

# RR-1422-LVD Quick Installation Guide

## Safety

All plug-in modules and blank plates are part of the fire enclosure and must only be removed when a replacement can be immediately added. The system must not be run without all units in place.

Permanently unplug the unit if you think that it has become damaged in any way and before you move it.

- An RR-1422-LVD enclosure can weigh up to 35kg (81lb). Do not try to lift it by yourself.
- The RR-1422-LVD unit must only be operated from a supply input voltage range of 100 - 120 VAC or 200 - 240 VAC
- The plug on the power supply cord is used as the main disconnect device. Ensure

that the socket outlets are located near the equipment and are easily accessible.

- If powered by multiple AC or DC sources, disconnect all supply power for complete isolation
- In order to comply with applicable safety, emission and thermal requirements no covers should be removed and all bays must be fitted with either plug-in modules or blanks.
- The power connection must always be disconnected prior to removal of the Power Supply/Cooling module from the enclosure.
- A safe electrical earth connection must be provided to the power cord. Check the grounding of the enclosure before applying power.

- Provide a suitable power source with electrical overload protection to meet the requirements laid down in the technical specification.
- A faulty Power Supply/Cooling module must be replaced with a fully operational module within 24 hours.

**Caution: If this equipment is used in a manner not specified by the manufacturer, the protection provided by the equipment may be impaired.**

## Dual PSU Operation

This equipment is intended to operate with two working PSUs.

Do not lift the RR-1422-LVD by the handles on the PSU/Cooling module, they are not designed to support the weight of the populated enclosure.

## Rack System Precautions

The following safety requirements must be considered when the unit is mounted in a rack.

- The rack design should incorporate stabilizing features suitable to prevent the rack from tipping during installation.
- When loading a rack with the units, fill the rack from the bottom up and empty from the top down.
- The rack design should incorporate stabilizing features suitable to prevent the rack from tipping or being pushed over in normal use.
- The rack should comply with the airflow requirements detailed in the technical specification.
- The rack design should take into consideration the maximum operating ambient temperature for the unit, which is 40°C.
- The rack should have a safe electrical distribution system. It must provide over-current protection for the unit and must not be overloaded by the total number of units installed in the rack. Consideration of the unit's nameplate rating should be used when addressing these concerns.
- The electrical distribution system must provide a reliable earth for each unit and the rack.
- Each power supply in each unit has an earth leakage current of 1.8mA. The design of the electrical distribution system must take into consideration the total earth leakage current from all the power supplies in all the units. The rack will require labelling with "HIGH

LEAKAGE CURRENT. Earth connection essential before connecting supply".

- The rack when configured with the units must meet the safety requirements of UL 60950 and IEC 60950.

## ESD Precautions

It is recommended that you fit and check a suitable anti-static wrist or ankle strap and observe all conventional ESD precautions when handling RR-1422-LVD plug-in modules and components. Avoid contact with backplane components and module connectors, etc.

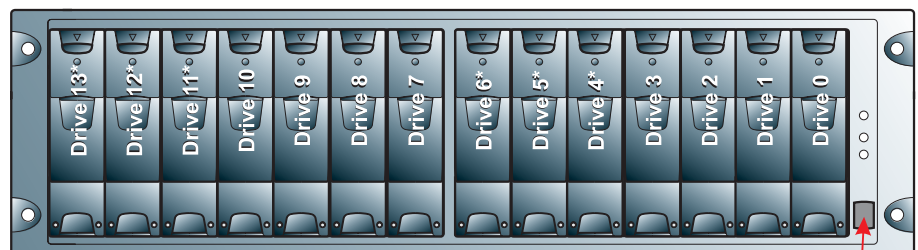
## Battery Safety

**Warning: The RAID module contains batteries that are not user replaceable. There is a danger of explosion if batteries are incorrectly replaced. Batteries should only be replaced by the manufacturer. Dispose of used batteries in accordance with the manufacturer's instructions and National regulations.**

