ServeRAID-BR10il SAS/SATA Controller v2 for IBM System x

IBM System x at-a-glance guide

The ServeRAID-BR10il SAS/SATA Controller v2 is an ideal solution for servers that need high-speed data transfer in disk connectivity for data backup and mission-critical applications. The controller is a low-cost PCI Express x4 adapter with support for RAID 0, 1, and 1E. It provides the flexibility to use both SAS and SATA hard drives. The ServeRAID-BR10il SAS/SATA Controller v2 comes in a standard form factor and is ideal for supporting HDDs in a space-constrained server configuration.

Figure 1 shows the ServeRAID BR10il SAS/SATA Controller v2.

Figure 1. ServeRAID-BR10il SAS/SATA Controller v2

Did you know?

When used in servers such as the x3200 M3 and x3250 M3, the ServeRAID-BR10il SAS/SATA Controller v2 is installed in a dedicated PCI Express slot on the system board. This means that the standard PCI Express slots are available for other adapter cards.

The ServeRAID-BR10il SAS/SATA Controller v2 is an inexpensive way to implement RAID functionality and supports RAID arrays comprised of SAS drives or SATA drives.

Part number information

Table 1 lists the ordering part number and feature code.

Table 1. Ordering part number and feature code

Description	Part number	Feature code
IBM ServeRAID-BR10il SAS/SATA Controller v2	49Y4731	9742

The IBM ServeRAID-BR10il SAS/SATA Controller v2 options kit contains the following items:

- ServeRAID-BR10il SAS/SATA Controller v2 with 3U bracket attached
- 2U bracket
- Quick install guide

Feature 9742 is the ServeRAID-BR10il without any bracket attached.

Features and specifications

The ServeRAID-BR10il SAS/SATA Controller v2 card has the following specifications:

- 3 Gbps throughput per port
- Supports RAID levels 0, 1, and 1E
- uEFI Support
- PCI Express 2.0 x4 adapter
- PCI Express small form-factor design (MD2)
- One x4 Mini-SAS internal connectors (SFF 8087)
- Based on the LSI 1064E controller with 2 MB flash memory
- Global hot spare and rebuild
- Support for S.M.A.R.T. (Self-Monitoring, Analysis, and Reporting Technology)
- SAS and SATA drives are supported, but the mixing of SAS and SATA in the same RAID array is not supported
- Stripe size: 64KB (fixed)
- Max number of disks without a SAS expander: 4
- Max number of disks with a SAS expander (where supported): 63
- Max number of disks per logical volume: 14
- Max number of logical volumes: 2

Physical specifications

The ServeRAID-BR10il has the following physical specifications (without mounting bracket):

Height: 69 mm (2.7 in)
Width: 168 mm (6.6 in)
Depth: 14 mm (.5 in)
Weight: 0.013 kg

Operating environment

The ServeRAID-BR10il SAS/SATA Controller v2 is supported in the following environment:

- Temperature:
    - At 0-914 m (0-3000 ft): 10 to 35 °C (50 to 95 °F)
    - At 914-2133 m (3000-7000 ft): 10 to 32 °C (50 to 90 °F)
- Relative humidity: 20% to 80% (non-condensing)

Warranty

One-year limited warranty. When installed in a System x server, this card assumes your system's base warranty and any IBM ServicePac upgrade.

Supported servers

The ServeRAID-BR10il SAS/SATA Controller v2 is supported in the IBM System x servers listed in Table 2.

