CalDigit

S₂VR HD

5 Bay SATA 3Gb RAID Solution

Performance, Protected, JBOD

User Manual

Rev 1.071306

Table of Contents

➢ Introduction

Thank you for purchasing your CalDigit S2VR HD. CalDigit was established in North Orange County, California, with a team of world class software and hardware engineers and support personnel.
This team working in close conjunction, developed an unparallel hardware product line in the S2VR series SATA 3Gb/s RAID solution. CalDigit engineers emphasize the use of quality components to produce products that would both lessen the chances of component failure, and loss of productivity.

The S2VR HD has 5 removable hard drive trays and can be configured for Performance, Protected RAID and JBOD modes. JBOD and striped (the fastest mode), is what the S2VR comes pre-configured with, JBOD and striped meets the demands of 1080 29.97fps 10 bit uncompressed HD users. In protected mode, the S2VR allows for quality performance DV, DVCAM, HDV, DVC Pro HD, and SD. In performance mode, the S2VR delivers high speed performance for use with Photoshop, or desktop publishing applications.

Important Info:
Please read this manual thoroughly as it is an important part of the complete S2VR HD package.
Neglecting to read through this manual and follow the directions herein could possibly result in your S2VR HD operating abnormally, and out of the specification of the performance for which it was designed. Please pay special care to note any **WARNING** notations or **RED** typeface indicators.

➢ Features and benefits of the S2VR HD:

- SATA 3Gb/s Interface
- I/F Bandwidth 3Gigabytes per second
- Modular Design
- Hot Swappable HDD and Power Supply
- JBOD pre-configured, can also be set for Performance or Protected modes
- Hot Spare Drive function in Protected mode
- Easy RAID Configuration
- SuperLane Technology, simplifies your cabling
- Password Protection
- E-mail and Voice notification
- Temperature and Power Warning
- Supports 10 bit Uncompressed HD 1080/60i
- 3 Year Limited Warranty

Important Info: Any loss, corruption or destruction of data while using a CalDigit solution is the sole responsibility of the user, and under no circumstances will CalDigit be held liable for the recovery or restoration of this data. To help prevent the loss of your data, we highly recommend that you keep TWO copies of your data; one copy on your S2VR HD, and a second copy on another S2VR HD unit, for instance.

➢ Specifications:

Physical Dimensions: 26.30" L X 15" W X 23.25" H / 263.29mm L X 150mm W X 232.50mm H
Power: Auto switching 100-240 VAC 47-63 Hz with PFC
Inrush current 65/130A @ 11/220VAC (at 25° ambient cold start)
Operating temperature: 0-40 degrees C or 32° to 104°F
Weight (net): 20.45lb / 9.28kg

➢ Firmware Update

Firmware updates are made available to maintain compatibility with the latest software releases or correct problems with previous versions. If you are experiencing problems with any CalDigit product, visit our website at www.caldigit.com to check for any available firmware updates and download them for your particular product.

➢ Opening the Box

Remove all components from the shipping container. Retain all boxes and packaging materials, in the event that you have to return the product to the manufacturer. Examine the package contents for any shipping damage. Contact the freight carrier immediately should damage exist.

Important Reminder: Please keep carton, all contents & packing materials in case you need to return unit.

➢ Package Contents

- S2VR HD
- 5 Hard drive in tray module
- FASTA-4e HBA or FASTA-4x HBA depending on model. **(Host Card)**
- e-SATA cable
- Quick Installation sheet
- Driver CD & Manual
- Power Cord

➢ Front Panel LED Indicators
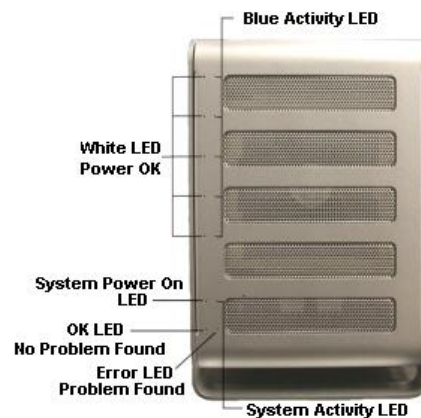
Note: During **Performance** operations, it is normal that one or more blue LEDs on the front panel of the S2VR will blink intermittently, or turn off altogether, (generally for only a few minutes at most), during the read/write process. Please don't confuse this normal LED operation as an indicator that the drive is bad or failing, as this is not the case.

➢ Back Panel View S2VR HD
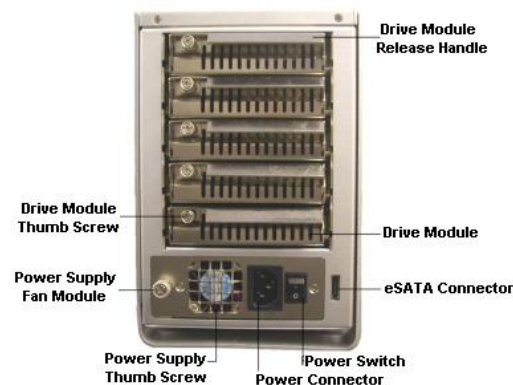
➢ Hardware Requirements

- PC or Mac with an available PCI-e or PCI-x slot 500 Mhz or faster**
- CD-ROM drive
- 1GB of RAM minimum

**Note: You may be able to install the S2VR solution into an older Mac or PC, however your overall performance will be slower than with newer systems. For uncompressed HD video editing, we recommend a Dual G5 or newer CPU with1GB machine or better.

➢ Installing the Host Controller Card FASTA-4e or FASTA-4x

Your S2VR HD comes with a Host Adapter card, PCI-e or PCI-x. You must have this card properly installed in your computer in order for your computer to work with the S2VR HD Storage System.

1. Turn off your computer and unplug the AC cord, attached to wall or power strip, etc.
2. Remove the cover of your computer and locate an available PCI-e or PCI-x slot on your motherboard & install the required Host Adapter card.
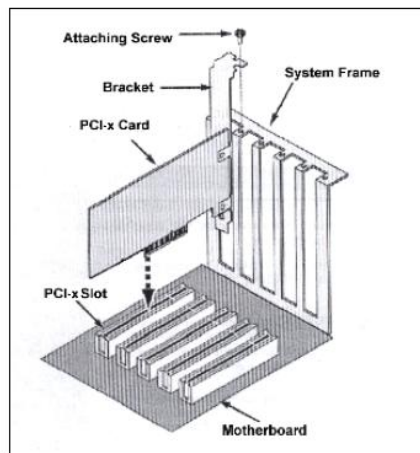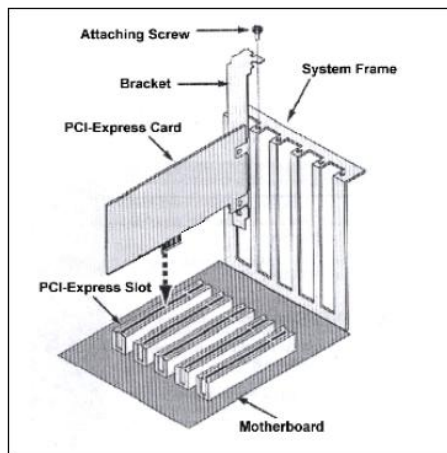

**Important Note: PCI-e and PCI-x cards are NOT interchangeable please check with your computers original documentation to see which of these interfaces are supported in your particular system.
The PCI-x card will work with older PCI slots, however your performance will be reduced.**

➢ Driver Installation for Host Controller Card

1. Turn computer on.
2. Insert CD in CD-ROM drive.
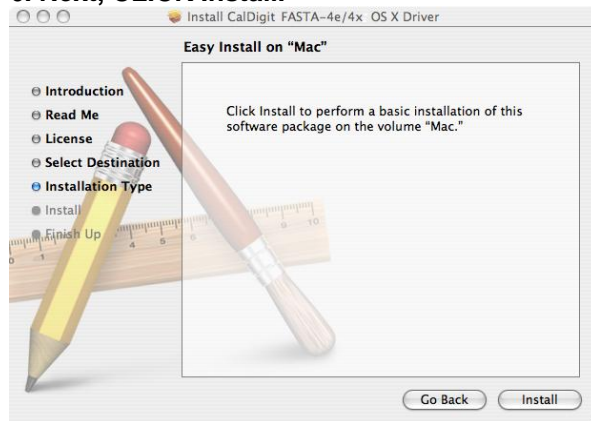**3.** Open CD, then open file CalDigit FASTA-4.pkg by double clicking on it.

4. Introduction Screen, CLICK Continue.

4
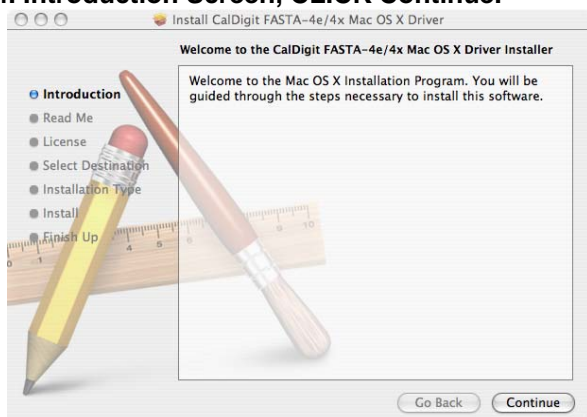
5. Select your OS hard drive as the Destination.


