

Intel® RAID Controller SRCMR Installation

What you will need:

- SCSI hard disk drives
- Intel® RAID Controller SRCMR
- Intel® Server Board with a Zero Channel RAID capable PCI slot (for example, Intel Server Board SCB2)
- Intel RAID Controller SRCMR Software CD
- A blank formatted diskette
- Operating System (Windows[†] 2000 or Red Hat[†] Linux[†] 7.1) Installation Media



This guide contains step-by-step instructions for installing Windows[†] 2000 or Red Hat[†] Linux[†] 7.1 on a single RAID volume using all available disks. If you plan to use a different operating system, or need a more advanced RAID configuration, you should refer to the User's Manual. This manual and other supporting documents are located on the web at <http://support.intel.com/support/motherboards/server>. You can also find the User's Manual on the CD that accompanied the Intel Server RAID Controller SRCMR.

Step 1 Make an OS Installation Diskette

1. Boot from the Intel RAID Controller SRCMR Software CD.
2. Select "Make Diskettes".
3. Create an Operating System installation diskette for the operating system.



Step 2 Install the Intel RAID Controller SRCMR in the Intel Server Board

Note: The other side of this sheet shows the component layout of this board. The Intel RAID Controller SRCMR uses the SCSI controller on the server board so there are no SCSI cables to connect to the Intel RAID Controller SRCMR.

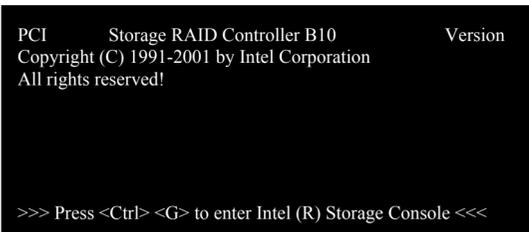
Install the Intel RAID Controller SRCMR into the zero channel RAID capable PCI slot. Refer to your board documentation for details. The example below refers to the Intel SCB2 server board.

1. Shut down the system.
2. Turn the power off.
3. Insert the Intel RAID controller in the first PCI slot of either the 1-slot (SR1200 chassis) or 3-slot (SR2200 chassis) PCI riser card used on the P64-B PCI segment.

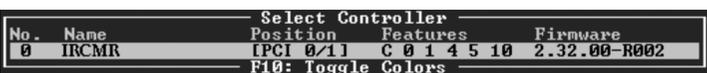
Step 3 Use Storage Console to Create a RAID Volume

Note: As necessary, refer to the other side of this sheet "Choosing the Right RAID Level" for a brief description of RAID levels.

1. Power on the system and press **Ctrl + G** when the screen below appears.



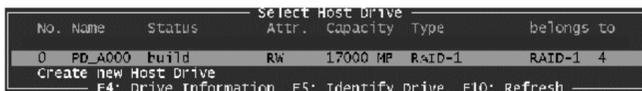
2. The following two messages will appear at the bottom of the screen: "Intel (R) Storage Console to start after POST" and "Please wait to start Intel (R) Storage Console..."
3. When Storage Console starts, it will display the Intel RAID Controller SRCMR installed in the system. Press **Enter** to select this controller



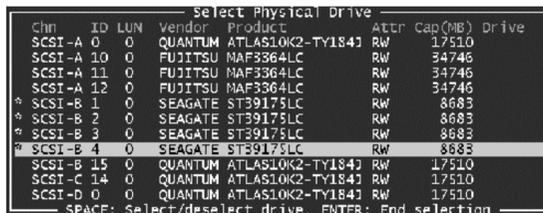
4. Select "Configure Host Drives" and press **Enter**.



5. After selecting "Create new Host Drive", Storage Console displays a list of "free" hard disks. These are drives that do not belong to a logical host drive and can be used for new host drives.



6. Select the number of hard disks that you want to be part of the array with the space bar (these hard disks become marked with an "*"). For this example, we used four hard disks. Press **Enter**. Move the selection bar with the arrow keys from one entry to another. To deselect a drive, highlight the drive with the selection bar and press the space bar.



7. The "Choose Type" menu offers different host drive types. For this example we select "RAID 5 + Hot Fix" and press **Enter**.



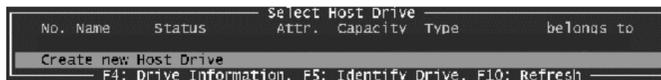
8. For security reasons, you will be asked if you want to use the selected disk to create a host drive. Storage Console displays a warning that all data will be destroyed after confirmation. Confirm your choice by pressing **Y**. Storage Console creates a new host drive.



9. Enter the appropriate drive capacity and press **Enter**.

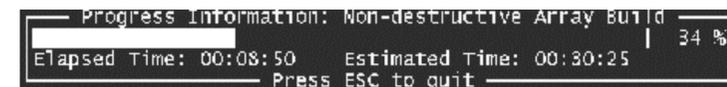


10. The new host drive is created. Press **F10** to refresh and begin the build process. Its status is still "build", since the Intel RAID Controller SRCMR synchronizes both drives.



