



LaCie 12big Rack Fibre



Uncompressed HD-Capable Enterprise Class Storage

Up to 60TB

Lightning-Fast. Robust. Enterprise Class.

Storage Just Got 12 Times Better.

A Complete Storage Solution

The LaCie 12big Rack Fibre offers the most storage, the highest speeds, and unparalleled reliability. It's the ideal solution for film professionals working with HD, as well as for IT managers looking for a sophisticated, rock-solid storage solution. The LaCie 12big Rack Fibre has 12 individually-tested Enterprise Class disks, supports six RAID modes, including 5, 50, and 6, and allows the user to create up to 60 cost-effective enterprise class SATA disks or 92 high performance SAS drives disk arrays. The LaCie 12big Rack Fibre is a great addition to any Storage Area Network (SAN), and thanks to its user-friendly, browser-based interface, management is easy and downtime is reduced.

Uncompressed HD Video Ready

The LaCie 12big Rack Fibre is perfect for creative professionals who need to work with multiple streams of uncompressed HD video. It features up to four 4Gb/s fibre channel connections, and when combined with active/active dual RAID controllers, it can support six simultaneous 4:2:2 uncompressed video streams in RAID 5. Achieving the right performance level is easy with the 12big's preconfigured, customizable performance profiles. Choose among "High Availability", "High Performance", and for single or multiple video users the 12big Rack Fibre performance fine tuning will be made instantly.

Fully Redundant—Fully Reliable

In addition to the 12 hot-swappable disks and individually-tested enclosures, the LaCie 12big Rack Fibre's dual RAID controller option, two power supplies, and redundant cooling units are hot-swappable, providing the ultimate in security. With the 12big Rack Fibre, there is no single point of failure and a backup battery helps to ensure that cached data within the RAID controllers can even survive a power failure. Accessing your data from Mac®, Windows®, or Linux-based workstations can also be done through multiple fibre channel connections and multipathing drivers.

Pay As You Grow

The 12big Rack Fibre can expand along with your organization. It's a scalable solution that can be expanded through daisy-chainable 12big Rack expansion units to go along with your storage needs. Its flexibility allows it to directly attach to workstations (one to four), and fit within a SAN. Adapting to your growing storage demands is simple; the 12big Rack Fibre supports multiple disk sizes and arrays, and can even be expanded during operation through dynamic disk array and LUN expansions.

Data Archiving—Down to the Last Detail

The LaCie 12big Rack Fibre provides everything you need to store data efficiently and long-term. Its advanced power management features prolong drive life and save energy by stopping the drive when the data isn't being accessed, and starting them up again when necessary. To prevent data corruption over time, the 12big periodically scans disks to ensure the data will be accessible when requested. The 12big will also recalculate parity and locate it elsewhere on the drive when it detects a bad block on a specific drive. For the ultimate security and peace of mind, LaCie includes the LaCie Advance Care Option, for maximum service and support.

Professional Management Software

With StorView software, it's simple to configure and administer the LaCie 12big Rack Fibre. Its web-based interface helps automate control of cache, arrays, and devices. StorView also offers access to the RAID Advanced Power Management Program, which administrators can use to minimize the 12big's operational costs, and Snapshot software helps assist in data recovery.

- A complete enterprise-level storage solution
- Supports up to six simultaneous 4:2:2 uncompressed HD video streams
- Fully redundant and reliable
- Supports multiple disk sizes and arrays



12big Rack Fibre Performance*:

Post-Production Environment- Enterprise class SATA Drives

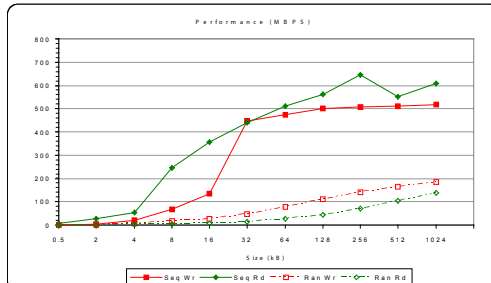
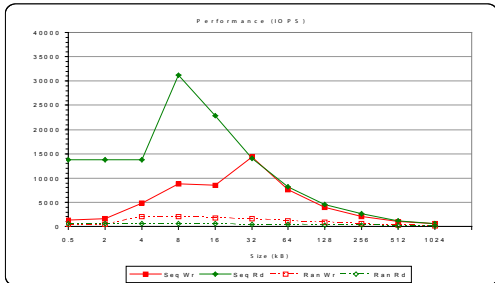
Direct-Attached	Single Controller Single FC Connection		Dual Controller Dual FC Connection		
	6 Drives	12 Drives	12 Drives	24 Drives	
Number of Drives	6 Drives	12 Drives	12 Drives	24 Drives	
Max number of Uncompressed SD* streams	4	8	9	14	
Max number of Uncompressed HD* streams	1	2	3	4	
SAN Environment	Single Controller/Multiple Host Single FC Connection		Dual Controller/ Multiple Host Dual FC Connection		
	6 Drives	12 Drives	12 Drives	24 Drives	36 Drives
Number of Drives	6 Drives	12 Drives	12 Drives	24 Drives	36 Drives
Max number of Uncompressed SD* streams	9	11	11	13	16
Max number of Uncompressed HD* streams	2	3	3	5	6

Video bit rate: SD is Uncompressed 8 bit 25FPS (720 x 576)= 21MB/s / HD is Uncompressed 8bit 422 25FPS (1920 x 1080P)= 104MB/s. Note: All configurations except for the maximum HD config use: 7200 RPM SATA Drives / 1X, 2X, 4X 6 Drive RAID 5 Arrays / 64K Chunk size / WBC set to Max / RAC set to Auto / 1 LD per Array / Sequential Write Optimization set to High / Overload Management set to Disabled / Controller LUN Disabled / Atto HBA's and Atto Multipath Driver used / Disable cache Writethrough operation when write cache is full / Disable Synchronize Cache Writes to Disk / The XSAN Metadata drive is on separate storage.

Corporate IT Environment – Enterprise Class SATA Drives

Performances RAID 5-12 SATA Drives

Sequential Read IOPS	31K	Random Read IOPS	547	Sequential Read Mbs/s	645
Sequential Write	14K	Random Write IOPS	20K	Sequential Write Mbs/s	516



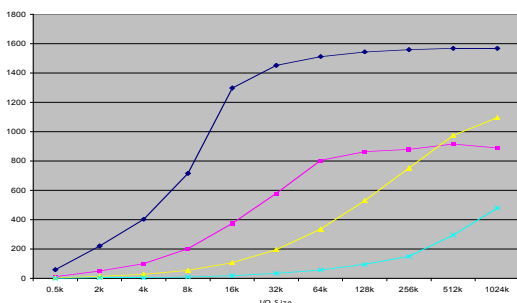
Based on performance characterization done July 2008. Based on 4x RAID5 (5+1)/(4+2), 24 drives, QD=32, Chunk Size 256K, R2.4 (3.05.0020). IOPS higher with more drives, IOPS with WBC Max. TQM is disabled.

Dual Controller – 4 x RAID5 (5+1) Logical Drives – SAS 146G Drives – Write Back Cache – 256K Chunk – TQM Disabled

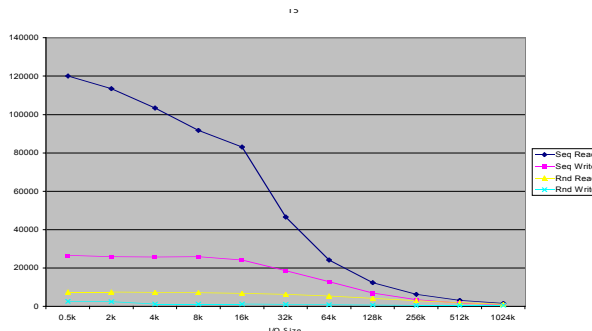
Corporate IT Environment – Enterprise Class SAS Drives

Performances RAID 5-12 SATA Drives

Sequential Read IOPS	120K	Random Read IOPS	7.5K	Sequential Read Mbs/s	1567
Sequential Write	27K	Random Write IOPS	2.6K	Sequential Write Mbs/s WB	891



Dual Controller – 4 x RAID5 (5+1) Logical Drives – SAS 146G Drives – Write Back Cache – 256K Chunk – TQM Disabled



Dual Controller – 4 x RAID5 (5+1) Logical Drives – SAS 146G Drives – Write Back Cache – 256K Chunk – TQM Disabled

