

Chapter 4 AMI BIOS Setup

THE BIOS

BIOS stands for Basic Input and Output System. It was once called ROM BIOS when it was stored in a Read-Only Memory (ROM) chip. Now manufacturers would like to store BIOS in EEPROM which means Electrically Erasable Programmable Memory. BIOS used in this series of mainboard is stored in EEPROM, and is the first program to run when you turn on your computer.

BIOS performs the following functions:

1. Initializing and testing hardware in your computer (a process called "POST", for Power On Self Test).
2. Loading and running your operating system.
3. Helping your operating system and application programs manage your PC hardware by means of a set of routines called BIOS Run-Time Service.

This Chapter includes the following topics :

4-1 About BIOS Setup

4-2 To Run BIOS Setup

4-3 About CMOS

4-4 The POST (Power On Self Test)

4-5 To Update BIOS

4-6 BIOS Setup

4-1 About BIOS Setup

BIOS setup is an interactive BIOS program that you need to run when:

1. Changing the hardware of your system. (For example: installing a new Hard Disk etc.)
2. Modifying the behavior of your computer. (For example: changing the system time or date, or turning special features on or off etc.)
3. Enhancing your computer's behavior. (For example: speeding up performance by turning on shadowing or cache)

4-2 To Run BIOS Setup

First access BIOS setup menu by pressing < DEL > key after "POST" is complete (before OS is loaded). BIOS will then display the following message:

DEL : SETUP

4-3 About CMOS

CMOS is the memory maintained by a battery. CMOS is used to store the BIOS settings you have selected in BIOS Setup. CMOS also maintains the internal clock. Every time you turn on your computer, the BIOS looks into CMOS for the settings you have selected and configures your computer accordingly. If the battery runs out of power, the CMOS data will be lost and POST will issue a "CMOS invalid" or "CMOS checksum invalid" message. If this happens, you have to replace the battery and check and configure the BIOS Setup for the new start.

4-4 The POST (Power On Self Test)

POST is an acronym for Power On Self Test. This program will test all things the BIOS does before the operating system is started. Each of POST routines is assigned a POST code, a unique number which is sent to I/O port 080h before the routine is executed.

4-5 To Update BIOS

- System BIOS is incorporated into a Flash memory component. Flash BIOS allows user to upgrade BIOS without the need to replace an EPROM component.
- The Upgrade Utility can be loaded on a floppy diskette for upgrading saving, and verifying the system BIOS. The Update Utility can also be run from a hard disk drive or a network drive.
- It is highly recommended that you save a copy of the original mainboard BIOS along with a Flash EPROM Programming utility (AMIXXX.EXE) to a bootable floppy disk so that you can reinstall the BIOS when in need.
- Normally, to update BIOS is unnecessary if the system is working fine. Users should only update BIOS when incompatible problems are encountered or new features have to be added to system.
- “AMIFLASH.EXE” is a Flash EPROM Programming utility that updates the BIOS by uploading a new BIOS file to the programmable flash ROM on the mainboard. This program only works in ***DOS environment, the utility can not be executed in win95/98, ME, NT WINDOWS 2000 or Windows XP environment.***

• Please follow the steps below for updating the system BIOS:

Step 1. Please visit the board maker's website, download latest BIOS file and AMI update utility. The file name of AMI update utility will be “AMIXXX.EXE” of which “XXX ” stands for the version number of the file. The BIOS file format will be *.ROM, of which “*” stands for the specific BIOS file name.

Step 2. Create a bootable diskette. Then copy the BIOS file and AMI flash utility “AMIXXX.EXE” into the diskette.

Step 3. Insert the diskette into drive A, boot your system from the diskette.

Step 4. Type **AMIFLASH *.ROM** and then press <Enter> to run BIOS update program. (*.ROM will vary, depending on your mainboard model and version code. Instead of typing “*”, you should type specific file name for your specific mainboard. For example: AMIFLASH(space) 75FRV11.ROM).

Step 5. When the message “Flash ROM Update Completed - Pass.” appears, please restart your system.

Step 6. You will see a message “CMOS Memory Size Wrong” during booting the system. Press or <F1> to run CMOS setup utility, then reload “LOAD SETUP DEFAULTS” or “**Load Optimal Defaults**” and save this change.

