

When booting up hit ctrl +a when the dpt controller prompts  
Once the screen is up and you can see the controller and the  
logical drives, arrow down to each logical drive ie:  
0,0,0,0 0,1,0,0 0,2,0,0 and so on.

As each logical is highlighted the screen on the right will show  
the status of each array, either optimal or degraded,

If the drive is degraded ,hint the alarm will be beeping,

Press **alt** and **a** to silence alarm,,

Press **alt** and **r** to rebuild the drive

Press **alt** and **f** to exit

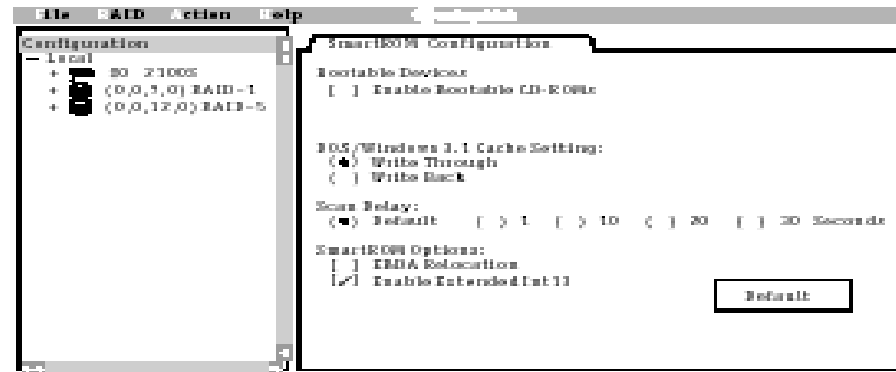
This can also be done from the scologin screen under  
storage manager



## Information and Configuration Views

When you highlight an item within the Tree View, the corresponding Information View is displayed.

### Adaptec I<sub>2</sub>O BIOS Settings



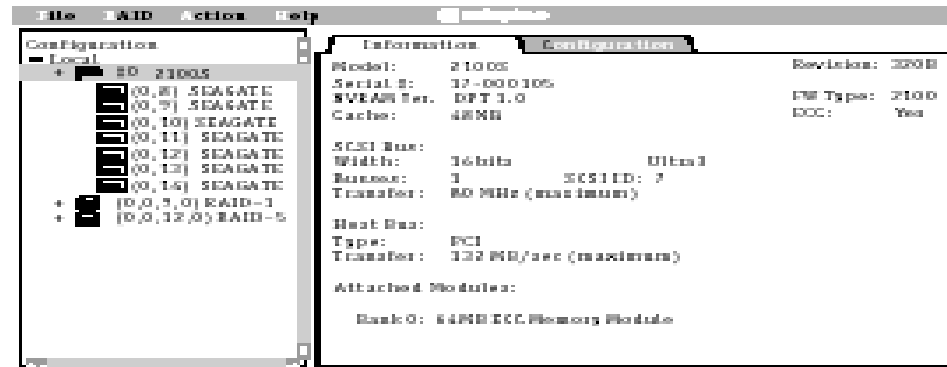
The example above is the default Information View when SMOR starts. The settings in this view affect the Adaptec I<sub>2</sub>O BIOS and all the Adaptec controllers in your system. To view or change these settings, highlight Adaptec Configuration in the Tree View.

Controller Parameter	Default	Optional Settings
Enable Bootable CD-ROMs	Disabled	Enabled
DOS/Windows 3.1 Cache Setting	Write Through	Write Back
Scan Delay (seconds)	1	1, 10, 20, 30
Smart ROM Options		
EBDA Relocation	Disabled	Enabled
Enable Extended Int13	Enabled	Disabled

## Controller Information Windows

To view or change the configuration of an Adaptec RAID controller, highlight the controller in the Tree View. Two tabs are available: Information and Configuration.

### Information Tab



The Information Tab for a controller displays general information reported by that controller. Some of the fields have special conditions:

Model	Adaptec controller model ID
Serial #	Controller serial number
NVRAM Ver.	Version number for NVRAM settings.
Cache	Amount of installed cache memory
Revision	Controller firmware version
FW Type	Firmware type
ECC	Shows Yes is ECC memory is installed
SCSI Bus	
Width	Bus width: 8-bit or 16-bit
Busses	Number of busses on the controller
SCSI ID	SCSI ID assigned to controller

## Configuration Tab

**Mem Address, IRQ**

These are display only fields for information purposes. The values in the Mem Address and IRQ fields may be needed when you configure your operating system.