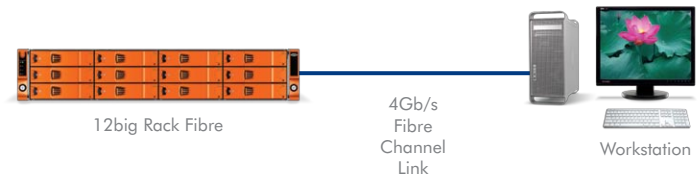
Based on performance characterization done July 2008. Based on 4x RAID5 (5+1)/(4+2), 24 drives, QD=32, Chunk Size 256K, R2.4 (3.05.0020). IOPS higher with more drives, IOPS with WBC Max. TQM is disabled.

Case Studies:

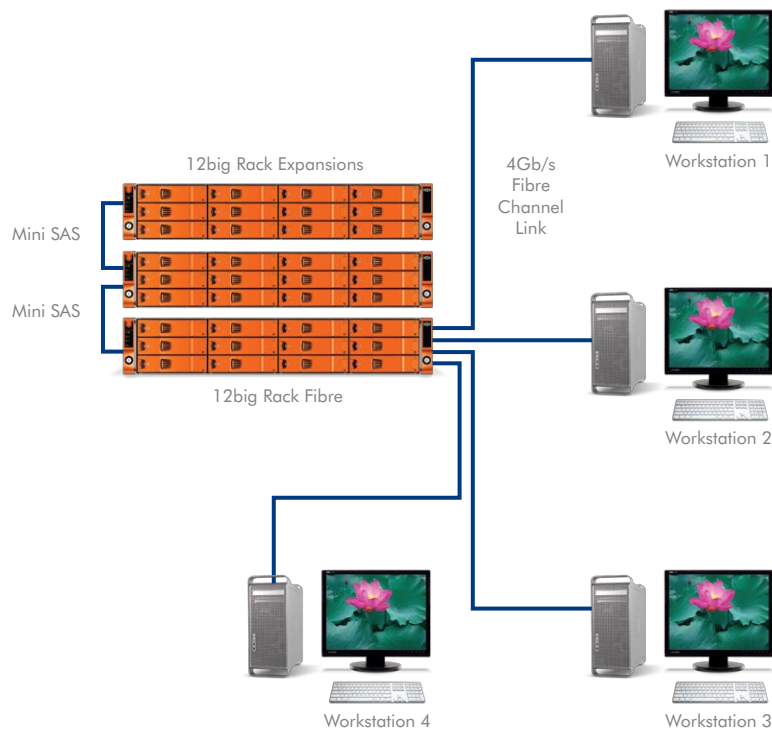
How the 12big Rack Fibre Can Work for You

A Creative Suite Storage Solution

Get great results using simple solutions; start with a single workstation and active/active dual RAID controllers. From the offline film and video edit to the online conform and color correction, this solution matches terrific speed with reliable performance. Now, you have the ability to work with clients in the same room, editing a project using proxy resolutions such as Apple's ProRes 422 from uncompressed HD film and video. Once your clients are satisfied with the edit, put on your online editor's hat to begin the conform and color correction without changing seats or fussing with timeline metadata. The 12big Rack Fibre can easily handle the most challenging projects, placing you and your clients at ease.



- One workstation attached to one 12big Rack Fibre enclosure
- 4 x 4Gb/s fibre host bus adaptor connection for enhanced transfer speeds
- Scalable storage up to five enclosures
- Media accessed by one user



