Chapter
2

Setup Utility

Most systems are already configured by the manufacturer or the dealer. There is no need to run Setup when starting the computer unless you get a Run Setup message.

The Setup program loads configuration values into the battery-backed nonvolatile memory called CMOS RAM. This memory area is not part of the system RAM.

If you repeatedly receive Run Setup messages, the battery may be bad. In this case, the system cannot retain configuration values in CMOS. Ask a qualified technician for assistance.

2.1 Entering Setup

To enter Setup, simultaneously press the key combination [redacted]

[redacted]

You must press [redacted] while the system is booting. This key combination does not work during any other time.

The Setup Utility Main Menu appears:

Setup Utility

- System Information
- Product Information
- Disk Drives
- Onboard Peripherals
- Power Management
- Boot Options
- Date and Time
- System Security
- System Event Log

- Advanced Options

  Load Default Settings

  Abort Settings Change

The system supports two BIOS Utility levels: Basic and Advanced. The above screen is the BIOS Utility Basic Level screen. This allows you to view and change only the basic configuration of your system.

Detailed system configurations are contained in the Advanced Level. To view the Advanced Level, press F8 . The screen shows the BIOS Utility Advanced Level main menu. It includes Memory/Cache Options and CPU Frequency settings.

The asterisk (*) mark indicates that the parameter appears only when you are in the Advanced Level.
The parameters on the screens show default values. These values may not be the same as those in your system.
The grayed items on the screens have fixed settings and are not user-configurable.

Use the arrow keys ↑, ↓ to move around the Setup Utility screen and press [redacted] to return to the Main menu.

2.2 System Information

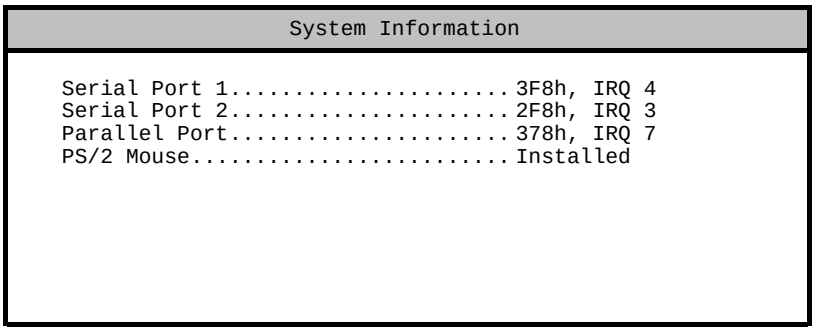
The following screen appears if you select System Information from the Main menu:

```
                    System Information

Processor 1.....................Pentium® II Xeon™
Processor 2.....................Pentium® II Xeon™
Processor Speed.................400 MHz
Internal Cache..................32 KB, Enabled
External Cache..................512 KB, Enabled
Diskette Drive A................1.44 MB, 3.5-inch
Diskette Drive B................None
IDE Primary Channel Master .....Hard Disk, xxx MB
IDE Primary Channel Slave ......None
IDE Secondary Channel Master....None
IDE Secondary  Channel Slave ...None
Total Memory....................xxx MB
  1st Bank......................SDRAM, xxx MB
  2nd Bank......................None
  3rd Bank .....................None
  4th Bank .....................None
```

The System Information menu shows the current basic configuration of your system.

The next screen shows page 2 of the System Information menu.



The sections below explain the parameters.

2.2.1 Processor 1 and 2

The Processor parameter specifies the type of processor currently installed in your system. The system supports Intel Pentium II/III Xeon® processors.

2.2.2 Processor Speed

The Processor Speed parameter specifies the speed of the processor currently installed in your system.

2.2.3 Internal Cache

This parameter specifies the first-level or the internal memory (i.e., the memory integrated into the CPU) size, and whether it is enabled or disabled.

2.2.4 External Cache

This parameter specifies the second-level cache memory size currently integrated into the CPU. The available cache sizes are 512 KB

2.2.5 Diskette Drive A

This parameter specifies the system current diskette drive A settings. For information on how to configure the floppy drives, see section 2.4.1.

2.2.6 Diskette Drive B

This parameter specifies the system current diskette drive B settings. For information on how to configure the floppy drives, see section 2.4.1.

2.2.7 IDE Primary Channel Master

This parameter specifies the current configuration of the IDE device connected to the master port of the primary IDE channel. For information on how to configure the IDE drives, see section 2.4.3.

2.2.8 IDE Primary Channel Slave

This parameter specifies the current configuration of the IDE device connected to the slave port of the primary IDE channel. For information on how to configure the IDE drives, see section 2.4.3.

2.2.9 IDE Secondary Channel Master

This parameter specifies the current configuration of the IDE device connected to the master port of the secondary IDE channel. For information on how to configure the IDE drives, see section 2.4.3.

2.2.10 IDE Secondary Channel Slave

This parameter specifies the current configuration of the IDE device connected to the slave port of the secondary IDE channel. For information on how to configure the IDE drives, see section 2.4.3.

2.2.11 Total Memory

This parameter specifies the total amount of memory. The memory size is automatically detected by BIOS during the POST (Power-On Self-Test). If you install additional memory, the system automatically adjusts this parameter to display the new memory size.

1st Bank/2nd Bank/3rd Bank/4th Bank

The 1st Bank, 2nd Bank, 3rd Bank, and 4th Bank parameters indicate the type and size of DRAM installed in DIMM sockets 1, 2, 3, and 4 respectively. The None setting indicates that there is no DRAM installed. For the location of the DIMM sockets, refer to Figure 1-1.

2.2.12 Serial Port 1

This parameter shows the serial port 1 address and IRQ setting.

2.2.13 Serial Port 2

This parameter shows the serial port 2 address and IRQ setting.

2.2.14 Parallel Port

This parameter shows the parallel port address and IRQ setting.

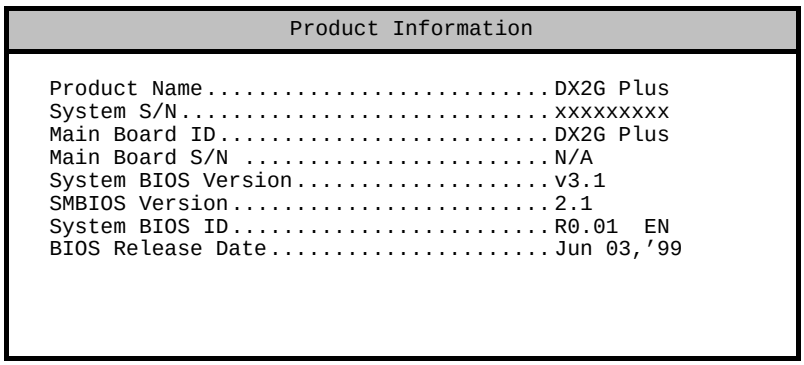
2.2.15 PS/2 Mouse

The BIOS utility automatically detects if there is a pointing device connected to your system. If there is, this parameter displays the *Installed* setting. Otherwise, it is set to *None*.

2.3 Product Information

Product Information contains the general data about the system, such as the product name, serial number, BIOS version, etc. This information is necessary for troubleshooting (may be required when asking for technical support).

The following figure shows how the Product Information screen appears:



2.3.1 Product Name

This parameter specifies the official name of the system.

2.3.2 System S/N

This parameter specifies the system serial number.

2.3.3 Main Board ID

This parameter specifies the system board identification number.

2.3.4 Main Board S/N

This parameter specifies the system board serial number.

2.3.5 System BIOS Version

This parameter specifies the version of the BIOS utility.

2.3.6 SMBIOS Version

This parameter specifies the version of the SMBIOS.

2.3.7 System BIOS ID

This parameter specifies the identification number of the system BIOS.

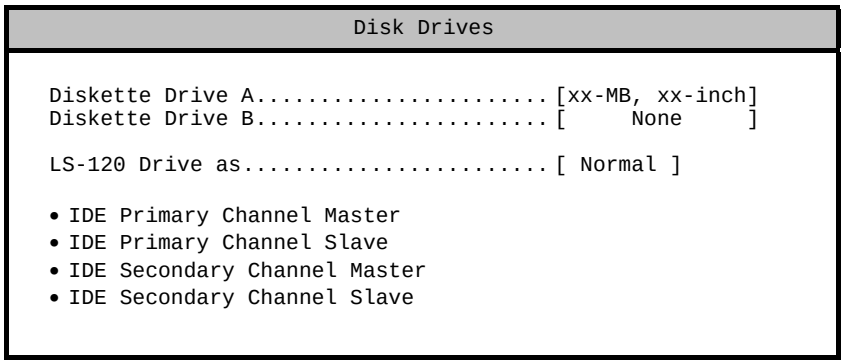
2.3.8 BIOS Release Date

This parameter specifies the date that this version of the BIOS was released.

2.4 Disk Drives

Select Disk Drives to input configuration values for the disk drives.

The following screen shows the Disk Drives menu:



2.4.1 Floppy Drives

To enter the configuration value for the first floppy drive (drive), highlight the Floppy Drive A parameter. Press [redacted] or [redacted] to view the options and select the appropriate value.

Possible settings for the Floppy Drive parameters are:

- [None]
- [360 KB, 5.25-inch]
- [1.2 MB, 5.25-inch]
- [720 KB, 3.5-inch]
- [1.44 MB, 3.5-inch]
- [2.88 MB, 3.5-inch]

Follow the same procedure to configure floppy drive . Choose None if you do not have a second floppy drive.

2.4.2 LS-120 Drive As

This parameter allows you not only to enable the LS-120 device installed in your system, but also to specify the function of the device. The setting affects how BIOS will detect the device.

Possible settings are:

- `Normal` In this setting, BIOS does not support the LS-120 drive. The drive needs the LS-120 device driver to operate.
- `Drive A` BIOS recognizes the LS-120 drive as drive A. If a standard diskette drive A exists, BIOS automatically identifies it as drive B. If a standard diskette drive B exists, it automatically becomes inaccessible.

  If two LS-120 drives exist, BIOS recognizes them as drive A and drive B, respectively.
- `Drive B` BIOS recognizes the LS-120 drive as drive B. If a standard diskette drive B exists, it becomes inaccessible.
- `Hard Disk` BIOS recognizes the LS-120 drive as a hard disk. In this setting, format the LS-120 drive as any other hard disk and assign it a drive letter C, D, E, and so on. See the documentation that came with the LS-120 drive for more information.

2.4.3 IDE Drives

To configure the IDE drives connected to your system, select the parameter that represents the channel and port where the desired hard disk to configure is connected. The options are:

IDE Primary Channel Master

This parameter lets you configure the hard disk drive connected to the master port of primary IDE channel 1.

