



# 12big Rack Serial 2



Quick Install Guide

# 1. INTRODUCTION

## 1.1. Safe Handling

- A LaCie 12big Rack Serial 2 enclosure can weigh up to 26kg (57lb). Do not try to lift it by yourself.
- Do not lift the enclosure by the handles on the PCMs. They are not designed to take the weight.

## 1.2. 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 modules or blanks in place.
- Permanently unplug the unit before you move it or if you think it has become damaged in any way.

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**IMPORTANT:** The enclosure **MUST** be grounded before applying power.

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- The enclosure must only be operated from a power supply input voltage range of 100-240 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.
- When powered by multiple AC 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 populated with plug-in modules.
- The power connection should always be disconnected prior to removal of a PCM from the enclosure.
- A safe electrical earth connection must be provided to the power supply cords. 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.
- When bifurcated power cords ('Y' leads) are used, they must only be connected to a supply range of 200-240 V.
- A faulty PCM must be replaced with a fully operational module within 24 hrs.
- Do not remove a faulty PCM unless you have a replacement model of the correct type ready for insertion.

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

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**CAUTION:** The optional RJ45 socket on the I/O module, it is for Ethernet connection only and must not be connected to a telecommunications network.

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## 1.3. Rack System Precautions

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

- The rack construction must be capable of supporting the total weight of the installed enclosure(s) and the design should incorporate stabilizing features suitable to prevent the rack from tipping or being pushed over during installation or in normal use.
- When loading a rack with the units, fill the rack from the bottom up and empty from the top down.
- To avoid danger of the rack toppling over, do not slide more than one enclosure out of the rack at a time.
- The system must be operated with low pressure rear exhaust installation [back pressure created by rack doors and obstacles not to exceed 5 pascals (0.5mm water gauge)].
- 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. When addressing these concerns consideration should be given to the electrical power consumption rating shown on the nameplate.
- The electrical distribution system must provide a reliable earth for each unit in the rack.
- Each power supply in each unit has an earth leakage current of 1.0mA. 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 may 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 60950-1 and IEC 60950-1.

## 1.4. PCM Operation

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**IMPORTANT:** Do not remove covers from the PCM. Danger of electric shock inside. Return the PCM to your supplier for repair.

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**IMPORTANT:** Do not remove a PCM unless a replacement can be immediately added. The system must not be run without all units or module blanks in place.

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## 1.5. 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 plug-in modules and components. Avoid contact with backplane components and module connectors, etc.

## 2. PREPARATION

### 2.1. Before You Begin

Before you begin, make sure the site where you intend to set up and use your storage system has the following:

- Standard power from an independent source or a rack power distribution unit with a UPS.
- Host computer with the correct firmware, BIOS and drivers. Contact your supplier for the correct software levels.

Before setting up your enclosure ensure you have the following:

- SAS HBA
- Mini-SAS to Host Cable
- Power Cord
- Rack kit (if installing within a rack)

Refer to your supplier for a list of qualified accessories for use with the enclosure. The Accessory Box contains the power cords and other ordered accessories.

## 2.2. Unpacking the Storage System

1. Inspect the packaging for crushes, cuts, water damage or any other evidence of mishandling during transit. If any damage appears present, for future reference photograph the packaging before opening.
2. Unpack the system. See Figure 1.

