OWC

OWC® Jupiter™ mini-SAS
Expander Rack 835
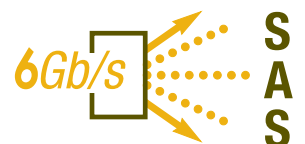ASSEMBLY MANUAL & USER GUIDE

6G-ER835-xxxx

6Gb/s SAS

TABLE OF CONTENTS

Firmware, images, and descriptions may vary slightly between this manual and the unit shipped. Functions and features may change depending on the firmware version. Please visit the product webpage for the latest specifications.

ATTENTION
OBSERVE PRECAUTIONS
FOR HANDLING
ELECTROSTATIC
SENSITIVE DEVICES

AVOID INJURY!
- Never lift heavy equipment by yourself
- Use proper lifting techniques

It is recommended that you remove all drives from Jupiter before installing into or removing from a rack.

INTRODUCTION

1.1 OWC JUPITER OVERVIEW

1.1.1 Jupiter

Whether you're an entrepreneur, IT manager, five-person design firm, or Hollywood studio, OWC Jupiter is the perfect high-speed scalable storage solution that can grow and adapt to ever-increasing storage needs.

With Jupiter, users can now combine the highest levels of data sharing performance with the simplicity of direct attached storage (DAS) and achieve speeds 6x faster than traditional SAN technologies. Jupiter is also easy on the budget at a fraction of the cost of traditional SAN technologies.

1.1.2 Jupiter Family

Storage

When it comes to storage, Jupiter truly lives up to its namesake's stature. Start with just an 8TB rack, and with its scalability, Jupiter can be built with expander units and switches to accommodate up to 3600TB (3.6 Petabytes). You can also utilize SSDs or hard drives to best fit your storage needs. Jupiter is available as a standalone storage solution, and as a RAID storage subsystem that supports RAID 0, 1, 5, 6, 10, 50, 60 and JBOD.

Connectivity

With Jupiter, get ready for speeds that are out of this world. Simply install the low profile, two-port Jupiter mini-SAS PCIe Card into any computer, workstation or server that accepts PCIe cards to experience the extreme performance benefits of OWC Jupiter mini-SAS enterprise-class storage. Use a single mini-SAS connection for up to 24Gbp/s or use both connections for up to 48Gbp/s performance.

Switches

Need to expand? Connect multiple Jupiter storage systems with the powerful enterprise-class switch – available with 8 or 16 ports. Jupiter switches feature an expansion mini-SAS port and can seamlessly integrate within an existing Fibre infrastructure. Jupiter switches have six mini-SAS connections to connect multiple Jupiter storage systems in a variety of ways and two host mini-SAS Connections allow you to connect to a single host system to get peak performance.

1.2 PRODUCT SPECIFICATIONS

1.2.1 Features

- 6Gb/s SAS interface
- Two x4 external mini-SAS (SFF-8088) connectors
  - Utilize both connections to host for 48Gb/s of aggregated bandwidth
  - Utilize one for host and the second for expansion to additional storage units
- 2U Rackmount design
- Eight 3.5" drive bays
- Supports SAS and SATA HDDs and SSDs
- Redundant (1+1) and hot swappable power supplies
  - Automatic load balancing
- Hot swappable, variable speed fan modules
- System status at a glance front mounted drive, power, and fan status lights
- RAID supported via mini-SAS equipped SAS host controller cards
- RoHS compliant
- 3 year warranty with a 48 hour turnaround time

1.2.2 Benefits

- High performance
- Flexible SATA+SAS array architecture optimizes cost
- 8 external high-speed SAS ports for maximum mass-storage connectivity
- SATA+SAS interconnect proven through the LSI robust serial technology
- Environmentally friendly due to low-power consumption
- Compatible with 6Gb/s and 3Gb/s, SATA and SAS, hard disk drives, solid state drives, and tape drives

1.2.3 Specifications

Technical Specifications

IO Controller:	LSI SAS2x36
Storage Connectivity & Rates:	8 ports, 6Gb/s SAS 2.1 compliant
SAS Bandwidth:	Half duplex 600 MB/s per lane
Connectors:	Two extermal mini-SAS connectors (SFF8088)
Port Configurations:	Two x4 wide ports (total of eight x1 ports) *Each x4 wide port can be utilized as host connection or expansion connection*
Cable Support:	Passive copper
Device Support:	1024 non-RAID devices

General Specifications

Front Panel Indicators:	Power status, fan status	
Drive Bay Indicators:	Power, activity, fail	
Dimensions:	3.5"(H) x 19"(W) x 23"(D) 8.89cm(H) x 48.26cm(W) x 58.42cm(D)	
Rack Compatibility:	Square hole and round hole mounting Included rails supporting up to 19" (48.26cm) width and 30" (762mm) depth	
Environmental:	Operating 32°F to 131°F 0°C to 55°C 5 to 90% non-condensing	Non-Operating -49°F to 221°F -45°C to 105°C 5 to 90% non-condensing

