A menu will pop up asking you to confirm your decision by typing "confirm" and clicking on the Confirm button. When the Spare Drive status is removed, the drive displays as an unconfigured physical drive.

# **Unconfigured Drives and Setup Wizard**

The Pegasus R12 is shipped with HDD installed and RAID array configured, so it is not necessary to do this yourself. However, if you want to change the disk drives or configure a different RAID, you will need to create a Pool and Volume to use the storage. If you are installing new drives, use the Wizard to create a Pool and Volume.

To create a Pool and Volume click on the Wizard button. There are 2 configuration methods: Smart Wizard and Advanced Wizard. If you are not familiar with RAID systems, it is recommended to use the Smart Wizard.

Oevices List	Dashboard Controls	i 🖓 🦑
< Devices List Device Pegasus R12 GUI Pools Pool 1 Pool 2 Pool 3 Other Drives Spare Drive Unconfigured Drive	Dashboard       Controls         Wizard       ©         Attention! These unused drives are not visible to your computer but can be used in a pool, as a spare drive or for pass-through as individual drives.       ID       Type       Capacity         8       SATA HDD       6 TB         9       SATA HDD       1 TB	PD 09 • OK 1TB Drive Model HIGST HUS721010DLE630
Abnormal Drive Interpretation		

Choose your preference from the drop-down Wizard menu options. See the table below.

Method	User options	Suggested for users who are
Smart Wizard	No options, just use default settings.	Users with little or no experience with digital storage systems.
Advanced Wizard	Options to change storage parameters.	Users with high level of knowledge about digital storage systems.

#### Smart Wizard (2 steps)

1. There are four questions presented: Do you want data redundancy? How many Volumes? What File System do you want to use? Do you need a Spare Drive? Provide answers and click Next to continue.

••		
< Devices List	Dackhoard Controls	····
	Quick questions	
Pegasus R12 GUI	Need data loss prevention ? 9	
	YES NO Nart Wizard Vanced Wizard	
Pool 1	How many Volumes do you want ?	
Pool 2		
Pool 3		
	What kind of File system format? 0	
	APFS HFS+	
Spare Drive		
🖨 Unconfigured Driv	Need a Spare Drive ? 0	
Abnormal Drive	YES NO	
	Cancel Next	
🖻 Unlocked		

2. In Step 2 an overview of the proposed configuration appears. Click Create the Wizard to create the Pool, Volume, and spare drive based on the answer from Step 1.

Oevices List		Dockboord Controls		- 🥜 🕂
	÷	Overview		
Pegasus R12 GUI	<b>3</b>	2 1	12 8 4 9 5	zard)
Pools	Drive	Volume	3 7 11	
Pool 2	Pool Total configured capacit	Spare y : 1.98 TB	<ul> <li>Configured</li> </ul>	
Pool 3	Volume Name	Total Capacity	Format	
	VolumeName9	1.98 TB	HFS+	
Spare Drive				
🔒 Unconfigured Driv				
Abnormal Drive				
			Cancel Create	
🖬 Unlocked				

#### Advanced Wizard (3 steps)

1. Choose which Physical Drives will be included in the array. If there is an unconfigured drive remaining, the spare drive settings will appear automatically.

••			
< Devices List		Controls	🤣 🕂
Device	Pool	settings	
🚆 Pegasus R12 GUI	Select Physical Drive	12 8 4	zard) 🛢
	VD 5 (6 TB)	<b>9</b> 5	art Wizard
Pools	🗹 PD 8 (6 TB)		vanced Wizard
Pool 1	VD 9 (1 TB)	11	
Pool 2		2 6 10	
Pool 3		Unconfigured	
		Total capacity available : 3 TB	
Other Drives			
🖴 Spare Drive			
📮 Unconfigured Driv			
🚇 Abnormal Drive			
		Cancel Next	
🖬 Unlocked			

2. Enter a name for the Pool and Volume. Choose settings for each Volume, including the RAID level, the capacity to use (default settings apply all available capacity) and the file system. Click Next to continue.

	,	Po	al and Val		**:				
	←	FU	or and vor	unie se	um	iys			
🚆 Pegasus R12 GUI	Po	ol name			R	AID Level			
		PoolName4				RAID 5			
				Pool ava	ilab	le capacit	y: <mark>1</mark> .	98 TB	
Pool 1	Vo	lume						+	
Pool 2	Na	me	Capacity	Unit		Format			
📮 Pool 3	C	/olumeName9	1.98	ТВ	•	HFS+	•	] _	
🖴 Spare Drive									
Unconfigured Driv									
🖴 Abnormal Drive									
						Cancel		Next	

3. An overview of the RAID setup appears. Double-check the storage configuration settings to make sure this is what you want. Click Create to create the new Volume (and new spare drive if that is an option in the chosen settings).

