

## CONFIGURATION UTILITY IN THE SYSTEM BIOS

The majority of SNX and NetStrada systems have a utility stored in the system BIOS that is used to rapidly configure the system without needing to use the utilities provided in the Starter Kit.

The following utilities are available for the different systems:

- **BUILT-IN ROM SETUP**, available on the following systems:
  - SNX 140 / 140/R / 160 / 160/R / 160E /160/RS Systema
  - SNX 200/RS / 200/RM / 400/RS / 400/RM Systema
  - SNX 460/RS / 460/RM Systema
  - SNX 140/S / 160/S Systema
  - NetStrada 7000
- **UTILITY BIOS SETUP + UTILITY SCSI SELECT**, available on the following system:
  - NetStrada 3000

**Note:** *The SNX 160/RS/RM NEW and NetStrada 5000 systems do not have any configuration utility stored in their system BIOS.*

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## BUILT-IN ROM SETUP

**Note:** *The system is factory set with the access to the Built-in ROM Setup program disabled. The user can enable to access this program by launching the User Disk or the Orchestra Systema CD-ROM and selecting the "Enable ROM Setup" option from the "Set System Security" menu.*

The Built-in ROM Setup program resides in the system BIOS EPROM and therefore can be directly activated from the keyboard. It represents a fast and easy way to set and modify configuration data on systems which are not equipped with optional boards (and therefore only the motherboard, CPU, memory and SCSI controller), or just equipped with PCI or ISA Plug and Play boards at the most. If the system has PCI or ISA Plug and Play boards installed, it is suggested to run the Configuration Manager stored on User Disk or Orchestra Systema CD-ROM, while if ISA or EISA boards are installed the system must be configured using the EISA Configuration Utility since the Built-in ROM Setup is unable to recognize these boards.

For first series SNX 140 models it is important to take note that if the system was firstly configured through the User Disk and the Built-In ROM Setup program was subsequently activated to make changes to the configuration, a Warning message is displayed. This message informs that since system was previously configured through the User Disk, any changes to the configuration that are made without the User Disk will replace the configuration stored in CMOS RAM with the new configuration created using the Built-In ROM Setup program. This results with the loss of all the information relating to the configuration of EISA or ISA boards since these boards are not recognized.

The Built-in ROM Setup Utility can no longer be activated on the more recent systems equipped with EISA or ISA boards (other than the GO622 and GO2044 SCSI controllers). Given this restriction, a system equipped with optional EISA and ISA boards can only be configured through the ECU. This prevents losing the configuration data of these boards in the event the Built-In ROM Setup Utility is accidentally activated.

Built-In ROM Setup is automatically available each time the system is bootstrapped. The F1=SETUP message flashes for four or five seconds, unless the system in any one of the following conditions:

- Network password enabled.
- ROM Setup program enabled (factory set).
- Remote terminal active.

Pressing the ESC key bypasses this message. By pressing the F1 key on more recent systems equipped with EISA or ISA boards, the following message is displayed:

***UNKNOWN EISA BOARD(s) DETECTED UNABLE TO INVOKE ROM SETUP PRESS ENTER TO CONTINUE.***

If incorrect configuration data are entered when using this program and the system crashes and/or is unable to load the operating system, invoke the Setup Utility and load the default settings which correspond to the optimum system configuration. These default settings will guarantee correct system operation, and are loaded by pressing the F9 key. If the incorrect settings made are such that the Built-In ROM Setup program cannot be accessed and the system continues to remain down, the default settings can be restored by using the configuration jumper on the motherboard.

## USING THE BUILT-IN ROM SETUP PROGRAM

Proceeds as follows to configure the system using the Built-In ROM Setup program:

- Press F1 when the system pauses during the POD cycle and flashes the message `<F1=SETUP>` in the upper right corner of the monitor. You will hear a continuous sound (double sound in case of configuration error) and you then have four or five seconds to activate the Setup program.

The system displays the first screen of the Built-In ROM Setup Utility. You can use ↑ and ↓ to move up and down the list of items one line at a time, or PGUP and PGDN to move a page at a time.

Items with questionable or undeterminable settings are marked in the left margin with a red right-pointing triangle.

- Move to the appropriate configuration parameter and press ENTER to display a pop-up window of possible values.

Press ESC at any time to cancel an operation without changing the value.

Press F4 to toggle back to the POD message screen to check POD messages needed to change the configuration.

If you want to reset all options back to the default values, press F9.

Press F1 to read help messages for the item being highlighted.

- Press F10 to save the change and write to the battery-protected CMOS RAM.
- Press ESC to exit the Built-In Setup program.

**Note:** *The Built-In ROM Setup program is available in English only.*

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## BUILT-IN ROM SETUP PROGRAM PARAMETERS

The Built-In ROM Setup program provides the following list of system setup parameters. These parameters contain one or more options, as described in the pages that follow.

- Date
- Time
- Pentium CPU Board (SNX 1xx /R/E/RS only)
- Keyboard Options
- Serial Port Options
- Parallel Port Options
- Memory Options
- Option ROM Shadowing
- SVGA System Video (not on the SNX 460 and NetStrada 7000)
- System Configuration Display
- Auxiliary/Pointing Device
- System Speed (SNX 140/140/R only)
- Power-On Diagnostic Test Level
- Cache Options (not on the SNX 200/400)
- Performance Enhanced Features (SNX 1xx /R/E/RS only)
- Floppy Disk Options
- Hard Disk Options
- Front Panel Console Options
- Embedded - PCI SCSI Controller (if the system has an onboard SCSI controller)
- SCSI Controller (if an EISA SCSI controller is present).
- Slot xx - PCI Adapter Card (if a PCI SCSI controller is present).

Select one of these parameters or options by moving the highlighted cursor to it and pressing **ENTER**. The system then displays a pop-up window containing a list of values from which you can select a new value, or a type-in text field, in which you enter a new value.

**Note:** *Some options, such as the CPU board type and PCI and ISA Plug and Play board resources, display assigned values only and cannot be changed. These are provided only for information.*

### Date

Displays the current date, the values can be changed by entering the month, day and year following the format shown in the text field.

### Time

Displays the current time, the values can be changed by entering, on a 24-hour format, the hour, minutes and seconds following the format shown in the text field.

## Pentium CPU Card

Available only on SNX 1xx /R/E/RS systems, displays the type of CPU board installed. There are no options available for this parameter.

## Keyboard Options

This parameter contains the following options, each with its own set of values:

- **Keyboard Speed:** This option determines the rate at which keyboard keys repeat when held down. There are two choices: **Normal** and **Fast**.
- **NUM LOCK Status after POD:** This option determines whether the NUM LOCK key is activated or not after the POD tests.

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## Serial Port Options

These options set the serial port address, interrupt-request line and interrupt mode (edge-triggered or level-sensitive) for the serial ports on the system. Default: Serial Port 1 (3F8) IRQ4 Edge Triggered, Serial Port 2 (2F8) IRQ3 Edge Triggered.

## Parallel Port Options

This parameter contains the following options:

- **Parallel Port:** with this option the system parallel port can be enabled or disabled and, if enabled, sets the address, the interrupt-request and mode (edge-triggered or level-triggered). Default: 378 IRQ7 Edge Triggered.
- **Bidirectional Mode:** this option determines whether the parallel port is enabled or disabled for bidirectional mode operation. Default: Disabled.
- **Extended Capabilities Mode:** this option determines whether the parallel port operates in extended mode. There are three choices: **Disabled**, **Enabled DMA Channel 1** and **Enabled DMA Channel 3**. Select **Enabled** only if the parallel port is used in bidirectional mode. Default: Disabled.