4-6 BIOS SETUP --- CMOS Setup Utility

4-6.1 CMOS Setup Utility

This mainboard comes with the AMI BIOS from American Megatrends Inc. Enter the CMOS Setup Utility Main Menu by:

1. Turn on or reboot your system. After a series of diagnostic checks, the following message will appear:

PRESS TO RUN SETUP

2. Press the key and the main program screen will appear as follows.

| AMIBIOS NEW SETUP UTILITY - VERSION 3.31a | | | |
|--|--|-------------------------|--------------------|
| <ul style="list-style-type: none"> ▶ Standard CMOS Features ▶ Advanced BIOS Features ▶ Advanced Chipset Features ▶ Power Management Features ▶ PNP/PCI Configurations ▶ Integrated Peripherals ▶ SmartDoc Anti-burn Shield ▶ Frequency/Voltage Control | <ul style="list-style-type: none"> ▶ System Information Set Supervisor Password Load Optimal Defaults Save & Exit Setup Exit Without Saving | | |
| F1: Help | ↑↓: Select Item | +/- : Change Values | F9: Setup Defaults |
| Esc: Exit | ←→: Select Menu | Enter: Select ▶Sub-Menu | F10: Save and Exit |
| Set Time, Date, Hard Disk Type ... | | | |

3. Use the arrow keys on your keyboard to select an option, and press <Enter>. Modify the system parameters to reflect the options installed in your system.
4. You may return to the Main Menu anytime by pressing <ESC>.
5. In the Main Menu, "Save & Exit Setup" saves your changes and reboots the system, and "Exit Without Saving" ignores your changes and exits the program.

4-6.2 Standard CMOS Setup

Standard CMOS Setup records some basic system hardware configuration and sets the system clock and error handling. Modify the configuration values of this option if you want to change your system hardware configuration or after you clear CMOS data.

Run the Standard CMOS Setup as follows:

1. Choose "Standard CMOS Setup" from the Main Menu and a screen with a list of options will appear:

| Standard CMOS Features | | Setup Help |
|------------------------|-----------------|------------|
| System Time | 00 19 29 | |
| System Date | Dec 05 2002 Thr | |
| ► Floppy options. | | |
| ► IDE Device Config | | |

F1: Help ↑↓: Select Item
Esc: Previous Menu

+/- : Change Values
Enter: Select ► Sub-Menu

F9: Setup Defaults
F10: Save and Exit

2. Use one of the arrow keys to move between options and modify the selected options by using PgUp / PgDn / + / - keys. An explanation of the <F> keys follows:

<F1>: "Help" gives options available for each item.

<F9>: Setup BIOS default values.

<F10>: Save and Exit Setup.

3. Press <ESC> to return to the Main Menu when you finish setting up all items. The following item descriptions are provided as a quick guide to your setup.

System Time The BIOS shows the time of the day in the format: hh:mm:ss. Choose the field with the Arrow keys and change the time with the Page Up/Page Down +/- keys.

System Date The BIOS shows the date of the day in the format: mm:dd:yy :day of the Week. Choose the field with the Arrow keys and change the value with the Page Up/Page Down +/- keys.

Floppy options Press Enter on “Floppy options” will let you select this field to the type(s) of floppy disk drive(s) installed in your system. The choices are:
 1.2MB, 5.25 in.
 720KB, 3.5 in.
 1.44MB, 3.5 in.
 2.88MB, 3.5 in.
 Not Installed

IDE Device Config Press Enter on IDE Device Config will let you configure the IDE devices on board and the following menu will reveal the following submenu for your configuration of the hard Disk you have installed:

| Primary IDE Master : Not Installed | | Setup Help |
|------------------------------------|------|------------|
| Type | Auto | |
| Cylinders | | |
| Heads | | |
| Write Precompensation | | |
| Sectors | | |
| Maxium Capacity | 0 Mb | |
| LBA Mode | Off | |
| Black Mode | Off | |
| Fast Programmed I/O Modes | 0 | |
| 32 Bit Transfer Mode | Off | |

F1: Help ↑↓: Select Item
 Esc: Previous Menu

+/- : Change Values
 Enter: Select ► Sub-Menu

F9: Setup Defaults
 F10: Save and Exit

Type This option shows the types of configuration for the IDE devices:

1-50: Predefined types

USER: set Parameters by User

Auto: Set parameters automatically

CD-ROM: Use for ATAPI CD-ROM drives

Double click [Auto] to set all HDD parameters automatically, including "Cylinders, Heads, Write Precompensation, Sectors, Maximum Capacity and 32 Bit Transfer Mode.

4-6.3 Advanced BIOS Features

Advanced BIOS Features improves your system performance or sets up system features according to your preference.