**PCI MWI Enable**

*Do not* change this setting unless instructed to do so by Technical Support.

**Boot Enable**

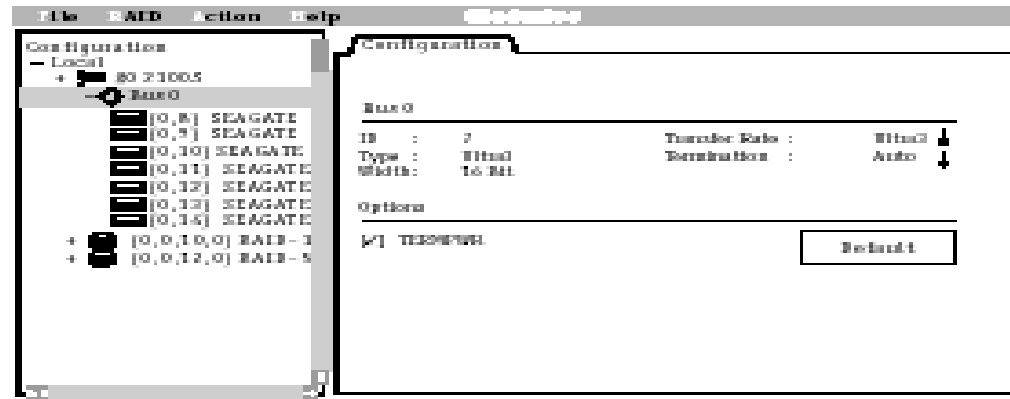
This setting lets you modify the system boot process for host systems with multiple peripheral controllers in cases where the Adaptec I<sub>2</sub>O BIOS does not provide effective or appropriate default operation.

The setting is enabled by default. The host system will use the controller whose BIOS has the lowest address as the booting controller. Therefore, in a system with multiple controllers, you must ensure that the Adaptec I<sub>2</sub>O BIOS occupies the lowest address if you want the Adaptec controller to be the booting controller.

In systems with multiple Adaptec SCSI RAID controllers, the Adaptec controller in the lowest PCI slot number will be assigned the lowest BIOS address, and will be the booting controller.

If you disable this option, the Adaptec controller is not used as a boot device.

## Bus Configuration Tab



This tab page lets you modify the hardware parameters for the highlighted controller bus.

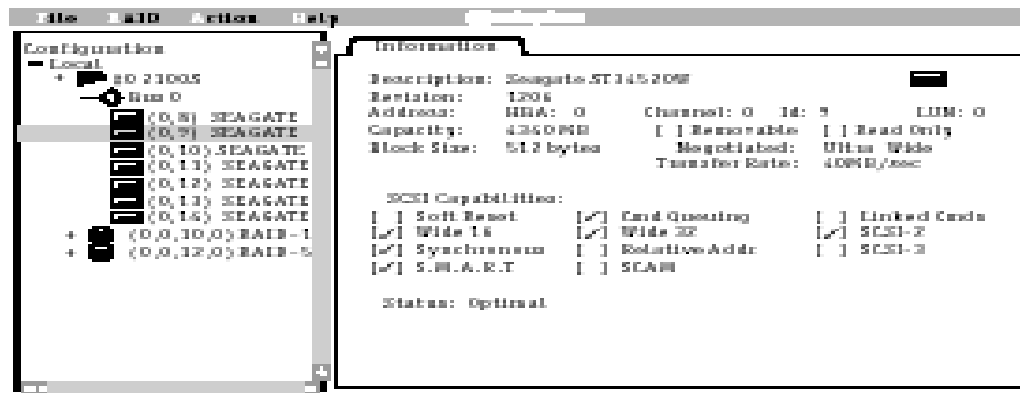
Select Default to reset the parameters on this tab to their default values.

Controller Parameter	Default	Optional Settings
ID	7	0 – 6 (SCSI) 0 – 126 (Fibre)
Type	As reported	N/A
Width	As reported	N/A
Transfer Rate (in MHz for numeric values)	Maximum allowed for the controller	Ultra3, Ultra2, Ultra, 10, 8, 5 Asynchronous
Termination	Auto	On, Off, High Only
TERMPWR	On	Auto, Off



**Note:** Fibre Channel IDs are display only. They cannot be changed. "As reported" means that the field displays the value returned by the controller firmware.

