PROMISE®
TECHNOLOGY, INC.

VessRAID

1720i, 1730i, 1740i,
1820i, 1830i, 1840i
Quick Start Guide

Version 2.0

VessRAID Task List

Task 1: Unpacking the VessRAID

The VessRAID box contains the following items:

- VessRAID Unit
- *Quick Start Guide* printed
- RJ11-to-DB9 serial data cable
- Screws for disk drives (70 pieces for 16-bay, 50 pieces for 12- and 8-bay)
- 1.5m (4.9 ft) Power cords (1700i models, 1; 1800i models, 2)
- CD with SNMP files, *Product Manual* and *Quick Start Guide* in PDF format

A Battery Backup Unit (BBU) is optional on the VessRAID subsystem. In the event of a power failure, the BBU powers the controller cache to preserve any data it contains.

Caution

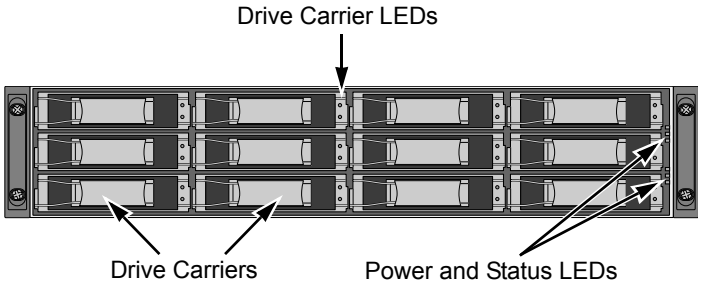
- There is a risk of explosion if the battery is replaced by the incorrect type.
- Dispose of used batteries according to the instructions that accompany the battery.

Warning

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

VessRAID Models and Descriptions						
1800i Model	**Drive Slots**	**Power Supplies**		**1700i Model**	**Drive Slots**	**Power Supplies**
1840i	16	2		1740i	16	1
1830i	12	2		1730i	12	1
1820i	8	2		1720i	8	1

Figure 1. VessRAID 1730i or 1830i front view



A defective drive may be replaced without interruption of data availability to the host computer. If so configured, a hot spare drive will automatically replace a failed drive, securing the fault-tolerant integrity of the logical drive. The self-contained hardware-based RAID logical drive provides maximum performance in a compact external chassis.

Figure 2. VessRAID 1730i rear view

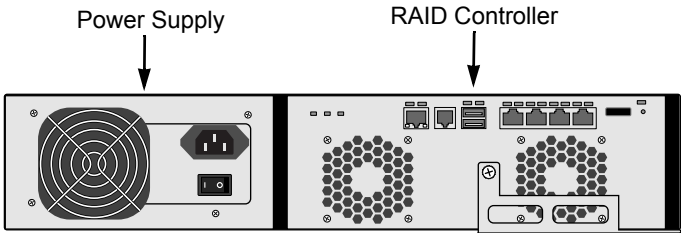
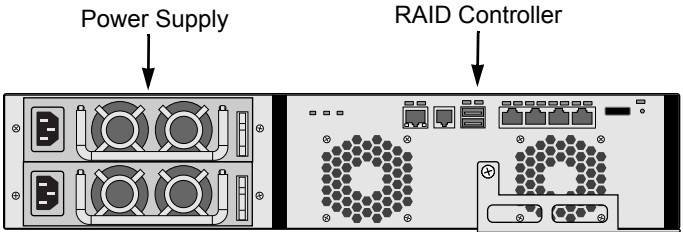


Figure 3. VessRAID 1830i rear view



For a description of the LEDs, see pages 17 and 18.

Task 2: Installing the LCD Panel (Optional)

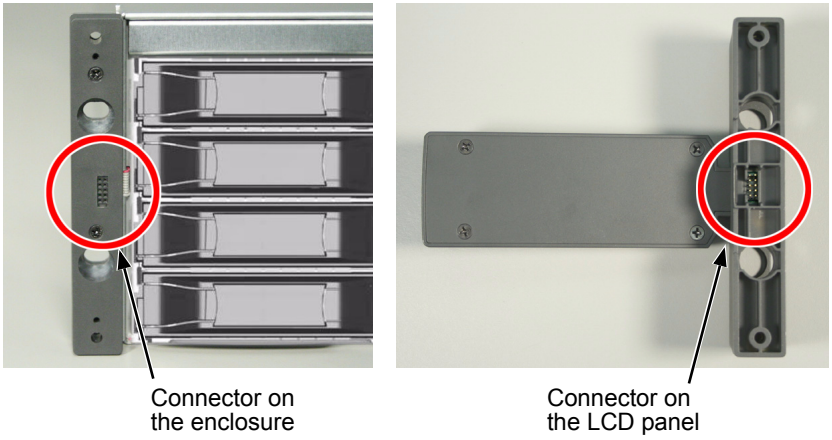
Cautions

- The LCD panel is NOT a hot-swap device. Be sure the VessRAID is powered down before you connect or disconnect the LCD panel.
- You must install the LCD panel before you mount the VessRAID subsystem in a rack.

The LCD panel mounts to the left ear of the VessRAID enclosure.

1. Align the connector on the left bracket of the VessRAID enclosure to the connector on the back of the LCD panel, as shown in Figure 4.

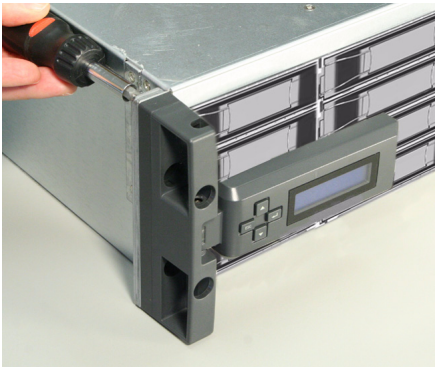
Figure 4. Align the connectors on the enclosure and the LCD panel



2. Insert the two attaching screws through the holes in the left bracket and into the threaded holes in the LCD panel, as shown in Figure 5.

   Tighten the screws to secure the LCD panel to the bracket.

Figure 5. Attaching the LCD panel to the VessRAID enclosure



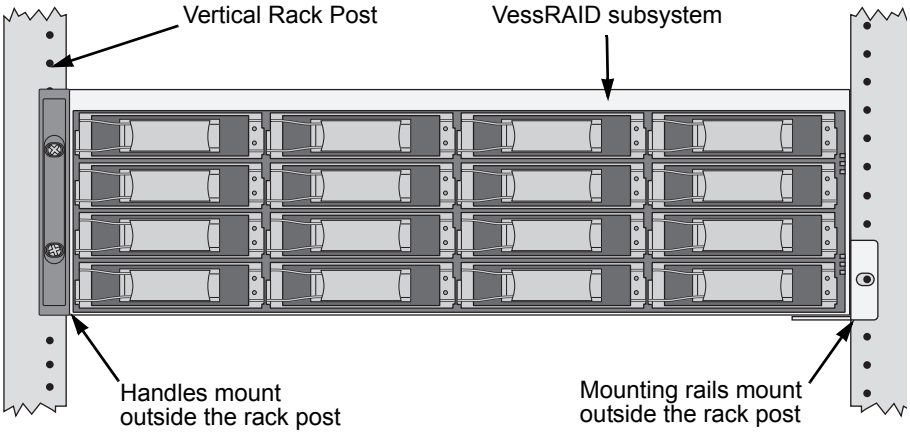
The LCD screen activates when the VessRAID boots. See “Task 7: Connecting the Power” on page 17.

