



ServeRAID M1015 SAS/SATA Controller and ServeRAID M1000 and M5000 feature keys offer enterprise-grade RAID solution for servers with the flexibility to use both SAS and SATA hard drives

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At a glance

ServeRAID™ M1015 SAS/SATA Controller can provide the performance required for extensive computations while providing the flexibility to use both SAS and SATA hard drives.

Features include:

- Low profile, half-length form factor that is ideal for space-limited server environments.
- High-performance internal storage with connectivity to SAS/SATA drives.
- Optional RAID 5, 50, and SED support with advance feature keys for more data protection.
- Advanced RAID Management Suite allows administrators to efficiently configure, monitor, and manage RAID volumes locally or over the network.

ServeRAID M1000 and ServeRAID M5000 Series Advance Feature Keys provide additional reliability and security required for enterprise-grade storage.

- Enable RAID 5, 50, and SED support on ServeRAID M1000 Series SAS/SATA Controllers.
- Enable RAID 6, 60, and SED support on ServeRAID M5000 Series SAS/SATA Controllers.
- Convenient upgrade with easy-to-use pluggable key.
- Advanced RAID Management Suite allows administrators to efficiently configure, monitor, and manage RAID volumes locally or over the network.

Overview

ServeRAID M1015 SAS/SATA Controller (46M0831)

ServeRAID M1015 SAS/SATA Controller offers a cost-effective enterprise-grade RAID solution for internal HDDs and integrates emerging SAS technology into an organization's storage infrastructure. At 6 Gbps, the M1015 offers improved performance over its predecessors.

It is ideal for supporting server mission-critical applications where high levels of sustained read and write operations are required, such as video streaming, Web content, video-on-demand, security and surveillance, fixed content, and reference

data storage. The M1015 offers RAID 0, 1, 10 with optional RAID 5, 50, and SED capability with ServeRAID M1000 Series Advance Feature Key that attaches directly to the adapter providing the reliability demanded by today's enterprise clients. The M1015 adapter is x8 lane PCI Gen 2 compliant.

ServeRAID M1015 SAS/SATA Controller supports SAS and SATA hard drive redundant configurations for server storage, thereby providing investment protection to clients. The M1015 can be easily configured and managed with MegaRAID Storage Manager (MSM) and MegaCLI (Command Line Interface) tools.

Providing that additional peace of mind, your ServeRAID M1015 SAS/SATA Controller is covered under IBM® warranty. This adapter carries a one-year limited warranty or, when installed in a System x® server, assumes your system's base warranty and any IBM ServicePac® upgrade.

Features and functions:

- RAID levels 0, 1, 10 (optional 5, 50)
- Online Capacity Expansion (OCE)
- Online RAID Migration (RLM)
- Auto resume after loss of system power during array rebuild or reconstruction (RLM)
- Single controller multipathing (failover)
- Load balancing
- Configurable stripe size up to 1 MB
- Fast initialization for quick array setup
- Consistency check for background data integrity
- Patrol read for media scanning and repairing
- 64 logical drive support
- Up to 64 TB LUN support
- DDF compliant Configuration on Disk (COD)
- S.M.A.R.T. support
- Global and dedicated Hot Spare with Revertible Hot Spare support
- Automatic rebuild
- Offers up to 6 Gb/second of performance throughput for each port
- SES (inband)
- SGPIO (sideband)

ServeRAID M1000 Series Advance Feature Key (46M0832)

Value RAID 5, 50 upgrade with SED support

ServeRAID M1000 Series Advance Feature Key offers a cost-effective RAID 5 and SED upgrade for enterprise-class RAID solutions and integrates emerging SAS technology into an organization's storage infrastructure.

It is ideal for supporting server mission-critical applications where high levels of sustained read and write operations are required, such as video streaming, Web content, video-on-demand, security and surveillance, fixed content, and reference data storage. The M1000 Series Advance Feature Key adds RAID 5, 50 with SED support to your enterprise storage architecture.

Features and functions:

- RAID 5, 50
- SED support
- Easy-to-use pluggable key

ServeRAID M5000 Series Advance Feature Key (46M0930)

Enterprise-grade RAID 6, 60, and SED upgrade

ServeRAID M5000 Series Advance Feature Key offers a cost effective RAID 6, 60, and SED upgrade for enterprise-class RAID solutions and integrates emerging SAS technology into an organization's storage infrastructure.

It is ideal for supporting server mission-critical applications where high levels of sustained read and write operations are required, such as video streaming, Web content, video-on-demand, security and surveillance, fixed content, and reference data storage. The M5000 Series Advance Feature Key adds RAID 6, 60, with SED support to your enterprise storage architecture.

