American
Megatrends

Setup for
AMIBIOS8

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Revision History

04/04/02	Internal Release
07/12/02	Initial Release
03/25/05	Updated name

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Technical Support

AMI provides technical support only for AMI products purchased directly from AMI or from an AMI-authorized reseller.

If…	Then…
you purchased this product from AMI or from a certified AMI reseller,	call AMI technical support at 770-246-8600.
was installed as part of a system manufactured by a company other than AMI or you purchased an AMI product from an unauthorized reseller,	call the technical support department of the computer manufacturer or the unauthorized reseller. AMI does not provide direct technical support in this case.

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Chapter 1   Starting

AMIBIOS has been integrated into many motherboards for over a decade. In the past, people often referred to the AMIBIOS setup menu as BIOS, BIOS setup, or CMOS setup. American Megatrends refers to this setup as. Specifically, it is the name of the AMIBIOS8 BIOS setup utility. This chapter describes the basic navigation of the setup screens.

Starting

To enter the setup screens, follow the steps below:

Step	Description
1	Power on the motherboard
2	Press the <Delete> key on your keyboard when you see the following text prompt: `Press DEL to run Setup`
3	After you press the <Delete> key, the main BIOS setup menu displays. You can access the other setup screens from the main BIOS setup menu, such as the Chipset and Power menus.
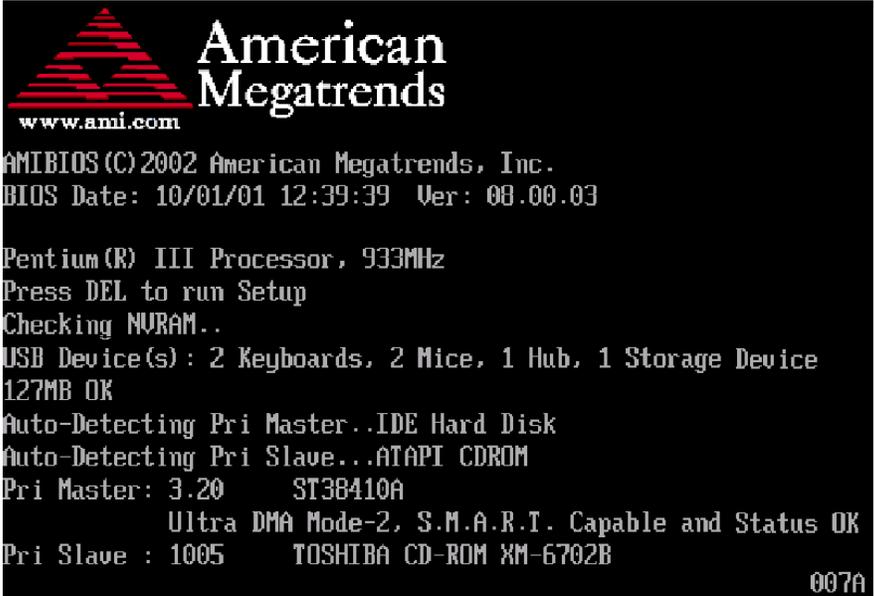
Note: This manual describes the standard look of the setup screen. The motherboard manufacturer has the ability to change any and all of the settings described in this manual. This means that some of the options described in this manual do not exist in your motherboard's AMIBIOS.

Note: In most cases, the <Delete> key is used to invoke the setup screen. There are a few cases that other keys are used, such as <F1>, <F2>, and so on.

Setup Menu

The main BIOS setup menu is the first screen that you can navigate. Each main BIOS setup menu option is described in this user's guide.

The Main BIOS setup menu screen has two main frames. The left frame displays all the options that can be configured. "Grayed-out" options cannot be configured. Options is blue can be.

The right frame displays the key legend. Above the key legend is an area reserved for a text message. When an option is selected in the left frame, it is highlighted in white. Often a text message will accompany it.

Note: AMIBIOS8 has default text messages built into it. The motherboard manufacture retains the option to include, leave out, or change any of these text messages. They can also add their own text messages. Because of this, many screen shots in this manual are different from your setup screen.

```
                          BIOS SETUP UTILITY
  Main    Advanced    PCIPnP    Chipset    ACPI    Boot    Security    Exit

  AMIBIOS Version :        08.00.03
  BIOS Build Date :        10/01/01
  BIOS ID         :        0AAXT004

  Processor Type  :        Pentium(R) III Proce
  Processor Speed :        933MHz

  System Memory   :        127MB

  System Time              [00:07:39]
  System Date              [Mon 01/01/2001]

                                          ←→      Select Screen
                                          ↑↓      Select Item
                                          +-      Change Field
                                          Tab     Select Field
                                          F1      General Help
                                          F10     Save and Exit
                                          ESC     Exit

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```

Navigation

The BIOS setup/utility uses a key-based navigation system called hot keys. Most of the BIOS setup utility hot keys can be used at any time during the setup navigation process. These keys include <F1>, <F10>, <Enter>, <ESC>, <Arrow> keys, and so on.
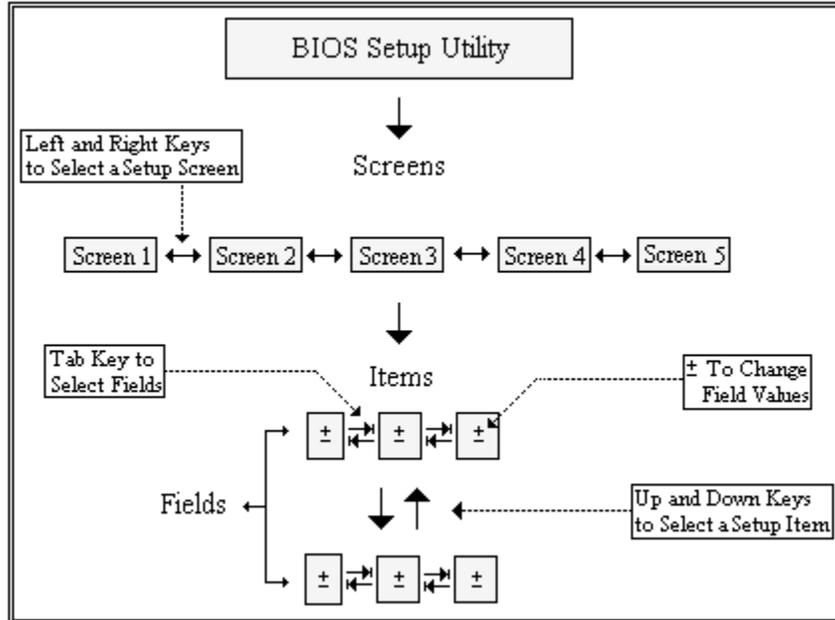
Note: There is a hot key legend located in the right frame on most setup screens.

Hot Key	Description
→← Left/Right	The *Left and Right* <Arrow> keys allow you to select an setup screen. For example: Main screen, Advanced screen, Chipset screen, and so on.
↑↓ Up/Down	The *Up and Down* <Arrow> keys allow you to select an setup item or sub-screen.
+– Plus/Minus	The *Plus and Minus* <Arrow> keys allow you to change the field value of a particular setup item. For example: Date and Time.
Tab	The <Tab> key allows you to select setup fields.

Note: The <F8> key on your keyboard is the Fail-Safe key. It is not displayed on the key legend by default. To set the Fail-Safe settings of the BIOS, press the <F8> key on your keyboard. It is located on the upper row of a standard 101 keyboard. The Fail-Safe settings allow the motherboard to boot up with the least amount of options set. This can lessen the probability of conflicting settings

Navigation, Continued

Hot Key	Description
F1	The <F1> key allows you to display the *General Help screen*. Press the <F1> key to open the *General Help screen*. **General Help** ↔ Select Screen ↕ Select Item + – Change Screen Enter Go to Sub Screen PGDN Next Page PGUP Previous Page Home Go to Top of the Screen End Go to Bottom of Screen F2/F3 Change Colors F7 Discard Changes F8 Load Failsafe Defaults F9 Load Optimal Defaults F10 Save and Exit ESC Exit [Ok]
F10	The <F10> key allows you to save any changes you have made and exit Setup. Press the <F10> key to save your changes. The following screen will appear: Save configuration changes and exit now? [Ok] [Cancel] Press the <Enter> key to save the configuration and exit. You can also use the <Arrow> key to select *Cancel* and then press the <Enter> key to abort this function and return to the previous screen.
ESC	The <Esc> key allows you to discard any changes you have made and exit the Setup. Press the <Esc> key to exit the setup without saving your changes. The following screen will appear: Discard changes and exit setup now? [Ok] [Cancel] Press the <Enter> key to discard changes and exit. You can also use the <Arrow> key to select *Cancel* and then press the <Enter> key to abort this function and return to the previous screen.
Enter	The <Enter> key allows you to display or change the setup option listed for a particular setup item. The <Enter> key can also allow you to display the setup sub- screens.

Chapter 2   Main Setup

When you first enter the Setup Utility, you will enter the Main setup screen. You can always return to the Main setup screen by selecting the *Main* tab. There are two Main Setup options. They are described in this section. The Main BIOS Setup screen is shown below.

```
                        BIOS SETUP UTILITY
 Main    Advanced    PCIPnP    Chipset    ACPI    Boot    Security    Exit

 AMIBIOS Version :          08.00.03
 BIOS Build Date :          10/01/01
 BIOS ID         :          0AAXT004

 Processor Type  :          Pentium(R) III Proce
 Processor Speed :          933MHz

 System Memory   :          127MB

 System Time                [00:07:39]
 System Date                [Mon 01/01/2001]
                                             ↔      Select Screen
                                             ↑↓     Select Item
                                             +-     Change Field
                                             Tab    Select Field
                                             F1     General Help
                                             F10    Save and Exit
                                             ESC    Exit


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System Time/System Date

Use this option to change the system time and date. Highlight *System Time* or *System Date* using the <Arrow> keys. Enter new values through the keyboard. Press the <Tab> key or the <Arrow> keys to move between fields. The date must be entered in MM/DD/YY format. The time is entered in HH:MM:SS format.

Note: The time is in 24-hour format. For example, 5:30 A.M. appears as 05:30:00, and 5:30 P.M. as 17:30:00.

Chapter 3   Advanced BIOS Setup

Select the *Advanced* tab from the setup screen to enter the Advanced BIOS Setup screen. You can select any of the items in the left frame of the screen, such as SuperIO Configuration, to go to the sub menu for that item. You can display an Advanced BIOS Setup option by highlighting it using the <Arrow> keys. All Advanced BIOS Setup options are described in this section. The Advanced BIOS Setup screen is shown below. The sub menus are described on the following pages.

```
                        BIOS SETUP UTILITY
  Main   Advanced   PCIPnP   Chipset   ACPI   Boot   Security   Exit

 Setup Warning                                  Configure the IDE
                                                device(s).
 Setting items on this screen to incorrect values
 may cause the system to malfunction!

 ▶ IDE Configuration
 ▶ Floppy Configuration
 ▶ Boot Settings Configuration
 ▶ SuperIO Configuration
 ▶ Remote Access Configuration
 ▶ USB Configuration

                                                ↔     Select Screen
                                                ↑↓    Select Item
                                                Enter Go to Sub Screen
                                                F1    General Help
                                                F10   Save and Exit
                                                ESC   Exit

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```

Advanced BIOS Setup

IDE CONFIGURATION SCREEN

IDE Configuration Settings

You can use this screen to select options for the IDE Configuration Settings. Use the up and down <Arrow> keys to select an item. Use the <Plus> and <Minus> keys to change the value of the selected option. A description of the selected item appears on the right side of the screen. The settings are described on the following pages. An example of the *IDE Configuration* screen is shown below.

```
                       BIOS SETUP UTILITY
       Advanced

  IDE Configuration                         DISABLED: disables the
  ──────────────────────────────────────   integrated IDE
                                            Controller.
  OnBoard PCI IDE Controller    [Both]      PRIMARY: enables only
                                            the Primary IDE
  ▶ Primary IDE Master          : [Not Detected]   Controller.
  ▶ Primary IDE Slave           : [Not Detected]   SECONDARY: enables
  ▶ Secondary IDE Master        : [Not Detected]   only the Secondary IDE
  ▶ Secondary IDE Slave         : [Not Detected]   Controller.
                                            BOTH: enables both IDE
  Hard Disk Write Protect       [Disabled]  Controllers.
  IDE Detect Time Out (Sec)     [35]
  ATA(PI) 80Pin Cable Detection [Host & Device]
                                            ↔      Select Screen
                                            ↑↓     Select Item
                                            +-     Change Option
                                            F1     General Help
                                            F10    Save and Exit
                                            ESC    Exit



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Cont'd

Onboard PCI IDE Controller

This item specifies the IDE channels used by the onboard PCI IDE controller. The settings are *Disabled, Primary, Secondary,* or *Both.* The Optimal and Fail-Safe default setting is *Both.*

Option	Description
Disabled	Set this value to prevent the computer system from using the onboard IDE controller.
Primary	Set this value to allow the computer system to detect only the Primary IDE channel. This includes both the Primary Master and the Primary Slave.
Secondary	Set this value to allow the computer system to detect only the Secondary IDE channel. This includes both the Secondary Master and the Secondary Slave.
Both	Set this value to allow the computer system to detect the Primary and Secondary IDE channels. This includes both the Primary Master, Primary Slave, Secondary Master, and Secondary Slave. This is the default setting.

