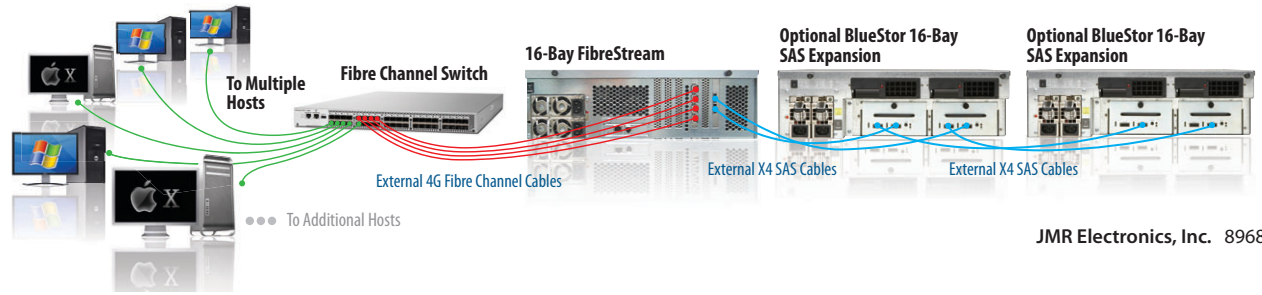
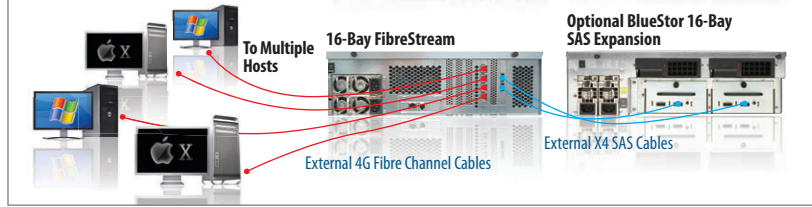
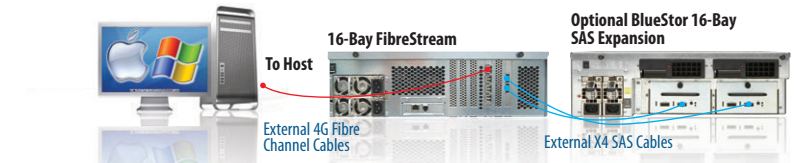


FibreStream™ Fibre Channel RAID Storage Solutions

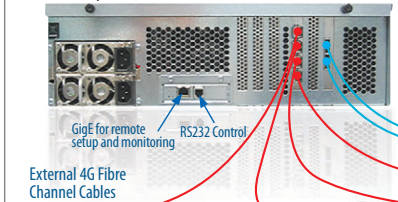
The BlueStor FibreStream Fibre Channel RAID storage system delivers extremely fast sustained performance and high reliability for the most demanding video and data applications. From simple Fibre Channel storage for data intensive applications to content creation and editing to sophisticated collaborative workflows, FibreStream delivers. Completely scalable, FibreStream allows you to create or add to your existing Storage Area Network (SAN) using the highest performance per dollar system available.



FibreStream Flexibility

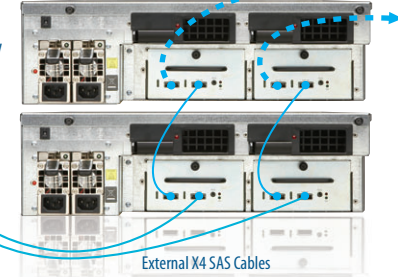
FibreStream can be optimized for any application. Two 3U 16-Bay units with thirty-two drives are configured into 4 RAID5s, eight drives in each RAID. All four RAID5s are mapped to all four Fibre Channel ports. Additional SAS Expansion Units can be added to increase storage capacity and/or performance.

16-Bay FibreStream



All servers running Command Soft "Fibrelet" Software. MAC Pro has a multipathing function to enable all four RAID5s to be presented to all four ports. The four RAID5s are configured into one striped volume.

Optional BlueStor 16-Bay SAS Expansion



JMR Electronics, Inc. 8968 Fullbright Avenue Chatsworth, CA 91311
Tel. 818-933-4801 www.jmr.com



POWER OF BLUE

FAST
POWERFUL
AFFORDABLE

The Fastest, Scalable and Most Affordable Fibre Channel RAID Storage Solutions for Content Creation and Post Production

▼ The Power of Blue

The JMR BlueStor® FibreStream™ delivers incredibly fast performance, unsurpassed reliability and flexibility, absolute data integrity and enterprise-level functionality for a wide range of video and compute intensive data applications.

FibreStream Fibre Channel RAID Storage System

The FibreStream Fibre Channel RAID storage system delivers extremely fast sustained performance and high reliability for the most demanding video and data applications. The FibreStream provides Fibre-to-the-host, SAS/SATA to-the-drives and comes available with either two or four 4Gb/s Fibre Channel host ports (LC-SFPs) or four 8Gb/s Fibre Channel host ports (LC-SFPs) for the utmost in data delivery. Completely scalable, FibreStream allows you to create or add to your existing Storage Area Network (SAN) using the highest performance per dollar system available.