6. Next, CLICK Install.

7. Finishing Installation, CLICK Continue.

Informational Factoid: The FAQ section on our website has answers to the most common questions and or potential problem(s) that you may encounter, please go to http://www.caldigit.com/faq.asp for more information.
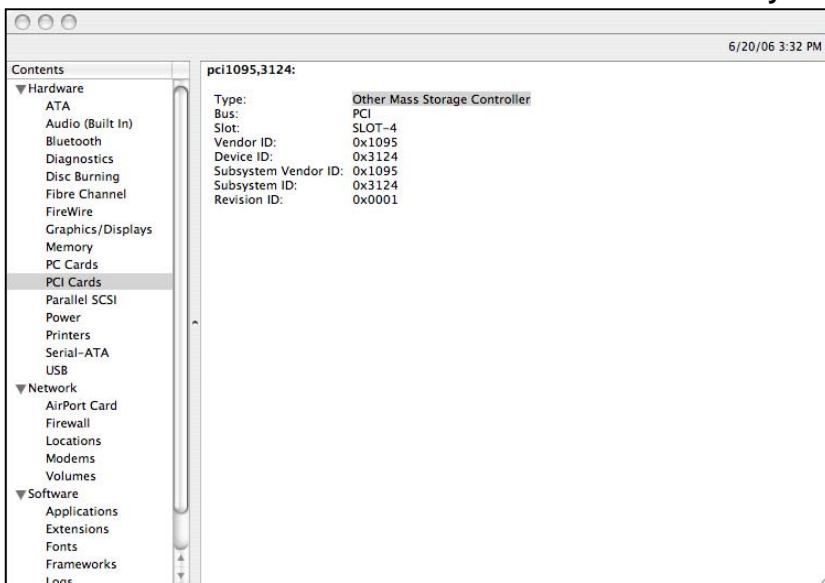
CalDigit, Professional Grade Products.
We are here to help!

8. Installation complete, CLICK CLOSE.
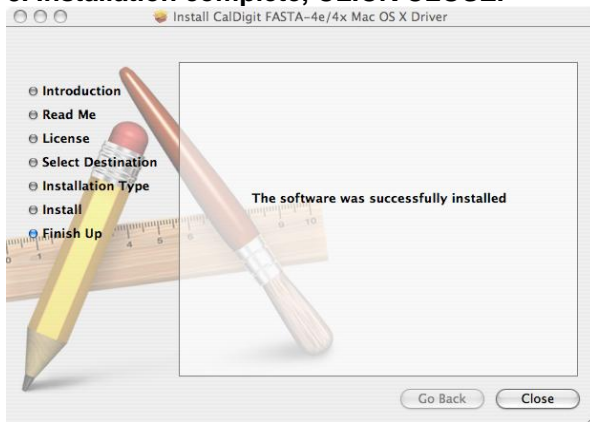
> ## Verify System Profiler
> **Check to make sure that the card has been installed under System Profiler.**

Informational Factoid: Did you know that there are demonstration videos available
on the CalDigit website that will show you some of the technical aspects & real life
usage of the S2VR product line? Go to: http://www.caldigit.com/S2VRDuoOnlineDemo.asp
for more information.

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➢ Install S2VR Manager

1. Double CLICK the application on the provided CD,
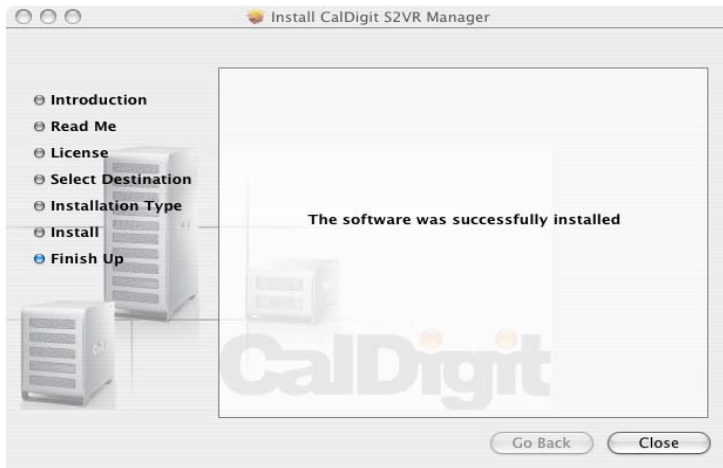**CalDigit S2VR v1.03.**
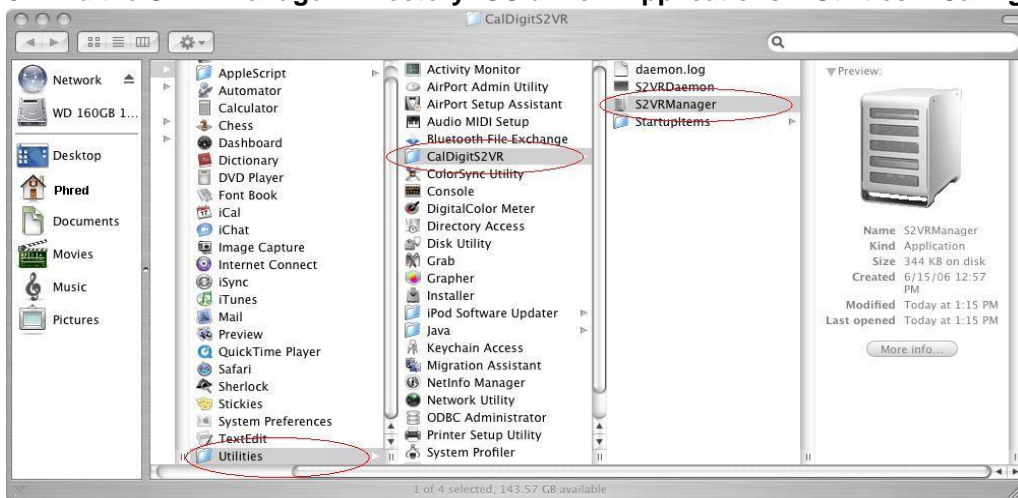

2. Introduction, CLICK Continue.

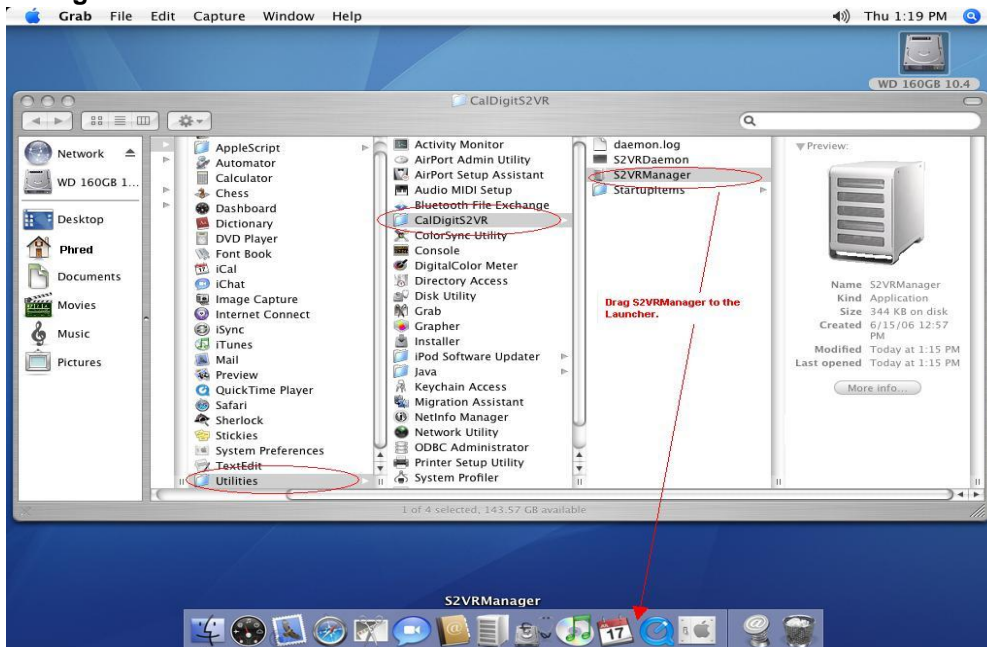**3. Select your OS Hard Drive as the destination, then CLICK Continue.**

4. Installation Successful, CLICK Close.

5. Find the S2VR Manager. Directory: OS drive > Applications > Utilities > CalDigit S2VR > S2VR Manager

6. Drag S2VR to the Launcher.

7. Restart your computer for the S2VR Manager Installation to be complete.

8

➢ Installing the Hard Drive Tray Modules

Note: Your S2VR HD is shipped with the drive modules packaged separately to prevent them from damage.

1. Slide tray drives into enclosure, lift lever, tighten the thumbscrew
2. After drives have been installed, check all levers & make sure thumbscrews are locked down.
3. Repeat with all other drives.

➢ Connecting the S2VR to the HBA Controller

The S2VR HD RAID contains 5 configurable hard drives. After installing the host adapter card and drivers, connect the S2VR to your computer via your eSATA cable.

1. Attach the S2VR HD RAID to the installed host adapter controller with the provided eSATA cable.
2. Plug the S2VR HD into an AC power outlet & turn the power switch of the S2VR HD to ON, (back of unit) wait approximately 20 seconds & then move on to **Power S2VR HD ON/OFF** for the next steps.

➢ Power S2VR HD ON/OFF

The power switch for the S2VR HD is located on the rear panel of the unit. Turn off the S2VR HD by pressing the Switch to ON (O) position, to turn the unit off, press the (|) position.

Turn on the S2VR HD first, and then wait 20 seconds and then power up your computer.