IDE Primary Channel Slave

This parameter lets you configure the hard disk drive connected to the slave port of primary IDE channel 1.

IDE Secondary Channel Master

This parameter lets you configure the hard disk drive connected to the master port of secondary IDE channel 2.

IDE Secondary Channel Slave

This parameter lets you configure the hard disk drive connected to the slave port of secondary IDE channel 2.

The following screen appears if you select any of the IDE Drive parameters:

```
                IDE Primary/Secondary
                 Channel Master/Slave

  Type ..........................[ Auto ]
    Cylinder ....................[ XXXX ]
    Head ........................[ XXXX ]
    Sector ......................[ XXXX ]
    Size ........................[ XXXX ] MB


  Hard Disk Size > 504MB .......[ Auto ]
 *Hard Disk Block Mode .........[ Auto ]
 *Advanced PIO Mode ............[ Auto ]
 *Hard Disk 32-bit Access ......[Enabled ]
 *DMA Transfer Mode ............[Auto]
```

The above parameters marked with '' will only appear if you access the Advanced Options level in the Main Menu. Please refer to section 2.1 for more information.*

TYPE

This parameter lets you specify the type of hard disk installed in your system. If you want BIOS to automatically configure your hard disk, select Auto. If you know your hard disk type, you can enter the setting manually.

Setting this parameter also sets the Cylinder, Head, Sector, and Size parameters.

CYLINDERS

This parameter specifies the number of cylinders of your hard disk, and is automatically set depending on your Type parameter setting.

HEADS

This parameter specifies the number of heads of your hard disk, and is automatically set depending on your Type parameter setting.

SECTORS

This parameter specifies the number of sectors of your hard disk, and is automatically set depending on your Type parameter setting.

SIZE

This parameter specifies the size of your hard disk, in MB.

Enhanced IDE Features

HARD DISK SIZE > 504 MB

When set to Auto, the BIOS utility automatically detects if the installed hard disk supports the function. If supported, it allows you to use a hard disk with a capacity of more than 504 B. This is made possible through the Logical Block Address (LBA) mode translation. However, this enhanced IDE feature works only under DOS, Windows 3.x, Windows 95/98, and Windows NT 3.5 and above. Other operating systems require this parameter to be set to Disabled.

HARD DISK BLOCK MODE

This function enhances disk performance depending on the hard disk in use. If you set this parameter to Auto, the BIOS utility automatically detects if the installed hard disk drive supports the Block Mode function. If supported, it allows data transfer in blocks (multiple sectors) at a rate of 256 bytes per cycle. To disregard the feature, change the setting to Disabled.

ADVANCED PIO MODE

When set to Auto, the BIOS utility automatically detects if the installed hard disk supports the function. If supported, it allows for faster data recovery and read/write timing that reduces hard disk activity time. This results in better hard disk performance. To disregard the feature, change the setting to Disabled.

HARD DISK 32-BIT ACCESS

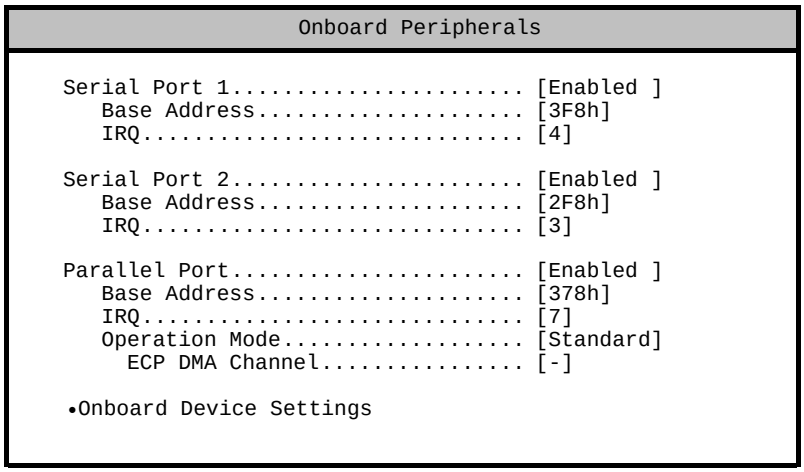
Enabling this parameter improves system performance by allowing the use of the 32-bit hard disk access. This enhanced IDE feature works only under DOS, Windows 3.x, Windows 95/98, Windows NT, and Novell NetWare. If your software or hard disk does not support this function, set this parameter to Disabled .

DMA TRANSFER MODE

The Ultra DMA and Multi-DMA modes enhance hard disk performance by increasing the transfer rate. However, besides enabling these features in the BIOS Setup, both the Ultra DMA and Multi-DMA modes require the DMA driver to be loaded. By setting this parameter to Auto, BIOS automatically sets the appropriate DMA mode for your hard disk.

2.5 Onboard Peripherals

The Onboard Peripheral Configuration allows you to configure the onboard communication ports and the onboard devices. Selecting this option displays the following screen:



2.5.1 Serial Ports 1 and 2

These parameters allow you to enable or disable serial ports 1 and 2.

Base Address

This function lets you set a logical base address for serial ports 1 and 2. The options are:

- 3F8h
- 2F8h
- 3E8h
- 2E8h

IRQ

This function lets you assign an interrupt for serial ports 1 and 2. The options for serial ports 1 are IRQ 4 and 11. The options for serial port 2 are IRQ 3 and 10.

The Base Address and IRQ parameters for each port are configurable only if the port is enabled.

2.5.2 Parallel Port

This parameter allows you to enable or disable the parallel port.

Base Address

This function lets you set a logical base address for the parallel port. The options are:

- 3BCh
- 378h
- 278h

IRQ

This function lets you assign an interrupt for the parallel port. The options are IRQ 5 and 7.

The Base Address and IRQ parameters are configurable only if Parallel Port is enabled.

If you install an add-on card that has a parallel port whose address conflicts with the onboard parallel port, a warning appears on the screen.

Check the parallel port address of the add-on card and change the address to one that does not conflict.

Operation Mode

This item allows you to set the operation mode of the parallel port. Table 2-1 lists the different operation modes.

Table 2-1 Parallel Port Operation Mode Settings

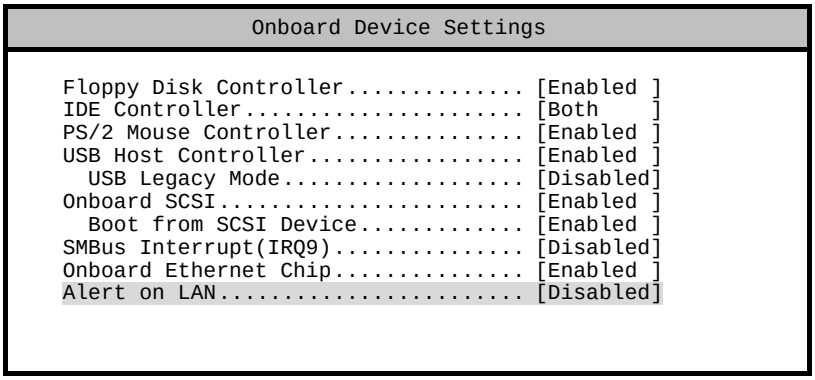
Setting	Function
Standard Parallel Port (Standard)	Allows normal speed one-way operation
Standard and Bi-directional	Allows normal speed operation in a two-way mode
Enhanced Parallel Port (EPP)	Allows bidirectional parallel port operation at maximum speed
Extended Capabilities Port (ECP)	Allows parallel port to operate in bidirectional mode and at a speed higher than the maximum data transfer rate

ECP DMA CHANNEL

This item becomes active only if you select Extended Capabilities Port (ECP) as the operation mode. It allows you to assign DMA channel 1 or DMA channel 3 for the ECP parallel port function (as required in Windows 95/98).

2.5.3 Onboard Device Settings

The Onboard Device Settings menu allows you to configure the onboard communication ports and the onboard devices. Selecting this option from the Onboard Peripherals menu displays the following screen:



Floppy Disk Controller

This parameter lets you enable or disable the onboard floppy disk controller.

IDE Controller

Set this parameter to `Primary` to enable only the primary IDE controller; `Both` to enable both primary and secondary IDE controllers; or `Disabled` to disable all IDE controllers.

PS/2 Mouse Controller

This parameter enables or disables the onboard PS/2 mouse controller.

USB Host Controller

This parameter lets you enable or disable the USB controller on board. When enabled, it activates the USB function of the system. When disabled, it deactivates the function.

USB LEGACY MODE

This function, when enabled, lets you use a USB keyboard in DOS. Set this to Disabled to deactivate the USB keyboard function in DOS.

Onboard SCSI

This parameter lets you enable or disable the SCSI controller on board. When enabled, it activates the SCSI function of the system. When disabled, it deactivates the function.

BOOT FROM ONBOARD SCSI DEVICE

When set to Enabled, the system checks for a bootable SCSI device. If a SCSI device is present, the system boots from that device; otherwise, it boots from the drive specified in the System Boot Drive parameter.

When set to Disabled, the system boots from the drive specified in the System Boot Drive parameter.

SMBus Interrupt (IRQ9)

The System Management Bus (SMBus) is used for controlling and getting information from devices on a motherboard. It was designed for hybrid devices based on analog semiconductor technologies and with limited digital capabilities. This parameter allows you to enable or disable this feature.

Onboard Ethernet Chip

This parameter allows you to enable or disable the onboard network feature.

Alert on LAN

AOpen does not support this function in this moment. It is disabled .

2.6 Power Management

The Power Management menu allows you to configure the system power-management feature which is also known as APM function.

The following screen shows the Power Management parameters and their default settings:

```
                    Power Management

Power Management Mode.................. [Disabled]
  IDE Hard Disk Standby Timer......... [---]
  System Sleep Timer.................. [---]
    Sleep Mode....................... [----]

Power Switch < 4 sec. ................ [Power Off]

System Wake-up Event
  Modem Ring Indicator................ [Disabled]
```

2.6.1 Power Management Mode

This parameter allows you to reduce power consumption. When this parameter is set to Enabled, you can configure the IDE hard disk and system timers. Setting it to Disabled deactivates the power-management feature and its timers.

This feature may not properly work under all operating systems due to the design differences of operating systems and system chipsets.

IDE Hard Disk Standby Timer

This parameter allows the hard disk to enter standby mode after inactivity of 1 to 15 minutes, depending on your setting. When you access the hard disk again, allow 3 to 5 seconds (depending on the hard disk) for the disk to return to normal speed. Set this parameter to OFF if your hard disk does not support this function.