## Device Information



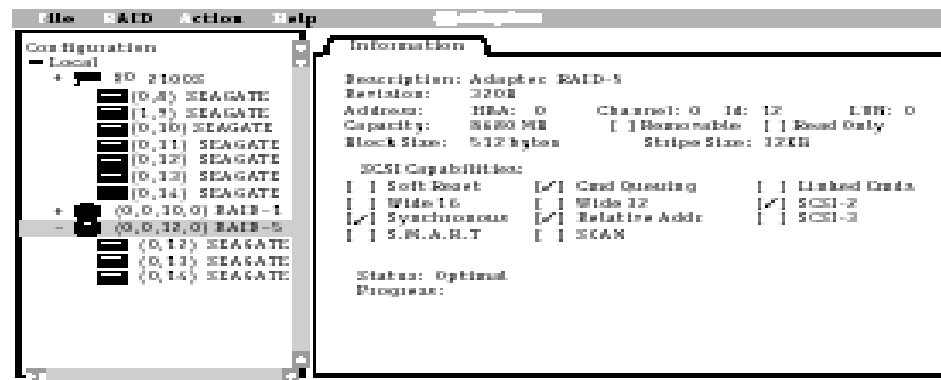
Individual devices are listed in the Tree View under the controller to which they are connected. Highlight a device to view its Information tab page.

The Device Information tab displays general device information and configuration. This view is divided into three parts: identification information, SCSI Capabilities and Status.

The identification section displays a general description of the highlighted device:

Description	Manufacturer name and model number as reported by the device, followed by the icon for the device.
Revision	Device firmware version.
Address	Device address in the form HBA <i>n</i> , Channel <i>n</i> , ID <i>n</i> , LUN <i>n</i> . Display contains as much information as necessary to unambiguously define the address of the device.
Capacity	Device capacity in megabytes (MB). For removable media, the reported capacity is for the currently inserted media or No Media Inserted if no media is inserted. Tape drives do not report media.
Removable Read Only	As reported by the device.

## Array and Array Group Information



SCSI RAID controllers implement RAID 0, 1, or 5 disk arrays in hardware. RAID 0 arrays are composed of any combination of individual drives. RAID 1 arrays always are composed of two drives. RAID 5 arrays contain three or more drives.

After the arrays have been created, one or more arrays of the same RAID level can be combined into a multilevel RAID (see *Creating a Multilevel RAID* on page 1-23). Arrays are striped into multilevel RAIDs by the controller firmware. All the drives in an array or multilevel RAID must be attached to the same controller, and appear to the host as a single Logical Storage Unit (LSU).

The Information window for any array may be viewed by highlighting that array.



**Note:** Arrays do not start building until a Set System Config action has been performed.

The Array Information window displays general array information and hardware configuration. It is divided into three parts: identification, SCSI Capabilities, and Status.

The identification section displays a general description of the highlighted array:

## Running SMOR



```
File  RAID  Action  Help
-----
Adapted raid setup utility v1.11/11 07/06/2000
copyright: 1986-2000 distributed processing technology
All rights reserved

scanning for devices on ssa 0

          0      10      15
channel 0 : ss..c...ssb.sss.
channel 1 : .....
channel 2 : .....
```

Start SMOR by pressing **Ctrl+A** when the Adaptec I<sub>2</sub>O BIOS message appears on the screen during the boot sequence.

The letters that appear during the initial device scan process are:

- C      CD-ROM
- D      Disk drive
- E      Scanner, SAF-TE or intelligent RAID enclosure.
- H      Hot spare drives
- T      Tape device
- 0, 1, 5    Physical arrays identified by the RAID level

The position of a letter corresponds to the SCSI ID assigned to that device.

## Array Operations

You can use SMOR to create or manage disk arrays. The following sections describe how to use SMOR to create arrays and multilevel RAIDs, delete arrays, assign hot spare drives, and rebuild an array:

### Creating an Array

- 1 Select RAID–Create.