Go to “Task 3: Mounting VessRAID in a Rack” on page 6.

Task 3: Mounting VessRAID in a Rack

The VessRAID subsystem installs to the rack using the available mounting rails. You can also use your existing rails.

Figure 6. VessRAID 1740i or 1840i mounted in a rack with the available rails



Cautions

- At least two persons are required to safely lift, place, and attach the VessRAID subsystem into a rack system.
- Do not lift or move the VessRAID subsystem by the handles, power supplies or the controller units. Hold the subsystem itself.
- Only a qualified electrician who is familiar with the installation procedure should mount and install the VessRAID subsystem.
- Be sure all switches are OFF before installing the VessRAID subsystem or exchanging components.

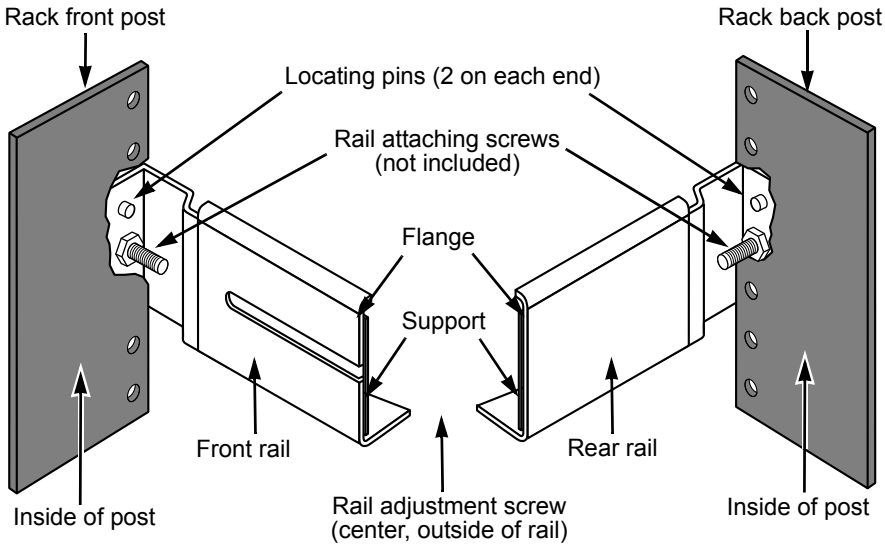
To install the VessRAID subsystem into a rack with the available mounting rails:

1. Check the fit of the mounting rails in your rack system.
2. Adjust the length of the mounting rails as needed.
3. Attach the mounting rail assemblies to the outside of the rack posts, using the attaching screws from your rack system.

   Be sure the support is on the bottom facing inward.
4. Square the rail assemblies in the rack.
5. Tighten the adjustment screws and the attaching screws.

6. Place the VessRAID subsystem onto the rails.
7. Secure the VessRAID subsystem to the rack through each handle, using the attaching screws from your rack system.

Figure 7. Rack mount assembly diagram



This completes rack mounting. Go to “Task 4: Installing Disk Drives” on page 8.

Task 4: Installing Disk Drives

You can populate the VessRAID with SAS or SATA hard disk drives. For optimal performance, install physical drives of the same model and capacity. The drives' matched performance allows the logical drive to function better as a single drive. The table below shows the number of drives required for each RAID level.

Level	Number of Drives		Level	Number of Drives
RAID 0	1 or more		RAID 6	4 to 32
RAID 1	2 only		RAID 10	4 or more*
RAID 1E	2 or more		RAID 50	6 or more
RAID 5	3 to 32		RAID 60	8 or more
* Must be an even number of drives.				

Drive Slot Numbering

You can install any suitable disk drive into any slot in the enclosure. The diagram below shows how VessRAID's drive slots are numbered. Slot numbering is reflected in the WebPAM PROe and CLU user interfaces.

Figure 8. VessRAID 1740i and 1840i drive slot numbering

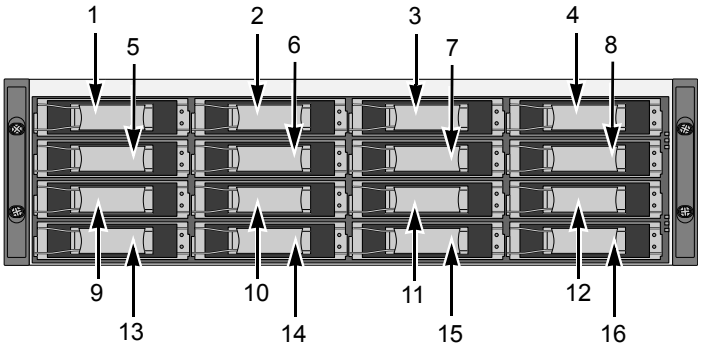


Figure 9. VessRAID 1730i and 1830i drive slot numbering

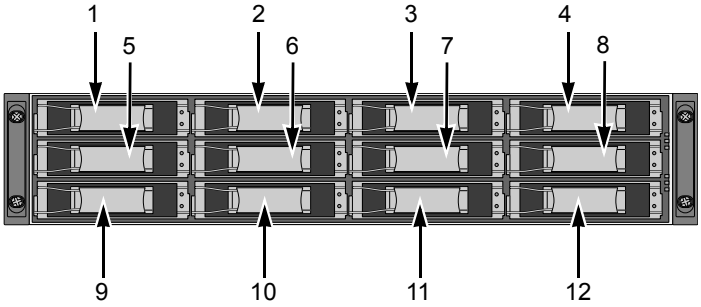
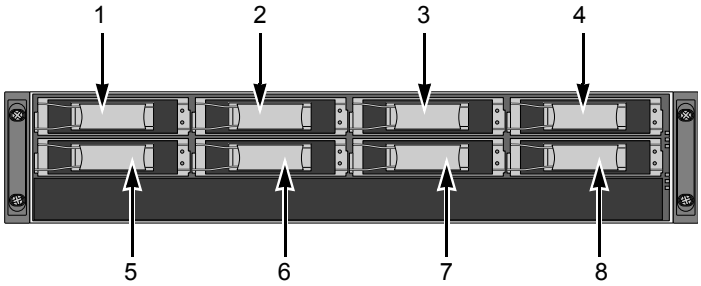