Features and functions:

- RAID 6, 60
- SED Support
- Easy-to-use pluggable key

These advance keys allow an enterprise-upgrade for added performance on high-density servers.

Key prerequisites

SAS/SATA Controllers can be used on supported System x servers with an available PCI Express expansion slot.

Planned availability date

November 17, 2009

- ServeRAID M1015 SAS/SATA Controller (46M0831)

November 13, 2009

- ServeRAID M5000 Series Advance Feature Key (46M0930)

December 3, 2009

- ServeRAID M1000 Series Advance Feature Key (46M0832)

Description

The ServeRAID M1015 SAS/SATA Controller and keys are ideal for supporting server applications where high levels of sustained read and write operations are required.

Compatibility

- Support for popular network operating systems
- ServerProven® testing, which verifies servers, HDDs, and the controllers will function properly

Configurator support

- IBM Web Configurator (R2)
- Configuration and Options Guide (COG)
- Standalone Solutions Configuration Tool (SSCT)

- IBM Advanced Solutions Integration Tool (ASIT)

Product number

Description	Part number
ServerRAID M1015 SAS/SATA Controller	46M0831
ServerRAID M1000 Series Advance Feature Key	46M0832
ServerRAID M5000 Series Advance Feature Key	46M0930

Model conversions

None

Feature conversions

None

Publications

Publications are shipped with the announced product.

The IBM Systems Information Center provides you with a single information center where you can access product documentation for IBM systems hardware, operating systems, and server software. Through a consistent framework, you can efficiently find information and personalize your access. The IBM Systems Information Center is at

<http://publib14.boulder.ibm.com/infocenter/systems>

IBM Publications Center Portal

<http://www.ibm.com/shop/publications/order>

The Publications Center is a worldwide central repository for IBM product publications and marketing material with a catalog of 70,000 items. Extensive search facilities are provided, as well as payment options via credit card. A large number of publications are available online in various file formats, which can currently be downloaded free of charge.

Title	Order number	Part number
RAID Installation Publications with Controller and feature keys	None	None

Displayable softcopy publications: None

Source file publications: None

Services

Global Technology Services

IBM services include business consulting, outsourcing, hosting services, applications, and other technology management.

These services help you learn about, plan, install, manage, or optimize your IT infrastructure to be an On Demand Business. They can help you integrate your high-speed networks, storage systems, application servers, wireless protocols, and an array of platforms, middleware, and communications software for IBM and many non-IBM offerings. IBM is your one-stop shop for IT support needs.

For details on available services, contact your IBM representative or visit

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For details on education offerings related to specific products, visit

<http://www.ibm.com/services/learning/index.html>

Select your country, and then select the product as the category.

Technical information

Specified operating environment

Physical specifications

ServeRAID M1015 SAS/SATA Controller (46M0831)

- Approximate height: 69 mm (2.72 in)
- Approximate width: 168 mm (6.61 in)
- Approximate depth: 14 mm (0.55 in)
- Approximate weight: 95 g (0.21 lb)

Shipping dimensions

- Approximate height: 140 mm (5.51 in)
- Approximate width: 217 mm (8.54 in)
- Approximate depth: 48 mm (1.89 in)
- Approximate weight: 450 g (0.99 lb)

ServeRAID M1000 and M5000 Series Advance Feature Keys (46M0832 and 46M0930)

- Approximate height: 11 mm (0.43 in)
- Approximate width: 18 mm (0.71 in)
- Approximate depth: 5 mm (0.20 in)
- Approximate weight: 2.3 g (0.005 lb)

Shipping dimensions

- Approximate height: 203 mm (8.5 in)

- Approximate width: 305 mm (12 in)
- Approximate depth: 25.4 mm (1.0 in)
- Approximate weight: 75 g (0.16 lb)

Hardware requirements

The controller must be installed in a selected System x server, x3400 M2, x3500 M2, x3550 M2, or x3650 M2 system.

Standards

None

Operating environment

- Temperature:
 - 10° to 35° C (50° to 95° F) at 0 to 914 m (0 to 3,000 ft)
 - 10° to 32° C (50° to 90° F) at 914 to 2133 m (3,000 to 7,000 ft)
- Relative humidity: 20% to 80% (non-condensing)
- Maximum altitude: 2,133 m (7,000 ft)

Hardware requirements

None

Software requirements

The ServeRAID M1015 supports all major operating systems:

- Windows® 2003
- Windows 2008
- Red Hat Enterprise Linux® 4
- Red Hat Enterprise Linux 5
- SUSE Linux Enterprise Server 10
- SUSE Linux Enterprise Server 11
- VMware 4.0 u1

Compatibility

For latest compatibility information, visit

<http://www.ibm.com/servers/eserver/serverproven/compat/us/>

Note: Some configurations may not be compatible.

