

Silicon Graphics® 230 Visual Workstation  
SCSISelect Configuration Utility

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CONTRIBUTORS

Written by Adaptec, Inc.

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# Silicon Graphics® 230 Visual Workstation SCSISelect Configuration Utility

This document contains information about the SCSISelect Configuration Utility.

## SCSISelect Configuration Utility

### Overview

The SCSISelect configuration utility allows you to change SCSI controller settings without opening the computer or changing jumpers.

### Default Values

The following table lists the settings you can change with the SCSISelect utility and the default value for each setting. Some settings apply globally to the SCSI controller and all SCSI devices on the bus; other settings apply individually to each device on the bus.

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**Note:** The Silicon Graphics 230 Visual Workstation is equipped with a dual SCSI channel controller that enhances your system's performance and flexibility

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**Table 1** Default Settings for SCSI Controller and All Devices

<b>Global Settings for SCSI Controller and All Devices</b>	<b>Default Value</b>
Host Adapter SCSI ID	7
SCSI Parity Checking	Enabled
Host Adapter SCSI Termination	Automatic
Boot Channel/ Boot SCSI I/O	A/0 (zero)
Host Adapter BIOS	Enabled

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**Table 1 (continued)** Default Settings for SCSI Controller and All Devices

<b>Global Settings for SCSI Controller and All Devices</b>	<b>Default Value</b>
Support Removable Disks Under BIOS as Fixed Disks	Boot only
Extended BIOS Translation for DOS Drives > 1 Gbyte	Enabled
Display <Ctrl-A> Message During BIOS Initialization	Enabled
BIOS Support for Bootable CD-ROM	Enabled
BIOS Support for Int13 Extensions	Enabled
<b>Individual Settings for Each SCSI Device</b>	<b>Default Value</b>
Initiate Wide Negotiation	Yes
Maximum Sync Transfer Rate	80 MBytes/sec.
Enable Disconnection	Yes
Send Start Unit Command	Yes

## When to Use the SCSISelect Utility

Use the SCSISelect utility if you need to:

- Change any of the default values listed in the settings table
- Check and/or change SCSI device settings that may conflict with those of other devices (e.g., SCSI ID)
- Perform low-level formatting on new SCSI disk devices

## Running the SCSISelect Utility

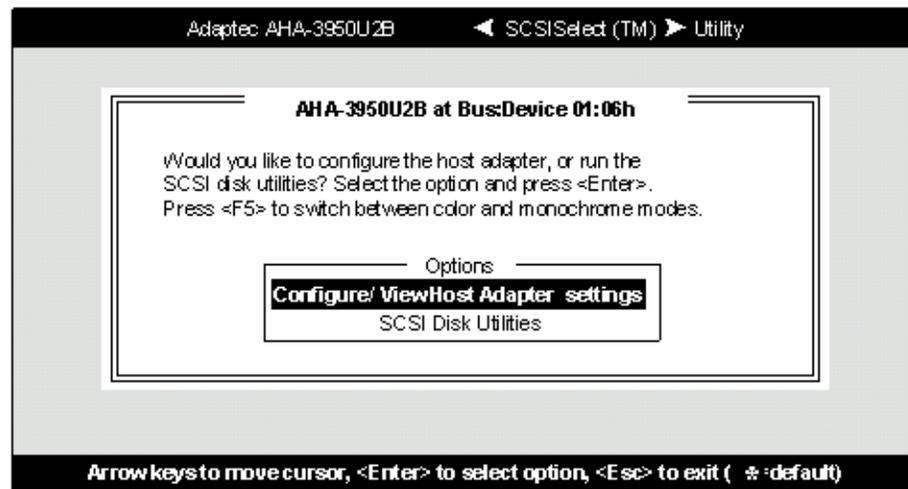
To start SCSISelect, press **Ctrl+A** when the following is displayed during power-up or reset:

```
Press <Ctrl> <A> for SCSISelect? Utility!
```

This message appears after BIOS and POST information displays, and after the banner listing the Adaptec AHA-3950U2B version number.

## SCSISelect Utility Options

When the SCSISelect utility detects the AHA-3950U2B SCSI controller in your computer, it displays the Options menu shown below.