Note: The array build will continue as a background task. You can wait for the build to complete before exiting Storage Console or you can exit Storage Console and the array build will continue in the background after BIOS POST upon reboot. You can then proceed with OS installation while the array continues the build process in the background.

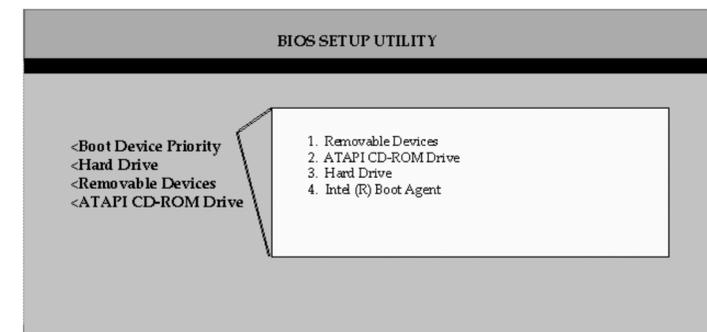
11. When leaving Storage Console (by pressing **ESC**), a progress window informs you about the estimated completion time for the build process.
12. Upon successful completion of the build process, the disk array changes to "ready" status.



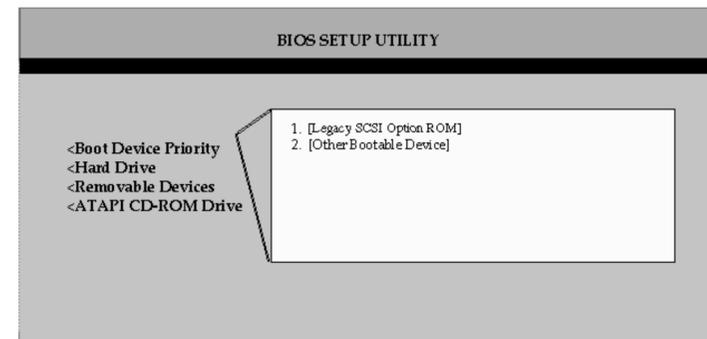
Step 4 Set the System BIOS Boot Order

This step requires entering your system BIOS and setting the proper boot priority. This step may differ from system to system. Refer to your system documentation for details. The example below refers to the Intel SCB2 server board.

1. During POST, press **F2** to enter the BIOS Setup Utility.
2. Navigate to the "Boot" menu, then access the "Boot Device Priority" submenu and set the following order:
 - Removable Devices
 - ATAPI CD-ROM Drive
 - Hard Drive
 - Intel (R) Boot Agent



3. Access the "Hard Drives" submenu and make sure the "[Legacy SCSI Option ROM]" is on the top of the priority list.



4. Press **F10** to save your changes and exit. The system will reboot.

Windows 2000 Advanced Server Installation

Step 5 Install Windows 2000 Server

IMPORTANT: When the blue setup screen first appears, hit the **F6** key.

1. Boot the system with the Windows 2000 CD-ROM.
2. **Press F6 as soon as the first blue screen appears** to bypass mass storage detection.
3. When prompted to specify a mass storage controller:
 - Select "S" to specify additional storage devices.
 - Insert Windows 2000 Installation driver diskette (created in **Step 1** on the other side).
 - Press **Enter** to select the "Installation Driver" and continue with Windows installation.

Step 6 Install and Launch the Storage Console and Storage Console+ Utilities

1. Insert the Intel RAID Controller SRCMR Software CD.
2. Select "Install" and follow the on screen instructions to install the Storage Console and Storage Console+ utilities.
3. Launch the Storage Console and/or Storage Console+ utilities by clicking on the icons located on the desktop.

Choosing the Right RAID Level

RAID 0		Minimum Disks: 2 Read performance: Excellent Write performance: Excellent Fault tolerance: None	Striping of data across multiple drives in an array. This provides high performance, but no data protection.
RAID 1		Number of Disks: 2 Read performance: Excellent Write performance: Good Fault tolerance: Excellent	Disk mirroring, meaning that all data on one disk is duplicated on another disk. This is a high availability solution, but only half the total disk space is usable.
RAID 4		Minimum Disks: 3 Read performance: Excellent Write performance: Good Fault tolerance: Good	Striping with parity. Data information are striped amongst the disk drives as in RAID 0. Additionally, the controller calculates redundancy data (parity information) which are stored on a separate disk drive. A good compromise of performance, fault tolerance, and drive space utilization.
RAID 5		Minimum Disks: 3 Read performance: Excellent Write performance: Slow Fault tolerance: Good	Striping with parity. Data and party information are spread among each drive in the array. A good compromise of performance, fault tolerance, and drive space utilization.
RAID 10		Minimum Disks: 4 Read performance: Excellent Write performance: Good Fault tolerance: Good	Disk mirroring and data striping that achieves a balance between the increased data availability inherent in RAID 1 and RAID 5 and the increased read performance inherent in disk striping (RAID 0). Each drive in the array is duplicated. This level array offers high data transfer advantages of striped arrays and increased data accessibility.