Power Supply Unit (PSU) Specifications

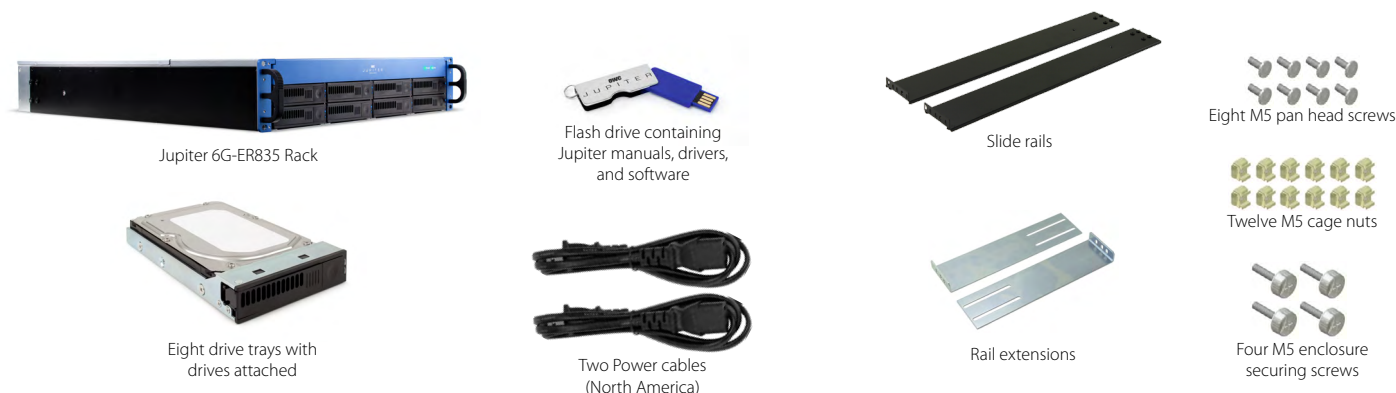|		
Type:	380W High Efficiency 1+1 Redundant hot-swappable	
Operating Voltage:	100~240 VAC Full Range Auto-switching	
Po:	380W High Efficiency 1+1 Redundant hot-swappable	
Environmental:	Operating 32°F to 131°F 0°C to 55°C 5 to 90% non-condensing	Non-Operating -49°F to 221°F -45°C to 105°C 5 to 90% non-condensing
MTBF:	223,678 hours	

1.3 SYSTEM REQUIREMENTS

1.3.1 Host Requirements

Any SAS SFF-8088 equipped host system that supports SAS expander technology including Macs®, PCs, and storage subsystems. A compatibility list with third party products can be found at *www.macsales.com/Jupiter*.

1.3.2 Supported Drives
- Up to eight 3.5" SAS or SATA drives (1.5Gb/s, 3.0Gb/s, or 6.0Gb/s)
    - Up to eight 2.5" SAS or SATA drives (1.5Gb/s, 3.0Gb/s, or 6.0Gb/s) with adapter
- Drives of identical capacity / model are recommended for RAID configurations

1.4 PACKAGE CONTENTS

Jupiter 6G-ER835 Rack

Flash drive containing
Jupiter manuals, drivers,
and software

Slide rails

Eight M5 pan head screws

Eight drive trays with
drives attached

Two Power cables
(North America)

Rail extensions

Twelve M5 cage nuts

Four M5 enclosure
securing screws

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1.5 FRONT VIEW

1.5.1 Drive Trays

Drive bay lights

SAS Drives		SATA Drives	
No activity:	Fast steady blue flash	No activity:	Fast steady blue flash
Activity:	Blue flash with access	Activity:	Blue flash with access
Drive Sleep:	Solid blue	Drive Sleep:	Solid blue
Drive Fail:	Red	Drive Fail:	Red

NOTE: Some SATA drives do not support drive activity status through the SATA connector (pin 11) and will flash a fast steady blue when installed into Jupiter



1.5.2 System Status Lights

The system status lights on the front upper right of the Jupiter Expander Rack provide an at-a-glance summary of the health of the power and cooling systems inside.

In the event there is a problem with the thermal system or power system within the Jupiter Expander Rack, the cooresponding system status light will turn from green to red.

Power		Fans	
Green:	Status good	Green:	Status good
Orange:	System startup	Orange:	System startup
Red:	Power upply module failure	Red:	Fan failure and/or high temp

1.6 REAR VIEW
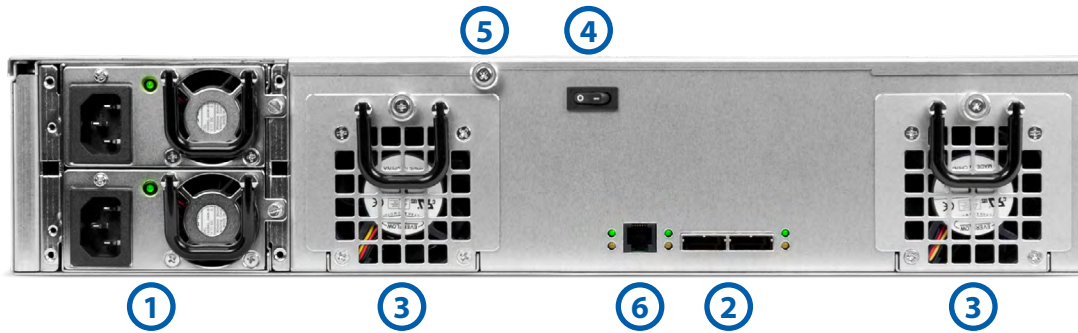
1 - Power Supply Unit (PSU) Modules
The Jupiter Expander Rack 835 has two externaly mounted redundant and hot-swappable power supply unit (PSU) modules for increased reliability and easy serviceability. When both modules are functioning properly, they automatically balance the load of the entire Jupiter unit.

2 - Data Connections
The Jupiter Expander Rack 835 has two external mini-SAS (SFF-8088) data connections. Each connection carries four SAS 6Gb/s data channels through it.   Either connection can function as a host link or an expansion link, though one must always be a host link.

3 - Fan Modules
The Jupiter Expander Rack 835 has two externaly mounted swappable fan modules for easy serviceablity.

4 - Power Switch
The Jupiter Expander Rack 835 has a rear mounted and easily accessible power switch.

5 - Top Cover Thumbscrew
This screw must be loosened in order to remove the top cover for servicing.

6 - Service Port
The Jupiter Expander Rack 835 has an RS-232 serial port for service. This port is generally not used as all service tasks can be done via the Jupiter Command Center application.