**Figure 1** Options Menu Screen

Use the ↑ and ↓ keys and the **Enter** key to make selections in the SCSISelect utility. Press **Esc** at any time to return to the previous menu.

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**Note:** You can press **F5** to toggle the display between color and monochrome modes. (This feature may not work on all monitors.)

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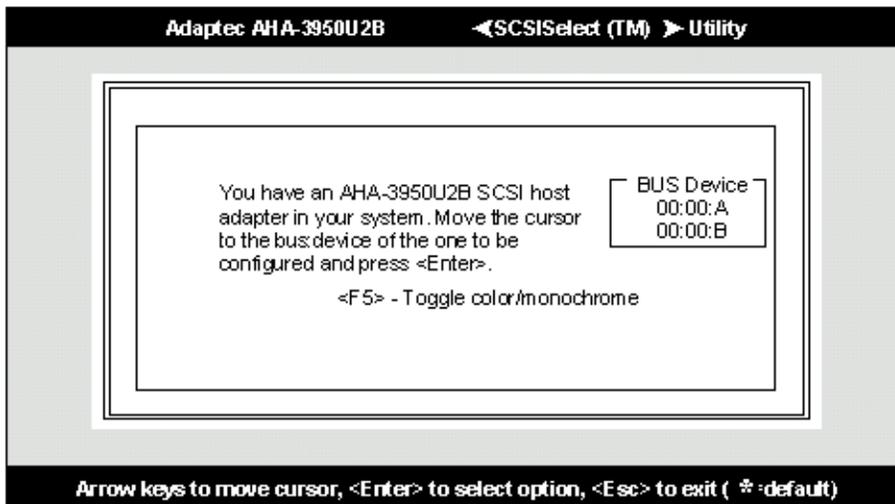
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## Configure/View Host Adapter Settings Menu

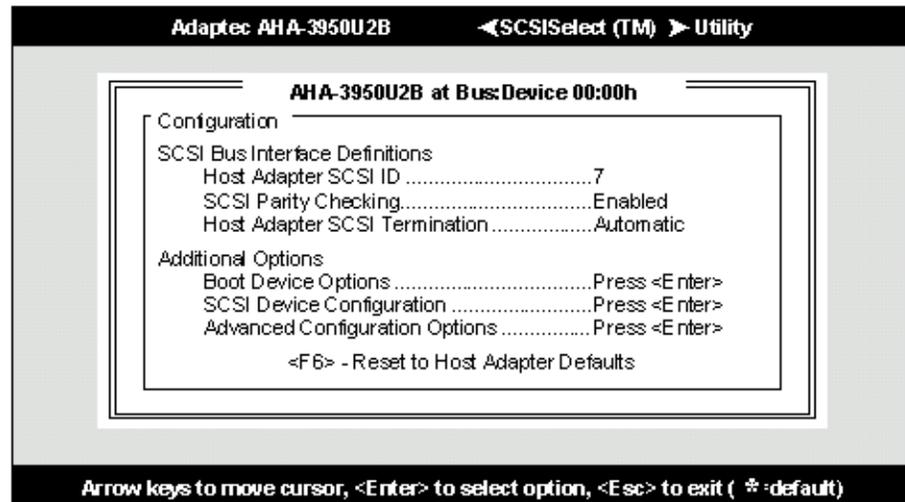
The Configure/View Host Adapter Settings menu lists three settings under SCSI Bus Interface Definitions and three additional options, as shown below:

- **Host Adapter SCSI ID:** changes the host controller SCSI ID from its default value of 7
- **SCSI Parity Checking:** enables or disables host controller SCSI parity checking
- **Host Adapter SCSI Termination:** configures host controller SCSI termination

Advanced users can access Boot Device Options, SCSI Device Configuration, and Advanced Configuration Options through the following menu:



**Figure 2**      Configure/View Host Adapter Settings Screen (1 of 2)



**Figure 3** Configure/View Host Adapter Settings Screen (2 of 2)

Use the cursor (↑ ↓) to move to your selection. Press **Enter** to display a pop-up menu of choices or to make selections. Press **Esc** at any time to return to the previous menu.