## Memory Options

This parameter contains the following options:

- **Base Memory:** Displays the amount of installed base memory the system detected during the POD. The 640 KB cannot be modified on SNX 1xx /R/E/RS, it automatically changes to 512 KB if AT8/16 boards are mapped in the area between 512 and 640 KB.
- **Extended Memory (Contiguous):** Displays the amount of installed *extended memory* the system detected during the POD. This number is for reference only; it can only be indirectly changed by physically changing the amount of memory installed. This memory area is generally used by operating systems such as OS/2 and UNIX.
- **Extended Memory (Non-Contiguous):** This option displays the amount of installed *non-contiguous extended memory* the system detected during the POD cycle. This number is for reference only. This type of memory is created when a memory-mapped I/O board's address lies within extended memory, creating a hole in extended memory.
- **Extended Memory 16MB Limit:** On SNX 1xx/R/E/RS only. This option allows you to disable or enable the extended memory 16-MB limit. The pop-up window lists two choices: **Disabled** and **Enabled**. The default setting is Disabled.

**Note:** *The Extended Memory 16 MB Limit option must be set to Enabled on systems with more than 64 MB of memory and running Windows NT or Novell NetWare (3.1x and 4.x).*

- **Extended Memory Above 64 MB Support:** On the SNX 200/400/460, 1xx/S and NetStrada 7000. Enables the BIOS to use INT15 functions to limit the size of extended memory. Two choices are available: **Disabled** and **Enabled**. Set Enabled if the size of memory is equal to or above 64 MB, otherwise set Disabled.

## Option ROM Shadowing

The 384 KB of RAM memory corresponding to addresses 640 KB (A000h) to 1024 KB (FFFFh) are reserved for the BIOS operations of internal computer devices and options (system BIOS, video BIOS, ROM I/O). This parameter has some starting addresses that can be selected as Enabled or Disabled.

If the address is selected as Enabled, the corresponding BIOS operation is carried out by the shadowed copy loaded into RAM (faster), if the address is selected as Disabled, the operation is carried out normally by the ROM (slower). The addresses are:

- DC00 Option ROM            Disabled
- D800 Option ROM            Disabled
- D400 Option ROM            Disabled
- D000 Option ROM            Disabled
- CC00 Option ROM            Disabled
- C800 Option ROM            Disabled (suggested for the DPT controller)
- Video Shadowing:            Enabled at C000

Video Shadowing can be enabled at C000, E000 or E800; the default value is C000.

**Note:** *Select Disabled for all memory segments used for DPM memory addressing of optional boards (such as local and geographical network boards).*

## SVGA System Video

This parameter indicates whether the SVGA video controller that is built into the system board is enabled or disabled; it cannot be changed by ROM SETUP. The SVGA controller is automatically disabled if the system detects a VGA or SVA controller in a motherboard expansion slot.

## System Configuration Display

This parameter defines the system console. The options are:

- **Host System Display/Keyboard:** Specifies that the standard display/keyboard will be used.
- **Remote Terminal Configuration:** Specifies that all user I/O will be redirected to the system serial port and that a remote terminal can be connected to the serial port instead of a display and keyboard. The remote terminal configuration suboptions are:
  - **Terminal Type:** The selections for terminal types are VT100; VT220 7 bit/ANSI keyboard (default); and VT220 Enhanced PC Keyboard, such as the Olivetti WS 785/885/PC Keyboard
  - **Serial Port:** Determines to which system serial port the remote terminal is attached
  - **Baud Rate:** Allows you to set the baud rate in the range of 300 to 38400
  - **Data Bits:** Sets the data bits to 7 or 8

- **Parity:** Sets parity to even, odd or none
- **Stop Bits:** Sets the stop bits to 1 or 2
- **None:** This selection specifies that no I/O device will be attached to the system. This option is used for a dedicated file server in a network environment.

**Notes:** - The first BIOS release (1.05.1) for the SNX 140 Systema does not support the Remote Terminal feature.  
 - This feature is also not supported by resilience systems nor by any system equipped with the RAID DPT SCSI controller board.  
 - This feature is not supported on the SNX 460, 1xx/S and NetStrada 7000 and therefore the Remote terminal Configuration option must not be selected.

## Auxiliary/pointing Device

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This option displays whether a mouse is connected to the system. During the POD tests, the system detects a mouse (when connected) and assigns it IRQ 12 as the mouse interrupt.

Because the mouse is automatically detected by POD, the mouse port cannot be disabled until the mouse is physically disconnected from the system.

## System Speed

This parameter, available on the SNX 140 Systema only, determines the system CPU speed. The pop-up window lists two values: **Fast**, and **Slow**.

**Fast** (default) indicates that the CPU runs at its top speed and therefore provides the highest system performance. **Slow** indicates that the system runs at a constant 8-MHz so as to accommodate older programs with CPU speed limitations.

## Power-on Diagnostic Test Level

This option sets the power-on self-diagnostics of the RAM memory test level when the computer is switched on, or after a hardware reset. The levels that can be assigned are from 0 to 3. Level 0 sets the most complete RAM test execution and therefore requires more time. Level 3 only sets the basic test mode and is therefore faster.

## Cache Options

This parameter is not available on the SNX 200/400. To see this parameter, press CTRL-A (Advanced Features Options). This parameter includes the following options:

- **CPU Internal Cache**, the internal CPU data and instruction cache.
- **Secondary Cache:** Can be set to Disabled or Enabled.
- **Secondary Cache Mode: (not on SNX 460, 1xx/S and NetStrada 7000)**
  - **Copy Back Mode:** Updates system memory only when a cache line needs to be replaced. This reduces the number of accesses to system memory (default).
  - **Write Through Mode:** Not active.
- **Cache Mode (SNX 460 and NetStrada 7000 only):** Defines the processor cache mode of operation: can be set to write-back (default) or to write-through.

**Note:** If the secondary cache is present, it can only be enabled if the CPU cache is enabled.

## Performance Enhanced Features

Available on the SNX 1xx /R/E/RS only. To see this parameter, press CTRL-A (Advanced Features Options). This parameter includes the following options:

- Read Around Writes Enabled
- PCI Burst Writes Enabled
- PCI to memory Write Posting (on the SNX 140/140R 66 MHz) Enabled
- PCI to memory Write Posting (on the SNX 160/160E/160R/140 75 MHz) Disabled
- CPU to PCI Write Posting Disabled
- CPU to Memory Write Posting (on the SNX 140/140R) Disabled
- CPU to Memory Write Posting (on the SNX 160/160E/160R/140 75 MHz) Enabled
- EISA to PCI Line Buffer Enabled

These options increase the system performances and must be set with their default values.

## Floppy Disk Options

This parameter contains the following options:

- **System Board Floppy Disk Controller:** This option enables or disables the floppy disk controller built into the system board. When disabled, an external floppy disk controller can be used.

**Note:** *To disable the diskette drive during the system bootstrapping phase, do not disable the controller on the motherboard but use the "Boot Sequence" option of the "Set System Security" menu on User Disk.*

- **First Physical Floppy Drive:** Sets the diskette drive *type* for the first physical floppy drive. If set to **Not Present**, the system will not allow any floppy drive access through the system board controller or an adapter card floppy controller.
- **Second Physical Floppy Drive:** Same as for the first physical floppy drive, except that when set to **Not Present**, the system will still allow floppy drive access to the first physical floppy drive.
- **Floppy Drive Assignments:** Determines which diskette drive serves as the boot drive (drive A). The feature can be used when you have diskette drives of different formats and size (5.25-inch or 3.5-inch), and you have software that requires installation from a specific drive. The three values are:
  - **A:1.44 MB B:1.2 MB:** the first physical drive is drive A. Default value.
  - **A:1.2 MB B:1.44 MB:** to manually swap the physical drives. When this value is selected, the second physical drive is drive A and the first is B. When the system boots up, the ROM SETUP displays drive A and drive B in the new reversed order.
  - **Bootdrive:** the system boots from any drive containing an initialization diskette and this drive becomes drive A. When the system boots up, the ROM SETUP displays the floppy drives in their physical configuration. Bootdrive remains valid until there is a system reset, and if there is no initialization diskette in drive B.

