HighPoint RocketRAID Controllers with ICY DOCK MB561S-4S

Compatibility Report

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June 2007

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Introduction

The purpose of this report is to show the compatibilty of the HighPoint RocketRAID eSATA controllers and ICY Dock MS561S-4S enclosure.

HighPoint RocketRAID External SATA RAID Controllers

The HighPoint RocketRAID external SATA RAID Controllers are the best external storage solution available today. The RocketRAID external SATA II RAID Controllers offer external connectivity with eSATA connectors and external mini-SAS connectors.

With a PCI Express x4 host side interface that is upward compatible to PCI Express x8 and x16 slots the HighPoint RAID controllers offers the fastest external storage solution availability today. PCI Express will deliver data transfer in both directions simultaneously with its serial data transfer system and brings with it higher clock speeds.

HighPoint RocketRAID external SATA RAID controllers have the ability to SATA hot swap and hot plug drives for applications that require daily backups. Enhanced features to prevent degraded RAID arrays include bad sector repair/remapping and SMART monitoring of RAID arrays through the HighPoint RAID management GUI.

ICY Dock MB561-4S

MB561series 4 Bay SATA Removal Hard Drive Enclosure combines the versatility of hot-swap functionality which supports the fastest SATA drives and it can support up to 4 SATA I/II hard drive drives. The MB561series 4 Bay high speed SATA interface is an ideal solution for user that require bandwidth and additional expand availability. MB561series is perfect solution for professional such as Photographer, Video Editor, Graphic Designer and Mass Media Manager.

MB561series is the continue design of ICYDOCK MB559 series. The four hot-swap drive trays offer great freedom of choice in building your storage solution and the trays are interchangeable. Also with its interchangeable fan, lightweight construction design is protected by a layer of solid aluminum plus fine mirror finish, the MB561 Series makes your data mobilization stable, attractive & easy to manage.

RocketRAID Series Controllers

RocketRAID 2322

- PCI-e x4 (x8 and x16 slot compatible)
- Dual External Mini-SAS Connectors
- Support up to 8 SATA Hard Drives
- RAID 0, 1, 5, 10, 50 and JBOD
- Support Windows, Linux, FreeBSD and Mac OS X

RocketRAID 2314

- PCI-e x4 (x8 and x16) slot compatible
- 4 eSATA II ports
- Up to 4 SATA Hard Drives
- Support RAID 0, 1, 5, 10, 50 and JBOD
- Port Multiplier (PM) Ready up to 20 Drives
- Support Windows, Linux, FreeBSD and Mac OS X

RocketRAID 2304

- PCI-e x1 (x4,x8 and x16) slot compatible
- 4 eSATA II ports
- Up to 4 SATA Hard Drives
- Support RAID 0, 1, 5, 10, 50 and JBOD
- Port Multiplier (PM) Ready up to 20 Drives
- Support Windows, Linux, FreeBSD and Mac OS X

ICY Dock MB561S-4S

- SATA II External enclosure with 4 removable 3.5" HDD rack, backplane with 4 e-SATA ports.
- Includes a 200W Open Frame Power Supply
- White LED light for power and continuous blinking white LED light for HDD access
- Rubber padded soles for scratch protection
- Removable cooling fan for easy maintenance
- Mac mini design concept.
- Aluminum alloy body covering with distinctive design and protection
- With shock absorption design making the HDD stable while in operations.

TEST CONFIGURATIONS

Test Case #	Test Configuration Name	Result
1	Single Disk	Pass
2	Multiple Disks	Pass
3	Create RAID Arrays	Pass
4	Boot to OS	Pass
5	SATA Hot Swap	Pass
6	SATA Hot Plug	Pass
7	LED Verification	Pass
8	SPARE Disk Rebuild	Pass

HARDWARE AND SOFTWARE DETAIL

Host Bus Adapter

Host Bus Adapter Model Name	Chipset Type	Board Revision	BIOS
RocketRAID 2322	Marvell 6081	1.0	v1.04
RocketRAID 2314	Marvell 7042	1.0	v2.0
RocketRAID 2304	Marvell 7042	1.0	v2.0

Device Driver for RocketRAID 2322

Operating System	File Name	Version	File Date
Win XP (Pro) SP2	rr232x.sys	v1.06	02/01/2007
Windows Vista Ultimate	rr232x.sys	v1.06	02/01/2007
Mac OS X 10.4.9	rr232x.kext	v1.06	03/15/2007