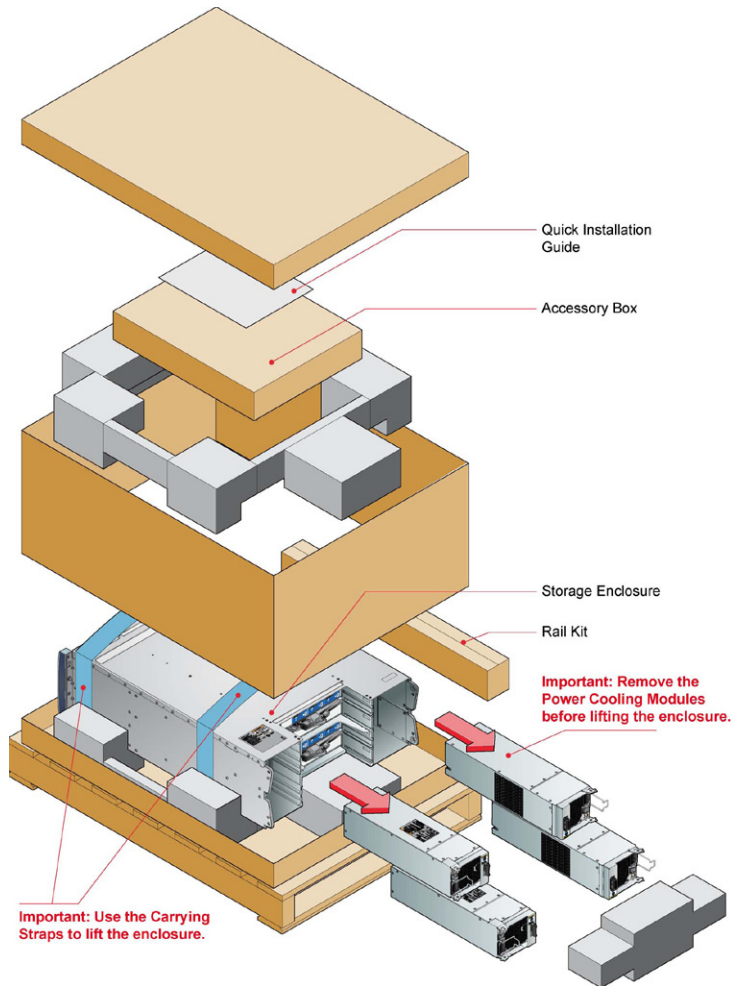


Figure 1 - Unpacking the Storage System

## 3. INSTALLATION

### 3.1. Mounting the System into a Rack

1. Remove the Rack Mounting Rail Kit from the Accessory Box and check for damage.
2. Attach left and right chassis slides to the enclosure sides using 8 M3 x 4 buttonhead screws (see Figure 2).

