



Intel[®] Integrated RAID

Installation Quick Start Guide, Version 1.1

April 2002

Order Number: 273477-001



Information in this document is provided in connection with Intel® products. No license, express or implied, by estoppel or otherwise, to any intellectual property rights is granted by this document. Except as provided in Intel's Terms and Conditions of Sale for such products, Intel assumes no liability whatsoever, and Intel disclaims any express or implied warranty, relating to sale and/or use of Intel products including liability or warranties relating to fitness for a particular purpose, merchantability, or infringement of any patent, copyright or other intellectual property right. Intel products are not intended for use in medical, life saving, or life sustaining applications.

Intel may make changes to specifications and product descriptions at any time, without notice.

Designers must not rely on the absence or characteristics of any features or instructions marked "reserved" or "undefined." Intel reserves these for future definition and shall have no responsibility whatsoever for conflicts or incompatibilities arising from future changes to them.

The RAID Adapter may contain design defects or errors known as errata which may cause the product to deviate from published specifications. Current characterized errata are available on request.

This RAID Adapter as well as the software described in it is furnished under license and may only be used or copied in accordance with the terms of the license. The information in this manual is furnished for informational use only, is subject to change without notice, and should not be construed as a commitment by Intel Corporation. Intel Corporation assumes no responsibility or liability for any errors or inaccuracies that may appear in this document or any software that may be provided in association with this document. Except as permitted by such license, no part of this document may be reproduced, stored in a retrieval system, or transmitted in any form or by any means without the express written consent of Intel Corporation.

Copyright © Intel Corporation, 2002

*Other names and brands may be claimed as property of others.



Contents

1	Quick Start	
1.1	Using the User Documentation Set	5
1.2	Getting Help	6
1.3	Regulatory Information	6
1.4	Warnings and Cautions	6
2	Installation	
2.1	Determining the RAID Configuration	8
2.2	Hardware Installation.....	9
2.2.1	Minimum Requirements	9
2.2.2	Installing the IIR Controller	9
2.3	Create a Bootable Host Drive.....	10
2.3.1	Installing a RAID 1 Mirrored Array	10
2.4	Create the RAID Software Suite Driver Installation Diskette	14
2.5	Microsoft Windows 2000 and Windows NT Installation.....	16
2.5.1	Minimum Requirements	16
2.5.2	OS Installation Procedures	16
2.6	Novell NetWare 4.2x and 5.x Installation	17
2.6.1	Minimum Requirements	17
2.6.2	OS Installation Procedures	18
2.7	UnixWare 7.1.1 Installation	19
2.7.1	Minimum Requirements	19
2.7.2	OS Installation Procedures	20
2.8	RAID Software Suite Installation	20
2.8.1	Microsoft Windows 2000 and NT 4.0	20
2.8.2	Novell NetWare 4.2x and 5.x	22
2.8.3	UnixWare 7.1.1	23
A	Appendix	
A.1	Installing a RAID 5 Disk Array with Hot Fix.....	24
	Index	

Figures

2-1	Installation of the IIR Controller and OS to a Host Drive	8
2-2	Select Controller	11
2-3	Configure Host Drives.....	11
2-4	Create New Host Drive	12
2-5	Select Physical Drive	12
2-6	Choose Type Menu	13
2-7	Host Drive Creation Confirmation	13
2-8	Drive Capacity	13



2-9	Newly Created Host Drive	14
2-10	ROM-DOS Menu	15
2-11	Diskette to Create	15
2-12	OS to Create	15
2-13	RAID Software Setup Splash Screen	21
2-14	Setup Type	22
A-1	Select Controller	24
A-2	Configure Host Drives	25
A-3	Create New Host Drive	25
A-4	Select Physical Drive	26
A-5	Choose Type Menu	26
A-6	Host Drive Creation Confirmation	26
A-7	Drive Capacity	27
A-8	Newly Created Host Drive	27
A-9	Progress Window	28

Tables

2-1	Pre-installation Worksheet (Creating a Host Drive for the Operating System)	9
-----	---	---

Quick Start

1

Intended Audience

This documentation is intended for users who are experienced in configuring computer systems with new add-in cards or have had previous experience with Intel® Integrated RAID (IIR) Controllers.

Read and adhere to all warnings, cautions, and notices in this guide and the other documents in the user documentation set supplied with this product.

1.1 Using the User Documentation Set

User documentation for this product is provided in three (3) separate documents:

Installation Quick Start Guide

The *Installation Quick Start Guide*, or *Quick Start Guide*, covers the installation of the IIR controller hardware and software on a bootable host drive with the following operating systems (OS):

- Microsoft Windows* 2000
- Microsoft Windows NT* 4.0
- Novell NetWare* 4.2x and 5.x
- UnixWare* 7.1.1

Refer to the accompanying software guide for more complex installations and for installations on different OS's.

Hardware Installation and User's Guide

The *Hardware Installation and User's Guide*, or *Hardware Guide*, covers instructions for installing an IIR controller and provides a guide to its features and specifications. For a particular IIR controller, its hardware guide documents compatible RAID adapters, supported OS's, standard features and optional features.

Software Installation and User's Guide

The *Software Installation and User's Guide*, or *Software Guide*, contains:

- detailed instructions for the hardware and software installation of an IIR controller
- descriptions to using the RAID Software Suite, the drivers, tools and utilities of the IIR controller.

The first part of the software guide provides an overview of RAID technology and its features. Next, the guide documents various installation procedures for an IIR controller and the RAID Software Suite, depending on the chosen OS configuration. The software guide then includes descriptions of the utilities, Storage Console (StorCon) and Storage



Console Plus (StorCon+), to facilitate the configuration of the RAID subsystem. Finally, the guide provides details of all product features supported by the software and firmware. For further information refer to the Optional Features section of the appropriate hardware guide since not all features are applicable to all IIR controllers.

The Hardware Guide and the Software Guide are provided on the CD-ROM in an online/HTML format (at <cdromdrive>:\docs\index.htm) viewable with any HTML-compatible browser, such as Microsoft Internet Explorer* or Netscape Navigator*. The Quick Start Guide, Hardware Guide and the Software Guide can also be displayed and printed using Adobe Acrobat Reader* (not provided on the CD-ROM).

1.2 Getting Help

Consult the accompanying Hardware Guide for your IIR controller for customer support information.