••				
< Devices List		Dackhaard Controls		🤩 🤣
	÷	Overview		
🚆 Pegasus R12 GUI			12 8 4	zard) 🛢
Pools Pool 1 Pool 2	B Crive	Volume O Spare	3 7 11 2 6 10	
D Pool 3	Total configured capacit	y : 1.98 TB	<ul> <li>Configured</li> </ul>	
	Volume Name	Total Capacity	Format	
	VolumeName9	1.98 TB	HFS+	
Spare Drive				
📮 Unconfigured Driv				
Abnormal Drive				
🖆 Unlocked			Cancel Create	

### Lock tab on the Controls page

By default, the PROMISE Utility Pro is locked to prevent unauthorized changes to your RAID system. When it is locked, you cannot create Volumes or change settings on the Pegasus series unit. PROMISE Utility Pro will automatically display a pop-up menu asking for the administrator password.

	PROMISE Utility Pro
	PROMISE Utility Pro wants to make changes.
	Enter your password to allow this.
(	SUI
C	••••••
	Cancel OK

Users can also unlock manually by clicking the closed lock icon at the lower left screen of the Controls page. The password authorizing dialog will pop up to let the user type in the password.

Once is unlocked all the Pegasus series that is auto-discovered by the PROMISE Utility Pro are also at unlock status.

### TROUBLESHOOTING

This chapter deals problems you might encounter with your Pegasus unit and how to resolve them.

- "Connection Problems"
- "Replacing a Physical Drive"

# **Connection Problems**

## Cables

If the installation of the cables and components are correctly installed, but they don't function properly, or at all, some of the possible reason could be:

- A connector is dirty or corroded
- A connector is loose or damaged
- A cable looks OK outside but has an open circuit inside
- The wrong cable was used. Look for the Thunderbolt<sup>™</sup> logo and **100W** printed on the cable.

Be sure to use approved cables because:

- They are the proper ones for your system.
- They are sold in brand-new condition.



**Note** Thunderbolt<sup>™</sup> 4 cables are labeled with a Thunderbolt logo and the number four (4).

#### Thunderbolt<sup>™</sup> 4 cable connectors



# **Replacing a Physical Drive**

A failed physical drive is indicated in the Promise Utility Pro user interface. A red drive in the user interface indicates the drive has failed. An orange drive indicates there is a problem with the drive and might require replacement. A failed drive or problem drive will also be indicated in the Events log.

Before replacing a Hard Disk Drive (HDD), check the failed drive and obtain a replacement drive of the same:

- **Type** Hard disk drive (HDD)
- Interface SATA 3 Gb/s or 6 Gb/s
- Spin speed 7,200 RPM or 15,000 RPM
- Capacity Equal size or larger

You do not have to install the identical make and model of the physical drives being used. However replacing with the same make and model of drive makes the process easier and simpler.

You can replace a physical drive without shutting down the Pegasus unit.



CAUTION

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



#### Important

Please read the Compatibly List for physical drives before purchasing new drives to install in Pegasus. Download the list from the PROMISE website.

Check the Device menu to determine which drive has failed. In the example below, the Number 1 slot contains a failed drive. Click on the failed drive to view details about the hard disk such as capacity, model number, etc. You can also check the LED indicators on the drive carriers. See the next section for an example. This requires removing the top to provide access to the hard disk drives.



#### Drive numbering and LED indicators

The drive carriers are numbered as shown below.



Drive LEDs are visible from the with the top of the enclosure removed.

A green LED on the drive carrier indicates normal function. A red LED indicates a problem with the drive.



## **Removing/Replacing a Drive in the Enclosure**

To replace a physical drive:

1. Slide the top cover of the enclosure toward the front of the device.







 To remove a drive carrer, firmly grasp the handle and slide the drive carrier up and out to completely remove the drive and carrier assembly.
 Each hard disk drive is attached to the disk carrier with four screws created for this purpose.
 Remove the screws, replace the problem hard disk with a new hard disk of the same type and size.



- 4. To replace the new hard disk drive and disk carrier assembly, insert the drive and carrier oriented in the same way when it was removed. Slide it in until it is firmly seated. The drive remains in place without any additional hardware mechanism such as a latch. It fits snugly in place to remain securely seated.
- 5. To replace the top of the enclosure, follow the top removal procedure in reverse order. The top slides toward the back of the device until it snaps in place. The new drive is now ready to use.