Primary IDE Master, Primary IDE Slave, Secondary IDE Master, Secondary IDE Slave

Select one of the hard disk drives to configure it. Press <Enter> to access its the sub menu. The options on the sub menu are described in the following sections.

Hard disk drive Write Protect

Set this option to protect the hard disk drive from being overwritten. The Optimal and Fail-Safe default setting is *Disabled*.

Option	Description
Disabled	Set this value to allow the hard disk drive to be used normally. Read, write, and erase functions can be performed to the hard disk drive. This is the default setting.
Enabled	Set this value to prevent the hard disk drive from being erased.

IDE Detect Time Out (Seconds)

Set this option to stop the AMIBIOS from searching for IDE devices within the specified number of seconds. Basically, this allows you to fine-tune the settings to allow for faster boot times. Adjust this setting until a suitable timing that can detect all IDE disk drives attached is found.

The Optimal and Fail-Safe default setting is *35*.

Option	Description
0	This value is the best setting to use if the onboard IDE controllers are set to a specific IDE disk drive in the AMIBIOS.
5	Set this value to stop the AMIBIOS from searching the IDE bus for IDE disk drives in five seconds. A large majority of ultra ATA hard disk drives can be detected well within five seconds.
10	Set this value to stop the AMIBIOS from searching the IDE bus for IDE disk drives in 10 seconds.
15	Set this value to stop the AMIBIOS from searching the IDE bus for IDE disk drives in 15 seconds.
20	Set this value to stop the AMIBIOS from searching the IDE bus for IDE disk drives in 20 seconds.
25	Set this value to stop the AMIBIOS from searching the IDE bus for IDE disk drives in 25 seconds.
30	Set this value to stop the AMIBIOS from searching the IDE bus for IDE disk drives in 30 seconds.
35	*35* is the default value. It is the recommended setting when all IDE connectors are set to *AUTO* in the AMIBIOS setting.

Note: Different IDE disk drives take longer for the BIOS to locate than others do.

Cont'd

ATA (PI) 80 pin Cable Detection

Set this option to select the method used to detect the ATA (PI) 80 pin cable. The Optimal and Fail-Safe setting is *Host & Device*.

Option	Description
Host & Device	Set this value to use both the motherboard onboard IDE controller and IDE disk drive to detect the type of IDE cable used. This is the default setting.
Host	Set this value to use motherboard onboard IDE controller to detect the type of IDE cable used.
Device	Set this value to use IDE disk drive to detect the type of IDE cable used.

The use of an 80-conductor ATA cable is mandatory for running Ultra ATA/66, Ultra ATA/100 and Ultra ATA/133 IDE hard disk drives. The standard 40-conductor ATA cable cannot handle the higher speeds.

80-conductor ATA cable is plug compatible with the standard 40-conductor ATA cable. Because of this, the system must determine the presence of the correct cable. This detection is achieved by having a break in one of the lines on the 80-conductor ATA cable that is normally an unbroken connection in the standard 40-conductor ATA cable. It is this break that is used to make this determination. The AMIBIOS can instruct the drive to run at the correct speed for the cable type detected.

Cont'd

PRIMARY AND SECONDARY IDE MASTER AND SLAVE SUB MENU

Primary and Secondary IDE Master and Slave Settings

From the IDE Configuration screen, press <Enter> to access the sub menu for the primary and secondary IDE master and slave drives. Use this screen to select options for the Primary and Secondary IDE drives. Use the up and down <Arrow> keys to select an item. Use the <Plus> and <Minus> keys to change the value of the selected option. The settings are described on the following pages. The screen for the Primary IDE Master is shown below.

```
                      BIOS SETUP UTILITY
  Advanced

  Primary IDE Master

  Device    :           Hard Disk
  Vendor    :           ST38410A
  Size      :           8.6GB
  LBA Mode  :           Supported
  Block Mode:           32Sectors
  PIO Mode  :           4
  Async DMA :           MultiWord DMA-2
  Ultra DMA :           Ultra DMA-2
  S.M.A.R.T.:           Supported

  Type                  [Auto]          ←→      Select Screen
  LBA/Large Mode        [Auto]          ↑↓      Select Item
  Block (Multi-Sector Transfer)  [Auto]  +-     Change Option
  PIO Mode              [Auto]          F1      General Help
  DMA Mode              [Auto]          F10     Save and Exit
  S.M.A.R.T.            [Auto]          ESC     Exit
  32Bit Data Transfer   [Disabled]
  ARMD Emulation Type   [Auto]

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```

Drive Parameters

The "grayed-out" items in the left frame are the IDE disk drive parameters taken from the firmware of the IDE disk drive selected. The drive parameters listed are as follows:

Parameter	Description
Device	Type of device, such as Hard disk drive.
Vendor	Manufacturer of the device.
Size	The size of the device.
LBA Mode	LBA (Logical Block Addressing) is a method of addressing data on a disk drive. In LBA mode, the maximum drive capacity is 137 GB. For drive capacities over 137 GB, your AMIBIOS must be equipped with 48-bit LBA mode addressing. If not, contact your motherboard manufacturer or install an ATA/133 IDE controller card that supports 48-bit LBA mode.

Cont'd

Parameter	Description
Block Mode	Block mode boosts IDE drive performance by increasing the amount of data transferred. Only 512 bytes of data can be transferred per interrupt if block mode is not used. Block mode allows transfers of up to 64 KB per interrupt.
PIO Mode	IDE PIO mode programs timing cycles between the IDE drive and the programmable IDE controller. As the PIO mode increases, the cycle time decreases.
Async DMA	This indicates the highest Asynchronous DMA Mode that is supported.
Ultra DMA	This indicates the highest Synchronous DMA Mode that is supported.
S.M.A.R.T.	Self-Monitoring Analysis and Reporting Technology protocol used by IDE drives of some manufacturers to predict drive failures.

Type

This option sets the type of device that the AMIBIOS attempts to boot from after the Power-On Self-Test (POST) has completed. The Optimal and Fail-Safe default setting is *Auto*.

Option	Description
Not Installed	Set this value to prevent the BIOS from searching for an IDE disk drive on the specified channel.
Auto	Set this value to allow the BIOS auto detect the IDE disk drive type attached to the specified channel. This setting should be used if an IDE hard disk drive is attached to the specified channel. This is the default setting.
CDROM	This option specifies that an IDE CD-ROM drive is attached to the specified IDE channel. The BIOS will not attempt to search for other types of IDE disk drives on the specified channel.
ARMD	This option specifies an ATAPI Removable Media Device. This includes, but is not limited to: • ZIP • LS-120

LBA/Large Mode

LBA (Logical Block Addressing) is a method of addressing data on a disk drive. In LBA mode, the maximum drive capacity is 137 GB. The Optimal and Fail-Safe default setting is *Auto*.

Note: For drive capacities over 137 GB, your AMIBIOS must be equipped with 48-bit LBA mode addressing. If not, contact your motherboard manufacturer or install an ATA/133 IDE controller card that supports 48-bit LBA mode.

Option	Description
Disabled	Set this value to prevent the BIOS from using Large Block Addressing mode control on the specified channel.
Auto	Set this value to allow the BIOS to auto detect the Large Block Addressing mode control on the specified channel. This is the default setting.

Block (Multi-Sector Transfer)

This option sets the block mode multi sector transfers option. The Optimal and Fail-Safe default setting is *Auto*.

Option	Description
Disabled	Set this value to prevent the BIOS from using Multi-Sector Transfer on the specified channel. The data to and from the device will occur one sector at a time.
Auto	Set this value to allow the BIOS to auto detect device support for Multi-Sector Transfers on the specified channel. If supported, Set this value to allow the BIOS to auto detect the number of sectors per block for transfer from the hard disk drive to the memory. The data transfer to and from the device will occur multiple sectors at a time. This is the default setting.

PIO Mode

IDE PIO (Programmable I/O) mode programs timing cycles between the IDE drive and the programmable IDE controller. As the PIO mode increases, the cycle time decreases. The Optimal and Fail-Safe default setting is *Auto*.

Option	Description
Auto	Set this value to allow the BIOS to auto detect the PIO mode. Use this value if the IDE disk drive support cannot be determined. This is the default setting.
0	Set this value to allow the BIOS to use PIO mode 0. It has a data transfer rate of 3.3 MBs.
1	Set this value to allow the BIOS to use PIO mode 1. It has a data transfer rate of 5.2 MBs.
2	Set this value to allow the BIOS to use PIO mode 2. It has a data transfer rate of 8.3 MBs.
3	Set this value to allow the BIOS to use PIO mode 3. It has a data transfer rate of 11.1 MBs.
4	Set this value to allow the BIOS to use PIO mode 4. It has a data transfer rate of 16.6 MBs. This setting generally works with all hard disk drives manufactured after 1999. For other disk drive, such as IDE CD-ROM drives, check the specifications of the drive.

DMA Mode

This setting allows you to adjust the DMA mode options. The Optimal and Fail-Safe default setting is *Auto*.

Option	Description
Auto	Set this value to allow the BIOS to auto detect the DMA mode. Use this value if the IDE disk drive support cannot be determined. This is the default setting.
SWDMA0	Set this value to allow the BIOS to use Single Word DMA mode 0. It has a data transfer rate of 2.1 MBs.
SWDMA1	Set this value to allow the BIOS to use Single Word DMA mode 1. It has a data transfer rate of 4.2 MBs.
SWDMA2	Set this value to allow the BIOS to use Single Word DMA mode 2. It has a data transfer rate of 8.3 MBs.
MWDMA0	Set this value to allow the BIOS to use Multi Word DMA mode 0. It has a data transfer rate of 4.2 MBs.
MWDMA1	Set this value to allow the BIOS to use Multi Word DMA mode 1. It has a data transfer rate of 13.3 MBs.
MWDMA2	Set this value to allow the BIOS to use Multi Word DMA mode 2. It has a data transfer rate of 16.6 MBs.
UDMA0	Set this value to allow the BIOS to use Ultra DMA mode 0. It has a data transfer rate of 16.6 MBs. It has the same transfer rate as PIO mode 4 and Multi Word DMA mode 2.

Cont'd

Option	Description
UDMA1	Set this value to allow the BIOS to use Ultra DMA mode 1. It has a data transfer rate of 25 MBs.
UDMA2	Set this value to allow the BIOS to use Ultra DMA mode 2. It has a data transfer rate of 33.3 MBs.
UDMA3	Set this value to allow the BIOS to use Ultra DMA mode 3. It has a data transfer rate of 44.4 MBs. To use this mode, it is required that an 80-conductor ATA cable is used.
UDMA4	Set this value to allow the BIOS to use Ultra DMA mode 4. It has a data transfer rate of 66.6 MBs. To use this mode, it is required that an 80-conductor ATA cable is used.
UDMA5	Set this value to allow the BIOS to use Ultra DMA mode 5. It has a data transfer rate of 99.9 MBs. To use this mode, it is required that an 80-conductor ATA cable is used.
UDMA6	Set this value to allow the BIOS to use Ultra DMA mode 6. It has a data transfer rate of 133.2 MBs. To use this mode, it is required that an 80-conductor ATA cable is used.

S.M.A.R.T. for Hard disk drives

Self-Monitoring Analysis and Reporting Technology (SMART) feature can help predict impending drive failures. The Optimal and Fail-Safe default setting is *Auto*.

Option	Description
Auto	Set this value to allow the BIOS to auto detect hard disk drive support. Use this setting if the IDE disk drive support cannot be determined. This is the default setting.
Disabled	Set this value to prevent the BIOS from using the SMART feature.
Enabled	Set this value to allow the BIOS to use the SMART feature on support hard disk drives.

32Bit Data Transfer

This option sets the 32-bit data transfer option. The Optimal and Fail-Safe default setting is *Enabled*.

Option	Description
Disabled	Set this value to prevent the BIOS from using 32-bit data transfers.
Enabled	Set this value to allow the BIOS to use 32-bit data transfers on support hard disk drives. This is the default setting.

ARMD Emulation Type

ATAPI Removable Media Device (ARMD) is a device that uses removable media, such as the LS120, MO (Magneto-Optical), or Iomega Zip drives. If you want to boot up from media on an ARMD, it is required that you emulate boot up from a floppy or hard disk drive. This is especially necessary when trying to boot to DOS. You can select the type of emulation used if you are booting from such a device. The Optimal and Fail-Safe default setting is *Auto*.

Option	Description
Auto	Set this value to allow the BIOS to automatically set the emulation used by ARMD. This is the default setting.
Floppy	Set this value for ARMD to emulate a floppy drive during boot up.
Hard disk drive	Set this value for ARMD to emulate a hard disk drive during boot up.

Cont'd

Advanced BIOS Setup, Continued

FLOPPY CONFIGURATION SCREEN

Floppy Configuration Settings

You can use this screen to specify options for the Floppy Configuration Settings. Use the up and down <Arrow> keys to select an item. Use the <Plus> and <Minus> keys to change the value of the selected option. The settings are described on the following pages. The screen is shown below.
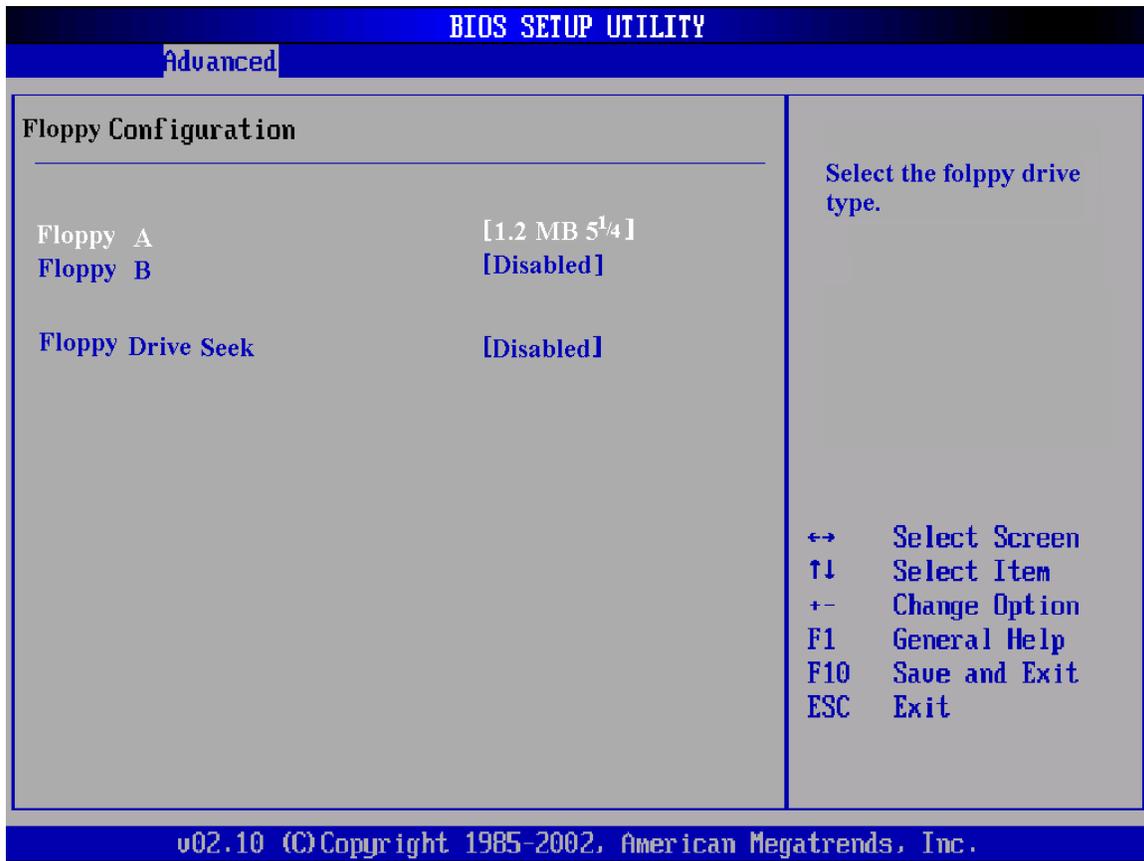
```
                        BIOS SETUP UTILITY
       Advanced