Figure 10. VessRAID 1720i and 1820i drive slot numbering



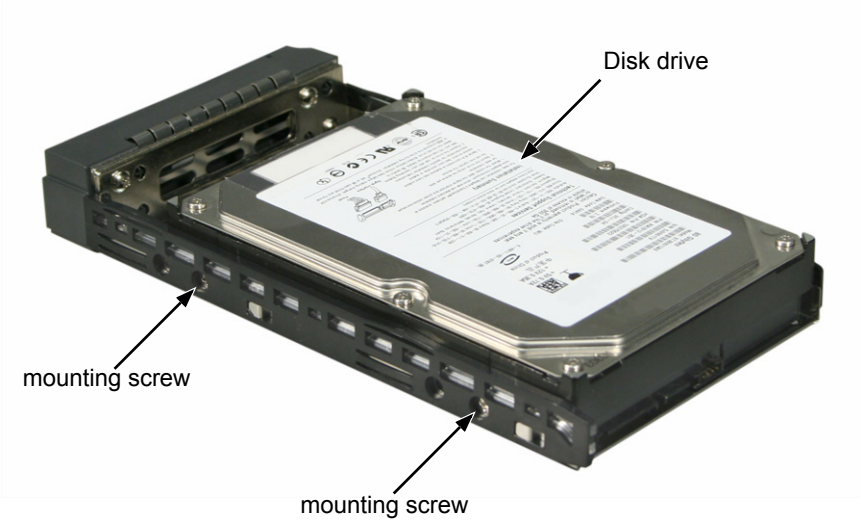
Install all of the drive carriers into the VessRAID enclosure to ensure proper airflow, even if you do not populate all the carriers with disk drives.

Installing Your Disk Drives

1. Remove a disk drive carrier.
2. Carefully lay the disk drive into the drive carrier at the front, so that the screw holes on the sides line up.
3. Insert the screws through the holes in the drive carrier and into the sides of the disk drive.
   - Install only the counter-sink screws supplied with the VessRAID.
   - Install four screws per drive.
   - Snug each screw. Be careful not to over-tighten.
4. Reinstall the drive carrier into the VessRAID chassis.

Repeat steps 1 through 3 until all of your disk drives are installed.

Figure 11. Disk drive mounted in a drive carrier



This completes disk drive installation. Go to “Task 5: Making Data and Management Connections” on page 11.

Caution

VessRAID supports disk drive hot-swapping. To avoid hand contact with an electrical hazard, do not remove more than one drive carrier a time.

Task 5: Making Data and Management Connections

You can configure your VessRAID for:

- Direct Attached Storage (DAS), see below
- Storage Area Network (SAN), see page 13
- JBOD Expansion to DAS or SAN (16- and 12-bay models), see page 15

Note

VessRAID does not support cascading of multiple RAID subsystems. Cascading is planned for a future release.

Direct Attached Storage (DAS)

This arrangement requires:

- A Gigabit Ethernet network interface card (GbE NIC) in the Host PC with iSCSI support (in hardware or software)
- A standard network switch
- A network interface connector on the motherboard or network interface card (NIC) in the Host PC

Configuring a Data Path

VessRAID subsystems have one RAID controller. The controller has four Ethernet (RJ45) iSCSI Port connectors.

To establish the data path:

1. Attach one end of an Ethernet cable to the GbE (iSCSI) NIC in the Host PC.
2. Attach the other end of the Ethernet cable to one of the four iSCSI ports on the VessRAID subsystem.

Configuring a Management Path

VessRAID subsystems have one RAID controller. The controller has an Ethernet (RJ45) Management Port connector that enables you to monitor the VessRAID over your network using the WebPAM PROe software. VessRAID supports HTTP, HTTPS, and Telnet protocols.

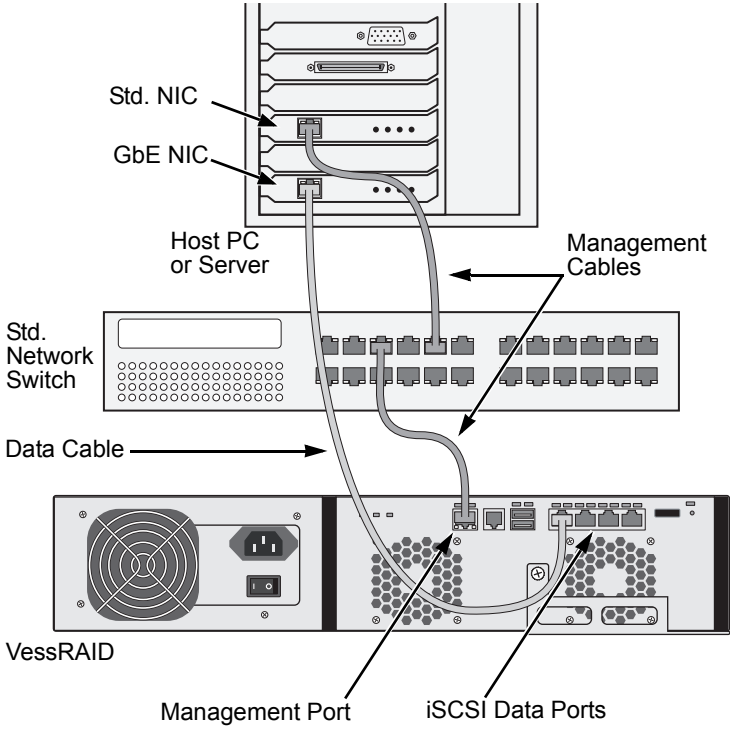
To establish the management path:

1. Attach one end of an Ethernet cable to the network connector or standard NIC in the Host PC.

   Attach the other end of the Ethernet cable to one of the ports on the standard network switch.
2. Attach one end of an Ethernet cable to one of the ports on the standard network switch.

Attach the other end of the Ethernet cable to the management port on the VessRAID subsystem.

Figure 12. DAS data and management connections



Storage Area Network (SAN)

This arrangement requires:

- A Gigabit Ethernet network interface card (GbE NIC) in the Host PC with iSCSI support (in hardware or software)
- A GbE network switch
- A standard network switch
- A network interface connector on the motherboard or network interface card (NIC) in the Host PC

Configuring a Data Path

VessRAID subsystems have one RAID controller. The controller has four Ethernet (RJ45) iSCSI Port connectors.

To establish the data path:

1. Attach one end of an Ethernet cable to the GbE (iSCSI) NIC in the Host PC.

   Attach the other end of the Ethernet cable to one of the ports on the GbE switch.
2. Attach one end of an Ethernet cable to one of the ports on the GbE switch.

   Attach the other end of the Ethernet cable to one of the four iSCSI ports on the VessRAID subsystem.

   Only one iSCSI data cable is required between the VessRAID and GbE network switch. However, you can attach multiple cables to create redundant data paths.

   If you have another iSCSI VessRAID subsystem, configure its Data Path in the same way.