**Note:** *Only one 1.44 MB diskette drive can be installed on the SNX 460, 1xx/S and NetStrada 7000 and therefore the options regarding the presence of a second diskette drive in the system must not be selected.*

## Hard Disk Options

This parameter consists of the following options:

- **IDE Disk Controller Interface:** (Not on the SNX 460, 1xx/S and NetStrada 7000). Should always be set to Disabled as this system only uses SCSI HDUs.
- **Hard Disk Drive 0:** Sets the type of primary hard disk. A list of the more common types of AT compatible hard disks is displayed with the selections Not Present, Olivetti Two Channel SCSI, Olivetti Two SCSI (ESC/EFP2E) and ESDI/IDE Autoconfig (EFP2). Select Olivetti Two Channel SCSI when the GO622 is installed, Not Present in all other cases.
- **Hard Disk Drive 1:** Sets the type of secondary hard disk, if present. A list of the more common AT compatible hard disks is displayed with the selections Not Present, Olivetti Two Channel SCSI, Olivetti Two SCSI (ESC/EFP2E) and ESDI/IDE Autoconfig (EFP2). If there is a second hard disk select Olivetti Two Channel SCSI when the GO622 is installed, Not Present in all other cases.
- **Primary Operating System:** Sets the primary operating system. The selections are: DOS, OS/2, or UNIX, Novell, Other; the default value is DOS, OS/2.
- **Hard Disk Boot Delay:** (SNX 460, 1xx/S and NetStrada 7000 only). When the number of hard disks connected to the system requires that the power supply be provided gradually, this option allows to delay the boot sequence so as to give all the hard disks time to switch into the Ready state. The hard disk boot delay is managed by the BIOS and therefore this option is not displayed.

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## Front Panel Console Options

This parameter consists of the following options:

- **Speaker Volume Level:** This parameter sets the volume for the system's built-in speaker. There is no external speaker volume control on the system module. The pop-up window lists seven volume levels (1 to 7), with seven being the loudest.

## SCSI Controller

This parameter is displayed only if the dual-channel EISA GO622 SCSI controller or the single-channel EISA GO2044 SCSI controller is installed in the system. Both controllers have the same configuration parameters regardless of whether configuration is made using the ROM Setup Utility or EISA Configuration Utility. For more information turn to Appendix C which deals with peripheral controllers.

## EMBEDDED - PCI SCSI CONTROLLER

### PCI SLOT xx - PCI ADAPTER CARD (VENDOR ID xxxxxxxx)

The first parameter is displayed for the onboard SCSI controller, if present. The second parameter is displayed for every PCI SCSI controller installed in the system: GO624, GP2124, GO2109, GO2172, GO2061, GO2098, GO2173. The first four options are common for all controllers and, with the exception of the interrupt value, all other fields are displayed for information purposes only and are set during the automatic configuration of the PCI boards. They cannot be manually changed. The options are:

- **Type:** this value cannot be changed.
- **Interrupt:** displays the IRQ for the SCSI interface. The value displayed is already set automatically by the BIOS during the configuration phase. This value can, however, be changed with other free IRQs: if at the next POD the new setting will not generate conflicts this value is stored but if conflicts do occur the previous value is restored by the BIOS.
- **ROM Memory Range:** this value cannot be changed.
- **I/O Range:** this value cannot be changed.

For the GO624, GO2124 (Vendor ID=04907850), the GO2109 (Vendor ID 04907870) and the GO2172 (Vendor ID 04907880), the options that allow the controller to be configured are displayed. These options are the same as those displayed by activating the Configurator from the User Disk or Orchestra CD-ROM. Refer to Appendix C.

To configure the GO2061, GO2098 and GO2173 RAID DPT SCSI controllers, activate the firmware-resident configuration utility by pressing CTRL-D at the board prompt during the POD. Refer to Appendix C.

## ROM-Setup Messages

ERRORS THAT PREVENT ROM SETUP FROM RUNNING	COMMENTS
Unknown EISA board(s) detected	A plug-in EISA card not supported by ROM Setup is installed in the system. The configuration utility contained in the User Disk or in the Orchestra Systema CD-ROM must be used.
<Disable ROM SETUP> bit is set	ROM Setup has been disabled by the security utility.
Invalid Password	The system has been set up for an administrator password and the user has failed to enter it correctly.
Invalid ROM Setup image	The ROM Setup image is bad. That is, the part of the ROM containing the ROM Setup program has been corrupted.
Unable to invoke ROM SETUP	Displayed as last line if any of the above messages are displayed.

The following tables summarize the initial part of the possible messages. The parts of the messages that indicate what will happen if you press ENTER or ESC are not included.

MESSAGES DISPLAYED WHILE ROM SETUP IS RUNNING	COMMENTS
System configuration options have been reset to default values. Please review each option to verify that it's set as you wish.	Displayed after all options were reset to default values, using the F9 key.
The system configuration is about to be changed.	Displayed when the user presses F10 to save the configuration.
The base memory size will be changed to 640 KB in order to optimize system resources.	ROM SETUP found the current base-memory size is only 512 KB (probably because the system was configured to disable the memory range between 512 KB and 640 KB to allocate to an ISA expansion board, such as the AT8/16).
Updating configuration for slot x Please wait ...	Displayed while ROM Setup is saving the configuration for slot "x" (where "x" is the EISA slot number).
The new configuration has been saved. The system will now reboot.	Displayed after ROM Setup has saved the new configuration.
This system was configured by the User Diskette config utility.	May be displayed after the user presses F1 while the flashing <F1 = ROM SETUP> message was being displayed during POD.
There is a CMOS/NVRAM error, or the bypass jumper is installed. Item(s) marked with an arrow should be re-configured.	May be displayed after the user presses F1 while the flashing <F1 = ROM SETUP> message was being displayed during POD.
Invalid system configuration found ! Item(s) marked with an arrow should be re-configured.	May be displayed after the user presses F1 while the flashing <F1 = ROM SETUP> message was being displayed during POD.
Setting floppy drive A to <Not Present> will disable all floppy drive accesses.	Displayed when the user changes FDU drive A from a certain type to Not Present.
Floppy Drive A is set to NOT PRESENT. This option will disable all floppy drive accesses.	Displayed if FDU drive A is set to Not Present when the user presses F10 to save the configuration.
Serial port #x, which is the remote terminal port, is currently disabled. You should enable it before using the remote terminal configuration.	May be displayed if the user selects Remote Terminal Configuration as the System Configuration Display. ("x" is the serial-port number; it could be either 1 or 2.)
All system configuration options will be reset to their default value.	Displayed when the user presses F9 to reset ALL options to default values.
The system configuration has been changed.	Displayed if the user made changes during ROM Setup, but then pressed ESC to exit to POD (without pressing F10).
Invalid system configuration found!	May be displayed after the user presses F10 to save the configuration.
Serial ports conflicts found!	May be displayed after the user presses F10 to save the configuration.
IRQ xx conflict found!	May be displayed after the user presses F10 to save the configuration. (xx is the interrupt-request number in the range 00 to 15.)
Disabling the cache may decrease the system performance.	Displayed when the user changes the primary or secondary cache from Enabled to Disabled.
This serial port has been allocated to the remote terminal. Therefore, it can not be disabled.	May be displayed when the user tries to disable a serial port.