1.7 SIDE VIEW

Side view with rail attached

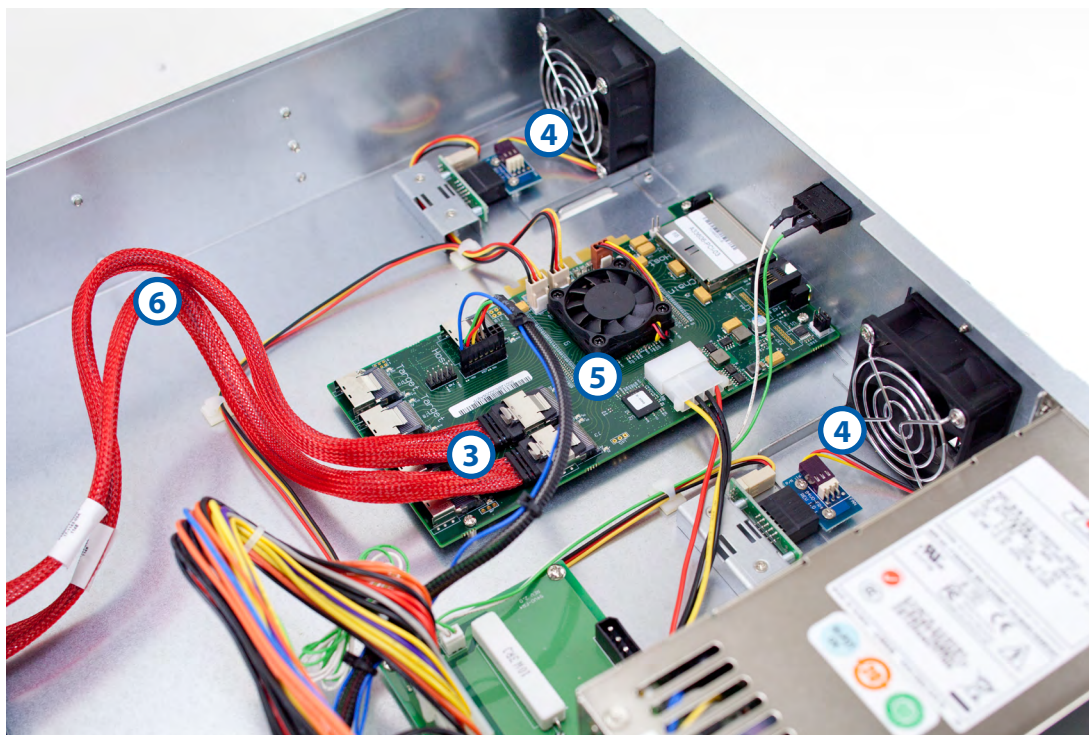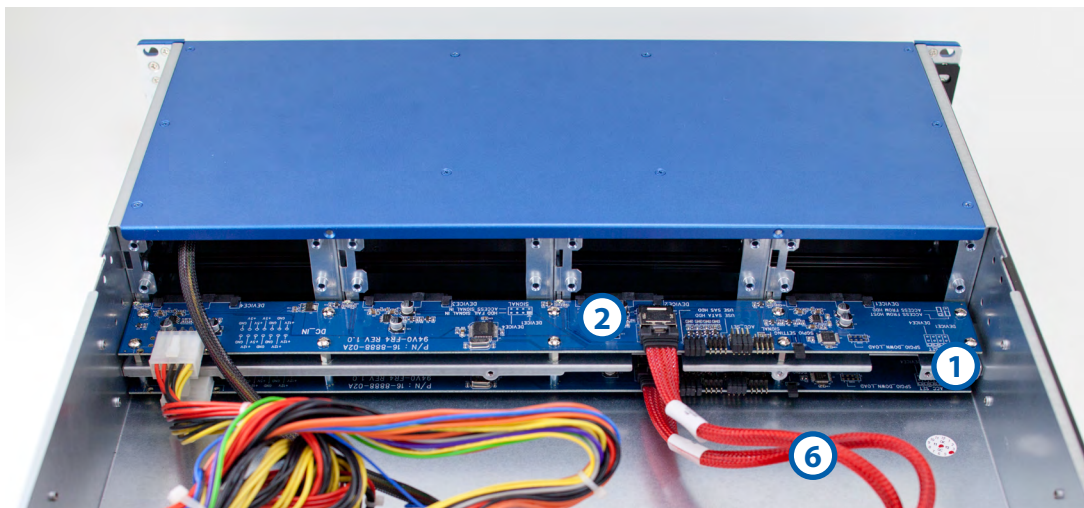*Side view with rail removed*

1.5 INTERNAL VIEW

1 - Backplanes

2 - Backplane mini-SAS Connections

3 - System Board mini-SAS Connections

4 - Fan Modules

5 - System Board

6 - Mini-SAS Data Cables

SYSTEM SETUP

2.1 RAIL INSTALLATION

The Jupiter Expander Rack 835 storage system comes with rack mount slide rails attached to the sides of the unit and the necessary screws and cage nuts for installing into 4-post square-hole rack systems. To install the slide rail brackets into your rack, do the following:

Front Placement   **Rear Placement**

1. The Jupiter Expander Rack 835 requires two rack units of space, take note of which units on your rack that you will install Jupiter into.

2. Install the included cage nuts into your rack using **Figure 2.1a** as a guide for cage nut placement within the 2U's that have been designated for Jupiter.
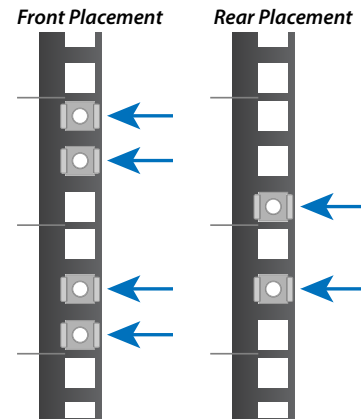
Figure 2.1a

3. On the Jupiter unit, remove the securing screw from the rail on the left and right sides as seen in **Figure 2.1b**.

Securing screw

Figure 2.1b

4. Once the securing screws have been removed, remove the rail arm from the Jupiter unit by sliding it toward the rear of the unit as seen in **Figure 2.1c**. When the rail arm stops, push the release tab while continuing to slide the rail arm off.   After removing the rails, set them aside taking note of the side from which they were removed.
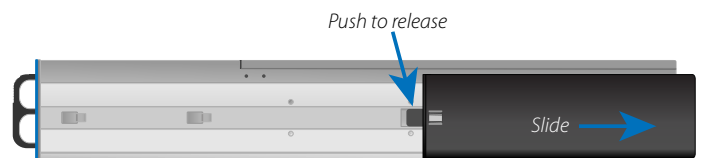
Push to release