System Sleep Timer

This parameter sets the system to the lowest power-saving mode after a specified period of inactivity. Any keyboard or mouse action or any activity detected from the IRQ channels resumes system operation.

SLEEP MODE

This parameter lets you specify the power-saving mode that the system will enter after a specified period of inactivity. The options are Standby and Suspend modes.

This parameter becomes configurable only if the System Sleep Timer is enabled. Any keyboard or mouse action, or any enabled monitored activities occurring through the IRQ channels resume system operation.

2.6.2 Power Switch < 4 sec.

When set to Power Off, the system automatically turns off when the power switch is pressed for less than 4 seconds. When set to Suspend, the system enters the suspend mode when pressed for less than 4 seconds.

2.6.3 System Wake-up Event

The system wake-up event allows the system to resume operation when the modem ring indicator is enabled.

Modem Ring Indicator

When Enabled, any fax/modem activity wakes up the system from suspend mode. The default setting is Disabled.

2.7 Boot Options

This option allows you to specify your preferred settings for bootup.

The following screen appears if you select Boot Options from the Basic Configuration menu:

```
                    Boot Options

Boot Sequence
  1st [IDE CD-ROM]
  2nd [Floppy Disk]
  3rd [Hard Disk]
  4th [LANDesk® Service Agent]

First Hard Disk Drive.............. [SCSI]

Fast Boot.......................... [Auto]
Silent Boot........................ [Enabled]
Num Lock After Boot................ [Enabled]
Memory Test........................ [Disabled]
Release All Blocked Memory......... [Enabled]

Boot from LanDesk Service Agent..... [Disabled]
```

Select the target boot device firstly, press [redacted] to up move this item and press [redacted] to down move this item.

2.7.1 Boot Sequence

This parameter allows you to specify the boot search sequence during POST.

- 1st. The system checks this drive first.
- 2nd. The system then checks this drive if it can not boot from the 1st specified drive.
- 3rd. If the 1st and 2nd searches fail then it boots from this drive.

- 4th. If the 1st, 2nd, and 3rd searches fail then it boots from this drive.

BIOS will display an error message if the drive(s) specified are not bootable.

2.7.2 First Hard Disk Drive

This parameter specifies whether the BIOS utility will boot from an IDE hard disk drive or a SCSI hard disk drive. The system will automatically boot from an IDE hard disk if your system does not have a SCSI hard disk drive. The default setting is SCSI.

2.7.3 Fast Boot

This parameter allows the system to boot faster by skipping some POST routines. The default setting is Auto.

2.7.4 Silent Boot

This parameter enables or disables the Silent Boot function. When set to Enabled, BIOS is in graphical mode and displays only an identification logo during POST and while booting. After booting the screen displays the operating system prompt (such as DOS) or logo (such as Windows 95/98). If any error occurs while booting, the system automatically switches to the text mode.

Even if your setting is Enabled, you may also switch to the text mode while booting by pressing F9 when you see the DEL key to enter setup" message on the screen.

When set to Disabled, BIOS is in the conventional text mode where you see the system initialization details on the screen.

2.7.5 Num Lock After Boot

This parameter allows you to activate the Num Lock function upon booting. The default setting is Enabled.

2.7.6 Memory Test

When set to Enabled, this parameter allows the system to perform a RAM test during the POST routine. When set to Disabled, the system detects only the memory size and bypasses the test routine. The default setting is Disabled.

2.7.7 Release All Blocked Memory

When set to Enabled, this parameter allows the system to bypass testing the defective memory banks detected earlier.

2.7.8 Configuration Table

This parameter allows you to enable or disable the appearance of the configuration table after POST but before booting. The configuration table gives a summary of the hardware devices and settings that BIOS detected during POST.

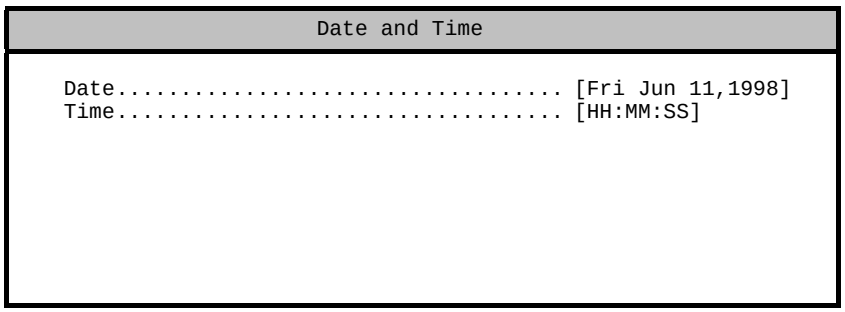
2.7.9 Boot from LANDesk Service Agent

When set to Enabled, the system boots from a LANDesk Service Agent network instead of your desktop system. The LANDesk Service Agent is IEEE-standards-based code that intervenes in the boot process. Please refer to your LANDesk Manual for more information.

When set to Disabled, the system boots from the drive specified in the Boot Sequence parameter.

2.8 Date and Time

The real-time clock keeps the system date and time. After setting the date and time, you do not need to enter them every time you turn on the system. As long as the internal battery remains good (approximately seven years) and connected, the clock continues to keep the date and time accurately even when the power is off.



2.8.1 Date

Highlight the items on the Date parameter and press [redacted] or PGDN to set the date following the weekday-month-day-year format.

Valid values for weekday, month, day, and year are:

- Weekday Sun, Mon, Tue, Wed, Thu, Fri, Sat
- Month Jan, Feb, Mar, Apr, May, Jun, Jul, Aug, Sep, Oct, Nov, Dec
- Day 1 to 31
- Year 1980 to 2079

[redacted]

AOpen DX2G Plus is certified for Y2K compliance.

2.8.2 Time

Highlight the items on the Time parameter and press [redacted] or [redacted] to set the time following the hour-minute-second format.

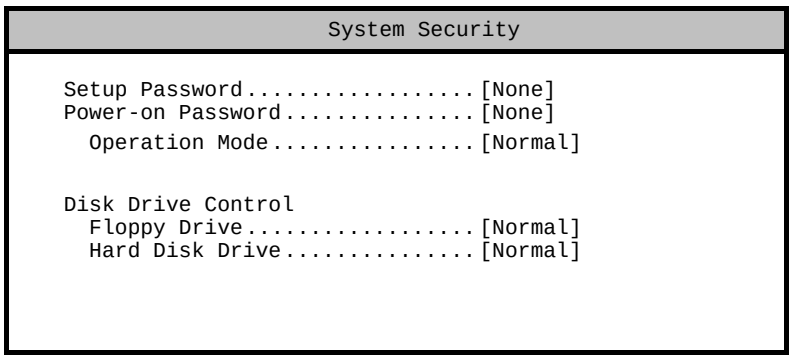
Valid values for hour, minute, and second are:

- Hour 00 to 23
- Minute 00 to 59
- Second 00 to 59

2.9 System Security

The Setup program has a number of security features to prevent unauthorized access to the system and its data.

The following screen appears if you select System Security from the Main menu:



2.9.1 Setup Password

The Setup Password prevents unauthorized access to the Setup utility.

To set or change a Password:

1. Make sure that JP4 is set to 1-2 (Check Password). See figure 1-2 for the location of JP4.

2. Enable the Setup Password parameter in the System Security menu by pressing [redacted] or. [redacted] The Setup Password window appears:

```
Setup Password

Enter your new Setup Password twice.  Setup Password
may be up to 7 characters long.

Enter Password.................[xxxxxxx]
Enter Password again...........[xxxxxxx]

Set or Change Password
```

3. Type a password in the Enter Password field. The password may consist of up to seven characters.

Be very careful when typing your password because the characters do not appear on the screen.

4. Press [redacted]. Retype your password in the Enter Password again field to verify your first entry.

5. Highlight Set or Change Password and press [redacted].

6. Press [redacted] to return to the System Security menu and then press [redacted] again to exit Setup. The Exit Setup screen appears:

```
Exit Setup

Settings have been changed.
Do you want to save to CMOS settings?
      [Yes]      [No]
```

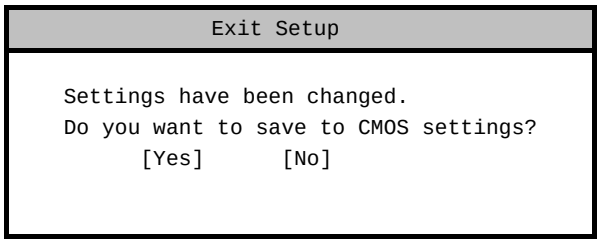
7. Press Yes to save your settings and exit the Setup Utility. Your password will be saved to CMOS.

The password checking mechanism starts working when JP4 is set to 1-2 (Check Password) and steps 2 to 7 are executed.

To remove your Setup Password:

1. Disable the Setup Password parameter in the System Security menu by pressing [redacted] or [redacted] to select None.

2. Press [redacted] to return to the System Security menu and then press [redacted] again to exit Setup. The Exit Setup screen appears:



3. Press Yes to save your settings and exit the Setup Utility. Your previous password will be removed from CMOS.

To bypass Setup Password:

If you forget your setup password, you can bypass the password security feature by hardware. Follow these steps to bypass the password:

1. Turn off and unplug the computer.

2. Open the computer housing and set JP4 to 2-3 (Bypass Password) to bypass the password function. See figure 1-2 for the location of JP4.

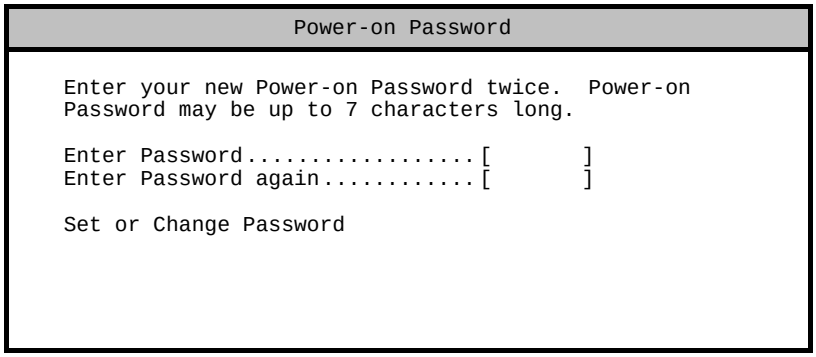
3. Turn on the system and enter the BIOS utility. This time, the system does not require you to type in a password.