RAID type:

RAID 0 (No fault tolerance)

RAID 1 (Fault tolerance, Higher performance)

RAID 5 (Fault tolerance, Higher capacity)

Stripe size: 16 KB

- 2 When the RAID type dialog appears, select the RAID level you want to use. The Stripe size is selected automatically; however you can select a different stripe size value by highlighting the field and using the up and down arrow keys to change the stripe size.



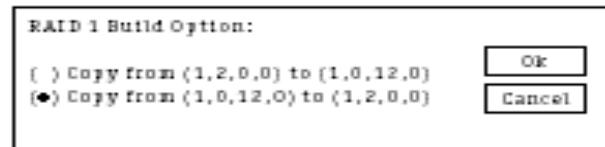
**Note:** Although you can change the stripe size, Adaptec recommends using the default value. This value has been selected for optimum performance based on the type of disk array you want to create.

- a When you are ready to proceed, select **Ok**.
  - b The **Eligible Devices** list will appear. Devices on this screen can be either individual disk drives or previously created array groups. Array groups appear in the list when you select RAID 0 and eligible array groups exist.
- 3 Select the devices you want to include in the array:
    - a To add devices to the array, highlight the device and press the **Spacebar**. A check mark appears next to the device to indicate that it has been selected. You might need to scroll the display down to view all eligible devices.

- b To remove a previously selected device from the array, highlight the device and press the Spacebar.



- 4 When you are finished selecting drives for the new array, select Done.
- 5 If you are creating a RAID 1 array, the RAID-1 Build Option dialog appears. RAID 1 arrays are built by copying the existing data from one device to the other. Select the direction for the copy, then select Ok.



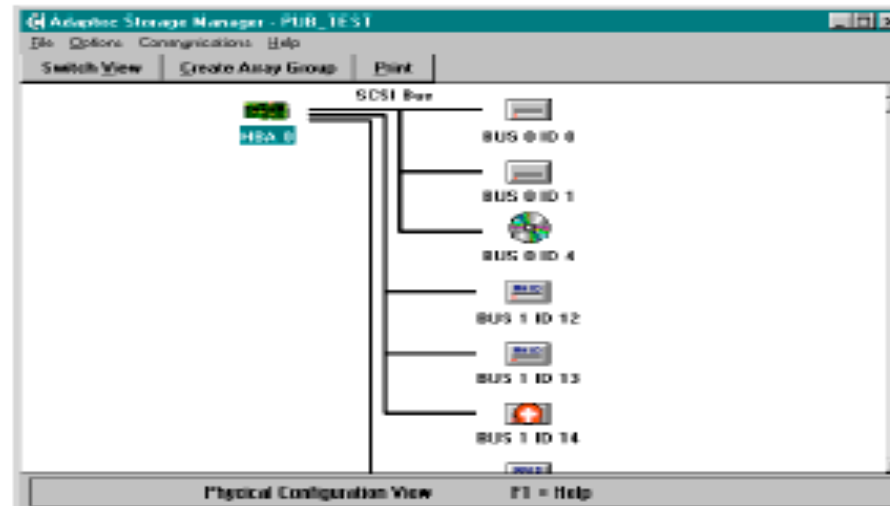
- 6 Select File-Set System Config to start the build process. The array you have created will begin building at this time. If you have created multiple arrays, they are built serially in the order they were defined. Alternatively, you can exit SMOR. You will be prompted to save the configuration changes. If you choose to save the configuration and have defined arrays, the build process will begin.

For large redundant arrays, the build process can take several hours to complete. You can exit SMOR and perform other activities on the system while the build continues. An array being built can be accessed during the build process.

To see a list of all icons and their meaning, select Help – Legend of Icons in Storage Manager.

Disk drives that are part of an array have the word RAID on the drive icon. Disk drives that are assigned as hot spares icons have a red circle with a white cross on the drive icon. Select Legend of Icons from the Storage Manager Help menu to see a list of the various icons and their meaning.

The Switch View button toggles between the Physical Configuration View and the Logical Configuration View window. Create Array Group starts the process of creating a RAID logical disk. Print will print a text report of the subsystem configuration.