Device Driver for RocketRAID 2314 and RocketRAID 2304

Operating System	File Name	Version	File Date
Win XP (Pro) SP2	2310_00.sys	v2.0	04/24/2007
Windows Vista Ultimate	2310_00.sys	v2.0	04/13/2007
Mac OS X 10.4.9	rr2310_00.kext	v2.1	03/16/2007

Software Utilities	Version
HighPoint Web GUI	v1.4-3
IOmeter	2006.07.27
AJA Kona System Test	v2.0

Hardware Test Equipment

Host Servers

Make	Model	Chipset	CPU	Memory
Intel	D975BX	Intel 975X Express	Core 2 Extreme	4GB
Supermicro	X6DH8-G2	Intel E7520	Dual Xeon	4GB
Tyan	Thunder K8QE S4885G3NR	NVIDIA 2220/2050	AMD Opteron	4GB
Asus	A8R32-MVP Deluxe	ATI RD580	Athlon 64	2GB
Apple	Mac Pro	Intel	Quad Core Xeon	4GB

Hard Disks

Manufacturer	Model	Capacity	RAID Set
Hitachi	Deskstar E7K500	500GB	0, 5
Hitachi	Deskstar 7K1000	1000GB	0, 1
Seagate	Barracuda 7200.10	750GB	0, 5

Test Cases

Test Case # 1
Single Disk – A single disk was inserted into the MB561S-4S drive bay. The single drive was tested to see if it will be recognized in our RAID management utility.

Test Case # 2
Multiple Disks – Multiple (1-4) disks were inserted into the MS561S-4S drive bays. The multiple drives were tested to see if it will be recognized in our RAID management utility.

Test Case # 3
Create RAID Arrays – RAID 0, 1, 5, 10 and JBOD were created with the drives from the RAID management utility. Redundant RAID arrays were verified and fully initialized.

Test Case # 4
Boot to OS – A boot OS (Windows XP and Ultimate) was installed to the RAID array in the MB561S-4S enclosure. Boot up was verified after successful installation of OS.

Test Case # 5
SATA Hot Swap – A random drive was hot swapped out from the MB561S-4S enclosure while the system was running.