Configuring a Management Path

VessRAID subsystems have one RAID controller. The controller has an Ethernet (RJ45) Management Port connector that enables you to monitor the VessRAID over your network using the WebPAM PROe software. VessRAID supports HTTP, HTTPS, and Telnet protocols.

To establish the management path:

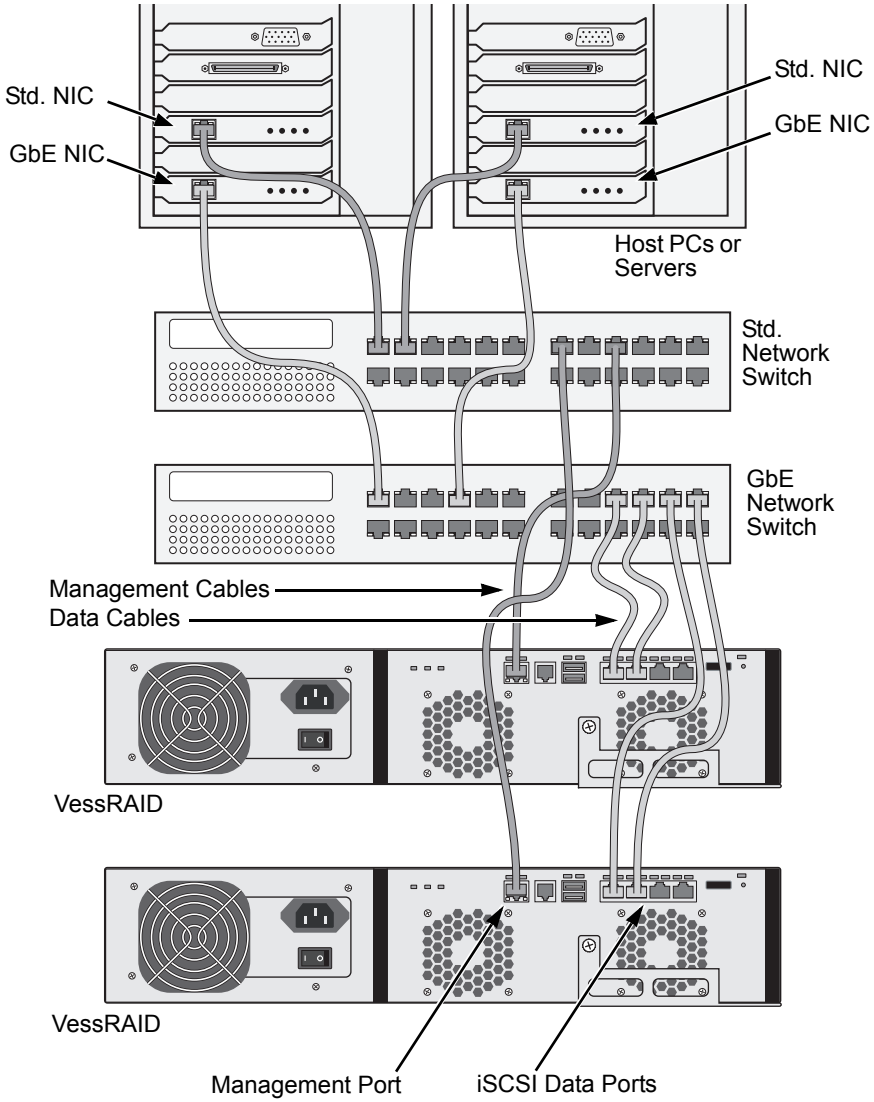
1. Attach one end of an Ethernet cable to the network connector or standard NIC in the Host PC.

   Attach the other end of the Ethernet cable to one of the ports on the standard network switch.
2. Attach one end of an Ethernet cable to one of the ports on the standard network switch.

   Attach the other end of the Ethernet cable to the management port on the VessRAID subsystem.

If you have another iSCSI VessRAID subsystem, configure its Management Path in the same way.

Figure 13. SAN data and management connections



JBOD Expansion to DAS or SAN

The 16- and 12-bay VessRAID models have a JBOD expansion port.

JBOD expansion is not possible with 8-bay VessRAID models.

Configuring a Data Path

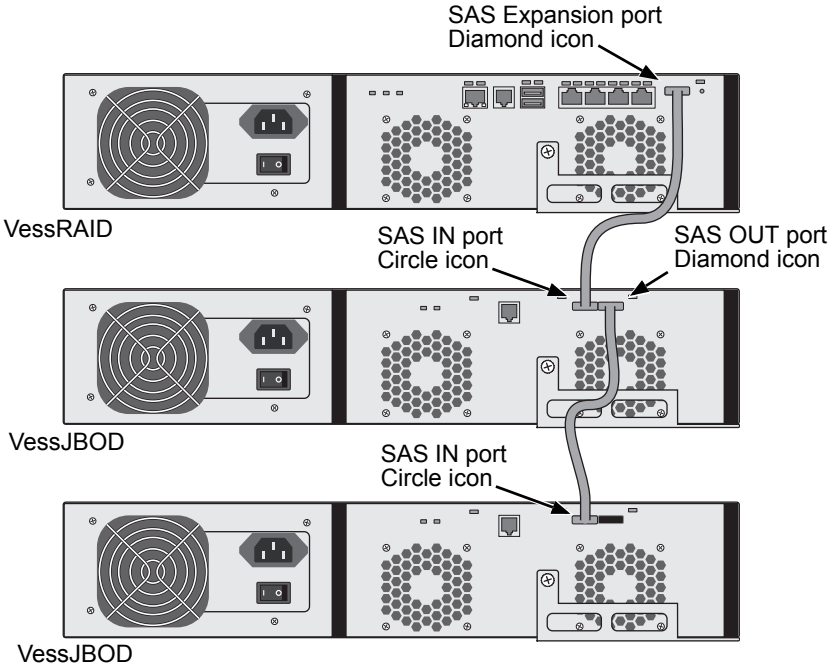
To establish the data path:

1. Connect the SAS Expansion port (with a diamond icon) of the VessRAID controller to the SAS IN port (with a circle icon) on the I/O module of the first VessJBOD.
2. Connect the SAS OUT port (with a diamond icon) of the VessJBOD I/O module of the first VessJBOD to the SAS IN port (with a circle icon) on the I/O module of the second VessJBOD.
3. Connect the remaining VessJBOD units in the same manner.

   Be sure to connect circle icon to diamond icon and vice versa.

   All SAS ports have SFF-8088 connectors. SAS cables are not included.

Figure 14. JBOD expansion to DAS and SAN

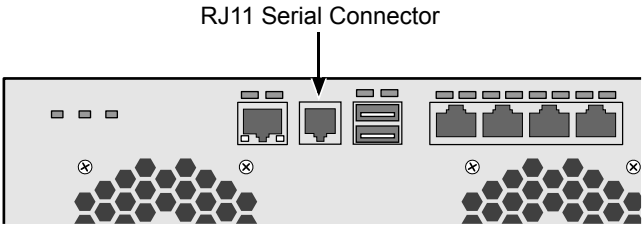


This completes data and management connections. Go to “Task 6: Setting Up Serial Cable Connections” on page 16.