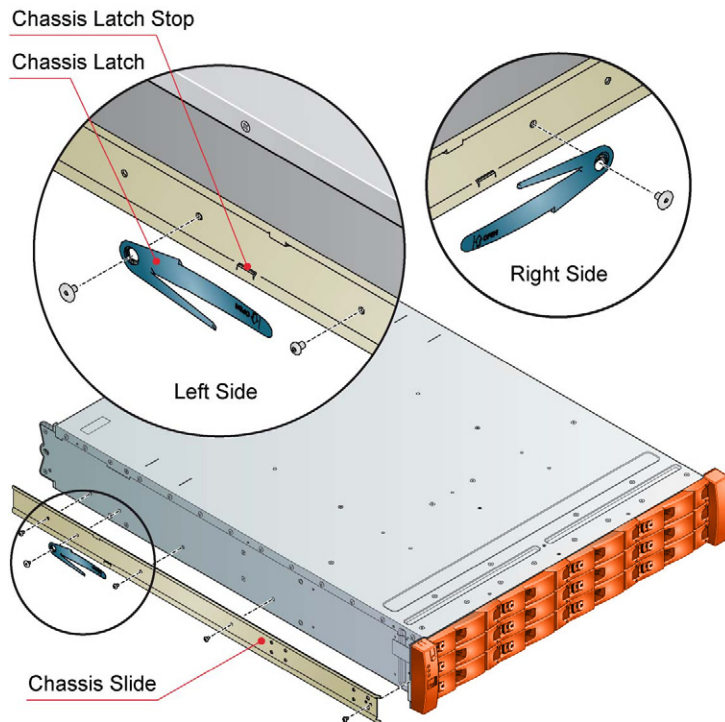


Figure 2 - Securing Chassis Slides to Enclosure

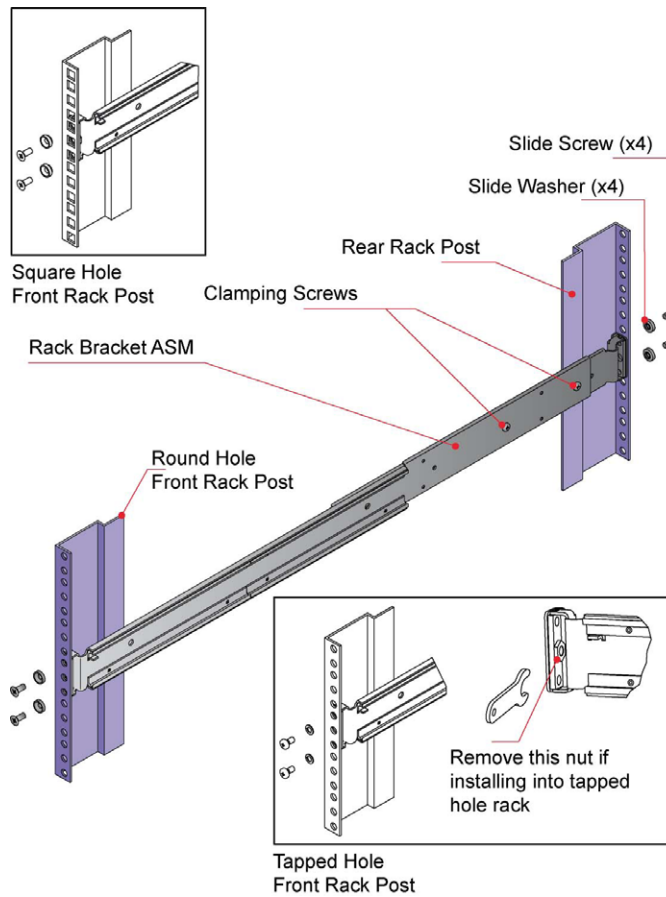
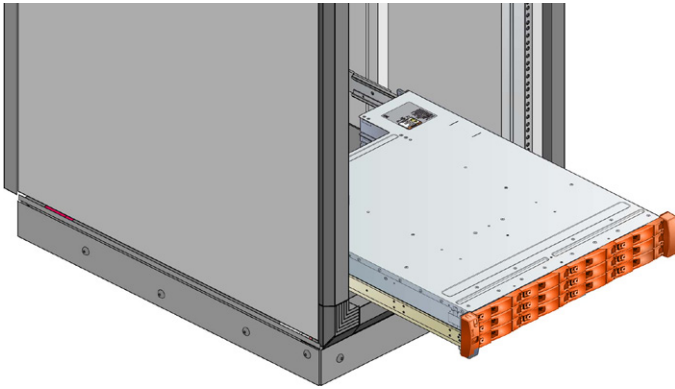


Figure 3 - Securing Brackets to Rack

3. Assemble the left and right chassis latches using the special chassis latch screws. Ensure the latch is orientated as shown in Figure 2, with the spring arm located against its stop. On the right hand side this is at the top, on the left at the bottom.
4. Assemble the rack brackets to the rack posts as follows (see Figure 3):
  - a. Position the location pin at the rear of the rail into a rear rack post hole. Attach the bracket to the rear rack post using the washers and screws supplied. The screws should be left loose.
  - b. Extend rail to fit between the front and rear rack posts.
  - c. Attach the bracket to the front rack post using the washers and screws supplied. The screws should be left loose.
  - d. Tighten the two clamping screws located along the inside of the rear section of the rack bracket (see Figure 3).
5. Mount the enclosure into the rack as follows (see Figure 4):
  - a. Lift the enclosure and align it with the rack rails.
  - b. Carefully insert the chassis slides into the rack rails and push fully home.
  - c. Tighten the rear rack bracket mounting screws.
  - d. Withdraw enclosure until it reaches the hard stops (approx. 400mm) and tighten the front rack bracket mounting screws.

e. Return the enclosure to the fully home position.



