



Creativity Stored Here™



Award Winning SATA Storage Systems

Recipients of the prestigious Broadcast Engineering Pick Hit award at NAB 2007, Sonnet's **Fusion™** SATA storage systems are acknowledged for their shared qualities of breakthrough performance, excellent value, great reliability, and broad hardware and application compatibility. Fusion D800RAID, R800RAID and D400RAID systems include an Intel® RAID processor-based controller card to ensure the best performance with data protection available in their price range, while Fusion D500P, D400Q and R400Q systems offer integrated port multipliers with single eSATA interfaces to provide great performance through Sonnet's acclaimed Tempo™ SATA E4P and Tempo SATA X4P host adapter cards with port multiplier support. These systems are ideal for use in mixed work environments—various operating systems, editing applications and output demands—requiring the flexibility and interoperability that Fusion SATA storage systems provide. They support Mac OS® X, Windows® XP, Windows Vista, and Linux, and are compatible with capture cards from AJA, Blackmagic Design, Matrox, and Bluefish444, and work with all mainstream video editing applications including Apple® Final Cut Pro®, and Adobe® Premiere® Pro CS3. From the 4-drive Fusion D400Q desktop and R400Q rackmount systems with their innovative quad-interface (eSATA, FireWire 800, FireWire 400, and USB 2.0), to the acclaimed, protected performance of the 8-drive Fusion D800RAID desktop and R800RAID rackmount systems, Sonnet has a storage system right for you.

New



Fusion Mobile Rack

Single drive module enclosure for use in PCs' standard 5.25" drive bay with internal SATA connection. Works with all Fusion drive modules.

Coming Soon

Fusion R800RAID

8-drive rackmount storage system with PCIe RAID controller card—offers the same performance as Fusion D800RAID!



SONNET FUSION SERIES HD VIDEO STORAGE

Fusion Models	Fusion D800RAID with RAID Controller		Fusion D400RAID with RAID Controller	Fusion D500P	Fusion D400Q and Fusion R400Q
Form Factor	Desktop		Desktop	Desktop	Desktop or Rackmount
Interface (s)	2X Multilane SATA		Multilane SATA	eSATA	eSATA, FireWire 800, FireWire 400, USB 2.0
Capacities	4–8TB		2–4TB	2.5–5TB	2–4TB
# of Drives	8		4	5	4
RAID Levels	0, 1, 4, 5, 10, 50, JBOD		0, 1, 4, 5, 10, JBOD	0, 1, 10, JBOD	0, 1, 10, JBOD
Sonnet Sata II Tempo Controller	Included PCIe		Included PCIe	PCI-X, PCIe, Express 34	E4P, X4P, Express 34
RAID Controller Type	Sonnet Intel® IOP348 RAID Processor w/256MB RAM		Sonnet Intel® IOP348 RAID Processor w/256MB RAM	Software	Software
Video Streams/Configuration	RAID 0	RAID 5	RAID 5	Software RAID 0	Software RAID 0
DV (1 stream=3.6 MB/s)	16	16	15	16	15
DV50 (1 stream=7.2 MB/s)	12	12	9	10	9
DVCPRO HD 720p 59.94 (1 stream=14.4 MB/s)	9	9	6	7	6
DVCPRO HD 1080i 29.97 (1 stream=16 MB/s)	9	9	5	6	5
HDV 720p (1 stream=2.4 MB/s)	16	14	13	14	13
HDV 1080i 29.97†† (1 stream=3.1 MB/s)	16	8	7	8	7
Uncompressed 8-bit NTSC (1 stream=21.0 MB/s)	8	8	4	5	4
Uncompressed 10-bit NTSC (1 stream=28.0 MB/s)	6	6	3	4	3
Uncompressed 8-bit 720 HD (1 stream=55.2 MB/s)	2	2		1	1†
Uncompressed 10-bit 720 HD (1 stream=73.6 MB/s)	1	1		1†	1†
Uncompressed 8-bit 1080i HD (1 stream=124.3 MB/s)	2	2		1†	
Uncompressed 10-bit 1080 HD (1 stream=165.7 MB/s)	1	1			
2K (2048 X 1556) LOG RGB (1 stream=309.0 MB/s)	1				

† Playback Only

†† Only the maximum of 16 video streams were tested for these formats.

About stream count testing: hyperbole vs. editing reality

Rather than waste your time with meaningless disk tests performed on empty drives, we've conducted in-depth, real world testing to provide you with realistic results. Testing was conducted after weeks of use, during which time projects were captured, parts deleted, more parts captured, rendered, and so on, leaving the drives 85% full and fragmented. The stream counts we present here reflect the reduced performance that results from regular day-in, day-out use. Remember, virtually any storage system works well the day you get it, but the true test is whether it will continue to serve you when you push the envelope and deadlines. Fusion storage systems won't let you down.

