Intel® RAID

Intel offers multiple categories of RAID products to protect data, increase performance, scale storage, and enhance server availability. A brief description of each category is listed below with details in the pages that follow.

CONTROLLER CARDS AND MODULES

- Best: Intel® Integrated Server RAID signifies unique system boards that are designed to add value above that of a standard RAID add-in card to Intel® Server Boards and Systems.
- Better: Intel® RAID Controllers are add-in cards designed to enable a wide variety of RAID solutions.
- Good: Intel® Embedded Server RAID Technology Software RAID Activation Keys are designed for entry-level RAID solutions.

RAID CACHE BACKUP

- Battery Backup Units (BBU) and Maintenance-Free Backup Units (MFBU) are available for hardware RAID products with embedded cache. The backup options are listed in the "Backup Option" row of the product tables.

EXPANDER BOARDS

- Intel® RAID Expander Cards are intended for any system with more than 8 drives. As an example of use, 8 RAID ports can be expanded to 24 ports.
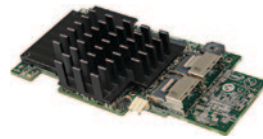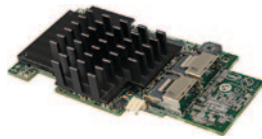
PREMIUM FEATURE KEYS

- Several upgrade features can be added to enhance the performance and data protection of Intel's intelligent RAID cards and modules.

CABLE KITS AND CONVERTER BOARDS

- Newer generation RAID products do not ship with cables, as multiple options exist depending on the system in which the RAID products are installed. Therefore, Intel offers a variety of cables. A converter board that allows for two internal 8087 connectors to be converted to two external 8088 connectors is also available.
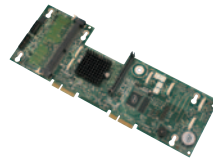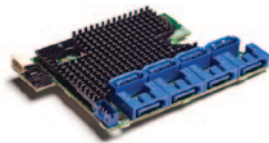
For more information, visit **www.intel.com/go/RAID**

INTEL® INTEGRATED RAID PRODUCTS

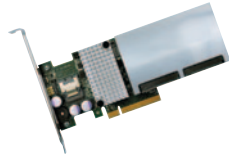| Controller	Intel® Integrated RAID Module RMS25CB080 / 040	Intel® Integrated RAID Module RMT3CB080	Intel® Integrated RAID Module RMS25JB080 / 040	Intel® Integrated RAID Module RMS25PB080 / 040
	6.0 Gb/s SAS 2.1 full hardware RAID Module with storage I/O connector	6.0 Gb/s SATA 3.0 full hardware RAID Module with storage I/O connector	6.0 Gb/s SAS 2.1 entry-level RAID Module with storage I/O connector	6.0 Gb/s SAS 2.1 full hardware RAID Module with standard PCI Express* x8 connector
Market Segment	Mainstream	Mainstream	Entry / Limited Feature	Mainstream
Order Code	RMS25CB080 / RMS25CB040	RMT3CB080	RMS25JB080 / RMS25JB040	RMS25PB080 / RMS25PB040
Processor / RAID On Chip	LSI* 2208	LSI* 2208	LSI* 2308	LSI* 2208
Memory	Embedded 1 GB ECC DDR2 SDRAM	Embedded 512 MB ECC DDR2 SDRAM	2 MB context memory for entry-level hardware RAID calculations	Embedded 1 GB ECC DDR2 SDRAM
PCI Bus	PCI Express* 3.0 x8	PCI Express* 3.0 x8	PCI Express* 3.0 x8	PCI Express* 3.0 x8
Channels	8 / 4 SAS / SATA ports supporting point-to-point 6.0 Gb/s data-transfer rates	8 SATA ports supporting point-to-point 6.0 Gb/s data-transfer rates	8 / 4 SAS / SATA ports supporting point-to-point 6.0 Gb/s data-transfer rates	8 / 4 SAS / SATA ports supporting point-to-point 6.0 Gb/s data-transfer rates
Form Factor	1U capable system board	1U capable system board	1U capable system board	Low-profile PCI Express add-in card
RAID Levels	0, 1, 5, 6, 10, 50, and 60	0, 1, 5, 6, 10, 50, and 60	0, 1, and 1E	0, 1, 5, 6, 10, 50, and 60
Backup Options	AXXRSBBU9 (battery backup) AXXRMFBU2 (flash and supercap)	AXXRSBBU9 (battery backup) AXXRMFBU2 (flash and supercap)	N/A	AXXRSBBU9 (battery backup) AXXRMFBU2 (flash and supercap)
Cables	Purchased separately	Purchased separately	Purchased separately	Purchased separately
Intel® Server Board Support	Intel® Xeon® E5 series server boards with a storage I/O module connector	Intel® Xeon® E5 series server boards with a storage I/O module connector	Intel® Xeon® E5 series server boards with a storage I/O module connector	Intel® Xeon® E5 series server boards
Availability	Now	Now	Now	Now