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<b>MESSAGES DISPLAYED WHILE ROM SETUP IS RUNNING</b>	<b>COMMENTS</b>
This serial port is currently disabled! It must be enabled before being allocated to the remote terminal.	May be displayed when the user tries to change the serial-port number for the remote-terminal port.
For the secondary cache to be enabled, the CPU cache must be enabled.	The user has tried to disable the CPU cache while the secondary cache is still enabled, or has tried to enable the secondary cache while the CPU cache is disabled.
The system configuration has been locked! Run the User Diskette to unlock it so that the new configuration can be saved.	May be displayed when the user presses F10 to save the configuration.
Error writing to NVRAM!	NVRAM failed while the ROM Setup was saving the configuration.

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## BIOS SETUP UTILITY

The BIOS Setup can be used to change the default system configuration values. This program can be launched with or without the operating system. Setup stores most of the configuration values in a battery-powered CMOS RAM; the remaining values are stored in the EEPROM. These values take effect during system initialization where they are used by the POD for hardware configuration purposes; if the values do not comply with the true hardware installed, the POD will generate an error message. It will therefore be necessary to run Setup in order to specify the correct configuration.

**Note:** *It is suggested that you take note of the configuration values that have changed with respect to the original defaults. This will considerably simplify a BIOS Setup reconfiguration process in case it were necessary to restore the default values following, for example, a reset of the CMOS RAM.*

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### How to Run the BIOS Setup

You can enter and start Setup under several conditions:

- When you turn on the system, after POD completes the memory test
- When you reboot the system by pressing <Ctrl+Alt+Del> while at the MS-DOS operating system prompt
- When you have moved the CMOS RAM jumper on the motherboard to the “Clear CMOS” position (enabled).

In the three conditions listed above, after rebooting, you will see this prompt:

Press <F1> key if you want to run SETUP

**Note:** *If the <F1> prompt does not appear, this means that its display has been disabled by the SCU. You can enter Setup anyway by pressing <F1> right after the system memory size is shown.*

In a fourth condition, when CMOS/NVRAM has been corrupted, you will see other prompts but not the <F1> prompt:

- Warning: cmos checksum invalid
- Warning: cmos time and date not set.

In this condition, the BIOS will load default values for CMOS and attempt to boot.

### BIOS Setup Menu

The BIOS Setup program has four main menus and different submenus:

- Main Menu
- Advanced Menu
  - Peripheral Configuration
  - Advanced Chipset Configuration
  - Plug and Play Configuration
- Security Menu
  - Set User Password
  - Set Administrative Password
- Exit Menu

TO NAVIGATE THE MENUS:	PRESS:
Get help	<F1>
Go back to a previous item	<Esc>
Select an item or display a submenu	<Enter>
Go to previous item	↑
Go to next Item	↓
Move between menus	← →
Reset to Setup defaults	<F5>
Return to previous values	<F6>
Save and exit Setup	<F10>

WHEN THE FOLLOWING IS DISPLAYED:	IT MEANS THAT:
On screen, an option is shown but you cannot select it or move to that field.	You cannot change or configure the option in that menu screen. Either the option is autoconfigured or autodetected, or you must use a different Setup screen, or you must use the SCU.
On screen, the phrase "Press Enter" appears next to the option.	You need to press <Enter> to display a submenu that is either a separate full-screen menu or a small pop-up menu with one or more choices.

The rest of this section lists the features that are displayed after you press <F1> to enter Setup. After each group, some of the option choices are described. Not all are described as a few are not user-selectable but are displayed for your information, and many of the choices are relatively self-explanatory.

## Main Menu

The following table gives the autoconfigured or default values.

PARAMETER	DEFAULT	OPTIONS
System Date	Current Date in Real Time Clock	To change, press <Enter>. Select correct month, and type correct date and year.
System Time	Current Time in Real Time Clock	To change, press <Enter> and type: hour, minutes, and seconds (this is a 24-hour clock).
Floppy Options	Press <Enter>	Press <Enter> to display Floppy Options.
Primary IDE Master (*)	Not Installed	There is no device to be configured.
Primary IDE Slave (*)	Not Installed	There is no device to be configured.
Secondary IDE Master (*)	Not Installed	There is no device to be configured.
Secondary IDE Slave (*)	Not Installed	There is no device to be configured.
Language	English (USA)	Default is English.
Boot Options	Press Enter	Press <Enter> to display Boot Options.
Video Mode	EGA/VGA	Autoconfigured.
Mouse	Installed	Autoconfigured.
Base Memory	640 KB	Autoconfigured.
Extended Memory	xxxxxxx KB	Autoconfigured.

(\*) = IDE HDUs are not installed on this system so do not select the related options.

**System Date - System Time** — to change, type in the correct date and time and press <Enter>. (If the CMOS RAM jumper has been moved to the Clear position, the default time and date show as 1/1/1990 00:00:00.)

**Floppy Options** — displays a menu that lists the type of diskette drive connected. If one is not connected, the field will say "Not Installed". Only one 1.44 MB drive can be installed.

**Primary/Secondary IDE Master/Slave** — a separate menu screen appears for each of the IDE devices that may be connected. IDE drives are not installed on this system and therefore the message "Not installed" will be displayed alongside these four items.

**Language** — the default is English (USA). Use the SCU to select a different language (five are provided by default: English, Spanish, Italian, French, and German).

**Boot Options** — displays a menu that you can use to specify which device the system boots from and the boot device order.

**Video Mode** — displays the display mode of operation.

**Mouse** — displays whether the mouse is installed.

**Base Memory / Extended Memory** — displays the amount of base and extended memory detected.

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## Floppy Options

PARAMETER	DEFAULT	OPTIONS
Floppy A:	Installed	Autoconfigured
Floppy B:	Not Installed	Autoconfigured
Floppy A: Type	1.44/1.25 MB 3 <sup>1</sup> / <sub>2</sub> "	Disabled 360 KB 5 <sup>1</sup> / <sub>4</sub> " 1.2 MB 5 <sup>1</sup> / <sub>4</sub> " 720 KB 3 <sup>1</sup> / <sub>2</sub> " 1.44/1.25 MB 3 <sup>1</sup> / <sub>2</sub> " 2.88 MB 3 <sup>1</sup> / <sub>2</sub> "
Floppy B: Type	Disabled	Disabled 360 KB 5 <sup>1</sup> / <sub>4</sub> " 1.2 MB 5 <sup>1</sup> / <sub>4</sub> " 720 KB 3 <sup>1</sup> / <sub>2</sub> " 1.44/1.25 MB 3 <sup>1</sup> / <sub>2</sub> " 2.88 MB 3 <sup>1</sup> / <sub>2</sub> "

## IDE Menu

**Note:** Even though IDE drives will not be installed, the items of the related submenu are listed in the following table. The default configuration must not be changed.