 Floppy Configuration
 ─────────────────────────────────────────        Select the folppy drive
                                                   type.
 Floppy  A                  [1.2 MB 5¼]
 Floppy  B                  [Disabled]

 Floppy Drive Seek          [Disabled]



                                                   ←→    Select Screen
                                                   ↑↓    Select Item
                                                   +-    Change Option
                                                   F1    General Help
                                                   F10   Save and Exit
                                                   ESC   Exit


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Floppy Drive A: and B:

Move the cursor to these fields via up and down <arrow> keys. Select the floppy type. The Optimal setting for floppy drive A: is *1.44 MB 3½"*. The Fail-Safe setting for floppy drive A: is *1.44 MB 3½"*. The Optimal setting for floppy drive B: is *Disabled.* The Fail-Safe setting for floppy drive B: is *Disabled*.

Option	Description
Disabled	Set this value to prevent the use of the selected floppy disk drive channel. This option should be set if no floppy disk drive is installed on the specified channel. This is the default setting for *Floppy Drive B*.
360 KB 5 ¼"	Set this value if the floppy disk drive attached to the corresponding channel is a 360 KB 5¼" floppy disk drive.
1.2 MB 5 ¼"	Set this value if the floppy disk drive attached to the corresponding channel is a 1.2 MB 5¼" floppy disk drive.
720 KB 3 ½"	Set this value if the floppy disk drive attached to the corresponding channel is a 720 KB 3½" floppy disk drive.
1.44 MB 3 ½"	Set this value if the floppy disk drive attached to the corresponding channel is a 1.44 MB 3½" floppy disk drive. This is the default setting for *Floppy Drive A*.

Floppy Drive Seek

Set this option to seek the floppy disk drive during boot up. The Optimal and Fail-Safe setting is *Disabled*.

Option	Description
Disabled	Set this value to prevent the BIOS from seeking the floppy disk drive during boot up. This is the default setting.
Enabled	Set this value to allow the BIOS to seek the floppy disk drive during boot up. This will cause the floppy disk drive to temporarily power on during POST.

BOOT SETTINGS CONFIGURATION SCREEN

Boot Settings Configuration

Use this screen to select options for the Boot Settings Configuration. Use the up and down <Arrow> keys to select an item. Use the <Plus> and <Minus> keys to change the value of the selected option. The settings are described on the following pages. The screen is shown below.

```
                    BIOS SETUP UTILITY
        Advanced

 Boot Settings Configuration                Allows BIOS to skip
                                            certain tests while
 Quick Boot              [Enabled]          booting. This will
 Quiet Boot              [Disabled]         decrease the time
 AddOn ROM Display Mode  [Force BIOS]       needed to boot the
                                            system.
 Bootup Num-Lock         [On]
 PS/2 Mouse Support      [Enabled]
 Typematic Rate          [Fast]
 System Keyboard         [Present]
 Parity Check            [Disabled]
 Boot To OS/2            [No]
 Wait For 'F1' If Error  [Enabled]          ←→     Select Screen
 Hit 'DEL' Message Display [Enabled]        ↑↓     Select Item
                                            +-     Change Option
                                            F1     General Help
                                            F10    Save and Exit
                                            ESC    Exit

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```

Quick Boot

The Optimal and Fail-Safe default setting is *Disabled*.

Option	Description
Disabled	Set this value to allow the BIOS to perform all POST tests.
Enabled	Set this value to allow the BIOS to skip certain POST tests to boot faster.

Cont'd

Quiet Boot

Set this value to allow the boot up screen options to be modified between POST messages or OEM logo. The Optimal and Fail-Safe default setting is *Enabled*.

Option	Description
Disabled	Set this value to allow the computer system to display the POST messages.
Enabled	Set this value to allow the computer system to display the OEM logo. This is the default setting.

Add-On ROM Display Mode

Set this option to display add-on ROM (read-only memory) messages. The Optimal and Fail-Safe default setting is *Force BIOS*. An example of this is a SCSI BIOS or VGA BIOS.

Option	Description
Force BIOS	Set this value to allow the computer system to force a third party BIOS to display during system boot. This is the default setting.
Keep Current	Set this value to allow the computer system to display the information during system boot.

Boot up Num-Lock

Set this value to allow the Number Lock setting to be modified during boot up. The Optimal and Fail-Safe default setting is *On*.

Option	Description
Off	This option does not enable the keyboard Number Lock automatically. To use the 10-keys on the keyboard, press the Number Lock key located on the upper left-hand corner of the 10-key pad. The Number Lock LED on the keyboard will light up when the Number Lock is engaged.
On	Set this value to allow the Number Lock on the keyboard to be enabled automatically when the computer system is boot up. This allows the immediate use of 10-keys numeric keypad located on the right side of the keyboard. To confirm this, the Number Lock LED light on the keyboard will be lit. This is the default setting.

PS/2 Mouse Support

Set this value to allow the PS/2 mouse support to be adjusted. The Optimal and Fail-Safe default setting is *Enabled*.

Option	Description
Disabled	This option will prevent the PS/2 mouse port from using system resources and will prevent the port from being active. Use this setting if installing a serial mouse.
Enabled	Set this value to allow the system to use a PS/2 mouse. This is the default setting.

Typematic Rate

Set this option to select the rate at which the computer repeats a key that is held down. The Optimal and Fail-Safe default setting is *Fast*.

Option	Description
Slow	This option sets the rate the computer repeats a key to under 8 times per second.
Fast	This option sets the rate the computer repeats a key to over 20 times per second. This is the default setting. Under normal operations, this setting should not be changed.

Cont'd

System Keyboard

Set this option to select whether a system keyboard is available. The Optimal and Fail-Safe default setting is *Present*.

Option	Description
Absent	Set this value to prevent the computer system from using a keyboard. Use this option is there is no keyboard attached to the computer system.
Present	Set this value to allow the use of a keyboard with the computer system. This is the default setting and should not be changed under normal use.

Parity Check

Set this value to allow the memory parity check to be modified. The Optimal and Fail-Safe setting is *Disabled*.

Option	Description
Disabled	This prevents the BIOS parity check from testing the memory for parity errors. This is the default setting and should not be changed. Even if the memory module contains parity, this setting is considered the standard setting.
Enabled	This allows the use of a 9^{th} bit parity memory check. It uses even parity to check the last bit. This setting should be set only if the memory module has a parity chip. In rare instances, certain DOS based applications require the use of parity memory and will not function without it. Before the introduction of ECC (Error Correcting Code) memory, parity memory was obsolete. ECC has the ability to detect and correct single bit errors and detect double bit errors. Parity check has the ability to detect some single bit errors but cannot correct them.

Boot toOS/2

Set this value to allow the OS/2 boot up settings to be modified. The Optimal and Fail-Safe default setting is *No*.

Option	Description
No	This allows the computer system to boot up into non-OS/2 environments. This is the default setting and should not be changed unless OS/2 is the main operating system and more than 64 MB of system memory is installed.
Yes	This allows the computer system to boot up to an OS/2 environment when more than 64 MB of system memory is installed.

Wait for 'F1' If Error

Set this value to allow the Wait for 'F1' Error setting to be modified. The Optimal and Fail-Safe default setting is *Enabled*.

Option	Description
Disabled	This prevents the to wait on an error for user intervention. This setting should be used if there is a known reason for a BIOS error to appear. An example would be a system administrator must remote boot the system. The computer system does not have a keyboard currently attached. If this setting is set, the system will continue to boot up in to the operating system. If 'F1' is enabled, the system will wait until the BIOS setup is entered.
Enabled	Set this value to allow the system BIOS to wait for any error. If an error is detected, pressing <F1> will enter Setup and the BIOS setting can be adjusted to fix the problem. This normally happens when upgrading the hardware and not setting the BIOS to recognize it. This is the default setting.

Cont'd

Hit 'DEL' Message Display

Set this value to allow the *Hit "DEL" to enter Setup* Message Display to be modified. The Optimal and Fail-Safe default setting is *Enabled*.

Option	Description
Disabled	This prevents the to display Hit Del to enter Setup during memory initialization. If Quiet Boot is enabled, the Hit 'DEL' message will not display.
Enabled	This allows the to display Hit Del to enter Setup during memory initialization. This is the default setting.

SUPER IO CONFIGURATION SCREEN

SuperIO Configuration Screen

You can use this screen to select options for the Super I/O settings. Use the up and down <Arrow> keys to select an item. Use the <Plus> and <Minus> keys to change the value of the selected option. The settings are described on the following pages. The screen is shown below.
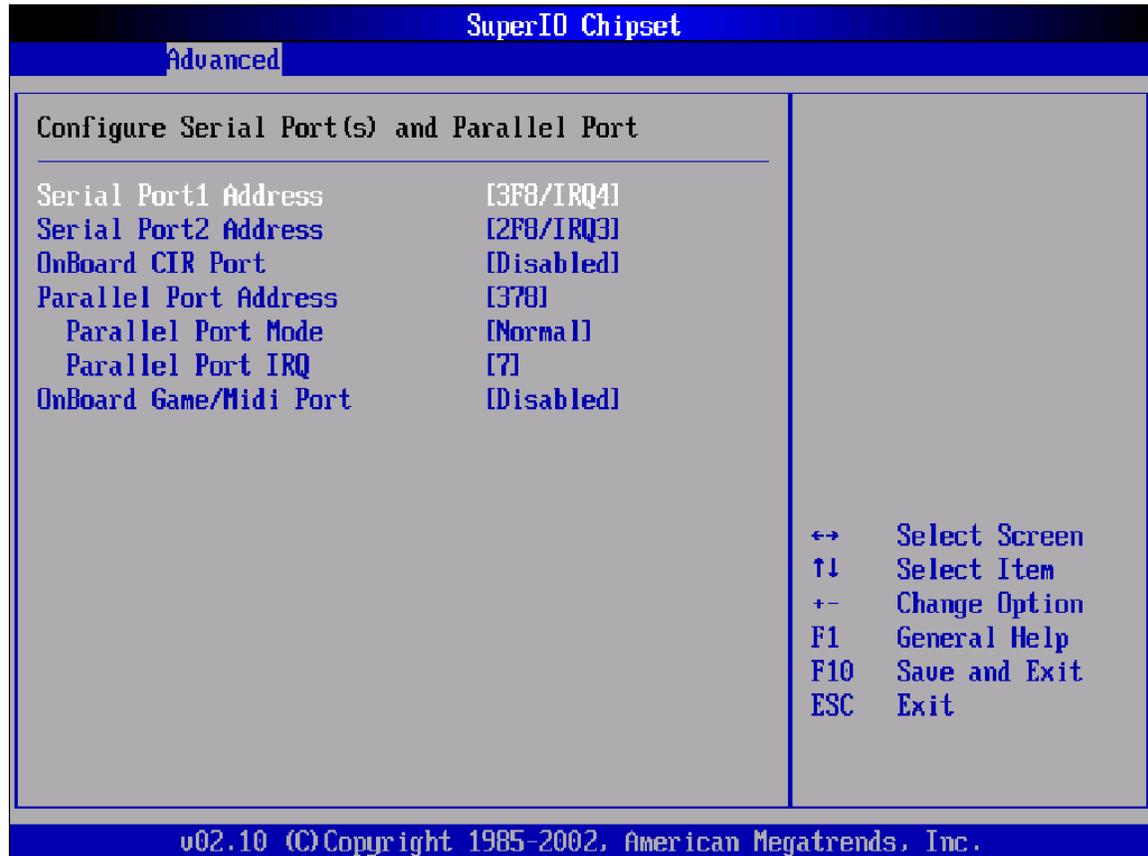
```
                         SuperIO Chipset
        Advanced

