MANAGE DISK FAILURE: AUTO-REBUILD AND ASSIGNING SPARE HARD DRIVES

Using LED indications, your LaCie professional DAS alerts you if a hard drive is failing or has failed. See the user manual for your LaCie product to review the LED indications. LaCie RAID Manager also senses when a hard drive is at risk and updates the Event Log accordingly. Additionally, LaCie RAID Manager has built-in notifications that will you send you email alerts when a disk fails or the enclosure experiences high temperatures (see <u>Manage the Array and Virtual Disk</u>).

With the exception of RAID 6, the loss of a single hard drive in the array will degrade the RAID and prevent it from protecting your data. To help you prepare for the potential of hard drive failure, LaCie RAID Manager gives you two critical options:

- Auto-Rebuild
- Assigning a spare hard drive

Important info on RAID 0 and disk failure: RAID 0 is fast and it provides access to the total disk capacity in the array. However, it does not offer data protection in the event of disk failure. Therefore, if a disk fails in a RAID 0 array, all data is lost.

ENABLING AUTO-REBUILD

LaCie RAID Manager will automatically rebuild a degraded array when auto-rebuild is enabled. The rebuild operation will start immediately if a spare drive is available in the enclosure (see below). If you have not assigned a spare drive, auto-rebuild will begin once the failed hard drive is hot-swapped with a replacement. See your LaCie product's user manual for instructions on how to hot-swap a hard drive.

Enable auto-rebuild:

1. Choose **Adapter** in the Storage pane and select the **Property** tab.

Storage	Property Operation						
Storage Management	Power-off Identify Mute Modify Restore						
Device	Maximum PD per Adapter	8					
Array 0: (Three Disks)	Supported VD Cache	Write					
Virtual Disk 0: (RAID 5)	Maximum VD per Adapter	48					
Virtual Disk 1: (RAID 6)	Maximum VD per Array	1					
Physical Devices	Maximum PD per VD	24					
	Maximum Port Multiplier	8					
Physical Disk: port 2	Synchronization Rate	Low High 50%					
Physical Disk: port 3	Initialization Rate	Low , High 50%					
Physical Disk: port 5	Rebuild Rate	Low , High 50%					
Physical Disk: port 6	Migration Rate	Low , High 50%					
Management	Media Patrol Rate	Low , High 50%					
Account Management	Auto-Rebuild	ON OFF					
Email Notify Setting	Poll S.M.A.R.T Status	ON OFF					
A V							

2. Scroll down to **Auto-Rebuild** and choose the **On** radio button.

Important info: If your degraded array does not auto-rebuild even when a global/dedicated spare drive is available, verify that the spare drive is compatible with your LaCie hard drive enclosure.

ASSIGNING A SPARE HARD DRIVE

LaCie RAID Manager offers two options for assigning a spare hard drive:

- Global spare drive: Global spare drives can be used by any array.
- **Dedicated spare drive:** Dedicated spare drives are used exclusively for rebuilding a specific array.

Only an unconfigured physical disk can be assigned as a spare drive. A physical disk which is either fully or partially configured cannot be used as a spare drive.

Creating a global spare drive

- 1. Select Physical Disk in the Storage pane.
- 2. Roll-over the **Operation** tab and select **Set as Global Spare Drive**.



The hard drive's Property tab confirms that it has been assigned as a global spare drive.

St	torage		-	Property	Operation		_	_	
Storage Management			in.		(Modify)	(Restore)			
Device			- 1	ID		6			
ė- «	Adapter 0			Type		SATA			
	Array 1: (Two Disks)			Model		ST4000NM0033-97M170			
Ĭ	Virtual Disk 1: (RAID 1)			Cine		2 776 0 /9			
	-Physical Devices			Size 3,726.0 GB					
				Hot Spare		Global			
	Physical Disk: port 1			Write Cache		ON ○OFF			
	Approximation of the second se			Status		Unconfigured			
	Physical Disk: port 4			Current speed		6Gb/s			
Physical Disk: port 5			- 1	Adapter ID		0			
Physical Disk: port 7			- 1	Parent Device		нва			
-Manag	Management			Parent Device P	ort ID	5			
Email Notify Setting			- 1	Feature Support	:	NCQ 1.5Gb/s 3Gb/s 6Gb/s 48Bits			
	BGA Schedule Setting			Serial Number		Z1Z288YY			
AT .							0	000	
Event Logs(190~209/Total Events:209)					Save Clear			000	
	Adapter	Class		Time		Description			
0	0	PD Event	04/	30/2014 11:17	Physical disk 6 has been unset as spare drive				
0	0	PD Event	04/	30/2014 11:12	Physical disk 6 has been assigned as spare drive				
0	0	VD Event	04/	30/2014 10:53	Fast initialization on Virtual Disk 1 completed				
					Le compose de compose de la				

Creating a dedicated spare drive

- 1. Select Physical Disk in the Storage pane.
- 2. Roll-over the **Operation** tab and select **Set as Global Spare Drive**.



3. A screen appears prompting you to choose a RAID array. Click on the array to assign to the spare hard drive.



4. A checkmark appears next to the selected array. Choose **Submit**.

			_								
St	orage			Property	Operation						
Storage Management				Set physical disk 6 as dedicated spare for array							
Device			- 1								
🚊 🐨 Adapter 0 🛛 😻 🞯											
E Array 0: (Three Disks) ID : 0				ID : 0	ID : 1						
÷	Array	1: (Two Disks)	- 1	7,451.9 GB	3,726.0 GB						
	🛄 📄 Vir	tual Disk 1: (RAID 1)	- 1								
÷	Physical D	evices	- 1								
		ysical Disk: port 0	- 1								
	Ph	ysical Disk: port 1	- 1								
	Physical Disk: port 2										
	Ph	ysical Disk: port 3	- 1								
Physical Disk: port 5											
Physical Disk: port 6											
	i	ysical Disk: port 7	- 1								
EManag	ement		- 1								
Account Management											
Email Notify Setting							1				
1 100	BGA Schee	lule Setting		·						Submit	Cancel
Event											
		100-1077 Total L	-								
	Adapter	Class	-	Time				Description			
0	0	VD Event	04/	30/2014 10:53	Fast initializa	tion on Virtual Disk 1 completed					
•	0	VD Event	04/	30/2014 10:53	Fast initializa	tion on Virtual Disk 1 started					
0	0	VD Event	04/	30/2014 10:53	Virtual Disk 1	is created					
	-										

The hard drive's Property tab confirms that it has been assigned as a dedicated spare drive.

RELEASING A PHYSICAL DISK FROM SPARE DRIVE STATUS

- 1. Select a hard drive assigned as a global or dedicated spare in the Storage pane.
- 2. Roll-over the **Operation** tab and select **Unset as Spare Drive**.

LaCie RAID Manager confirms the change by updating the Status of the physical disk in the Property tab.