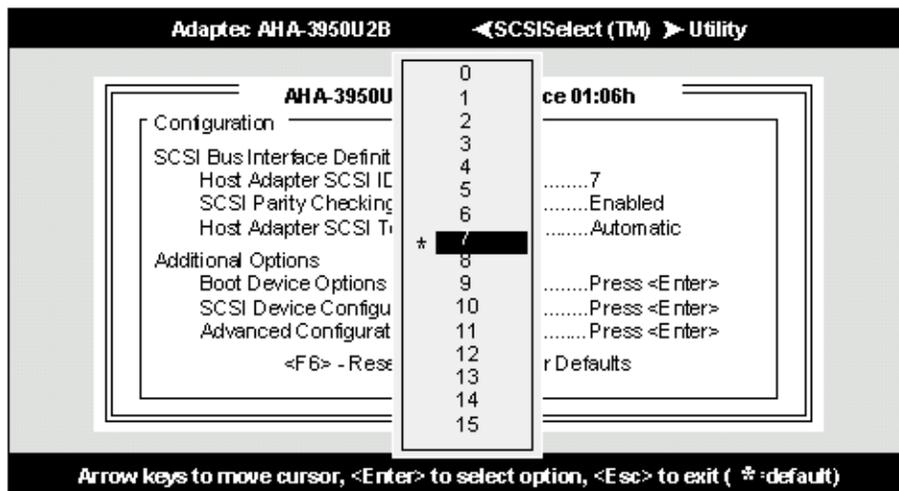
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**Note:** Press **F6** to reset all settings to the SCSI controller defaults. SCSI controller default settings are marked with an asterisk (\*) throughout the selection submenus.

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## Host Adapter SCSI ID

This option allows you to change the host controller SCSI ID. The figure below shows the available IDs for use with the AHA-3950U2B. The default setting is SCSI ID 7. (We recommend that you not change this setting.) Some operating system software will not run unless the SCSI controller ID is set at ID 7.



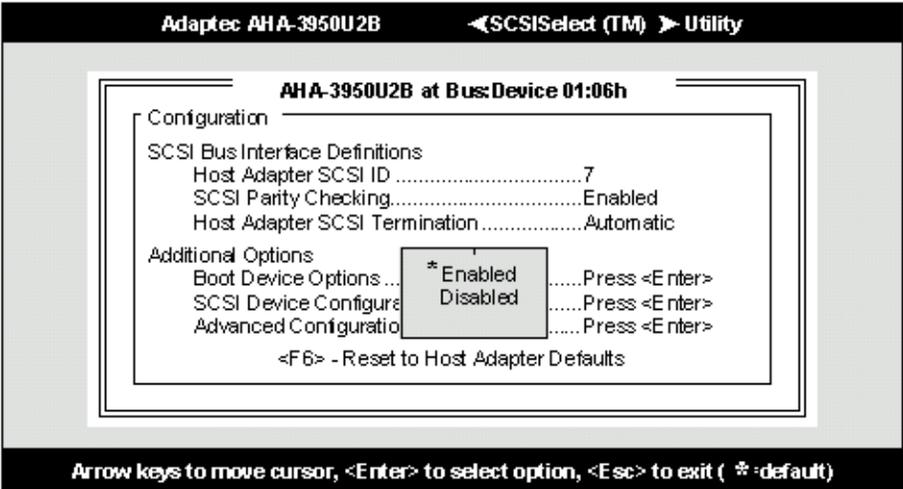
**Figure 4** Host Adapter SCSI ID Selection Screen for AHA-3950U2B

Each SCSI device on the SCSI bus, including the SCSI controller, must be set to a unique SCSI ID. The SCSI ID serves two purposes: it uniquely identifies each SCSI device on the bus, and it determines the device's priority on the bus during the Arbitration phase. The Arbitration phase determines which device controls the bus when two or more devices request use of it.

Use the cursor ( $\uparrow$   $\downarrow$ ) and **Enter** keys to select the SCSI ID, if you need to change it. Press **Esc** at any time to return to the previous menu.

**SCSI Parity Checking**

Select this option to enable or disable SCSI Parity Checking on the SCSI controller. The figure below displays your choices. The default setting is **Enabled**.