*Figure 4 - Mounting the System into a Rack*

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## 3.2. Connecting to Host

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### CAUTION:

- When using this product as an expansion chassis, software update may automatically occur. Please wait for several minutes for the update and then reboot of the system.
  - When using this product as an expansion chassis for the LaCie 12big Rack Network, software should be updated using the appropriate method mentioned in the LaCie 12big Rack Serial 2 User Manual.
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**IMPORTANT:** Connections can be made up to a max. of 4 enclosures.

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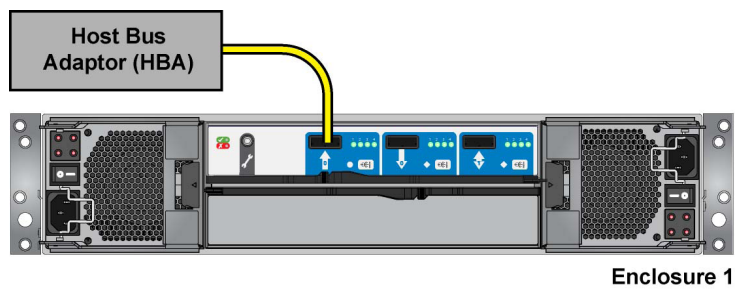


Figure 5 - Single Host - Single Enclosure

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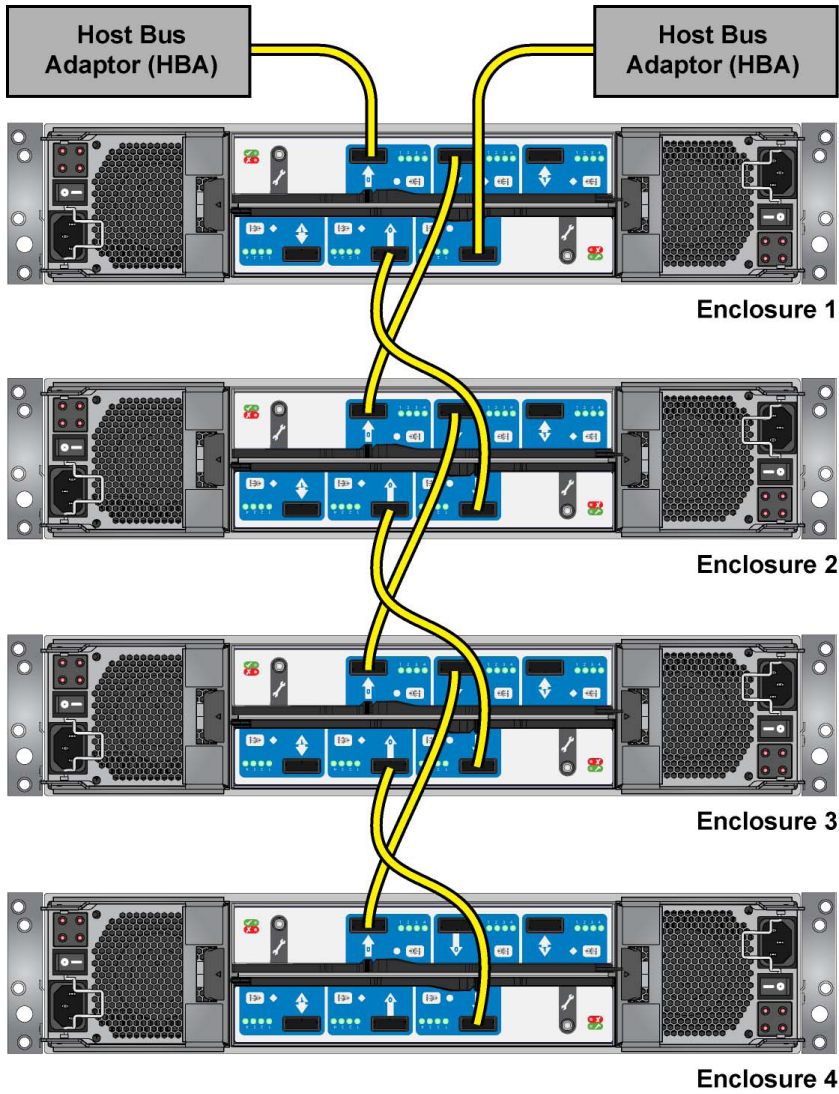


Figure 6 - Dual Host - Multiple Enclosures

### 3.3. Power On

Power on the storage system by connecting the power cables to the power distribution unit (PDU), powering on the PDU, moving the PCM switches to the ON position, and then powering on the host system.