Table 2. Supported servers

Adapter	x3200 M2	x3200 M3	x3250 M2	x3250 M3	x3350	x3400	x3400 M2	x3455	x3500	x3500 M2	x3550	x3550 M2	x3650	x3650 M2	x3655	x3755	x3850 M2	x3950 M2
ServeRAID BR10il v2	N	Y	N	Y	N	N	N	N	N	N	N	N	N	N	N	N	N	N

Notes:

- For the x3200 M3, the adapter is only supported in models with hot-swap drive bays. The adapter is installed in the dedicated PCI Express x4 slot without the use of the 2U or 3U bracket as shown in Figure 2.
- The x3250 M3 has the ServeRAID-BR10il v2 installed standard in all models. The adapter is installed in the dedicated PCI Express slot without the use of the 2U or 3U bracket as shown in Figure 2.
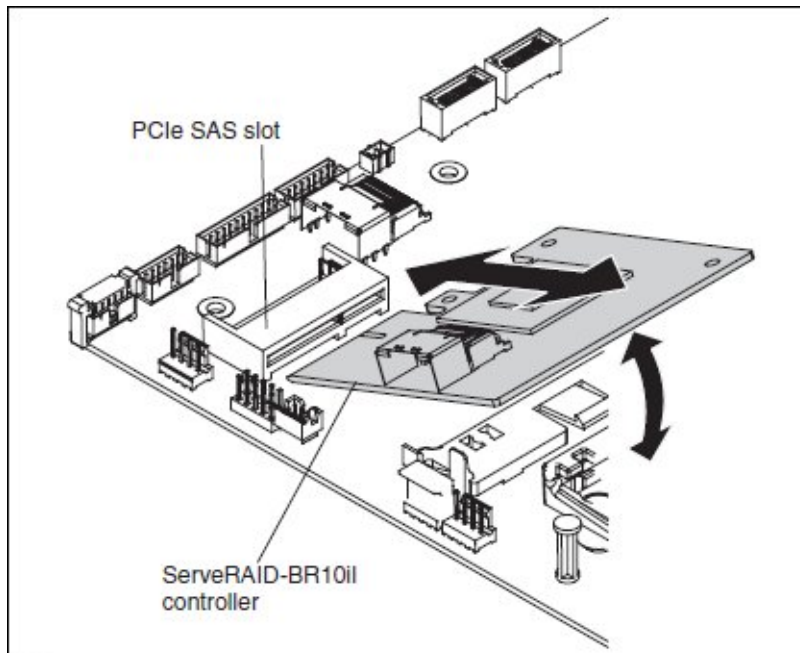

Figure 2. Installing the ServeRAID-BR10il SAS/SATA Controller v2 in the x3200 M3 and x3250 M3

See IBM ServerProven for the latest information on the adapters supported by each System x server type: http://ibm.com/servers/eserver/serverproven/compat/us/.

Supported disk drives

The ServeRAID-BR10il SAS/SATA Controller v2 supports the disk drives that are supported on the servers listed in Table 2. These drives, and the servers that they are supported on, are listed in Table 3.

Table 3. Supported drives

Part	Description	FF	Gbps	GB	RPM	x3200 M3	x3250 M3
	SAS hot-swap drives						
42D0632	IBM 146GB 10K 6Gbps SAS 2.5" SFF Slim-HS HDD	2.5" Slim	6	146	10K	N	Y
42D0677	IBM 146GB 15K 6Gbps SAS 2.5" SFF Slim-HS HDD	2.5" Slim	6	146	15K	N	Y
42D0672	IBM 73GB 15K 6Gbps SAS 2.5" SFF Slim-HS HDD	2.5" Slim	6	73	15K	N	Y
43W7535	IBM 73 GB 10K SAS 2.5" SFF Slim-HS HDD	2.5" Slim	3	73	10K	N	Y
44W2244	IBM 600GB 15K 6Gbps SAS 3.5" HS HDD	3.5"	6	600	15K	Y	Y
44W2239	IBM 450GB 15K 6Gbps SAS 3.5" HS HDD	3.5"	6	450	15K	Y	Y
44W2234	IBM 300GB 15K 6Gbps SAS 3.5" HS HDD	3.5"	6	300	15K	Y	Y
40K1044	146GB 15K 3.5" Hot Swap SAS	3.5"	3	146	15K	Y	Y
	SATA hot-swap drives						
43W7626	IBM Server 1TB 7200 SATA 3.5" HS HDD	3.5"	3	1000	7200	Y	Y
43W7576	750GB Hot-Swap SATA II	3.5"	3	750	7200	Y	Y
39M4530	500GB Hot-Swap SATA II	3.5"	3	500	7200	Y	Y
39M4526	250GB 3.5" Hot-Swap SATA II	3.5"	3	250	7200	Y	Y
	SATA simple-swap drives						
43W7623	IBM Server 1TB 7200 SATA 3.5" SS	3.5"	3	1000	7200	Y	Y
43W7572	750GB Simple-Swap SATA II	3.5"	3	750	7200	Y	Y
39M4514	500GB 3.5" Simple-Swap SATA II	3.5"	3	500	7200	Y	Y
39M4508	250GB 3.5" Simple-Swap SATA II	3.5"	3	250	7200	Y	Y