1.3 Regulatory Information

Refer to your product's Hardware Guide for certification and regulatory information.

1.4 Warnings and Cautions

This guide and all associated guides in the user documentation set (the Quick Start Guide, the Hardware Guide, and the Software Guide) should be used by qualified technical personnel with experience installing and configuring PCI adapter cards.

Read and adhere to all warnings, cautions, and notices in this guide and all the guides in the *user documentation set* supplied with this product.

Warnings

- The connection of a non-shielded equipment interface cable to this equipment will invalidate the FCC certification of this device and may cause interference levels that exceed the limits established by the FCC for this equipment. It is the responsibility of the user to obtain and use a shielded equipment interface cable with this device. If the equipment has more than one interface connector, do not leave cables connected to unused interfaces unless otherwise instructed to do so in the user manual.
- Changes or modifications not expressly approved by the manufacturer could void the user's authority to operate the equipment.

Cautions

- Take precautions to prevent electrostatic discharge (ESD) damage before handling the IIR controller.
- ESD can damage adapter card components. Perform the described procedures in this guide only at an ESD workstation. If no such station is available, you can provide some



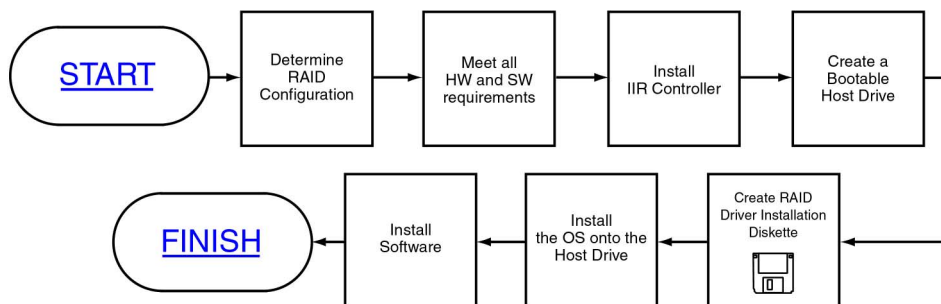
ESD protection by wearing an antistatic wrist strap and attaching it to a metal part of the computer chassis.

Installation

2

This guide describes the installation of the IIR controller hardware and software on a bootable host drive. The flow chart in [Figure 2-1](#) illustrates this particular installation. Refer to the Software Guide for all other installations.

Figure 2-1. Installation of the IIR Controller and OS to a Host Drive



2.1 Determining the RAID Configuration

Begin the installation by completing the worksheet in [Table 2-1](#) to determine the RAID level, the number of disk drives, and the disk drive size for your system. Refer to the Software Guide for more information about RAID levels and to determine the optimum RAID level solution for your needs. After determining the appropriate RAID configuration, follow the steps in the sections below to complete the installation.

1. In column 1, select a RAID level.
2. In column 2, note the number of disk drives supported for the RAID level you selected.
3. In column 3, record the number of disk drives you will use for the host drive.
4. In column 4, record the capacity, in megabytes (MB), that you will need on each physical drive.

You will enter this value as the “Used Capacity per Drive” when you are creating the host drive. Based on the physical drive capacity value and the number of disk drives you will use, the RAID configuration software will calculate the total host drive size for your selected RAID level.

Note: The capacity of the smallest drive in the initial RAID array configuration becomes the maximum capacity that the RAID configuration software can use for each hard disk in the host drive. This becomes important when you configure an array with hard disks of potentially varying sizes and you want to ensure that future drives added to the disk array will fit in the array (for example, for replacement purposes). Should a new drive have less

than the physical drive capacity used for each disk in the existing disk array, the RAID configuration software could not accept the new drive.

Caution: The size of the host drive cannot be changed (decreased, increased, or expanded) once the host drive has been created.

Table 2-1. Pre-installation Worksheet (Creating a Host Drive for the Operating System)

RAID Level	# of disk drives supported for this RAID level (minimum to maximum)	# of disk drives ¹ to include in new host drive	Physical drive capacity (MB)
RAID 0	2 to 15 per Channel		
RAID 1	2	2	
RAID 4	3 to 15 per Channel		
RAID 5	3 to 15 per Channel		
RAID 10	4 to 15 per Channel ²		
Notes and Cautions	1. The number of disk drives can not be decreased (only increased via the <i>array expansion</i> feature) once the host drive is created. 2. RAID 10 only supports an <i>even</i> total number of disk drives. Additional drives are added in pairs, up to a total of 30 drives over 2 channels.		

2.2 Hardware Installation

2.2.1 Minimum Requirements

- Computer with CD-ROM Drive (not attached to the IIR controller)
- One available PCI slot as required for your IIR controller
- IIR controller
- PCI 2.2 compliant system BIOS
- SCSI hard disk drives (the minimum needed in order to meet desired RAID level requirements)

Note: Not all adapters are configured with removable SDRAM. If the IIR controller is configured with removable SDRAM, be sure that the DIMM is installed in the adapter prior to use. For installation details and applicability to your IIR controller, refer to the accompanying Hardware Guide.

2.2.2 Installing the IIR Controller

Warning: SHOCK HAZARDS may be present inside the unit in which this card is being installed. Disconnect all power cords to the unit before removal of any covers. Follow the warnings noted in your computer’s user or service manual before installing this board. ONLY after all



the covers are reinstalled should you reconnect the power cords and power up the computer for the software installation and use.

1. Power off the computer, disconnect power cord(s) and remove the system cover (consult the documentation that came with your computer system).
2. Install the IIR controller into an available PCI slot that is applicable for the product (refer to the accompanying Hardware Guide for more details).
3. Connect one end of the SCSI cable to the internal (68 pin) or external (VHDCI) SCSI connector of the IIR controller or the local host SCSI controller interface, depending on the RAID product being used. Connect the other end of the SCSI cable to the SCSI drives or drive enclosure.

Note: Ensure that the end of the SCSI bus is properly terminated. Consult the accompanying Hardware Guide for SCSI bus termination details.

4. Replace the system cover and reconnect power cord(s).

2.3 Create a Bootable Host Drive

Storage Console (StorCon) is the software tool used for creating host drives as well as administering the RAID subsystem. This section describes how to create a bootable host drive in a RAID 1 mirrored array configuration via the expansion ROM (XROM) StorCon. See [Appendix A](#) for an example of a RAID 5 disk array with hot fix drive configuration.