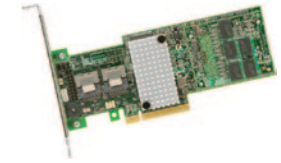| Controller	Intel® Integrated RAID Module RMT3PB080	Intel® Integrated RAID Module RMS25KB080 / 040	Intel® Integrated RAID Module RMS2MH080	Intel® Integrated RAID Module RMS2AF080 / 040
	6.0 Gb/s SATA 3.0 full hardware RAID Module with standard PCI Express* connector	6.0 Gb/s SAS 2.1 entry-level RAID Module with standard PCI Express* connector	6.0 Gb/s SAS 2.0 RAID Module for use with Intel® Server Boards S5520UR and S5500WB	6.0 Gb/s SAS 2.0 entry-level RAID Module for use with Intel® Xeon® E3 and 5600 series server boards with an I/O module slot
Market Segment	Mainstream	Entry / Limited Feature	Mainstream	Entry
Order Code	RMT3PB080	RMS25KB080 / RMS25KB040	AXXRMS2MH080	AXXRMS2AF080 / AXXRMS2AF040
Processor / RAID On Chip	LSI* 2208	LSI* 2308	LSI* 2108	LSI* 2008
Memory	Embedded 512 MB ECC DDR2 SDRAM	2 MB context memory for entry-level hardware RAID calculations	Embedded 512 MB ECC DDR2 SDRAM	2 MB (on card) for RAID 0, 1, 1E, and 128 MB (from server board) for RAID 5 calculations
PCI Bus	PCI Express* 3.0 x8	PCI Express* 3.0 x8	PCI Express* 2.0 x8	PCI Express* 2.0 x4
Channels	8 SATA ports supporting point-to-point 6.0 Gb/s data-transfer rates	8 / 4 SAS / SATA ports supporting point-to-point 6.0 Gb/s data-transfer rates	8 SAS / SATA ports supporting point-to-point 6.0 Gb/s data-transfer rates	8 / 4 SAS / SATA ports supporting point-to-point 6.0 Gb/s data-transfer rates
Form Factor	Low-profile PCI Express add-in card	Low-profile PCI Express add-in card	1U capable system board	1U capable system board
RAID Levels	0, 1, 5, 6, 10, 50, and 60	0, 1, and 1E	0, 1, 5, 6, 10, 50, and 60	0, 1, 5, 10, and 50
Backup Options	AXXRSBBU9 (battery backup) AXXRMFBU2 (flash and supercap)	N/A	AXXRSBBU7 AXXRSBBU8 (new longer life)	No
Cables	Purchased separately	Purchased separately	Included	Included
Intel® Server Board Support	Intel® Xeon® E5 series server boards	Intel® Xeon® E5 series server boards	Intel® Server Boards S5520UR and S5500WB	Intel® Server Boards S5520UR, S5500WB, S5520HC, S5520SC, S3420GP, and S1200BT
Availability	Now	Now	Now	Now