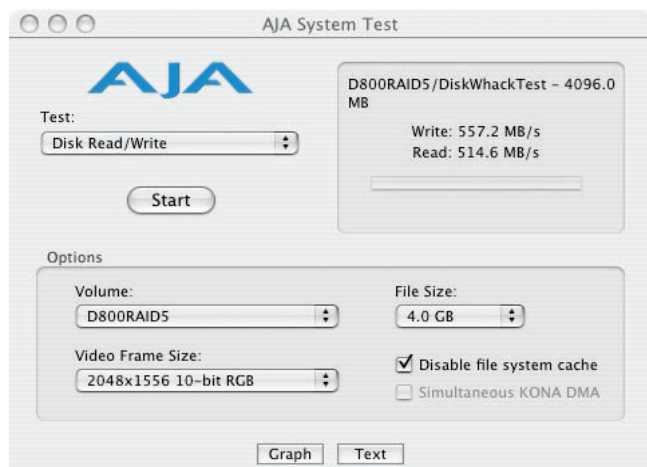
Fusion D800RAID

Professional 8-Drive SATA Storage Systems with PCI Express® RAID Controller

Fusion D800RAID storage systems are designed for work environments in which performance and fault tolerance are critical. Featuring Sonnet's powerful PCIe RAID controller card, Fusion D800RAID storage systems can capture and play uncompressed 10-bit 1080 4:4:4 HD video without dropping frames while simultaneously protecting the data, yet are flexible enough to be configured for any workflow.

HD Optimized Performance

Under real world use (drives 85% filled and fragmented), with its drives formatted as a RAID 0 group, the D800RAID is capable of single-stream 2K (2048 x 1556) LOG RGB capture and playback. With its drives configured as a protected RAID 5 group (eight 1TB drives striped with parity distributed across all group members), Fusion D800RAID can achieve 515MB/sec (AJA Kona 1080HD test), fast enough to handle multiple streams of uncompressed 8-bit 1080 HD, DV, HDV, and DVCPRO video.



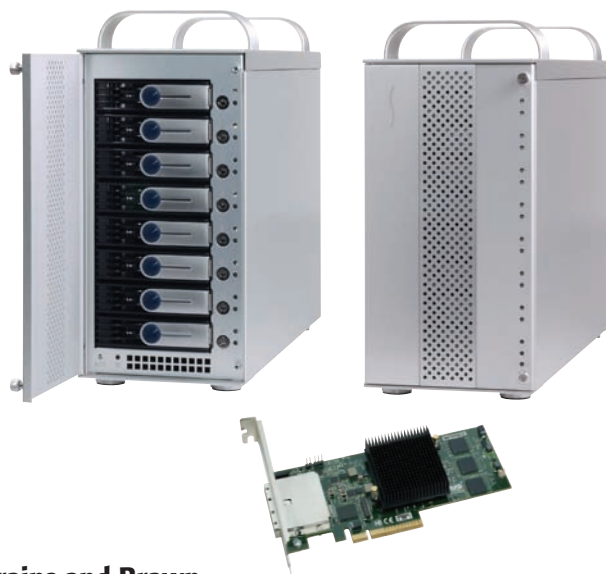
AJA System Test 2k

Test performed with an 8TB system and a 2k frame size where very large frames are written (12.5MB frame, 24fps). The good news here is that 2k LOG RGB film at this frame size is still only about 320MB/sec, which means even with overhead we can play it back without dropping frames. This system is set up 85% full with everything ready to show.

Built-In Flexibility

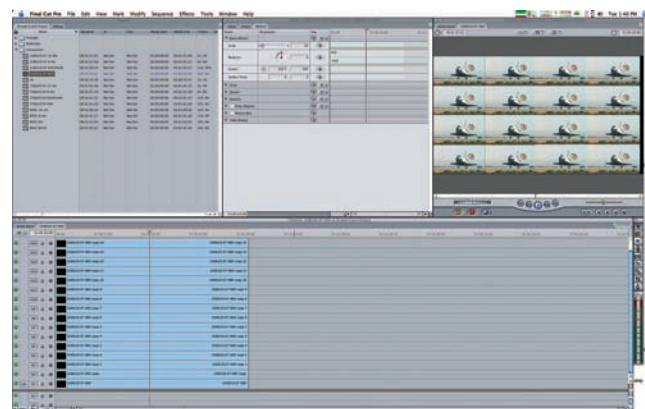
Fusion D800RAID supports RAID 0, 1, 4 (DVRAID), 5, 10, 50, and JBOD groups. They even support hot spares. The designated hot spare drive automatically replaces a failed one without you having to lift a finger. All this flexibility is accomplished without switches—the configuration application enables you to optimize your setup for specific workflows.