⚠ WARNING!   **Please be careful around the power supply. Accidental contact with internal parts while the power supply is powered on could lead to electrical shock.**

➢ Open S2VR Manager

The S2VR HD Manager limits configuration access with a password prompt. The password information is stored locally on the server running the daemon. The default password is **admin**.
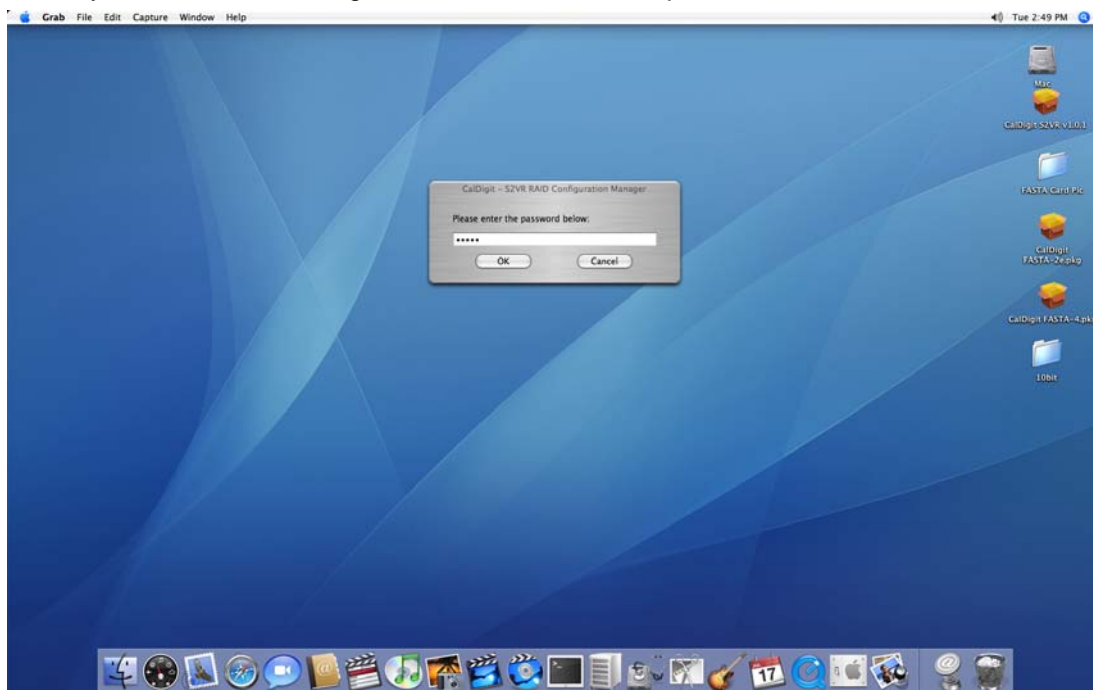
➢ Go to "Management Tab" setup password, Voice & E-mail notification
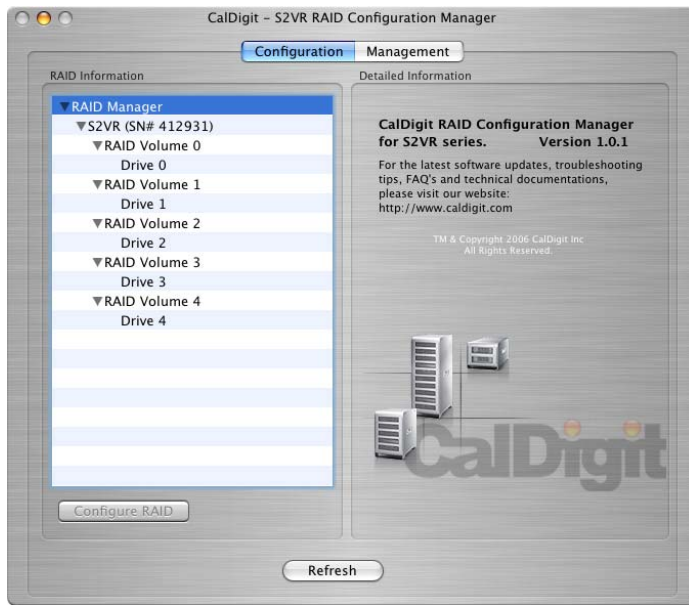
➢ Password (Changing the Password)

1. Select Change Password from the File menu.
2. Enter the current password (or use admin if you have not changed the default password).
3. Enter the new password within the provided fields.
   The entered password must be a combination of 5 or more characters.
4. Click OK to implement the new password.
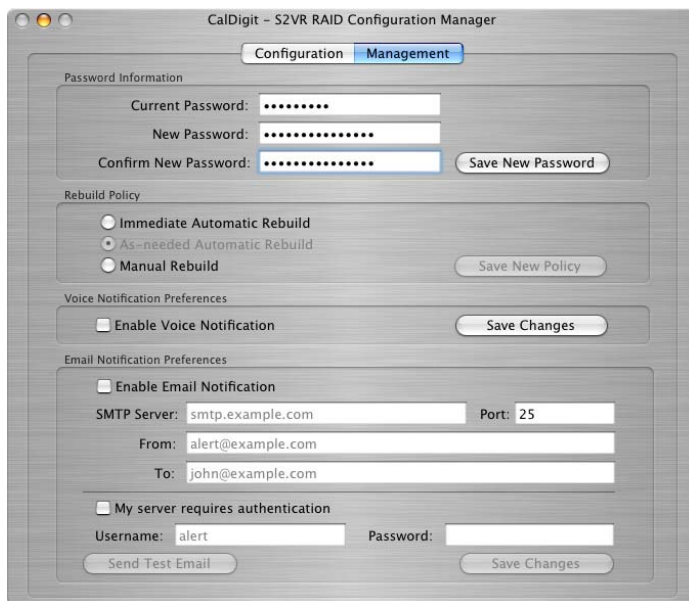
5. Click the "Enable Voice notification box" of the S2VR HD GUI to configure voice notification, to warn you in the event of drive failure, fan failure, or power supply failure.
6. Click the "Enable email notification box" of the S2VR HD GUI to configure e-mail notification, to contact you in the event of drive failure, fan failure, or power supply failure.
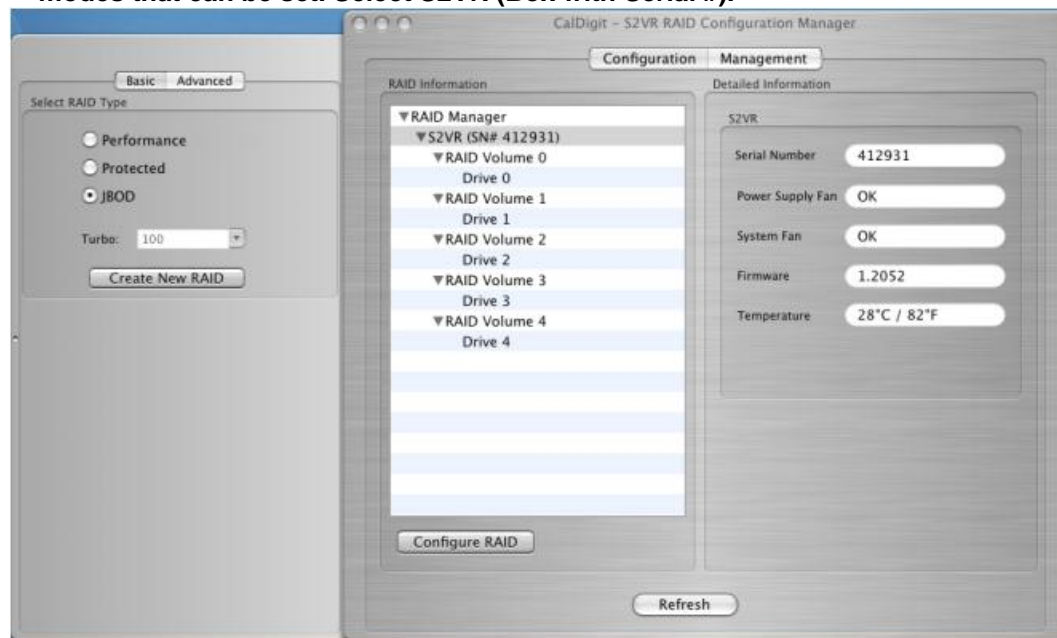
➢ Configure RAID Level

Note: Your S2VR HD is configured by CalDigit initially in JBOD mode.
You can modify your RAID LEVEL by reconfiguring your RAID.

⚠ **WARNING!** **Data on your S2VR will be lost as this process will format the drives.
Backing up your data on another S2VR HD is highly recommended.
You must restart your computer after every RAID setting change.
We do not recommend frequently changing your settings.**

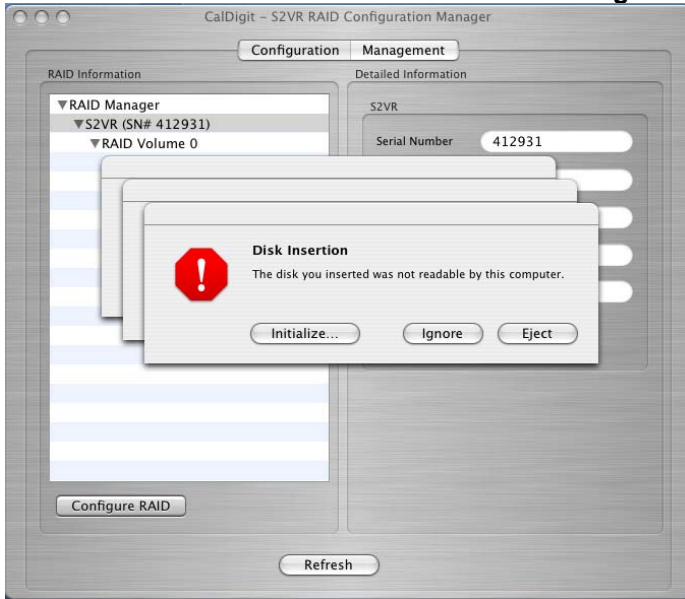## Basic RAID Configuration

1. When configuration the RAID Setting there is both basic and advanced modes that can be set. Select S2VR (Box with Serial #).