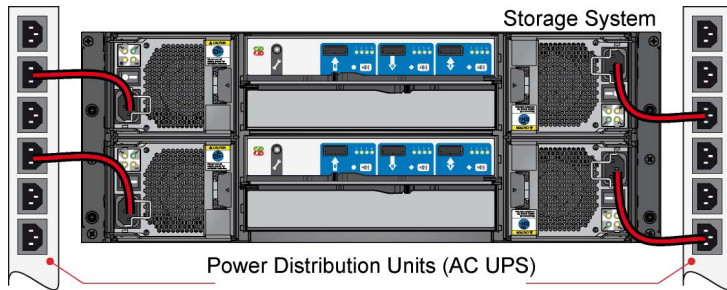


Figure 7 - Connecting the AC Power Cables to the PDU

## 4. LED STATES

### 4.1. I/O Module LED States

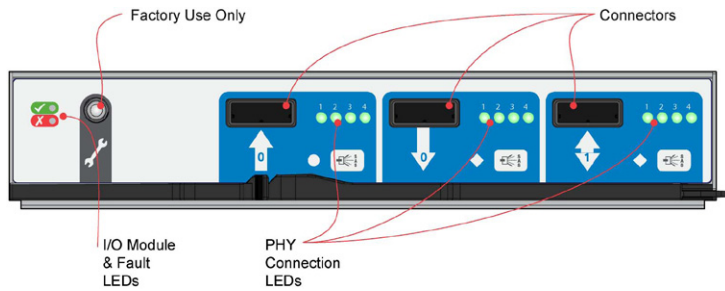


Figure 8 - I/O Module LEDs

Status	I/O Module Fault (Amber)	I/O Module OK (Green)	Host Port Activity (Green)
I/O Module OK	Off	On	X
I/O Module Fault	On	Off	X
No Host Port Connection	X	X	Off
Host Port Connection - No Activity	X	X	Off
Host Port Connection Activity	X	X	Flashing
I/O Module VPD Error	X	Flashing	X

X = Disregard

## 4.2. PCM LED States

Status	PCM OK (Green)	Fan Fail (Amber)	AC Fail (Amber)	DC Fail (Amber)
No AC power (any PCM)	Off	Off	Off	Off
No AC power (this PCM only)	Off	Off	On	On
AC present PCM On OK	On	Off	Off	Off
PCM fan fail	Off	On	Off	Off
PCM fault (over temp., over voltage, over current)	Off	On	On	On
Standby mode	Flashing	Off	Off	Off
PCM firmware download	Off	Flashing	Flashing	Flashing

