

Intel® RAID Controllers SRCASJV, SRCASRB, and SRCATAWB Configuration Guide

All Items Subject to Change

A reference guide to assist customers in ordering components to install a RAID solution based on Intel® RAID Controller SRCASJV, Intel® RAID Controller SRCASRB, and Intel® RAID Controller SRCATAWB.



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2. Revision History

Date	Rev	Modification
Aug 22, 2007	0.5	Initial Draft for review
Aug 23, 2007	0.9	Internal Use Only Version
Sep 6, 2007	1.0	First Published Version
Apr 11, 2008	1.05	Added UPC numbers

3. Legal Disclaimer

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4. RAID Controller and Accessory Ordering Information

4.1 Table 1: RAID Controllers

Image	MM	UPC	Product Code	Description of Product	Min Order
	892602	00735858 196444	SRCSASJV	Intel® RAID Controller SRCSASJV (Jordan Valley) - PCIe x8, 8P SAS RAID Controller with Mux (ports can be configured as internal or external), ships with 512MB DIMM, supports up to 1GB ECC 7667MHz DDR2 mini-DIMM. Includes 2 internal cables, Quick Start Users Guide, and CD ROM with technical documentation and software. RoHS Compliant..	5
	892598	00735858 196437	SRCSASRB	Intel® RAID Controller SRCSASRB (Rocky Butte) - PCIe x4, 8P SAS RAID Controller, 256MB embedded memory. Includes 2 internal cables, Quick Start Users Guide, and CD ROM with technical documentation and software. RoHS Compliant.	5
	892456	00735858 196420	SRCSATAWB	Intel® RAID Controller SRCSATAWB (Willapa Bay) = PCIe x4, 8 port SATA RAID Controller, 128MB embedded memory, 16 physical devices, >8 requires expander backplane. Includes 2 internal cables, Quick Start Users Guide, and CD ROM with technical documentation and software. RoHS Compliant..	5

4.2 Table 2: Accessories

Image	MM	UPC	Product Code	Description of Product	Min Order
	891157	0073585 8194518	AXXRSBBU4	Intel® RAID Smart Battery AXXRSBBU4, optional battery back up for use with Intel® RAID Controllers SRCSASRB and SRCSATAWB. Provides up to 48 hours of cache data retention. RoHS Compliant.	5
	891156	0073585 8197854	AXXRPCM3	Intel Portable Cache Module (battery back-up unit) with 256MB DDR2 ECC – for Intel® RAID Controller SRCSASJV. Provides up to 72 hours of cache data retention. RoHS Compliant.	5
	883471	0073585 8181853 7	AXXRSBBU3	Intel® RAID Smart Battery AXXRSBBU3, optional battery back up for use with SRCSASJV , AXXRAK18E and SRCSAS144E. Provides up to 48 hours of cache data retention. RoHS Compliant.	5

5. RAID Controller Feature Comparison

The high level features of Intel® RAID Controllers SRCASJV, SRCASRB, and SRCATAWB are shown below. In addition, Intel® RAID Controller SRCAS18E (“Parowan”) and Intel® RAID Controller SRCAS144E (“Boiler Bay”) features are listed for comparison.

	SRCAS18E	SRCASJV	SRCASRB	SRCATAWB	SRCAS144E
Drive Type	SAS/SATA	SAS / SATA	SAS / SATA	SATA	SAS/SATA
Max Drives	240	240	32	16	32
Ports	8 internal	8 (8 i/e; 4/4)	8 internal	8 internal	4 int & 4 ext
Cache memory	256MB, To 1GB	512 MB, 72b wide, To 1 GB	256 MB, 40b wide, Embedded	128 MB, 40b wide, Embedded	128 MB Embedded
PCI interface	PCIe x8	PCIe x8	PCIe x4	PCIe x4	PCIe x4
BBU support	AXXRPCM2	AXXRPCM3 AXXRSBBU3	AXXRSBBU4	AXXRSBBU4	AXXRSBBU3
Form Factor	Full High	Low Profile	Low Profile	Low Profile	Low Profile
Expander	Yes	Yes	Yes	Yes!	Yes

Additional features common to all RAID cards described herein are:

- Online RAID level migration and capacity expansion
- RAID array roaming
- Instant availability and background initialization
- Auto resume during array reconstruction
- Support cache memory battery backup
- Automatic detection of failed drives
- Automatic rebuild with hot-spare drives
- Hot-plug drive support
- SES2 Enclosure Management support

6. Solution Guidance

The information in this section is intended to provide assistance in selecting from the RAID controllers and accessories described within to deliver the right RAID solution.

6.1 SAS, SATA, or Mixed Hard Drives

Most volume server solutions will utilize either Serial Attached SCSI (SAS), Serial ATA (SATA) hard disk drives, or a mixture of SAS and SATA depending on the performance, reliability, and capacity requirements of the RAID solution. Typically, SAS offers the highest performance and Mean Time Before Failure (MTBF); whereas SATA offers the best price per GB.

For solutions requiring SAS, a mixture of SAS and SATA, more than 16 hard drives, or an option to upgrade to SAS, either Intel® RAID Controller SRCSASJV or SRCSASRB should be selected.

For solutions based entirely on SATA, with fewer than 16 hard drives, and no expectation to add SAS drives in the future, the Intel® RAID Controller SRCSATAWB could be appropriate.

6.2 Internal, External, or Mixed Storage

For solutions requiring external storage or an option to add external storage in the future, the Intel® RAID Controller SRCSASJV should be selected. This controller can support up to 240 hard disk drives installed in JBOD devices.

For solutions only requiring internal storage, Intel® RAID Controllers SRCSASRB and SRCSATAWB should be considered.

6.3 Expander Backplane, Non-Expander Backplane or Direct Cabling

For expander-based backplanes with support for up to 16 hard disk drives, any of the Intel® RAID Controllers SRCSASJV, SRCSASRB, or SRCSATAWB are appropriate.

For solutions with expander-based backplanes with support for more than 16 hard disk drives, the Intel® RAID Controller SRCSASJV or SRCSASRB are appropriate.

For backplanes that do not integrate an expander and support up to 8 hard disk drives, any of the Intel® RAID Controllers SRCSASJV, SRCSASRB, or SRCSATAWB are appropriate.

For direct cabling, any of the Intel® RAID Controllers SRCSASJV, SRCSASRB, or SRCSATAWB are appropriate. However, Intel® RAID Controller SRCSATAWB may be preferred as the solution is likely to include only SATA disk drives (since SAS drives are designed for being plugged into a backplane and not for direct cabling).

6.4 Performance and Scalability Considerations

For solutions requiring the highest performance or the greatest scalability, the Intel® RAID Controller SRCSASJV should be considered. Features such as PCI Express x8, 512MB mini-DIMM cache module (installed and upgradeable), and 72-bit wide memory support allow this card to deliver higher performance in many scenarios. This card supports up to 240 physical devices and also has the option of a standard Intel® RAID Smart Battery or Intel® Portable Cache Module.

6.5 Additional Information

For additional information, visit the RAID section of <http://www.intel.com/go/serverproducts>.