Intel[®] RAID Controller RS2BL080 Quick Start User's Guide

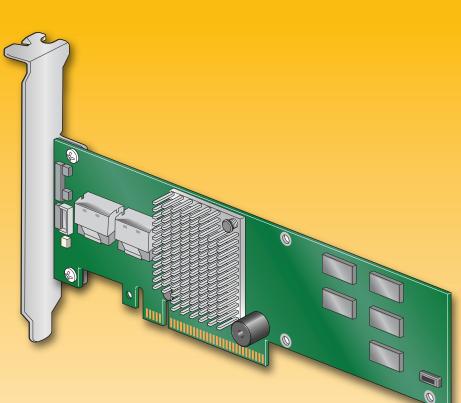
This guide contains step-by-step instructions for installing the Intel® RAID Controller RS2BL080 and information on using the BIOS setup utility to configure a single logical drive array and install the driver into the operating system.

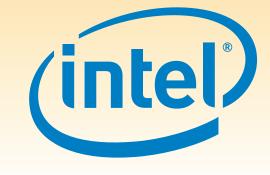
For more advanced RAID configurations, or to install with other operating systems, please refer to the Hardware User's Guide.

These guides and other supporting documents (including a list of supported server boards) are also located on the web at: http://support.intel.com/support/motherboards/server.

If you are not familiar with ESD (Electrostatic Discharge) procedures used during system integration, see your Hardware Guide for complete ESD procedures. For more details on Intel[®] RAID controllers, see: www.intel.com/go/serverbuilder.

Read all cautions and warnings first before starting your RAID Controller integration.





Warning

Read all caution and safety statements in this document before performing any of the instructions. Also see the Intel® Server Board and Server Chassis Safety Information document at: http://support.intel.com/support/ motherboards/server/sb/cs-010770 .htm for complete safety information.

Warning

Installation and service of this product should only be performed by qualified service personnel to avoid risk of injury from electrical shock or energy hazard.

Caution

Observe normal ESD [Electrostatic Discharge] procedures during system integration to avoid possible damage to server board and/or other components.

Tools Required

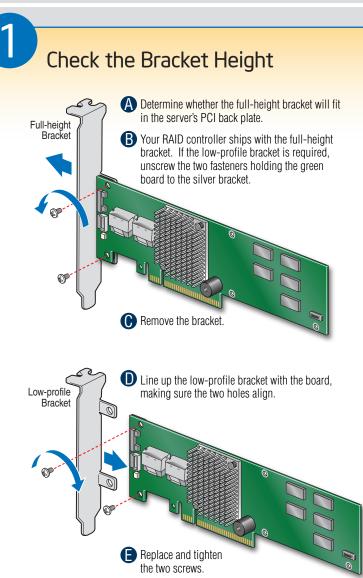


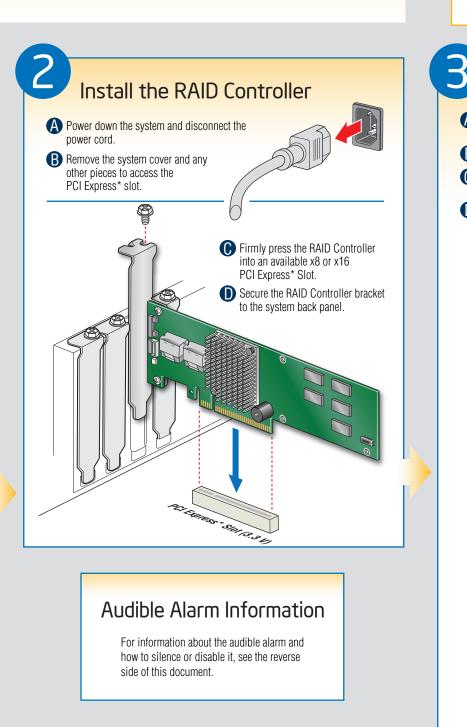
Intel is a registered trademark of Intel Corporation or its subsidiaries in the United States and other countries. *Other names and brands may be claimed as the property of others. Copyright © 2009, Intel Corporation. All rights

> E64384-001

What you will need to begin

- SAS 2.0 or SATA II hard disk drives (backward compatible to support SAS 1.0 hard disk drives)
- Intel[®] RAID Controller RS2BL080
- Server board with a x8 or x16 PCI Express* slot (this controller is designed to meet the x8 PCI Express* Generation 2 specification and is backward compatible with generation 1 slots)
- Intel[®] RAID Controller RS2BL080 Resource CD
- Operating system installation media: Microsoft Windows Server 2003*, Microsoft Windows Server 2008*, Microsoft Windows Vista*, Red Hat* Enterprise Linux, or SUSE* Linux Enterprise Server