Test Case # 6
SATA Hot Plug – A random drives was removed and hot plugged into the MB561S-4S enclosure while the system was running.
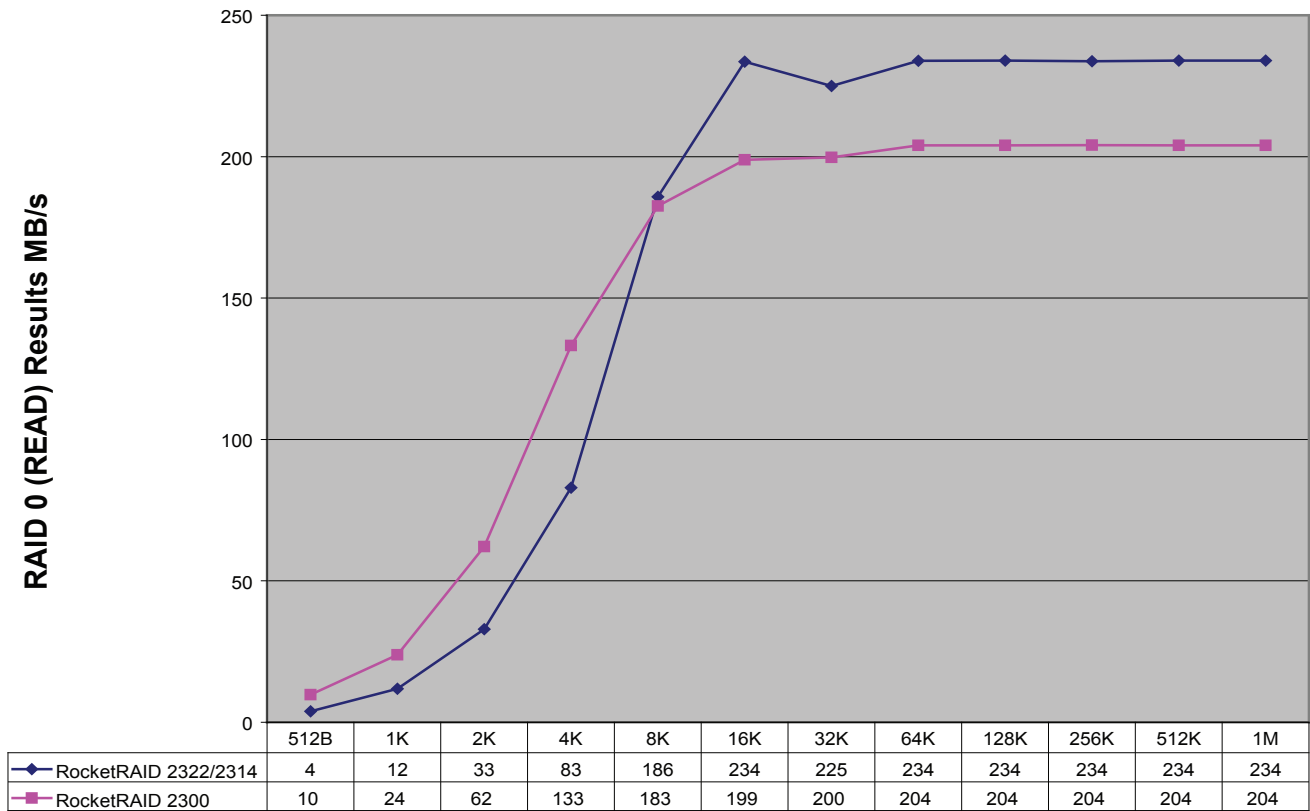
Test Case # 7
LED Verification – Hard disk activity was verified by performing READ/WRITE operations to the RAID array.
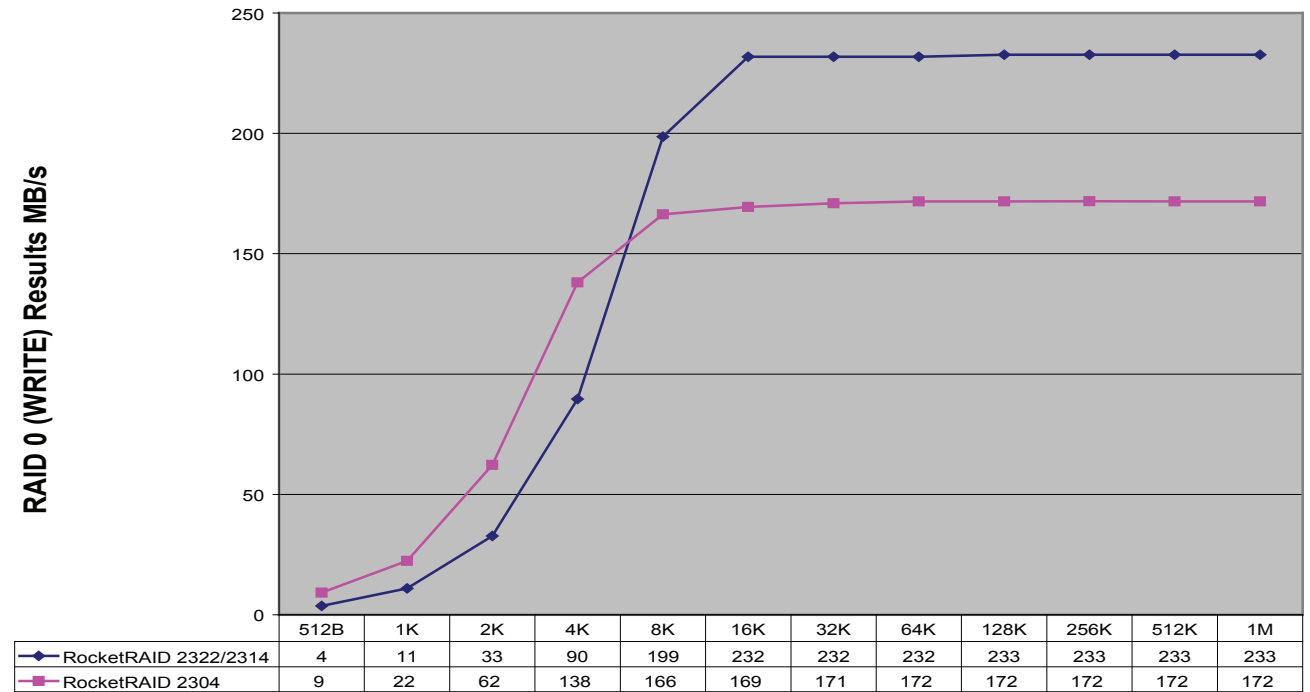