## Installation

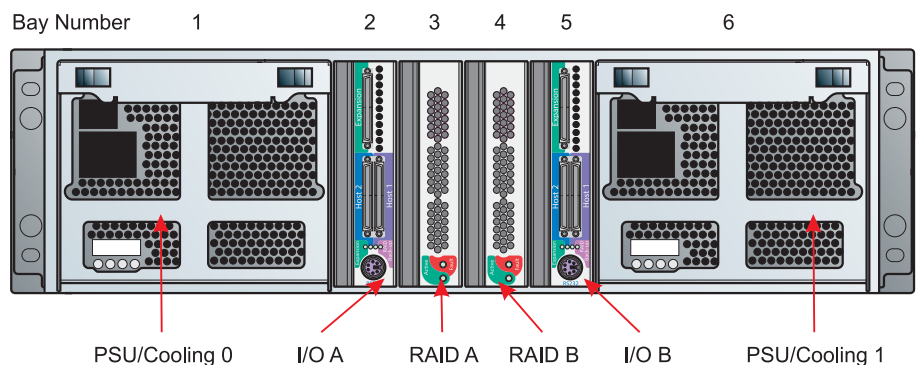
Fit the modules into the bays defined in Figure 1.

Figure 1 Module Locations



\* Immediate spin-up when only 1 PSU fitted (other bays delayed)

Mute Button



## Fitting PSU Modules

Install in the rear of the enclosure in positions 1 and 6.

1. Check for damage, especially to the rear connector on the PSU/Cooling module.
2. Handle the module carefully and avoid damaging the connector pins. Do not install the module if any pins appear to be bent.
3. With the PSU handle in the open position, slide the module into the enclosure.
4. Cam the module home by manually closing the PSU handle (see Figure 2b). A click should be heard as the handle latches engage.

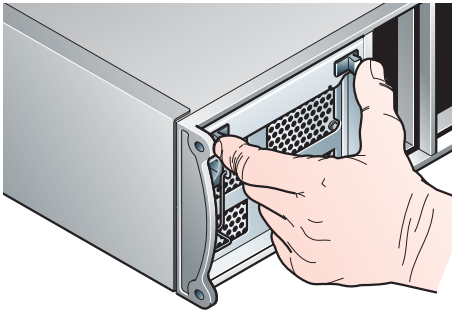


Figure 2a Fitting/Removing a PSU Module

5. Connect the power supply cord to the power source and switch the power supply on

## Removing PSU Modules

1. Switch off and **disconnect the power supply cord**.
2. Squeeze the two latches on the PSU handle together and open the handle (Figures 2a & 2b) to cam the PSU/Cooling module out of the enclosure.
3. Grip the handle and withdraw the module.

**Warning: Do not remove this module unless a replacement can be immediately added. The system must not be run without all units in place.**

## Fitting I/O & RAID Modules

Note: Fitting procedures for the I/O and RAID modules are the same.

**Warning: Ensure that I/O and RAID modules are inserted in their correct bay locations. (See Figure 1).**

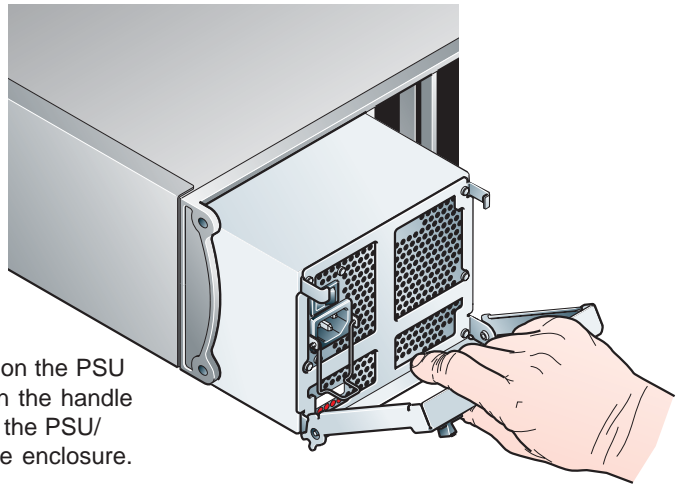


Figure 2b Fitting/Removing a PSU Module

1. With the latch in the open position, slide the module into the enclosure until the latch engages automatically.
2. Cam the module home by manually closing the latches (see Figure 3).

**Warning: Ensure that modules are fully aligned before camming the module home.**

## LED Status Indicators

PSU LEDs				Definition
PSU OK (Green)	AC Fail (Amber)	Fan Fail (Amber)	Power Fail (Amber)	
On	Off	Off	Off	PSU on OK.
Off	On	Off	On	No AC power (this PSU only).
Off	Off	Off	On	AC present. Standby on. PSU fail (over temp/over volt/over current).
Off	Off	Off	Off	No AC power (either PSU).
Off	Off	On	X	Fan fail.