Run the Advanced BIOS Features as follows:

- 1. Choose “Advanced BIOS Features” from the Main Menu and a screen with a list of options will appear:

AMIBIOS NEW SETUP UTILITY - VERSION 3.31a

| Advanced BIOS Features | Setup Help |
|---|--|
| Quick Boot Delay for Hard Drive (Sec.) Boot Device Priority 1st Floppy: 1.44 MB 3.5 2nd CD-ROM 3rd IDE-0 :Maxtor 20560 A4 - Try Other Boot Devices Initial Display Mode Display Mode at Add-On ROM Init S.M.A.R.T for Hard Disks Bootup Num-lock Floppy Drive Swap Floppy Drive Seek Primary Display Password Check Boot To OS/2 L1 Cache L2 Cache System BIOS Cacheable C000,32K Shadow C800,16K Shadow CC00,16K Shadow D000,16K Shadow D400,16K Shadow D800,16K Shadow DC00,16K Shadow | Enabled 2 Yes Silent Force BIOS Disabled On Disabled Disabled VGA/EGA Setup No Writeback Enabled Enabled Cached Disabled Disabled Disabled Disabled Disabled Disabled Disabled |

F1: Help

↑↓: Select Item

+/- : Change Values

F9: Setup Defaults

Esc: Previous Menu

Enter: Select ►Sub-Menu

F10: Save and Exit

2. Use one of the arrow keys to move between options and modify the selected options by using PgUp / PgDn / + / - keys. An explanation of the <F> keys follows:

<F1>: "Help" gives options available for each item.

<F9>: Setup BIOS default values.

<F10>: Save and Exit Setup.

3. Press <ESC> to return to the Main Menu when you finish setting up all items. The following item descriptions are provided as a quick guide.

| | |
|--|--|
| Quick Boot | Allows you to enable / disable quick boot of your system. |
| Delay for Hard Drive (Sec.) | Allows you to adjust the time of detecting hard disk on board at booting system. Choices: Disabled; 1~10 sec. in 1 sec. stepping. |
| 1st/2nd/3rd Boot Device | Allows you to set floppy or IDE devices already installed on board to be the 1st/2nd/3rd boot device. Choices: Disabled; Device(s) installed |
| Try Other Boot Devices | Allows you to enable/disable system to try to boot with other boot devices. Choices: Yes; No |
| Initial Display Mode | If option is "Silent", the initial display mode is set to one with Soltek logo. If option is "BIOS", initial display will hide logo. Choices: Silent (default); BIOS |
| Display Mode at Add-On ROM Init | If the item "Initial Display Mode" is set to "Silent", two other sub-modes are provided for this item. If "Force BIOS" is chosen, the vendor's logo screen will be followed by the "Add-on ROM" initial screen (the screen showing the add-on card BIOS message). If "Keep Current" is chosen, no "Add-On ROM" screen is followed. |
| S.M.A.R.T. for Hard Disks | Allows you to enable / disable the Self Monitoring Analysis and Reporting Technology for the hard disk. Choices: Enabled; Disabled |

- Bootup Num-lock** Allows you to toggle between On or Off to control the state of the NumLock keys when the system boots. If On, the numeric keypad is in numeric mode. If off, the numeric keypad is in cursor control mode.
- Floppy Drive Swap** Disabled (default), Floppy Drive A will not be changed to B, nor B to A. Enabled, Floppy Drive A and B will change position.
- Floppy Drive Seek** Disabled (default), Floppy Drives will not be checked and diagnosed at system bootup; Enabled, Floppy Drives will be checked and diagnosed at system bootup.
- Primary Display** Allows you to choose the primary display for the system. Choices: VGA/EGA (default); CGA40x25; CGA80x25; Mono; Absent
- Password Check** Allows you to set BIOS to check up password with a password prompt at BIOS Setup or whenever re-starting system. Choices: Setup; Always
- Boot to OS/2** Allows you to set your system to OS/2 operating system. Choices: Yes; No (default)
- L1 Cache** Allows you to set the Internal/External Cache Mode. Choices: WriteBack; WriteThru; Disabled
- L2 Cache** Allows you to set the Internal/External Cache Mode. Choices: Enabled; Disabled
- System BIOS Cacheable** Allows you to enable / disable the System BIOS Cacheable function.
- C000, 32K Shadow** Allows you to set these addresses cached, Enabled or Disabled. Default: Cached
- C800,CC00,D000,D400, D800,DC00 16K Shadow** Allows you to set these addresses cached, Enabled or Disabled. Default: Disabled

4-6.4 Advanced Chipset Features

Advanced Chipset Features is used to modify the values of chipset buffers. These buffers control the system options.