**Figure 5** SCSI Parity Checking Selection

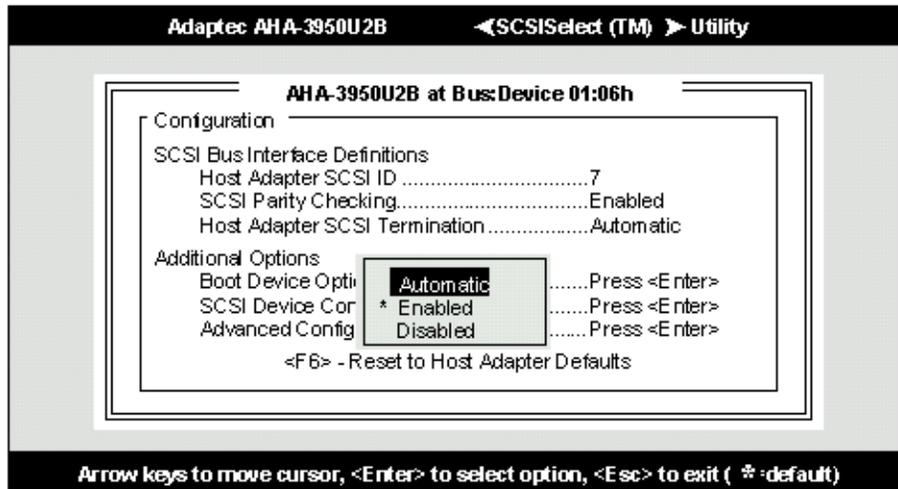
The SCSI controller always checks parity when reading from the SCSI bus to verify the correct transmission of data from your SCSI devices. You should disable SCSI Parity Checking if any attached SCSI devices do not support SCSI parity. (Most currently available SCSI devices do support SCSI parity.)

Use the cursor (↑ ↓) and **Enter** keys to make selections. Press **Esc** at any time to return to the previous menu.

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## Host Adapter SCSI Termination

This option allows you to configure host controller SCSI termination. The following figure shows the choices available if you have an AHA-3950U2B.



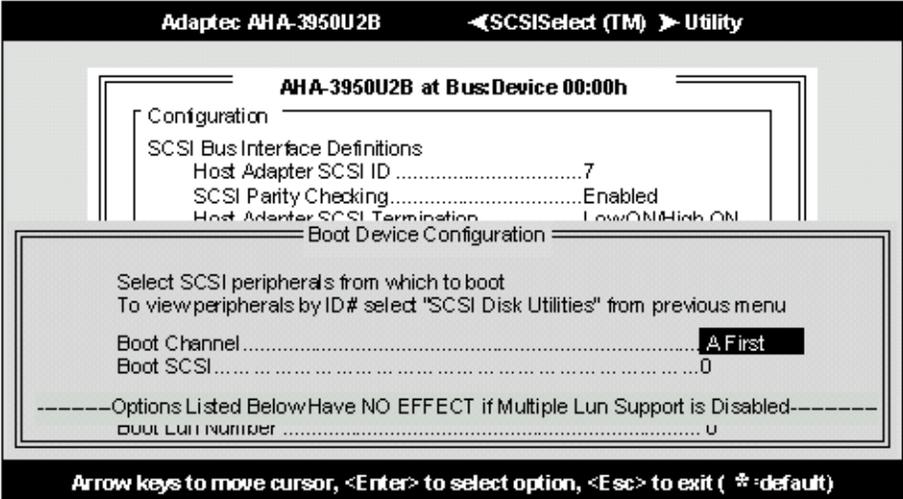
**Figure 6** Host Adapter SCSI Termination Selection for AHA-3950U2B

Use the cursor (↑ ↓) and **Enter** keys to make your selection.

**Boot Device Options**

This option shows the target ID of the device you are booting from. The default setting is 0 (zero). We recommend that you not change this setting. Some operating systems will not run unless the boot device is set at zero.

The figure below shows the Boot Device Options screen.



**Figure 7** Boot Device Options Screen

## SCSI Device Configuration

This option allows you to configure certain parameters of each SCSI device on the SCSI bus. A screen similar to the figure below appears. The screen shows a column of information for each SCSI ID, even if some SCSI IDs are not assigned to a device. To configure a specific SCSI device, you need to know which SCSI ID it uses. See SCSI Disk Utilities later in this section to learn how to determine which SCSI ID is used by which device.