Test Case # 8
SPARE Disk Rebuild – A SPARE disk was selected to help rebuild a degraded RAID array. The SPARE disk will automatically start the rebuilding of the redundant RAID array.
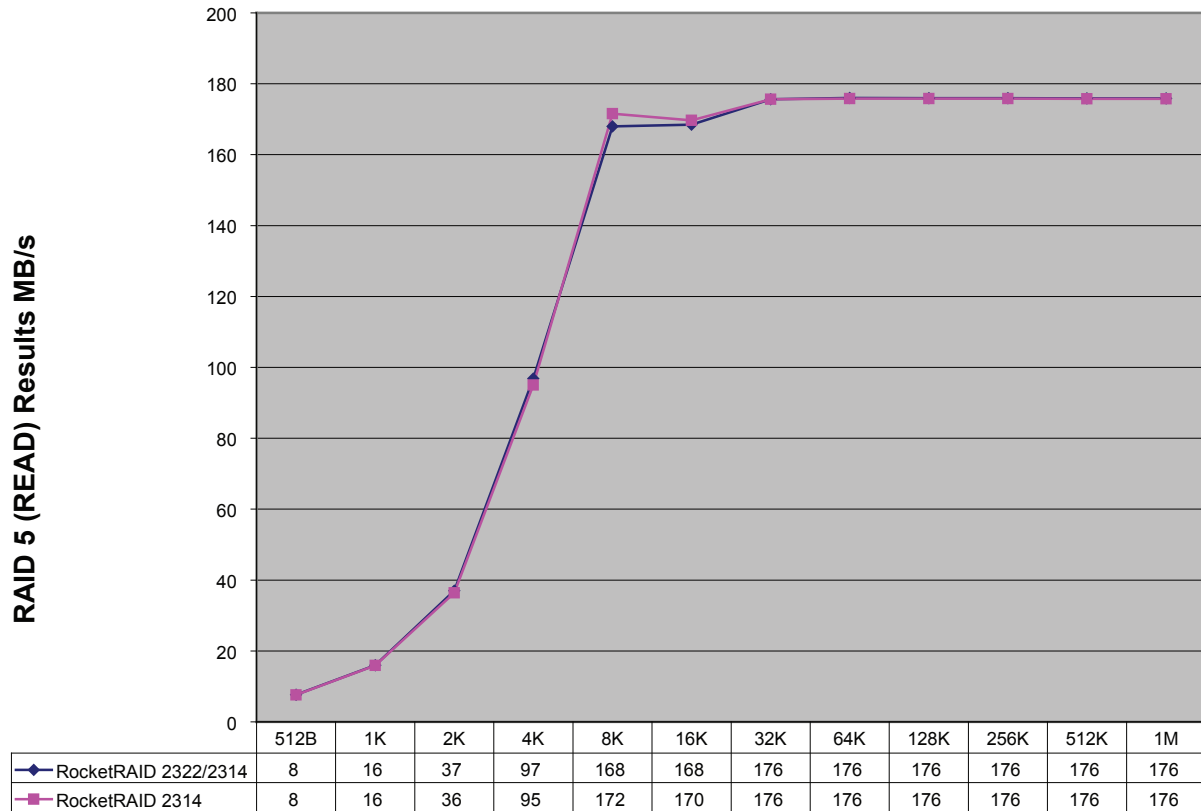
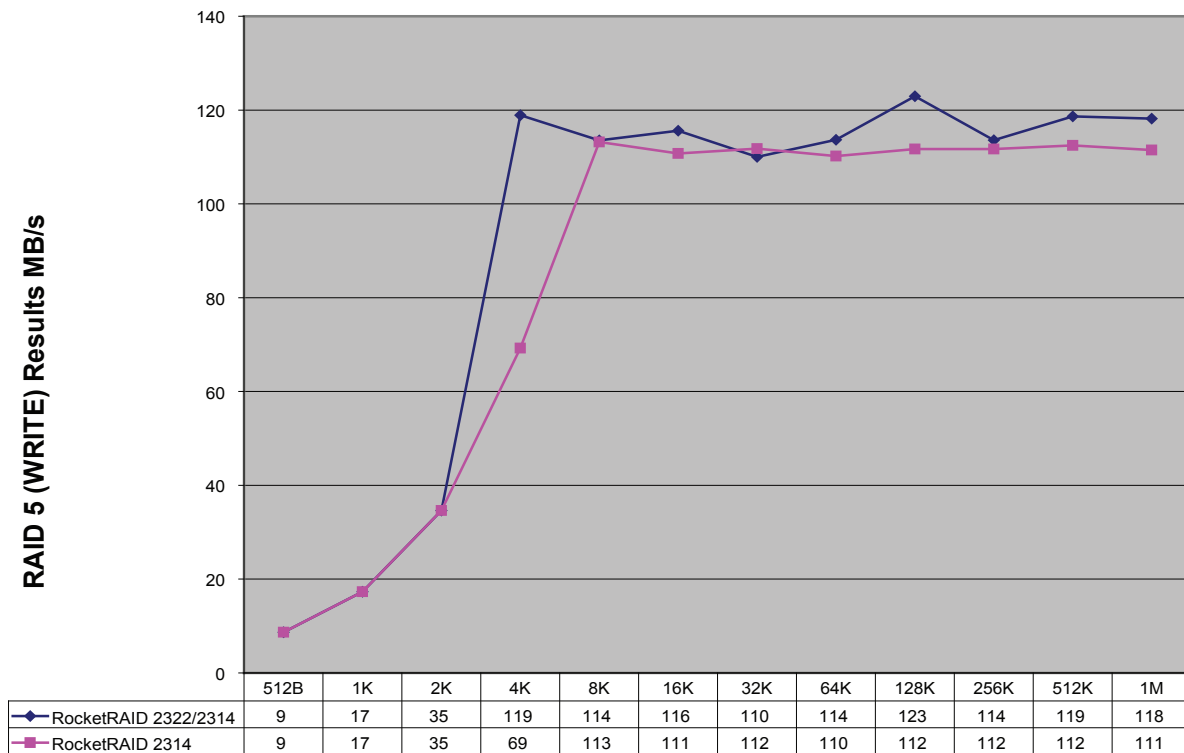## RocketRAID 2322/2314/2300 RAID 0 (READ) Performance Results