Task 6: Setting Up Serial Cable Connections

Serial communication enables the Command Line Interface (CLI) and Command Line Utility (CLU) on your PC to monitor and control the VessRAID. The VessRAID package includes a RJ11-to-DB9 serial data cable.

Figure 15. A serial connector is located on the controller



To set up a serial cable connection:

1. Attach the RJ11 end of the serial data cable to the RJ11 serial connector on the controller.
2. Attach the DB9 end of the serial data cable to a serial port on the Host PC or Server.

This completes the serial cable connection. Go to “Task 7: Connecting the Power” on page 17.

Task 7: Connecting the Power

Plug-in the power cord on the power supply on the back of the VessRAID enclosure and switch on the power supply. If you have a redundant power supply, plug-in both power supplies and turn on both power supplies.

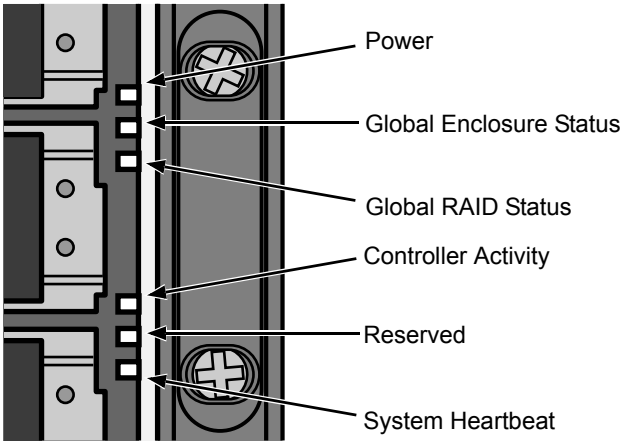
When the power is switched on, the LEDs and LCD screen light up.

Front Panel LEDs

When boot-up is finished and the VessRAID subsystem is functioning normally:

- Power, Global Enclosure Status, and Global RAID Status LEDs display green continuously.
- Controller Activity LED flashes green when there is controller activity.
- System Heartbeat LED blinks green seven times in three seconds, goes dark for six seconds, then repeats the pattern.

Figure 16. VessRAID front panel LED display

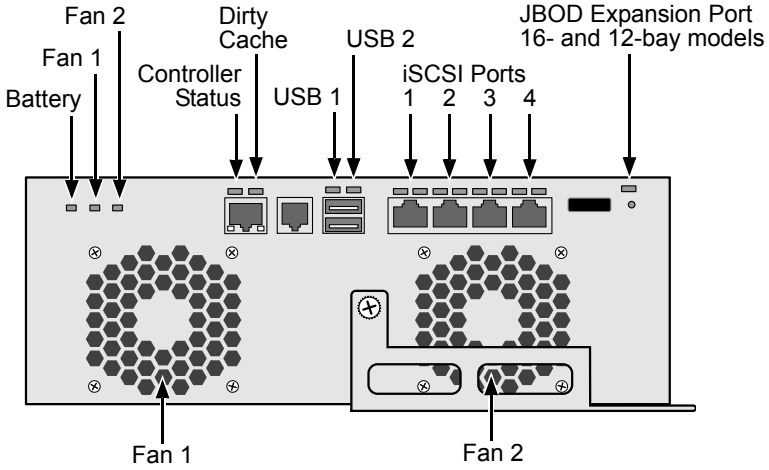


Controller LEDs

When boot-up is finished and the VessRAID subsystem is functioning normally:

- Battery, and Controller status LEDs display green continuously.
- Ethernet LEDs display green or flash depending on your network connection.
- iSCSI LEDs display green or flash depending on your data network activity.

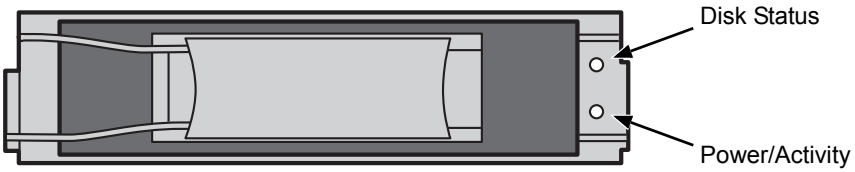
Figure 17. VessRAID Controller LEDs



Disk Drive LEDs

There are two LEDs on each Drive Carrier. They report the presence of a disk drive, activity of the drive, and the drive's current condition.

Figure 18. VessRAID disk drive carrier LEDs



If there is a disk drive in the carrier, the Power/Activity LED displays Green. If not, the Power/Activity LED remains dark. The Power/Activity LED flashes during drive activity.

The Disk Status LED displays Green when a drive is configured.

LCD Panel

The LCD panel activates approximately 35 seconds after you switch on the VessRAID's power supply.

At first, the LCD screen displays `System is Initializing`.

When the VessRAID is fully booted and running under normal conditions, the LCD screen shows the VessRAID model number and IP address, as shown in Figure 19.

Figure 19. VessRAID optional LCD display

A list of LCD panel functions and instructions for using them is included in the *VessRAID Product Manual* on the CD.

This completes the power and start-up. Go to “Task 8: Setting the IP Address” on page 20.

Task 8: Setting the IP Address

Setting up the Serial Connection

VessRAID has a Command Line Interface (CLI) to manage all of its functions, including customization. A subset of the CLI is the Command Line Utility (CLU), a user-level interface that manages your VessRAID via your PC's terminal emulation program, such as Microsoft HyperTerminal. This procedure uses the serial cable connection you made in Task 5 (see page 16).

You must use the CLI, the CLU, or the optional LCD to assign an IP address to the VessRAID to enable a network connection for WebPAM PROe.

1. Change your terminal emulation program settings to match the following specifications:
   - Bits per second: 115200
   - Data bits: 8
   - Parity: None
   - Stop bits: 1
   - Flow control: none
2. Start your PC's terminal VT100 or ANSI emulation program.
3. Press Enter once to launch the CLI.
4. At the Login prompt, type **administrator** and press Enter.
5. At the Password prompt, type **password** and press Enter.

   At this point, you are in the CLI.

   You can continue using the CLI to make network settings. See the *VessRAID Product Manual* for more information.

   Or you can switch to Setting up with the CLU (page 22)

Choosing DHCP or a Static IP Address

When you setup your VessRAID, you have the option of:

- Enabling DHCP and letting your DHCP server assign the IP address to the VessRAID's management port.
- Specifying a static IP address for the VessRAID's management port.