Slide

Figure 2.1c

5. Remove the rail arm extensions from the accessories box and match them to the rails. Use **Figure 2.1d** as a guide for proper matching of rails and the extension pieces.
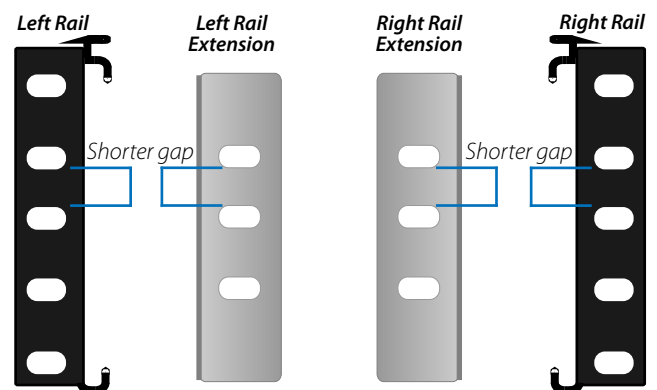
Left Rail   **Left Rail Extension**   **Right Rail Extension**   **Right Rail**

Shorter gap   *Shorter gap*

Figure 2.1d

6. Install the front rails first making sure the bottom of the rail lines up with the bottom of the designated rack units. Using **Figure 2.1e** as a guide secure the rail using two of the included M5 pan head screws.

7. Before securing the rear rail extension to the back of your rack, make sure to slide the extension into the rail as seen in **Figure 2.1f**.

8. Secure the rear rail extension to your rack use two of the included M5 pan head screws as seen in **Figure 2.1g**.

9. After securing the rear rail extension to your rack, secure the rail extension to the rail using two of the included M5 pan head screws as shown in **Figure 2.1h**.

10. After repeating the steps for the other side, you can now move on to installing the Jupiter storage system into the rack as found in section **2.2 Unit Rack Installation and Removal** on the next page.
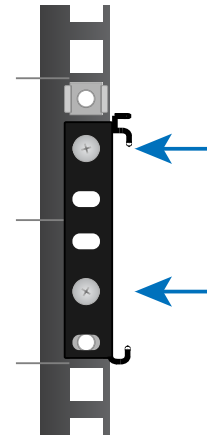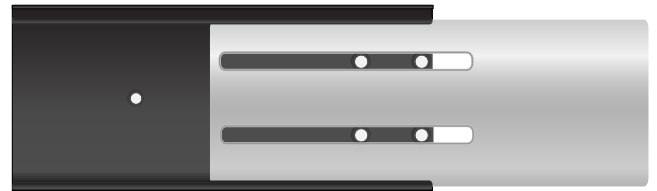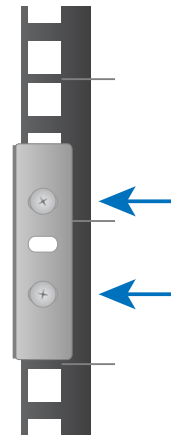

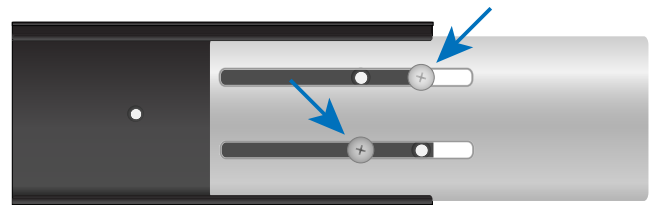*Figure 2.1e*

Figure 2.1f

Figure 2.1g

Figure 2.1h

2.2 UNIT RACK INSTALLATION & REMOVAL

⚠️ **AVOID INJURY!**
- Never lift heavy equipment by yourself
- Use proper lifting techniques

⚠️ **It is recommended that you remove all drives from Jupiter before installing into or removing from a rack.**

After installing the rails, the Jupiter Expander Rack 835 storage system can be installed into the rack. The Jupiter unit is heavy even when no drives are installed. Never lift heavy equipment by yourself and always use proper lifting techniques. It is recommended that you remove all drives from Jupiter before installing into or removing from a rack in order to avoid personal injury or damage to equipment.

2.2.1 Unit Installation

⚠️ **Review precautionary measures from begining of Section 2.2 before proceding.**

1. Before lifting and installing the Jupiter unit into the rack, make sure all people involved in lifting know where the unit rails are attached to the Jupiter unit and subsequently how they will slide into the rack rails.

2. Using proper lifting techniques and keeping the Jupiter unit level, lift up to the rack rails where the unit will be installed into.

3. Visually align the unit rails with the rack rails.

4. Once aligned, evenly slide the unit rails into the rack rails. Do not release the unit until it has been inserted all the way or till an audible click is heard. The click indicates that the Jupiter unit has been inserted past the safety latches as illustrated in **Figure 2.2.1a**.