Adaptec AHA-3950U2B		SCSISelect (TM)		Utility				
AHA-3950U2B at Bus:Device 01:06h								
SCSI Device Configuration								
SCSI Device ID	#0	#1	#2	#3	#4	#5	#6	#7
Sync Transfer Rate (MB/Sec) .....	80.0	80.0	80.0	80.0	80.0	80.0	80.0	80.0
Initiate Wide Negotiation .....	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Enable Disconnection .....	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Send Start Unit Command .....	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Enable Write-back cache .....	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C
-----Options Listed Below Have NO EFFECT if the BIOS is Disabled-----								
BIOS Multiple LUN Support .....	No	No	No	No	No	No	No	No
Include in BIOS Scan .....	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
SCSI Device ID	#8	#9	#10	#11	#12	#13	#14	#15
Sync Transfer Rate (MB/Sec) .....	80.0	80.0	80.0	80.0	80.0	80.0	80.0	80.0
Initiate Wide Negotiation .....	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Enable Disconnection .....	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Send Start Unit Command .....	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Enable Write Back Cache .....	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C
-----Options Listed Below Have NO EFFECT if the BIOS is Disabled-----								
BIOS Multiple LUN Support .....	No	No	No	No	No	No	No	No
Include in BIOS Scan .....	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

**Figure 8** SCSI Device Configuration Screen for AHA-3950U2B

Use the cursor keys (↑ ↓) to move between options. Press **Enter** to display a pop-up menu with a selection of values. Use the cursor keys (↑ ↓) to select a value, and press **Enter** to make your selection.

### Initiate Sync Negotiation

This option determines whether the SCSI controller initiates synchronous negotiation with the SCSI device.

When set to **yes**, the SCSI controller initiates synchronous negotiation with the SCSI device. When set to **no**, the SCSI controller does not initiate synchronous negotiation. The SCSI controller, however, always responds to synchronous negotiation if the SCSI device initiates it. The default setting is **yes**.

Data is transferred in asynchronous mode if neither the SCSI controller nor the SCSI peripheral negotiates for synchronous data transfers.

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**Note:** Some older SCSI-1 devices do not support synchronous negotiation. This may cause your computer to operate erratically or hang if Initiate Sync Negotiation is enabled. Set Initiate Sync Negotiation to **no** for these devices.

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### Maximum Sync Transfer Rate

This option determines the maximum synchronous data transfer rate that the SCSI controller can support. The SCSI controller supports rates up to the maximum of 80.0 MBytes/sec. The default value is **80.0**.

In most cases, you can use the maximum value of 80.0. If the SCSI controller is set not to negotiate for synchronous data transfer (i.e., Initiate Sync Negotiation is set to **no**), then the value selected here is the maximum rate that the SCSI controller accepts from the device during negotiation. (This is standard SCSI protocol.)

---

**Note:** Some older SCSI-1 devices do not support Fast SCSI data transfer rates. This may cause your computer to operate erratically or hang if the transfer rate is set too high. Set Initiate Sync Negotiation to **no** for these devices.

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### Enable Disconnection

This option determines whether the SCSI controller allows a SCSI device to disconnect from the SCSI bus (sometimes called Disconnect/Reconnect). Disconnect/Reconnect allows the SCSI controller to perform other operations on the SCSI bus while the SCSI device is temporarily disconnected.

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When set to **yes**, the SCSI device may disconnect from the SCSI bus. The SCSI device, however, may choose not to disconnect, even if permitted by the SCSI controller (this can usually be configured on the SCSI device). When set to **no**, the SCSI device is not allowed to disconnect from the SCSI bus. The default setting is **yes**.

You should leave Enable Disconnection set to **yes** if two or more SCSI devices are connected to the SCSI controller. This optimizes SCSI bus performance. If only one SCSI device is connected to the SCSI controller, set Enable Disconnection to **no** to achieve slightly better performance.

### Send Start Unit Command

This option, which is supported by some SCSI devices, determines whether the Start Unit Command (SCSI command 1B) is sent to the SCSI device (most devices do not require this). Enabling this option reduces the load on your computer's power supply by allowing the SCSI controller to power-up SCSI devices one-at-a-time when you boot your computer. Otherwise, the devices all power-up at the same time. Most devices require you to set a jumper before they can respond to this command.