With drives formatted as a RAID 4 (DVRAID) or 5 group, D800RAID systems offer fail-safe protection in the event of a drive failure. You can set up your system to provide visual and audible alerts, including e-mail notification. A drive can be swapped out and the RAID rebuilt in 2–4 hours (depending on configuration), or you can continue to work at reduced bandwidth while the RAID rebuilds in the background.



Brains and Brawn

The powerhouse Sonnet PCI Express RAID controller is based on the latest-generation Intel® IOP348 RAID processor, which can handle the throughput from all the drives with plenty of overhead. The Sonnet RAID controller is configured with 256MB of ECC-protected RAM, especially important to maintain data stream writes as the disk array nears capacity.



16-up-hdv2

Multicam clip shot as well as a composition with 16 channels of HDV in it.

Key Features

- Complete system includes enclosure, 8-lane PCIe RAID controller card, drive modules, cables and software
- 4TB, 6TB, or 8TB configurations; Enterprise/RAID Edition drives*
- Up to 568 MB/sec read, 629 MB/sec write data transfers (8TB configured as RAID 0); up to 515 MB/sec read, 557 MB/sec write data transfers (8TB configured as RAID 5)
- Supports RAID 0, 1, 4 (DVRAID), 5, 10, 50, and JBOD groups; supports hot spares
- Supports visual and audible alerts, including e-mail notification
- Drive activity, drive presence, and power LED indicators
- Universal 300W, 100–240V, 50/60Hz power supply
- RoHS compliant

* Outside of North America, contact distributor for configurations.

Fusion D400RAID

4-Drive SATA Storage Systems with PCI Express® RAID Controller

Fusion D400RAID Expansion

4-Drive SATA Storage System Expansion

Fusion D400RAID storage systems are designed for work environments in which fault tolerance and performance are critical. Featuring the same powerful Sonnet PCIe RAID controller card as is included with Fusion D800RAID systems, Fusion D400RAID storage systems can capture and play three streams of uncompressed 10-bit NTSC video without dropping frames while simultaneously protecting the data, yet are flexible enough to be configured for any workflow.

Expandable HD Performance

With its drives configured as a protected RAID 5 group (four 1TB drives striped with parity distributed across all group members), Fusion D400RAID can achieve 236MB/sec read, 179 MB/sec write data transfers (AJA Kona 1080HD test), fast enough to handle four streams of uncompressed 8-bit NTSC video, or multiple streams of DV, DVCPRO, HDV, and SD video.

When you need more storage capacity and better performance, this storage system allows you to expand beyond your original setup—just add a Fusion D400RAID Expansion. When you configure all 8 drives together in a RAID group, you'll double the capacity and performance of your original Fusion D400RAID system, equivalent to a Fusion D800RAID. More streams, more formats—what more could you ask for?

Built-In Flexibility

Fusion D400RAID storage systems can easily be optimized for your workflow—they support RAID 0, 1, 4 (DVRAID), 5, 10, and JBOD groups. They even support hot spares—the designated hot spare drive automatically replaces a failed one without you having to lift a finger. All this flexibility is accomplished without switches—the configuration application enables you to optimize your setup for specific workflows.

With drives formatted as a RAID 4 (DVRAID) or RAID 5 group, Fusion D400RAID systems offer fail-safe protection in the event of a drive failure. You can set up your system to provide visual and audible alerts, including e-mail notification. A failed drive can be swapped out and the RAID rebuilt in 2–4 hours (depending on configuration), or you can continue to work at reduced bandwidth while the RAID rebuilds in the background.



FUSION D400RAID BENCHMARK

CONFIGURATION

Fusion D400RAID connected to Sonnet RAID controller installed in Quad 2.66 GHz Mac Pro w/3GB of RAM and an AJA Kona3 capture card.