Run the Advanced Chipset Features as follows:

1. Choose "Advanced Chipset Features" from the Main Menu and a list of option will appear:

AMIBIOS NEW SETUP UTILITY - VERSION 3.31a

| Advanced Chipset Features | Setup Help |
|---|------------|
| DRAM Timing Configure SDRAM Timing by SPD Enabled SDRAM Frequency Auto SDRAM CAS# Latency 2.5 SDRAM Bank Interleave Disabled SDRAM Burst Length 4 QW SDRAM Command Rate 2T Fast Command Normal AGP Mode 8X AGP Fast Write Disabled AGP Aperture Size 64MB AGP Master 1 W/S Write Disabled AGP Master 1 W/S Read Disabled AGP Read Synchronization Disabled APIC Interrupt Mode Enabled USB Controller 6 USB Ports USB 1.1 Device Legacy Support Disabled USB 1.1 Port 64/60 Emulation Disabled | |

F1: Help ↑↓: Select Item
Esc: Previous Menu

+/- : Change Values
Enter: Select ► Sub-Menu

F9: Setup Defaults
F10: Save and Exit

2. Use one of the arrow keys to move between options and modify the selected options by using PgUp / PgDn / + / - keys. An explanation of the <F> keys follows:

<F1>: "Help" gives options available for each item.

<F9>: Setup BIOS default values.

<F10>: Save and Exit Setup.

3. Press <ESC> to return to the Main Menu when you finish setting up all items. The following item descriptions are provided as a quick guide to your setup.

- Configure SDRAM Timing by SPD** SPD (Serial presence detect) is a device in memory module for storing the module information such as DRAM timing and chip parameters. If this option is enabled, BIOS will access SPD automatically to configure module timing. If disabled, DRAM timing can be configured manually.
- SDRAM Frequency** Allows you to set the SDRAM frequency.
Choices: Auto; 200MHz; 266MHz; 333MHz; 400MHz
- SDRAM CAS# Latency** With SDRAM Timing by SPD disabled, you can select the SDRAM CAS# (Column Address Strode)lacency manually.
Choices: 1.5 Clocks; 2 Clocks; 2.5 Clocks; 3 Clocks
- SDRAM Bank Interleave** This item allows you to enable / disable SDRAM Bank Interleave function.
Choices: Disabled (default); 2-Way; 4-Way
- SDRAM Burst Length** With SDRAM Timing by SPD disabled, you can select the SDRAM Burst length manually.
Choices: 8 QW; 4 QW
- SDRAM Command Rate** Allows you to set the SDRAM Command Rate.
Choices: 1T; 2T
- Fast Command** Allows you to select SDRAM Command Mode.
Choices: Normal; Fast; Ultra
- AGP Mode** Allows you to see the AGP Mode on board. The default setting is Auto. This item supports 4X/8XAGP Mode. 2X and 1X modes are included in options for attempt to lower the AGP speed.
- AGP Fast Write** Allows you to enable / disable the AGP Fast Write function

- AGP Aperture Size** Allows you to set the AGP Aperture Size.
Choices: 4MB; 8MB; 16MB; 32MB; 64MB; 128MB; 256MB;
- AGP Master 1 W/S Write** Allows you to enable / disable (default) the support of AGP Master 1 Waite State Write.
- AGP Master 1 W/S Read** Allows you to enable / disable (default) the support of AGP Master 1 Waite State Read.
- AGP Read Synchronization** Allows you to enable / disable (default) the AGP Read Synchronization function.
- APIC Interrupt Mode** Allows you to enable (default) / disable the APIC function for selecting the APIC interrupt Mode.
- USB Controller** Allows you to set the USB Controller on the USB port(s).
Choices: 6 USB Ports; 4 USB Ports; 2 USB Ports; disabled
- USB 1.1 Device Legacy Support** Allows you to select the USB Device Legacy support.
Choices: No Mice; all Devices; Disabled
- USB 1.1 Port 64/60 Emulation** Allows you to enable / disable (default) the Port 64/60 Emulation.

4-6.5 Power Management Features

Power Management Features allows you to set the system's power saving functions.

Run the Power Management Features as follows:

1. Choose "Power Management Features" from the Main Menu and a list of options will appear:

AMIBIOS NEW SETUP UTILITY - VERSION 3.31a

| Power Management Features | | Setup Help |
|---------------------------|------------|------------|
| ACPI Standby State | S1/POS | |
| Power Management/APM | Enabled | |
| Video Power Down Mode | Suspend | |
| Hard Disk Power Down Mode | Stand By | |
| Standby Time Out (Minute) | Disabled | |
| Suspend Time Out (Minute) | Disabled | |
| Power Button Function | On/Off | |
| Restore on AC/Power Loss | Last State | |
| Resume On PME# | Disabled | |
| Resume On PS/2 KB | Disabled | |
| Wake-Up Key | Any Key | |
| Resume On PS/2 Mouse | Disabled | |
| Resume On RTC Alarm | Disabled | |
| RTC Alarm Date | 15 | |
| RTC Alarm Hour | 12 | |
| RTC Alarm Minute | 30 | |

F1: Help ↑↓: Select Item +/- : Change Values F9: Setup Defaults
 Esc: Previous Menu Enter: Select ► Sub-Menu F10: Save and Exit

2. Use one of the arrow keys to move between options and modify the selected options by using PgUp / PgDn / + / - keys. An explanation of the <F> keys follows:

<F1>: "Help" gives options available for each item.