When set to **yes**, the Start Unit Command is sent to the SCSI device during bootup. When set to **no**, each SCSI device powers-up in its normal fashion. The default setting is **no**.

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**Note:** The Send Start Unit Command setting is valid only if the host adapter BIOS is enabled.

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If this option is enabled for more than one SCSI device, the Start Unit Command is sent first to the device with the lowest SCSI ID. When this device responds to the SCSI controller, the Start Unit Command is sent to the next highest SCSI ID with a setting of **yes**. The process continues until all supported devices respond to the SCSI controller.

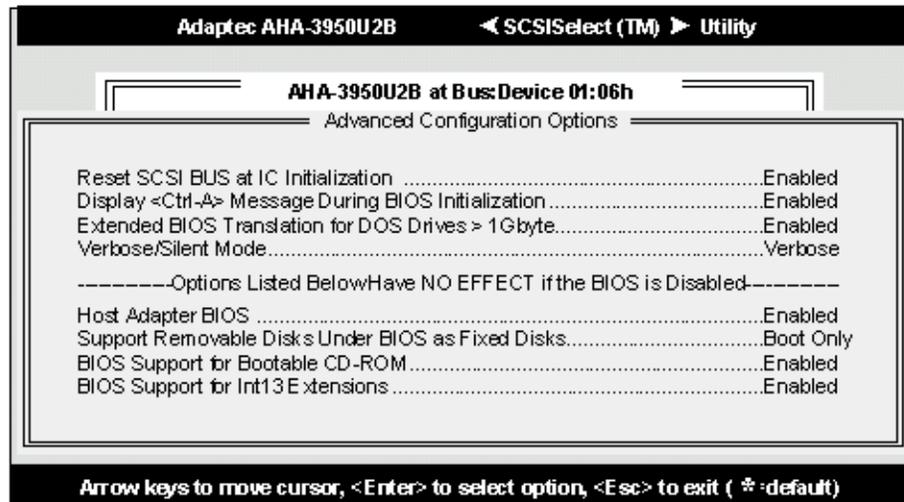
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**Note:** If many drives are set to **yes** for Send Start Unit Command, the boot time varies depending on how long it takes each drive to spin up.

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## Advanced Configuration Options

When you select Advanced Configuration Options, a screen similar to the figure below appears. Do not change these options unless absolutely necessary.



**Figure 9** Advanced Configuration Options Screen

Use the cursor keys (↑ ↓) to move between options. Press **Enter** to display a pop-up menu with a selection of options. Use the cursor keys (↑ ↓) to select an option, and press **Enter** to make your selection.

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## Host Adapter BIOS

This option enables or disables the SCSI controller BIOS. Default is **Enabled**.

The SCSI controller BIOS must be enabled if you want the computer to boot from a SCSI hard disk drive connected to the SCSI controller. Several SCSISelect options cannot be used unless the SCSI controller BIOS is enabled.

### Support Removable Disks Under BIOS as Fixed Disks

This option allows you to control which removable-media drives are supported by the SCSI controller BIOS. It is only valid if the SCSI controller BIOS is enabled. The default setting is **Boot Only**. The following choices are available:

- **Boot Only** – Only the removable-media drive designated as the boot device are treated as a hard disk drive.
- **All Disks** – All removable-media drives supported by the BIOS are treated as hard disk drives.
- **Disabled** – No removable-media drives are treated as hard disk drives. In this situation, software drivers are needed because the drives are not controlled by the BIOS.

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**Caution:** Support for removable-media drives means only that the SCSI controller BIOS allows you to use a removable-media drive as if it were a hard disk drive; it does **not** mean you can remove the disk media during operation. If a removable-media SCSI device is controlled by the SCSI controller BIOS, do not remove the media while the drive is powered-on or you may lose data! If you want to be able to remove media while the power is on, install the removable-media device driver and set this option to **Disabled**.

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**Extended BIOS Translation for DOS Drives > 1 GByte**

This option allows you to enable or disable extended translation for SCSI hard disks with a capacity greater than 1 GByte. It is only valid if the SCSI controller BIOS is enabled. The default setting is **Enabled**. Do not change this setting from the default.