2. Click on Configure RAID
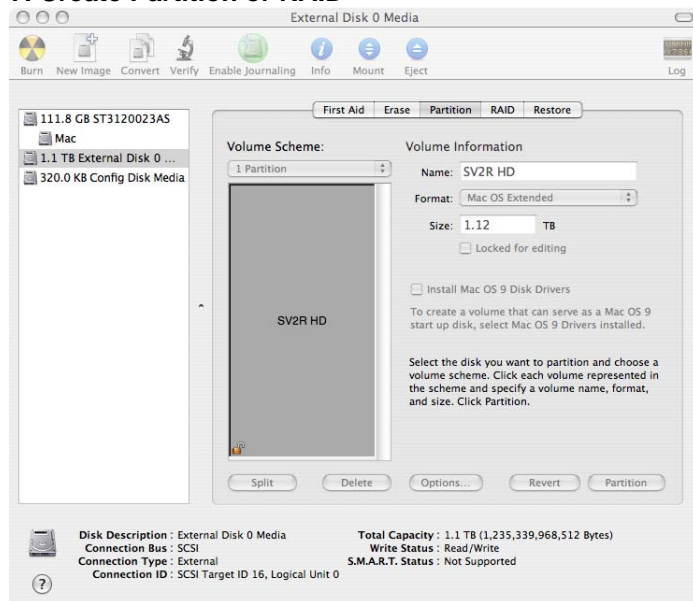**3. Select RAID setting, click "Create New RAID".**
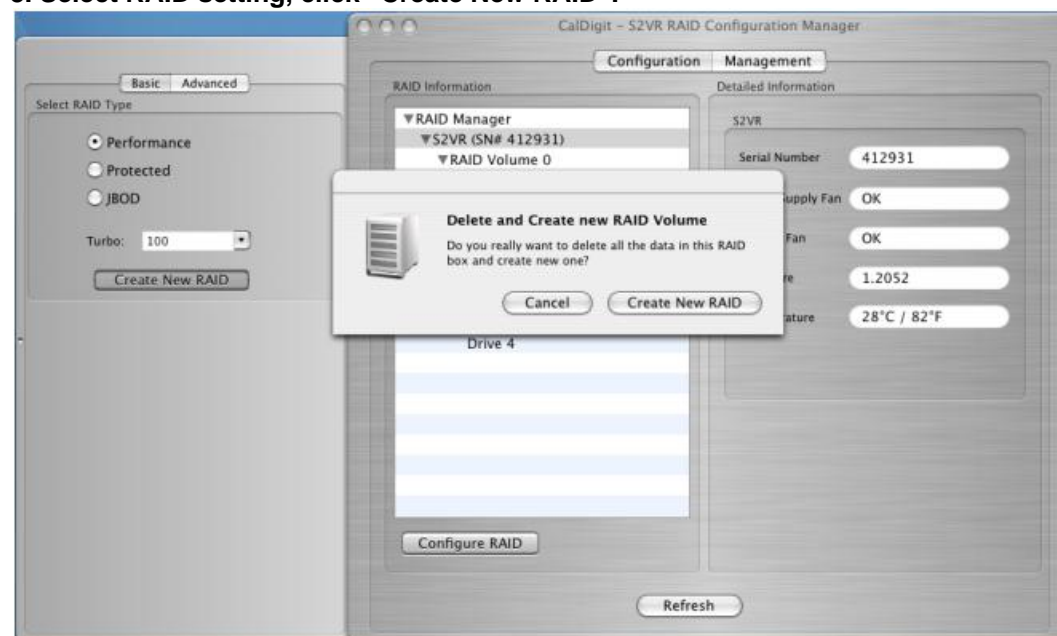
4. Click IGNORE when the Disk Insertion message comes up.

5. Go to OS Disk Utility OS/HD/APP/UTILITY/DISKVERIFY
6. Select S2VR Drives
**7. Create Partition or RAID**

Informational Factoid: The FAQ section on our website has answers to most
common questions and or potential problem(s) that you may encounter, please go to
http://www.caldigit.com/faq.asp for more information.

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We are here to help!

➢ Advanced RAID Configuration

1. Select S2VR (Box with serial #)
2. CLICK on Configure RAID
3. CLICK on Advanced tab
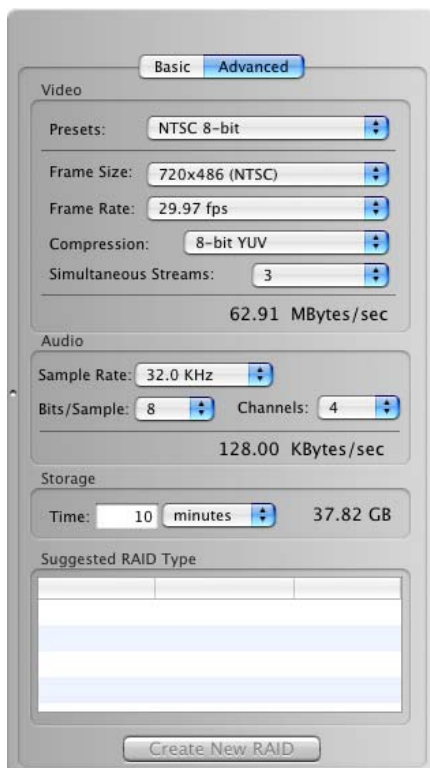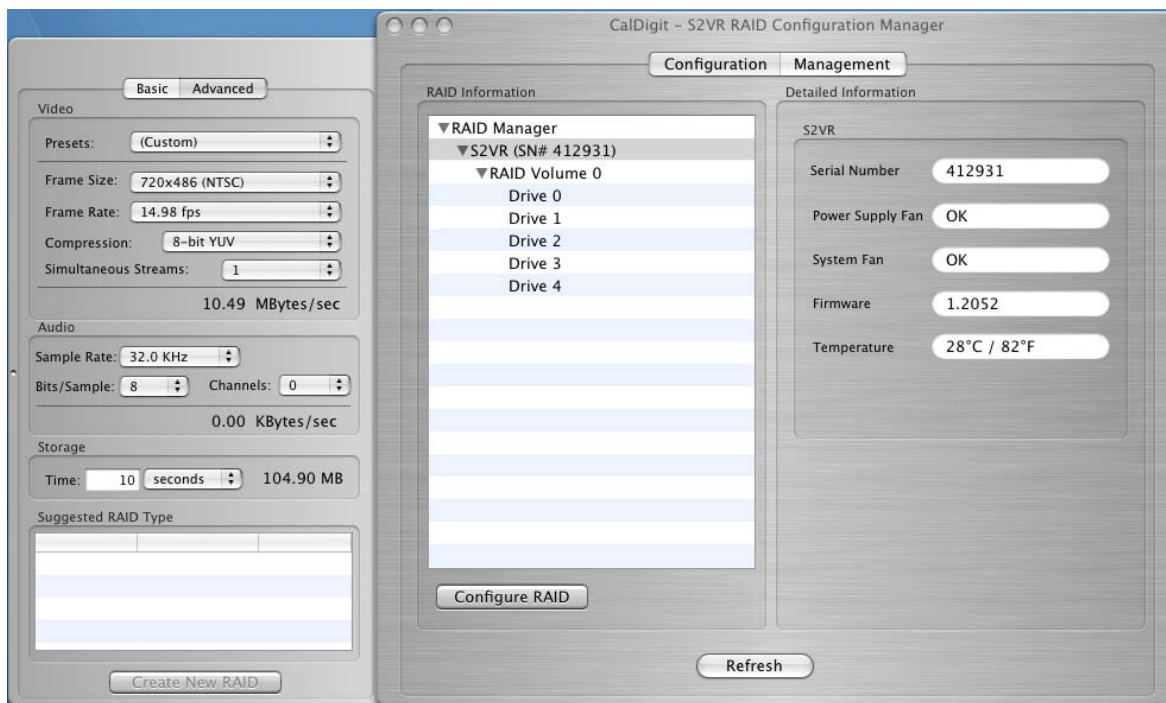
Video: By changing the settings in this section, your S2VR Data Calculator will automatically provide a calculated data rate for the selected settings.

Audio: as above, select the desired settings, and the audio data rate will be calculated.

Storage:
Your S2VR Data Calculator will calculate the approximate capacity of the 2 sections above.

Your S2VR manager will also provide a suggested RAID type for your project/task.

You can also download this calculator tool at: www.caldigit.com/support

Important Note: The numbers that appear overall, are for reference only, the actual configuration settings depends on your system performance.

➢ TURBO Feature

**You can choose from 30 – 100% of the hard drive capacity,
to remain at the desired performance level.**

**Important Note: As is the nature of any hard drive, the performance of the drive will decrease
as you fill up the drive with the data. Please note that this is not a performance issue
with your S2VR.**

Note: Your OS will only be showing the capacity of your current S2VR HD Turbo feature setting. For example:
100GB RAID system with Turbo @ 80%, your system will only display 80GB.

Note: For the Performance/Capacity rate relationship chart, please visit our website www.caldigit.com for the
details.