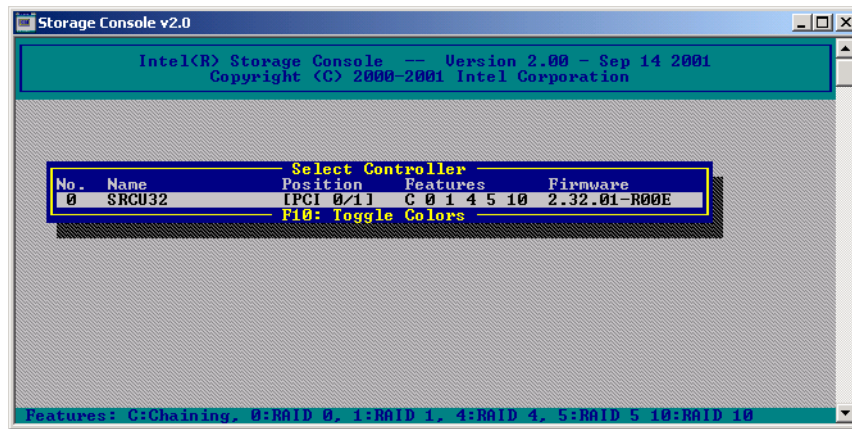
Refer to the Software Guide for further details on StorCon and information about other RAID levels.

2.3.1 Installing a RAID 1 Mirrored Array

1. Power on the computer.
2. Press <Ctrl>+<g> when the IIR BIOS message appears to load XROM StorCon.

3. Select the controller and press <Enter>. See [Figure 2-2](#).

Figure 2-2. Select Controller



4. Select the menu option *Configure Host Drives* and press <Enter>. See [Figure 2-3](#).

Figure 2-3. Configure Host Drives

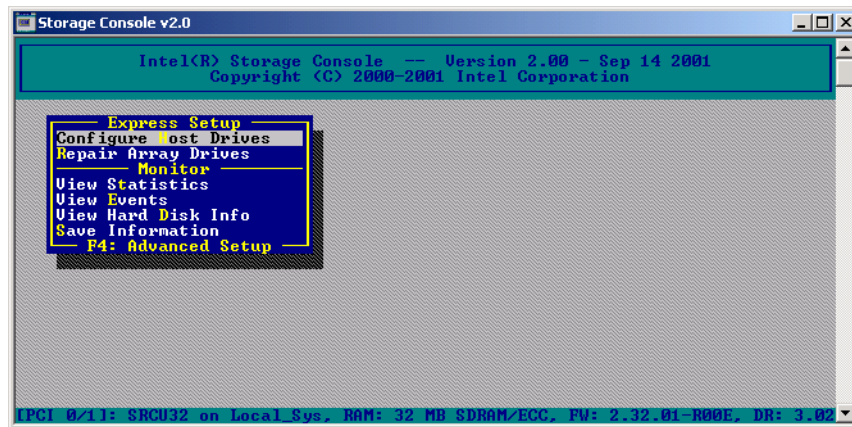
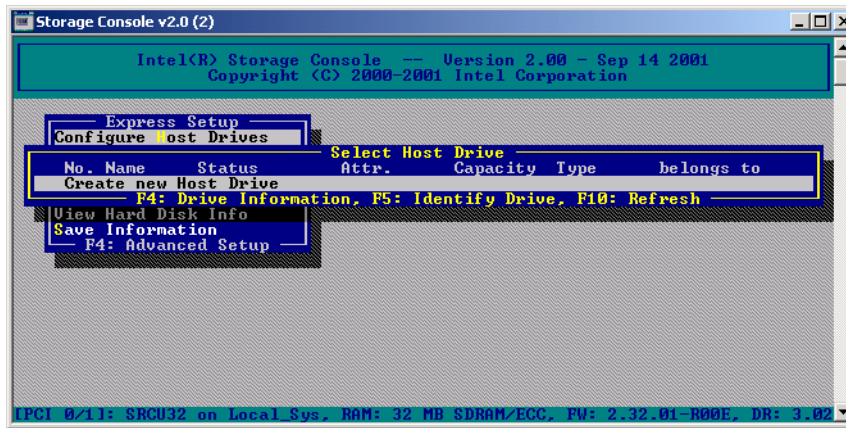
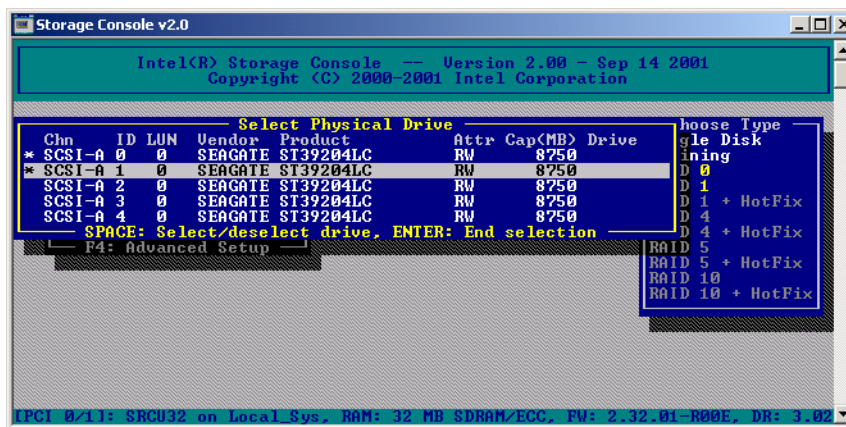


Figure 2-4. Create New Host Drive



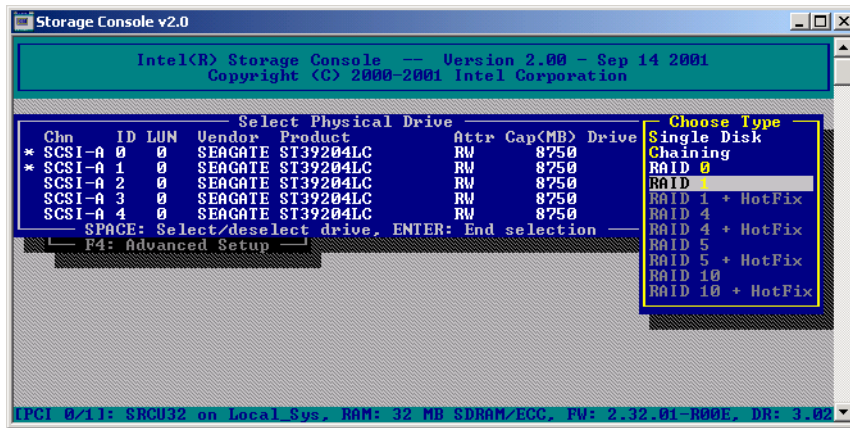
5. Select *Create new Host Drive* (see Figure 2-4) and press <Enter>. StorCon displays a list of available hard disks (see Figure 2-5).
6. Use the arrow keys and the Space bar to select two hard disks (these hard disks become marked with an "*" as shown in Figure 2-5) and press <Enter>.

