



Product Brief

Intel® RAID Controller SRCS16

- Intel® 80302 100MHz I/O processor
- Six Serial ATA Ports
- Support for RAID Levels 0, 1, 5, 10, and 50

Intel® RAID Controller SRCS16

A high-performance RAID solution from an affordable 6-port Serial ATA RAID controller



Intel® RAID Controller SRCS16

Serial ATA RAID is designed for server applications that require enhanced performance, reliability, and system scalability at an affordable price. Built around the Intel® 80302 I/O processor and designed to deliver up to 150 MB per second bus speed via point-to-point thin-cable connections, the Intel® RAID Controller SRCS16 provides a versatile, high-performance solution for mission-critical server and workstation environments.

Reliability and Performance in an Affordable RAID Solution

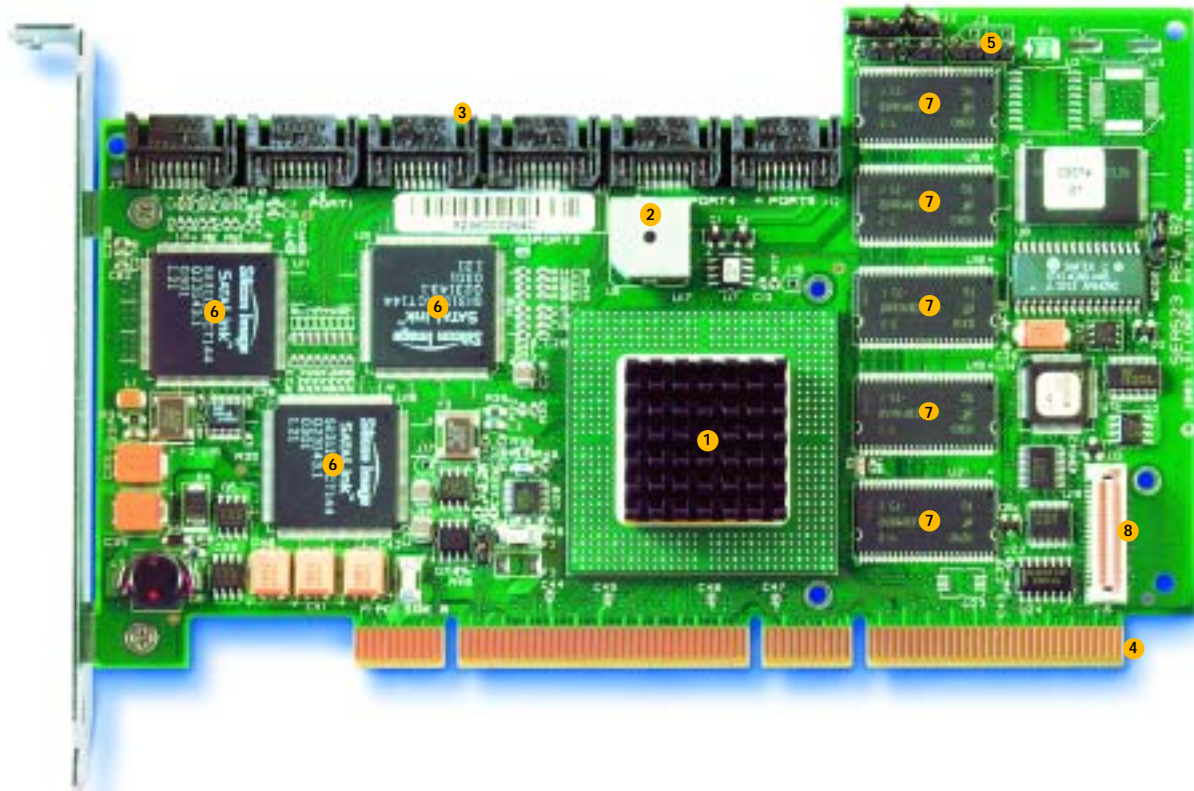
With support for RAID levels 0, 1, 5, 10, and 50 and as many as six hot-swappable drives, the Intel® RAID Controller SRCS16 offers an ideal RAID solution in environments where reliability, cost-effectiveness, and performance are key requirements. The RAID Controller SRCS16 includes 64 MB of embedded ECC SDRAM memory and enables background initialization and instant availability to provide immediate accessibility to the host operating system and quick RAID level 5 setup.