PARAMETER	DEFAULT	OPTIONS
IDE Device Configuration	Disabled	Autoconfigured User definable Disabled
Number of Cylinders	XXXX	If Auto Configured in the option above, fields are display-only. If User Definable in the option above, type in specific values for the number of cylinders, heads, and sectors. The maximum capacity value is then autoconfigured.
Number of Heads	XX	
Number of Sectors	XX	
Maximum Capacity	XXXX MB	
IDE Translation Mode	Auto Detected	Standard CHS addressing Logical Block addressing Extended CHS Auto Detected
Multiple Sector Setting	Auto Detected	Disabled 4 Sectors/Block 8 Sectors/Block Auto Detected
Fast Programmed I/O Modes	Auto Detected	Auto Detected Disabled
ISA IDE DMA Transfers	Auto Detected	Auto Detected Disabled

**IDE Device Configuration** — if Autoconfigured, the BIOS automatically senses and configures any IDE drive in the system. If User Definable, you must explicitly configure the IDE drive parameters (number of cylinders, heads, sectors).

**IDE Translation Mode** — selects the translation mode for the IDE hard drive. CHS is the acronym for Cylinder Head Sector. Standard CHS addressing can be used for a cylinder count of 1024 or less, and Extended CHS for a cylinder count greater than 1024. Logical Block addressing can be used if supported by the disk type. Auto Detected selects the proper method based on information from the hard disk using the ATA standard.

**Multiple Sector Setting** — sets IDE programmed I/O cycles so that multiple sectors are transferred with a single interrupt.

**Fast Programmed I/O Modes** — if Autodetected, the BIOS queries an IDE hard disk connected to the PCI IDE bus and uses the fastest PIO protocol supported by the hard disk/controller pair.

**ISA IDE DMA Transfers** — if Autodetected, allows the BIOS to set up the hard drive to use DMA transfers to disk.

### Boot Options

PARAMETER	DEFAULT	OPTIONS
First Boot Device	Floppy	Disabled Floppy Hard Disk IDE CD-ROM Network
Second Boot Device	Hard Disk	Disabled Floppy Hard Disk Network
Third Boot Device	Disabled	Disabled Floppy Hard Disk Network
Fourth Boot Device	Disabled	Disabled Floppy Hard Disk Network
System Cache	Enabled	Enabled/Disabled
Boot Speed	Turbo	Turbo/Deturbo
Num Lock	Off	Off/On
Setup Prompt	Enabled	Enabled/Disabled
Hard Disk Pre-delay	Disabled	Disabled 3 Seconds 6 Seconds 9 Seconds 12 Seconds 15 Seconds 21 Seconds 30 Seconds
Typematic Rate Programming	Default	Default/Override

**Boot Devices** — selects the order in which the system checks drives to find an operating system to boot from. The network selection allows the user to boot off of a network adapter's ROM. This is normally used in a diskless system that is booting over the network (not used).

**System Cache** — when system cache is disabled, system performance will decrease significantly. This controls both the L1 and L2 cache.

**Boot Speed** — selects processor speed. When set to Deturbo, system performance will decrease significantly.

**Num Lock** — sets the initial state of the Num Lock keyboard feature when the system boots. When Off, the numeric keypad is not locked on at boot time.

**Setup Prompt** — enables/disables the screen prompt that lets you choose to enter the Setup utility at system boot-up.

**Hard Disk Pre-delay** — adds a delay before the first access of a hard disk by the BIOS. Some hard disks hang if accessed before they have initialized themselves. This delay ensures the hard disk has initialized after power up, before being accessed. This feature is not used on this system, so set the parameter to Disabled.

**Typematic Rate Programming** — when set to Default, the rate delay = 250 ms, and the Rate = 15 characters per second. When set to Override, the Rate Delay and Rate can be reprogrammed.

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## Advanced Menu

This Setup menu includes selections that take you to three other configuration menus: Peripheral Configuration, Advanced Chipset Configuration, Plug-and-Play Configuration.

PARAMETER	DEFAULT	OPTIONS
Processor Type	Pentium <b>Pro CPU</b>	Autodetected.
Processor Speed	200 MHz	Autodetected. The displayed value will be that of the installed processor.
Cache Size	256K	Autodetected.
Peripheral Configuration	Press Enter	Press <Enter> to display Peripheral Configuration.
Advanced Chipset Configuration	Press Enter	Press <Enter> to display Advanced Chipset Configuration.
Plug-and-Play Configuration	Press Enter	Press <Enter> to display Plug and Play Configuration.

## Advanced Menu, Peripheral Configuration

PARAMETER	DEFAULT	OPTIONS
Primary IDE Interface	Disable	Disabled Auto
Secondary IDE Interface	Disable	Disabled Auto
Floppy Interface	Enabled	Disabled Enabled Auto
Serial Port 1 Address	COM1 3F8 IRQ4	Disabled COM1 3F8 IRQ4 COM2 2F8 IRQ3 COM3 3E8 IRQ4 COM4 2E8 IRQ3 COM1 3F8 IRQ3 COM2 2F8 IRQ4 COM3 3E8 IRQ3 COM4 2E8 IRQ4 Auto

PARAMETER	DEFAULT	OPTIONS
Serial Port 2 Address	COM2 2F8 IRQ3	Disabled COM1 3F8 IRQ4 COM2 2F8 IRQ3 COM3 3E8 IRQ4 COM4 2E8 IRQ3 COM1 3F8 IRQ3 COM2 2F8 IRQ4 COM3 3E8 IRQ3 COM4 2E8 IRQ4 Auto
Parallel Port Address	LPT1 378 IRQ7	Disabled LPT3 3BC IRQ7 LPT1 378 IRQ7 LPT2 278 IRQ7 LPT3 3BC IRQ5 LPT1 378 IRQ5 LPT2 278 IRQ5 Auto
Parallel Port Mode	Compatible	Compatible Bidirectional ECP EPP
Primary IDE Status	Disabled	Autoconfigured
Secondary IDE Status	Disabled	Autoconfigured
Floppy Interface Status	Enabled	Autoconfigured
Serial Port 1 Status	COM1 3F8 IRQ4	Autoconfigured
Serial Port 2 Status	COM2 2F8 IRQ3	Autoconfigured
Parallel Port Status	LPT1 378 IRQ7	Autoconfigured
Console Redirection	Disable	Disable Port 1 Port 2
Serial Port Baud Rate	115.2K	2400 9600 19,2K 115,2K
Redirection Flow Control	CTS/RTS	Disable CTS/RTS CTS/RTS + XON/XOFF
<b>Note:</b> This option is only displayed if Console Redirection is enabled to Port 1 or to Port 2		
<b>Note:</b> This option is only displayed if Console Redirection is enabled to Port 1 or to Port 2		

**Primary IDE Interface** — enables or disables the onboard standard Enhanced IDE hard disk controller.

**Secondary IDE Interface** — enables or disables the onboard standard Enhanced IDE hard disk controller.

**Floppy Interface** — enables or disables the onboard controller for the diskette drive.

**Serial Port 1 Address** — enables the onboard serial port and configures the COM number and I/O address. To make the serial port 1 interrupt available, select disabled.

**Serial Port 2 Address** — enables the onboard serial port and configures the COM number and I/O address. To make the serial port 2 interrupt available, select disabled.

**Parallel Port Address** — enables the onboard parallel port and configures the LPT number and I/O address. To make the parallel port interrupt available, select disabled.

**Parallel Port Mode** —

- Compatible: AT-specification output-only mode
- Bidirectional: PS/2 input/output standard
- ECP: Extended Capabilities Port (ECP) mode (IEEE 1284)
- EPP: Enhanced Parallel Port (EPP) mode (Rev. 1.7).

**Console Redirection** — allows you to control the server from a remote terminal via the serial port. You can type and see the video as if you were at the console of the server. This works only for MS-DOS and the BIOS POD. Under MS-DOS, only text video modes are supported.

**Serial Port Baud Rate** — sets the data rate for the serial port for console redirection. This option displays only if you enable console redirection.