<F9>: Setup BIOS default values.

<F10>: Save and Exit Setup.

3. Press <ESC> to return to the Main Menu when you finish setting up all items. The following item descriptions are provided as a quick guide to your setup.

- ACPI Standby State** This item allows you to select the ACPI Suspend type. You can select S3(STR) for suspending to DRAM if your system supports this mode. Or you can select S1 (POS) for Power on Suspend under Windows 98 or later O/S ACPI mode..
- Power Management/ APM** Allows you to enable / disable the Power management / Advanced Power Management function.
- Video Power Down Mode** Allows you to select the Video Power Down Mode.
Choices: Disabled; Stand By; Suspend
- Hard Disk Power Down Mode** Allows you to select the Hard Disk Power Down Mode.
Choices: Disabled; Stand By; Suspend
- Standby Time Out (Minute)** To set the duration of Standby Time Out.
Choices: 1; 2; 4; 8; 10; 20; 30; 40; 50; 60
- Suspend Time Out (Minute)** To set the duration of Suspend Time Out.
Choices: 1; 2; 4; 8; 10; 20; 30; 40; 50; 60
- Power Button Function** Allows you to set Power Button function.
Choices: On/Off; Suspend
- Restore on AC/Power Loss** Allows you to set the restore state from AC/Power Loss.
Choices: Last State; Power Off; Power On
- Resume on PME#** Allows you to enable / disable the Resume on PME function.
- Resume on PS/2 KB** Allows you to select S3/S4/S5 mode or disable the Resume on Keyboard clock function.
Choices: Disabled; S4/S5
- Wake Up Key** If Resume On KBC is not disabled, this item allows you to select any key to wake up system.
- Resume on PS/2 Mouse** Allows you to S4/S5 mode or disable the Resume on PS/2 Mouse function.

Resume On RTC Alarm Allows you to enable / disable the Resume On RTC Alarm function.

RTC Alarm Date / Hour / Minute If resume On RTC Alarm is enabled, this field allows you to set the Alarm date Hour, Minute and second.

Date Choices: Every Day; 01 ~ 31

Hour Choices: 00 ~ 23

Minute Choices: 00 ~ 59

4-6.6 PNP / PCI Configurations

PNP/PCI Configuration allows you to modify the system's power saving functions.

Run the PNP/PCI Configurations as follows:

1. Choose "PNP/PCI Configurations" from the Main Menu and a screen with a list of options will appear:

AMIBIOS NEW SETUP UTILITY - VERSION 3.31a

| PNP/PCI Configurations | Setup Help |
|---|------------|
| Plug and Play Aware O/S No Clear NVRAM No PCI Latency Timer (PCI Clocks) 32 Primary Graphics Adapter PCI PCI IDE BusMaster Enabled PCI Slot1 IRQ Priority Auto PCI Slot2 IRQ Priority Auto PCI Slot3 IRQ Priority Auto PCI Slot4 IRQ Priority Auto PCI Slot5 IRQ Priority Auto | |

F1: Help ↑↓: Select Item
Esc: Previous Menu

+/- : Change Values
Enter: Select ► Sub-Menu

F9: Setup Defaults
F10: Save and Exit

2. Use one of the arrow keys to move between options and modify the selected options by using PgUp / PgDn / + / - keys. An explanation of the <F> keys follows:

<F1>: "Help" gives options available for each item.

<F9>: Setup BIOS default values.

<F10>: Save and Exit Setup.

3. Press <ESC> to return to the Main Menu when you finish setting up all items. The following item descriptions are provided as a quick guide to your setup.

Plug and Play Aware O/S Allows BIOS to recognize the Plug and Play Aware Operating System.
Choices: No (default); Yes

Clear NVRAM Allows BIOS to clear the NVRAM data.
Choices: No (default); Yes

PCI Latency Timer (PCI Clocks) Allows you to set the PCI Latency Time.
Choices: 32; 64; 96; 192; 128; 160; 192; 224; 248;

Primary Graphics Adapter Allows you to select the primary Graphics Adapter.
Choices: PCI; AGP

PCI IDE BusMaster Allows you to enable / disable the PCI IDE Bus Master function.

PCI Slot 1/2/3/4/5 IRQ Priority Allows you to specify the IRQ for the PCI slots.
Choices: Auto; 3; 4; 5; 7; 9; 10; 11

4-6.7 Integrated Peripherals

Integrated Peripherals option allows you to get some information inside your system when it is working.