VIDEO STREAMS

DV (1 stream=3.6 MB/s)	15
DV50 (1 stream=7.2 MB/s)	9
DVCPRO HD 720p 59.94 (1 stream=14.4 MB/s)	6
DVCPRO HD 1080i 29.97 (1 stream=16 MB/s)	5
HDV 720p (1 stream=2.4 MB/s)	13
HDV 1080i 29.97 (1 stream=3.1 MB/s)	7
Uncompressed 8-bit NTSC (1 stream=21.0 MB/s)	4
Uncompressed 10-bit NTSC (1 stream=28.0 MB/s)	3

Key Features

- Complete system (Fusion D400RAID) includes enclosure, 8-lane PCIe RAID controller card, drive modules, cables and software; expansion (Fusion D400RAID Expansion) includes enclosure, drive modules, and cables
- 2TB, 3TB, or 4TB configurations; Enterprise/RAID Edition drives*
- Up to 315 MB/sec read, 332 MB/sec write data transfers (configured as RAID 0 with 1TB drives); up to 235 MB sec read, 179 MB/sec write data transfers (configured as RAID 5 with 1TB drives)
- Supports RAID 0, 1, 4 (DVRAID), 5, 10, 50 and JBOD groups; supports hot spares
- Supports visual and audible alerts, including e-mail notification
- Drive activity, drive presence, and power LED indicators
- Universal 180W, 100–240V, 50/60Hz power supply
- RoHS compliant

* Outside of North America, contact distributor for configurations.

Fusion D400Q

4-Drive Desktop SATA Storage Systems with Quad Interface



Fusion D400Q desktop and R400Q rackmount storage systems each house 4 drives in compact enclosures. They offer speed, reliability, and flexibility, and are great solutions for anyone looking for an affordable package that will fit into a variety of workflows. A single Fusion 400Q storage system can play a single stream of uncompressed 10-bit 720 HD video without dropping frames, yet is equally adept hosting daily backups.

Maximum Performance, Maximum Convenience

Fusion 400Q storage systems employ a high-performance SATA II port multiplier to manage the enclosed drives. Just a single locking cable is required to connect the enclosure to a SATA host controller card—without compromising performance. Connected to a Sonnet Tempo SATA E4P PCIe or Tempo SATA X4P PCI-X Serial ATA host adapter installed in a Mac or Windows computer, a 400Q system's drives can be accessed at maximum speed. With its drives configured as a RAID 0 striped set, a single 400Q system achieves 220MB/sec, fast enough to support multiple streams of DV, HDV, DVCPRO, or uncompressed NTSC video. Do you want even more performance? Up to four 400Q systems can be ganged on a single Tempo SATA E4P or X4P adapter for double, triple, or even quadruple the available streams (as well as increasing the number of supported video formats). No SATA? No problem. Connected via a single FireWire® 800, FireWire 400, or USB cable, all four drives can be accessed at the full speed of the respective interface.

Fusion D400Q desktop storage systems are transportable, so when you require fast, reliable storage in the field, connect one to a MacBook Pro or a Windows notebook computer through Sonnet's Tempo SATA ExpressCard|34 host adapter card for data transfers up to 100MB/s.



QUAD Interface (back)

Fusion R400Q

4-Drive Rackmount SATA Storage Systems with Quad Interface



Key Features

- 4-drive storage system with quad interface (eSATA, FireWire 800, FireWire 400, USB 2.0) through an integrated port multiplier
- 2TB, 3TB, or 4TB configurations; Enterprise/RAID Edition drives*
- Up to 220 MB/sec transfer rate (connected through eSATA interface, configured as RAID 0)
- Supports RAID 0, 1, 10, and JBOD sets
- Drive activity, drive presence, and power LED indicators
- Universal 180W, 110–240V, 50–60Hz power supply
- Includes Sonnet exclusive locking eSATA cable (compatible with standard eSATA connectors) and FireWire 800, FireWire 400, and USB cables included
- RoHS compliant
- Compatible with host bus adapters with port multiplier support

*Outside of North America, contact distributor for configurations.



FUSION D400Q AND FUSION R400Q BENCHMARK

CONFIGURATION

Fusion D400Q (or R400Q) connected to Sonnet Tempo SATA E4P host adapter installed in 2.0 GHz Power Mac® G5 w/2.5GB of RAM and a Blackmagic Design DeckLink HD Pro PCIe capture card. Drives were configured as a RAID 0 set.

VIDEO STREAMS

DV (1 stream=3.6 MB/s)	15
DV50 (1 stream=7.2 MB/s)	9
DVCPRO HD 720p 59.94 (1 stream=14.4 MB/s)	6
DVCPRO HD 1080i 29.97 (1 stream=16 MB/s)	5
HDV 720p (1 stream=2.4 MB/s)	13
HDV 1080i 29.97 (1 stream=3.1 MB/s)	7
Uncompressed 8-bit NTSC (1 stream=21.0 MB/s)	4
Uncompressed 10-bit NTSC (1 stream=28.0 MB/s)	3
Uncompressed 8-bit 720 HD (1 stream=55.2 MB/s)	1**
Uncompressed 10-bit 720 HD (1 stream=73.6 MB/s)	1**

** Playback only

Fusion D500P

5-Drive SATA Storage Systems with Port Multiplier

Fusion D500P storage systems offer speed, versatility, and reliability in an affordable multi-drive package that will fit into a variety of workflows. They can play a single stream of uncompressed 8-bit 1080 HD video without dropping frames, yet are equally adept hosting daily backups.