A powerful set of RAID capabilities make the Intel RAID Controller SRCS16 the workhorse of Serial ATA RAID controllers. These capabilities include auto resume during array reconstruction; online capacity expansion and RAID-level migration; and online and remote management through the Intel® RAID Web Console, enabling management of the RAID array over the network via a Web browser.



Intel® RAID Controller SRCS16 Features and Benefits

Features	Benefits
Intel® 80302 100MHz I/O processor	Outstanding RAID performance
Six independent Serial ATA ports	High-speed data access across all ports simultaneously
Designed for 64-bit/66MHz PCI 2.2 interface	High data-transfer rate, increased availability, and increased flexibility
64MB of embedded ECC SDRAM	Data integrity and performance
Support for RAID levels 0, 1, 5, 10, and 50	Flexibility for optimizing performance and fault tolerance in a variety of solutions
Serial ATA II extensions and SAF-TE enclosure-management support	Provides hot-swap drive support and drive status/identification for Serial ATA drives
Optional battery-backup unit	Data reliability
Intel® RAID Software: Intel® RAID BIOS Console, Intel® RAID Web Console, and Intel® RAID Flash Utilities	Ease of management and monitoring
Background initialization and instant availability	Immediate accessibility to the host operating system and minimal build time
Three-year limited warranty	Peace of mind



**Intel® RAID Controller SRCS16,
a powerful, reliable solution for
demanding environments.**

- 1. Intel® 80302 100MHz I/O processor
- 2. Audible Alarm
- 3. Serial ATA Ports 0–5
- 4. 64-bit/66MHz 3.3V/5V PCI bus
- 5. I²C connector
- 6. Silicon Image*, SATALink* Sil 3112A* SATA Controllers
- 7. 64MB ECC SDRAM (with one SDRAM for parity)
- 8. Connector for optional battery backup unit (BBU)

Product Ordering Information:

Product	Product Order Code
Intel® RAID Controller SRCS16	SRCS16
Optional Battery Backup Unit	AXXRBBU2

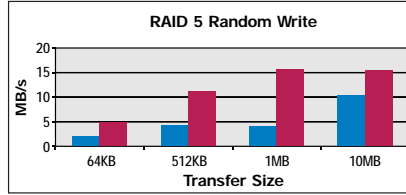
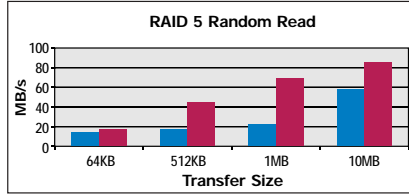


The RAID Controller SRCS16 Optional Battery Backup Unit (BBU) provides backup power for cache memory.

RAID Performance Information

Intel® RAID Controller SRCS14L vs. Intel RAID Controller SRCS16^{1,2}

The RAID Controller SRCS16 out performs the RAID Controller SRCS14L in the following tests.



System Configuration

- RAID controllers configured with latest production firmware and drivers, write back cache enabled
- Test Platform—Intel® Server Board SE7501HG2
- Operating system boot drive on primary IDE channel, running Microsoft Windows® 2003
- Four-port Intel SATA backplane
- 2GB system Memory
- 4 Western Digital® WD2500JD-00FYB0 hard drives
- Test Program—Iometer®
- Workers = #LD drives = 1
- Outstanding IO's = 500
- 30 second ramp / 5 minute test

In the test configuration above, data requested will almost always be fetched from the hard drive instead of cache memory, as the likelihood of a cache hit is very low.

RAID 5 Random Write performance is improved by temporarily storing data to be written in cache pending disk access.

- Intel RAID Controller SRCS14L
- Intel RAID Controller SRCS16

RAID 5 writes include XOR calculations that are then written to the disk along with data. These XOR calculations are performed by the I/O processor on the RAID Controller.