Run the Integrated Peripherals as follows:

1. Choose "Integrated Peripherals" from the Main Menu and a list of options will appear:

AMIBIOS NEW SETUP UTILITY - VERSION 3.31a

| Integrated Peripherals | Setup Help |
|---------------------------|------------|
| Onboard FDC | Auto |
| Onboard Serial Port 1 | Auto |
| Onboard Serial Port 2 | Auto |
| Serial Port 2 Mode | Normal |
| Onboard Parallel Port | Auto |
| Parallel Port Mode | ECP |
| Parallel Port IRQ | Auto |
| Parallel Port DMA Channel | Auto |
| Onboard MIDI Port | Disabled |
| MIDI Port IRQ | 5 |
| Onboard Game Port | 200 |
| Onboard IDE | Both |
| Onboard AC'97 Audio | Enabled |

F1: Help



Select Item

+/- : Change Values

Esc: Previous Menu

Enter: Select ► Sub-Menu

F9: Setup Defaults

F10: Save and Exit

2. Use one of the arrow keys to move between options and modify the selected options by using PgUp / PgDn / + / - keys. An explanation of the <F> keys follows:

<F1>: "Help" gives options available for each item.

<F9>: Setup BIOS default values.

<F10>: Save and Exit Setup.

3. Press <ESC> to return to the Main Menu when you finish setting up all items. The following item descriptions are provided as a quick guide to your setup.

- Onboard FDC** Allows you to enable / disable the Onboard FDC.
Choices: Auto; Enabled; disabled
- Onboard Serial Port 1** Allows you to set the Onboard Serial Port A.
Choices: auto; Disabled; 3F8/COM1; 2F8/COM2;
3E8/COM3; 2E8/COM4;
- Onboard Serial Port 2** Allows you to set the Onboard Serial Port B.
Choices: auto; Disabled; 3F8/COM1; 2F8/COM2;
3E8/COM3; 2E8/COM4;
- Serial Port 2 Mode** Allows you to set the Serial Port B Mode.
Choices: Normal; IrDA; ASKIR;
- Onboard Parallel Port** Allows you to configure onboard Parallel port .
Choices: Auto; Disabled; 378; 278; 3BC;
- Parallel Port Mode** If Parallel Port is not disabled, this item allows you to configure parallel port mode.
Choices: ECP; EPP + ECP; Normal; EPP
- Parallel Port IRQ** If Parallel Port Mode is set at EPP, this item allows you to set the Parallel Port IRQ.
Choices: 5; 7
- Parallel Port DMA Channel** If Parallel Port Mode is set at ECP, this item allows you to set the DMA Channel.
Choices: 0; 1; 3
- Onboard MIDI Port** Allows you to configure onboard MIDI port address.
The choices: Disabled; 300h; 310h; 320h; 330h
- MIDI Port IRQ** If the onboard MIDI port is enabled, this item shows up to allow you to configure the MIDI Port IRQ to IRQ 5.
- Onboard Game Port** Allows you to configure Onboard Game port address.
The choices: Disabled; 200h; 208h

Onboard IDE Allows you to choose the Onboard IDE Mode.
Choices: Disabled; Primary; Secondary; Both

Onboard AC'97 Audio Allows you to disable or set AC'97 Audio automatically by system.
Choices: Auto; Disabled

4-6.8 SmartDoc Anti-Burn Shield

This menu helps you to read only and get more information on the working CPU temperature, FAN speed and voltage.

1. Choose "SmartDoc Anti-Burn Shield" from the Main Menu and a screen with a list of current status of your working system will appear:

AMIBIOS NEW SETUP UTILITY - VERSION 3.31a

| SmartDoc Anti-Burn Shield | | Setup Help |
|---------------------------------|---------------|------------|
| CPU Warning Temperature | Disabled | |
| CPU Shut Down Temperature | Disabled | |
| CPU Fan Low speed Warning | Disabled | |
| CPU Fan Low Speed Shutdown | (Disabled) | |
| (ABSII)CPU Current Temperature | (53 °C/127°F) | |
| (ABSII)CPU Shutdown Temperature | 85 °C/185 °F | |
| Temperature 1 | (31 °C/87 °F) | |
| Temperature 2 | N/A | |
| Fan 1 Speed | (5443 RPM) | |
| Fan 2 Speed | (0 RPM) | |
| Vcore | (+1.680 V) | |
| +2.5V | (+2.504 V) | |
| +3.3V | (+3.408 V) | |
| +5.0V | (+5.126 V) | |
| +12.0V | (+11.187V) | |
| -12.0V | (-11.972V) | |
| 5V SB | (+5.164V) | |
| Battery | (+3.296V) | |

F1: Help ↑↓: Select Item
Esc: Previous Menu

+/- : Change Values
Enter: Select ► Sub-Menu

F9: Setup Defaults
F10: Save and Exit

2. Use one of the arrow keys to move between options and modify the selected options by using PgUp / PgDn / + / - keys. An explanation of the <F> keys follows:

<F1>: "Help" gives options available for each item.