5. If not already done, insert the Jupiter unit all the way into the rack until the rack ears touch the rack posts.

6. Install the four included rack securing screws to finish the unit installation into the rack as seen in **Figure 2.2.1b**.
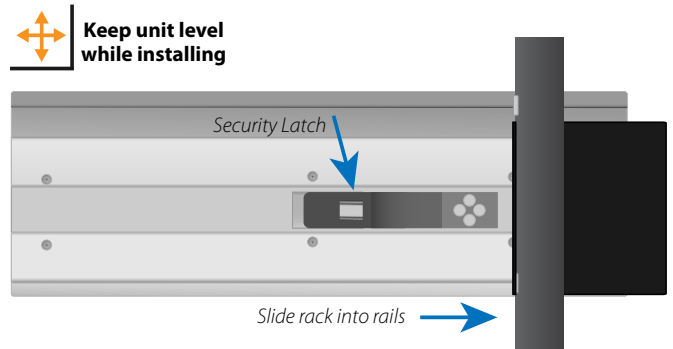
Keep unit level while installing

Security Latch

Slide rack into rails

Figure 2.2.1a

Rack Securing Screws
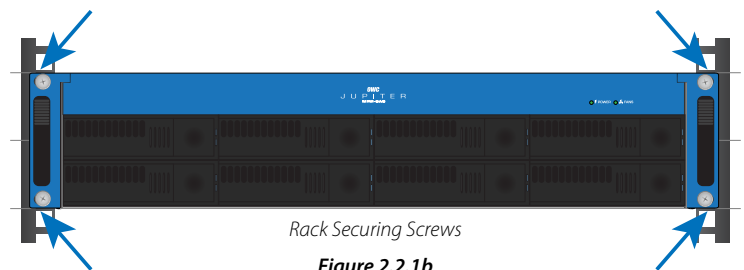
Figure 2.2.1b

2.2.2 Unit Removal

⚠️ **Review precautionary measures from beginning of Section 2.2 before proceeding.**

1. Before removing the Jupiter Expander Rack 835 from your rack, it is recommended that you remove all drives to make it easier to remove Jupiter from the rack and to reduce the risk of personal injury and/or equipment damage. If necessary, make sure to note the drive locations so they can be reinserted into the same locations later.

Rack Securing Screws

Figure 2.2.2a

2. Make sure all cables including data and power are disconnected from the Jupiter unit.

3. Remove the four rack securing screws from the front of the Jupiter unit as shown in **Figure 2.2.2a**.

4. Using the handles, pull the rack toward you until it is stopped by the safety latches.

5. It is recommended to have a second person assist the removal at this point. Press the security latches while simultaneously sliding the unit out just past the security latch as illustrated in **Figure 2.2.2b**.

6. Make sure both people removing the unit have a firm grip on the rack front and base and are prepared to support the full width of the unit. Continue slowly pulling the rack out until it is free from the rails.

Keep unit level while removing

Push security latch to release

Slide out of rails
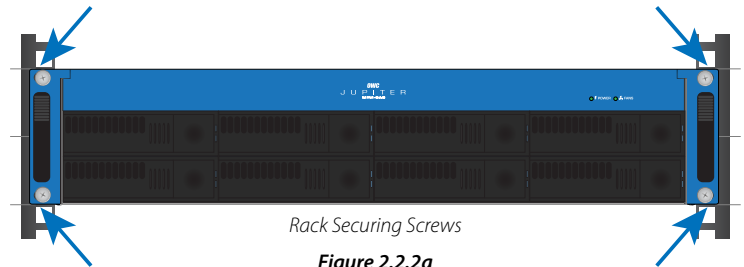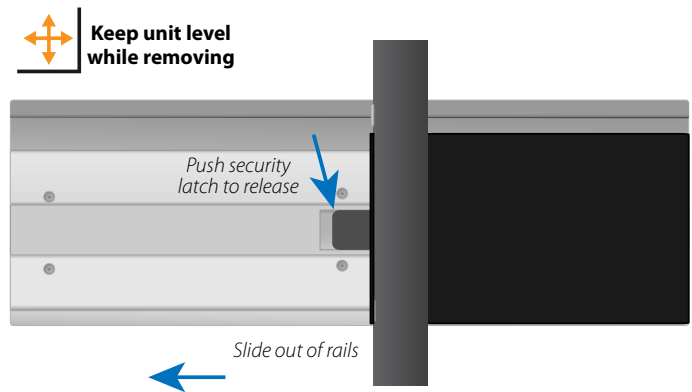
Figure 2.2.2b

2.3 DRIVE INSTALLATION & REMOVAL

The Jupiter Expander Rack 835 solution comes with drives already installed into the individual trays to provide quicker setup time. Use the following instructions to install and remove drives from the Jupiter drive bays.

2.3.1 Drive Installation

1. If not already done, release the drive tray handle by pushing the square eject button.

2. Insert the drive into the desired bay of the Jupiter unit making sure the drive rests on the side guide rails within the bay.

3. Push the drive in using the front frame of the tray or the release button as seen in **Figure 2.3.1a** until it is seated into the backplane connector. DO NOT push the drive in using the handle.

4. Once the drive is seated into the backplane, push the handle in until it latches to secure the drive into the drive bay as shown in **Figure 2.3.1b**.
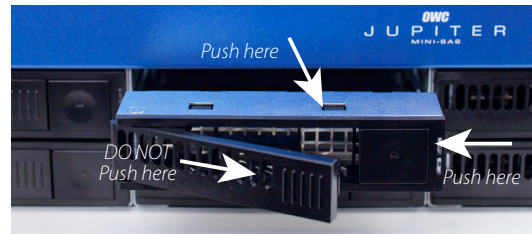
Figure 2.3.1a
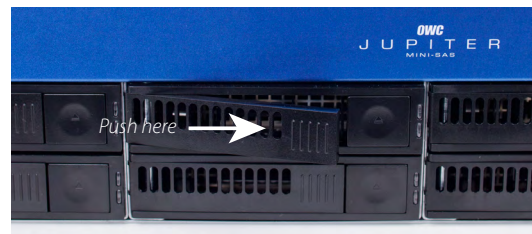
Figure 2.3.1b

2.3.2 Drive Removal

1. Release the handle on the drive tray by pushing the square eject button as seen in **Figure 2.3.1c**.

2. Use the handle to pull the drive out of the drive bay as shown in **Figure 2.3.1d**.

Figure 2.3.1c
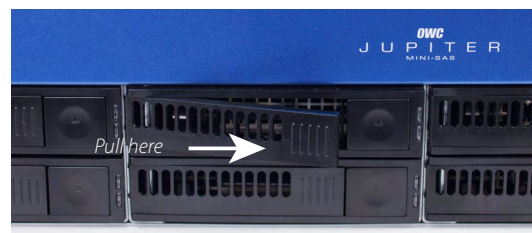
Figure 2.3.1d

2.4 CONNECTIONS

2.4.1 Data Connections
The Jupiter Expander Rack 835 has two external mini-SAS (SFF-8088) data connections. Each connection carries four SAS 6Gb/s data channels through it.   Either connection can function as a host link or an expansion link, though one must always be a host link.