Informational Factoid: Technical Support is available with one simple
phone call to our knowledgeable & friendly technicians from 9AM-6PM PST
at 714-572-6668. Our online FAQ is available 24/7 at www.caldigit.com

Important Note: You must delete your S2CR RAID set on the disk utility whenever you are configuring your S2VR into a new setting. If you do not do this your system will still read the old system memory which will cause false information on the disk utility.

⚠️ **WARNING!**   **Deleting your RAID set will erase your data.**
Backing up your data on another S2VR HD is highly recommended.
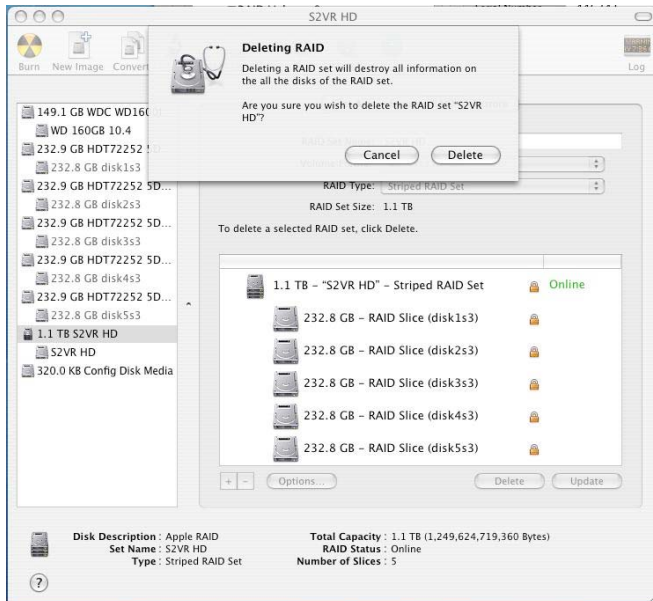
You must restart your computer after every RAID setting change. We do not recommend frequently changing your settings. If you are not sure about which RAID setting best suits your project, please use the advanced mode on your S2VR manager
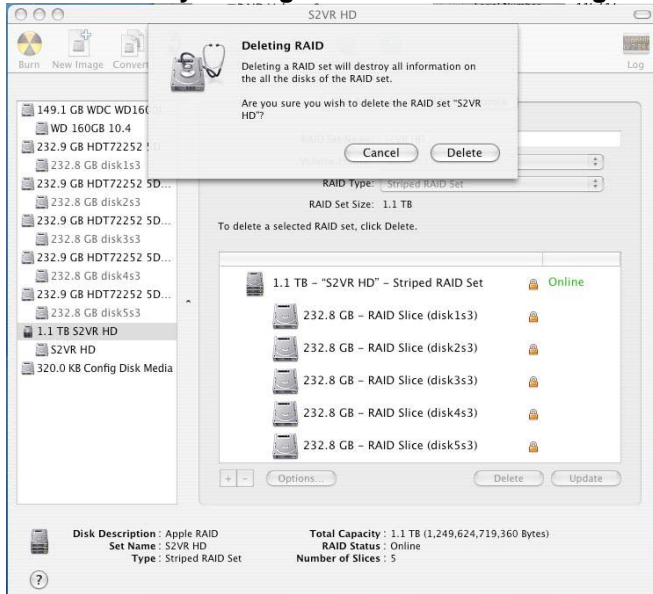
➢ JBOD Mode

⚠️ **WARNING!**   **Your data will be lost as this process will reformat your drives.**
**Backing up your data on another S2VR HD is highly recommended.**

Your S2VR HD comes pre-configured in JBOD mode and striped (Out of the box). If you have changed your settings & you want to re-install the JBOD function, follow these steps.

Please delete your original S2VR's RAID setting via Disk Utility (Under Raid Function)

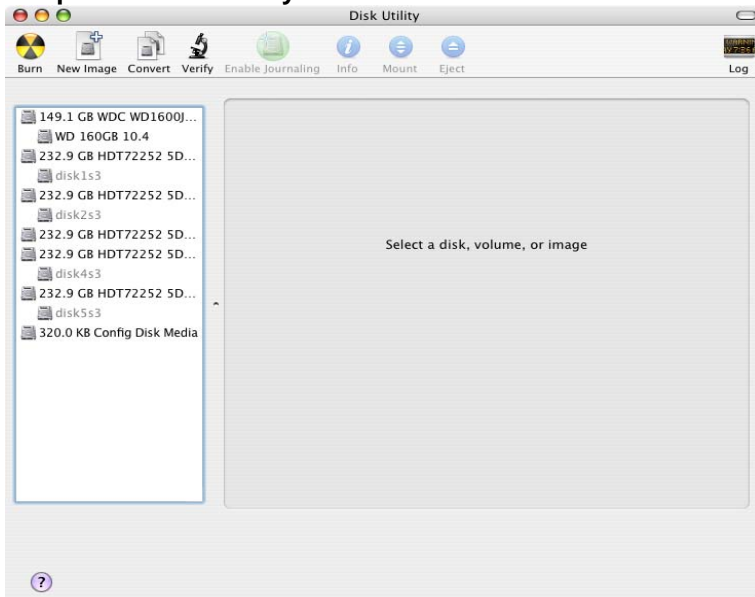**Important Note: If your project is uncompressed HD 1080i you must use JBOD and striped.**

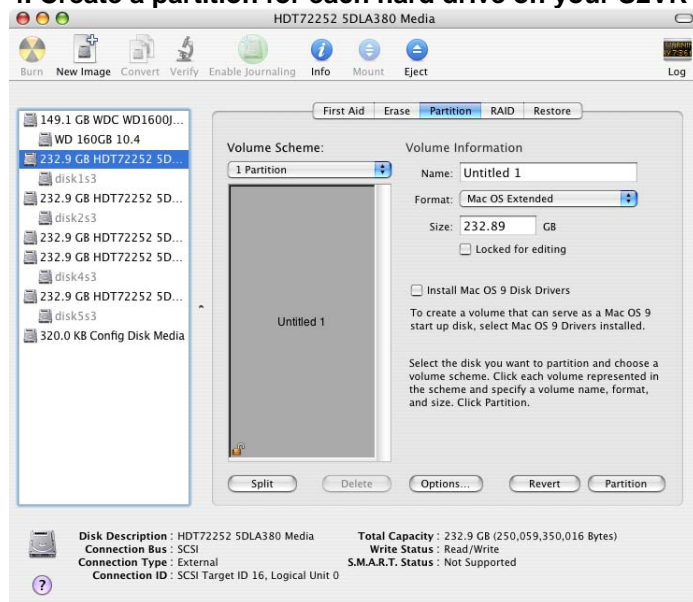**1. Open S2VR Manager, Select JBOD mode & follow prompts to format your S2VR to JBOD mode.**
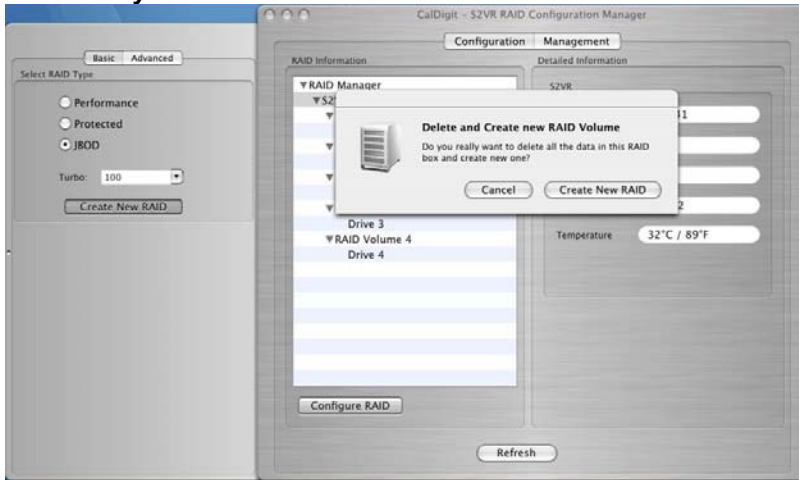
2. The Following system messages will appear, click Ignore.
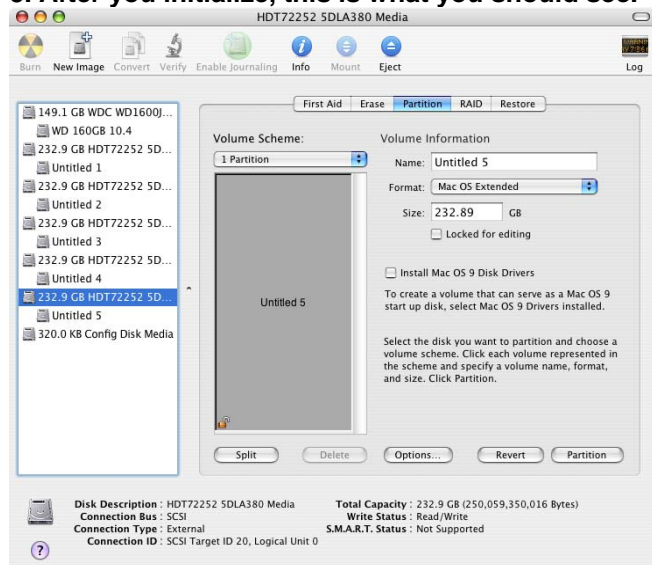

3. Open the Disk Utility.

## 4. Create a partition for each hard drive on your S2VR

## 5. After you initialize, this is what you should see.

Informational Factoid: The News & Events portion of the CalDigit Website will bring you up to date on the latest news & events and happenings with CalDigit. Please visit us on http://www.caldigit.com/event.asp for more information.