	512B	1K	2K	4K	8K	16K	32K	64K	128K	256K	512K	1M
RocketRAID 2322/2314	4	12	33	83	186	234	225	234	234	234	234	234
RocketRAID 2300	10	24	62	133	183	199	200	204	204	204	204	204

RocketRAID 2322/2314/2300 RAID 0 (WRITE) Performance Results

	512B	1K	2K	4K	8K	16K	32K	64K	128K	256K	512K	1M
RocketRAID 2322/2314	4	11	33	90	199	232	232	232	233	233	233	233
RocketRAID 2304	9	22	62	138	166	169	171	172	172	172	172	172

RocketRAID 2322/2314/2300 RAID 5 (READ) Performance Results

RAID 5 (READ) Results MB/s

	512B	1K	2K	4K	8K	16K	32K	64K	128K	256K	512K	1M
◆ RocketRAID 2322/2314	8	16	37	97	168	168	176	176	176	176	176	176
■ RocketRAID 2314	8	16	36	95	172	170	176	176	176	176	176	176

RocketRAID 2322/2314/2300 RAID 5 (WRITE) Performance Results

RAID 5 (WRITE) Results MB/s

	512B	1K	2K	4K	8K	16K	32K	64K	128K	256K	512K	1M
◆ RocketRAID 2322/2314	9	17	35	119	114	116	110	114	123	114	119	118
■ RocketRAID 2314	9	17	35	69	113	111	112	110	112	112	112	111

Row 1, Column 1:
AJA KONA System Test
HW RAID0/DiskWhackTest – 1024.0 MB
Write: 144.8 MB/s
Read: 174.7 MB/s
Test: Disk Read/Write
Start
Options
Volume: HW RAID0
File Size: 1.0 GB
Video Frame Size: 720x486 8–bit
☑ Disable file system cache
☐ Simultaneous KONA DMA
Graph Text

Row 1, Column 2:
AJA KONA System Test
HW RAID0/DiskWhackTest – 1024.0 MB
Write: 143.4 MB/s
Read: 174.9 MB/s
Test: Disk Read/Write
Start
Options
Volume: HW RAID0
File Size: 1.0 GB
Video Frame Size: 720x576 8–bit
☑ Disable file system cache
☐ Simultaneous KONA DMA
Graph Text