Centralized Media

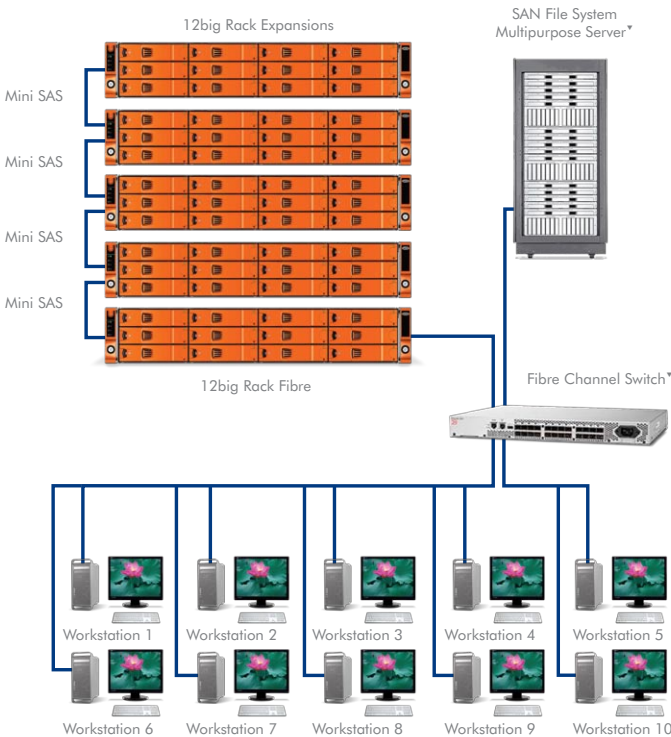
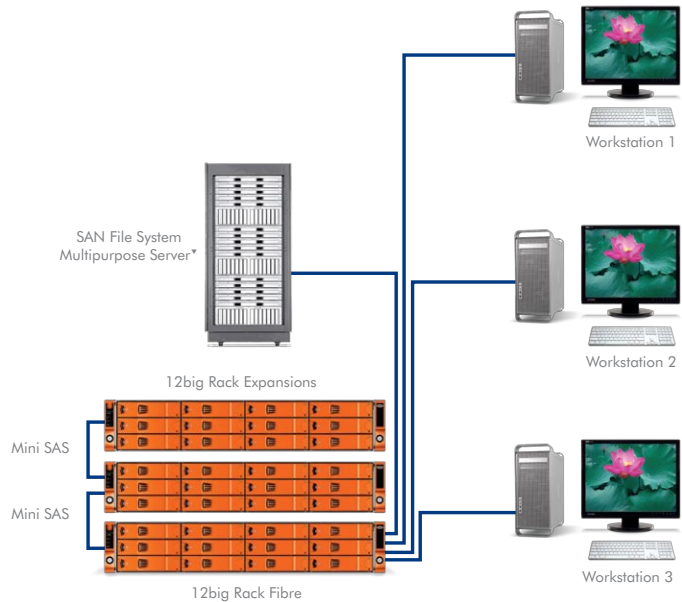
Rather than running from one room to another trying to balance data and storage management in multiple workstation environments, consider centralizing your media with the LaCie 12big Rack Fibre. Whether offering multiple editing solutions to individual clients in a rental house or managing the creative services department in a company producing in-house industrials, you can now control the workflow and apportion storage as needed to each operator. Best of all, the 12big Rack Fibre can be situated centrally in your engineering room for ease of access.

- Four workstations attached to three 12big Rack Fibre enclosures
- 1 x 4Gb/s fibre host bus adaptor connection per user
- Scalable storage up to five enclosures
- Independent project media accessed by four users simultaneously

SMB Post-Production SAN

Collaborative post-production solutions allow for less time spent ingesting media, perhaps in duplicate or triplicate fashion, and more time at work on the project. The LaCie 12big Rack Fibre is more than capable of tackling the demands of shared media projects. Film and television editors often face time-sensitive deadlines that are stymied by the inconvenience of separate workstations ingesting the same media on stand-alone storage. Now, with the 12big Rack Fibre, multiple editors can divide their workload while accessing the same material. Using a SAN file system such as Apple's Xsan provides easy access to shared media files. Whether you work for a commercial editing boutique that needs to share frequently used graphics and titles, or a post-production facility that creates single and multi-camera productions, the 12big Rack Fibre offers the speed, flexibility, and expandability to complete projects on time due to the reduction of redundant operations.

- Three workstations and one server attached to three 12big Rack Fibre enclosures
- 1 x 4Gb/s fibre host bus adaptor connection per user
- Scalable storage up to five enclosures
- Shared media via SAN file system



Enterprise Post-Production SAN

Facilities with multiple editing, graphics, and audio workstations often lose time exchanging files via external and independent storage or waste endless hours maintaining separate hard drives. The LaCie 12big Rack Fibre is the perfect solution to move everyone onto a shared space thus providing a centralized media hub for easy management. No matter if your operators need to share media or access a library of graphics and titles run on multiple packages, the LaCie 12big Rack Fibre can easily handle the time-critical demands of large workgroups. Connected to a server via Ethernet and running media management software, the LaCie 12big Rack Fibre is the ideal solution for building a media library due to its vast capacity and expandability in an economical two-rack unit enclosure.