**Redirection Flow Control** — specifies the hand-shake protocol for the serial port for console redirection. This option displays only if you enable console redirection.

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**Advanced Menu, Advanced Chipset Configuration**

PARAMETER	DEFAULT	OPTIONS
Base Memory Size	640 KB	512 KB 640 KB
DRAM Memory Hole at 15 MB	Disabled	Disabled Enabled
PCI-PCI Posting	Enabled	Disabled Enabled
Request Mask Timer	32 PCI Clocks	Disabled 16 PCI clocks 32 PCI clocks 64 PCI clocks
Video Palette Snoop	Disabled	Disabled Enabled
Latency Timer (PCI Clocks)	66	To change, type a different value in the field
Memory Error Detection	ECC	Disabled ECC
Onboard SCSI BIOS	Enabled	Enabled Disabled
SMM Feature	Enabled *	Disabled Enabled
Event Logging	Enabled *	Disabled Enabled
User Flash Scan	Enabled *	Disable Enable
System PERR/SERR Detection	Enabled	Disabled Enabled
System Memory Scrubbing	Enabled	Disabled Enabled
Clear Event Log Block	Disabled	Disabled Enabled

**Note:** The parameters indicated with an asterisk \* in the above table must be set to Disable when the system is configured with BIOS release 1.00.01.DM0 that does not support Manageability.

**Base Memory Size** — sets the amount of motherboard base memory.

**DRAM Memory Hole at 15 MB** — this is a 1 MB hole in DRAM memory set aside for plug-in ISA boards. Some of these boards use memory address space as a resource. When the option is enabled, memory accesses from 15 MB to 16 MB will be sent to the ISA bus instead.

**Request Mask Timer** — designates the maximum value of the request timer, which is enabled after the PCI-PCI bridge issues a target retry to a master on the secondary bus.

**Video Palette Snoop** — if enabled, an ISA add-in board can share a common palette with the onboard graphics controller.

**Latency Timer (PCI Clocks)** — guarantees PCI board access to the PCI bus within specified number of PCI clocks.

**Memory Error Detection** — selects the memory error detection scheme. When the option is enabled, memory will correct itself for single bit errors if the system memory scrubbing option in Setup is also enabled. Otherwise, errors are logged to the event log if this option is enabled in Setup.

**Onboard SCSI BIOS** — controls the onboard Adaptec device. When enabled, the SCSI BIOS option ROM is installed, and the onboard UltraSCSI adapter is initialized before booting to the OS. When disabled, the SCSI BIOS is not loaded, and the SCSI adapter is not initialized; any resources that the SCSI adapter would use are made available.

**SMM Feature** — enables system management mode, including event logging and ECC memory support.

**Event Logging** — when the option is enabled, any errors that occur in the system (i.e., memory or POD errors) will be logged to an area in flash memory (ECC errors, intrusions, and any other errors from Server Management features). You will need to have the Server Management Software to view this log.

**User Flash Scan** — when the option is enabled, control will transfer to a user binary option ROM loaded in flash. This is the same as an option ROM in a plug-in ISA card. When the binary finishes, control returns to the BIOS to boot the system. User binary may be loaded into flash with the Flash Memory Update (FMUP) utility.

**System PERR/SERR Detection** — enables the detection of PCI bus protocol violations (PERR) and parity/ECC errors in the memory subsystem. When such errors or events are detected, they are logged in a way that is transparent to the OS. Then a nonmaskable interrupt (NMI) is generated for certain events so the OS can respond. A system error (SERR) occurs whenever a nonrecoverable bus or chipset error occurs. SERR will typically be generated when the PCI bus timing is violated or multiple bits fail in memory.

**System Memory Scrubbing** — when enabled along with Memory Error Detection (same screen menu), this option allows single bit errors to be corrected. Memory scrubbing will go back and search through memory to find the bad bit and rewrite it from cache back to main memory.

## Advanced Memory, Plug and Play Configuration

PARAMETER	DEFAULT	OPTIONS
Configuration Mode	Use SCU	Use Setup Utility Use SCU
Boot with PnP OS	None	None Other Windows 95 TM
Board Part Number Board Serial Number System Part Number System Serial Number Chassis Part Number Chassis Serial Number BMC Device ID FPC Device ID	AAxxxxxx-xx xxxxxxx Absent Absent Absent Absent 05020035 (rel. 6C) 01010010 (rel. 6C)	
Load Data Sensor	Enabled	Enabled Disabled

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**Configuration Mode** — allows ISA board IRQ information to be entered through Setup or the SCU. Choose SCU if Plug and Play software is installed.

**Load Data Sensor** — enables or disables the loading of the threshold values for the sensors (read from an appropriate table). When reaching the threshold value, these sensors determine a system error. System errors (high temperature or voltage, fan failure, etc.) are managed by the I2C bus.

## Security

PARAMETER	OPTIONS	COMMENT
User Password is	Disabled	When you set a user password (see below), this field automatically changes to Enabled.
Administrative password is	Disabled	When you set an administrative password (see below), this field automatically changes to Enabled.
Set User Password	Press Enter	Press <Enter> to display password screen.
Set Administrative Password	Press Enter	Press <Enter> to display password screen.
Unattended Start	<b>Disabled</b> / Enable	Choose Enable to activate the option.
Security Hot Key	<b>Disabled</b> / {Ctrl-Alt-?}  Press Enter to display the menu	Press <Tab> to enable the option, then press <Tab> again to insert a new hot key. Type a character, letter or number.
Keyboard Inactivity Timer	<b>Disabled</b> / {1-127 Minutes}  Press Enter to display the values	Values in minutes: 0 = Disabled, 127 = Maximum. Select a number from 1 to 127 to enable the option.
Video Blanking	<b>Disabled</b> / Enable	Choose Enable to activate the option.
Floppy Writes	<b>Disabled</b> / Enable	Choose Enable to activate the option.

## Set User Password

You can set a user password to control access to the system at boot time. Type a password of up to seven characters, and press <Enter>. When you press <Enter>, the cursor moves to the next field. After you type, confirm, and accept a password, you will see a message confirming your action. The User Password field at the top of the screen will change to Enabled.

Enter New Password _____ Confirm New Password _____
Press Enter or Tab to Accept Press Esc to Abort

**To change password:** press <Enter> at the option. Type your current password and press <Enter>. Then type, confirm, and accept a new password.

You will see a message confirming your action, and the User Password field at the top of the screen will still show Enabled.

Enter Current Password _____ Enter New Password _____ Confirm New Password _____
Press Enter or Tab to Accept Press Esc to Abort

**To clear password:** press <Enter> at the option. Type your current password and press <Enter> three times instead of typing another password. You will see a message confirming your action, and the User Password field at the top of the screen will change to Disabled.

## Set Administrative Password

You can set an administrative password to control access to the BIOS Setup utility. Type a password of up to seven characters. When you press <Enter>, the cursor moves to the next field. After you set, confirm, and accept a password, you will see a message confirming your action. The Administrative Password field at the top of the screen will change to Enabled.

Enter New Password _____ Confirm New Password _____
Press Enter or Tab to Accept Press Esc to Abort

**To change password:** press <Enter> at the option. Type your current password and press <Enter>. Then type, confirm, and accept a new password. You will see a message confirming your action, and the Administrative Password field at the top of the screen will still show Enabled.

Enter Current Password _____ Enter New Password _____ Confirm New Password _____
Press Enter or Tab to Accept Press Esc to Abort

**To clear password:** press <Enter> at the option. Type your current password and press <Enter> three times instead of typing another password. You will see a message confirming your action, and the Administrative Password field at the top of the screen will change to Disabled.