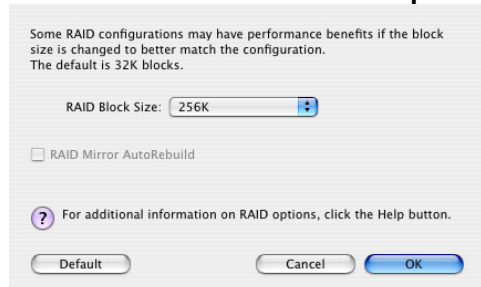## 7. Click on the RAID Button on the Disk Utility.
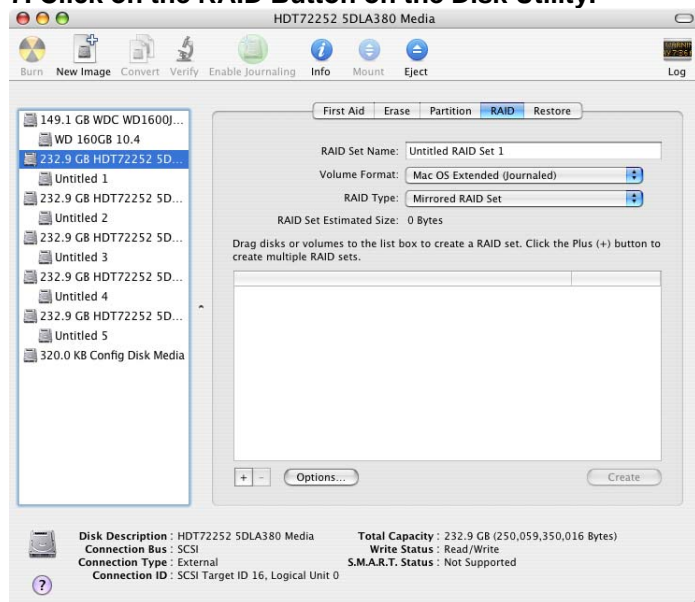
8. Drag every S2VR drive into the list box to create set. Input the desire RAID set name, Choose MAC OS Extended on the 2nd scroll menu. Choose Striped RAID Set in the 3rd scroll menu.
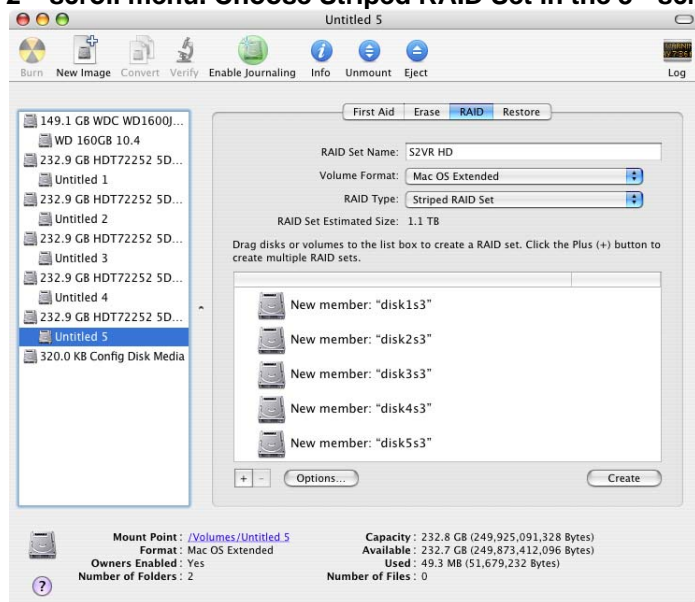
9. Click OPTIONS button to advance to next screen

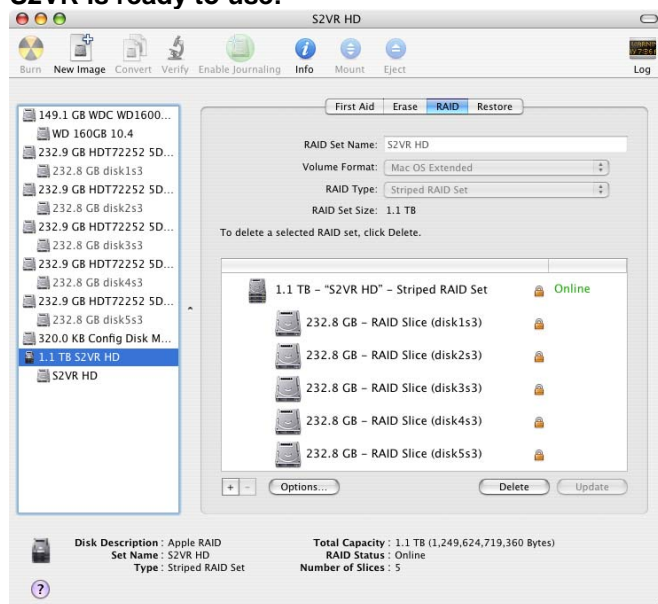## 10. Choose 256K for the fastest performance

11. The RAID Set name window will again appear, CLICK Create button on lower right corner of window.
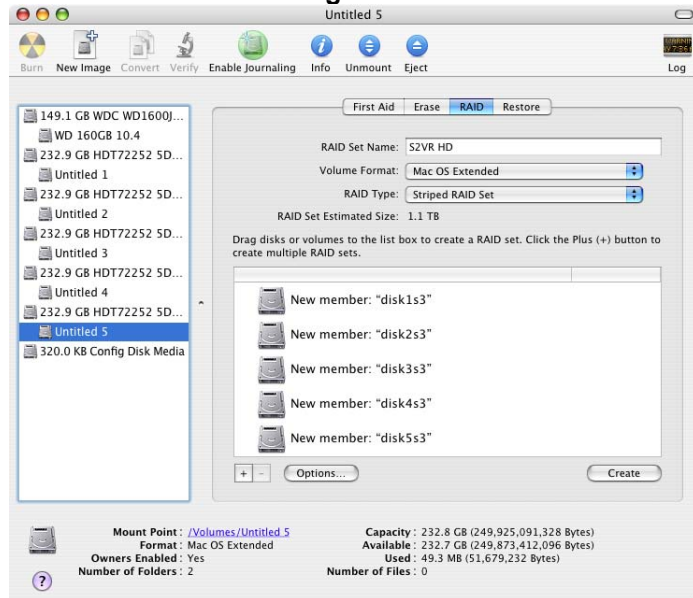
12. Restart your computer, and your newly configured S2VR is ready to use!

Informational Factoid: Updates will be made available to you on the CalDigit website: www.caldigit.com Please check with the website for the latest firmware & other updates.

➢ JBOD to Performance Mode

⚠ WARNING! **Your data will be lost as this process will reformat your drives.**
Backing up your data on another S2VR HD is highly recommended.

Your S2VR HD comes pre-configured in JBOD mode. (Out of the box)
If you want to format into Performance function, follow these steps.

Please delete your original S2VR's RAID setting via Disk Utility (Under Raid Function)
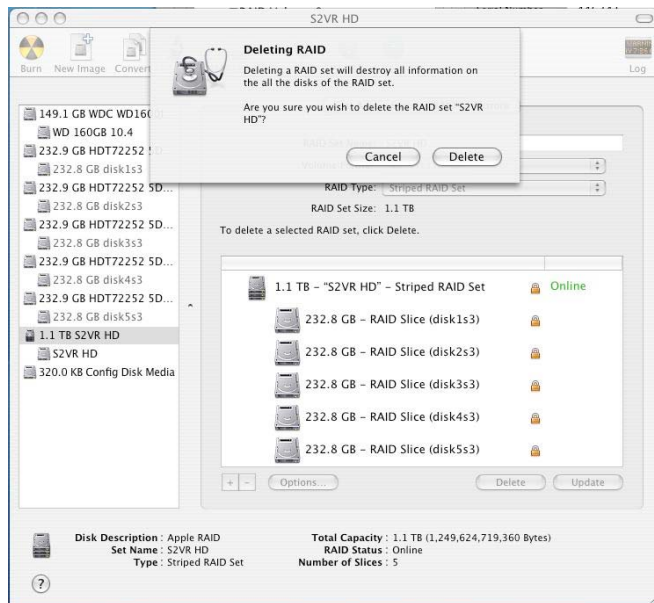
1. Open S2VR Manager, Select Performance mode & follow prompts to
format your S2VR to Performance mode.
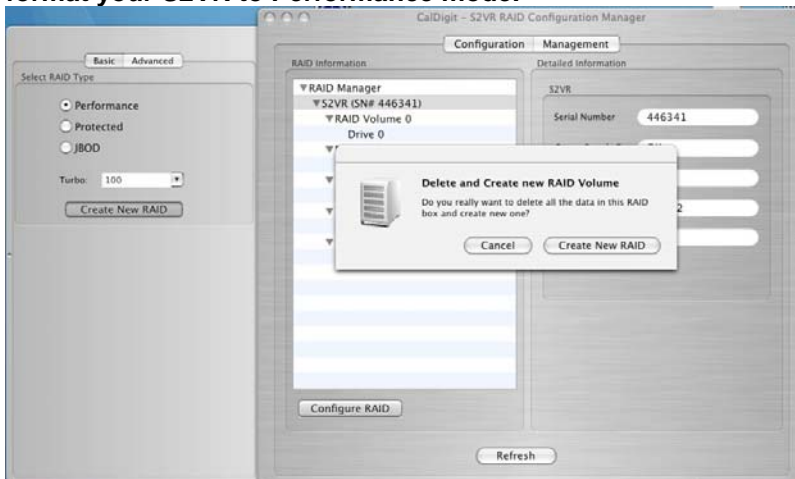
Informational Factoid: Do you have comments regarding your use
of the S2VR HD? Your comments or suggestions are welcome! Please visit us at
www.caldigit.com and let us know what you think! Your opinion matters!