 Configure Serial Port(s) and Parallel Port

 Serial Port1 Address         [3F8/IRQ4]
 Serial Port2 Address         [2F8/IRQ3]
 OnBoard CIR Port             [Disabled]
 Parallel Port Address        [378]
   Parallel Port Mode         [Normal]
   Parallel Port IRQ          [7]
 OnBoard Game/Midi Port       [Disabled]



                                         ↔     Select Screen
                                         ↑↓    Select Item
                                         +-    Change Option
                                         F1    General Help
                                         F10   Save and Exit
                                         ESC   Exit


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```

Cont'd

Serial Port1 Address

This option specifies the base I/O port address and Interrupt Request address of serial port 1. The Optimal setting is *3F8/IRQ4*. The Fail-Safe default setting is *Disabled*.

Option	Description
Disabled	Set this value to prevent the serial port from accessing any system resources. When this option is set to *Disabled*, the serial port physically becomes unavailable.
3F8/IRQ4	Set this value to allow the serial port to use 3F8 as its I/O port address and IRQ 4 for the interrupt address. This is the default setting. The majority of serial port 1 or COM1 ports on computer systems use IRQ4 and I/O Port 3F8 as the standard setting. The most common serial device connected to this port is a mouse. If the system will not use a serial device, it is best to set this port to *Disabled*.
2F8/IRQ3	Set this value to allow the serial port to use 2F8 as its I/O port address and IRQ 3 for the interrupt address. If the system will not use a serial device, it is best to set this port to *Disabled*.
3E8/IRQ4	Set this value to allow the serial port to use 3E8 as its I/O port address and IRQ 4 for the interrupt address. If the system will not use a serial device, it is best to set this port to *Disabled*.
2E8/IRQ3	Set this value to allow the serial port to use 2E8 as its I/O port address and IRQ 3 for the interrupt address. If the system will not use a serial device, it is best to set this port to *Disabled*.

Serial Port2 Address

This option specifies the base I/O port address and Interrupt Request address of serial port 2. The Optimal setting is *2F8/IRQ3*. The Fail-Safe setting is *Disabled*.

Option	Description
Disabled	Set this value to prevent the serial port from accessing any system resources. When this option is set to *Disabled*, the serial port physically becomes unavailable.
3F8/IRQ4	Set this value to allow the serial port to use 3F8 as its I/O port address and IRQ 4 for the interrupt address. If the system will not use a serial device, it is best to set this port to Disabled.
2F8/IRQ3	Set this value to allow the serial port to use 2F8 as its I/O port address and IRQ 3 for the interrupt address. This is the default setting. The majority of serial port 2 or COM2 ports on computer systems use IRQ3 and I/O Port 2F8 as the standard setting. The most common serial device connected to this port is an external modem. If the system will not use an external modem, set this port to *Disabled*. **Note:** Most internal modems require the use of the second COM port and use 3F8 as its I/O port address and IRQ 4 for its interrupt address. This requires that the Serial Port2 Address be set to *Disabled* or another base I/O port address and Interrupt Request address.
3E8/IRQ4	Set this value to allow the serial port to use 3E8 as its I/O port address and IRQ 4 for the interrupt address. If the system will not use a serial device, it is best to set this port to Disabled.
2E8/IRQ3	Set this value to allow the serial port to use 2E8 as its I/O port address and IRQ 3 for the interrupt address. If the system will not use a serial device, it is best to set this port to *Disabled*.

Cont'd

Onboard CIR Port

This option specifies the base I/O port address of the onboard CIR port. The Optimal setting is 3E0. The Fail-Safe setting is *Disabled*

Option	Description
Disabled	Set this value to prevent the Onboard CIR Port from accessing any system resources. When the value of this option is set to *Disabled*, the infrared port becomes unavailable.
3E0	Set this value to allow the Onboard CIR Port to use 3E0 as its I/O port address.
2E0	Set this value to allow the Onboard CIR Port to use 2E0 as its I/O port address.

Parallel Port Address

This option specifies the I/O address used by the parallel port. The Optimal setting is *378*. The Fail-Safe setting is *Disabled*.

Option	Description
Disabled	Set this value to prevent the parallel port from accessing any system resources. When the value of this option is set to *Disabled*, the printer port becomes unavailable.
378	Set this value to allow the parallel port to use 378 as its I/O port address. This is the default setting. The majority of parallel ports on computer systems use IRQ7 and I/O Port 378H as the standard setting.
278	Set this value to allow the parallel port to use 278 as its I/O port address.
3BC	Set this value to allow the parallel port to use 3BC as its I/O port address.

Parallel Port Mode

This option specifies the parallel port mode. The Optimal setting is *Normal*. The Fail-Safe setting is *Disabled*.

Option	Description
Normal	Set this value to allow the standard parallel port mode to be used. This is the default setting.
Bi-Directional	Set this value to allow data to be sent to and received from the parallel port.
EPP	The parallel port can be used with devices that adhere to the Enhanced Parallel Port (EPP) specification. EPP uses the existing parallel port signals to provide asymmetric bi-directional data transfer driven by the host device.
ECP	The parallel port can be used with devices that adhere to the Extended Capabilities Port (ECP) specification. ECP uses the DMA protocol to achieve data transfer rates up to 2.5 Megabits per second. ECP provides symmetric bi-directional communication.

Parallel Port IRQ

This option specifies the IRQ used by the parallel port. The Optimal and Fail-Safe default setting is *7*.

Option	Description
5	Set this value to allow the serial port to use Interrupt 3.
7	Set this value to allow the serial port to use Interrupt 7. This is the default setting. The majority of parallel ports on computer systems use IRQ7 and I/O Port 378H as the standard setting.

OnBoard Game/Midi Port

This option specifies the onboard Game/Midi port I/O address. The Optimal setting is *200/298*. The Fail-Safe setting is *Disabled*.

Option	Description
Disabled	Set this value to prevent the onboard Game/Midi port from accessing any system resources. When the value of this option is set to *Disabled*, the game port becomes unavailable.
200/298	Set this value to allow the onboard Game/Midi port to use 200 and 298 as its I/O port address. This is the default setting.
200/300	Set this value to allow the onboard Game/Midi port to use 200 and 300 as its I/O port address.
200/330	Set this value to allow the onboard Game/Midi port to use 200 and 330 as its I/O port address.
208/298	Set this value to allow the onboard Game/Midi port to use 208 and 298 as its I/O port address. This is the default setting.
208/300	Set this value to allow the onboard Game/Midi port to use 208 and 300 as its I/O port address.
208/330	Set this value to allow the onboard Game/Midi port to use 208 and 330 as its I/O port address.

REMOTE ACCESS CONFIGURATION

Remote Access Configuration

You can use this screen to select options for the Remote Access Configuration. Use the up and down <Arrow> keys to select an item. Use the <Plus> and <Minus> keys to change the value of the selected option. The settings are described on the following pages. The screen is shown below.

```
                         BIOS SETUP UTILITY
          Advanced

 Configure Remote Access type and parameters          Select Serial Port
 ─────────────────────────────────────────            settings

 Remote Access                  [Serial]

 Serial port number             [COM1]
 Serial Port Mode               [57600 8,n,1]

                    ┌──────── Options ────────┐
                    │     115200 8,n,1         │
                    │     57600 8,n,1          │
                    │     19200 8,n,1          │
                    └─────────────────────────┘

                                               ←→      Select Screen
                                               ↑↓      Select Item
                                               +-      Change Option
                                               F1      General Help
                                               F10     Save and Exit
                                               ESC     Exit


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```

Remote Access

You can disable or enable the BIOS remote access feature here.

Option	Description
Disabled	Set this value to prevent the BIOS from using Remote Access.
Serial	Set the value for this option to *Serial* to allow the system to use the remote access feature. The remote access feature requires a dedicated serial port connection.

Cont'd

Advanced BIOS Setup, Continued

Serial Port Number

Select the serial port you want to use for console redirection. You can set the value for this option to either *COM1* or *COM2*.

Option	Description
COM1	Set this value to allow the system to use COM1 (Communication port1) for the remote access interface.
COM2	Set this value to allow the system to use COM2 (Communication port2) for the remote access interface.

Serial Port Mode

Select the baud rate you want the serial port to use for console redirection.

Option	Description
115200 8,n,1	Set this value to allow you to select 115200 as the baud rate (transmitted bits per second) of the serial port.
57600 8,n,1	Set this value to allow you to select 57600 as the baud rate (transmitted bits per second) of the serial port.
19200 8,n,1	Set this value to allow you to select 19200 as the baud rate (transmitted bits per second) of the serial port.

Cont'd

Advanced BIOS Setup, Continued

USB CONFIGURATION

USB Configuration

You can use this screen to select options for the USB Configuration. Use the up and down <Arrow> keys to select an item. Use the <Plus> and <Minus> keys to change the value of the selected option. The settings are described on the following pages. The screen is shown below.

```
                    BIOS SETUP UTILITY
      Advanced

 USB Configuration                              Enables USB host
                                                controllers.

 USB Function              [Enabled]
 Legacy USB Support        [Auto]

 USB ZIP Emulation Type    [Auto]

 USB Beep Message          [Enabled]



                                          ←→     Select Screen
                                          ↑↓     Select Item
                                          +-     Change Option
                                          F1     General Help
                                          F10    Save and Exit
                                          ESC    Exit



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```

USB Function

Set this value to allow the system to enable or disable the onboard USB ports. The Optimal and Fail-Safe default setting is *Enabled*.

Option	Description
Disabled	This setting makes the onboard USB ports unavailable.
Enabled	This setting allows the use of the USB ports. This is the default setting.

Cont'd

Legacy USB Support

Legacy USB Support refers to the USB mouse and USB keyboard support. Normally if this option is not enabled, any attached USB mouse or USB keyboard will not become available until a USB compatible operating system is fully booted with all USB drivers loaded. When this option is enabled, any attached USB mouse or USB keyboard can control the system even when there is no USB drivers loaded on the system. Set this value to enable or disable the Legacy USB Support. The Optimal and Fail-Safe default setting is *Disabled*.

Option	Description
Disabled	Set this value to prevent the use of any USB device in DOS or during system boot. This is the default setting.
Enabled	Set this value to allow the use of USB devices during boot and while using DOS.
Auto	This option auto detects USB Keyboards or Mice and if found, allows them to be utilized during boot and while using DOS.

USB Zip Emulation

USB Zip Emulation refers the system being able to boot to a USB Zip drive. Normally if this option is not enabled, any attached USB Zip drive will not become available until a USB compatible operating system is fully booted with all USB drivers loaded. When this option is enabled, any attached USB Zip drive can boot the system even when there is no USB drivers loaded on the system. Set this value to allow the system to select the Emulation type for a USB ZIP drive.

Option	Description
Auto	Set this value to allow the system to automatically detect a USB Zip drive emulation type.
Floppy	Set this value to allow the system to select floppy emulation type.
Hard disk drive	Set this value to allow the system to select hard disk drive emulation type.

USB Beep Message

Set this value to allow the system to enable or disable generating a beep during USB devices enumeration.

Option	Description
Disabled	Set this value to allow the system to disable beep generation during USB devices emulation.
Enabled	Set this value to allow the system to enable beep generation during USB devices emulation.