**Note:** *If you forget the user or administrative password, move the password clear jumper on the motherboard (turn to Chapter 3).*

#### Unattended Start

When this option is enabled, the system will ask for the user password during the boot phase; the system is booted with the keyboard disabled and attends a password.

#### Security Hot Key

When this option is enabled, the Ctrl-Alt-? key sequence (where "?" is the user selected character), disables the keyboard and mouse. To re-enable the keyboard and mouse, enter the user password and press Enter.

#### Keyboard Inactivity Timer

When this option is enabled, the keyboard and mouse will be disabled if they are not used during the specified period of time. To be able to use the keyboard and mouse again (and the monitor and/or floppy disk drive if disabled by means of the "Video Blanking" and/or "Floppy Writes" options), type the user password and press Enter.

#### Video Blanking

If the "Keyboard Inactivity Timer" has been set, enabling this option will blank the screen when the defined period of time expires.

#### Floppy Writes

If the "Keyboard Inactivity Timer" has been set, disabling this option disables all floppy disk drive write operations when the defined period of time expires.

## Exit

TASK	OPTION	COMMENT
Exit Saving Changes	Press Enter	Saves your Setup changes in CMOS RAM and exits the Setup utility. The system boot process continues.
Exit Discarding Changes	Press Enter	Does not save any Setup changes; exits the utility. The system boot process continues.
Load Setup Defaults	Press Enter	Loads and displays the default Setup data. <b>WARNING:</b> Make sure you want to change back to the default settings before accepting the Load Setup Defaults option.
Discard Changes	Press Enter	Discards changes made in the current Setup session but does not exit the utility. You can keep working in Setup. To exit the utility, go back to the first or second options on the Exit screen.

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## SCSI Select Utility

The SCSI Select utility is used to configure the onboard AIC-7880 wide/fast20 SCSI III controller. Run this utility to:

- Change default values
- Check or change SCSI device settings that may conflict with those of other devices in the system
- Perform a low-level format on SCSI devices installed in the system.

### How to Run the SCSI Select Utility

- 1 Power on the system. After a few seconds POD begins to run. After the memory tests are completed, if you do not choose to enter Setup and you do have an operating system installed, a SCSI Select prompt will appear.

Press <Ctrl><A> for SCSISelect(TM) Utility!

- 2 Press **<Ctrl+A>** to run the utility.

SCSI Select has these menus:

- Main menu
  - Configuration
    - Boot Device Configuration
    - SCSI Device Configuration
    - Advanced Configuration Options
  - SCSI Disk Utilities
- Exit Menu

TO NAVIGATE THE MENUS	PRESS
Exit from a menu or from the utility	<Esc>
Select an item	<Enter>
Go to previous item	↑
Go to next item	↓
Reset to SCSI controller defaults	<F6>

### Main Menu

The SCSI*Select* main menu shows the name of the host adapter and its address: <Host adapter> at Bus:Device xx:xxh. There are two menu options.

OPTIONS	COMMENT
Configure/View Host Adapter Settings	Press <Enter> to display the Configuration menu.
SCSI Disk Utilities	<p>Press &lt;Enter&gt; to display the SCSI Disk Utilities menu. The utility scans for all SCSI devices installed in the system and lists them. Press &lt;Enter&gt; to select the device you want to run utilities on.</p> <p>The default ID for the SCSI host adapter is #7. If you select the host adapter, you will see only a message stating that fact; you cannot specify any options for the host adapter from the utilities menu.</p>

## Configuration Menu

PARAMETER	DEFAULT	OPTIONS
<b>SCSI Bus Interface Definitions</b>		
Host Adapter SCSI ID	7	0 - 15
SCSI Parity Checking	Enabled	Enabled/Disabled
Host Adapter SCSI Termination	Low ON/High ON	There are no options available for the user to select
<b>Additional Options</b>		
Boot Device Options	Press <Enter>	See Boot Device Configuration.
SCSI Device Configuration	Press <Enter>	See SCSI Device Configuration
Advanced Configuration Options	Press <Enter>	See Advanced Configuration Options

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**Host Adapter SCSI ID** — each device on the SCSI bus, including the adapter, must have a unique ID. The ID defines the device, and the priority of the ID determines which device controls the bus when two or more devices try to use it at the same time. Each adapter on the bus, whether 8 or 16-bit, has a default ID of 7, so the adapter always has the highest priority.

DEVICE	HIGHEST PRIORITY ID	LOWEST PRIORITY ID
8-bit devices (SCSI narrow)	7	0
16-bit devices (SCSI wide) (In this case, ID 7 has the highest priority and ID 8 the lowest.)	7 to 0	15 to 8

**SCSI Parity Checking** — when enabled, the host adapter uses SCSI parity checking to verify the accuracy of data transfer on the SCSI bus. If a device on the bus does not support SCSI parity, the option must be disabled.

**Host Adapter SCSI Termination** — the user cannot change this parameter. The terminators are set correctly for all the configurations available: removables + HDUs, removables only, HDUs only.

## Boot Device Options

PARAMETER	OPTION	COMMENT
Boot Target ID	0-15 <b>Default 0</b>	The default boot device is at SCSI ID 0 with logical unit number (LUN) 0. To specify a different boot device, choose a different SCSI ID (0 through 7 on 8-bit adapters, 0 through 15 on 16-bit adapters).
Boot LUN Number	0-7 <b>Default 0</b>	The logical unit number (LUN) can be 0 through 7 (on 8-bit or 16-bit adapters).  If you disable Multiple LUN Support in the Advanced Configuration menu, specifying a number here has no effect.

**Boot Target ID** — the default boot device is the device at SCSI ID 0 with logical unit number (LUN) 0. To specify a different boot device, choose a different SCSI ID (0 through 7 on 8-bit adapters, 0 through 15 on 16-bit adapters).

**Boot LUN Number** — if the boot device has multiple logical units, you must also specify the boot logical unit number (LUN). This can be 0 through 7 (on 8-bit or 16-bit adapters). Multiple LUN support can be disabled in the Advanced Configuration menu.

## SCSI Device Configuration

The screen shows five parameters that can be configured independently for each of up to 15 devices (SCSI ID #0 through #15).

SCSI Device Configuration								
SCSI Device ID	#0	#1	#2	#3	#4	#5	#6	#7
Initiate Sync Negotiation								
Maximum Sync Transfer Rate								
Enable Disconnection								
Initiate Wide Negotiation								
Options Listed Below Have no Effect if the BIOS is disabled								
Include in BIOS Scan								
Send Start Unit Command								
SCSI Device ID	#0	#1	#2	#3	#4	#5	#6	#7
Initiate Sync Negotiation								
Maximum Sync Transfer Rate								
Enable Disconnection								
Initiate Wide Negotiation								
Options Listed Below Have no Effect if the BIOS is disabled								
Include in BIOS Scan								
Send Start Unit Command								

PARAMETER	DEFAULT	OPTIONS
Initiate Sync Negotiation	Yes	Yes/No
Maximum Sync Transfer Rate (see note)	40.0 for 16-bit 20.0 for 8-bit	16-bit devices: 20.0, 26.8, 32.0, 40.0 8-bit devices: 10, 13.4, 16.0, 20.0
Enable Disconnection	Yes	Yes/No
Initiate Wide Negotiation	Yes	Yes/No
Send Start Unit Command	Yes	Yes/No No effect if the BIOS is disabled.
Include in Bios Scan	Yes	Yes/No

**Note:** The "Maximum Sync Transfer Rate" can only be set to 40 MB/sec if "Support for ultra SCSI speed" is enabled.

**Initiate Sync Negotiation** — when enabled (set to Yes), the host adapter initiates synchronous negotiation with the SCSI device; when No, the adapter does not initiate synchronous negotiation. Normally you should leave this set to Yes, because the SCSI adapter and its attached devices can transfer data faster in synchronous mode than in asynchronous. If a device does not support synchronous negotiation, the adapter will automatically transfer data asynchronously. If the device initiates synchronous negotiation, the host adapter always responds accordingly.