- Multiple workstations and one server attached to five 12big Rack Fibre enclosures via multi-port fibre channel switch
- Up to 4 x 4Gb/s fibre host bus adaptor connections per user depending on switch port availability
- Five full capacity enclosures
- Shared media via SAN file system

System Requirements

- PC or Mac or server with a 4Gb/s fibre channel HBA
- Windows 2003 (IA32, EM64T, IA64); RedHat Linux AS4/EL5 (IA32, EM64T, IA64); SuSE Linux 9/10 (IA32, EM64T, IA64); or Mac OS 10.4 and later
- Supported web browsers: Internet Explorer 6.0 or higher, Mozilla Firefox 1.5 or higher, and Safari 2.0 or higher

LaCie 12big Rack Fibre Box Content

- LaCie 12big Rack Fibre single controller enclosure
- 2 x SFP connectors
- 2 x 4Gb/s Fibre Channel LC to LC optic cables (3m)
- Rack mounting rail kit
- UK, EU, US power cords

LaCie 12big Rack Expansion Box Content

- LaCie 12big Rack Expansion single I/O module enclosure
- SFF-8088 to SFF-8088 Mini SAS cable (2m)
- Rack mounting rail kit
- UK, EU, US power cords

LaCie 12big Rack Fibre Accessories:

Accessory Name	Item #	Description
FC/RAID controller	131006	LaCie 12big Rack Fibre FC/RAID controller (for replacement or redundancy) ^{***}
I/O module	131005	LaCie 12big Rack I/O module (for replacement or redundancy) ^{***}
Spare drive	131003	LaCie Spare 1TB 12big Rack enterprise drive with drawer ^{**}
Spare drive	131004	LaCie Spare 2TB 12big Rack enterprise drive with drawer
Spare drive	131064	LaCie spare 600GB SAS 12big Rack drive with drawer
Cooling unit	131007	LaCie 12big Rack Serial/Fibre rescue cooling unit ^{**}
Power supply	131008	LaCie 12big Rack Serial/Fibre rescue power supply ^{**}
Spare battery	131019	LaCie 12big Rack Fibre spare battery ^{***}
Mini SAS cables	131013	LaCie 2m Mini SAS cables ^{***}
FC cables	131014	LaCie 10m FC cables (LC connectors) ^{***}
SAN mapping	131017	SAN mapping license on 12big Rack Fibre
Snapshots	131018	StorView Snapshot licenses on 12big Rack Fibre



LaCie Advance Care Option

Because LaCie develops storage solutions that meet both the performance and security needs of professionals, we also offer complete product support and a range of services that ensure maximum peace of mind for the customer. Our LaCie Advance Care Option underscores LaCie's commitment to providing service and support that adds value to your investment.

A LaCie Advance Care Option is the ultimate time-saving solution, helping you get back to work and secure your data faster. Once a Technical Support representative determines that your product needs to be replaced, LaCie will ship you a replacement product immediately. You do not need to pay any freight costs, or even send us your drive first. With our suite of 12big products, the LaCie Advance Care Option comes standard.