Row 1, Column 3:
AJA KONA System Test
HW RAID0/DiskWhackTest – 1024.0 MB
Write: 140.5 MB/s
Read: 174.2 MB/s
Test: Disk Read/Write
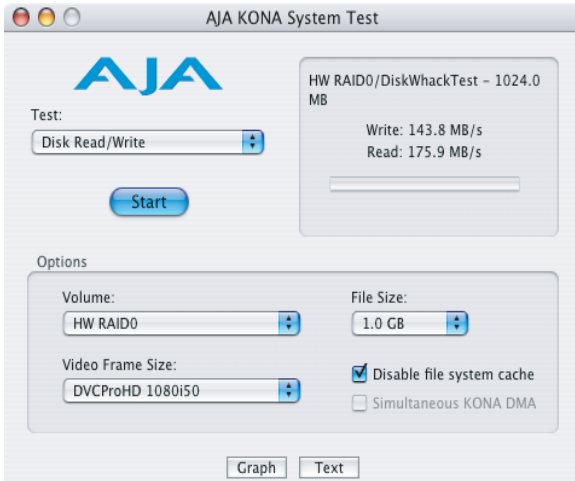Start
Options
Volume: HW RAID0
File Size: 1.0 GB
Video Frame Size: 720x486 10–bit
☑ Disable file system cache
☐ Simultaneous KONA DMA
Graph Text

Row 2, Column 1:
AJA KONA System Test
HW RAID0/DiskWhackTest – 1024.0 MB
Write: 130.8 MB/s
Read: 168.5 MB/s
Test: Disk Read/Write
Start
Options
Volume: HW RAID0
File Size: 1.0 GB
Video Frame Size: 720x576 10–bit
☑ Disable file system cache
☐ Simultaneous KONA DMA
Graph Text

Row 2, Column 2:
AJA KONA System Test
HW RAID0/DiskWhackTest – 1024.0 MB
Write: 131.5 MB/s
Read: 172.7 MB/s
Test: Disk Read/Write
Start
Options
Volume: HW RAID0
File Size: 1.0 GB
Video Frame Size: 1280x720 8–bit
☑ Disable file system cache
☐ Simultaneous KONA DMA
Graph Text

Row 2, Column 3:
AJA KONA System Test
HW RAID0/DiskWhackTest – 1024.0 MB
Write: 130.1 MB/s
Read: 170.4 MB/s
Test: Disk Read/Write
Start
Options
Volume: HW RAID0
File Size: 1.0 GB
Video Frame Size: 1280x720 10–bit
☑ Disable file system cache
☐ Simultaneous KONA DMA
Graph Text

Row 3, Column 1:
AJA KONA System Test
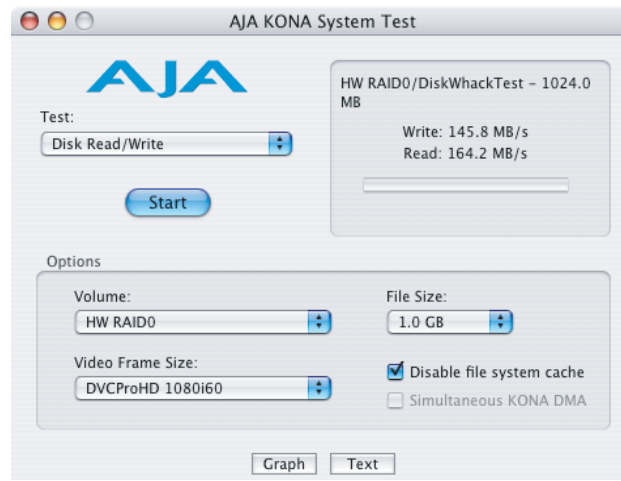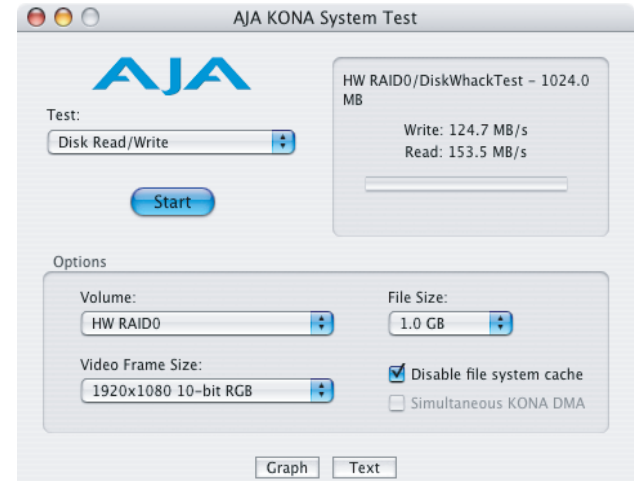HW RAID0/DiskWhackTest – 1024.0 MB
Write: 148.9 MB/s
Read: 165.4 MB/s
Test: Disk Read/Write
Start
Options
Volume: HW RAID0
File Size: 1.0 GB
Video Frame Size: DVCProHD 720p60
☑ Disable file system cache
☐ Simultaneous KONA DMA
Graph Text