If you choose to enable DHCP, have your Network Administrator dedicate an IP address for the VessRAID, linked to the VessRAID's MAC address. This action will prevent the DHCP server from assigning a new IP address when the VessRAID restarts, with the result that users can no longer log in.

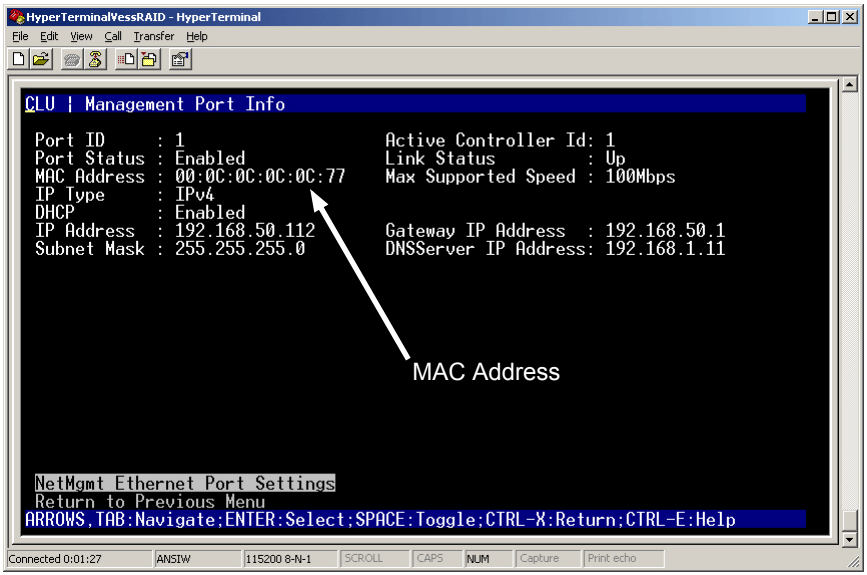
To access the MAC address for VessRAID's management port:

1. At the administrator@cli> prompt, type **menu** and press Enter.

   The CLU main menu appears.

2. In the CLU Main Menu, highlight *Network Management* and press Enter, then highlight the management port and press Enter

Figure 20. Viewing the management port's MAC address.



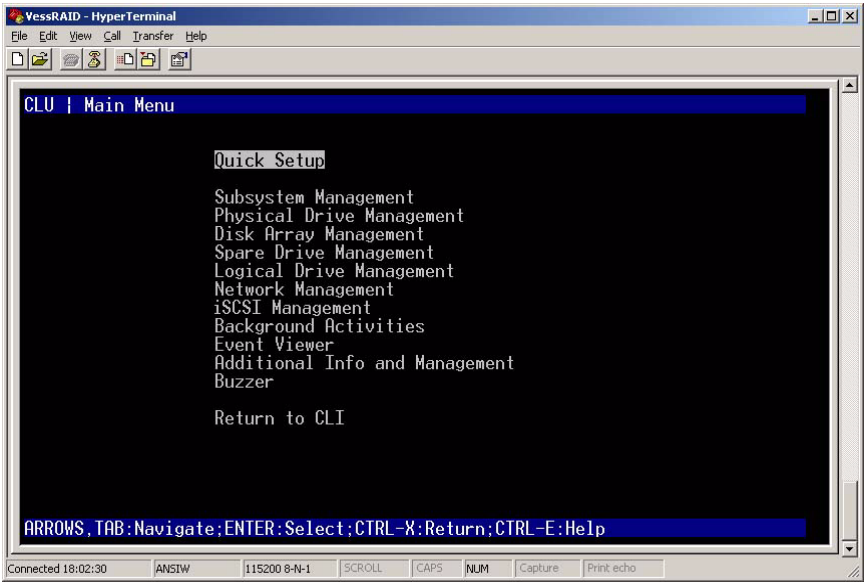
Default IP Addresses

VessRAID ships from the factory a default Management Port IP address of 192.168.0.1 and default iSCSI Port IP addresses of 10.0.0.1 through 10.0.0.4. You must change these addresses to work with your network.

Setting up with the CLU

1. At the administrator@cli> prompt, type **menu** and press Enter.
   The CLU main menu appears.

Figure 21. CLU main menu



2. With *Quick Setup* highlighted, press Enter.
   The first Quick Setup screen enables you to make Date and Time settings.

Setting system date and time

To make date and time settings:

1. Press the arrow keys to highlight *System Date*.
2. Press the backspace key to erase the current date.
3. Type the new date.
4. Follow the same procedure to set the System Time.
5. Press Ctrl-A to save these settings and move to the Management Port configuration screen.

Making Manual IP Settings

To make Management Port and iSCSI Port settings manually:

1. Press the arrow keys to highlight *IP Address*.
2. Press the backspace key to erase the current IP Address.

3. Type the new IP Address.
4. Follow the same procedure to specify the Subnet Mask, Gateway IP Address and DNS Server IP Address.

   If you do not have a DNS server, skip the DNS Server IP address.
5. Press Ctrl-A to save these settings and move to the RAID configuration screen.

Making Automatic IP Settings

To make Management Port and iSCSI Port settings automatically:

1. Press the arrow keys to highlight *DHCP*.
2. Press the spacebar to toggle to *Enable.*
3. Press Ctrl-A to save these settings and move to the RAID configuration screen.

Configuring the RAID

You can configure your RAID arrays and logical drives using the CLU at this time. However, those actions are described in Task 8 using WebPAM PROe. The suggested action is to highlight *Skip the Step and Finish* and press Enter.

Viewing IP Address and Settings

To view the current IP address and network settings when using DHCP:

1. In the CLU Main Menu, highlight *Network Management* and press Enter.
2. Highlight the Management Port or iSCSI Port you want and press Enter.
3. Highlight *DHCP* and press the spacebar to toggle to *Disable*.

   The current Management or iSCSI Port settings are displayed.
4. Press the spacebar to toggle DHCP back to *Enable*.
5. Press Ctrl-A to save these settings and move to the RAID configuration screen.

Exiting the CLU

In the CLU Main Menu, highlight *Return to CLI* and press Enter.

This completes the Management Port setup.

Go to “Task 9: Creating Disk Arrays with WebPAM PROe” on page 26.

Setting up with the LCD

The LCD Panel displays the current IP address during normal operation. If you did not install the LCD Panel, see “Task 2: Installing the LCD Panel (Optional)” on page 4. The LCD does not have a date and time function.

Figure 22. LCD Panel default view

Making Manual IP Settings

To make Management Port settings manually:

1. Press the ▲ or ▼ button until the display says *Management Port*.
2. Press the ↵ button and the display says *Link Status Up*.

   If it says *Link Status Down*, reconnect to the network before preceding.
3. Press the ▲ or ▼ button and the display says *IP Address.*
4. Press the ↵ button to make a change.

   The current IP Address displays with the cursor under the first (extreme left) digit.
5. Press the ▲ button to increment and the ▼ button decrement.

   Press the ESC button to move left and the ↵ button to move right.