### **Removing/Replacing a Drive in the Disk Carrier**

The Pegasus R12 is shipped fully assembled with all disk drives installed in disk carriers and the disk/ disk carrier assemblies inserted into the enclosure. If it is necessary to replace a Hard Disk Drive (HDD) you must remove the assembly of the affected HDD from the enclosure as described in the previous section, replace the HDD in the carrier with a new HDD, then insert the new HDD installed in the disk carrier into the open drive slot as described in the previous section.

Follow these steps to replace the old HDD in the disk carrier with a new HDD. Make sure the replacement HDD is the same model as the one being replaced. For optimal performance and fuction, all installed HDD should be identical.

To remove an HDD from a drive carrier:

1. Place the assembled HDD/disk carrier on a table or similar secure surface and remove the four screws holding the drive in the carrier.



2. Pull the disk carrier up and off the HDD, be careful not to twist the carrier.



3. Replace the problem HDD with a new HDD of the same type. Follow steps 1 and 2 above in reverse order to install the new HDD. Make sure the carrier is oriented so the handle is located at the 'top' of the HDD when inserted into the enclosure. The 'bottom' of the HDD includes the SATA interface and power connection that will be seated in the SATA port. The correctly positioned carrier allows free contact for the SATA and power connections.

### **Maintaining Proper Airflow**

Make sure the air intake and exhaust vents are not blocked in order to avoid overheating problems.

The cooling fans pull air through the Pegasus R12 enclosure from the top of the device, and push the heated air out through the bottom. *See the illustration below.* 

- DO NOT block the ventilation airflow on the bottom or top of the device to avoid overheating the system.
- Also, make sure the HDD are properly inserted and the top is firmly in place. See "Replacing a Physical Drive" on page 48 for instructions on replacing hard disks and replacing the top.

#### Ventilation airflow on the Pegasus R12



# FILE SYSTEM CONVERSION

This chapter describes the procedures used to convert a Mac file system (APFS) on Pegasus so it can be used with a Windows operating system. And, how to convert a Windows file system (NTFS) on Pegasus so it can be used with a Mac operating system.

The instruction in this chapter describe how to do the following:

- • Format Pegasus with NTFS for use with Windows
- •Format Pegasus with APFS for use with Mac



#### WARNING

Converting the file system will erase the entire contents of the drives on Pegasus. **All data currently on the hard drives will be lost.** 

Make sure you back up all data to another system before proceeding.

If your Pegasus is currently formatted with Windows NTFS:

• To use Mac Disk Utility to reformat the drives with APFS. See "Format drives for Mac APFS with Mac Disk Utility" on page 56.

## Format drives for Mac APFS with Mac Disk Utility



#### WARNING

Converting the file system will erase the entire contents of the drives on Pegasus. **All data currently on the hard drives will be lost**.

Make sure you back up all data to another system before proceeding.

#### Follow these instructions to change the file system to APFS using Mac Disk Utility.

- 1. If the Mac Driver of Pegasus has been installed and loaded successfully, you will see the NTFS volume on your Desktop. Note that the Volume is read-only until you change to APFS file system.
  - If Pegasus is connected to a Thunderbolt port on your Mac, the volume icon looks like this:



2. Use Mac Disk Utility to Erase Volume from and format with APFS. Select **External** device > The Partition Promise Pegasus, click Erase to format APFS.

				(		
View Volume		First Aid Partition Erase Restore Unmo	punt	In		
nternal ✓  APPLE SSD AP0128 ▼  Container disk1 Macintosh HD	PROMISE	Promise Pegasus SAS External Physical Volume • Windows NT File System (NTFS)				
External						
Promise Pegasus =     New Volume ▲	■ Used 447.6 MB	Free 3 20 TB				
	Mount Point:	/Volumes/New Volume	Туре:	SAS External Physical Volume		
	Capacity:	20 TB	Owners:	Disabled		
	Available:	20 TB (Zero KB purgeable)	Connection:	SAS		
	Used:	447.6 MB	Device:	disk2s2		