Chapter 4   PCI/PnP Setup

Select the *PCI/PnP* tab from the setup screen to enter the Plug and Play BIOS Setup screen. You can display a Plug and Play BIOS Setup option by highlighting it using the <Arrow> keys. All Plug and Play BIOS Setup options are described in this section. The Plug and Play BIOS Setup screen is shown below.

```
                        BIOS SETUP UTILITY
   Main    Advanced   PCIPnP    Chipset    ACPI    Boot    Security    Exit

  Plug & Play O/S              [No]              NO: lets the BIOS
  Reset Config Data            [No]              configure all the
  PCI Latency Timer            [64]              devices in the system.
  Allocate IRQ to PCI VGA      [Yes]             YES: lets the
  Palette Snooping             [Disabled]        operating system
  PCI IDE BusMaster            [Disabled]        configure Plug and
  OffBoard PCI/ISA IDE Card    [Auto]            Play (PnP) devices not
                                                 required for boot if
  IRQ3                         [Available]       your system has a Plug
  IRQ4                         [Available]       and Play operating
  IRQ5                         [Available]       system.
  IRQ7                         [Available]
  IRQ9                         [Available]
  IRQ10                        [Available]       ↔     Select Screen
  IRQ11                        [Available]       ↑↓    Select Item
  IRQ14                        [Available]       +-    Change Option
  IRQ15                        [Available]       F1    General Help
                                                 F10   Save and Exit
  DMA Channel 0                [Available]       ESC   Exit
  DMA Channel 1                [Available]

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```

Plug and Play O/S

Set this value to allow the system to modify the settings for Plug and Play operating system support. The Optimal and Fail-Safe default setting is *No*.

Option	Description
No	The *No* setting is for operating systems that do not meet the Plug and Play specifications. It allows the BIOS to configure all the devices in the system. This is the default setting.
Yes	The *Yes* setting allows the operating system to change the interrupt, I/O, and DMA settings. Set this option if the system is running Plug and Play aware operating systems.

Cont'd

Reset Configuration Data

Set this value to allow the BIOS to rest the Configuration Data in the BIOS. The Optimal and Fail-Safe default setting is *No*.

Option	Description
No	This setting preserves the PnP data. It does not force the PnP data to be cleared on boot. This is the default setting.
Yes	Set this value to allow the PnP data to be rebuilt by the BIOS at every boot.

PCI Latency Timer

Set this value to allow the PCI Latency Timer to be adjusted. This option sets the latency of all PCI devices on the PCI bus. The Optimal and Fail-Safe default setting is *64*.

Option	Description
32	This option sets the PCI latency to 32 PCI clock cycles.
64	This option sets the PCI latency to 64 PCI clock cycles. This is the default setting.
96	This option sets the PCI latency to 96 PCI clock cycles.
128	This option sets the PCI latency to 128 PCI clock cycles.
160	This option sets the PCI latency to 160 PCI clock cycles.
192	This option sets the PCI latency to 192 PCI clock cycles.
224	This option sets the PCI latency to 224 PCI clock cycles.
248	This option sets the PCI latency to 248 PCI clock cycles.

Allocate IRQ to VGA

Set this value to allow or restrict the system from giving the VGA adapter card an interrupt address. The Optimal and Fail-Safe default setting is *Yes*.

Option	Description
Yes	Set this value to allow the allocation of an IRQ to a VGA adapter card that uses the PCI local bus. This is the default setting.
No	Set this value to prevent the allocation of an IRQ to a VGA adapter card that uses the PCI local bus.

Palette Snooping

Set this value to allow the system to modify the Palette Snooping settings. The Optimal and Fail-Safe default setting is *Disabled*.

Option	Description
Disabled	This is the default setting and should not be changed unless the VGA card manufacturer requires Palette Snooping to be Enabled.
Enabled	This setting informs the PCI devices that an ISA based Graphics device is installed in the system. It does this so the ISA based Graphics card will function correctly. This does not necessarily indicate a physical ISA adapter card. The graphics chipset can be mounted on a PCI card. Always check with your adapter card's manuals first, before modifying the default settings in the BIOS.

Cont'd

PCI IDE BusMaster

Set this value to allow or prevent the use of PCI IDE busmastering. The Optimal and Fail-Safe default setting is *Disabled*.

Option	Description
Disabled	Set this value to prevent PCI busmastering. This is the default setting.
Enabled	This option specifies that the IDE controller on the PCI local bus has mastering capabilities.

OffBoard PCI/ISA IDE Card

Set this value to allow the OffBoard PCI/ISA IDE Card to be selected. The Optimal and Fail-Safe default setting is *Auto*.

Option	Description
Auto	This setting will auto select the location of an OffBoard PCI IDE adapter card. This is the default setting.
PCI Slot1	This setting will select PCI Slot 1 as the location of the OffBoard PCI IDE adapter card. Use this setting only if there is an IDE adapter card installed in PCI Slot 1.
PCI Slot2	This setting will select PCI Slot 2 as the location of the OffBoard PCI IDE adapter card. Use this setting only if there is an IDE adapter card installed in PCI Slot 2.
PCI Slot3	This setting will select PCI Slot 3 as the location of the OffBoard PCI IDE adapter card. Use this setting only if there is an IDE adapter card installed in PCI Slot 3. This option is available even if the motherboard does not have a PCI Slot 3. If the motherboard does not have a PCI Slot 3, do not use this setting.
PCI Slot4	This setting will select PCI Slot 4 as the location of the OffBoard PCI IDE adapter card. Use this setting only if there is an IDE adapter card installed in PCI Slot 4. This option is available even if the motherboard does not have a PCI Slot 4. If the motherboard does not have a PCI Slot 4, do not use this setting.
PCI Slot5	This setting will select PCI Slot 5 as the location of the OffBoard PCI IDE adapter card. Use this setting only if there is an IDE adapter card installed in PCI Slot 5. This option is available even if the motherboard does not have a PCI Slot 5. If the motherboard does not have a PCI Slot 5, do not use this setting.
PCI Slot6	This setting will select PCI Slot 6 as the location of the OffBoard PCI IDE adapter card. Use this setting only if there is an IDE adapter card installed in PCI Slot 6. This option is available even if the motherboard does not have a PCI Slot 6. If the motherboard does not have a PCI Slot 6, do not use this setting.

IRQ

Set this value to allow the IRQ settings to be modified. The Optimal and Fail-Safe default setting is *Available*.

Interrupt	Option	Description
IRQ3 IRQ4 IRQ5 IRQ7	Available	This setting allows the specified IRQ to be used by a PCI/PnP device. This is the default setting.
IRQ9 IRQ10 IRQ11 IRQ14 IRQ15	Reserved	This setting allows the specified IRQ to be used by a legacy ISA device.

Cont'd

DMA

Set this value to allow the DMA setting to be modified. The optimal and Fail-Safe default setting is *Available.*

DMA Channel	Option	Description
DMA Channel 0 DMA Channel 1 DMA Channel 3	Available	This setting allows the specified DMA to be used by PCI/PnP device. This is the default setting.
DMA Channel 5 DMA Channel 6 DMA Channel 7	Reserved	This setting allows the specified DMA to be used by a legacy ISA device.

Reserved Memory Size

Set this value to allow the system to reserve memory that is used by ISA devices. The optimal and Fail-Safe default setting is *Disabled.*

Option	Description
Disabled	Set this value to prevent BIOS from reserving memory to ISA devices.
16K	Set this value to allow the system to reserve 16K of the system memory to the ISA devices.
32K	Set this value to allow the system to reserve 32K of the system memory to the ISA devices.
64K	Set this value to allow the system to reserve 64K of the system memory to the ISA devices.

Chapter 5   Chipset Setup

Select the *Chipset* tab from the setup screen to enter the Chipset BIOS Setup screen. You can select any of the items in the left frame of the screen, such as CPU Configuration, to go to the sub menu for that item. You can display a Chipset BIOS Setup option by highlighting it using the <Arrow> keys. All Chipset BIOS Setup options are described in this section. The Chipset BIOS Setup screen is shown below.

```
                        BIOS SETUP UTILITY
   Main    Advanced   PCIPnP   Chipset   ACPI    Boot    Security    Exit

                                               Options for CPU
 ▶ CPU Configuration
 ▶ NorthBridge Configuration
 ▶ SouthBridge Configuration




                                            ←→    Select Screen
                                            ↑↓    Select Item
                                            Enter Go to Sub Screen
                                            F1    General Help
                                            F10   Save and Exit
                                            ESC   Exit

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```
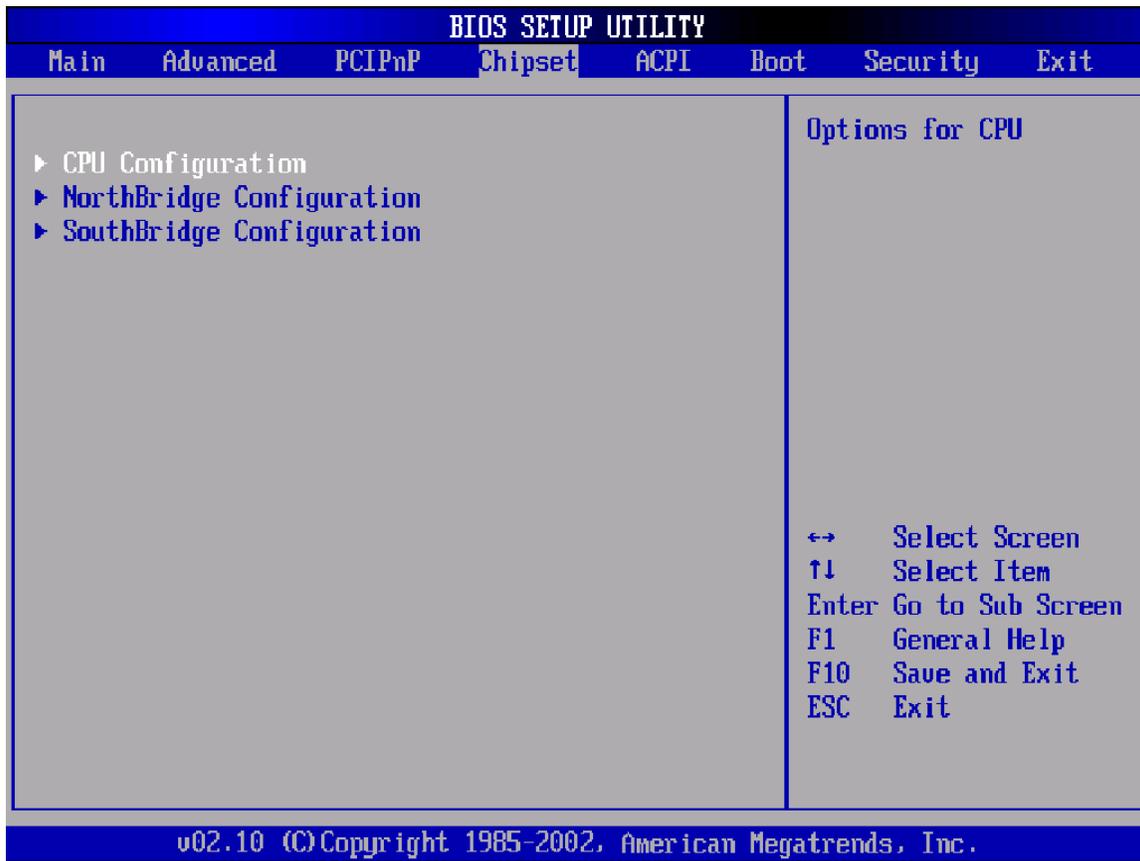
CPU Configuration

You can use this screen to select options for the CPU Configuration. Use the up and down <Arrow> keys to select an item. Use the <Plus> and <Minus> keys to change the value of the selected option.

Note: The CPU Configuration setup screen varies depending on the installed processor.

Cont'd

NORTH BRIDGE CONFIGURATION

North Bridge Configuration

You can use this screen to select options for the North Bridge Configuration. Use the up and down <Arrow> keys to select an item. Use the <Plus> and <Minus> keys to change the value of the selected option.

Note: The North Bridge Configuration setup screen varies depending on the supported North Bridge chipset.

SOUTH BRIDGE CONFIGURATION

South Bridge Configuration

You can use this screen to select options for the South Bridge Configuration. South Bridge is a chipset on the motherboard that controls the basic I/O functions, USB ports, audio functions, modem functions, IDE channels, and PCI slots. Use the up and down <Arrow> keys to select an item. Use the <Plus> and <Minus> keys to change the value of the selected option.

Note: The South Bridge Configuration setup screen varies depending on the supported South Bridge chipset.