LaCie 12big Rack Fibre

Capacity ¹	6TB SATA enterprise class drives	12TB SATA enterprise class drives	7.2TB SAS enterprise class drives	24TB SATA enterprise class drives	12TB SATA enterprise class drives LaCie 12big Rack Expansion	24TB SATA enterprise class drives LaCie 12big Rack Expansion	7.2TB SAS enterprise class drives LaCie 12big Rack Expansion
Item Number	131010	131011	131031	131012	131031	131032	131062
External Interface	2 x 4Gb/s Fibre Channel per controller point-to-point, loop and fabric (switched) topologies						
Supported Operating Platforms	Windows 2003 (IA32, EM64T, IA64); RedHat Linux AS4/EL5 (IA32, EM64T, IA64); SuSE Linux 9/10 (IA32, EM64T, IA64), Mac OS 10.4 and later						
Supported Hosts	256, 512 LUNs, LUN Masking, >2TB LUNs						
Expansion	up to 5 LaCie 12big Rack Expansions can be connected through miniSAS (SFF-8088) connections						
Total Number of Disks	up to 60 SATA drives or 92 SAS drives						
Total Expansion Capacity	60TB						
Disk Drives	Interface types: SAS (3Gb), SATA-II (3Gb) dedicated bandwidth to each drive Max drives per enclosure: 12, 512 logical drives/system, automatic bad sector assignment						
RAID Controllers	Single RAID controller with dual controller option RAID modes Supported: Up to 60 SATA or 92 SAS Drives disk arrays with independent RAID modes 0, 1, 5, 6, 10, and 50 support, selectable stripe sizes (64K, 128K, and 256K) RAID protection features: Background initialization, background parity checking, and automatic drive rebuild with redundant RAID arrays RAID controller cache: 2GB cache per controller (selectable by volume: read, adaptive read-ahead, write through, write-back), battery backup						
System Management	Software: StorView, StorView Path Manager, Snapshot Interfaces supported: Ethernet (out-of-band)						
System Availability	Hot-swappable components: disk drives, RAID controllers, power supplies and cooling modules Additional features for reliability: StorView Path Manager- Windows host based dynamic multi-path failover Snapshot: Up to 24 snapshots per logical drive, and up to 512 snapshots per RAID system						
Dimensions	Height: 87.9mm (3.46") 2 EIA units Width: 443.7mm (17.49") IEC rack-compliant			Depth: 550mm (21.65") Weight: 32.21kg (71 lbs.) dual controllers with drives			
Electrical	Voltage: 100-240 V AC @ 50/60 Hz single phase Input Current: 6.0A (115 VAC), 3.0A (230 VAC)			Input Power: 300W typical			
Environmental: Operating	Temperature: 5° to 40°C (41° to 104° F) Humidity: 8% to 80% non-condensing Altitude: 0 to 2,133m (0 to 7,000')			Shock: 5g 10ms 1/2 sine Vibration: random 0.21 grms 5-500Hz Acoustics: <58 dB LpA @20° C			
Environmental: Non-Operating	Temperature: 1° to 50°C (33.8° to 122° F) Humidity: 8% to 80% non-condensing Altitude: 0 to 12,192m (0 to 40,000')			Shock: 30g 10ms 1/2 sine Vibration: random 1.04 grms 2-200Hz			
Environmental: Storage	Temperature: 1° to 60°C (33.8° to 140° F) Humidity: 8% to 80% non-condensing Altitude: 0 to 12,192m (0 to 40,000')			Shock: 30g 10ms 1/2 sine Vibration: random 1.04 grms 2-200Hz			
Warranty	3-year						

*All tests assume: the performance attained during testing is with a fault-tolerant system and the results gained will be invalid if either a RAID controller or a HDD fails or a rebuild is initiated. If the required bandwidth has to be attained with a failure of rebuild in progress, headroom must have been allocated within the initial system design. NLE and standard reads and writes are tested within a mutually exclusive environment. Performance may vary from one computer to another.

**All configurations use: 7200 rpm SATA drives / 6-drive RAID 5 arrays / 64K chunk size / WBC set to "Max" / RAC set to "Auto" / 1 LD per array / Sequential Write Optimization set to "High" / Overload Management set to "Disabled" / Controller LUN disabled / ATTO HBAs and ATTO multipath driver used / Disable cache writethrough operation when write cache is full / Disable synchronize cache writes to disk / The XSAN metadata drive is always on separate storage.

***Video bit rate: for read test purposes it has been defined that SD is uncompressed 8-bit 25FPS (720X576) = 21Mb/s. HD is uncompressed 8-bit 422 25FPS (1920X1080P) = 104Mb/s. As such, if lower resolutions are used more streams could potentially be supported. External - for write test purposes it has been defined that HD is uncompressed 10-bit 4:2:2 25FPS (1920X1080P) = 210Mb/s. This will require an external HD source to generate the video.

*Recommended for optimal performance in configurations, but not required for purchase.

**Hot-swappable.

***Hot-swappable if the product is used with dual controller options and multipathing drivers.

¹1TB = 1000GB. 1GB = 1000MB. 1MB = 1,000,000 Bytes. Total accessible capacity varies depending upon operating environment (typically 10% less).

Capacity and cache memory vary depending upon RAID mode.

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