You can either change the existing Setup password or remove it by selecting None. *Refer to the previous section for the procedure.*

2.9.2 Power-on Password

The Power-on Password secures your system against unauthorized use. Once you set this password, you have to type it whenever you boot the system. To set this password, enter the Setup Utility, select System Security, and then highlight the Power-on Password parameter. Follow the same procedure as in setting the Setup password.

Make sure to set JP4 to 1-2 to enable the Power-on password.



Operation Mode

This function lets you enable or disable the password prompt display. When set to Normal, the password prompt appears before system boot. When set to Keyboard Lock, the password prompt does not appear; however, your system will not respond to any keyboard or mouse input until you enter the correct password.

2.9.3 Disk Drive Control

The disk drive control features allow you to control the floppy drive or the hard disk drive boot function to prevent loading operating systems or other programs from a certain drive while the other drives are operational (under DOS mode only).

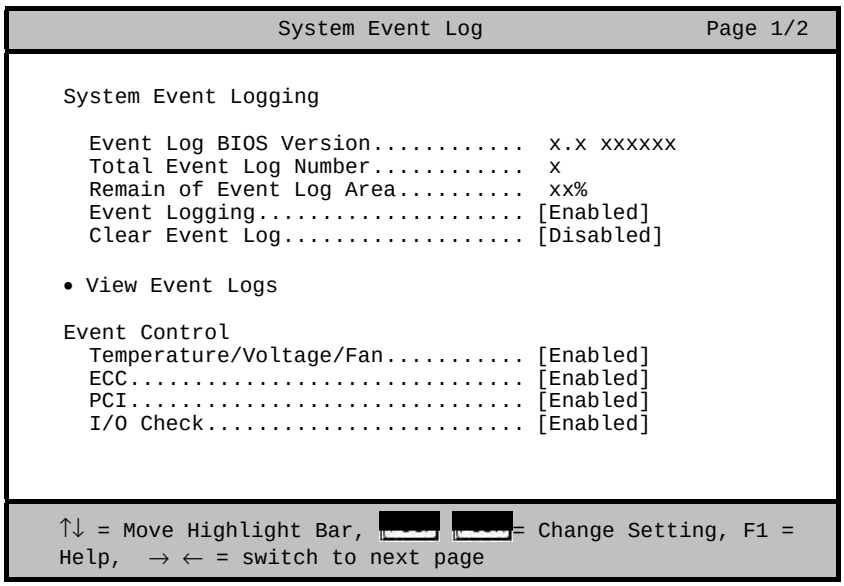
Table 2-2 lists the drive control settings and their corresponding functions.

Table 2-2 Drive Control Settings

Floppy Drive	
Setting	**Description**
Normal	Floppy drive functions normally
Write Protect All Sectors	Disables the write function on all sectors
Write Protect Boot Sector	Disables the write function only on the boot sector
Hard Disk Drive	
Setting	**Description**
Normal	Hard disk drive functions normally
Write Protect All Sectors	Disables the write function on all sectors
Write Protect Boot Sector	Disables the write function only on the boot sector

2.10 System Event Log

The system event log enables you to record and monitor events that occur in your system like excessive system temperature, fan stops, and others. This feature allows you to specify the appropriate settings for your system event handling. Selecting this option from the Main Menu displays the following screen:



System Event Logging

Allows you to record monitored events that occur during the operation of your system.

EVENT LOG BIOS VERSION

This parameter specifies the version of the Event Log BIOS.

TOTAL EVENT LOG NUMBER

The number of events currently logged in the event log area.

REMAIN OF EVENT LOG AREA

The percentage of space that is still available for logging system events.

EVENT LOGGING

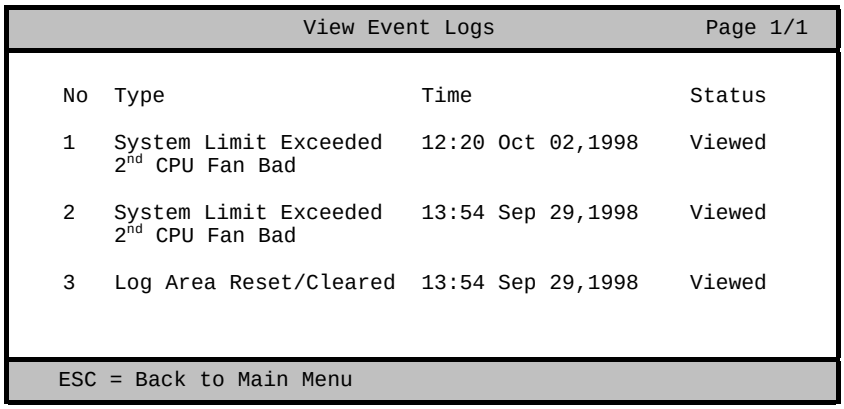
This parameter allows you to enable or disable the event logging function of your system. The default is Enabled.

CLEAR EVENT LOG

Clears the event log. The default is Disabled.

VIEW EVENT LOGS

Opens the system event log file for viewing.



Event Control

This parameter monitors the following events and logs them into the event log file if there is a change in status.

TEMPERATURE/VOLTAGE/FAN

Enable or disable the monitoring of the system temperature, voltage, and CPU fan. The default is Enabled.

ECC

ECC (Error-Checking and Correction) tests the accuracy of data as it read/writes to memory. This parameter enables or disables the monitoring of this function. The default is Enabled.

PCI

PCI (Peripheral Component Interconnect) is a 32-bit bus that can run at clock speeds of 33 MHz. This parameter monitors the activity of this bus when set to enabled. The default is Enabled.

I/O CHECK

Monitors the ISA for uncorrectable errors. This parameter monitors the activity of this bus when set to enabled. The default is Enabled.

```
                System Event Log                    Page 2/2

Critical Event Process
  Stop POST After CPU or Memory Reduction .....[Disabled]
  Halt System If No CPU or Memory Available ...[Enabled]

Threshold Setting
  CPU Warning Temperature .....................[ xx] °C
  CPU Fatal Temperature .......................[ xx] °C
  System Temperature ..........................[ xx] °C
  System Voltage ..............................[ xx] %

↑↓ = Move Highlight Bar, [redacted] = Change Setting, F1 =
Help, → ← = switch to next page
```

The parameter settings in page two of the System Event Log are changeable only when the Advanced Level is chosen; otherwise, they will be read-only. Refer to section 2.1 for accessing the Advance Level.

Critical Event Process

STOP POST AFTER CPU OR MEMORY REDUCTION

BIOS checks the bad CPUs and memory modules during POST. When this parameter is Enabled, BIOS will stop POST operation whenever it finds a bad CPU or memory. Otherwise, if Disabled the system will continue operating with the remaining good CPU and memory modules.

HALT SYSTEM IF NO CPU OR MEMORY AVAILABLE

When Enabled, the system will not run when no memory or CPU is detected by the system.

Threshold Setting

There are pre-defined threshold settings for typical systems and their CPU. Please follow the default settings to avoid unexpected system failures.

CPU WARNING TEMPERATURE

You can set a threshold for the CPU temperature level here and every time the CPU temperature exceeds this level a warning will be logged into the event log file. A typical warning degree threshold setting is 67°C.

CPU FATAL TEMPERATURE

When the CPU temperature reaches this threshold level a fatal warning will be logged into the event log file. A typical fatal degree threshold setting is 72°C.

SYSTEM TEMPERATURE

When the system temperature reaches this threshold level a warning will be logged into the event log file. A typical warning degree threshold setting is 49°C.

SYSTEM VOLTAGE

When the system voltage reading exceeds the safety operating range, it will be logged into the event log file.

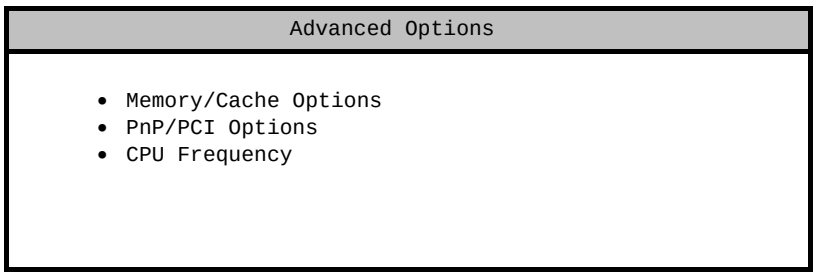
2.11 Advanced Options

Advanced Option configuration is available only in the Advanced Level. See section 2.1 for more information.

The Advanced Options configuration menu allows you to configure the system memory, PCI device settings, and CPU frequency.

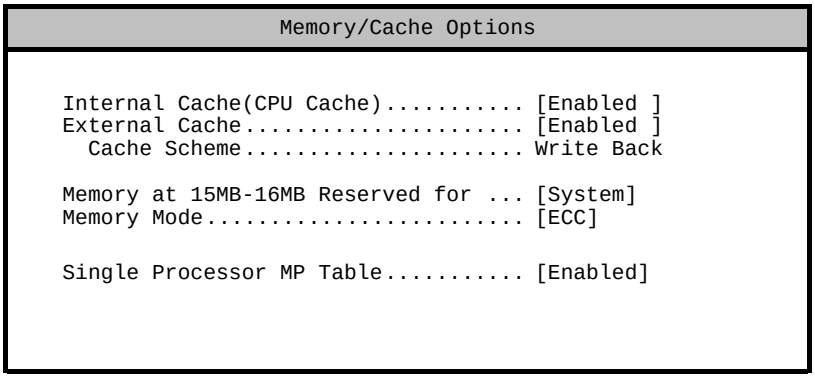
Do not change any settings in the Advanced Options if you are not a qualified technician to avoid damaging the system. Always load the default setting if you are not sure what to do.

The following screen shows the Advanced Options parameters:



2.11.1 Memory/Cache Options

Memory/Cache Options allows you to configure the advanced system memory functions. You have to press F8 before you enter Advanced Options.



Internal Cache (CPU Cache)

This parameter enables or disables the first-level or internal memory, that is, the memory integrated into the CPU. The default setting is Enabled.

External Cache

This parameter enables or disables the external cache memory. The external cache is incorporated in the CPU module.

CACHE SCHEME

This parameter shows the cache scheme status only as Write-back mode. Write-back updates the cache but not the memory when there is a write instruction. It updates the memory only when there is an inconsistency between the cache and the memory.

Memory at 15MB-16MB Reserved for

To prevent memory address conflicts between the system and expansion boards, reserve this memory range for the use of either the system or an expansion board.

Memory Mode

This parameter allows you to enable or disable the ECC (Error Checking and Correction) feature. The ECC feature enables BIOS to detect and correct data errors. Disable this parameter if you want to disregard the function.