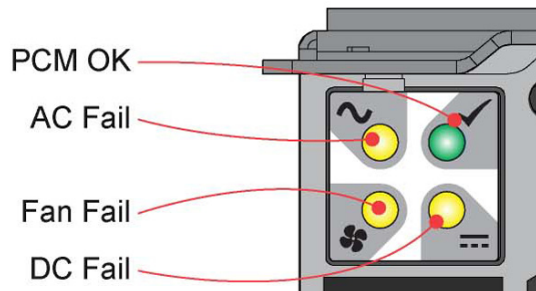


Figure 9 - PCM LEDs

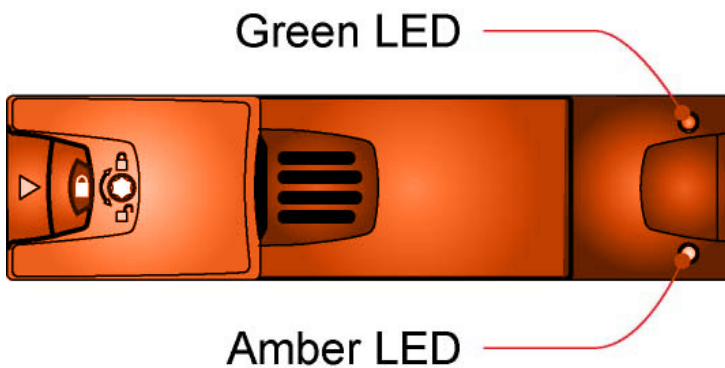


Figure 10 - Drive LEDs

### 4.3. Drive LED States

Status	Green LED	Amber LED	Associated Ops Panel LED
No drive installed	Off	Off	None
Drive installed and operational	On/Blink with activity or startup	X	None
SES device identity set	On	Flash 1s on / 1s off	None
SES device fault bit set	On	On	Logical fault (Amber)
Power control circuit failure	Off	On	Module fault (Amber)
Failed disk array	On	Flash 3s on / 1s off	Logical fault (Amber)

X = Disregard

## 4.4. Front Panel LED States

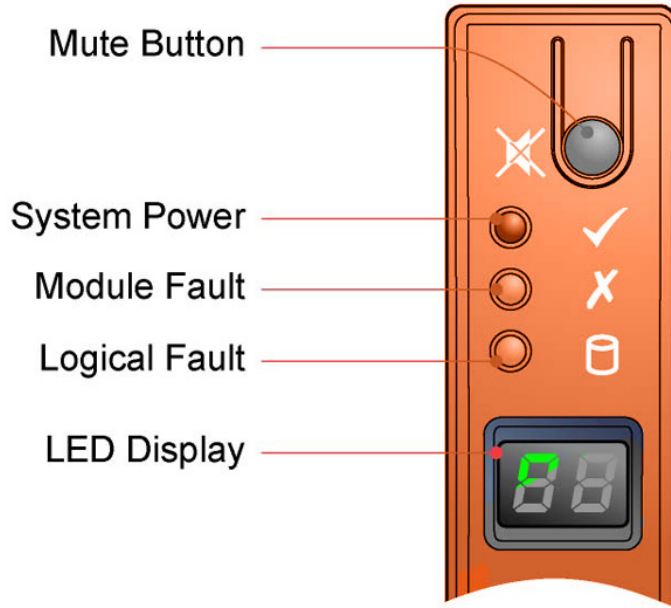


Figure 11 - Front Panel LEDs

Front Panel LEDs					
System Power (green/amber)	Module Fault (Amber)	Logical Fault (Amber)	LED Display	Associated LEDs/Alarms	Status
On	Off	Off	X		Aux present, overall power failed or switched off
On	On	X	X	Single beep, then double beep	Ops panel Power On (5s) test state
On	Off	Off	X		Power On, all functions good
On	On	X	X	PCM fault LEDs, fan fault LEDs	Any PCM fault, fan fault, over or under temp.
On	On	X	X	SBB module LEDs	Any SBB module fault

Front Panel LEDs					
System Power (green/amber)	Module Fault (Amber)	Logical Fault (Amber)	LED Display	Associated LEDs/Alarms	Status
On	On	X	X		Enclosure logical fault
On	Flash	X	X	Module status LED on SBB module	Unknown (invalid or mixed) SBB module type installed, I2C bus failure (inter SBB comms) EBOD VPD configuration error
On	Flash	X	X	PCM fault LEDs, fan fault LEDs	Unknown (invalid or mixed) PCM type installed, or I2C bus failure (PCM comms)
On	X	On	X	Array in failed or degraded state	Drive failure has occurred causing loss of availability or redundancy
On	X	Flash	X	Arrays in impacted state	Arrays operating background function
On	Flash	Flash	X	SES State S1	Enclosure ID setting different from Start of Day
X	X		Flash		SES controlled enclosure ID

X = Disregard



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