Figure 2-5. Select Physical Drive



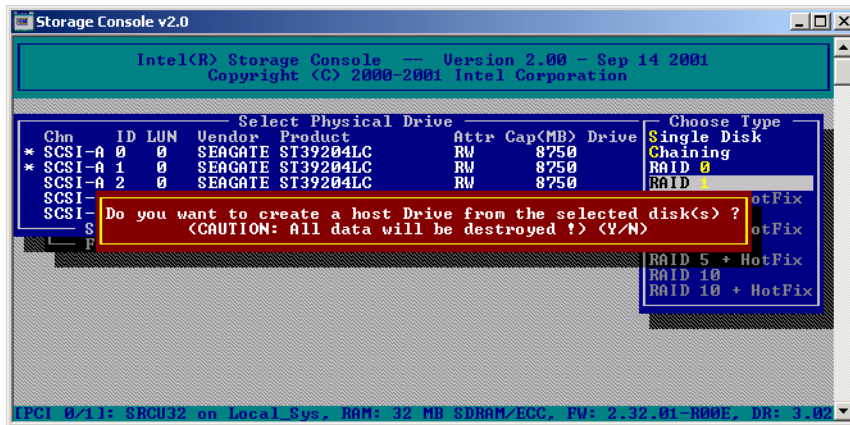
7. From the *Choose Type* menu, select RAID 1 and press <Enter>. See Figure 2-6.

Figure 2-6. Choose Type Menu



8. StorCon displays a warning that all data on the selected disks will be destroyed (see [Figure 2-7](#)). Confirm your choice by pressing <y>.

Figure 2-7. Host Drive Creation Confirmation



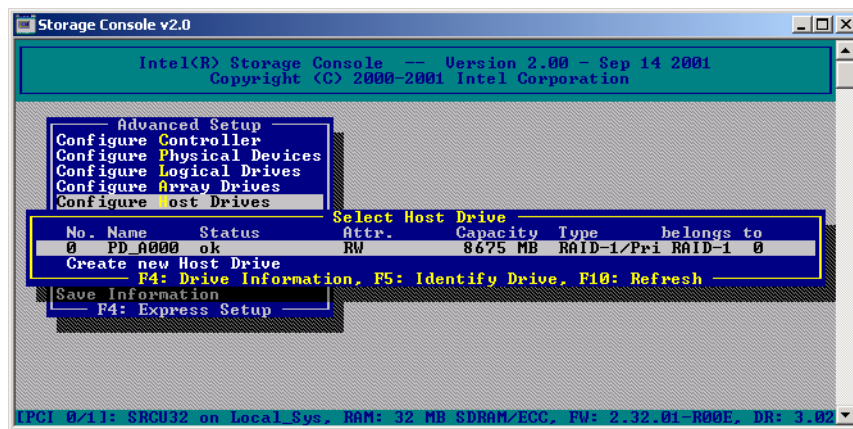
9. StorCon asks for the capacity to use for each drive (see [Figure 2-8](#)). Type in the physical drive capacity that you recorded in [Table 2-1](#) for RAID 1 and press <Enter>.

Figure 2-8. Drive Capacity



10. StorCon pauses to determine if you want to configure the selected disks for SAF-TE Auto Hot Plug. Press <y> or <n> to confirm your choice.
11. StorCon asks if you want to set the host drive type to *Cluster*. Refer to your product's Hardware Guide to determine if clustering is supported before pressing <y> or <n> to confirm your choice.
12. The new host drive is created (see [Figure 2-9](#)). When the build process is completed, the RAID 1 disk array changes to *ready* status, for example, the data is fully redundant.

Figure 2-9. Newly Created Host Drive



13. Exit StorCon by pressing <Esc> several times to escape out of the various menus and pressing <y> to quit.

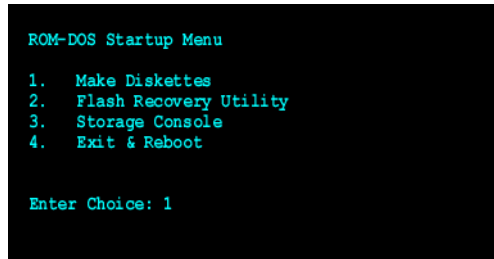
Follow the instructions in the next section to continue the installation.

2.4 Create the RAID Software Suite Driver Installation Diskette

The RAID Software Suite CD-ROM is self-booting, assuming that your system supports booting from the CD-ROM drive.

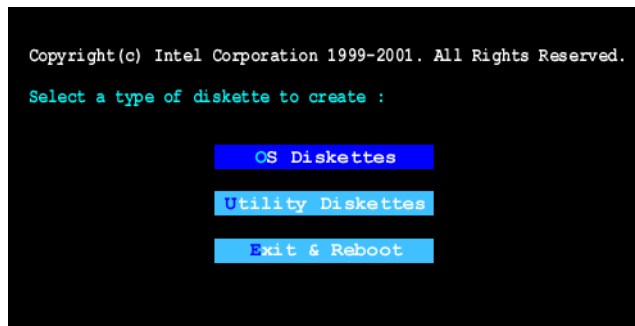
1. Change your computer's BIOS setting so that your system boots from the CD-ROM. Insert the CD-ROM into the system CD-ROM drive and power up the system. The *ROM-DOS Startup Menu* appears ([Figure 2-10](#)).

Figure 2-10. ROM-DOS Menu



- From the menu, select *Make Diskettes*, and press <Enter>. The *Select a Type of Diskette to Create* screen appears. See [Figure 2-11](#).

Figure 2-11. Diskette to Create



- Press <Enter> to select *OS Diskettes*. The *Select an OS to Create* screen appears. See [Figure 2-12](#).