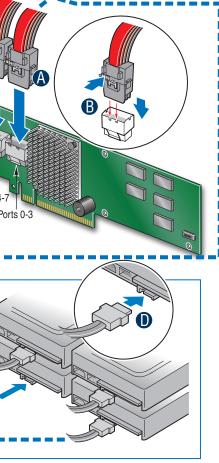


Λ 1 5 6 10 50 60 Building Value with Intel[®] Connect the RAID Controller Server Products, Programs and Support A Connect the wide end of the provided cable to the right silver connector (ports 0-3). B Push the cable into the silver connector until it makes a slight click. If using more than four drives, connect the wide end of the second provided cable to the left silver connector (ports 4-7). • Connect the other ends of the cables to SATA drives or to the ports on a SATA or SAS backplane. Notes: Both non-expander backplanes (one cable per drive) and expander backplanes (one or two total cables) are supported. Drive power cables (not shown) are required.

Choosing the Right RAID Level

RAID

ing the Right RAID Level	Minimum						
	Physical Drives	Fail PDs Allowed	Method	Capacity	Read Speed	Write Speed	Good Usage
D1 D2 D4 D6 D7 Disk 1 Disk 2	2	NONE	Striping (speed)	100%	Excellent	Excellent	High throughput workstation
D1 D2 D3 D4 Disk 1 D1 D2 D3 D4 Disk 2	2	1	Mirroring (redundancy)	50%	Very good	Good	OS, apps entry level
$ \begin{array}{c c} D1 \\ D3 \\ P \\ D5 \\ D7 \\ Disk 1 \end{array} $ $ \begin{array}{c} P \\ D4 \\ D6 \\ P \\ Disk 3 \end{array} $	3	1	Striping and distributed parity (fault tolerance)	n-1 (67-94%)	Very good	Good	Data, web/media server
D1 D3 P1 P2 Disk 1 D2 P1 P2 D5 D5 D8 D1 D6 P1 D4 D6 P1 D6 P1 D4 D6 P1 D4 D6 P1 D5 D5 D5 D8 D1 D5 D5 D5 D5 D5 D5 D5 D5 D5 D5 D5 D5 D5	4	2	Striping with dual distributed parity	n-2 (50-88%)	Good	Good	High fault tolerance
$\begin{array}{c} R0 \\ R1 \\ D1 \\ D3 \\ D5 \\ D7 \\ Disk 1 \end{array} \begin{array}{c} D1 \\ D3 \\ D5 \\ D7 \\ Disk 2 \end{array} \begin{array}{c} D2 \\ D4 \\ D6 \\ D8 \\ Disk 3 \end{array} \begin{array}{c} D2 \\ D4 \\ D6 \\ D8 \\ Disk 4 \end{array}$	4	1 per mirror set	Striping across mirrors	50%	Very good	Good	Database, file, mail servers
R0 R5 P D1 D2 P D6 D7 P D3 P D4 P D8 D1 P D8 D1 P D1 P D1 P D5 P D5 D1 D1 P D5 D1 D1 P D5 D1 D1 D1 P D5 D1 D1 D1 D1 D1 D1 D1 D1 D1 D1	6	1 per R5 set	Striping across R5 arrays	n-2 (67-94%)	Excellent	Very Good	Database, file, mail servers
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	8	2 per R6 set	Striping across R6 arrays	n-4 (50-88%)	Very good	Good	Critical data



Rear view of four SATA drives connected to ports 0-3 on the Intel® RAID Controller RS2BL080.

Go to Step 4 on Side 2

Intel[®] RAID Controller RS2BL080 Reference Diagram Back View Front View JT8 JT11 Bracket - IT12 - JT9 JT10 Screw (2) I2C · JT7 Ports 4-7 JT6 Ports 0-3 x8 PCI 0 Express* · Interface Speaker **Battery Mounting** Holes (3) \bigcirc JT3 Battery Connector

For more information on the jumpers referenced in this diagram, refer to user guide located on the web at: http://support.intel.com/support/motherboards/server.

Intel[®] ServerBuilder is your one-stop shop for information about all of Intel's Server Building Blocks such as:

- Product information, including product briefs and technical product specifications
- Sales tools, such as videos and presentations
- Intel[®] Online Learning Center
- Support Information and much more
- Get the high-value server solutions you need by taking advantage of the outstanding value Intel provides to system integrators: • High-quality server building blocks • Extensive breadth of server building blocks Solutions and tools to enable e-Business ¹Available only to Intel[®] Channel Program Members, part of Intel[®] e-Business Network
 - Worldwide 24x7 technical support (AT&T Country Code + 866-655-6565)1
 - World-class service, including a three-year limited warranty and Advanced Warranty Replacement¹

For more information on Intel's added-value • Training information, such as the server offerings, visit the Intel® ServerBuilder website at: www.intel.com/go/serverbuilder.