2. After you change your S2VR's setting into Performance mode, you S2VR Manager will show the information, as below.
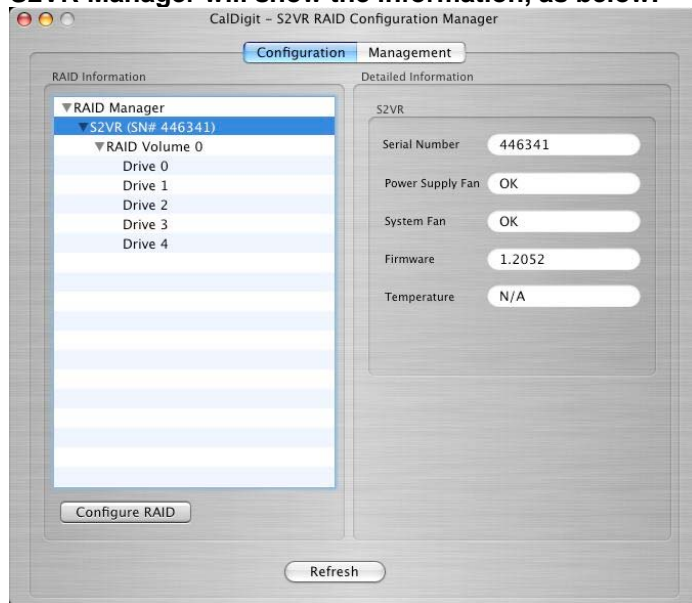
3. Create Partition via Disk Utility, remember to choose 'Mac OS Extended' for maximum performance.
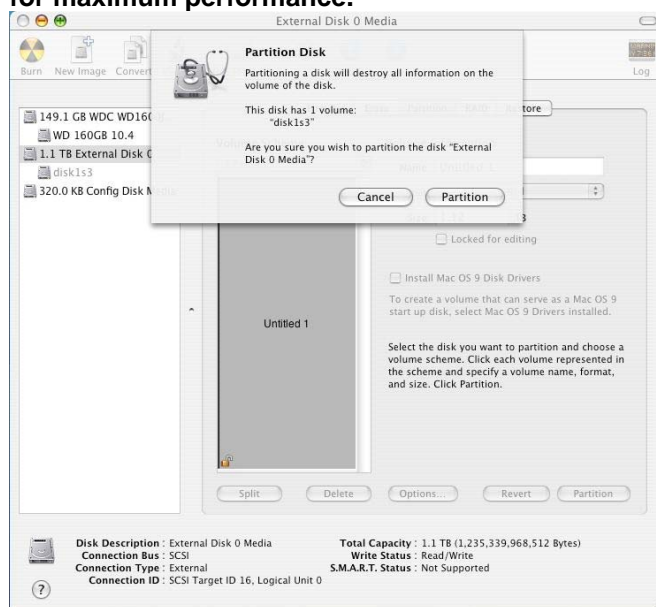
Informational Factoid: Replacement fans, populated drive trays, additional HBA controllers and eSATA cables can be purchased through your local dealer or www.caldigit.com

21

4. Restart your computer, and your newly configured S2VR is ready to use!
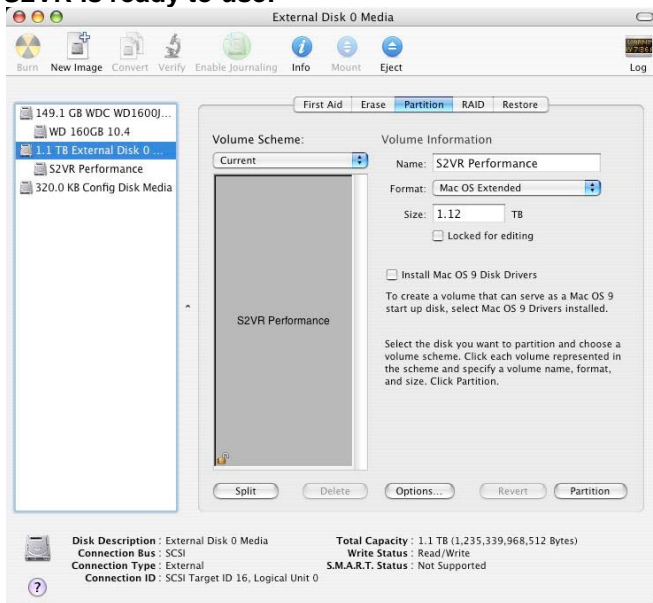
➢ JBOD to Protected Mode

**⚠ WARNING!** **Your data will be lost as this process will reformat your drives. Backing up your data on another S2VR HD is highly recommended.**

Your S2VR HD comes pre-configured in JBOD mode. (Out of the box)
If you want to format into Protected function, follow these steps.

Please delete your original S2VR's RAID setting via Disk Utility (Under Raid Function)
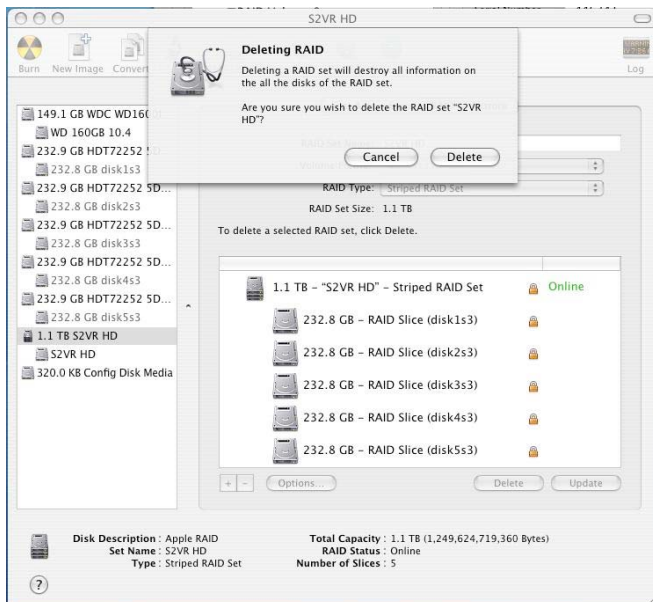
If you want to use protected mode for uncompressed 1080i HD editing
you must have another S2VR HD unit, or use 1 S2VR-Pro.

1. Open S2VR Manager, Select Protected mode & follow prompts to format your S2VR to Protected mode.
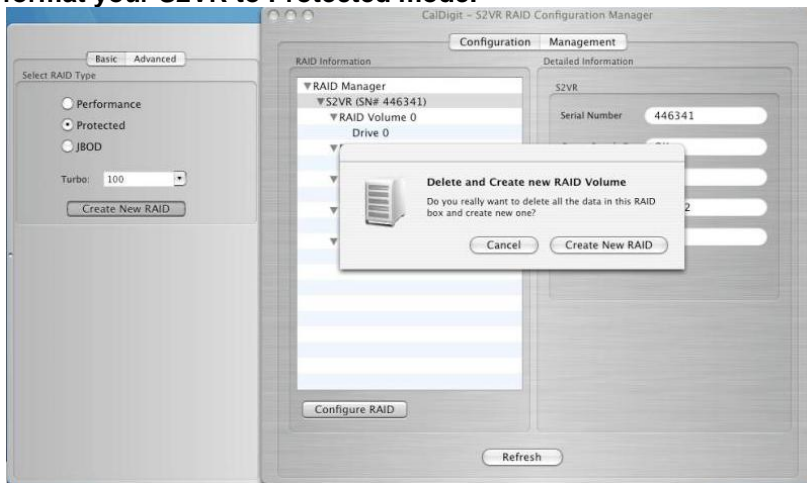
2. After you change your S2VR's setting into Protected mode, you S2VR Manager will be showing as below.

Informational Factoid: Replacement fans, populated drive trays, additional HBA controllers and eSATA cables can be purchased through your local dealer or www.caldigit.com

3. Launch the Disk Utility; create partition for the hard drives on your S2VR.
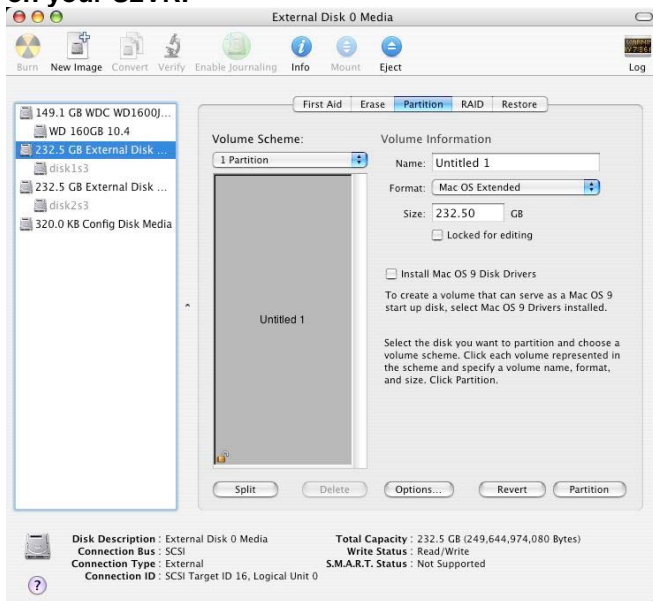
4. Click on the RAID Button on the Disk Utility.