Row 3, Column 2:
AJA KONA System Test
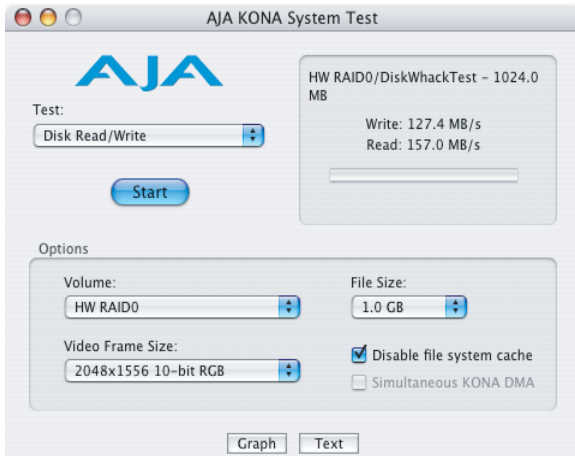HW RAID0/DiskWhackTest – 1024.0 MB
Write: 133.1 MB/s
Read: 156.0 MB/s
Test: Disk Read/Write
Start
Options
Volume: HW RAID0
File Size: 1.0 GB
Video Frame Size: 1920x1080 8–bit
☑ Disable file system cache
☐ Simultaneous KONA DMA
Graph Text

Row 3, Column 3:
AJA KONA System Test
HW RAID0/DiskWhackTest – 1024.0 MB
Write: 129.2 MB/s
Read: 172.8 MB/s
Test: Disk Read/Write
Start
Options
Volume: HW RAID0
File Size: 1.0 GB
Video Frame Size: 1920x1080 10–bit
☑ Disable file system cache
☐ Simultaneous KONA DMA
Graph Text

Row 1, Left: RR2310 ST400*4 RAID 5/ DiskWhackTest – 1024.0 MB
Test: Disk Read/Write
Write: 187.2 MB/s
Read: 157.4 MB/s
Volume: RR2310 ST400*4 RAID 5
File Size: 1.0 GB
Video Frame Size: 720x576 10-bit
☑ Disable file system cache
☐ Simultaneous KONA DMA

Row 1, Center: RR2310 ST400*4 RAID 5/ DiskWhackTest – 1024.0 MB
Test: Disk Read/Write
Write: 192.0 MB/s
Read: 142.4 MB/s
Volume: RR2310 ST400*4 RAID 5
File Size: 1.0 GB
Video Frame Size: NTSC DV25
☑ Disable file system cache
☐ Simultaneous KONA DMA

Row 1, Right: RR2310 ST400*4 RAID 5/ DiskWhackTest – 1024.0 MB
Test: Disk Read/Write
Write: 194.2 MB/s
Read: 167.8 MB/s
Volume: RR2310 ST400*4 RAID 5
File Size: 1.0 GB
Video Frame Size: 720x486 8-bit
☑ Disable file system cache
☐ Simultaneous KONA DMA

Row 2, Left: RR2310 ST400*4 RAID 5/ DiskWhackTest – 1024.0 MB
Test: Disk Read/Write
Write: 190.2 MB/s
Read: 182.2 MB/s
Volume: RR2310 ST400*4 RAID 5
File Size: 1.0 GB
Video Frame Size: 1280x720 10-bit
☑ Disable file system cache
☐ Simultaneous KONA DMA

Row 2, Center: RR2310 ST400*4 RAID 5/ DiskWhackTest – 1024.0 MB
Test: Disk Read/Write
Write: 196.0 MB/s
Read: 160.3 MB/s
Volume: RR2310 ST400*4 RAID 5
File Size: 1.0 GB
Video Frame Size: 1280x720 8-bit
☑ Disable file system cache
☐ Simultaneous KONA DMA

Row 2, Right: RR2310 ST400*4 RAID 5/ DiskWhackTest – 1024.0 MB
Test: Disk Read/Write
Write: 191.3 MB/s
Read: 139.1 MB/s
Volume: RR2310 ST400*4 RAID 5
File Size: 1.0 GB
Video Frame Size: PAL DV25
☑ Disable file system cache
☐ Simultaneous KONA DMA