Operator Panel LEDs			Definition
Power On (Green)	Power/Cooling Fault (Amber)	System (Amber)	
On	N/A	N/A	Power on. All functions good.
On	N/A	On	ESI processor failure.
On	On	N/A	Two PSUs present, one failed.
On	On	N/A	One or more fan fail.
On	N/A	Flash	RAID fault

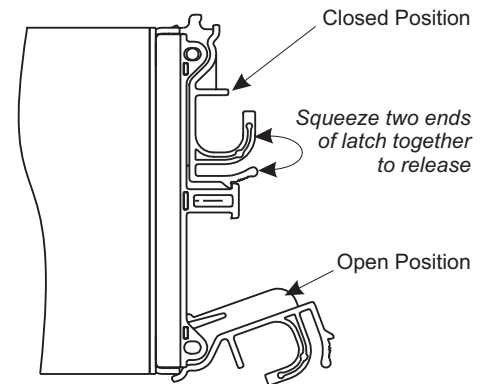


Figure 3 I/O & RAID Module Latch

## Removing I/O & RAID Modules

Note: Removal procedures for the I/O and RAID modules are the same.

**Warning: Do not remove an I/O or RAID module unless a replacement can be immediately added. The system must not be run without all units in place.**

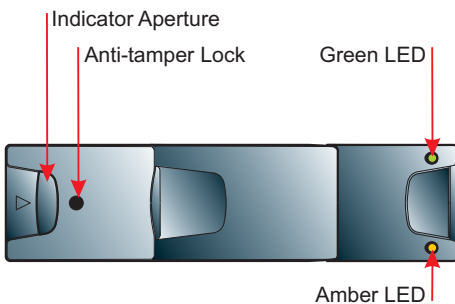
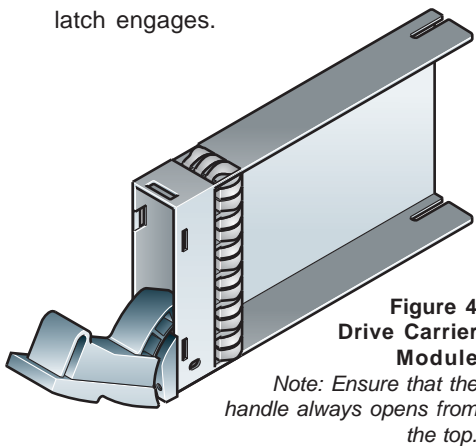
1. Using two hands, grasp each latch between the thumb and forefinger of each hand. Squeeze thumb and forefinger together to release the latch. Pull the latches forward to cam the module out of the enclosure.
2. Grip the latch handles and withdraw the module.

## Fitting Drives

1. Release the carrier handle by pressing the latch in the handle downwards and insert the carrier into the enclosure.

**Important: Ensure that the carrier is orientated so that the drive is on the right and the handle opens from the top (See Figure 4).**

2. Slide the carrier, gently, all the way into the enclosure.
3. Cam the carrier home - the camming foot on the base of the carrier will engage into the slot in the enclosure.
4. When the carrier is fully home, close the handle - a click should be heard as the latch engages.



## Drive Status Indicators

LED		Status
Green	Amber	
Off	Off	No drive installed
On / Flash	X	Drive OK
X	On	SAF-TE drive fault
X	Flash (3/sec)	SAF-TE device identity set

## Drive Enclosure Device Addressing

The SCSI\_ID base address of each drive in the enclosure is automatically set to a range defined by presence of the RAID controller, an I/O module mounted range switch and the drive bay location. Two ranges are defined.

Range	Device Slot (as viewed from the front of the enclosure)							
	0 or 7	1 or 8	2 or 9	3 or 10	4 or 11	5 or 12	6 or 13	SAF-TE
LOW SCSI_ID	0	1	2	3	4	5	8	E
HIGH SCSI_ID	8	9	A	B	C	D	0	F

If the RAID module is present, device addresses default to the values shown for the LOW range. If no RAID module is present, device addresses default to the values shown for the HIGH range. To force device addresses to the alternate values, set the switch on the appropriate I/O module to the ON position.