Chapter 6 ACPI Setup

Select the *ACPI* tab from the setup screen to enter the ACPI BIOS Setup screen. You can select ACPI Advanced in the left frame of the screen to go to the sub menu for that item. You can display an ACPI BIOS Setup option by highlighting it using the <Arrow> keys. All ACPI BIOS Setup options are described in this section. The ACPI BIOS Setup screen is shown below.

```
                          BIOS SETUP UTILITY
  Main    Advanced    PCIPnP    Chipset    ACPI    Boot    Security    Exit


  ACPI Aware O/S                    [Yes]

  ▶ ACPI Advanced




                                              ←→     Select Screen
                                              ↑↓     Select Item
                                              +-     Change Option
                                              F1     General Help
                                              F10    Save and Exit
                                              ESC    Exit



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```

ACPI Aware O/S

Set this value to allow the system to utilize the Intel ACPI (Advanced Configuration and Power Interface) specification. The Optimal and Fail-Safe default setting is *Yes*.

Option	Description
No	This setting should be set if the operating system in use does not comply with the ACPI (Advanced Configuration and Power Interface) specification. DOS®, Windows 3.x®, and Windows NT® are examples of non-ACPI aware operating systems.
Yes	This setting should be set if the operating system complies with the ACPI (Advanced Configuration and Power Interface) specification. This is the default setting. Windows 95®, Windows 98® and Windows 2000® are examples of ACPI aware operating systems.

Cont'd

ACPI ADVANCED SETTING

ACPI Advanced Configuration

You can use this screen to select options for the ACPI Advanced Configuration Settings. Use the up and down <Arrow> keys to select an item. Use the <Plus> and <Minus> keys to change the value of the selected option. A description of the selected item appears on the right side of the screen. The settings are described on this page. The screen is shown below.

```
                          ACPI Advanced
                                  ACPI

     ACPI 2.0                    [No]
     BIOS->AML ACPI table        [Enabled]
     Headless mode               [Enabled]




                                            ←→    Select Screen
                                            ↑↓    Select Item
                                            +-    Change Option
                                            F1    General Help
                                            F10   Save and Exit
                                            ESC   Exit


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```
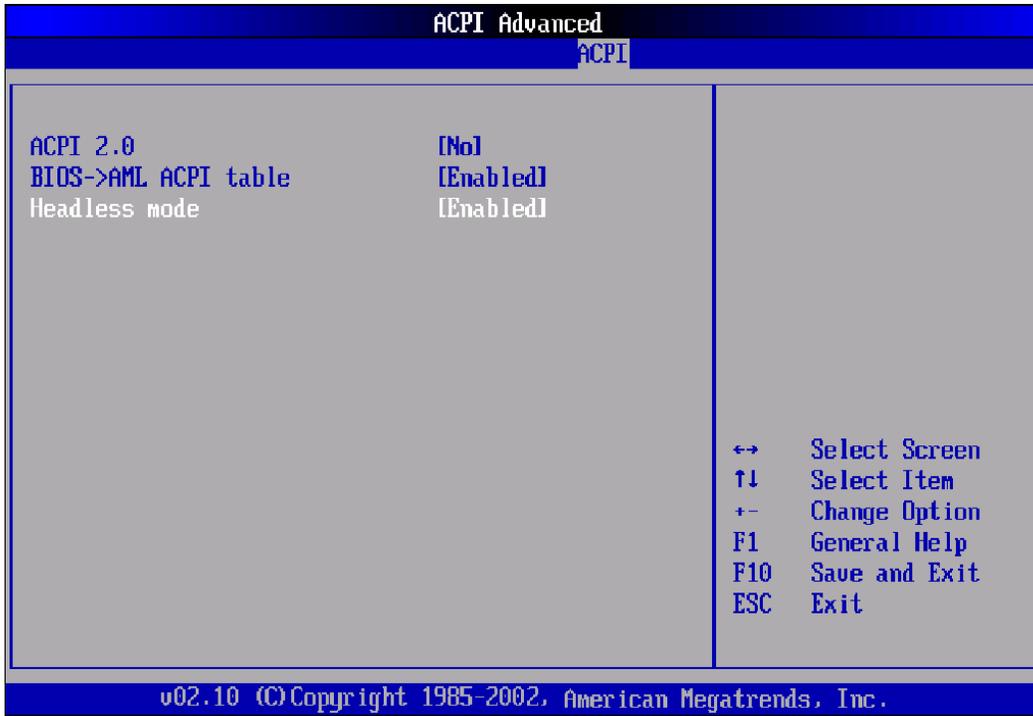
ACPI 2.0

Set this value to allow or prevent the system to be complaint with the ACPI 2.0 specification.

Option	Description
No	This setting prevents the BIOS from supporting the ACPI 2.0 specification.
Yes	This setting allows the BIOS to support the ACPI 2.0 specification.

BIOS-> AML ACPI Table

Set this value to allow the ACPI BIOS to add a pointer to an OEMB table in the Root System Description Table (RSDT) table.

Option	Description
Disabled	This option disables adding an OEMB table.
Enabled	This option enables adding an OEMB table.

Note: OEMB table is used to pass POST data to the AML code during ACPI O/S operations.

RSDT

RSDT is the main ACPI table. It has no fixed place in memory. During the boot up process, the BIOS locates a pointer to the table during the memory scan. A Root System Descriptor Pointer (RSDP) is located in low memory space of the system. It provides the physical address of the RSDT. The RSDT itself is identified in memory because it starts with the signature "RSDT." Following the signature is an array of pointers that tell the operating system the location of other description tables that provide it with the information it needs about the standards defined on the current system and individual devices.

AML

ACPI Machine Language (AML) is a binary code format that the operating system's ACPI AML interpreter parses to discover the machine's properties. On boot up the BIOS startup code copies it into system memory, where it can be interpreted by the operating system's ACPI AML interpreter.

Headless Mode

This option is used to update the ACPI FACP table to indicate headless operations.

Option	Description
Disabled	This option disables updating the ACPI FACP table to indicate headless operation.
Enabled	This option enables updating the ACPI FACP table to indicate headless operation.

Suspend to RAM Support

Set this value to allow Suspend to RAM (STR) support. The Optimal and Fail-Safe default setting is *Disabled*.

Option	Description
Disabled	This setting prevents the system to save information to main memory when in a low power state. This is the default setting.
Enabled	This setting causes the system to enter a low power state instead of being completely shut off. This allows the computer system to boot up in a few seconds. Suspend to RAM (STR) is a technology that is closely associated with the S3 state of the ACPI (Advanced Configuration and Power Interface) specification. STR allows a properly configured system to go into a low power state while saving information to main memory about the system's configuration, open applications, and active files. While in the low power (STR) state, memory remains powered to retain the system information while most other components turn off to conserve energy. Fans are turned off to provide silent operation and to minimize power consumption. Properly configured systems in STR typically can use less than 5 watts.

Repost Video on S3 Resume

Set this value to allow video repost support. The Optimal and Fail-Safe default setting is *Yes*.

Option	Description
No	This setting prevents the video BIOS to be initialized coming out of the S3 state.
Yes	This setting allows the video BIOS to be initialized coming out of the S3 state. Some video controllers require this option to be enabled. This is the default setting.

Note: In some cases, The ACPI Setup screen will not appear even if the BIOS supports the Advanced Configuration and Power Interface (ACPI).

Chapter 7   Power Setup

Select the *Power* tab from the setup screen to enter the Power Management BIOS Setup screen. You can display a Power Management BIOS Setup option by highlighting it using the <Arrow> keys. All Power Management BIOS Setup options are described in this section.

Note: The Power Management Setup screen is not displayed when Advanced Power Management (APM) is not supported. The Power Setup screen can vary for different motherboards.

Power Management/APM

Set this value to allow Power Management/APM support. The Optimal and Fail-Safe default setting is *Enabled.*

Option	Description
Disabled	Set this value to prevent the chipset power management and APM (Advanced Power Management) features.
Enabled	Set this value to allow the chipset power management and APM (Advanced Power Management) features. This is the default setting.

Standby Time Out

This option specifies the length of time the system waits before it enters standby mode. The Optimal and Fail-Safe default setting is *Disabled.*

Option	Description
Disabled	Set this value to prevent the computer system from entering standby mode. This is the default setting.
1Min	Set this value to allow the computer system to enter standby mode after being inactive for 1 minute.
5Min	Set this value to allow the computer system to enter standby mode after being inactive for 5 minutes.
10Min	Set this value to allow the computer system to enter standby mode after being inactive for 10 minutes.

Suspend Power Saving Type

Set this value to allow the Suspend Power Saving type to be specified. The Optimal and Fail-Safe default setting is *S1*.

Option	Description
C2	This setting allows the CPU (microprocessor) to be put in a low power state. In this state, incoming interrupts wake the CPU (microprocessor) to process them (I/O APIC).
S1	This setting allows the system to enter the S1 POS (Power On Suspend) state. While the system is in this state, the CPU is not executing instructions, all power resources that supply system level reference of S0 are off, system memory context is maintained, devices that reference power resources that are on are on, and devices that can wake the system can cause the CPU to continue to execute from where it left off. This is the default setting.

Cont'd

Suspend Time Out (Minute)

This option specifies the length of time the system waits before it enters suspend mode. The Optimal and Fail-Safe default setting is *Disabled.*

Option	Description
Disabled	This setting prevents the system from entering suspend mode. This is the default setting.
1Min	Set this value to allow the computer system to enter suspend mode after being inactive for 1 minute.
5Min	Set this value to allow the computer system to enter suspend mode after being inactive for 5 minutes.
10Min	Set this value to allow the computer system to enter suspend mode after being inactive for 10 minutes.

Power Button Mode

This option specifies how the externally mounted power button on the front of the computer chassis is used. The Optimal and Fail-Safe default setting is *On/Off.*

Option	Description
On/Off	Pushing the power button turns the computer on or off. This is the default setting. This is the default setting.
Standby	Pushing the power button places the computer in Standby mode
Suspend	Pushing the power button places the computer in Suspend mode or Full On power mode.

AfterG3 Enable

Set this value to allow AfterG3 Enable support. The Optimal and Fail-Safe default setting is *Disabled*.

Option	Description
Disabled	This prevents the system to power on after power is applied to the system. This is the default setting.
Enabled	This allows the system to power on after power is applied to the system. This means that if an ATX compliant power supply is turned hard off, or unplugged from the wall (power socket supplying it power), the computer system will not power back on immediately after the power cord is reattached or the hard off switch is flipped back on. The power button on the front of the chassis is usually the soft off, meaning that there is still power being supplied to the motherboard even though the system looks completely off. Hard off means that there is not power being supplied to the system at all. The only power is coming from the backup battery on the motherboard.

Green PC Monitor Power State

This option specifies the power state that the green PC-compliant video monitor enters when the BIOS places it in a power saving state after the specified period of display inactivity has expired. The Optimal and Fail-Safe setting is *Suspend*.

Option	Description
Standby	This option places the monitor into standby mode after the specified period of display inactivity has expired. This means the monitor is not off. The screen will appear blacked out. The standards do not cite specific power ratings because they vary from monitor to monitor.
Suspend	This option places the monitor into suspend mode after the specified period of display inactivity has expired. This means the monitor is not off. The screen will appear blacked out. The standards do not cite specific power ratings because they vary from monitor to monitor, but this setting uses less power than Standby mode. This is the default setting.
Off	This option powers off the monitor completely after the specified period of display inactivity has expired. The power button on the monitor must be pressed to power on the monitor.

Video Power Down Mode

This option specifies the Power State that the video subsystem enters when the BIOS places it in a power saving state after the specified period of display inactivity has expired. The Optimal and Fail-Safe setting is *Suspend*.

Option	Description
Disabled	This setting prevents the BIOS from initiating any power saving modes concerned with the video display or monitor.
Standby	This option places the monitor into standby mode after the specified period of display inactivity has expired. This means the monitor is not off. The screen will appear blacked out. The standards do not cite specific power ratings because they vary from monitor to monitor.
Suspend	This option places the monitor into suspend mode after the specified period of display inactivity has expired. This means the monitor is not off. The screen will appear blacked out. The standards do not cite specific power ratings because they vary from monitor to monitor, but this setting use less power than Standby mode. This is the default setting.

Hard Disk Drive Power Down Mode

This option specifies the power conserving state that the hard disk drive enters after the specified period of hard drive inactivity has expired. The Optimal and Fail-Safe setting is *Suspend*.

Option	Description
Disabled	This setting prevents hard disk drive power down mode.
Standby	This option stops the hard disk drives from spinning during a system standby.
Suspend	This option cuts the power to the hard disk drives during a system suspend. This is the default setting.

Cont'd

Hard Disk Drive Time Out (Minute)

This option specifies the amount of time the hard disk drive can be inactive before the computer enters a power-conserving state specified in the **Hard Disk Drive Power Down Mode** option. The Optimal and Fail-Safe default setting is *Disabled.*

Option	Description
Disabled	This setting prevents the BIOS from regulating when the hard disk drive goes into a low power state. This is the default setting.
1	Set this value to allow the hard disk drive(s) to enter a low power state after being inactive for 1 minute.
2	Set this value to allow the hard disk drive(s) to enter a low power state after being inactive for 2 minutes.
3	Set this value to allow the hard disk drive(s) to enter a low power state after being inactive for 3 minutes.
4	Set this value to allow the hard disk drive(s) to enter a low power state after being inactive for 4 minutes.
5	Set this value to allow the hard disk drive(s) to enter a low power state after being inactive for 5 minutes.
6	Set this value to allow the hard disk drive(s) to enter a low power state after being inactive for 6 minutes.
7	Set this value to allow the hard disk drive(s) to enter a low power state after being inactive for 7 minutes.
8	Set this value to allow the hard disk drive(s) to enter a low power state after being inactive for 8 minutes.
9	Set this value to allow the hard disk drive(s) to enter a low power state after being inactive for 9 minutes.
10	Set this value to allow the hard disk drive(s) to enter a low power state after being inactive for 10 minutes.
11	Set this value to allow the hard disk drive(s) to enter a low power state after being inactive for 11 minutes.
12	Set this value to allow the hard disk drive(s) to enter a low power state after being inactive for 12 minutes.
13	Set this value to allow the hard disk drive(s) to enter a low power state after being inactive for 13 minutes.
14	Set this value to allow the hard disk drive(s) to enter a low power state after being inactive for 14 minutes.
15	Set this value to allow the hard disk drive(s) to enter a low power state after being inactive for 15 minutes.