Figure 2-12. OS to Create



- Highlight the OS to be installed and press <Enter>.
- Select the specific OS to be installed and press <Enter>.



6. A DOS screen will appear. Follow the instructions to extract the image to diskette. After the diskette is created, the *Select an OS to Create* screen reappears (Figure 2-12).
7. Remove the diskette from the floppy drive and set it aside. You will be instructed when to use it during the OS installation.
8. In the *Select an OS to Create* screen, select *Main Menu*. The *Select a Type of Diskette to Create* screen appears (Figure 2-11).
9. Select *Exit & Reboot* to reboot the system.
10. Change your computer's BIOS setting so that your system boots normally (not from the CD-ROM).

Go to the section for your choice of operating system and continue the installation.

2.5 Microsoft Windows 2000 and Windows NT Installation

2.5.1 Minimum Requirements

Microsoft Windows 2000

- RAID Software Suite CD-ROM
- 9 MB of free hard disk space (for the RAID Software Suite)
- Microsoft Windows 2000 Professional†, Server† or Advanced Server†
- RAID Software Suite Driver Installation diskette (see Section 2.4 for instructions to create this diskette)
 - One blank high density floppy diskette† may be required to create the installation diskette

Microsoft Windows NT 4.0

- RAID Software Suite CD-ROM
- 9 MB of free hard disk space (for the RAID Software Suite)
- RAID Software Suite Driver Installation diskette (see Section 2.4 for instructions to create this diskette)
 - One blank high density floppy diskette† may be required to create the installation diskette
- Microsoft Windows NT 4.0 Workstation†, Server† or Server Enterprise Edition†

† Not supplied

2.5.2 OS Installation Procedures

The following installation procedures highlight the Windows setup options that you must install during OS installation to successfully prepare the operating system for the installation of the RAID Software Suite.

These procedures cover installing the IIR controller and the OS to a host drive for local administration of the RAID subsystem. For all other installation scenarios, please consult the accompanying Software Guide.

Install the operating system software *using one of the scenarios below* which matches your installation method.

Note: For detailed Windows installation procedures, please consult the documentation that came with your computer system or operating system.

2.5.2.1 Installing Windows Using the Installation Boot Diskettes

1. Insert the bootable floppy diskette and power on the computer.
2. Let Windows detect the storage devices in your system. When device detection is complete, press *S* to specify additional storage devices.
3. Select *Other*. Insert the RAID Software Suite Driver Installation diskette for Windows into the floppy drive, press <Enter>.
4. The IIR Controller is automatically selected. Press <Enter>.
5. Complete the text-based portion of the Windows installation procedures. Reboot and continue with the GUI-based portion of the installation.
6. After the operating system is completely installed, go to [Section 2.8](#) to complete the installation.

2.5.2.2 Installing Windows Using the Bootable Windows CD-ROM

1. Insert the bootable floppy diskette and power on the computer.
2. **Press *F6* as soon as the initial blue screen appears** to ensure that the RAID Driver Installation diskette can be loaded when specifying *Other*.
3. When device detection is complete, press *S* to specify additional storage devices.
4. Select *Other*. Insert the RAID Software Suite Driver Installation diskette for Windows into the floppy drive. Press <Enter>.
5. The IIR Controller is automatically selected. Press <Enter>.
6. Complete the text-based portion of the Windows installation procedures. Reboot and continue with the GUI-based portion of the installation.
7. After the operating system is completely installed, go to [Section 2.8](#) to complete the installation.

2.6 Novell NetWare 4.2x and 5.x Installation

2.6.1 Minimum Requirements

- RAID Software Suite CD-ROM



- 20 MB of free hard disk space
- RAID Software Suite Driver Installation Diskette for NetWare (see [Section 2.4](#) for instructions to create this diskette).
 - One blank high density floppy diskette† may be required to create the installation diskette
- Novell NetWare 4.2x† or 5.x† software

† Not supplied

2.6.2 OS Installation Procedures

2.6.2.1 New Installation of NetWare 4.20 with the SRCRX.HAM Driver

1. Create a driver diskette from the RAID Software Suite CD-ROM. See [Section 2.4](#) for details to create this disk.
2. Start the OS installation from the NetWare CD-ROM. (NetWare 4.2x CD-ROMs are NOT bootable so you must have a bootable DOS partition installed on your target hard drive and have the appropriate DOS driver for your CD-ROM.)
3. At the driver summary menu select *modify drivers*.
4. Insert the driver diskette into drive A:
5. Press <Enter> on the IIR driver list.
6. Press <Insert> in the IIR controller driver menu.
7. Press <F3> and change the path to A:\DRIVERS\4XX then press <Enter>.
8. Select the SRCRX.HAM driver and complete the installation.

2.6.2.2 New Installation of NetWare 5.0 with the SRCRX.HAM Driver

Important: The SRCRX.HAM driver depends on a later version of the NWPA.NLM than was shipped on the NetWare 5.0 CD. Without the NWPA.NLM update, the SRCRX.HAM driver will fail to load. The following procedure will allow you to upgrade the NWPA.NLM on the fly during OS installation.

1. Create a driver diskette from the RAID Software Suite CD-ROM. See [Section 2.4](#) for details to create this disk.
2. Start the OS installation from the NetWare bootable CD-ROM.
3. The NetWare installation will eventually load a "Welcome" screen asking you to verify the startup directory (C:\NWSERVER).
4. Press <Alt>+<F10> to exit the installation.
5. At the NetWare console prompt, type "down" and press <Enter> (the installation exits to the boot drive's DOS prompt).
6. Insert the driver diskette into drive A:.

7. If your NetWare startup directory is drive C:, then run A:\INSTALL\NWUPDATE.BAT, otherwise create a subdirectory named NWUPDATE at the root of your boot drive and copy all the files from A:\DRIVERS\5XX to the NWUPDATE subdirectory.
8. Leave the NetWare 5.0 bootable CD in place, but remove the driver diskette from drive A:.
9. Reboot the server. After rebooting the server, the NetWare 5.0 Install will start again.
10. Right after the Accept the License Agreement screen, select the "Continue with Existing Partition" option.

Note: If you chose to install a "New Server," you may encounter the following warning dialog box:

“Warning: A previously installed version of NetWare was detected in C:\NWSERVER. If you choose to install a new server, all data on the existing server will be lost. <Press ENTER to continue>”.