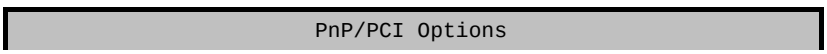
Single Processor MP Table

Enabling this parameter allows BIOS to create a multiprocessor (MP) table for Multi-Processor OS (ex: Windows NT) use. In a single-processor system running Windows NT, you may disable this parameter to enhance system performance. If you install another CPU for a dual system, enable this parameter then re-install Windows NT.

In cases when this parameter is enabled before installing Windows NT in a single-processor system, you may upgrade to a multiprocessor system without reinstalling Windows NT.

2.11.2 PnP/PCI Options

PnP/PCI Options allows you to specify the settings for your PCI devices. Selecting this option displays the following screen:



```
PCI IRQ Setting ..... [  Auto  ]
                      INTA   INTB   INTC   INTD
   PCI Slot 1..... [--]   [--]   [--]   [--]
   PCI Slot 2..... [--]   [--]   [--]   [--]
   PCI Slot 3..... [--]   [--]   [--]   [--]
   PCI Slot 4..... [--]   [--]   [--]   [--]
   PCI Slot 5..... [--]   [--]   [--]   [--]
   PCI Slot 6..... [--]   [--]   [--]   [--]
   Onboard LAN..... [--]
   Onboard SCSI..... [--]
   AGP..... [--]

•  PCI Device Settings
```

PCI IRQ Setting

Select Auto to let BIOS automatically configure the plug-and-play (PnP) devices installed in your system. Otherwise, select Manual.

Refer to your manual for technical information about the PCI card.

PCI SLOTS

When you set the PCI IRQ Setting parameter to Auto, these parameters specify the auto-assigned interrupt for each of the PCI devices. If you set the PCI IRQ Setting parameter to Manual, you need to specify the interrupt that you want to assign for each PCI device installed in your system.

ONBOARD LAN

When you set the PCI IRQ Setting parameter to Auto, this parameter specifies the auto-assigned interrupt for the onboard LAN. If you set the PCI IRQ Setting parameter to Manual, you need to specify the interrupt that you want to assign for the onboard LAN installed in your system.

ONBOARD SCSI

This item allows you to manually assign the interrupt for the onboard SCSI when the PCI IRQ Setting parameter is set to Manual . This parameter is grayed and not user-configurable when the PCI IRQ Setting is set to Auto.

AGP

This item shows the assigned interrupt for the onboard accelerated graphics port (AGP) controller.

PCI Device Settings

```
                    PCI Device Settings
PCI Device Latency Timer ..... [E0]H Clocks

PCI IRQ Sharing.............. [Yes]
VGA Palette Snoop ........... [Disabled]
Graphics Aperture Size....... [64] MB
Plug and Play OS............. [No ]
Reset Resource Assignments... [No ]
```

PCI DEVICE LATENCY TIMER

This parameter allows you to set the length of time for a PCI device to use the PCI bus.

A PCI master can burst indefinitely as long as the target can source/sink the data, and no other agent requests for the bus. If another PCI device requests for the use of the PCI bus, a PCI bus arbitration takes place, and the tenure of the device currently using the PCI bus cannot go over the PCI latency time set in BIOS. This setting depends on your application. For example, if you install a high bandwidth block I/O card, e.g., FDDI, the longer the latency time the better. This setting only affects the primary PCI components (PCI slots 1, 2, 3, AGP slot, and onboard LAN). The secondary PCI components are always set to 20 PCI clocks.

PCI IRQ SHARING

Setting this parameter to Yes allows you to assign the same IRQ to two different devices. To disable the feature, select No.

If there are no IRQs available to assign for the remaining device function, we recommend that you enable this parameter.

VGA PALETTE SNOOP

This parameter permits you to use the palette snooping feature if you installed more than one VGA card in the system.

The VGA palette snoop function allows the control palette register (CPR) to manage and update the VGA RAMDAC (Digital Analog Converter, a color data storage) of each VGA card installed in the system. The snooping process lets the CPR send a signal to all the VGA cards so that they can update their individual RAMDACs. The signal goes through the cards continuously until all RAMDAC data has been updated. This allows the display of multiple images on the screen.

Some VGA cards have required settings for this feature. Check your VGA card manual before setting this parameter.

GRAPHICS APERTURE SIZE

This parameter determines the effective size of the graphics aperture. Graphics aperture is the address range that the AGP video and the CPU use to manage graphical objects. The lowest setting is 8 B and the highest is 256 B.

PLUG AND PLAY OS

When this parameter is set to Yes, BIOS initializes only PnP boot devices such as SCSI cards. When set to No, BIOS initializes all PnP boot and non-boot devices such as sound cards.

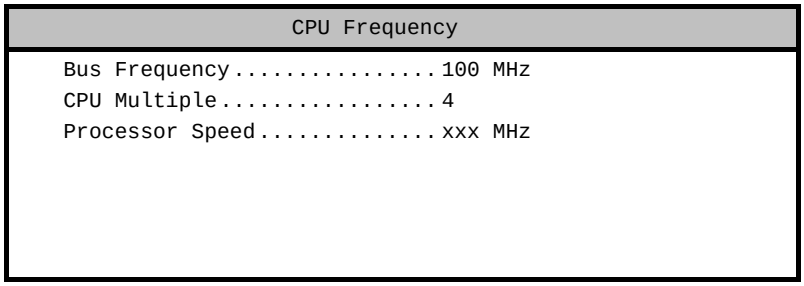
Set this parameter to Yes *only if your operating system is Windows 95/98.*

RESET RESOURCE ASSIGNMENTS

Set this parameter to Yes to avoid IRQ conflict when installing non-PnP or PnP ISA cards. This clears all resource assignments and allows BIOS to reassign resources to all installed PnP devices the next time the system boots. After clearing the resource data, the parameter resets to No.

2.11.3 CPU Frequency

This parameter displays your CPU speed and bus frequency. Selecting this option displays the following screen:



Bus Frequency

The bus frequency refers to the speed by which data is transferred between internal computer components and the CPU or the main memory of the CPU. A fast bus allows data to be transferred faster, which makes applications run faster.

CPU Multiple

This column shows the CPU core/bus ratio of your system. The clock speed of the bus does not necessarily equal the CPU (core). Generally, the bus clock speed is slower than the CPU clock speed. System BIOS will detect the CPU frequency and set the CPU Multiple automatically.

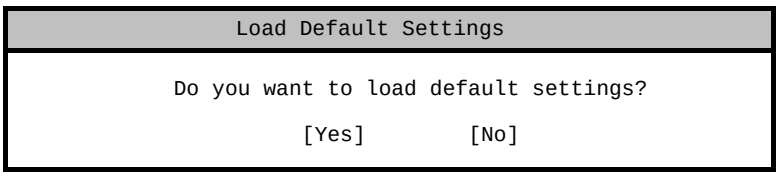
Processor Speed

The processor speed is the speed at which a microprocessor or CPU executes instructions. Clock speeds are expressed in megahertz (MHz), with 1 MHz being equal to 1 million cycles per second. The faster the clock, the more instructions the CPU can execute per second.

2.12 Load Default Settings

Use this option to load the default settings for the optimized system configuration. When you load the default settings, some of the parameters are grayed-out with their fixed settings. These grayed parameters are not user-configurable.

The following dialog box appears when you select Load Default Settings from the main menu:



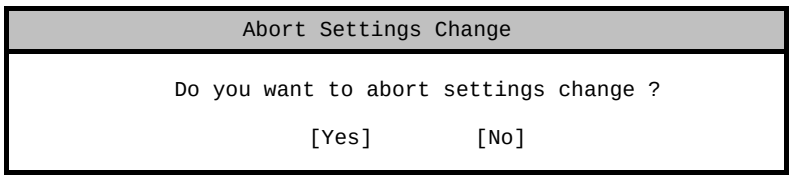
Select Yes to load the default settings.

Select No to ignore the message and return to the BIOS utility.

2.13 Abort Settings Change

Use this option to disregard your changes to the BIOS and reload your previous settings.

The following dialog box appears when you select Abort Settings Change from the main menu:

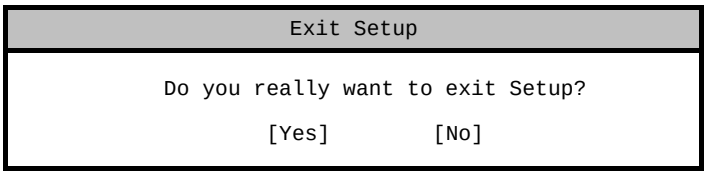


Select Yes to disregard your changes and reload your previous settings. After reload, the main menu appears on screen. Select No to ignore the message and return to the BIOS utility.

2.14 Exit Setup

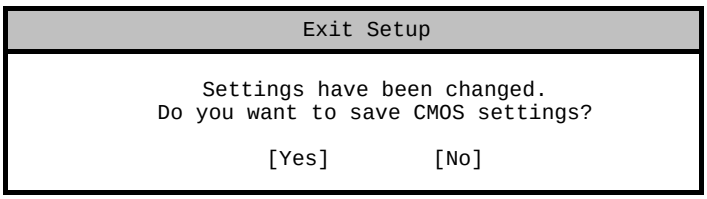
Examine the system configuration values. When you are satisfied that all the values are correct, write them down. Store the recorded values in a safe place. In the future, if the battery loses power or the CMOS chip is damaged, you will know what values to enter when you rerun Setup.

Press [ESC] to leave the Setup Utility. The following dialog box appears:



Use the arrow keys to select your response. Press [redacted].

If you made any changes to the Setup Utility, the dialog box below is displayed.



Use the arrow keys to select your response. Select Yes to save the changes in CMOS. Select No to retain the old configuration values. Press [redacted] to exit.

2.15 Recovery

If the system does not have any display after rebooting from the Setup adjustment, you can follow the procedures below to load the minimal bootable settings into the system.

To load the minimal setting:

1. Power off the system.
2. Press and hold 

.
3. Power on the system.
4. Release 

after booting.

If this procedure could not recover the system, please contact your dealer.

2.16 SCSI*Select* Configuration Utility

The SCSI*Select* utility allows you to change SCSI controller settings without opening the system or changing jumpers.

The table below lists the settings that you can change using the SCSI*Select* 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.

