

# MegaRAID® Release 4.2

## Features and Benefits



### Applicable to the:

- MegaRAID Entry Line 9240-xx Controllers
- MegaRAID Value Line 9260-xx Controllers
- MegaRAID Feature Line 9280-xx Controllers

### The new features and functions specifically related to MegaRAID Release 4.2 include:

- Low-power 6Gb/s SAS RAID controller card
- More environmentally friendly packaging
- Entry-level 6Gb/s SAS support
- Easy migration to MegaRAID Value and Feature lines
- Low-cost Hardware RAID 5 solution
  - RAID 0, 1, 10, 5, 50 and JBOD mode
- Support for Solid State Drives (SSD) Plus SSD Guard™

The MegaRAID SAS 9240-xx series controllers are supported under Release 4.2. To download the latest MegaRAID Release, visit [lsi.com/support](http://lsi.com/support)

MegaRAID Release 4.2 launches the new 6Gb/s SATA+SAS MegaRAID Entry product line from LSI Corporation that delivers enterprise-class RAID 0, 1, 10, 5 and 50 at a reduced price point. This release targets entry-level RAID applications such as Web Hosting, Cloud Computing, Digital Content Archive, File and Web Server, OLTP and Workstations with a small set of internal drives, 16 Hard Disk Drives (HDDs) or less. The MegaRAID release program bundles elements across four key cornerstones of leadership, including: Features and Usability, Data Protection and Availability, Performance, and Green. Focusing on the latest technology trends and customer requirements, these four cornerstones reaffirm the LSI Commitment to customer success and industry leadership.

### Green

#### Low Power 6Gb/s SAS RAID Controller

The 6Gb/s SATA+SAS MegaRAID entry line, powered by LSISAS2008 silicon, provides a significant reduction in power consumption that could help your business save money on energy costs. The chart below compares the maximum power draw from each SAS controller.



#### New Environmentally-friendly Packaging

In addition to the significant power savings, we have reengineered the MegaRAID entry line packaging to be more environmentally friendly. We have removed the foam that cushioned the controller card inside of the box and replaced it with an advanced cardboard insert to securely hold the controller in place and prevent damage. We also eliminated the shrink wrap on the outside of each box to reduce unnecessary waste while still providing protection.

	8-Port Internal 3Gb/s SAS MegaRAID Value and Feature	8-Port Internal 6Gb/s SAS MegaRAID Value and Feature	8-Port Internal 3Gb/s SAS Integrated RAID Host Bus Adapter	8-Port Internal 6Gb/s SAS MegaRAID Entry
<b>Storage Adapter Series</b>	MegaRAID SAS 87xx and 88xx	MegaRAID SAS 9260-xx and 9280-xx	LSI SAS 3Gb/s PCI Express Host Bus Adapters	MegaRAID SAS 9240-xx
<b>SAS Controller</b>	LSISAS1078	LSISAS2108ROC	LSISAS1068	LSISAS2008
<b>Max power consumption</b>	15.51 Watts	14.253 Watts	11 Watts	9 Watts

## Performance

### Entry-level 6Gb/s SAS Technology Support

6Gb/s SAS is designed for backward compatibility with 3Gb/s SAS as well as with 6Gb/s and 3Gb/s SATA hard drives. Regardless of the drive speed, 6Gb/s MegaRAID controllers are designed to deliver significant performance improvements in both read and write applications as compared to their 3Gb/s predecessors. Moreover, MegaRAID entry controllers employ an IOP-based XOR engine for considerable entry-level performance.



### Easy Migration to MegaRAID Value and Feature Lines

An exclusive feature of the MegaRAID SATA+SAS entry line is the ability to easily migrate from these low-cost RAID 5 controllers to the more full-featured MegaRAID product lines. A single management client provides a consistent user interface to manage any MegaRAID SATA and/or SAS array and common firmware code reduces test and validation efforts.

While MegaRAID Entry RAID 0, 1, and 10 performance is comparable to MegaRAID Value line controllers, there are distinct differences. For example, MegaRAID entry configurations are limited to 16 drives and 64K stripe size support. If business needs begin to exceed these limitations, users can plug in a new Value or Feature line controller and MegaRAID Storage Manager will recognize and import the existing array without requiring any reconfiguration.

## Data Protection & Availability

### Low-Cost Hardware RAID 5 Solution

LSI MegaRAID SATA+SAS entry controller cards are designed to bring hardware RAID capabilities to non-traditional users. From small and medium business (SMB) owners to gaming enthusiasts, MegaRAID Entry products allow users to enjoy the latest RAID technology at affordable prices. This product line delivers trusted MegaRAID reliability with minimal maintenance effort. The 9240-xx series offers users a straightforward solution that includes essential RAID levels and simplified configuration options. The optimal number of drives in an entry RAID configuration is eight.



### Maximum Number of Physical Devices

Non-RAID (JBOD Mode)	64
RAID 0	2 per volume plus hot spare
RAID 1	16 per volume
RAID 5	16 per volume
RAID 10	16 per volume
RAID 50	16 per volume

## Features & Usability

### Support for Solid State Drives Plus SSD Guard

MegaRAID entry controller cards fully support Solid State Drives (SSDs). MegaRAID Storage Manager has the ability to control and manipulate solid state drives just as is possible with hard drives. MSM monitors for proper usage of SSD devices and allows for any combination of SAS HDDs, SATA HDDs, SAS SSDs, and SATA SSDs to be used in the same system.

SSD Guard, unique to MegaRAID, automatically copies data from a drive with potential to fail to a designated spare or newly inserted drive. A predictive failure event notification, or S.M.A.R.T command, initiates this rebuild to preserve the data on an SSD whose health or performance falls below par. This feature will greatly benefit users employing a RAID 0 configuration due to the added data protection.



### Other MegaRAID Release 4.2 Enhancements

In addition to the above, 6Gb/s SATA+SAS 9240-xx controllers feature an open source driver that is General Public License (GPL)-compliant for distribution. You'll also find global and dedicated hot spare, and full OS support. When running JBOD mode, MegaRAID entry products deliver HDD pass-through support by exposing single drives the operating system as individual disks. This feature is unique to the controllers affected by MegaRAID Release 4.2 .



For more information and sales office locations, please visit the LSI website at: [www.lsi.com](http://www.lsi.com)

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