HD SATAfaction!

Connected via a single locking eSATA cable to a Sonnet Tempo SATA E4P or Tempo SATA X4P Serial ATA host adapter installed in a Mac or Windows computer, a Fusion D500P system's 5 drives can be configured as RAID 0, 1, 10, or JBOD. A single Fusion D500P configured as a RAID 0 striped set achieves 240MB/sec, fast enough to capture and play a single stream of uncompressed 8-bit 720 HD, or support multiple streams of DV, HDV, DVCPRO, or SD video. Do you need more performance? Up to four Fusion D500Ps can be ganged on a single Tempo SATA E4P or Tempo SATA X4P adapter for double, triple, or even quadruple the available streams (as well as increasing the number of supported video formats).

Fusion D500P storage systems are transportable, so when you require fast, reliable storage in the field, connect one to a MacBook® Pro or a Windows notebook computer through Sonnet's Tempo SATA ExpressCard|34 host adapter.



Key Features

- 5-drive storage system with eSATA interface through an integrated port multiplier
- 2.5TB, 3.75TB, or 5TB configurations; Enterprise/RAID Edition drives*
- Up to 240 MB/sec transfer rate (configured as RAID 0)
- Supports RAID 0, 1, 10, and JBOD sets
- Drive activity, drive presence, and power LED indicators
- Universal 180W, 110–240V, 50–60Hz power supply
- Sonnet exclusive locking eSATA cable included; compatible with standard eSATA connectors
- RoHS compliant
- Compatible with host bus adapters with port multiplier support

* Outside of North America, contact distributor for configurations.

Tempo SATA E4P

4-Port PCI Express (PCIe) SATA Host Adapter Card

Tempo SATA X4P

4-Port PCI-X SATA Host Adapter Card



Sonnet's **Tempo SATA E4P** and **Tempo SATA X4P** SATA host adapter cards deliver performance previously unattainable with mainstream technologies, and unprecedented scalability through their support of port multipliers. Port multipliers manage the data flow of up to five drives in one enclosure through a single cable, with data throughput of up to 240MB/s per port. Using today's highest-capacity drives, you can connect an astounding 20 Terabytes (20,000 Gigabytes!) of storage. For the utmost performance, you can create multiple RAID sets to capture and process uncompressed high definition video, or conquer other high-bandwidth applications. For fantastic flexibility, you can work with 20 drives individually and hot-swap them as needed*.

Key Features

- Affordable solution for adding four eSATA ports to your computer
- FIS-based Port Multiplier-aware to support up to 20 disk drives
- Supports Mac OS X/Windows XP Pro/Windows Vista RAID features
- SATA II compliant, 1.5 Gb/s and 3 Gb/s auto-negotiation
- Spread Spectrum Clocking (SSC) support for compatibility with all SATA drives • Drive activity LEDs • Hot-swap drive support*
- S.M.A.R.T. support • Locking SATA connector

Tempo SATA ExpressCard|34

2-Port ExpressCard|34 SATA Host Adapter Card

Sonnet's **Tempo SATA ExpressCard|34** sets the bar high for mobile storage products. This card has two 3Gb/s eSATA ports, and plugs directly into a MacBook Pro or any Windows notebook with an ExpressCard slot. You can connect one or two Fusion D400Q or D500P storage systems and control up to 10 drives—for high-performance applications such as Apple's Final Cut Pro in the field! With two external SATA drives formatted as a RAID 0 set, this card can support sustained write and read data transfer speeds of up to 160 and 140 MB/sec, respectively (about three times as fast as a FireWire connection to the same drives!)

Key Features

- Two eSATA ports
- Supports Mac OS X/Windows XP Pro/Windows Vista RAID features
- FIS-based port multiplier-aware to support up to 10 disk drives
- 3 Gb/s per SATA II controller port • Drive activity LEDs
- Hot-swap drive support*

* SATA drive hot swapping is not supported in a desktop or server PC running Windows XP, Server 2003 or Vista. A SATA drive appears to the system as a not-removable hard drive and there is no mechanism in Windows to prepare the drive for removal.