2.4.2 Power Connections
The Jupiter Expander Rack 835 has two externaly mounted redundant and hot-swappable power supply unit (PSU) modules for increased reliability and easy serviceability. When both modules are functioning properly, they automatically balance the load of the entire Jupiter unit.

2.4.3 Service Connection
The Jupiter Expander Rack 835 has an RS-232 serial port for service. This port is generally not used as all service tasks can be done via the Jupiter Command Center application.

SYSTEM MAINTENANCE

3.1 REPLACING COMPONENTS

3.1.1 Power Supply Unit (PSU) Modules

The Jupiter Expander Rack 835 storage system comes with a hot swappable 1+1 redundent power supply, meaning the Jupiter unit can tolerate one PSU module failing and can be serviced while powered on. When both PSU modules are healthy the power load is automatically balanced between them. In the event of a PSU module failure, an alarm will sound and the fan system status light on the front of the Jupiter unit will be red. To replace the problematic PSU module:

1. Identify the failed PSU module by seeing which module does not have its LED lit.
2. Loosen securing screw, using a screwdriver if necessary.
3. After loosening the screws, pull the PSU module out using the black handle. If it does not slide out, try loosening the securing screw more and pulling again.
4. After removing the failed PSU module, insert the new module making sure it is fully seated inside the PSU.
5. Hand-tighten the securing screw. A flathead screwdriver can be used but it is not necessary. If using a screwdriver, do not over tighten the screw as it may be necessary to loosen using fingertips only.
6. After securing the new PSU module in place, plug in the power cord and turn the unit on if it is not already.

Removal handle

Securing screw

Securing screw
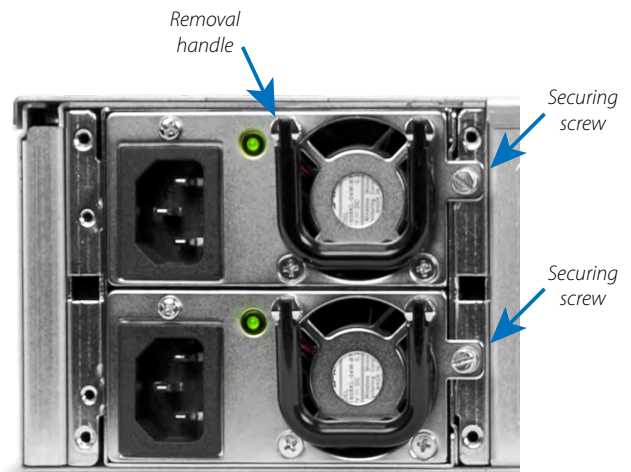
Figure 3.1.1a

3.1.2 Fans

The Jupiter Expander Rack 835 storage system has hot swappable fan modules. In the event of a fan failure the fan system status light on the front of the Jupiter will be red. To replace a problematic fan module:

1. Identify the failed fan by feeling and looking at each fan module. Often the fan module will not be spinning at all or as fast as the other healthy one. You can also use the Jupiter Command Center application to identify the failed fan.
2. Using fingers or a Phillips screwdriver, loosen the thumbscrew on the failed fan module as pointed to in **Figure 3.1.2a**.

Thumbscrew
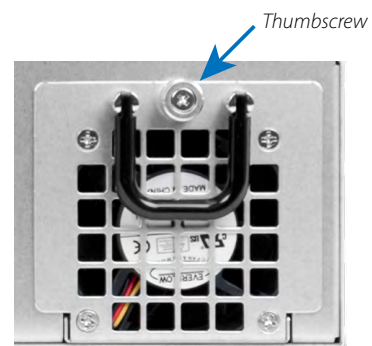
Figure 3.1.2a

3. Remove the fan module by pulling straight out using the removal handle.

4. Once removed, use a Phillips screwdriver to remove the four screws securing the fan to the fan carrier as seen in **Figure 3.1.2b**.

5. Once the four screws have been removed, disconnect the fan power connector.

6. Place the new fan into the fan carrier making sure the side of the fan with the wires rests against the bottom of the carrier and plug in the fan connector wire into the connector board as shown in **Figure 3.1.2c**.

7. Using the four Phillips screws removed in step 4, secure the fan to the fan carrier.

8. Install the assembled fan unit into the Jupiter storage unit and tighten the thumb screw securing it in place.

9. Turn on the Jupiter unit if needed and verify the fan is functioning correctly by feeling for airflow, visually inspecting the fan for spinning blades, and viewing the fan health in the Jupiter Command Center application.
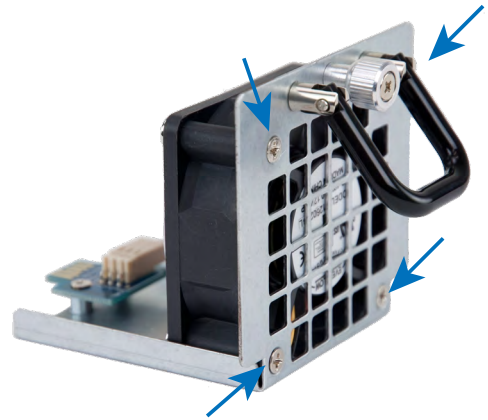
Figure 3.1.2b

Figure 3.1.2c

3.1.3 Drives

The Jupiter Expander Rack 835 storage system has hot swappable drive trays that can be easily removed and inserted. In the event of a drive problem, it will be necessary to replace a drive. Use the following instructions for replacing a drive:

1. Remove the problematic drive from the Jupiter unit as discussed in the **2.3.2 Drive Removal** section.
2. Using a Phillips screwdriver, remove the four side screws holding the drive in the tray as shown in **Figure 3.1.3a**.
3. Take note of the drive orientation as seen in **Figure 3.1.3b** before you remove it from the tray to ensure that the new drive is affixed to the tray in the same fashion.
4. Once the new drive is positioned in the tray, secure it using the same four screws.
5. Insert the drive into the Jupiter unit as discussed in the **2.3.1 Drive Installation** section.