Display Activity

Set this value to allow or prevent display activity from waking the system from a power management state. The Optimal and Fail-Safe default setting is *Ignore*.

Option	Description
Ignore	This setting prevents display activity to wake up the system from a power management state. This is the default setting.
Monitor	This setting allows display activity to wake up the system from a power management state.

Power Setup, Continued

Manual Throttle Ratio

In a power management state, the BIOS can throttle the CPU clock to reduce power consumption. For example, a throttle ratio of *50%* means the clock is turned off half of its normal operational time. The Optimal and Fail-Safe default setting is *50%*.

Option	Description
87.5%	This setting allows the BIOS to throttle back the CPU clock to operate 87.5 percent of the time.
75.0%	This setting allows the BIOS to throttle back the CPU clock to operate 75 percent of the time.
62.5%	This setting allows the BIOS to throttle back the CPU clock to operate 62.5 percent of the time.
50%	This setting allows the BIOS to throttle back the CPU clock to operate 50 percent of the time. This is the default setting.
37.5%	This setting allows the BIOS to throttle back the CPU clock to operate 37.5 percent of the time.
25%	This setting allows the BIOS to throttle back the CPU clock to operate 25 percent of the time.
12.5%	This setting allows the BIOS to throttle back the CPU clock to operate 12.5 percent of the time.

THRM Throttle Ratio

Set this value to allow the THRM (thermal) Throttle Ratio to be selected. This type of throttling is used to lower power consumption and reduce thermals. The Optimal and Fail-Safe default setting is *50%*.

Option	Description
87.5%	This setting allows the BIOS to throttle back the CPU clock to operate 87.5 percent of the time.
75.0%	This setting allows the BIOS to throttle back the CPU clock to operate 75 percent of the time.
62.5%	This setting allows the BIOS to throttle back the CPU clock to operate 62.5 percent of the time.
50%	This setting allows the BIOS to throttle back the CPU clock to operate 50 percent of the time. This is the default setting.
37.5%	This setting allows the BIOS to throttle back the CPU clock to operate 37.5 percent of the time.
25%	This setting allows the BIOS to throttle back the CPU clock to operate 25 percent of the time.
12.5%	This setting allows the BIOS to throttle back the CPU clock to operate 12.5 percent of the time.

Intruder Sel

This option allows the type of Intruder Sel setting to be used. The Optimal and Fail-Safe default setting is *SMI*.

Option	Description
SCI	SCI stands for System Control Interrupt. This is considered ACPI (Advanced Configuration and Power Interface) mode. The operating system uses the SCI interrupt to process ACPI (Advanced Configuration and Power Interface), events signaled by GPEs (General Purpose Event), whether the system is asleep or awake when the event occurs. In other words, the wake event has the side effect of causing the system to wake up if it is asleep, but its primary purpose is to generate an SCI that notifies the operating system that the event has occurred.
SMI	SMI stands for System Management Interrupt. This is considered Legacy mode. This is the default setting. It is used to log interrupt events to operating systems that do not support ACPI (Advanced Configuration and Power Interface) and operating systems that do.

Chapter 8   Boot Setup

Select the *Boot* tab from the setup screen to enter the Boot BIOS Setup screen. You can select any of the items in the left frame of the screen, such as Boot Device Priority, to go to the sub menu for that item. You can display an Boot BIOS Setup option by highlighting it using the <Arrow> keys. All Boot Setup options are described in this section. Select an item on the Boot Setup screen to access the sub menu for:

- Boot Device Priority
- Hard disk drives
- Removable Devices
- ATAPI CD-ROM Drives

The Boot Setup screen is shown below:

```
                         BIOS SETUP UTILITY
  Main     Advanced    PCIPnP    Chipset    ACPI    Boot    Security    Exit

 ▶ Boot Device Priority
 ▶ Removeable Devices
 ▶ ATAPI CDROM Drives

   Interrupt 19 Capture            [Disabled]



                                              ↔     Select Screen
                                              ↑↓    Select Item
                                              Enter Go to Sub Screen
                                              F1    General Help
                                              F10   Save and Exit
                                              ESC   Exit



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```
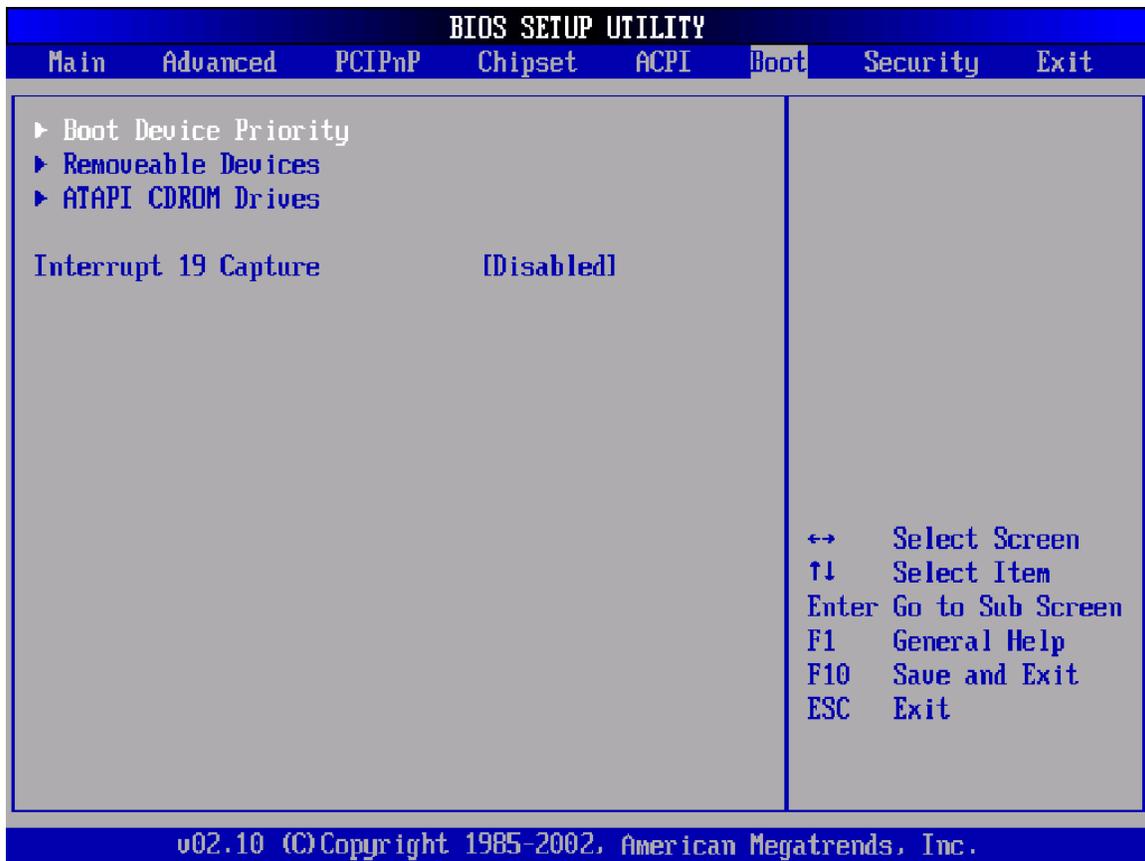
Cont'd

BOOT DEVICE PRIORITY

Boot Device Priority

Use this screen to specify the order in which the system checks for the device to boot from. To access this screen, select Boot Device Priority on the Boot Setup screen and press <Enter>. The following screen displays:

```
                      BIOS SETUP UTILITY
                                              Boot

  1st Boot Device          [Removable Dev.]    Specifies the boot
  2nd Boot Device          [ATAPI CDROM]       sequence from the
  3rd Boot Device          [Hard Drive]        available devices.




                                               ←→     Select Screen
                                               ↑↓     Select Item
                                               +-     Change Option
                                               F1     General Help
                                               F10    Save and Exit
                                               ESC    Exit

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```

1st Boot Device
2nd Boot Device
3rd Boot Device

Set the boot device options to determine the sequence in which the computer checks which device to boot from. The settings are *Removable Dev., Hard Drive, or ATAPI CDROM.* The Optimal and Fail-Safe settings are:

- 1st boot device – Removable Device
- 2nd boot device – Hard Drive
- 3rd boot device – ATAPI CDROM

Cont'd

To change the boot order, select a boot category type such as Hard disk drives, Removable media, or ATAPI CD ROM devices from the boot menu. For example, if the 1st boot device is set to Hard disk drives, then BIOS will try to boot to hard disk drives first.

Note: When you select a boot category from the boot menu, a list of devices in that category appears. For example, if the system has three hard disk drives connected, then the list will show all three hard disk drives attached.

HARD DISK DRIVES

Hard disk drives

Use this screen to view the hard disk drives in the system. To access this screen, select Hard disk drives on the Boot Setup screen and press <Enter>. The following screen displays examples of hard disk drives:

```
                        BIOS SETUP UTILITY
                                          Boot

 1st Hard Disk Drive         [ST320430A]        Specifies the boot
 2nd Hard Disk Drive         [ST320011A]        sequence from the
 3rd Hard Disk Drive         [ST34321A]         available devices.




                                                ←→    Select Screen
                                                ↑↓    Select Item
                                                +-    Change Option
                                                F1    General Help
                                                F10   Save and Exit
                                                ESC   Exit

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```

Cont'd

REMOVABLE DEVICES

Removable Devices
Use this screen to view the removable drives attached to the system. To access this screen, select Removable Devices on the Boot Setup screen and press <Enter>. The following screen displays examples of removable devices:

```
                        BIOS SETUP UTILITY
                                           Boot

 1st Removable Device        [1st FLOPPY DRIVE]     Specifies the boot
 2nd Removable Device        [IOMEGA  ZIP 100]      sequence from the
                                                    available devices.




                                                    ←→    Select Screen
                                                    ↑↓    Select Item
                                                    +-    Change Option
                                                    F1    General Help
                                                    F10   Save and Exit
                                                    ESC   Exit