Limitations

None

User group requirements

This announcement satisfies or partially satisfies the requirements from one or more of the worldwide user group communities. Groups include COMMON, COMMON Europe, Guide Share Europe (GSE), InterAction (Australia/New Zealand), Japan Guide Share (JGS), and SHARE Inc.

Planning information

ServeRAID M1015 SAS/SATA Controller and ServeRAID M1000 and M5000 Series Advance Feature Keys

ServeRAID M1015 and M1000, M5000 products are designated as customer setup. Customer installation instructions are shipped with each option part.

Cable orders

None

Installability

The ServeRAID M1015 SAS/SATA Controller requires about 20 minutes for installation.

Installation includes unpacking, attaching customer provided line cord, setting up, and powering on.

Packaging

ServeRAID M1015 SAS/SATA Controller and M1000, M5000 Keys

Product	Package description	Boxes
ServeRAID M1015 SAS/SATA Controller	Option Unit Box	1

Contents:

ServeRAID M1015 adapter
2U bracket
Quick install guide
CD with pub
Important Notices Flyer

The ServeRAID M1015 is shipped as a single package. Other items are in zipped bags. **Retail only.**

Packaging dimensions/weight

- Single box (H x D x W): 140 mm (5.51 in) x 48 mm (1.89 in) x 217 mm (8.54 in)
- Package weight: 450 g (0.99 lb)

Product	Package description	Boxes
ServeRAID M1000 and M5000 Series Advance Feature Keys	Option Unit Box	1

Contents:

ServeRAID M1000 or M5000 Feature Key
Feature key hardware
Quick install guide
Important notice flyer

The ServeRAID M1000 or M5000 is shipped as a single package. **Retail only.**

Packaging dimensions/weight

- Single box (H x D x W): 203 mm (8.5 in) x 25.4 mm (1.0 in) x 305 mm (12.0 in)
- Package weight: 75 g (0.16 lb)

Note: All measurements are approximate.

Supplies

For end users

IBM ServeRAID M1015 SAS/SATA Controller and M1000, M5000 feature keys can be purchased through dealers.

Security, auditability, and control

It is a customer's responsibility to ensure that the server is secure to prevent sensitive data from being removed.

The customer is responsible for evaluation, selection, and implementation of security features, administrative procedures, and appropriate controls in application systems and communications facilities.

Global Technology Services

Contact your IBM representative for the list of selected services available in your country, either as standard or customized offerings, for the efficient installation, implementation, and/or integration of this product.

IBM Electronic Services

IBM has transformed its delivery of hardware and software support services to help you achieve higher system availability. Electronic Services is a Web-enabled solution that offers an exclusive, no-additional-charge enhancement to the service and support available for IBM servers. These services are designed to provide the opportunity for greater system availability with faster problem resolution and preemptive monitoring. Electronic Services comprises two separate, but complementary, elements: Electronic Services news page and Electronic Services Agent.

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The Electronic Service Agent™ is no-additional-charge software that resides on your server. It monitors events and transmits system inventory information to IBM on a periodic, client-defined timetable. The Electronic Service Agent automatically reports hardware problems to IBM. Early knowledge about potential problems enables IBM to deliver proactive service that may result in higher system availability and performance. In addition, information collected through the Service Agent is made available to IBM service support representatives when they help answer your questions or diagnose problems. Installation and use of IBM Electronic Service Agent for problem reporting enables IBM to provide better support and service for your IBM server.

To learn how Electronic Services can work for you, visit

<http://www.ibm.com/support/electronic>

Terms and conditions

Field installable features

Yes

Warranty

Warranty period

One year

ServeRAID M1015 Controller, ServeRAID M1000 Key and ServeRAID M5000 Key offer a one year limited warranty¹.

- Warranty period: 1 yr.
- Service type (IOR/IOE/CCE/CCR): CRU
- Maintenance agreement: No
- Optional upgrade: No

These features assume the same warranty or maintenance terms as the machine in which it is installed for the remainder of the warranty or maintenance period for such machine.

¹ For information on IBM's Statement of Limited Warranty, contact your local IBM representative. Copies are available upon request.

Customer setup

Yes

Machine code

No license terms apply.

Prices

For all local charges, contact your IBM representative.

Announcement countries

All European, Middle Eastern, and African countries.

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