INTEL® RAID

Controller	Intel® Integrated RAID Module RMS2LL080 / 040	Intel® Integrated RAID 1U / 2U Midplane	Intel® Integrated RAID Module SROMBSASMR	Intel® Integrated RAID Module AXX4SASMOD
	6.0 Gb/s SAS 2.0 entry-level RAID Module for use with Intel® Xeon® E3 and 5600 series server boards with an I/O module slot	SAS and SATA RAID Module for Intel® Server Systems SR1625UR, SR2600UR, and SR2625UR	Four-port internal RAID Module for 1U, 2U, and pedestal use with Intel® Server Boards S5520HC and S5500WB	Flexible Module offering pass-through SAS and multiple entry-level RAID options
Market Segment	Entry / Limited Feature	Mainstream	Mainstream	Entry
Order Code	**AXXRMS2LL080 / AXXRMS2LL040**	**Midplane included with systems requires AXXRAKSAS2 for hardware RAID activation**	**AXXROMBSASMR**	**AXX4SASMOD requires AXXRAKSW5 for RAID 5**
Processor / RAID On Chip	**LSI* 2008**	**LSI* 1078**	**LSI* 1078**	**LSI* 1064**
Memory	2 MB for entry-level hardware RAID calculations	Supports up to 1 GB mini-DIMM ECC DDR2 667 MHz DDR2 SDRAM	Embedded 128 MB ECC DDR2 SDRAM	2 MB for entry-level hardware RAID calculations
PCI Bus	PCI Express* 2.0 x4	PCI Express* x4	PCI Express* x8	PCI Express* x4
Channels	8 / 4 SAS / SATA ports supporting point-to-point 6.0 Gb/s data-transfer rates	8 SAS / SATA ports supporting point-to-point 3.0 Gb/s data-transfer rates	4 internal SAS / SATA ports supporting point-to-point 3.0 Gb/s data-transfer rates	4 SAS / SATA ports supporting point-to-point 3.0 Gb/s data-transfer rates
Form Factor	1U capable system board	System midplane	1U capable system board	1U capable system board
RAID Levels	0, 1, and 1E	0, 1, 5, 6, 10, 50, and 60	0, 1, 5, 6, 10, 50, and 60	0, 1, 1E, and optional RAID 5
Backup Options	No	AXXRSBBU3	AXXRSBBU3	No
Cables	Included	Included	Included	Included
Intel® Server Board Support	Intel® Server Boards S5520UR, S5500WB, S5520HC, S5520SC, S3420GP, and S1200BT	Intel® Server Board S5520UR	Intel® Server Boards S5520UR, S5500WB, S5520HC, S5520SC, S3420GP, and S1200BT	Intel® Server Boards S5520UR, S5500WB, S5520HC, S5520SC, S3420GP, and S1200BT
Availability	Now	Now	Now	Now