Figure 3.1.3a

Figure 3.1.3a

3.1.4 System Controller Board

The Jupiter Expander Rack 835 storage system has an easily replaceable system controller "SAS expander" board. In the rare occurence the board would need to be replaced, use the following as a guide for replacing the problematic board with a new one:

1. Disconnect the external power and data connections from the Jupiter storage unit.
2. If necessary, for access into the Jupiter unit, remove the unit from the rack according to the **2.2.2 Unit Removal** section.
3. Remove the top cover by loosening the thumbscrew on the back of the unit as pointed to in **Figure 3.1.4a**.
4. Disconnect the following from the expander board using **Figure 3.1.4b** and **Figure 3.1.4c** as guides:
   - Two red mini-SAS SFF-8087 cables
   - Rear right fan cable
   - Rear left fan cable
   - 16-pin header wires
   - 4-pin power
5. Remove the four screws securing the expander board to the enclosure and remove the board. The four screws removed will be used for the new board.

Thumbscrew
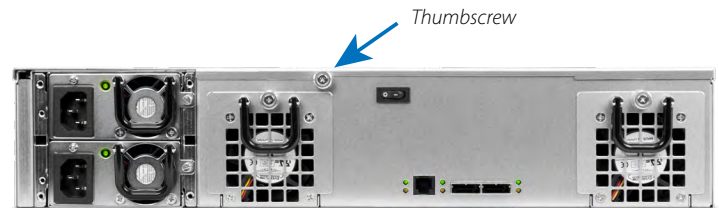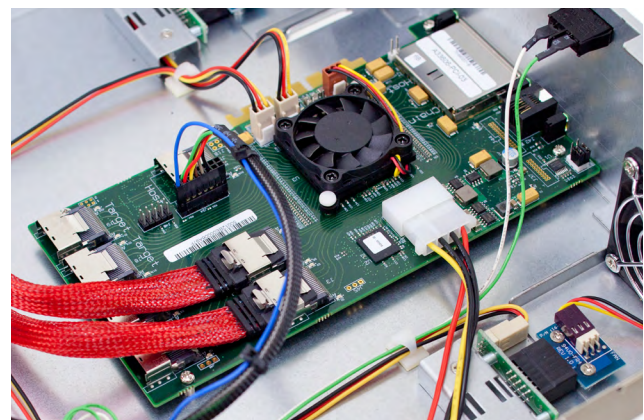
Figure 3.1.4a

Figure 3.1.4b

Figure 3.1.4c

6. Place the new expander board inside the unit, making sure to line up the screw holes with the enclosure screw posts.

7. Secure the expander board to the enclosure using the four screws previously removed.

8. Using **Figure 3.1.4c** as a guide, connect the
   - mini-SAS (SFF-8087) cable for the top backplane (drives 1-4)
   - mini-SAS (SFF-8087) cable for the bottom backplane (drives 5-8)
   - Rear left fan cable
   - Rear right fan cable
   - 4-pin power

9. For the 16-pin head connection, use **Figure 3.1.4d** as a guide for the proper positioning.

10. Once all connections have been made, affix the top cover and secure with the thumbscrew.

11. Install the Jupiter storage unit into your desired location.

12. Upon powering on the Jupiter storage unit, check to make sure the following items are functioning properly:
    - Drives
    - Front panel LED board
    - Enclosure fans

13. If anything is not functioning properly, review the previous steps. Contact technical support if problems are still present.
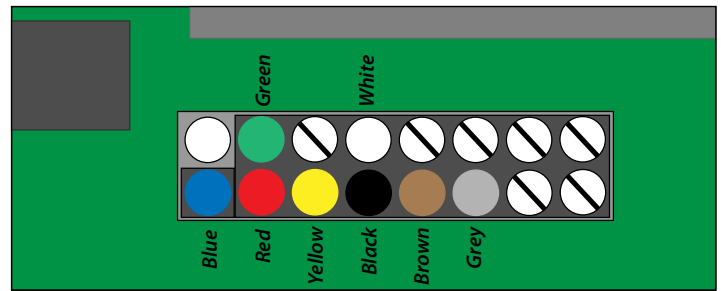
Figure 3.1.4d

3.2 REGULAR MAINTENANCE

The Jupiter Expander Rack 835 storage system
You should periodically:
- Check all system fans for functionality (PSU fans, chassis fans, expander board fan)
- Clear any fans of dust/debris
- Clear inside unit of dust/debris
- Clear drive trays of dust/debris

4.1 JUPITER COMMAND CENTER

The Jupiter Expander Rack 835 solution and the rest of the Jupiter family can be monitored and serviced using the Jupiter Command Center companion application.

Please download the latest version of Jupiter Command Center from *http://www.macsales.com/jupiter/downloads*.

For information on using Jupiter Command Center, refer to the manual included the the Jupiter Command Center software application or by downloading the latest revision from *http://www.macsales.com/jupiter/downloads*.

APPENDIX

5.1 FAQ

Q: What is SAS and mini-SAS?
A: 'SAS' stands for 'Serial Attached SCSI'. It is a serial interface that is used to transfer data to and from computer storage devices. It is backwards-compatible with the SATA interface, but contains more features and is typically used in enterprise applications such as SAN systems.

Mini-SAS is a type of SAS cable connection that allows the transfer of information between SAS devices. Each mini-SAS connection contains four SAS channels.