Supported operating systems

The ServeRAID-BR10il SAS/SATA Controller v2 supports the following operating systems:

- Microsoft Windows Server 2003/2003 R2, Datacenter Edition
- Microsoft Windows Server 2003/2003 R2, Datacenter x64 Edition
- Microsoft Windows Server 2003/2003 R2, Enterprise Edition
- Microsoft Windows Server 2003/2003 R2, Enterprise x64 Edition
- Microsoft Windows Server 2003/2003 R2, Standard Edition
- Microsoft Windows Server 2003/2003 R2, Standard x64 Edition
- Microsoft Windows Server 2003, Web Edition
- Microsoft Windows Server 2008, Datacenter x86 Edition
- Microsoft Windows Server 2008, Datacenter x64 Edition
- Microsoft Windows Server 2008, Enterprise x86 Edition
- Microsoft Windows Server 2008, Enterprise x64 Edition
- Microsoft Windows Server 2008, Standard x86 Edition
- Microsoft Windows Server 2008, Standard x64 Edition
- Microsoft Windows Server 2008, Web x86 Edition
- Microsoft Windows Server 2008, Web x64 Edition

- SUSE LINUX Enterprise Server 10 for x86
- SUSE LINUX Enterprise Server 10 for AMD64/EM64T
- SUSE LINUX Enterprise Server 10 with Xen for x86
- SUSE LINUX Enterprise Server 10 with Xen for AMD64/EM64T
- SUSE LINUX Enterprise Server 11 for x86
- SUSE LINUX Enterprise Server 11 for AMD64/EM64T
- SUSE LINUX Enterprise Server 11 with Xen for AMD64/EM64T
- Red Hat Enterprise Linux 4 AS for x86
- Red Hat Enterprise Linux 4 AS for AMD64/EM64T
- Red Hat Enterprise Linux 4 ES for x86
- Red Hat Enterprise Linux 4 ES for AMD64/EM64T
- Red Hat Enterprise Linux 5 Server Edition
- Red Hat Enterprise Linux 5 Server x64 Edition
- Red Hat Enterprise Linux 5 Server with Xen x64 Edition
- Red Hat Enterprise Linux 5 Server Edition with Xen
- VMware ESX Server 4.0

See IBM ServerProven for the latest information about the specific versions and service packs supported: http://ibm.com/servers/eserver/serverproven/compat/us/. Click **System x servers**, and then click **Disk controllers** to see the support matrix. Click the check mark that is associated with the System x server in question to see the details of operating system support.

Related publications

For more information refer to the following documents:

- IBM US Announcement Letter for the ServeRAID-BR10il SAS/SATA Controller v2
  http://ibm.com/common/ssi/cgi-bin/ssialias?infotype=dd&subtype=ca&&htmlfid=897/ENUS109-589

- IBM ServerProven latest compatibility information home page
  http://ibm.com/servers/eserver/serverproven/compat/us/

- System x RAID products home page
  http://www.ibm.com/systems/storage/product/systemx/scsi_raid.html

- IBM ServeRAID software matrix
  http://www.ibm.com/support/docview.wss?uid=psg1SERV-RAID

- IBM System x Configuration and Options Guide
  http://www.ibm.com/support/docview.wss?uid=psg1SCOD-3ZVQ5W

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