SAS 2.0 INTEL® RAID CONTROLLER ADD-IN CARDS

NEW

Controller	Intel® RAID SSD Cache Controller RCS25ZB040	Intel® RAID Controller RS2SG244	Intel® RAID Controller RS2WG160	Intel® RAID Controller RS25NB008
	High performance 4-port intelligent hardware RAID card with a large capacity integrated NAND cache to significantly boost performance.	Scalable performance 6.0 Gb/s SAS RAID Controller with 24 internal and 4 external ports for SAS / SATA drives	Scalable performance 6.0 Gb/s SAS RAID Controller with 16 internal ports for SAS / SATA drives	Scalable performance dual-core 6.0 Gb/s SAS RAID Controller with 8 external ports for SAS / SATA drives
Order Code	RCS25ZB040V (128 GB cache) RCS25ZB040 (256 GB cache) RCS25ZB040LX (1024 GB cache)	RS2SG244	RS2WG160	RS25NB008
Processor / RAID On Chip	LSI* SAS2208	LSI* SAS2108	LSI* SAS2108	LSI* SAS2208
Memory	1 GB embedded DDR3 ECC memory plus either 128, 256, or 1024 GB NAND	512 MB embedded DDR2 ECC memory	512 MB embedded DDR2 ECC memory	1 GB embedded DDR3 ECC memory
PCI Bus	PCI Express* 3.0 x8	PCI Express* 2.0 x8	PCI Express* 2.0 x8	PCI Express* 3.0 x8
Channels	4 internal SAS / SATA ports supporting point-to-point 6.0 Gb/s and 3.0 Gb/s data-transfer rates	24 internal and 4 external SAS / SATA ports supporting point-to-point 6.0 Gb/s and 3.0 Gb/s data-transfer rates	16 internal SAS / SATA ports supporting point-to-point 6.0 Gb/s and 3.0 Gb/s data-transfer rates	8 external SAS / SATA ports supporting point-to-point 6.0 Gb/s and 3.0 Gb/s data-transfer rates
Form Factor	Low-profile, 6.6" length (MD2 compliant)	Full-height, 6.6" length	Full-height, 6.6" length	Low-profile, 6.6" length (MD2 compliant)
RAID Levels	0, 1, 5, 6, 10, 50, and 60	0, 1, 5, 6, 10, 50, and 60	0, 1, 5, 6, 10, 50, and 60	0, 1, 5, 6, 10, 50, and 60
Intel® Smart Backup Option	AXXRMFBU3	AXXRSBBU7 AXXRSBBU8 (new longer life)	AXXRSBBU7 AXXRSBBU8 (new longer life)	AXXRSBBU9
Cables	Not included	Included	Included	Not included
Availability	September	Now	Now	August

INTEL® RAID

Controller	Intel® RAID Controller RS25SB008	Intel® RAID Controller RS2MB044	Intel® RAID Controller RS25AB080	Intel® RAID Controller RS25DB080
	Scalable performance dual-core 6.0 Gb/s SAS RAID Controller with 8 external ports for SAS / SATA drives and maintenance-free backup unit (Flash-based)	Scalable performance 6.0 Gb/s SAS RAID Controller with 4 internal and 4 external ports for SAS / SATA drives	Mainstream dual-core 6.0 Gb/s SAS RAID Controller with 8 internal ports for SAS / SATA drives and maintenance-free backup unit (Flash-based)	Mainstream dual-core 6.0 Gb/s SAS RAID Controller with 8 internal ports for SAS / SATA drives
Order Code	RS25SB008	RS2MB044	RS25AB080	RS25DB080
Processor / RAID On Chip	LSI* SAS2208	LSI* SAS2108	LSI* SAS2208	LSI* SAS2208
Memory	1 GB embedded DDR2 ECC memory	512 MB embedded DDR2 ECC memory	1 GB embedded DDR2 ECC memory	1 GB embedded DDR3 ECC memory
PCI Bus	PCI Express* 3.0 x8	PCI Express* 2.0 x8	PCI Express* 3.0 x8	PCI Express* 3.0 x8
Channels	8 external SAS / SATA ports supporting point-to-point 6.0 Gb/s and 3.0 Gb/s data-transfer rates	4 internal and 4 external SAS / SATA ports supporting point-to-point 6.0 Gb/s and 3.0 Gb/s data-transfer rates	8 internal SAS / SATA ports supporting point-to-point 6.0 Gb/s and 3.0 Gb/s data-transfer rates	8 internal SAS / SATA ports supporting point-to-point 6.0 Gb/s and 3.0 Gb/s data-transfer rates
Form Factor	Low-profile, 6.6" length (MD2 compliant)	Low-profile, 6.6" length (MD2 compliant)	Low-profile, 6.6" length (MD2 compliant)	Low-profile, 6.6" length (MD2 compliant)
RAID Levels	0, 1, 5, 6, 10, 50, and 60	0, 1, 5, 6, 10, 50, and 60	0, 1, 5, 6, 10, 50, and 60	0, 1, 5, 6, 10, 50, and 60
Intel® Smart Backup Option	Maintenance-free backup unit (Flash-based) included with add-in card	AXXRSBBU7 AXXRSBBU8 (new longer life)	Maintenance-free backup unit (Flash-based) included with add-in card	AXXRSBBU9
Cables	Not included	One 8087 to four 7-pin SATA cable included	Purchased separately	AXXCBL740MS7P (ordered separately)
Availability	Now	Now	Now	Now