**Maximum Sync Transfer Rate** — the setting determines the maximum synchronous data transfer rate that the adapter will negotiate with the device. If you have disabled (set to No) the Initiate Sync Negotiation option, the maximum sync rate you select is the rate at which the adapter accepts data from the device; there is no negotiation.

**Enable Disconnection** — when set to Yes, the adapter allows a SCSI device to temporarily disconnect from the bus, and the adapter can continue to do other bus operations. When no, the adapter does not allow a SCSI device to disconnect.

- Leave this set to Yes if there are two or more SCSI devices on the bus.
- Change to No if there is only one SCSI device connected to the bus (besides the adapter).

**Initiate Wide Negotiation** — when set to Yes, the adapter initiates wide negotiation with each 16-bit SCSI device. You can leave this set to Yes even if there are 8-bit devices connected; the adapter will not attempt wide negotiation with 8-bit devices.

**Send Start Unit Command** — this option reduces the load on the system power supply by allowing the SCSI host adapter to power-up SCSI devices one at a time at boot time.

- When set to **Yes** (default), the adapter sends the Start Unit Command to each SCSI device individually to power-up.
- When set to **No**, all SCSI devices power up at the same time. If a device has been jumpered to wait for a start command, it will not start.

If you enable the command for more than one device, the adapter sends the command first to the boot device specified in the Boot Device Options menu. After the first device responds, the adapter sends the command to the remaining SCSI devices, beginning with the lowest SCSI ID.

**Note:** Before enabling the Send Start Unit Command option, make sure the AIC-78xx BIOS option is enabled (see Advanced Configuration Options). Check the manual that comes with your SCSI device to make sure the device supports the command. If so, it is likely that you will need to change a switch or jumper setting on the device so it can respond to the command. All the hard disks that can be installed on this system are configured to accept the Start Unit Command.

**Include in BIOS Scan** — when enabled, the BIOS supports the hard disk found at a determined ID. Set to NO to avoid that the controller boots from the HDU.

## Advanced Configuration Options

PARAMETER	DEFAULT	OPTIONS
Reset SCSI Bus at IC Initialization	Enabled	Enabled/Disabled
<b>The following options have no effect if the Host Adapter BIOS option is disabled.</b>		
Host Adapter BIOS (Configuration Utility Reserves BIOS Space)	Enabled	Enabled/Disabled
Support Removable Disks Under BIOS as Fixed Disks	Boot Only	Solo al bootstrap Tutti i dischi Disabilitato
Extended BIOS Translation for DOS Drives greater than 1 GB	Enabled	Enabled/Disabled
Display <Ctrl A> message During BIOS Initialization	Enabled	Enabled/Disabled
Multiple LUN Support	Disabled	Enabled/Disabled
BIOS Support for Bootable CDROM	Enabled	Enabled/Disabled
BIOS Support for Int 13 Extensions	Enabled	Enabled/Disabled
Support for Ultra SCSI Speed	Enabled	Enabled/Disabled

**WARNING:** Do not change the default settings in the Advanced Configuration Options menu without understanding the consequences of making such changes.

**Reset SCSI Bus Initialization** — when enabled, resets the onboard AIC-7880 at power on.

**Host Adapter BIOS** — the AIC-78xx BIOS must be enabled to allow these actions; when enabled, the AIC-78xx BIOS reserves 32 KB of BIOS space:

- To boot from a SCSI hard drive on the bus.
- To enable any of the other options listed on the same menu (Advanced Configuration Options).
- To boot from a SCSI CD-ROM drive. If any IDE devices are selected in the boot order, they will be chosen first over the SCSI device.

If the devices on the SCSI bus are controlled by device drivers and thus do not need a BIOS, you can disable the option. This frees about 16 KB of memory and shortens the boot time by up to 60 seconds. However, 2 KB of memory space is still reserved per PCI and Plug and Play specifications.

**Support Removable Disks Under BIOS as Fixed Disks** (i.e., hard disks) — the setting controls how removable-media devices are supported by the AIC-78xx BIOS. The choices are:

OPTION	DESCRIPTION
Boot Only (default)	Only the removable-media drive designated as the boot device is treated as a fixed (hard) disk drive. The AIC-78xx BIOS must be enabled.
All Disks	All removable-media drives supported by the AIC-78xx BIOS are treated as fixed drives. (If you are a NetWare user: all removable-media drives are automatically supported by NetWare as fixed disks regardless of how you set this option.) The AIC-78xx BIOS must be enabled.
Disabled	No removable-media drives running under DOS are treated as fixed drives. Driver software is needed because the drives are not controlled by the AIC-78xx BIOS.

**WARNING:** Do not remove media from a removable media drive if the drive is under the control of the AIC78xx BIOS.

**Extended BIOS Translation for DOS Drives > 1 GB**—when Enabled, drives handled by the AIC-78xx BIOS can use extended translation (255 heads, 63 sectors per track) if their formatted capacity is greater than 1 GB and standard translation if smaller than 1 GB.

**WARNING:** First back up the hard disks if you need to change this setting and the translation scheme! All data is no longer available when you change from one translation scheme to another.

**Display <Ctrl-A> Message During BIOS Initialization** — if Enabled, at boot time a prompt displays to let you run the *SCSISelect* program.

**Multiple LUN Support** — the default setting is Disabled. Enable the option if any devices have multiple logical units.

**BIOS Support for Bootable CD-ROM** — when enabled, the system can boot from a CD-ROM. The option displays only if the adapter BIOS is configured to include it. To boot from a hard drive or other device, either disable this option or make sure there is no bootable CD in the drive.

**BIOS Support for Int 13 Extensions** — when enabled, the adapter BIOS supports Int 13h extensions, required for bootable CD-ROMs. The option displays only if the adapter BIOS is configured to include bootable CDROM support. You can disable the option if the boot device is not a CD-ROM, but it does no harm to leave it enabled.

**Support for Ultra SCSI Speed** — the default setting is Disabled. The option displays only if the BIOS is configured to support Ultra SCSI speeds. Enable the option to use Ultra SCSI speeds (40 MB/sec) with the AIC-7880 onboard controller.

## SCSI Disk Utilities

When you select SCSI Disk Utilities from the SCSI Select Main Menu, the utility scans the SCSI bus for connected devices and lists the SCSI IDs and associated devices on the bus.

From the list of devices, select the one you want to format or verify.

If a device has multiple logical units, a menu of LUNs appears.

Select the device you want to format or verify. A small menu appears. Select Format Disk or Verify Disk.

UTILITY	FUNCTION	COMMENT
Format Disk	Does a low-level format on the hard disk drive. Before it starts, a prompt appears asking you to confirm that you want to format the hard disk.	<b>WARNING:</b> You cannot stop the formatting operation! Do NOT answer Yes unless you intend to format the disk.
Verify Disk Media	Scans the selected hard disk for bad blocks and prompts you to reassign them.	You can press <Esc> at any time to stop verification.

E

## Exit Menu

PARAMETER	OPTION	COMMENT
Exit Utility?	Yes No	When you finish configuring SCSI devices, select "Yes" and press <Enter>. This message appears:  Please press any key to reboot