Information

Information for the Intel RAID Controller SRCMR, including specifications, manuals, and updates can be found at: <http://support.intel.com>

Make Your Server Platform Complete with Intel Server Building Blocks:
 Intel Server Boards
 Intel Server RAID Controllers
 Intel Server Adapters

Current product information on server building blocks can be found at:
www.intel.com/go/serverbuilder

Red Hat Linux 7.1 Installation

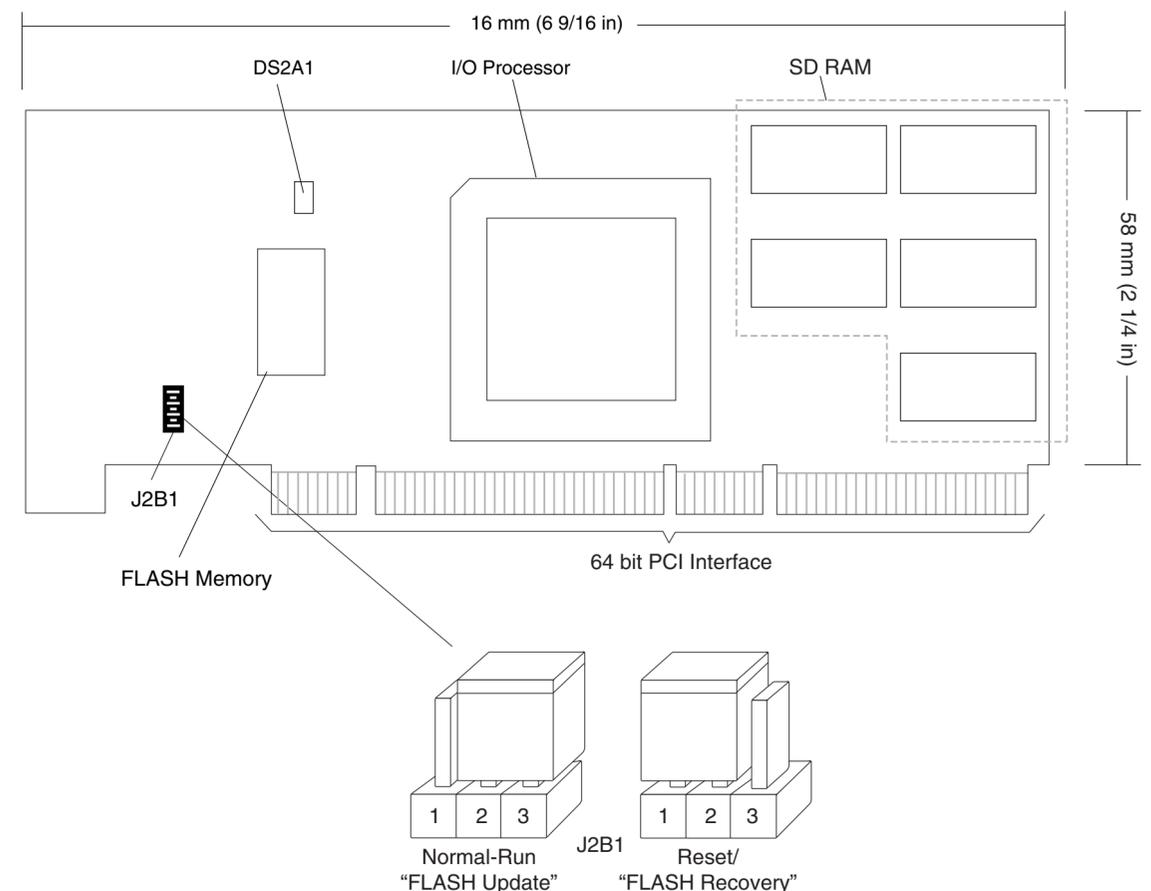
Step 5 Install Red Hat Linux Server

1. Boot the system with the Red Hat Linux CD-ROM.
2. At the install prompt, select "linux dd".
3. When prompted, insert the Red Hat Linux driver diskette (created in **Step 1** on the other side).
4. Continue with the Linux OS installation.

Step 6 Install the Intel RAID Controller SRCMR Storage Console Monitoring Utility

1. Place the Intel RAID Controller SRCMR CD-ROM in the CD-ROM drive and mount the CD-ROM:
`$ mount /dev/cdrom /mnt/cdrom`
2. Copy the Storage Console utility archive to /usr/sbin:
`$ cp /mnt/cdrom/linux/install/storcon-2.00.gz /usr/sbin/storcon-2.00.gz`
3. Unpack the archive file and rename:
`$ gunzip -d /usr/sbin/storcon-2.00.gz`
`$ mv /usr/sbin/storcon-2.00 /usr/sbin/storcon`
4. Launch the Storage Console utility by typing "storcon" at any prompt.
5. Select the Linux interface to run the utility locally.

Intel RAID Controller SRCMR Component Layout



Note: The Intel RAID Controller SRCMR comes with the firmware installed on the board. If for any reason the firmware becomes corrupt, these jumpers are used for firmware recovery. Refer to the User's Guide for detailed instructions on the firmware recovery procedure.