Controller	Intel® RAID Controller RS2VB080 / 040	Intel® RAID Controller RS2BL080 / 040	Intel® RAID Controller RS2PI008
	Mainstream 6.0 Gb/s SAS RAD Controller with 8 internal ports for SAS / SATA drives and maintenance-free backup unit (Flash-based)	Mainstream 6.0 Gb/s SAS RAID Controller with 8 internal ports for SAS / SATA drives	Mainstream 6.0 Gb/s SAS RAID Controller with 8 external ports for JBODs with SAS / SATA drives
Order Code	**RS2VB080 / RS2VB040**	**RS2BL080 / RS2BL040** (Standard) **RS2BL080DE** (with Drive Encryption Management)	**RS2PI008** (Standard) **RS2PI008DE** (with Drive Encryption Management)
Processor / RAID On Chip	**LSI* SAS2108**	**LSI* SAS2108**	**LSI* SAS2108**
Memory	512 MB embedded DDR2 ECC memory	512 MB embedded DDR2 ECC memory	512 MB embedded DDR2 ECC memory
PCI Bus	PCI Express* 2.0 x8	PCI Express* 2.0 x8	PCI Express* 2.0 x8
Channels	8 / 4 internal SAS / SATA ports supporting point-to-point 6.0 Gb/s and 3.0 Gb/s data-transfer rates	8 / 4 internal SAS / SATA ports supporting point-to-point 6.0 Gb/s and 3.0 Gb/s data-transfer rates	8 external SAS / SATA ports supporting point-to-point 6.0 Gb/s and 3.0 Gb/s data-transfer rates
Form Factor	Low-profile, 6.6" length (MD2 compliant)	Low-profile, 6.6" length (MD2 compliant)	Low-profile, 6.6" length (MD2 compliant)
RAID Levels	0, 1, 5, 6, 10, 50, and 60	0, 1, 5, 6, 10, 50, and 60	0, 1, 5, 6, 10, 50, and 60
Intel® Smart Backup Option	Maintenance-free backup unit (Flash-based) included with add-in card	AXXRSBBU7 AXXRSBBU8 (new longer life)	AXXRSBBU7 AXXRSBBU8 (new longer life)
Cables	Included	Included	Included
Availability	Now	Now	Now

Controller	Intel® RAID Controller RT3WB080	Intel® RAID Controller RS2WC080 / 040	Intel® RAID Controller RS25GB008	Intel® RAID Controller RS25FB044
	Mainstream SATA-only RAID Controller with 8 ports and SAS expansion support for up to 16 SATA drives	Entry-level 6.0 Gb/s SAS RAID Controller with 8 internal ports for SAS / SATA drives	Entry-level 6.0 Gb/s SAS RAID Controller with 8 external ports for JBOD with SAS / SATA drives	Entry-level 6.0 Gb/s SAS RAID Controller with 4 internal ports for DAS storage and 4 external ports for JBOD storage
Order Code	RT3WB080	RS2WC080 / RS2WC040	RS25GB008	RS25FB044
Processor / RAID On Chip	LSI* SAS2108	LSI* SAS2008	LSI* SAS2308	LSI* SAS2308
Memory	256 MB embedded DDR2 ECC memory	2 MB (on card) for RAID 0, 1, 1E, and 128 MB (from server board) for RAID 5 calculations	2 MB context memory	2 MB context memory
PCI Bus	PCI Express* 2.0 x8	PCI Express* 2.0 x8	PCI Express* 3.0 x8	PCI Express* 3.0 x8
Channels	8 internal SATA ports supporting SAS expansion and point-to-point 6.0 Gb/s and 3.0 Gb/s data-transfer rates	8 / 4 internal SAS / SATA ports supporting point-to-point 6.0 Gb/s and 3.0 Gb/s data-transfer rates	8 external SAS / SATA ports supporting point-to-point 6.0 Gb/s and 3.0 Gb/s data-transfer rates	4 internal and 4 external SAS / SATA ports supporting point-to-point 6.0 Gb/s and 3.0 Gb/s data-transfer rates
Form Factor	Low-profile, 6.6" length (MD2 compliant)	Low-profile, 6.6" length (MD2 compliant)	Low-profile, 6.6" length (MD2 compliant)	Low-profile, 6.6" length (MD2 compliant)
RAID Levels	0, 1, 5, 6, 10, 50, and 60	0, 1, 5, 10, and 50	JBOD	0, 1, 1E, and JBOD
Intel® Smart Backup Option	AXXRSBBU7 AXXRSBBU8 (new longer life)	No	No	No
Cables	Included	Included	Not included	Not included
Availability	Now	Now	Now	Now