The range defined by the right hand module controls the IDs of the right hand drives (I/O A: 0 - 6) while the left hand module controls the left hand drives (I/O B: 7 - 13).

Slide the switch towards the ON position to set alternate addresses.

Figure 6 RAID Module Rear Panel

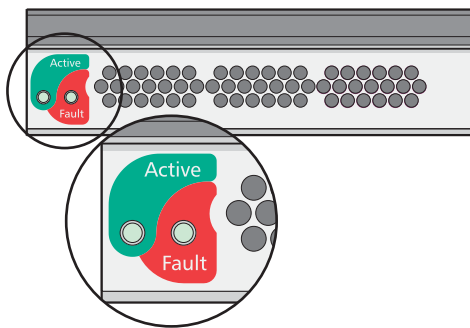
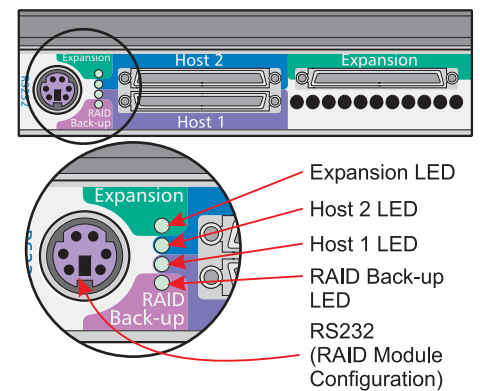


Figure 6 RAID I/O Module Rear Panel



## RAID Controller Default Configuration

Parameter	Default Setting
<b>Host Configuration</b>	
Target ID .....	0
Controller LUN .....	NONE
Reset on failover .....	OFF
<b>Channel Configuration</b>	
Channel 1 bus speed .....	160
Disable Domain Validation ..	NO
Channel 2 bus speed .....	160
Disable Domain Validation ..	NO
<b>SEP Configuration</b>	
Sep settings - Poll Rate Temp (off) .....	60
Slot flags Global flags (on) .....	ON
SEP LUNS Sep 0 .....	LUN NONE
Sep 1 .....	LUN NONE
<b>Disk Configuration</b>	
Write-back cache .....	DISABLE
SMART .....	DON'T MODIFY
<b>Option Configuration</b>	
Operating Mode ..	STANDALONE DUALPORT
Cache Lock .....	DISABLED
Battery .....	ENABLED
Enable Trust Array .....	ENABLED
Backoff Percent .....	1.0%
Utility Priority .....	HIGH
Alarm Mute .....	UNMUTE

Figure 7 JBOD I/O Module Rear Panel

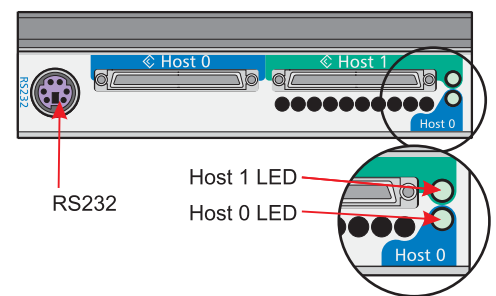


Figure 8 RAID I/O Module Switch Settings

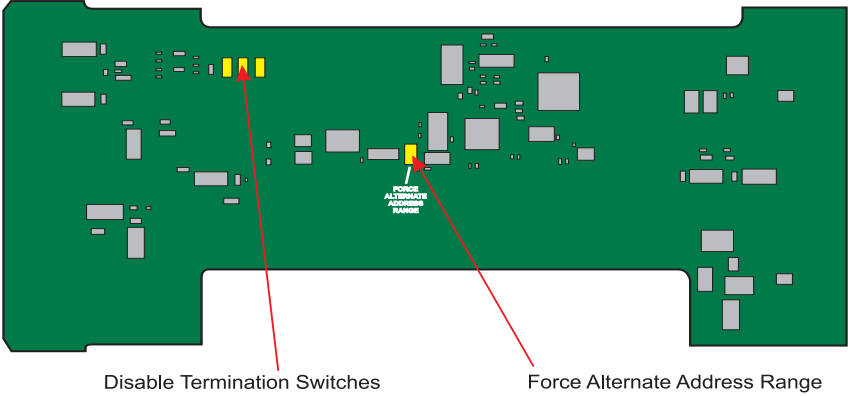


Figure 9 JBOD I/O Module Switch Settings