Q: What is DAS and SAN?
A: 'DAS' stands for 'Direct Attached Storage'. It describes a simple storage configuration in which the storage device is connected directly to the host computer, usually by a single connecting cable. This allows a single user to connect to a single storage device at one time.

'SAN' stands for 'Storage Area Network'. A SAN is a network that provides multiple computers access to a shared pool of storage devices. SAN has many benefits over simple DAS setups, including scalability, speed, capacity, and redundancy.

Q: Can I purchase additional drive trays and drives for my Jupiter units?
A: Yes, visit *www.macsales.com/Jupiter* for more information on getting the correct drives and drive trays for your model of Jupiter.

Q: What mini-SAS cards are compatible/recommended for use with Jupiter? Can I use my existing 3rd party mini-SAS controller cards?
A: Yes, see compatibility list at *www.macsales.com/Jupiter* for a list of 3rd party card support and any limitations the 3rd party card may have with Jupiter.

Q: Why can't I use the Jupiter Command Center application to manage my Jupiter system when I use a 3rd party card?
A: Jupiter Command Center was built to specifically manage all the components of Jupiter. 3rd party equipment will have varying degrees of support by the Jupiter Command Center application. Please see the compatibility list available at *www.macsales.com/Jupiter* for more information.

Q: How do I update Jupiter's firmware?
A: Firmware updates can be done via the Jupiter Command Center application. Information on updating can be found in the Jupiter Command Center manual. To download the latest version of the application and manual, visit *www.macsales.com/Jupiter*.

Q: Does Jupiter Expander Rack 835 always need to be direct attached to my computer or server?
A: No, you can use one of the Jupiter switches to allow for simultaneous host access to a storage unit. Depending on how this is set up, SAN software such as Apple's Xsan or Tiger Technology's metaSAN may be required.

Q: Can I connect multiple host systems or servers to the same Jupiter storage system?
A: Yes. Using one or more Jupiter Switch, you can connect multiple Jupiter storage devices to multiple computers. You can use the Jupiter Command Center software to allocate storage pools to individual computers, or you can create a SAN with the integration of additional third-party software such as Apple's Xsan or Tiger Technology's metaSAN.

Q: Should I use passive or active mini-SAS cables with my Jupiter storage system?
A: To connect the Jupiter mini-SAS Expander Rack 835 to another device (a mini-SAS controller card, Jupiter Switch, or another SAS expander storage device), passive mini-SAS cables should be used. Active mini-SAS cables should be used to connect two Jupiter Switches to each other in the event that they are separated by a distance greater than 6 meters.

Q: What is the max cable length for mini-SAS?
A: Passive mini-SAS cabling is available in lengths up to 6 meters. Active mini-SAS cabling is available in lengths up to 25 meters. Active cabling will only be used for extended switch to switch runs and not for storage unit to computer connections.

Q: How many Jupiter Expander systems can I chain together?
A: While in theory many more can be chained to each other, for performance reasons it is recommended that no more than 3 Jupiter Expander systems be chained together.

Q: When should I add a Jupiter switch?
A: Add a Jupiter switch to create a SAN with multiple hosts or simply to add more storage to your existing storage.

Q: What drives should I use? SATA? SAS? Is there a benefit to one or the other?
A: While SAS and SATA are similar in a lot of ways, SAS was built primarily for enterprise use in mind. SAS can tolereate multiple host connections while SATA drives can only be used by one host at a time. This applies to Jupiter Expander storage systems when doing a SAN configuration with multiple hosts accessing the same group of storage, SAS drive will be required. When using Jupiter RAID Subsystems, SAS or SATA can be used as any RAID array created will be seen as a SAS device.

5.2 TROUBLESHOOTING & TIPS

There is an alarm sounding
Makes sure to check the power connections and make sure that the PSU modules are secured inside the PSU. If an alarm is still sounding, there may be a faulty PSU module. Check the Jupiter Command Center application for more information on the unit status and to see if a specific PSU module problem is found.

To check for a faulty PSU module manually, first check the module fan for activity. If the module fans are spinning, you will need to do a process of elimination on the modules to see which on is bad. Before doing a process of elimination, make sure all data cables are disconnected and try running the unit with one PSU (two PSU on the 16-bay) at a time. If no faulty PSU module is found, contact technical support.

A drive bay is flashing red with a drive removed
This is normal behavior and should go away when a drive is inserted.

5.3 ABOUT DATA BACKUP

To ensure that your files are protected and to prevent the loss of your data, we strongly suggest that you keep two or more copies of your data on separate devices. Any data loss or corruption while using the Jupiter Expander Rack is the sole responsibility of the user, and under no circumstances will Other World Computing be held liable for compensation or the recovery of any lost data.

6.1 BEFORE CONTACTING TECHNICAL SUPPORT

• Read this manual and review Chapter 4: Troubleshooting & Tips.
• Try to confirm the problem is with the hard drive. If you have a second computer, move the enclosure to that system and verify that the solution does not function with that machine.
• Visit our tech center for more support suggestions, including FAQs.
  http://eshop.macsales.com/tech_center/index.cfm

If you still need support, please have the following available to you:
  • The serial number(s) of the item(s)
  • Your invoice number
  • What operating system you are using
  • Which kind and model of computer you are using

All of this will help speed your support contact along.

6.2 TECHNICAL SUPPORT HOURS OF OPERATION

8AM - 8PM CST Monday - Friday
9AM - 4PM CST Saturday

By Telephone - (800) 275-4576 (North America only)
International customers please call (815) 338-8685

Live Chat is available during normal business hours as well.
Visit: *http://www.macsales.com* for more information.

Or, you can email. Submit your email at *http://eshop.macsales.com/Service/Tech.cfm*

WARRANTY

OWC 3-Year Jupiter™ Storage Solution Limited Warranty

| LIMITED WARRANTY | I | EXCLUSIONS & LIMITATIONS | I | OBTAINING SERVICE |

- Limited Warranty: 3 years

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OBTAINING WARRANTY SERVICE

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Updated: October 29, 2012

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