Row 3, Left: RR2310 ST400*4 RAID 5/ DiskWhackTest – 1024.0 MB
Test: Disk Read/Write
Write: 177.2 MB/s
Read: 166.8 MB/s
Volume: RR2310 ST400*4 RAID 5
File Size: 1.0 GB
Video Frame Size: 720x576 8-bit
☑ Disable file system cache
☐ Simultaneous KONA DMA

Row 3, Center: RR2310 ST400*4 RAID 5/ DiskWhackTest – 1024.0 MB
Test: Disk Read/Write
Write: 189.4 MB/s
Read: 158.4 MB/s
Volume: RR2310 ST400*4 RAID 5
File Size: 1.0 GB
Video Frame Size: 720x486 10-bit
☑ Disable file system cache
☐ Simultaneous KONA DMA

Row 3, Right: RR2310 ST400*4 RAID 5/ DiskWhackTest – 1024.0 MB
Test: Disk Read/Write
Write: 175.3 MB/s
Read: 193.2 MB/s
Volume: RR2310 ST400*4 RAID 5
File Size: 1.0 GB
Video Frame Size: 2048x1556 10-bit RGB
☑ Disable file system cache
☐ Simultaneous KONA DMA

AJA KONA System Test

RR2310 ST400*4 RAID 5/
DiskWhackTest – 1024.0 MB
Write: 187.6 MB/s
Read: 161.9 MB/s

Test: Disk Read/Write
Start

Options
Volume: RR2310 ST400*4 RAID 5
Video Frame Size: DVCProHD 1080i50
File Size: 1.0 GB
☑ Disable file system cache
☐ Simultaneous KONA DMA

Graph Text

AJA KONA System Test

RR2310 ST400*4 RAID 5/
DiskWhackTest – 1024.0 MB
Write: 192.7 MB/s
Read: 192.2 MB/s

Test: Disk Read/Write
Start

Options
Volume: RR2310 ST400*4 RAID 5
Video Frame Size: 1920x1080 10–bit
File Size: 1.0 GB
☑ Disable file system cache
☐ Simultaneous KONA DMA

Graph Text

AJA KONA System Test

RR2310 ST400*4 RAID 5/
DiskWhackTest – 1024.0 MB
Write: 196.0 MB/s
Read: 178.7 MB/s

Test: Disk Read/Write
Start

Options
Volume: RR2310 ST400*4 RAID 5
Video Frame Size: 1920x1080 8–bit
File Size: 1.0 GB
☑ Disable file system cache
☐ Simultaneous KONA DMA

Graph Text

AJA KONA System Test

RR2310 ST400*4 RAID 5/
DiskWhackTest – 1024.0 MB
Write: 190.5 MB/s
Read: 156.8 MB/s

Test: Disk Read/Write
Start

Options
Volume: RR2310 ST400*4 RAID 5
Video Frame Size: DVCProHD 720p60
File Size: 1.0 GB
☑ Disable file system cache
☐ Simultaneous KONA DMA

Graph Text

AJA KONA System Test

RR2310 ST400*4 RAID 5/
DiskWhackTest – 1024.0 MB
Write: 193.5 MB/s
Read: 135.8 MB/s

Test: Disk Read/Write
Start

Options
Volume: RR2310 ST400*4 RAID 5
Video Frame Size: DVCProHD 1080i60
File Size: 1.0 GB
☑ Disable file system cache
☐ Simultaneous KONA DMA

Graph Text

AJA KONA System Test

RR2310 ST400*4 RAID 5/
DiskWhackTest – 1024.0 MB
Write: 192.7 MB/s
Read: 192.2 MB/s

Test: Disk Read/Write
Start

Options
Volume: RR2310 ST400*4 RAID 5
Video Frame Size: 1920x1080 10–bit
File Size: 1.0 GB
☑ Disable file system cache
☐ Simultaneous KONA DMA

Graph Text

AJA KONA System Test

RR2310 ST400*4 RAID 5/
DiskWhackTest – 1024.0 MB
Write: 194.3 MB/s
Read: 188.1 MB/s

Test: Disk Read/Write
Start

Options
Volume: RR2310 ST400*4 RAID 5
Video Frame Size: 1920x1080 10–bit RGB
File Size: 1.0 GB
☑ Disable file system cache
☐ Simultaneous KONA DMA

Graph Text