SAS 1.0 INTEL® RAID CONTROLLER ADD-IN CARDS
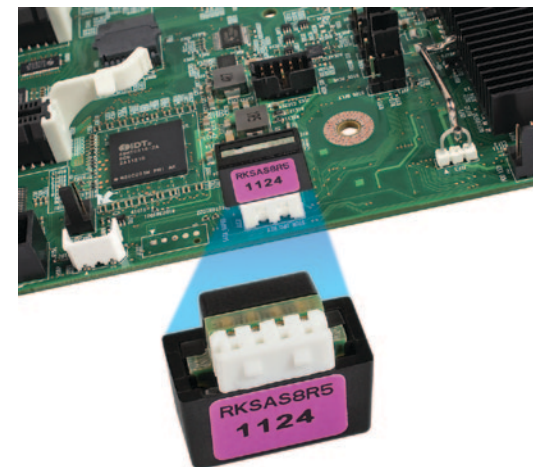
Controller	Intel® RAID Controller SASUC8I	Intel® RAID Controller SASWT4I
	8-port SAS / SATA with pass through SAS and entry-level hardware RAID 0, 1, 1E, and 10E capability	4-port SAS / SATA with pass through SAS and entry-level hardware RAID 0, 1, 1E, and 10E capability
Order Code	SASUC8I	SASWT4I
Processor / RAID On Chip	LSI* 1068	LSI* 1064
Memory	2 MB for entry-level hardware RAID calculations	2 MB for entry-level hardware RAID calculations
PCI Bus	PCI Express* x4	PCI Express* x4
Channels	8 internal SAS / SATA ports supporting point-to-point 3.0 Gb/s data-transfer rates	4 internal SAS / SATA ports supporting point-to-point 3.0 Gb/s data-transfer rates
Form Factor	Low-profile, 6.6" length	Low-profile, 6.6" length
RAID Levels	0, 1, and 1E/10E	0, 1, and 1E/10E
Intel® Smart Backup Option	No	No
Cables	N/A	Included
Availability	Now	Now

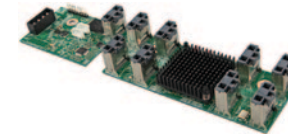## INTEL® SOFTWARE RAID ACTIVATION KEYS

Most Intel® Xeon® 5500 and 5600 series server boards include Intel® Embedded Server RAID Technology 2 which provides RAID 0, 1, and 10. Software RAID 5 can be enabled on these server boards by adding the AXXRAKSW5 activation key.

Most Intel® Xeon E5 series server boards include 8 SCU storage ports with activation and features corresponding to the following table.