5. Drag every S2VR drive into the list box to create set. Input the desire RAID set name, Choose MAC OS Extended on the 2nd scroll menu. Choose Striped RAID Set in the 3rd scroll menu.
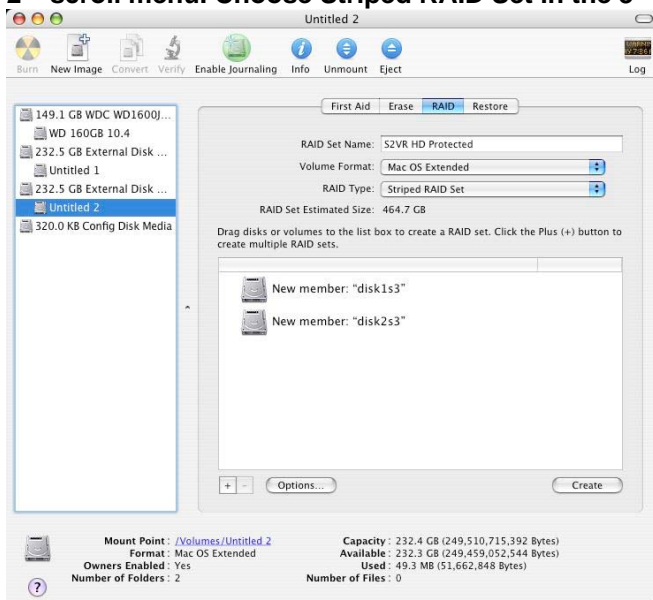
6. Click OPTIONS button, and choose RAID Block size @ 256K for the fastest performance.

7. Restart your computer, and your newly configured S2VR is ready to use!

➢ Protected Mode, rebuild information

Protected mode combines the best features of striping and mirroring to yield large arrays with high performance in most uses and superior fault tolerance. CalDigit S2VR HD comes with the world-leading technology to ensure the safety of your important data. You can rest free knowing that your data is protected by the best technology in the market.
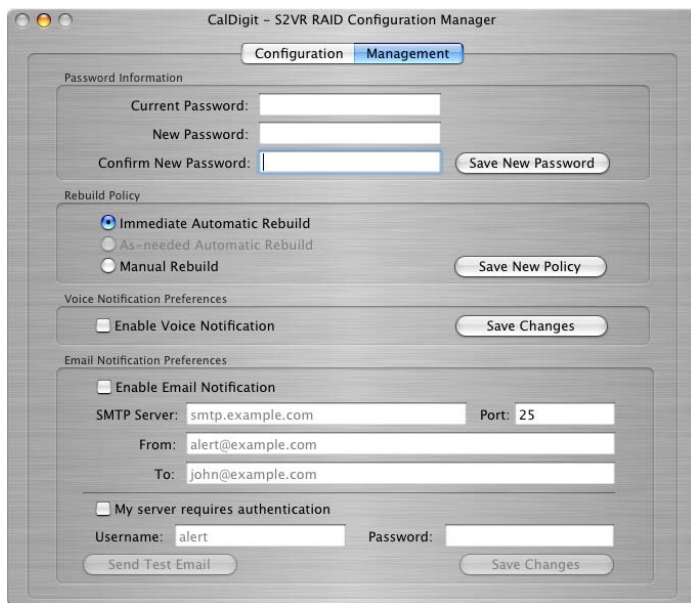
Your S2VR HD allows you to choose from three rebuild settings:

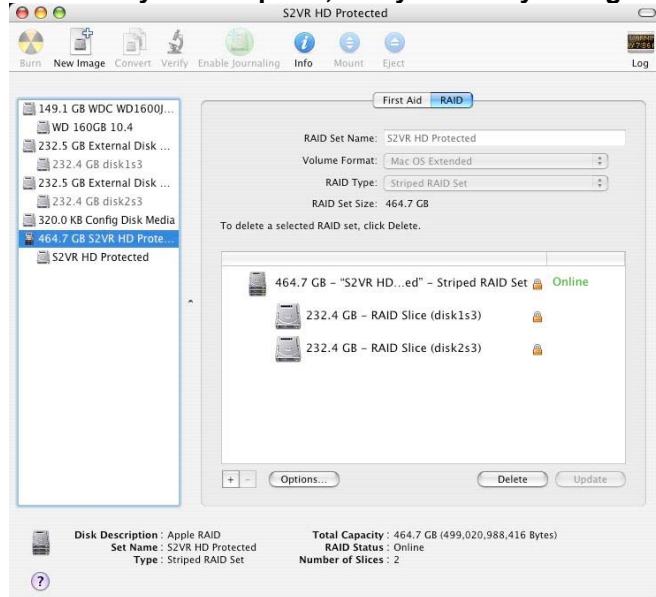**Immediate Automatic Rebuild:** In the event of hard drive failure, your S2VR HD will immediately start the rebuild process.

As-needed Automatic Rebuild (Default): In the event of hard drive failure, your S2VR HD will start the rebuild process once you access your S2VR HD.

Manual Rebuild: In the event of hard drive failure, you can start the rebuild process at anytime you preferred.

➢ **Demonstration of HDD failure**

1. Your S2VR manager will monitor your S2VR HD and will notify you in the event of a problem.
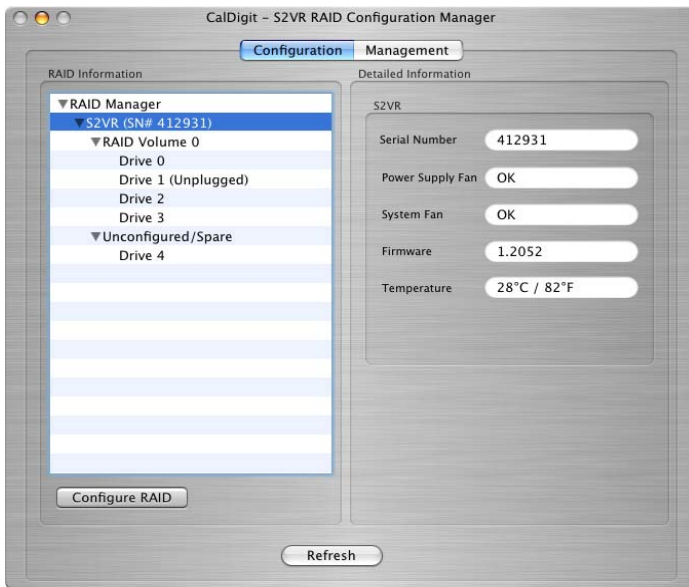
2. Your S2VR manager will provide a real time monitor of the rebuilding progress.

WHEN A DRIVE FAILURE OCCURS:

1. The 5th drive of your S2VR HD will server as hot spare drive, and replace the failed drive.
2. Drives' order would be changed after the rebuilding process, (for example: When drive # 3 failed, Drive # 5 will now serve as drive # 3)
3. Service your drive ASAP.

Important Note: Always back up your important data! Having another copy of your important work is always and highly recommended.

➤ Troubleshooting

In the event that your S2VR HD is not working correctly, please refer to the 3 items below to find out where the problem is coming from. Should the steps below not remedy the situation, please check the FAQs on our website www.caldigit.com. One of these FAQs should provide the solution to your specific problem.
If you need further assistance, please contact your Century Global reseller.

1. Inspect your S2VR HD
Make sure the power source of your external SATA device is connect properly.
2. Inspect the SATA cable
Verify the SATA connection and try an alternate SATA cable.
3. Check your system profiler
Go to your system profiler by clicking apple menu, About This Mac, More Info…, and click on PCI Cards to see if your SATA card is listed. If not, remove the card and install to another available PCI-e port (referring to Hardware installation on page 3)

➤ General Safety Precautions

⚠️ **WARNING!** **Make sure to read all messages with this icon for important information On various important points on the S2VR HD. Failure to pay attention to these warnings could result in loss of data or other serious consequences.**

1. Do not attempt to service this unit yourself. Opening or removing the side covers will expose you to dangerous voltages or other hazards.
2. Do not use this unit near water – such as; bathtub, sink, in a wet area or near a swimming pool, doing so increases the chances of a short circuit or electrocution.
3. Do not place this unit on any unstable surface such as; a cart, stand, bracket or table. The unit may fall causing serious injury and/or damage to the unit.
4. Do not block the front and rear ventilation. Proper airflow is required to ensure reliable operation and to prevent overheating.
5. Do not defeat the safety purpose of the grounded power plug. Use a grounded power outlet and the power connector intended for the unit.
6. Power cord provided is for North America use only. Outside of North America the proper power cord must be procured and used.

➤ Agency Approvals

This device complies with part 15 of the FCC rules. Operation is subject to the following conditions:
(1) This device may not cause harmful interference, and (2) This device must accept any interference received, including interference that may lead to undesired operation.

EC Declaration of Conformity:
Conforms to Standards EN50081-1: 1992   EN55022: 1998

➤ Technical Support

CalDigit Website: www.caldigit.com
CalDigit knowledgebase: go to website, click on Support, click on knowledgebase
CalDigit e-mail support: support@caldigit.com

Phone support: 714-572-6668 M-F 9AM – 6PM PST
Fax: 714-572-9881

➢ Serviceability

The S2VR HD is designed to provide easy disk drive replacement, should a disk drive module need to be serviced, simply unscrew the thumbscrew, pull down on the tray handle and pull the drive out. Replace the bad drive module with a new module, sold as a separate accessory item through CalDigit or your authorized reseller/dealer.

➢ Glossary

Daemon - A component of the S2VR manager responsible for status tracking and SAFE volume rebuilds.

HBA (Host Bus Adapter) - A HBA is an I/O device that fits in the computer PCI slot and provides the external ports to connect peripheral devices to your computer.

RAID - Redundant Array of Independent (or inexpensive) Discs