2.16.1 Settings for the SCSI Controller and All Devices

Item	Default
Host Adapter SCSI ID	7
SCSI Parity Checking	Enabled
Host Adapter SCSI Termination	Enabled
Boot Device Option	0 (zero)
Host Adapter BIOS[1]	Enabled
Support Removable Disks under BIOS as Hard Disks	Boot only
Extended BIOS Translation for DOS Drives > 1 GB	Enabled
Display <Ctrl-A> Message During BIOS Initialization	Enabled
Multiple LUN Support	Disabled
BIOS Support for Bootable CD-ROM	Enabled
BIOS Support for Int13 Extensions	Enabled
Support for Ultra SCSI Speed	Disabled

2.16.2 Individual Settings for SCSI Drives

Item	Default
Initiate Sync Negotiation	Yes

1 Some settings are valid only if the host adapter BIOS is enabled.

Item	Default
Maximum Sync Transfer Rate	80 MB/sec.
Enable Disconnection	Yes
Send Start Unit SCSI Command[2]	No
Initiate Wide Negotiation	Yes

2.16.3 When to Use the SCSI*Select* Utility

Use the SCSI*Select* utility if you need to do any one of the following:

- Change any of the default values listed in the SCSI Controller and All Devices Table.
- Check and/or change SCSI device settings that may conflict with those of other devices.
- Perform low-level formatting on new SCSI disk devices.

2.16.4 Running the SCSI*Select* Utility

A screen message giving the option to access the SCSI*Select* utility appears after the BIOS and POST routine.

To start SCSI*Select*, press [redacted] + A when the following message appears during power-on or system reset:

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

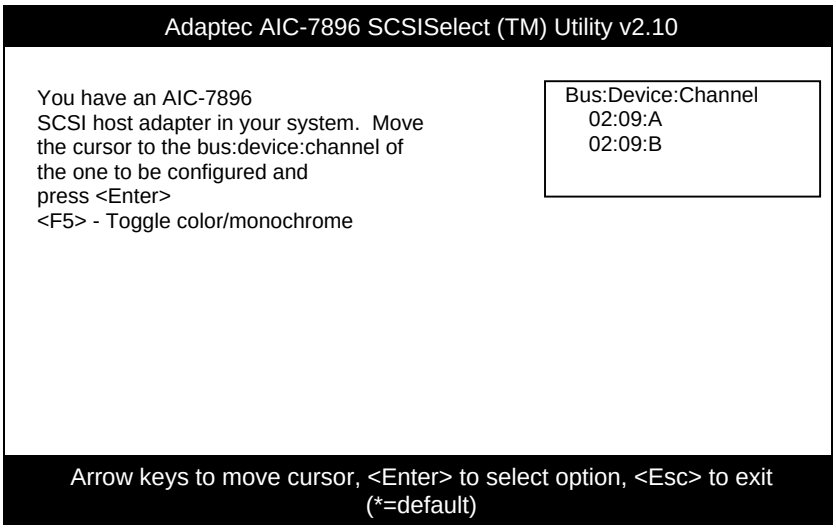
[redacted]

Your screen may show the key sequence as [redacted] + <Hot Key> instead of CTRL + A. The correct sequence is [redacted] + A.

2 This setting is valid only if the host adapter BIOS is enabled.

2.16.5 Utility Options

When the SCSI*Select* utility detects that the AIC-7896 SCSI controller is in the system, it displays the following Options menu:



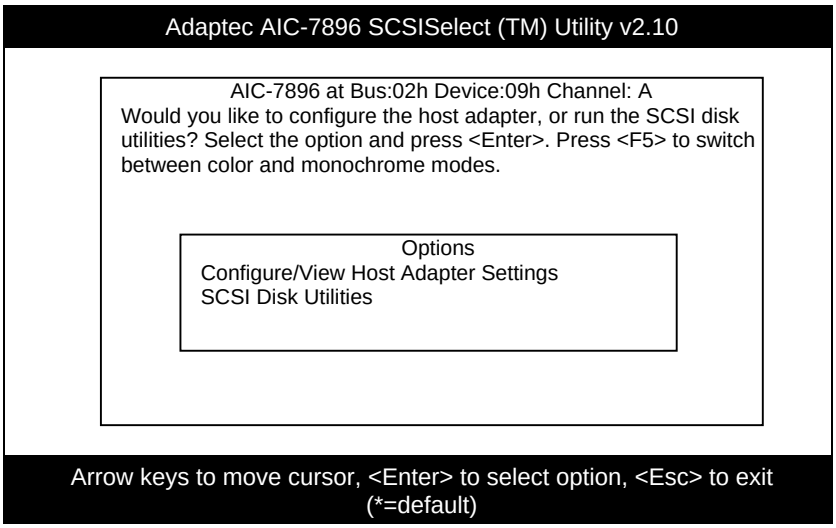
Configuring Channel A

The following screens appear if you select Channel A:

If you choose to configure Channel B, a similar SCSI Utility Screen will appear. The only difference is the I/O Port Address:

A000h for Channel A
A400h for Channel B

.



Use [↑] and [↓] and then press [Enter] to make selections in the SCSI*Select* utility. Press [Esc] at any time to return to the previous menu.

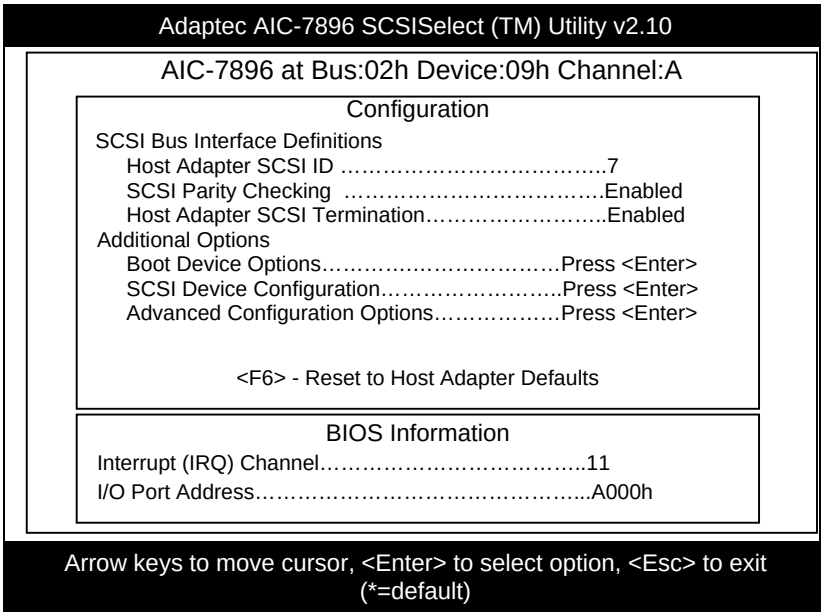
[redacted]

You can press [F5] to toggle the display between color and monochrome modes.

This feature may not work with some kinds of monitors.

2.16.6 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.



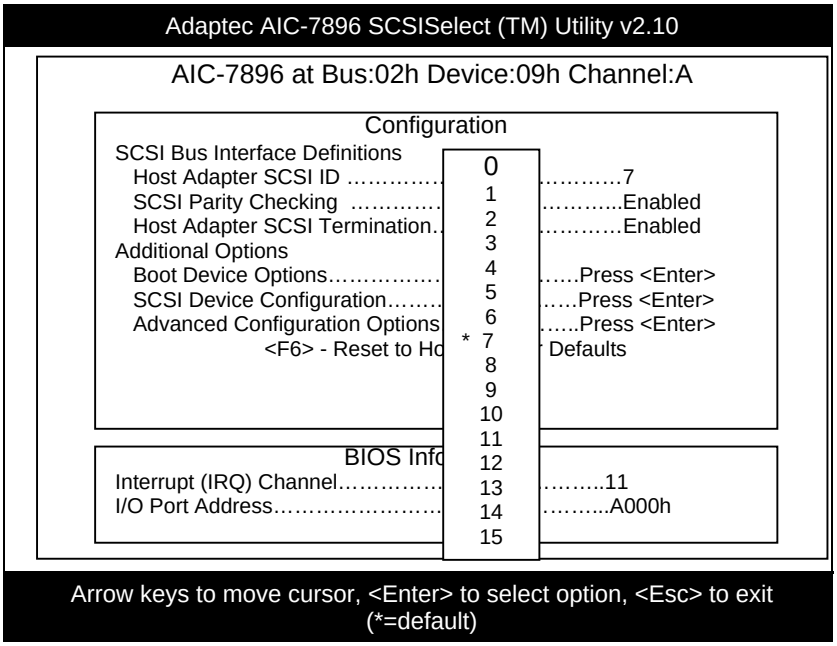
Use [↑] and [↓] to select a parameter. Press [redacted] to display a pop-up menu with a list of possible settings for the parameter. Press [redacted] at any time to return to the previous menu.

[redacted]

SCSI controller default settings are marked with an asterisk (*) throughout the selection submenus.

Host Adapter SCSI ID

This parameter allows you to change the host controller SCSI ID. The following screen shows the available IDs used for the AIC-7896. The default setting is SCSI ID 7, which has the highest priority on the SCSI bus. We recommend that you keep the default setting since most system applications run only in this setting.

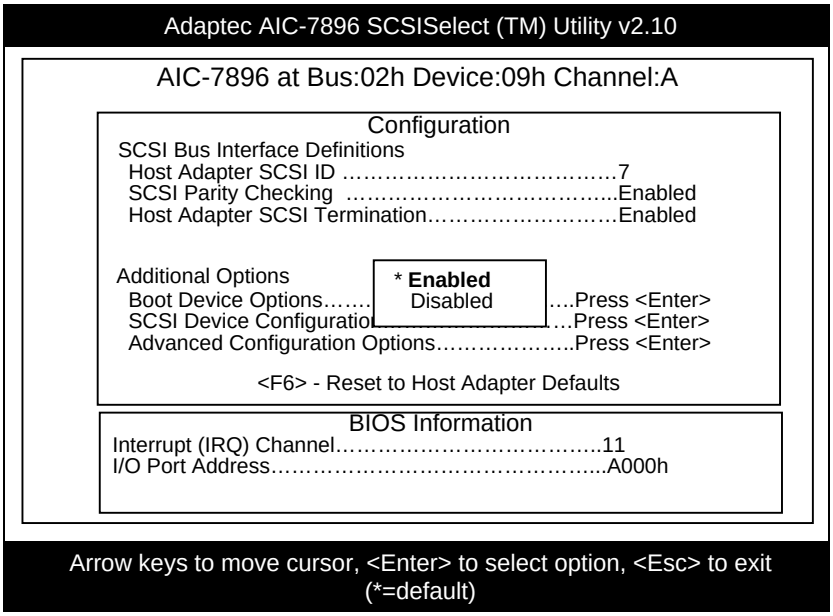


Each device on the SCSI bus, including the SCSI controller, must be set to a unique SCSI ID. The SCSI ID serves two purposes. It uniquely identifies each SCSI device on the bus, and it determines the device priority on the bus during the arbitration phase. The arbitration phase determines which device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

Use ↑ or ↓ then press Enter 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 the SCSI parity checking function on the SCSI controller. The screen below displays the selections. The default setting is **Enabled**.