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```

Cont'd

ATAPI CDROM DRIVES

ATAPI CD-ROM Drives

Use this screen to view the ATAPI CD-ROM drives in the system. To access this screen, select ATAPI CDROM Drives on the Boot Setup screen and press <Enter>. The following screen displays examples of ATAPI CD-ROM Drives:

```
                        BIOS SETUP UTILITY
                                         Boot

  1st ATAPI CDROM              [ATAPI-CD ROM-DRIVE]     Specifies the boot
  2nd ATAPI CDROM              [TEAC    CD-210PU]       sequence from the
                                                        available devices.




                                                        ←→    Select Screen
                                                        ↑↓    Select Item
                                                        +-    Change Option
                                                        F1    General Help
                                                        F10   Save and Exit
                                                        ESC   Exit


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```

Interrupt 19 Capture

Set this value to allow option ROMs such as network controllers to trap BIOS interrupt 19.

Option	Description
Disabled	The BIOS prevents option ROMs from trapping interrupt 19.
Enabled	The BIOS allows option ROMs to trap interrupt 19.

Chapter 9   Security Setup

Password Support

Two Levels of Password Protection

provides both a Supervisor and a User password. If you use both passwords, the Supervisor password must be set first.

The system can be configured so that all users must enter a password every time the system boots or when Setup is executed, using either or either the Supervisor password or User password.

The Supervisor and User passwords activate two different levels of password security. If you select password support, you are prompted for a one to six character password. Type the password on the keyboard. The password does not appear on the screen when typed. Make sure you write it down. If you forget it, you must drain NVRAM and reconfigure.

Remember the Password

Keep a record of the new password when the password is changed. If you forget the password, you must erase the system configuration information in NVRAM. See (Deleting a Password) for information about erasing system configuration information.
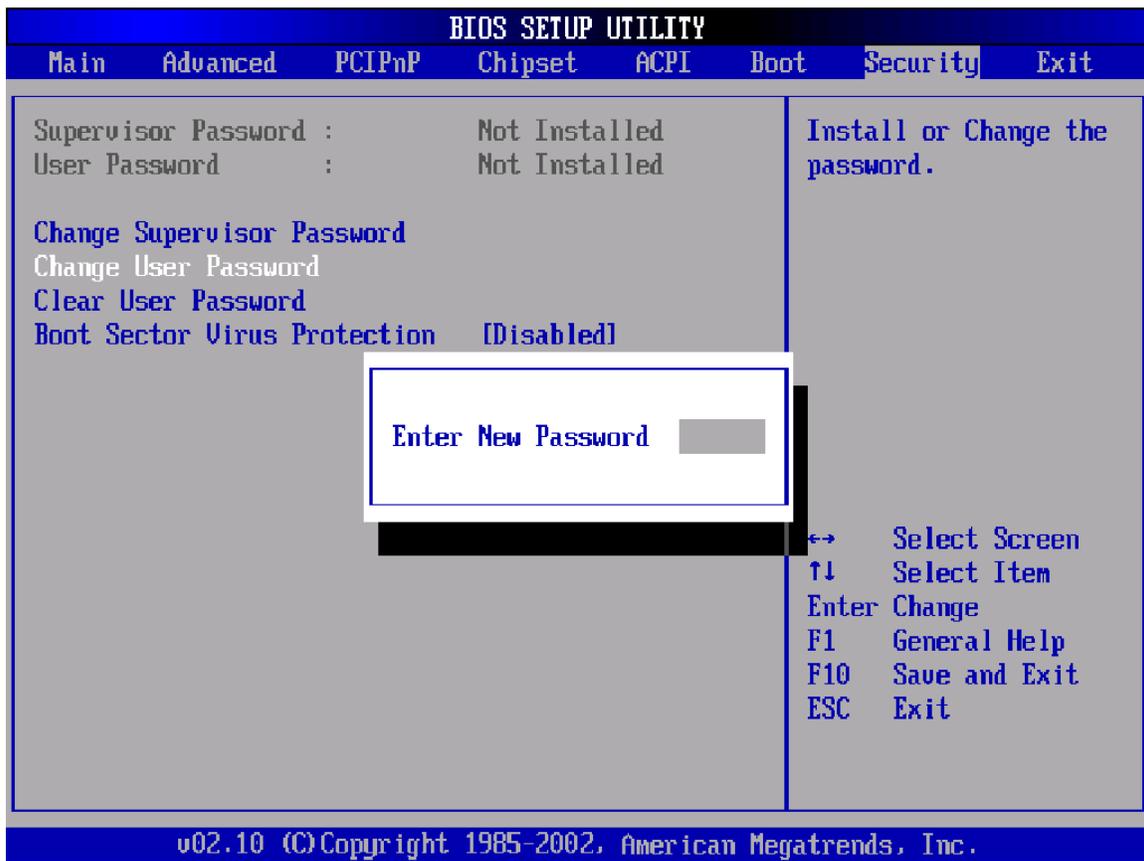
Select Security Setup from the Setup main BIOS setup menu. All Security Setup options, such as password protection and virus protection, are described in this section. To access the sub menu for the following items, select the item and press <Enter>:

- Change Supervisor Password
- Change User Password
- Clear User Password

The Security Setup screen is shown below. The sub menus are documented on the following pages.

```
                        BIOS SETUP UTILITY
   Main   Advanced   PCIPnP   Chipset   ACPI   Boot   Security   Exit

   Supervisor Password :        Not Installed      Install or Change the
   User Password       :        Not Installed      password.

   Change Supervisor Password
   Change User Password
   Clear User Password
   Boot Sector Virus Protection    [Disabled]

                 ┌──────────────────────────────┐
                 │                              │
                 │   Enter New Password  [    ] │
                 │                              │
                 └──────────────────────────────┘
                                           ←→     Select Screen
                                           ↑↓     Select Item
                                           Enter  Change
                                           F1     General Help
                                           F10    Save and Exit
                                           ESC    Exit

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```

Supervisor Password

Indicates whether a supervisor password has been set. If the password has been installed, *Installed* displays. If not, *Not Installed* displays.

User Password

Indicates whether a user password has been set. If the password has been installed, *Installed* displays. If not, *Not Installed* displays.

Cont'd

Change Supervisor Password

Select this option and press <Enter> to access the sub menu. You can use the sub menu to change the supervisor password.

Change User Password

Select this option and press <Enter> to access the sub menu. You can use the sub menu to change the user password.

Clear User Password

Select this option and press <Enter> to access the sub menu. You can use the sub menu to clear the user password.

Boot Sector Virus Protection

This option is near the bottom of the Security Setup screen. The Optimal and Fail-Safe default setting is *Disabled*

Option	Description
Disabled	Set this value to prevent the Boot Sector Virus Protection. This is the default setting.
Enabled	Select Enabled to enable boot sector protection. displays a warning when any program (or virus) issues a Disk Format command or attempts to write to the boot sector of the hard disk drive. If enabled, the following appears when a write is attempted to the boot sector. You may have to type N several times to prevent the boot sector write. Boot Sector Write! Possible VIRUS: Continue (Y/N)? _ The following appears after any attempt to format any cylinder, head, or sector of any hard disk drive via the BIOS INT 13 Hard disk drive Service: Format!!! Possible VIRUS: Continue (Y/N)? _

CHANGE SUPERVISOR PASSWORD

Change Supervisor Password

Select Change Supervisor Password from the Security Setup menu and press <Enter>.

```
Enter New Password:
```

appears. Type the password and press <Enter>. The screen does not display the characters entered. Retype the password as prompted and press <Enter>. If the password confirmation is incorrect, an error message appears. The password is stored in NVRAM after completes.

Cont'd

Change User Password

Select Change User Password from the Security Setup menu and press <Enter>.

```
Enter New Password:
```

appears. Type the password and press <Enter>. The screen does not display the characters entered. Retype the password as prompted and press <Enter>. If the password confirmation is incorrect, an error message appears. The password is stored in NVRAM after completes.

Clear User Password

Select Clear User Password from the Security Setup menu and press <Enter>.

```
Clear New Password

[Ok] [Cancel]
```

appears. Type the password and press <Enter>. The screen does not display the characters entered. Retype the password as prompted and press <Enter>. If the password confirmation is incorrect, an error message appears. The password is stored in NVRAM after completes.

Chapter 10   Exit Menu

Select the *Exit* tab from the setup screen to enter the Exit BIOS Setup screen. You can display an Exit BIOS Setup option by highlighting it using the <Arrow> keys. All Exit BIOS Setup options are described in this section. The Exit BIOS Setup screen is shown below.

```
                        BIOS SETUP UTILITY
   Main   Advanced   PCIPnP   Chipset   ACPI   Boot   Security   Exit

  Exit Saving Changes                          Exit system setup with
  Exit Discarding Changes                      saving the changes.
  Load Optimal Defaults
  Load Failsafe Defaults
  Discard Changes




                                              ↔     Select Screen
                                              ↑↓    Select Item
                                              Enter Go to Sub Screen
                                              F1    General Help
                                              F10   Save and Exit
                                              ESC   Exit


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```

Exit Saving Changes

When you have completed the system configuration changes, select this option to leave Setup and reboot the computer so the new system configuration parameters can take effect. Select Exit Saving Changes from the Exit menu and press <Enter>.

```
Save Configuration Changes and Exit Now?

[Ok]   [Cancel]
```

appears in the window. Select Ok to save changes and exit.

Cont'd

Exit Discarding Changes

Select this option to quit Setup without making any permanent changes to the system configuration. Select Exit Discarding Changes from the Exit menu and press <Enter>.

```
Discard Changes and Exit Setup Now?

[Ok]    [Cancel]
```

appears in the window. Select *Ok* to discard changes and exit.

Load Optimal Defaults

automatically sets all Setup options to a complete set of default settings when you Select this option. The Optimal settings are designed for maximum system performance, but may not work best for all computer applications. In particular, do not use the Optimal Setup options if your computer is experiencing system configuration problems.

Select Load Optimal Defaults from the Exit menu and press <Enter>.

```
                        BIOS SETUP UTILITY
   Main    Advanced    PCIPnP    Chipset    ACPI    Boot    Security    Exit

   Exit Saving Changes                              Load Optimal Defaults.
   Exit Discarding Changes
   Load Optimal Defaults
   Load Failsafe Defaults
   Discard Changes

                    ┌──────────────────────────┐
                    │                          │
                    │   Load Optimal Defaults? │
                    │                          │
                    │    [Ok]      [Cancel]    │
                    │                          │
                    └──────────────────────────┘

                                           ←→    Select Screen
                                           ↑↓    Select Item
                                           Enter Go to Sub Screen
                                           F1    General Help
                                           F10   Save and Exit
                                           ESC   Exit

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```

Select *Ok* to load optimal defaults.

Cont'd

Load Fail-Safe Defaults

automatically sets all Setup options to a complete set of default settings when you Select this option. The Fail-Safe settings are designed for maximum system stability, but not maximum performance. Select the Fail-Safe Setup options if your computer is experiencing system configuration problems.
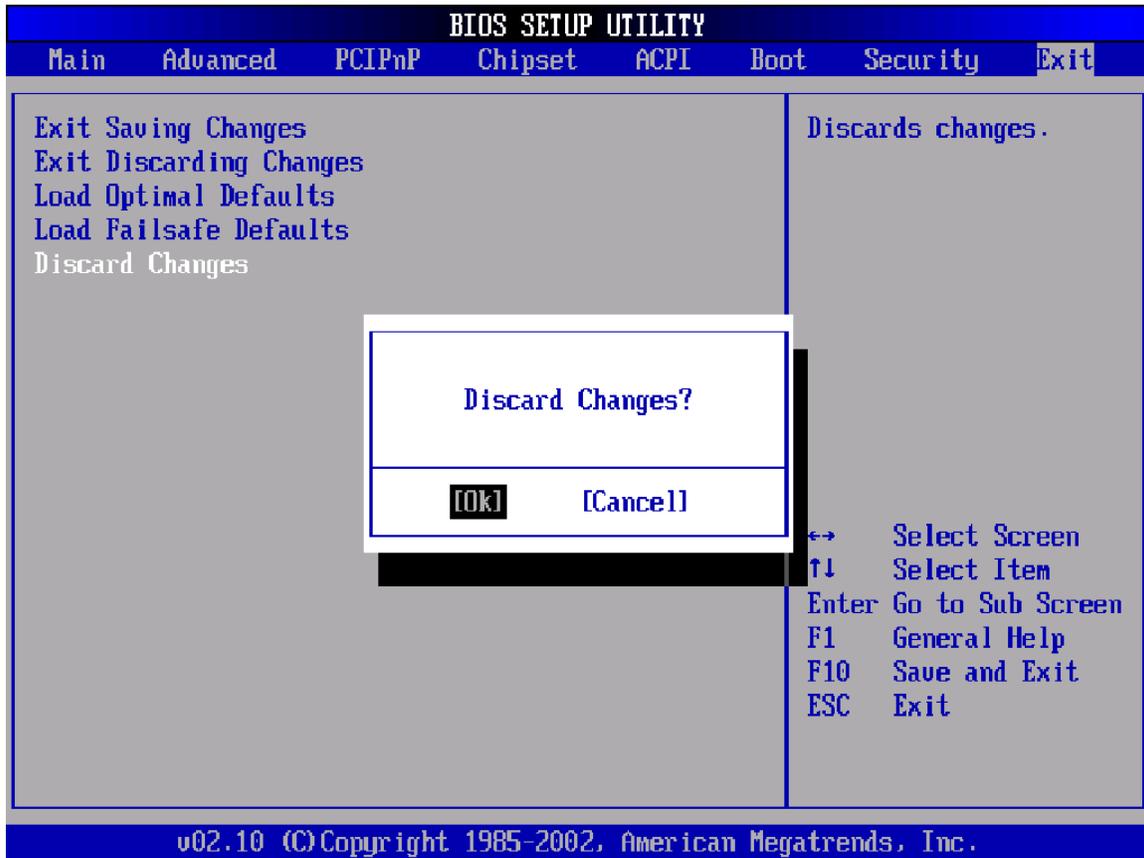Select Load Fail-Safe Defaults from the Exit menu and press <Enter>.

```
Load Fail-Safe Defaults?

[Ok]   [Cancel]
```

appears in the window. Select *Ok* to load Fail-Safe defaults.

Discard Changes

Select Discard Changes from the Exit menu and press <Enter>.

```
                     BIOS SETUP UTILITY
  Main    Advanced   PCIPnP    Chipset    ACPI    Boot    Security    Exit

  Exit Saving Changes                         Discards changes.
  Exit Discarding Changes
  Load Optimal Defaults
  Load Failsafe Defaults
  Discard Changes

              ┌──────────────────────────┐
              │                          │
              │     Discard Changes?     │
              │                          │
              │   [Ok]      [Cancel]     │
              └──────────────────────────┘
                                          ←→    Select Screen
                                          ↑↓    Select Item
                                          Enter Go to Sub Screen
                                          F1    General Help
                                          F10   Save and Exit
                                          ESC   Exit


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```

Select *Ok* to discard changes.

Chapter 11   Deleting a Password

If you forget the passwords you set up through Setup, the only way you can reset the password is to erase the system configuration information where the passwords are stored. System configuration data is stored in CMOS RAM, a type of memory that consumes very little power.

Erase Old Password

You can drain CMOS RAM power by using the CMOS drain jumper on the motherboard, or by removing the battery. CMOS RAM looses it content including the password when it is drained.

Note: For more information on draining CMOS using the drain jumper, see the motherboard user's manual.

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