If the warning dialog box appears, press <Enter>.

11. Complete the installation.

2.6.2.3 New Installation of NetWare 5.1x with the SRCRX.HAM Driver

1. Create a driver diskette from the RAID Software Suite CD-ROM. See [Section 2.4](#) for details to create this disk.
2. Start the OS installation from the NetWare bootable CD-ROM.
3. At the storage driver summary menu select *modify drivers*.
4. Insert the driver diskette into drive A:
5. Press <Enter> on the storage driver list.
6. Press <Insert> in the storage controller driver menu.
7. Press <F3> and change the path to A:\DRIVERS\5XX then press <Enter>.
8. Select the SRCRX.HAM driver.
9. Complete the installation.

2.7 UnixWare 7.1.1 Installation

2.7.1 Minimum Requirements

- RAID Software Suite CD-ROM
- 20 MB of free hard disk space
- RAID Software Suite Driver Installation diskette for UnixWare (see [Section 2.4](#) for instructions to create this diskette).



— One blank high density floppy diskette† may be required to create the installation diskette

- SCO UnixWare* 7.1.1† OS software

† Not supplied

2.7.2 OS Installation Procedures

Note: When installing UnixWare, create only one RAID device (host drive) on which the operating system is to be installed.

1. Create and configure *one* RAID device from the BIOS of IIR Storage Console (accessed by pressing <Ctrl>+<g>).
2. Insert UnixWare 7.1.1 installation diskette 1 of 2 which was included with your OS user's manual. Installation begins.

During the installation UnixWare prompts you to insert a Host Bus Adapter (HBA) diskette. Insert the RAID Software Suite Driver Installation diskette. If you do not have the diskette for the operating system that you are installing, then create it before continuing. See [Section 2.4](#) for instructions to create this disk.

3. During the installation of UnixWare, you will be prompted to install the Network Information Services (NIS) package. By default the installation will configure your system as an NIS client. See your system administrator for configuration of the NIS services.

Note: Installation of this service may take an extended period of time.

If you do not plan on using the NIS or there is not an NIS server present on your network that you are installing this system onto, defer installation of NIS at this time by pressing <F8> at the NIS configuration screen.

After completing the OS installation, proceed to [Section 2.8](#) to complete the RAID Software Suite installation.

2.8 RAID Software Suite Installation

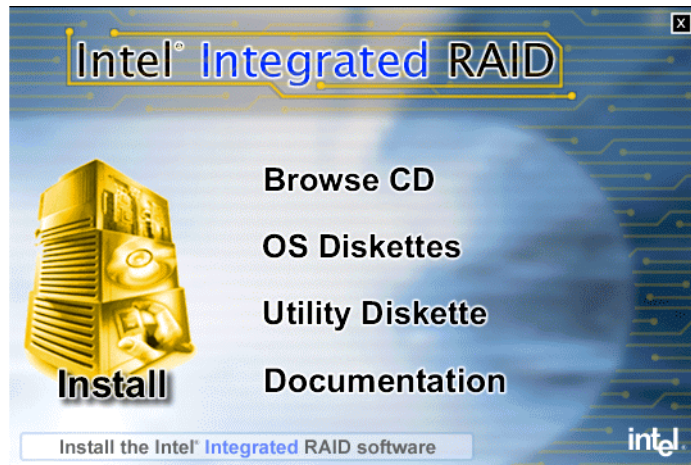
2.8.1 Microsoft Windows 2000 and NT 4.0

1. Log into Windows using a user account with administrative rights.
2. Insert the RAID Software Suite CD-ROM in the CD-ROM drive. When the Intel Integrated RAID splash screen (see [Figure 2-13](#)) appears, click on the link *Install*, to launch the *Setup* program.

Note: If the RAID Software Setup Splash Screen does not appear, then run the setup.exe file that resides at:

```
<CD-ROM root>\windows\install\setup.exe
```

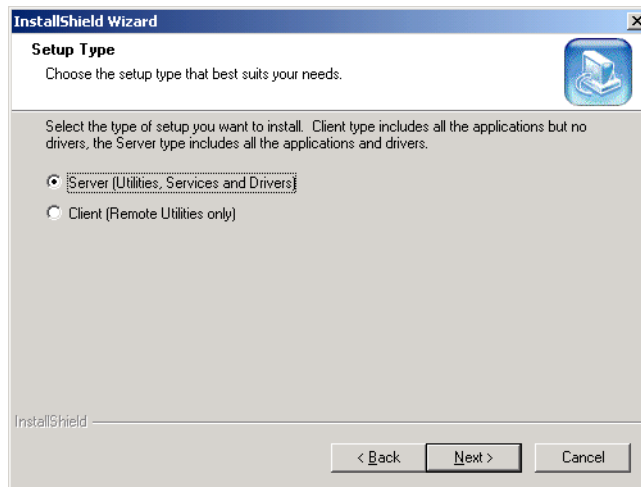
Figure 2-13. RAID Software Setup Splash Screen



3. A welcome screen appears. Click *Next*.
4. License Agreement - Click *Yes* after reading to agree.
5. Setup Type - Select one of the following for Local or Remote administration of the IIR controller (see [Figure 2-14](#)) and click *Next*:
 - Server (Utilities, Services and Drivers)
This option allows for local administration of the IIR controller.
 - Client (Remote Utilities only)

This option allows for remote administration of the IIR controller.

Figure 2-14. Setup Type



6. Choose the default selections (recommended) or select components that you wish to install. Click *Next* to continue the installation.
7. Choose the Destination Location - Use the default directory for installation, click *Next*.
8. Select the Program Folder - Use default Program Group, click *Next*.
9. After the file copy completes, click to complete the installation. Restart the computer after you install the device drivers.

This completes the installation procedure for Windows.

2.8.2 Novell NetWare 4.2x and 5.x

2.8.2.1 Installing the IIR Controller Tools Kit Package

Note: STORCON.NLM will not find any controllers unless SRCRX.HAM is already loaded and running.

1. Select *Product options*, then *Install a product not listed*.
2. Change the path to A:\INSTALL and press <Enter> to continue.
3. Select *Storage RAID Controller Tools Kit (STORCON.NLM)* by setting the cursor on its menu item and pressing the space bar (an X will appear in the item's checkbox).
4. Press <F10> to accept the selected item.
5. NetWare will copy the necessary files, automatically load STORCON.NLM, and modify the AUTOEXEC.NCF file to load STORCON.NLM for each subsequent restart of the server.