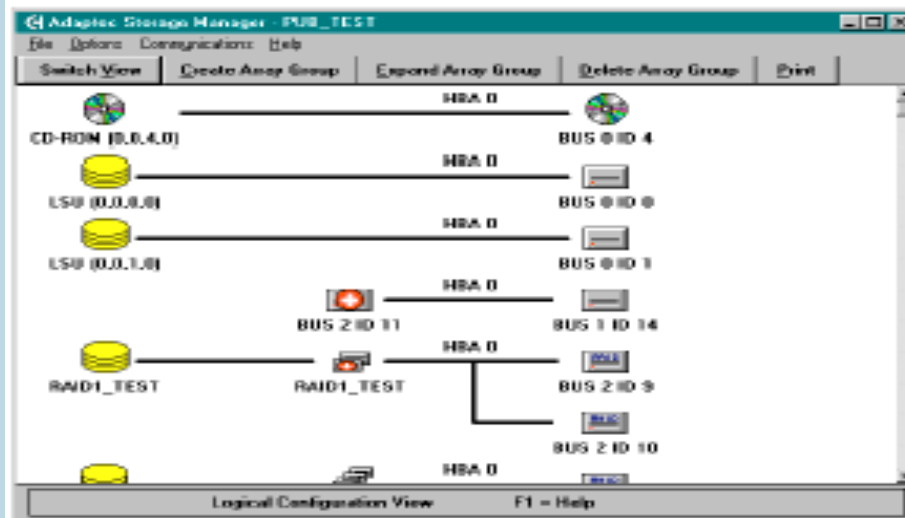


## Logical Configuration View

On the right side of the Logical Configuration View window are all physical devices that are attached to Adaptec controllers. On the left side of the window are the associated logical devices as seen by the host computer.

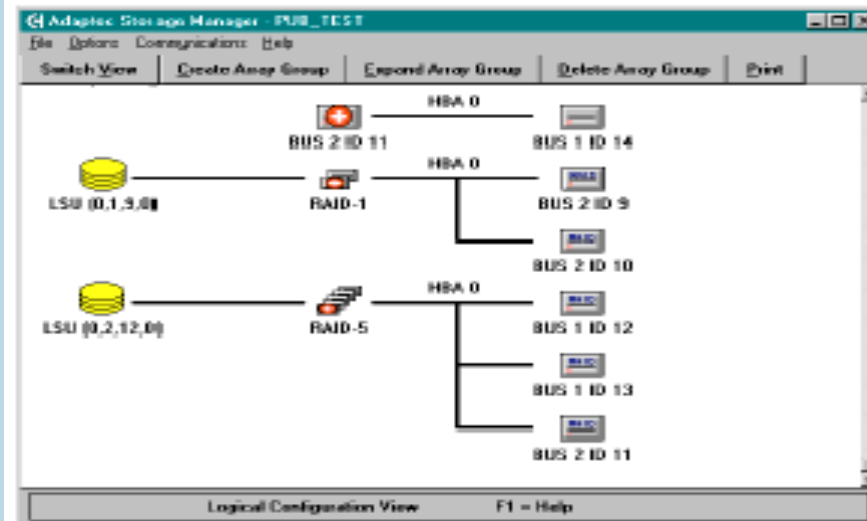
Non-disk devices use the same icon for both logical and physical views. Disk drives can be seen either as individual drives or as members of arrays. In either case, the drive or array is represented on the left side of the window as a Logical Storage Unit (LSU). Arrays that make up a multilevel RAID are displayed as RAID 1 or RAID 5 icons that appear between the LSU icon on the left and the drives on the right.

Devices are displayed in order of device type, with all non-disk devices displayed first, followed by all disk drives not assigned to an array, hot spares, and finally, all arrays by RAID level.



## Logical Device Address

Every device and array is assigned a logical device address by Storage Manager. This is the address used by the host operating system to access the device or array. Logical device addresses appear in parentheses under the logical device and LSU icons on the Logical Configuration View window.



The complete logical device address is composed of four fields (HBA, Bus, Device, and Logical Unit Number [LUN]) and is assigned to devices as follows:

**HBA (Host Bus Adapter):** The controller to which the device is attached. PCI bus slots are scanned from lowest to highest looking for Adaptec controllers. As Adaptec controllers are found they are assigned numbers incrementally, starting with 0.

**Bus:** The controller bus to which the device is attached. SCSI RAID controllers can have up to three buses.

**Device:** The unique ID for that device. For an array this is the lowest ID among the drives that make up the array.

**LUN:** for that device (normally 0).