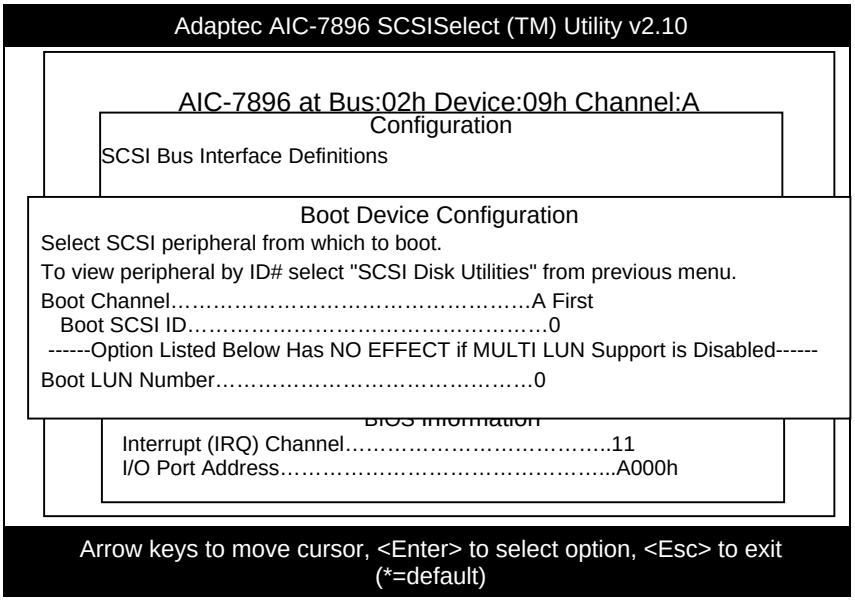


The SCSI controller always checks parity when reading from the SCSI bus to verify the correct transmission of data from the SCSI devices. You should disable the SCSI Parity Checking parameter if any of the installed SCSI devices do not support SCSI parity. Most currently available SCSI devices support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

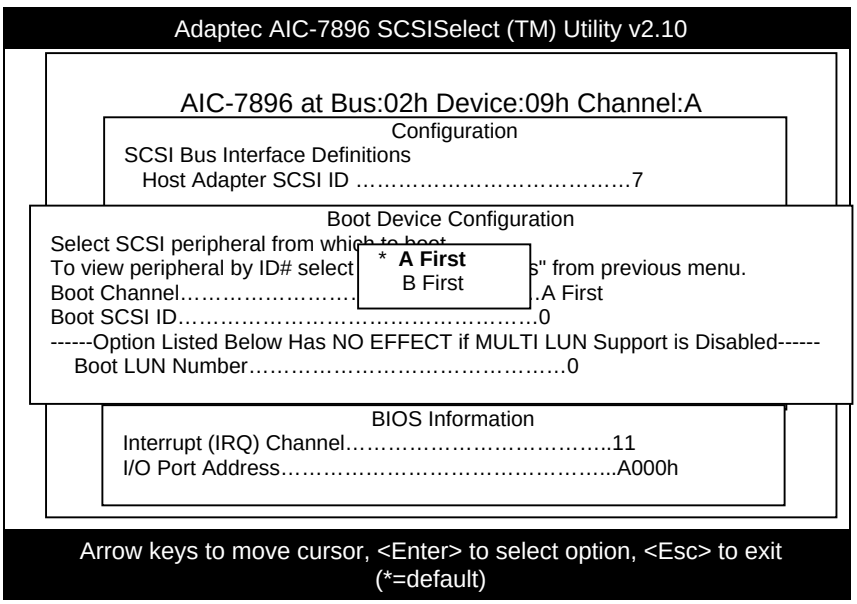
Use ↑ or ↓ then press ——— to select options. Press ——— at any time to return to the previous menu.

Boot Device Options

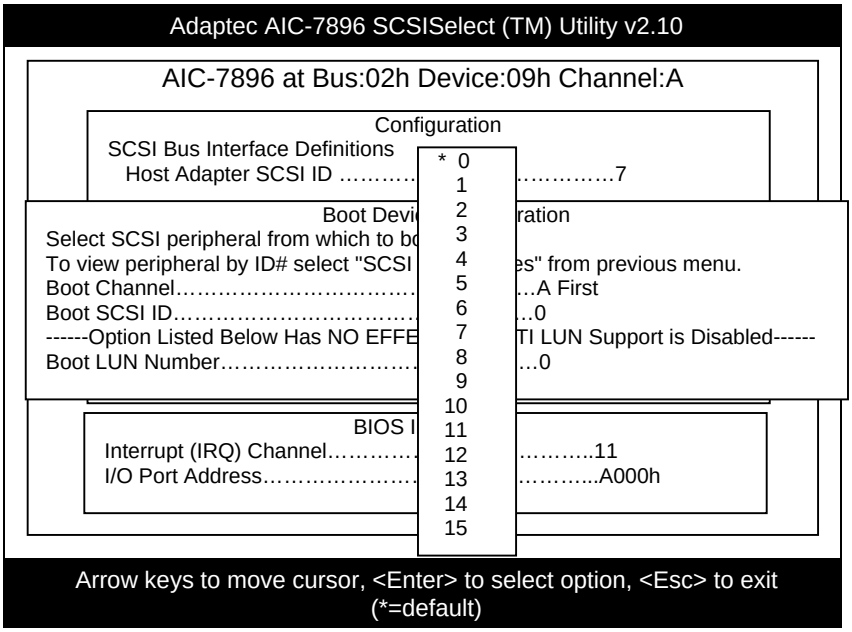
This parameter shows the target ID of your boot device. The default setting is 0 (zero). We recommend that you keep the default setting since most system applications run only in this setting. Below is the Boot Device Configuration menu screen.



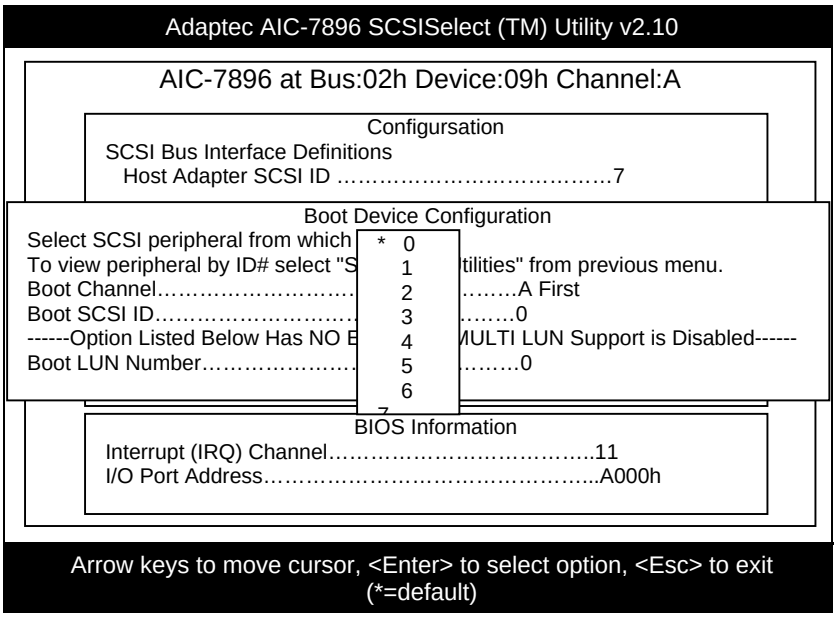
Boot Channel Options



Boot SCSI ID Options



Boot LUN Number Options

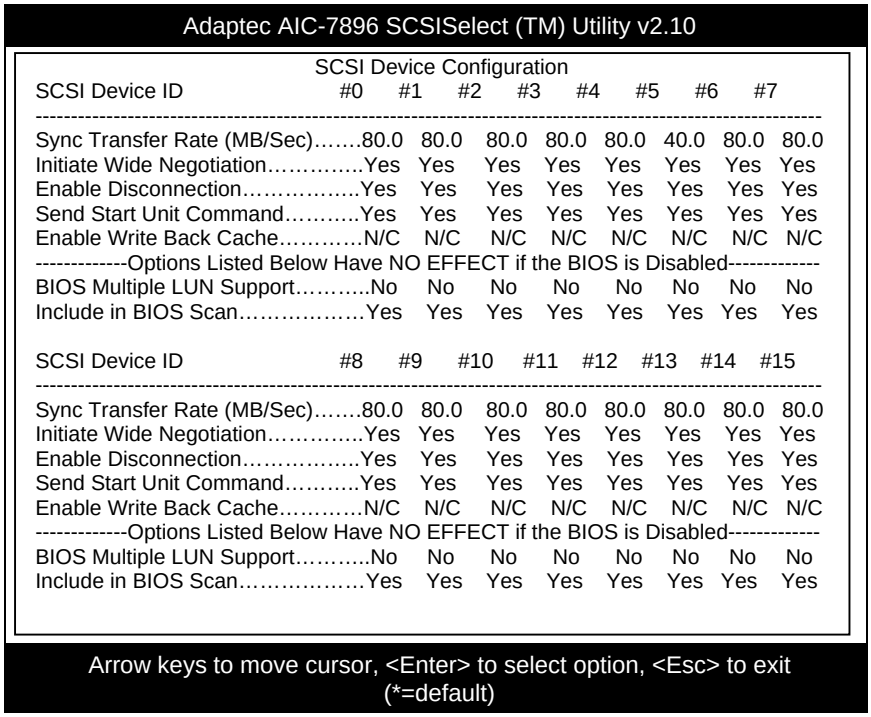


2.16.7 Boot LUN Number

LUN (Logic unit number) can support more devices, like RAID box or RAID card.

SCSI Device Configuration

This parameter allows you to configure details of each SCSI device on the SCSI bus. 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 the SCSI Disk Utilities later in this section for instructions on how to determine the SCSI ID used by a device.



Use ↑ or ↓ to move between options, then press Enter to display a pop-up menu with a list of values.

Use ↑ or ↓ to select a value, then press Enter.

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 Fast Wide SCSI maximum of 80.0 MB per second. The default value is 80.0.

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

Some older SCSI-1 devices do not support Fast SCSI data transfer rates. This may cause the system to operate erratically or hang if the transfer rate is too high.