If this option is enabled, the following translation schemes are used:

- SCSI hard disks < 1 GByte use a translation scheme of 64 heads, 32 sectors per track
- SCSI hard disks > 1 GByte use a translation scheme of 255 heads, 63 sectors per track

**Display <Ctrl-A> Message During BIOS Initialization**

This option allows entering the SCSI Select utility during BIOS initialization. The default setting is **Enabled**.

**BIOS Support for Bootable CD-ROM**

When this option is enabled, a bootable CD-ROM device may be used to directly load an operating system. The default setting is **Enabled**.

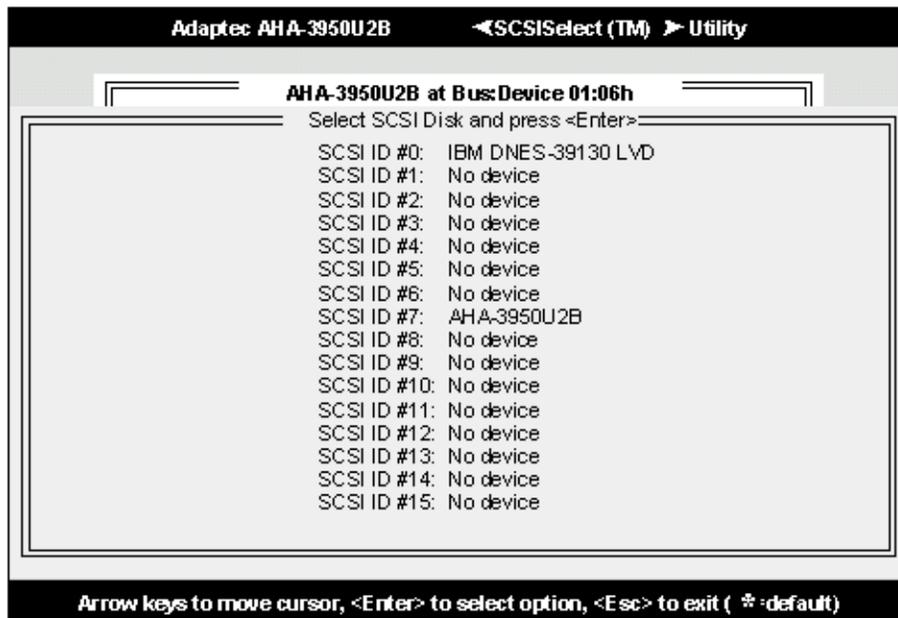
**BIOS Support for Int13 Extensions**

This option allows access to attached SCSI devices through BIOS Int13 functions. The default setting is **Enabled**.

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## SCSI Disk Utilities

When you select SCSI Disk Utilities from the Options menu the SCSISelect utility scans the SCSI bus and lists all SCSI devices installed on the SCSI bus. You will see a screen similar to the figure below. You can easily determine from this screen which SCSI ID is assigned to each device on the SCSI bus.



**Figure 10** SCSI Disk Utilities Screen for AHA-3950U2B

When you highlight a disk device by moving to it with the cursor keys and press **Enter**, a small menu window appears. You then select **Format Disk** or **Verify Media** from this menu.

Use the cursor keys (↑ ↓) to move between options. Press **Enter** to display a pop-up menu with a selection of values. Use the cursor keys (↑ ↓) to select a value, and press **Enter** to make your selection.

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**Note:** Use SCSI Disk Utilities to check the hard disk drive firmware version. Select **SCSI Disk Utilities** from the Configure/View Host Adapter Settings screen. Use the arrow keys to highlight a disk device, then press **Enter** to display the firmware version.

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## Format Disk

The **Format Disk** utility performs a low-level format on disk devices.

Most SCSI disk devices are preformatted and do not need to be formatted again. The Adaptec **Format Disk** utility is compatible with the vast majority of SCSI disk drives. Run it on hard disk drives or removable-media drives that were previously used with a non-Adaptec SCSI controller.

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**Note:** A low-level format destroys all data on the drive. Be sure to back up your data before performing this operation. You **cannot** abort a low-level format once it is started.

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## Verify Disk Media

The **Verify Disk Media** utility scans the selected device's media for defects. If the utility finds bad blocks, it prompts you to reassign them; if you select **yes**, those blocks will no longer be used.

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**Note:** You can press **Esc** at any time to abort the **Verify Disk Media** utility.

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