2.8.2.2 Configuring Tools for Remote Access

1. Create a group SRC_Operator in the NDS.
2. Add the Admin and all other users who will use this interface.
3. Load SRCIPX.NLM.
4. Start Storage Console (Storcon.exe) or Storage Console Plus (Storcon+.exe) from a workstation using a user name of the group SRC_Operator and his/her NetWare password.

2.8.3 UnixWare 7.1.1

No additional steps are necessary to install the RAID Software Suite once you have completed the UnixWare 7.1.1 installation described in [Section 2.7](#).

Appendix

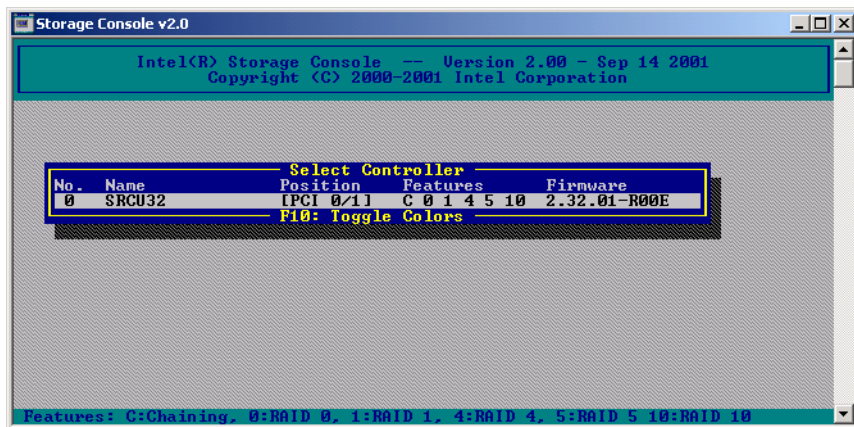
A

This appendix describes how to create a bootable host drive in a RAID 5 array configuration via XROM StorCon. This appendix assumes that you have already completed instructions detailed in [Section 2.1, Determining the RAID Configuration](#).

A.1 Installing a RAID 5 Disk Array with Hot Fix

1. Power on the computer.
2. Press <Ctrl>+<g> when the IIR BIOS message appears to load XROM StorCon.
3. Select the controller and press <Enter>. See [Figure A-1](#).

Figure A-1. Select Controller



4. Select the menu option *Configure Host Drives* and press <Enter>. See [Figure A-2](#).

Figure A-2. Configure Host Drives

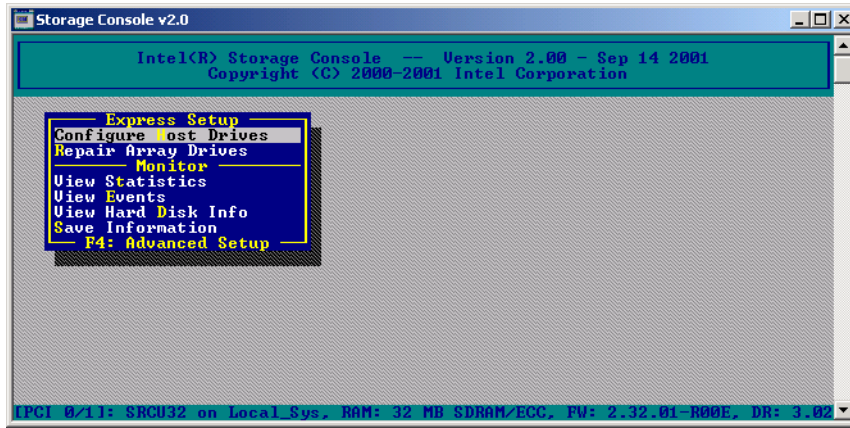
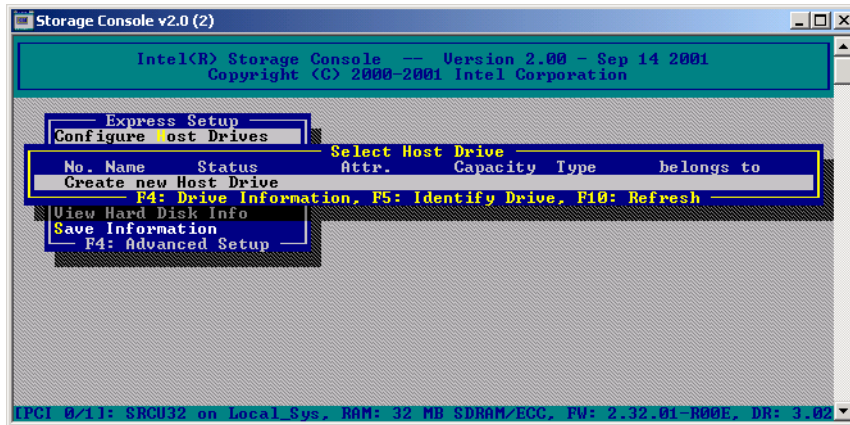


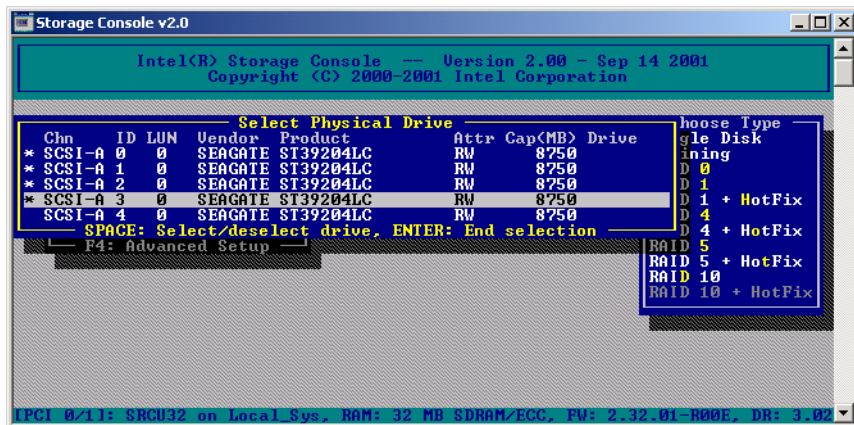
Figure A-3. Create New Host Drive



5. Select *Create new Host Drive* (Figure A-3) and press <Enter>. StorCon displays a list of available hard disks (Figure A-4).
6. Use the arrow keys and the Space bar to select the number of hard disks for your RAID 5 array (minimum of three disks to a maximum of 15 disks per channel). In this RAID