INITIATE WIDE NEGOTIATION

This option allows communication between all devices (lower 8-bit or upper 8-bit) on the wide (16-bit) SCSI bus. When set to Yes, each device can connect on the bus. When set to No (disabled), communication can only occur on the lower eight bits of the 16-bit SCSI bus. The default setting is Yes.

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.

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. When set to No, the SCSI device is not allowed to disconnect from the SCSI bus. The default setting is Yes.

Keep this item set to Yes if two or more SCSI devices are connected to the SCI controller. This optimizes SCSI bus performance. If only one SCSI device is connected to the SCSI controller, set this item to No to achieve better system performance.

SEND START UNIT COMMAND

This option determines whether the Start Unit Command (SCSI command 1B) is sent to the SCSI device (most devices do not require this). Enabling this item reduces the load on the system power supply by allowing the SCSI controller to power up SCSI devices one at a time upon booting. Otherwise, all the devices 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 at system boot. When set to No, each SCSI device powers up in the normal procedure.

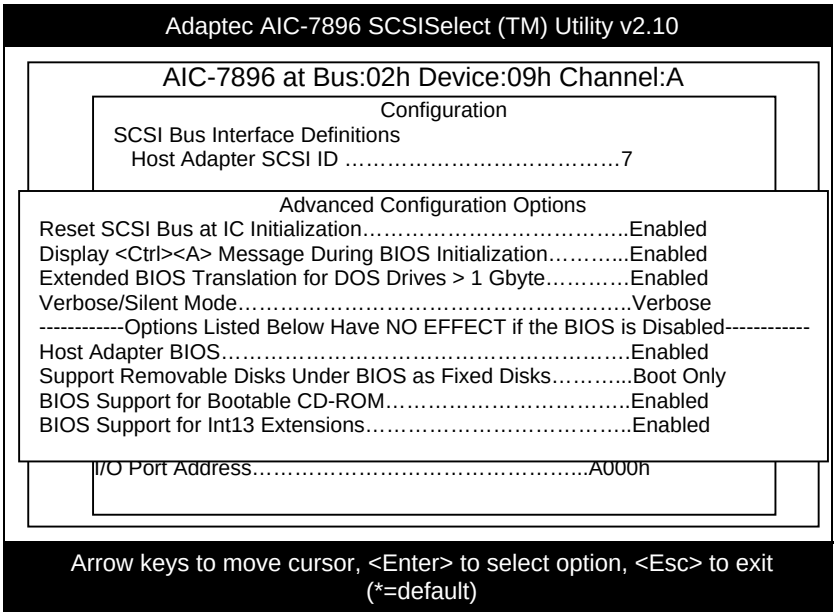
The Send Start Unit Command setting is valid only if the host adapter BIOS is enabled.

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.

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.

Advanced Configuration Options

Selecting the Advanced Configuration Options displays a screen as shown below. Do not change the settings of the items under this parameter unless it is absolutely necessary.



Use ↑ or to move between options, then press [redacted] to display a pop-up menu with a list of options.

Use ↑ or ↓ to select an option, then press [redacted].

HOST ADAPTER BIOS

This option enables or disables the SCSI controller BIOS. The default setting is **Enabled**.

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

DISPLAY <CTRL-A> MESSAGE DURING BIOS INITIALIZATION

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

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 GB. This is valid only if the SCSI controller BIOS is enabled. The default factory setting is **Enabled**.

When enabled, this option uses the following translation schemes:

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

See the section "Disk Drives Over 1 GB" in this chapter, for more information on this option. This option should be left disabled for most operating systems except DOS.

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. This is only valid when 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 is 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 case, software drivers are needed because the drives are not controlled by BIOS.

Support for removable-media drives means that the SCSI controller BIOS allows use of a removable-media drive as if it is a hard disk drive. It does not mean that 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!

BIOS SUPPORT FOR BOOTABLE CD-ROM

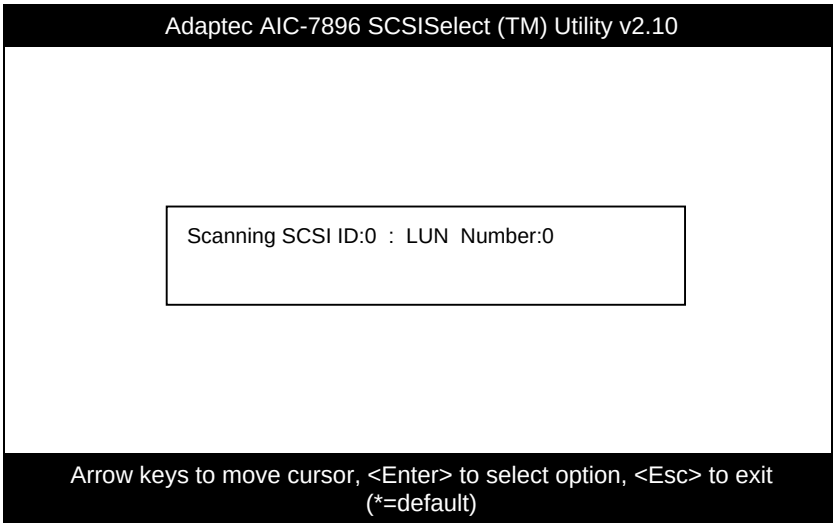
When enabled, this option allows you to use a bootable CD-ROM device to directly load an operating system. The default setting is **Enabled**.

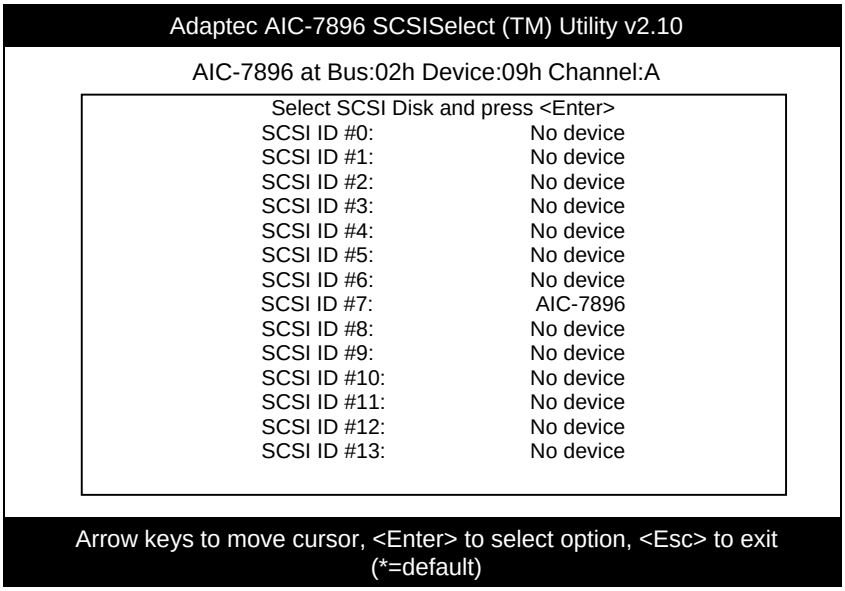
BIOS SUPPORT FOR INT13 EXTENSIONS

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

2.16.8 SCSI Disk Utilities

When you select SCSI Disk Utilities from the Options menu, the SCSI*Select* Utility scans the SCSI bus and lists all SCSI devices installed on the SCSI bus. The list shows the individual SCSI IDs assigned to each device on the SCSI bus.


Adaptec AIC-7896 SCSISelect (TM) Utility v2.10
Scanning SCSI ID:0 : LUN Number:0
Arrow keys to move cursor, <Enter> to select option, <Esc> to exit
(*=default)


Adaptec AIC-7896 SCSISelect (TM) Utility v2.10
AIC-7896 at Bus:02h Device:09h Channel:A
Select SCSI Disk and press <Enter>
SCSI ID #0: No device
SCSI ID #1: No device
SCSI ID #2: No device
SCSI ID #3: No device
SCSI ID #4: No device
SCSI ID #5: No device
SCSI ID #6: No device
SCSI ID #7: AIC-7896
SCSI ID #8: No device
SCSI ID #9: No device
SCSI ID #10: No device
SCSI ID #11: No device
SCSI ID #12: No device
SCSI ID #13: No device
Arrow keys to move cursor, <Enter> to select option, <Esc> to exit
(*=default)

Select a disk device to display a small menu window. From this menu, select **Format Disk** or **Verify Media**.

Use ↑ or ↓ to move between options, then press ENTER to display a pop-up menu with a list of values.

Use ↑ or ↓ to select a value, then press [redacted].

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.

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.

Verify Media

The Verify Media utility scans the selected device 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.

You can press ESC at any time to abort the Verify Disk Media utility.

2.16.9 Disk Drives Over 1 GByte

Extended Translation

Adaptec SCSI controllers have always supported the full range of disk drive capacities under all major operating systems. As disk drives have recently grown beyond 1 GB in formatted capacity, they have run up against the DOS 1024-cylinder limit.

To continue its support for all SCSI disk drive capacities under DOS, Adaptec has included an extended translation scheme for the AIC-7896 SCSI controllers. This feature supports disk drives of up to 8 GB capacity under DOS. The section Extended BIOS Translation for DOS Drives > 1 GB explains how to change the setting of this option. Most operating systems leave this option disabled.

DOS 1 GByte Limit

All current versions of DOS are limited to 1024 cylinders per drive. The standard translation scheme for SCSI host controllers, using 64 heads and 32 sectors, gives a maximum capacity of 1 GB.

To eliminate the 1-GB limit, Adaptec extended translation feature uses 255 heads and 63 sectors, extending the disk drive capacity limit under DOS to 8 GB.

If you have already partitioned a large hard disk drive with one translation method, conversion to another method erases the data on the drive. Be sure to back up your disk drive prior to any change in the translation method.

2.16.10 When to Use the Extended Translation

with DOS 5.0 and above

NetWare 386 (version 3.0 and above) and some versions of UNIX that do not share the 1024 cylinder limit of DOS do not require extended translation to support large disk drives and should not be enabled.

drives with mixed partitions

Use standard translation (not extended translation) on drives formatted with two or more partitions for different operating systems. Partitions for UNIX and NetWare can be larger than 1 GB when using standard translation.

The term UNIX, as used here includes all version of AT&T/USL UNIX, SCO v3.2.4 (or later), and ISC v3.0 (or later).

using fdisk

To install a new disk, or to re-partition an existing disk, use the FDISK DOS utility as you normally would. The cylinder size increases to 8 MB when you enable extended translation. The size of the partition you request must therefore be a multiple of 8 MB. If you request a partition size that is not a multiple of 8 MB, FDISK rounds up to the nearest whole multiple of 8 MB.