Additional test information is available upon request.

- Performance tests and ratings are measured using specific computer systems and/or components and reflect the approximate performance of Intel products as measured by those tests. Any difference in system hardware or software design or configuration may affect actual performance. Buyers should consult other sources of information to evaluate the performance of systems or components they are considering purchasing. For more information on performance tests and on the performance of Intel products, visit <http://www.intel.com/performance/resources/limits.htm>.
- Many applications perform a mixture of random and sequential activity, the results on the charts above are from tests with settings configured at 100% for each type of activity. It is up to the reader to extrapolate the results to fit their configuration.

Intel® RAID Controller SRCS16 Specifications

Hardware

Processor	Intel® 80302 I/O processor: 100MHz, with hardware XOR
Memory	64MB embedded ECC SDRAM
PCI	64-bit/66MHz PCI 2.2 interface, backward-compatible to 33MHz, supports 3.3V and 5V PCI signaling
Serial ATA	Three Silicon Image®, SATALink® Sil 3112A* SATA Controllers provide six ports that support Serial ATA II extensions for Hot Plug and Enclosure management
Form Factor	Half-length, full-height PCI: 175mm x 107mm (6.875" x 4.2")
Status Indicators	Audible alarm, I°C connector (enclosure management)

Key RAID Features

RAID Levels Supported	0, 1, 5, 10, and 50
Scalability	Online RAID-level migration and capacity expansion, without the need for reboot
Configuration Flexibility	Variable stripe size variable cache options, drive coercion, array spanning, variable rebuild rate
Availability	Auto hot-spare, automatic rebuild, auto rebuild resume, drive roaming, controller migration, online capacity expansion

Operating System Support^{1,2}

Microsoft® Windows Server 2003, Microsoft® Windows 2000 Advanced Server, Microsoft® Windows XP, Red Hat® Linux 9.0, SuSE® Linux 9.0, Red Hat® Advanced Server 3.0, Novell® NetWare® 6.5

Maximum Power Requirements

PCI	+5 V	+3.3 V	Power
Load Sharing Enabled	0.85 A	1.20 A	11 W
Load Sharing Disabled	1.63 A	0.00 A	11 W

Environmental

Ambient Temperature	0°C to 45°C
Relative Humidity	20% to 80% non-condensing
System Requirements	Intel-based system or equivalent with PCI 2.2-compliant 64-bit/66MHz or 33MHz slot

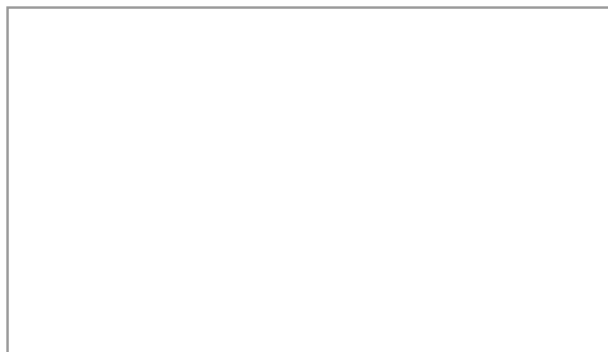
Safety and EMC Regulatory Compliance (Class A)

EMC regulatory compliance is based on integration with a validated Intel server board and configuration as outlined in the RAID Controller SRCS16 subassembly guide.

Country	Certification (Safety and/or EMC)	Regulatory Marks (Safety and/or EMC)
Australia/New Zealand	Not required / AS/NZS 3548	C-Tick
Canada	CSA/UL 60950 / ICES-003	ETL / ICES
Europe	European Directives	CE
International	IEC 60950 / CISPR	N/A
Korea	Not required / RRL	MIC
Taiwan	Not required / BSMI CNS	BSMI
United States	CSA/UL 60950 / FCC	ETL / FCC

- For information on the latest operating-system support, please visit <http://support.intel.com>.
- Operating-system support is contingent on the operating-system support of the motherboard in which this controller is installed.

For more information on how to make the Intel® RAID Controller SRCS16 part of your server environment, please contact an Intel system integrator



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