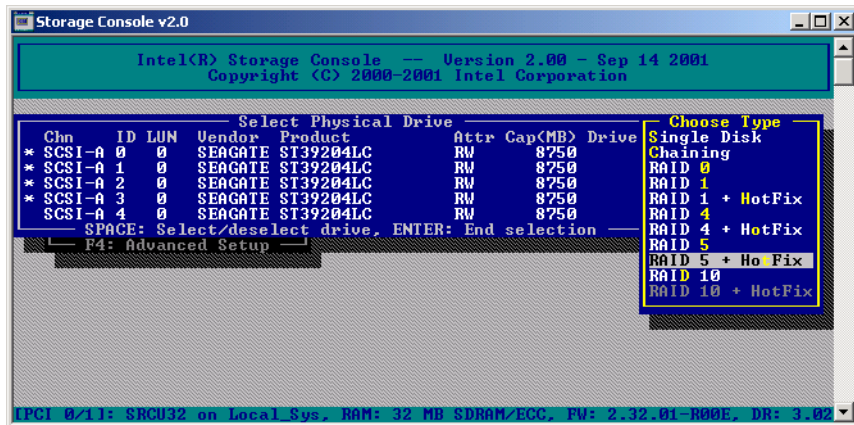
5 + HotFix example, four disks are selected. The selected hard disks become marked with an "*" as shown in [Figure A-4](#). Press <Enter> to accept your selections.

Figure A-4. Select Physical Drive



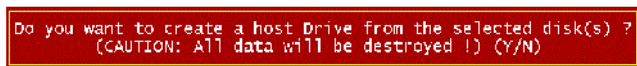
- From the *Choose Type* menu, select *RAID 5 + HotFix* and press <Enter>. See [Figure A-5](#).

Figure A-5. Choose Type Menu



- StorCon displays a warning that all data on the selected disks will be destroyed (see [Figure A-6](#)). Confirm your choice by pressing <y>.

Figure A-6. Host Drive Creation Confirmation



9. StorCon asks for the capacity to use for each drive (see [Figure A-7](#)). Type in the physical drive capacity that you recorded in [Table 2-1](#) for RAID 5 and press <Enter>.

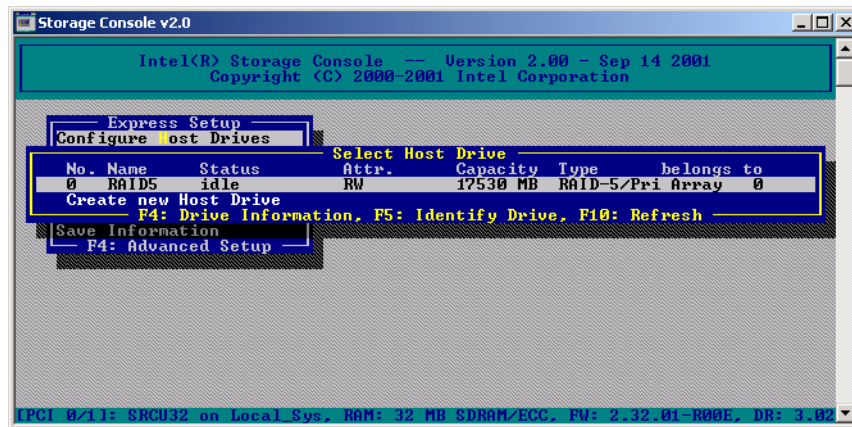
Figure A-7. Drive Capacity



10. StorCon asks if you want to set the host drive type to 'Cluster'. Refer to your product's Hardware Guide to determine if clustering is supported before pressing <y> or <n> to confirm your choice.

The new host drive is created. See [Figure A-8](#).

Figure A-8. Newly Created Host Drive



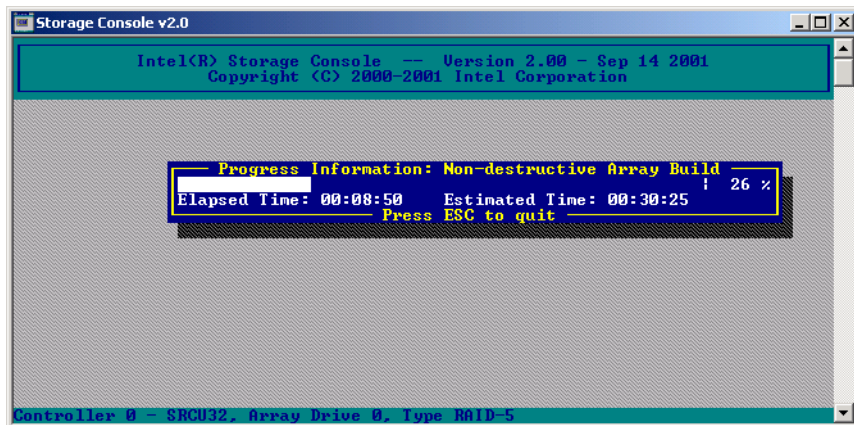
11. Exit StorCon by pressing <Esc> several times to escape out of the various menus and pressing <y> to quit.

Depending on the size of the host drive, the RAID 5 build process may take a considerable amount of time. You may exit out of StorCon without waiting for the



build to complete. When leaving StorCon, a progress window informs you about the estimated completion time for the build process (see [Figure A-9](#)).

Figure A-9. Progress Window



Upon successful completion of the build process the RAID 5 disk array changes to *ready* status, for example, the data is fully redundant.

You may continue the installation by following the instructions in:

- [Section 2.4, Create the RAID Software Suite Driver Installation Diskette](#)
- Either section [2.5](#), [2.6](#), or [2.7](#), for the applicable OS for your system
- [Section 2.8, RAID Software Suite Installation.](#)

Index

I

installation
 warnings and cautions 6

M

microsoft windows NT 16

R

raid adapter
 minimum requirements 9
 pre-installation worksheet 9
 regulatory information 6
regulatory information 6

U

user's manual
 intended audience 5

W

warnings and cautions 6