<F9>: Setup BIOS default values.

<F10>: Save and Exit Setup.

3. Press <ESC> to return to the Main Menu when you finish setting up all items. The following item descriptions are provided as a quick guide to your setup.

CPU Warning Temperature Select a upper limits for the CPU temperature. If the CPU temperature extends beyond the limit, any warning mechanism programmed into your system will activate the warning.

- CPU Shutdown Temperature** This feature allows you to set the shutdown temperature to the running CPU.
Choices: Disabled; 50 °C~71°C in 3° C stepping
- CPU Fan Low Speed Warning** This feature allows you to set up the CPU Fan Low Speed warning function.
Choices: Disabled; Stop/0RPM; 1000~6000RPM
- CPU Fan Low Speed Shutdown** This feature allows you to enable/disable the CPU Fan Low Speed Shutdown function.
Choices: Disabled; Stop/0RPM; 1000~6000RPM
- ABS II CPU Current Temperature(for Athlon XP/Duron Morgan)** This item will appear if Athlon XP or Duron Morgan CPU is running on board. This item is to show the current temperature inside the running CPU.
- ABS II CPU Shutdown Temperature(for Athlon XP/Duron Morgan)** This item will appear if Athlon XP or Duron Morgan CPU is running on board. ABS II (Anti-burn Shield II) allows user to set up the safeguard temperature for the CPU designed with a protective thermal diode inside the CPU itself. Default Safeguard temperature is 85°C, at which the XP or Duron Morgan CPU will shutdown. Usually, a jumper is also designed on board for enabling/disabling ABS II function.
Choices: 75°C / 167°F; 80°C / 176°F
85°C / 185°F(default); 90°C / 194°F
95°C / 203°F; 100°C / 212°F
- Temperature 1** Shows current CPU internal temperature.
- Temperature 2** Shows current CPU external temperature.
- Fan 1 / 2** Displays the current speed of CPU Fan, and other onboard device which user has connected to the onboard Fan Connectors.
- CPU Vcore** Shows CPU core actual voltage value.
- +2.5V/+3.3V/+5.0V/
+12V/-12V/+5.V SB/** Shows current voltage against the respective power supply.
- Battery** Shows current voltage against battery power supply.

4-6.9 Frequency/Voltage Control

Run the "Frequency/Voltage Control" as following:

1. Choose "Frequency/Voltage Control" from the Main Menu and a screen with a list of options will appear:

AMIBIOS NEW SETUP UTILITY - VERSION 3.31a

| Frequency/Voltage Control | | Setup Help |
|----------------------------|------------|------------|
| RedStorm Overclocking Tech | (Optional) | |
| CPU Linear Frequency | Disabled | |
| CPU Clock | 100 MHz | |
| Spread spectrum | Disabled | |
| Auto Detect PCI Slot | Disabled | |
| CPU Voltage Control | Auto | |
| AGP Voltage Control | 1.5V | |
| DIMM Voltage Control | 2.5V | |
| CPU Ratio Selection | Default | |

F1: Help ↑↓: Select Item
Esc: Previous Menu

+/- : Change Values
Enter: Select ► Sub-Menu

F9: Setup Defaults
F10: Save and Exit

2. Use one of the arrow keys to move between options and modify the selected options by using PgUp / PgDn / + / - keys. An explanation of the <F> keys follows:

<F1>: "Help" gives options available for each item.

<F9>: Setup BIOS default values.

<F10>: Save and Exit Setup.

3. Press <ESC> to return to the Main Menu when you finish setting up all items. The following item descriptions are provided as a quick guide to your setup.

- (Optional)** If this option is chosen in BIOS, press <Enter> to start *RED STORM OVERCLOCKING TECH*. This option helps user to raise CPU clock automatically until an unacceptable value is reached. Then BIOS will restart your system with a highest acceptable CPU clock.
- Redstorm Overclocking Tech**
- CPU Linear Frequency** This item allows you to enable / disable this setting function.
- CPU Clock** If CPU Linear Frequency is set at Enabled, this item allows you to set CPU Clock.
Choices: 100MHz ~200MHz in 1MHz stepping.
- Spread Spectrum** Allows you to enable / disable this Spread Spectrum function. If enabled, this function will reduce the EMI (Electromagnetic Interference) in your system. If you do not have an EMI problem, leave this item disabled.
- Auto Detect PCI Slot** Allows you to enable / disable the Auto Detect PCI Slot function.
- CPU Voltage Control** allows you to configure the CPU Voltage. Usually, to raise CPU voltage will raise the chance of CPU overclocking and yet risk damage of CPU.
Choices: Auto; 1.100V ~1.850V in 0.025 stepping
- AGP Voltage Control** allows you to configure the AGP Voltage.
Choices: 1.5V; 1.6V; 1.7V; 1.8V
- DIMM Voltage Control** allows you to configure the DIMM Voltage.
Choices: 2.5V; 2.6V; 2.7V; 2.8V
- CPU Ratio Selection** If CPU onboard is one with an adjustable or unlocked CPU ratio, this item allows you user to adjust the CPU Ratio. If your CPU is one with the CPU Ratio locked, this item will be invalid.