ACTIVATION KEY	PRODUCT NAME	SCU STORAGE FUNCTIONALITY
None	N/A	4-port SATA key with Intel® Embedded Server RAID Technology 2, RAID 0, 1, and 10, and Intel® Rapid Storage Technology Enterprise RAID 0, 1, 5, and 10 (no key)
RKSATA4R5	Intel® RAID C600 Upgrade Key RKSATA4R5	4-port SATA key with Intel® Embedded Server RAID Technology 2, RAID 0, 1, 5, and 10, and Intel® Rapid Storage Technology Enterprise RAID 0, 1, 5, and 10 (BLACK)
RKSATA8	Intel® RAID C600 Upgrade Key RKSATA8	8-port SATA key with Intel® Embedded Server RAID Technology 2, RAID 0, 1, and 10, and Intel® Rapid Storage Technology Enterprise RAID 0, 1, 5, and 10 (BLUE)
RKSATA8R5	Intel® RAID C600 Upgrade Key RKSATA8R5	8-port SATA key with Intel® Embedded Server RAID Technology 2, RAID 0, 1, 5, and 10, and Intel® Rapid Storage Technology Enterprise RAID 0, 1, 5, and 10 (WHITE)
RKSAS4	Intel® RAID C600 Upgrade Key RKSAS4	4-port SAS key with Intel® Embedded Server RAID Technology 2, RAID 0, 1, and 10, and Intel® Rapid Storage Technology Enterprise RAID 0, 1, and 10 (GREEN)
RKSAS4R5	Intel® RAID C600 Upgrade Key RKSAS4R5	4-port SAS key with Intel® Embedded Server RAID Technology 2, RAID 0, 1, 5, and 10 and Intel® Rapid Storage Technology Enterprise RAID 0, 1, and 10 (YELLOW)
RKSAS8	Intel® RAID C600 Upgrade Key RKSAS8	8-port SAS key with Intel® Embedded Server RAID Technology 2, RAID 0, 1, and 10 and Intel® Rapid Storage Technology Enterprise RAID 0, 1, and 10 (ORANGE)
RKSAS8R5	Intel® RAID C600 Upgrade Key RKSAS8R5	8-port SAS key with Intel® Embedded Server RAID Technology 2, RAID 0, 1, 5, and 10 and Intel® Rapid Storage Technology Enterprise RAID 0, 1, and 10 (PURPLE)

INTEL® RAID EXPANDER BOARDS (SAS EXPANDERS)

Expander Board	Intel® RAID Expander RES2SV240	Intel® RAID Expander RES2CV360 / 240
	24-port, 6.0 Gb/s-capable expander card for use with Intel® RAID products	36 / 24-port, 6.0 Gb/s-capable expander card for use with Intel® RAID products
Order Code	**RES2SV240** (with 6 cables) **RES2SV240NC** (no cables)	**RES2CV360** (no cables) **/ RES2CV240** (no cables)
Processor / RAID On Chip	**LSI* 6.0 Gb/s Expander**	**LSI* 6.0 Gb/s Expander**
Channels	24 SAS / SATA ports supporting point-to-point 6.0 Gb/s and 3.0 Gb/s data-transfer rates	36 / 24 SAS / SATA ports supporting point-to-point 6.0 Gb/s and 3.0 Gb/s data-transfer rates
Form Factor	Low-profile, 6.6" length (MD2 compliant) can be mounted in PCI Express* slot or chassis wall	Unique system board that requires chassis mounting point
Power Options	Standard PCI Express* x4 connector or RA 4-pin power connector	RA 4-pin power connector
Management	SGPIO	SGPIO
Fault LED Headers	Includes 2 pin headers to support each SAS port	Includes 2 pin headers to support each SAS port
Availability	Now	Now

INTEL® RAID PREMIUM FEATURES

These features are available as an upgrade for all LSI* SAS2108 processor-based Intel® RAID products. To identify products with this processor, please refer to the Processor row of the preceding feature tables. The Premium Feature Keys are described below.