Large capacity in a small form factor

Each FibreStream RAID shelf unit contains sixteen hot-swappable disk drive canisters in a dense 3U rack mount frame. The canisters carry the latest 3Gb/s SAS or SATA-2 disk drives, affording up to 32TB native capacity using the latest SATA-2 disk drives. The disk drives are contained in unique light weight, high technology resin carriers having integrated light pipes, latching handles, EMI shields and are all interchangeable with other BlueStor product disk carriers.

FibreStream can be easily expanded past the sixteen internal drives by daisy chaining a BlueStor SAS JBOD Expansion unit through two SAS 8088 connectors provided on the rear of each FibreStream enclosure. Multiple expansion units can be further connected to expand your RAID volume(s).

Performance and Reliability you can count on

To ensure extreme reliability in the worst conditions, FibreStream features redundant (N+1) hot-swappable 620W power supplies and redundant (N+1) hot-swappable cooling fans. Offering a wide selection of RAID data protection modes, the FibreStream can be configured for RAID levels 0, 1, 4, 5, 6, 10, 40, 50 or 60, delivering 650 MB/s performance in RAID 5. True SES 2.0 services are integrated for local or remote monitoring to help guarantee enterprise-class reliability.



FibreStream RAID (Rear View)

SAS Expansion Unit (Rear View)

▼ FibreStream Features

FibreStream Software Features:

San file sharing

- Native Mac OS X high-speed journal protected HFS + and NTFS
- Fibre Channel connectivity
- Concurrent read/write access (to different file systems)
- Concurrent read access (to same file system)
- Volume-level locking

High-availability

- Standard disk utilities
- Storage pools
- Striping or mirroring across multiple LUNS
- Hardware RAID devices supported
- Online volume expansion
- Volume mapping
- Direct Fibre Channel connectivity between SAN attached computers and SAN storage (just like they were directly attached to the storage)
- Striping across multiple disk arrays (LUNs) for highly scalable performance

Data Management

- Implicit storage pool and volume affinities for automated data placement
- Implicit hard volume quotas
- Normal file system user and group enforcement

FibreStream Hardware Features:

- 3U 16-Bay Rackmount Enclosure
- Sixteen 3.5" Disk Canisters
- Hot Swappable HDDs
- Dual Hot Swappable Power Supplies
- SAS/SATA to the drives
- Two or Four 4G Fibre Ports to the Host
- Up to 32 TB Capacity (per enclosure) with the latest SATA-2 disk drives
- Up to 4.8 TB Capacity (per enclosure) with SAS 15K disk drives
- Web Based GUI for Monitoring and Management
- Enclosure Management SES 2.0 Compatible
- RAID Levels 0, 1, 4, 5, 6, 10, 40, 50, 60 (RAID 40, 50, 60 require optional software)
- 4KB sector size support for volumes >2TB
- Up to 650MB/sec performance in RAID 5



FibreStream is supplied with all drive carriers, the selected compliment of disk drives as ordered (installed in carriers and burned in prior to shipment), all rack mounting brackets and hardware, 4-Gigabit LC SFPs, two power cords, user manual and RAID array management/GUI on CD-ROM. FibreStream is 100% RoHS compliant, and is made in the USA.

FibreStream Test Results

FibreStream 3U 16-Bay Unit



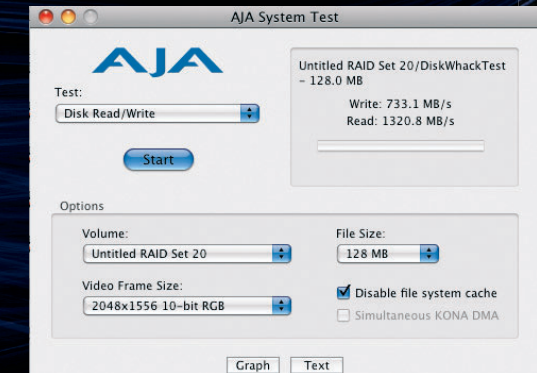
External 4G Fibre Channel Cables

FibreStream 3U 16-Bay SAS Expansion Unit



External X4 SAS Cables

MAC Pro has a multipathing function to enable all four RAID's to be presented to all four ports. The four RAID's are configured into one stripped volume.



Test Results:

Transfer Size: 10 Megabytes
Maximum Measured Read Speed: 1345.756 MB/Sec
Average Measured Read Speed: 1317.286 MB/Sec
Minimum Measured Read Speed: 1206.300 MB/Sec
Maximum Measured Write Speed: 814.500 MB/Sec
Average Measured Write Speed: 756.165 MB/Sec
Minimum Measured Write Speed: 713.614 MB/Sec