   To set an IP address with double- or single-digit octets, for example, 192.168.1.50, type zeros as placeholders, **192.168.001.050**.

   After you have set the last (extreme right) digit, press the ↵ button.

   The current Subnet Mask displays with the cursor under the first (extreme left) digit.
6. Make the needed changes the same as in step 5.

   After you have set the last (extreme right) digit, press the ↵ button.

   The current Gateway displays with the cursor under the first (extreme left) digit.
7. Make the needed changes the same as in step 5.

   After you have set the last (extreme right) digit, press the ↵ button.

   The display says *Save Network Setting?*
8. Press the ↵ button to confirm.

   The display shows the new IP address you set.

Making Automatic IP Settings

To make Management Port settings automatically:

1. Press the ▲ or ▼ button until the display says *Management Port*.
2. Press the ↵ button and the display says *Link Status Up*.
   If it says *Link Status Down*, reconnect to the network before preceding.
3. Press the ▲ or ▼ button and the display says *DHCP Disable.*
4. Press the ↵ button to make a change.
5. Press the ↵ button to Enable.
6. Press the ↵ button to confirm.
   The display shows the new IP address set by the DHCP server.

This completes the Management Port setup.

Task 9: Creating Disk Arrays with WebPAM PROe

Note

You can also use the CLU to create disk arrays and logical drives. See Chapter 5 of the *VessRAID Product Manual* for more information.

Setting up disk arrays with WebPAM PROe consists of the following actions:

- Logging into WebPAM PROe (below)
- Selecting a Language (page 28)
- Creating a Disk Array (page 28)
- Logging out of WebPAM PROe (page 32)

Logging into WebPAM PROe

1. Launch your Browser.
2. In the Browser address field, type the IP address of the VessRAID subsystem.

   Use the IP address you obtained in Task 7 (see page 22). Note that the IP address shown below is only an example. The IP address you type into your browser will be different.

Regular Connection

- WebPAM PROe uses an HTTP connection. . . . . .http://
- Enter the VessRAID's IP address 192.168.10.85

Together, your entry looks like this:

http://192.168.10.85

Secure Connection

- WebPAM PROe uses a secure HTTP connection. . . . . .https://
- Enter the VessRAID's IP address 192.168.10.85

Together, your entry looks like this:

https://192.168.10.85

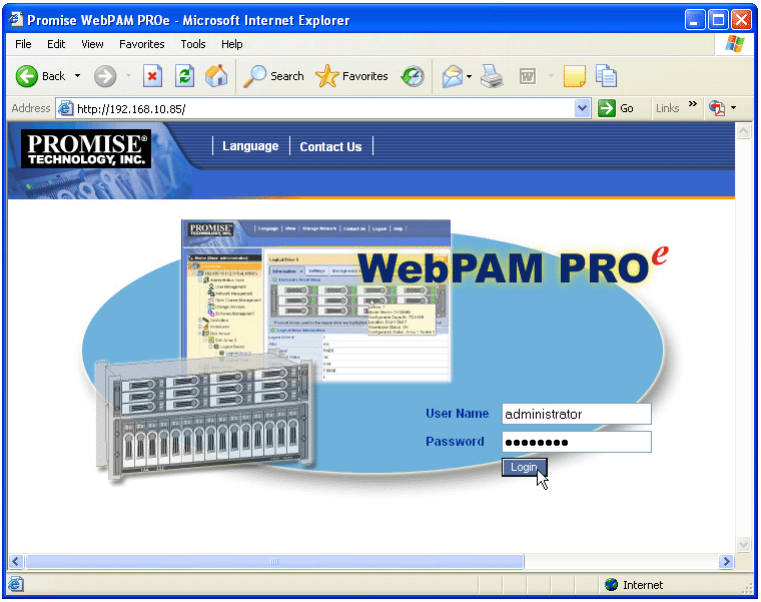
Note

Whether you select a regular or a secure connection, your login to WebPAM PROe and your user password are always secure.

3. When the log-in screen (Figure 21) appears:
   - Type **administrator** in the User Name field.
   - Type **password** in the Password field.
   - Click the **Login** button.

   The User Name and Password are case sensitive.

Figure 23. WebPAM PROe log-in screen



After sign-in, the WebPAM PROe opening screen appears. If there are any unconfigured physical drives in the enclosure, an Array Configuration menu will also appear (see page 28).

Note

Make a Bookmark (Netscape Navigator) or set a Favorite (Internet Explorer) of the Login Screen so you can access it easily next time.

Selecting a Language

WebPAM PROe displays in English, German, French, Italian, Spanish, Russian, Japanese, Chinese Traditional, Chinese Simple, and Korean.

1. Click **Language** on the WebPAM PROe banner.

   The language list appears in the Header.

2. Click on the language you prefer.

   The WebPAM PROe user interface displays in the selected language.

Figure 24. Clicking "Language" on the WebPAM PROe banner

Creating a Disk Array

On a newly activated VessRAID subsystem, there are no disk arrays or logical drives. To create a disk array:

1. Click on the Disk Arrays icon, then click on the Create tab.

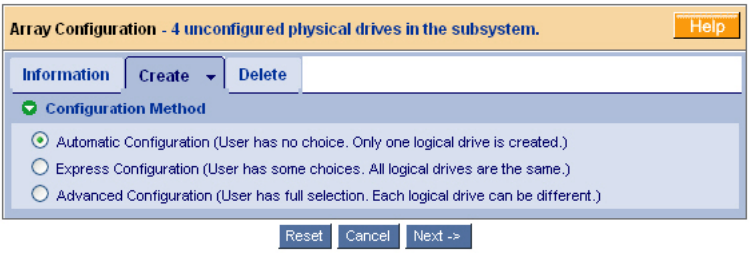
   The Array Configuration menu appears. See Figure 25.

2. Choose one of the options:

   - **Automatic** – Creates a new disk array based on a default set of parameters, including one logical drive. The number of unconfigured physical drives available determines the RAID level of the disk array and whether a spare drive is created. See page 29.
   - **Express** – Creates a new disk array based on the characteristics you specify. You can create multiple logical drives. However, all of the logical drives will be the same size and RAID level. See page 30.
   - **Advanced** – Enables you to directly specify all parameters for a new disk array and its logical drives. See page 31.

3. Click the **Next** button.

Figure 25. The Array Configuration menu



Automatic

When you choose the Automatic option, the following parameters appear on the screen:

- **Disk Arrays** – The number of physical drives in the disk array, their ID numbers, configurable capacity, and the number of logical drives to be created
- **Logical Drives** – The ID number of the logical drives, their RAID level, capacity, and stripe size
- **Spare Drives** – The physical drive ID number of the dedicated hot spare assigned to this disk array

If you accept these parameters, click the **Submit** button. The new disk array appears in the Disk Array List on the Information tab.