PREMIUM FEATURE	SSD CACHE WITH FAST-PATH I/O	DRIVE ENCRYPTION MANAGEMENT	RAPID RECOVERY SNAPSHOT
Key Benefits	▪SSD Cache allows Solid-State Drives to be utilized as additional cache for the RAID Controller. The cache can be used for both reads and writes to assist storage performance. ▪Fast-Path I/O accelerates communication with SSDs providing up to 150,000 I/O reads per second for small, random block-size I/O activity. This is a dramatic increase over solutions not using Fast-Path.	▪Drive encryption management enables authentication key management, auto-lock, and instant erase of self-encrypting drives (SED). ▪All drives eventually leave the data center and the use of SEDs helps reduce risk of data breaches. ▪Instant erase significantly reduces the cost and time of repurposing or retiring drives.	▪Rapid Recovery Snapshot allows users to capture source volume data changes and either restore files or rollback applications to a previous Point in Time (PiT). ▪Rapid recovery of lost data from disk can occur within minutes, minimizing the downtime experienced by users and eliminating the lengthy process of restoring data from tape. ▪By isolating a server's boot volume to a separate virtual drive and enabling the auto snapshot feature, users can be guaranteed that bootable snapshots exist, should operating system corruption occur.
Order Code	AXXRPFKSSD	AXXRPFKDE	AXXRPFKSNSH
Availability	Now	Now	Now

These features are available as an upgrade for all LSI* SAS2208 processor-based Intel® RAID products. To identify products with this processor, please refer to the Processor row of the preceding feature tables. The Premium Feature Keys are described below.

PREMIUM FEATURE	SSD CACHE WITH FAST-PATH I/O	DRIVE ENCRYPTION MANAGEMENT	RAPID RECOVERY SNAPSHOT
Key Benefits	▪SSD Cache allows Solid-State Drives to be utilized as additional cache for the RAID Controller. Frequently accessed information is stored in the cache, allowing rapid access. ▪Fast-Path I/O accelerates communication with SSDs providing up to 465,000 I/O reads per second for small, random block-size I/O activity. This is a dramatic increase over solutions not using Fast-Path.	▪Drive encryption management enables authentication key management, auto-lock, and instant erase of self-encrypting drives (SED). ▪All drives eventually leave the data center and the use of SEDs helps reduce risk of data breaches. ▪Instant erase significantly reduces the cost and time of repurposing or retiring drives.	▪Rapid Recovery Snapshot allows users to capture source volume data changes and either restore files or rollback applications to a previous Point in Time (PiT). ▪Rapid recovery of lost data from disk can occur within minutes, minimizing the downtime experienced by users and eliminating the lengthy process of restoring data from tape. ▪By isolating a server's boot volume to a separate virtual drive and enabling the auto snapshot feature, users can be guaranteed that bootable snapshots exist, should operating system corruption occur.
Order Code	AXXRPFKSSD2	AXXRPFKDE2	AXXRPFKSNSH2
Availability	Now	Now	Now

CABLE KITS AND CONVERTER BOARDS

The following cables are available for connecting Intel® RAID cards and modules to storage devices and drive bays. Intel® cables are designed to a high-quality specification and include the ability to bend at a very small radii. These cables allow low-profile Intel RAID products with vertical 8087 connectors to be used in 2U rack chassis while installed in a standard PCI Express* slot.

CABLE KIT ORDER CODE	NUMBER OF CABLES INCLUDED IN KIT	INITIATOR CONNECTOR	TARGET CONNECTOR	LENGTH
AXXCBL750MS7P	2	8087 mini-SAS straight	Four x 7-pin SATA style	750mm
AXXCBL650MSMS	2	8087 mini-SAS straight	8087 mini-SAS straight	650mm

CONVERTER BOARDS	ORDER CODE	DESCRIPTION	INTERNAL CONNECTORS	EXTERNAL CONNECTORS
Intel® RAID Converter Board RCVT8788	AXXRCVT8788	Small form factor board with brackets for installation in a standard or low-profile chassis cutout. Intended to be used to convert internal ports to external ports. Cables are not included.	Two x 8087 mini-SAS	Two x 8088

For more information, visit **www.intel.com/go/RAID**