4-6.10 System Information

This menu helps you to read only and get more information on the system.

1. Choose "System Information" from the Main Menu and a screen with a list of current status of your working system will appear:

AMIBIOS NEW SETUP UTILITY - VERSION 3.31a

| System Information | | Setup Help |
|--------------------|-----------------|------------|
| BIOS Version | (12/03/02) | |
| Processor Type | (AMD Duron(tm)) | |
| Processor Speed | (1300MHz) | |
| Base Memory | (640KB) | |
| Extended Memory | (255MB) | |
| Total Memory | (256MB) | |
| Cache Size | (192KB) | |
| Memory Bank 0 | (SDRAM) | |
| Memory Bank 1 | (SDRAM) | |
| Memory Bank 2 | (None) | |

F1: Help ↑↓: Select Item
Esc: Previous Menu

+/- : Change Values
Enter: Select ► Sub-Menu

F9: Setup Defaults
F10: Save and Exit

2. Press <ESC> to return to the Main Menu. In case any irregular reading appears about your system, it indicates that a problem exists therein. To solve the problem, a hardware engineer or your dealer is recommended.

4-6.11 Set Supervisor Password

This option allows you to set a Supervisor password for the system:

1. Choose "Set Supervisor Password" in the Main Menu and press <Enter>. Then the following message appears:

[Enter new supervisor password]

2. The first time you run this option, enter your password up to 8 characters and press <Enter>. (The screen does not display the entered characters.)
3. After you enter the password, the following message appears prompting you to confirm the password:

[Retype new supervisor Password]

4. Enter the same password "exactly" the same as you have just typed to confirm the password and press <Enter>.
5. The following message appears to confirm the new password setup.

[New supervisor password installed]

Any Key to Continue

6. Then press any key to continue your CMOS Setup. To save the password setup, you should press "Save & Exit Setup" and choose "yes" to exit and save setup.
7. After the Supervisor password is set, you have to choose whether the password is for entering the system or only for entering BIOS Setup program. To make the choice, please enter BIOS Setup and choose "Advanced BIOS Features" in the main menu. (At entering BIOS Setup, you have to enter the password now.) In "Advanced BIOS Features", choose "Password Check" and change the option. The "Setup" option is to set the password only for entering BIOS Setup. The "Always" option is to set the password for entering the system.

8. To change or remove a current supervisor password, choose “Set Supervisor Password” and press <Enter>. An instruction box appears on the screen, prompting you to enter the current password first:

[Enter current supervisor password]

9. Type the current password with keyboard and then press <Enter>. An instruction box appears, prompting you to enter new supervisor password:

[Enter new supervisor password]

10. If you enter a new password into the box, you will be using this new password after you have finished and saved this new setup. Instead, if you press <Enter> before you enter any new password into the instruction box, another message box appears, telling you that you have disabled the Supervisor password. That means, no password is set for either entering BIOS Setup or system:

[Supervisor password disabled]

Any Key to Continue

NOTE: If you forget or lose a supervisor password, the only way to access the system is to clear the CMOS. All setup informations will then be cleared including the password and you need to run the BIOS setup program again so as to reconfigure BIOS.

4-6.12 Load Optimized Defaults

When you press <Enter> on this item, you will get a confirmation dialog box with a message similar to:

[Load Optimized Settings]

Press [Enter] to continue
or [ESC] to abort

Press <Enter> now to load Optimal values for all the Setup options.

4-6.13 Save & Exit Setup

Save & Exit Setup allows you to save all modifications you have specified into the CMOS memory. Highlight this option on the Main Menu and press <Enter>. The following message appears:

[Saving current settings and exit]

Press [Enter] to continue
or [ESC] to abort

Press <Enter> key to save the configuration changes and exit CMOS Setup to restart your system.

4-6.14 Exit Without Saving

Exit Without Saving option allows you to exit the Setup Utility without saving the modifications that you have specified. Highlight this option on the Main Menu and the following message appears:

[Quit Without Saving Changes]

Press [Enter] to continue
or [ESC] to abort

Follow the message and press <Enter> key to exit CMOS Setup and restart system.