If you do NOT accept these parameters, use the Express (page 30) or Advanced (page 31) option to create your disk array.

Express

When you choose the Express option, a set of characteristics and options appears on the screen.

1. Check the boxes to select any one or a combination of:
   - **Redundancy** – The array will remain available if a physical drive fails
   - **Capacity** – The greatest possible amount of data capacity
   - **Performance** – The highest possible read/write speed
   - **Spare Drive** – A hot spare drive
2. In the Number of Logical Drives field, enter the number of logical drives you want to make from this disk array.

   The maximum possible number of logical drives appears to the right of this field.
3. From the Application Type menu, select an application that best describes your intended use for this disk array:
   - File Server
   - Video Stream
   - Transaction Data
   - Transaction Log
   - Other
4. Click the **Update** button.

   Or check the Automatic Update box and updates will occur automatically.

   The following parameters display:
   - **Disk Arrays** – The number of physical drives in the disk array, their ID numbers, configurable capacity, and the number of logical drives to be created
   - **Logical Drives** – The ID number of the logical drives, their RAID level, capacity, and stripe size
   - **Spare Drives** – The physical drive ID number of the dedicated hot spare assigned to this disk array

   If you accept these parameters, proceed to the next step.

   If you do NOT accept these parameters, review and modify your selections in the previous steps.
5. When you are done, click the **Submit** button.

   The new disk array appears in the Disk Array List on the Information tab.

Advanced

Note

For an explanation of the parameters under the Advanced option, see the *VessRAID Product Manual* on the CD.

Step 1 – Disk Array Creation

1. Enter a name for the disk array in the field provided.
2. Check the boxes to enable the following features.
   - **Media Patrol** – A routine maintenance procedure that checks the magnetic media on each disk drive. Media Patrol is concerned with the condition of the media itself, not the data recorded on the media.
   - **PDM** – Predictive Data Migration (PDM) scans the bad sector remapping table of the disk drives assigned to a logical drive. When the table fills to a specified percentage of its capacity, PDM triggers a migration of data from the suspect drive (the disk drive with the bad sectors) to a spare disk drive.
3. Highlight the physical drives you want in the disk array from the Available list and press the **>>** button to move them to the Selected list.

   You can also double-click them to move them.
4. When you are done, click the **Next** button.

Step 2 – Logical Drive Creation

1. Optional. Enter an Alias (name) for the first logical drive.
2. Choose a RAID level for the logical drive from the dropdown menu.

   The choice of RAID levels depends on the number of physical drives you selected.
3. RAID 50 and 60 only. Choose the number of axles from the dropdown menu.
4. Specify a Capacity and the unit of measure (MB, GB, or TB).

   This value will be the data capacity of the logical drive. If you specify less than disk array's maximum capacity, the remainder is available for additional logical drives.
5. Specify a Stripe size from the dropdown menu.

   64, 128, 256, 512 KB, and 1 MB are available. 64 KB is the default.
6. Specify a Sector size from the dropdown menu.

   512 Bytes, 1, 2, and 4 KB are available. 512 Bytes is the default.

7. Choose a Read Cache policy:

   Read Cache, *Read Ahead Cache*, and *No Cache* are available. Read Ahead is the default.

8. Choose a Write Cache policy:

   Write Back and *Write Through* are available. Write Back is the default.

9. From the Initialization dropdown menu, choose an Initialization policy.

   None, *Quick*, and *Full* are available. None is the default but is not recommended.

10. Click the **Update** button.

    A new logical drive is displayed under New Logical Drives.

    Repeat the above steps to specify additional logical drives as desired.

11. When you have finished specifying logical drives, click the **Next** button.

Step 3 – Summary

The Summary lists the disk array and logical drive information you specified.

To proceed with disk array and logical drive creation, click the **Submit** button.

Note

This function does not automatically create a hot spare drive. After the disk array is created, you can create a hot spare drive for it. See the *VessRAID Product Manual* on the CD.

Logging out of WebPAM PROe

There are two ways to log out of WebPAM PROe:

- Close your browser window
- Click **Logout** on the WebPAM PROe banner

Figure 26. Clicking "Logout" on the WebPAM PROe banner

Clicking **Logout** brings you back to the Login Screen. See page 27.

After logging out, you must enter your user name and password in order to log in again.

Contacting Technical Support

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

If you decide to contact us, please have the following information available:

- Product model and serial number
- BIOS, firmware and driver version numbers
- A description of the problem or situation
- System configuration information, including: motherboard and CPU type, hard drive models, SAS/SATA/ATA/ATAPI drives & devices, and other controllers.

Technical Support Services

Promise Online™ Web Site	http://www.promise.com/support/support_eng.asp (technical documents, drivers, utilities, etc.)

United States

E-mail Support	e-Support On-Line
Fax Support	+1 408 228 1100 Attn: Technical Support
Phone Support	+1 408 228 1400 option 4
If you wish to write us for support:	Promise Technology, Inc. 580 Cottonwood Drive Milpitas, CA 95035, USA

The Netherlands

E-mail Support	e-Support On-Line
Fax Support	+31 0 40 256 9463 Attn: Technical Support
Phone Support	+31 0 40 235 2600
If you wish to write us for support:	Promise Technology Europe B.V. Science Park Eindhoven 5542 5692 EL Son, The Netherlands

Germany

E-mail Support	e-Support On-Line
Fax Technical Support	+49 0 2 31 56 76 48 29 Attn: Technical Support
Phone Technical Support	+49 0 2 31 56 76 48 10
If you wish to write us for support:	Promise Technology Germany Europaplatz 9 44269 Dortmund, Germany

Italy

E-mail Support	e-Support On-Line
Fax Support	+39 0 6 367 124 00 Attn: Technical Support
Phone Support	+39 0 6 367 126 26
If you wish to write us for support:	Promise Technology Italy Piazza del Popolo 18 00187 Roma, Italia

Taiwan

E-mail Support	e-Support On-Line
Fax Support	+886 3 578 2390 Attn: Technical Support
Phone Support	+886 3 578 2395 ext. 8845
If you wish to write us for support:	Promise Technology, Inc. 2F, No. 30, Industry E. Rd. IX Science-based Industrial Park Hsin-Chu 30075, Taiwan (R.O.C.)

China

E-mail Support	e-Support On-Line
Fax Support	+86 10 8857 8015 Attn: Technical Support
Phone Support	+86 10 8857 8085 or 8095
If you wish to write us for support:	Promise Technology China – Beijing Room 1205, Tower C Webok Time Center, No.17 South Zhong Guan Cun Street Hai Dian District, Beijing 100081, China
E-mail Support	e-Support On-Line
Fax Support	+86 21 6249 4627 Attn: Technical Support
Phone Support	+86 21 6249 4192, 4193, or 4199
If you wish to write us for support:	Promise Technology China – Shanghai Room 508, Leader Tower 1189 West Wu Ding Road Jing An District, Shanghai 200042, China