3. Type a Volume Name and select Format type Mac OS Extended (Journaled).

	Disk Utility			
View     Volume	유양 (D) 달 ( First Aid Partition Erase Re	Store Unmount		(i) Info
Internal       Internal       Image: APPLE SSD AP0128       Image: Container disk1       Image: Apple State Stat	Frase "New Volume"? Erasing "New Volume" will de cannot be undone. Provide a Erase to proceed.	lete all data stored on it, and name and format, and click	TFS)	
External	Name: Promise Pegasus			
▼ 🦲 Promise Pegasus 🔺	Format: Mac OS Extended (J	ournaled) 🗘		
	Mount Point: /Volumes/Ni	Cancel Erase	SAS External Physical Volume	ie
	Canacity:	20 TB Owners:	Disabler	- d
		ZOTB Owners.	Disablec	-
	Available: 20 TB (Zero KB )	ourgeable) Connection:	SAS	S
	Used:	447.6 MB Device:	disk2s2	2

# **CONTACTING TECHNICAL SUPPORT**

Promise offers local Phone Support for Pegasus series during normal business hours:

For telephone support and business hours click here (http://www.promise.com/ContactUs) Web support and Live Chat is offered 24/7

Web: https://support.promise.com

Live Chat: http://www.promise.com/us/Support

Please be sure to register your product at PROMISE eSupport (https://support.promise.com)

The information below is required for troubleshooting. Please register this information or have it readily available at the time of your support call

- **TLA number** Located on the outside of the box or on label toward rear of Pegasus chassis
- Serial number Located on label toward rear of Pegasus chassis
- **Config Logs**. Please refer http://kb.promise.com/cat/Pegasus-series/ for instruction on acquiring Config Logs.

#### LIMITATIONS

RMAs issued before 12:00 noon PST M-F can be shipped out on same day. RMAs issued after 12:00 noon PST M- F ship out the next business day.

#### **RMA** *Methods*

1. Cross Ship (NOT applicable in APAC and EMEAR)

For this method, Credit card information is required for security purposes. The replacement item is first sent to you (customer). Thirty (30) days, from the day of shipment, are allotted for returning the defective unit. If the defective part is not returned within the allotted 30days, your credit card will be charged the MSRP of the replacement part(s) shipped.

2. Return and Replace

Credit card information is not needed for this method. Once your request for an RMA is approved, an RMA number will be emailed to you along with specific shipping instructions. Product(s) must be returned in its original packaging (inner and outer box). If you do not have the original packaging contents please contact Promise Technical Support. All RMA are shipped standard ground to your location.

See "Returning the Product For Repair" on page 64 for more details.

#### **United States**

580 Cottonwood Drive Milpitas, Ca 95035, USA Technical Support (E-Support): https://support.promise.com Web Site: http://www.promise.com

#### Australia

Technical Support (E-Support): https://support.promise.com Web Site: http://www.promise.com

#### **EMEA**

#### Netherlands

Science Park Eindhoven 5228 5692 EG Son, The Netherlands Technical Support (E-Support): https://support.promise.com Web Site: http://www.promise.com

#### *Austria*

Technical Support (E-Support): https://support.promise.com Web Site: http://www.promise.com

#### France

Technical Support (E-Support): https://support.promise.com Web Site: http://www.promise.com

#### Germany

Europaplatz 9 44269 Dortmund, Germany Technical Support (E-Support): https://support.promise.com Web Site: http://www.promise.com

#### Sweden

Technical Support (E-Support): https://support.promise.com Web Site: http://www.promise.com

#### Switzerland ITF

Technical Support (E-Support): https://support.promise.com Web Site: http://www.promise.com

#### **Norway ITF**

Technical Support (E-Support): https://support.promise.com Web Site: http://www.promise.com

#### Belguim

Technical Support (E-Support): https://support.promise.com Web Site: http://www.promise.com

#### Luxembourg

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

#### Taiwan

Technical Support (E-Support): https://support.promise.com Web Site: http://www.promise.com

#### China

Room 1108, West Wing, Shi Chuang Plaza, 22 Information Road Shangdi IT Park, Haidian District, Beijing 100085 Fax: 86-10-8857-8015 Technical Support (E-Support): https://support.promise.com Web Site: http://www.promise.com
### Korea

Technical Support (E-Support): https://support.promise.com Web Site: http://www.promise.com

## Hong Kong

Technical Support (E-Support): https://support.promise.com Web Site: http://www.promise.com

### Singapore

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

# 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 for a period of three (3) years;
- b) will conform to Promise's specifications;
- c) 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.

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.

#### **D**ISCLAIMER 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 **R**esponsibilities

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 # 47654 Kato Road Fremont, CA 94538
Asia-Pacific:	Please return the product to your dealer or retailer or Contact Promise technical support for instructions before shipping the product.
Other Countries	Please check Promise E-Support: https://support.promise.com for the location nearest you. Contact the office or repair depot for full 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 outbound standard shipping charges only. You must pay for any additional shipping options, such as express shipping and return of the defective part or unit.