

## **Chapter 3**

### **AMI® BIOS USER'S GUIDE**

The system configuration information and chipset register information is stored in the CMOS RAM. This information is retained by a battery when the power is off. Enter the BIOS setup (if needed) to modify this information.

The following pages will describe how to enter BIOS setup, and all about options.



## 3.1 Enter BIOS Setup

Enter the AMI®setup Program's Main Menu as follows:

1. Turn on or reboot the system. The following screen appears with a series of diagnostic check.

```
AMIBIOS (C) 1998 American Megatrends Inc.  
AR5189MS VXXX XXXXXX  
Main Processor: XXXXX  
Processor Clock: XXXMHz
```

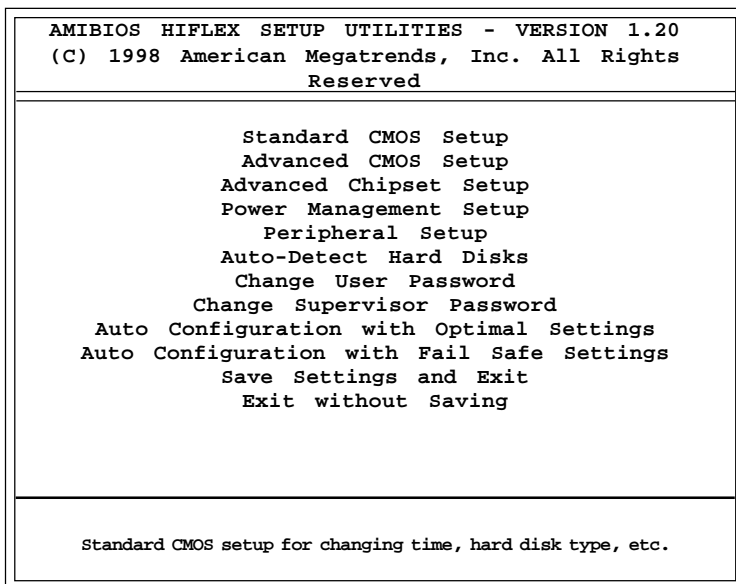
```
Hit <DEL> if you want to run setup
```

```
(C) American Megatrends Inc.  
61-XXXX-001169-00111111-071592-i82440FX-H
```

2. When the "Hit <DEL>" message appears, press <DEL> key to enter the BIOS setup screen.
3. After pressing <DEL> key, the BIOS setup screen will appear.

**Note:** If you don't want to modify CMOS original setting, then don't press any key during the system boot.





4. Use the <Up> and <Down> key to move the highlight scroll up or down.
5. Use the <ENTER> key to select the option.
6. To exit, press <ESC>. To save and exit, press <F10>.
7. Section 3.2 to 3.7 will explain the option in more details.



3.2 Standard CMOS Setup

- 1. Press <ENTER> on “Standard CMOS Setup” of the main menu screen .

AMIBIOS SETUP - STANDARD CMOS SETUP											
(C)1998 American Megatrends, Inc. All Rights Reserved											
Date (mm/dd/yyyy): Fri Feb 27, 1998											
Time (hh/mm/ss): 17:09:25											
Floppy Drive A: 1.44 MB 3 1/2											
Floppy Drive B: Not Installed											
	Type	Size	Cyln	Head	WPcom	Sec	LBA Mode	Blk Mode	PIO Mode	32Bit Mode	
Pri Master	:Auto									ON	
Pri Slave	:Auto									ON	
Sec Master	:Auto									ON	
Sec Slave	:Auto									ON	
Boot Sector Virus Protection Disabled											
Month : Jan-Dec											
Day : 01-31											
Year : 1901-2099											
ESC:Exit :Sel											
PgUp/PgDn:Modify											
F2/F3:Color											

- 2. Use <Up> and <Down> to choose the item and <PgUp> and <PgDn> keys to modify the highlighted item.
- 3. After you have finished with the Standard CMOS Setup, press <ESC> to go back to the main menu.



3.3 Advanced CMOS Setup

- 1. Press <ENTER> on “Advanced CMOS Setup” of the main menu

AMIBIOS SETUP - ADVANCED CMOS SETUP		
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1st Boot Device	FLOPPY	Available Options: Disabled IDE0 IDE1 IDE2 IDE3 Floppy ARMD-FDD ARMD-HDD CDROM SCSI Network
2nd Boot Device	IDE-0	
3rd Boot Device	CD-ROM	
4th Boot Device	Disabled	
Password Check	Setup	
System BIOS Cacheable	Enabled	
Video BIOS Shadow	Enabled	
		ESC:Exit :Sel PgUp/PgDn:Modify F2/F3:Color

- 2. Use <Up> and <Down> to choose the item and <PgUp> and <PgDn> keys to modify the highlighted item.
- 3. After you have finished with the Advanced CMOS Setup, press <ESC> to go back to the main menu.



## Description of the item on screen follows:

### 1st Boot Device/2nd Boot Device/3rd Boot Device/4th Boot Device

This option sets the sequence of boot drives.

The settings are:

IDE0	The system will boot from the first HDD.
IDE1	The system will boot from the Second HDD.
IDE2	The system will boot from the Third HDD.
IDE3	The system will boot from the Fourth HDD.
Floppy	The system will boot from Floppy drive.
ARMD-FDD	The system will boot from IOMEGA drive.
ARMD-HDD	The system will boot from LS-120 drive.
SCSI	The system will boot from the SCSI.
Network	The system will boot from the Network drive.
CD-ROM	The system will boot from the CD-ROM.
Disable	Disable this sequence.

### Password Check

This option specifies the type of AMI® BIOS password protection that is implemented. The Optimal and Fail-Safe default settings are Setup.

### System BIOS Cacheable

AMI® BIOS always copies the system BIOS from ROM to RAM for faster execution. Set this option to Enabled to permit the contents of the F0000h RAM memory segment to be written to and read from cache memory. The settings are Enabled or Disabled. The Optimal default setting is Enabled.

### Video BIOS Shadow

Determines whether video BIOS will be copied to RAM for faster execution. Video shadow will increase the video performance.

<b>Enabled</b> (default)	Video shadow is enabled
<b>Disabled</b>	Video shadow is disabled



3.4 Advanced Chipset Setup

- 1. Press <ENTER> on “Advanced Chipset Setup” of the main menu screen.

AMIBIOS SETUP - ADVANCED CHIPSET SETUP		
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USB Keyboard Legacy Support	Disabled	Available Options:
Graphics Aperture Size	64	Disabled
Primary Frame Buffer	Enabled	Enabled
Onboard Sound Chip	Enabled	
		ESC:Exit :Sel
		PgUp/PgDn:Modify
		F2/F3:Color

- 2. Use <Up> and <Down> to choose the item and <PgUp> and <PgDn> keys to modify the highlighted item.
- 3. After you have finished with the Advanced Chipset Setup, press <ESC> to go back to the main menu.



**Description of the item on screen are as follows:**

### **USB Keyboard Legacy Support**

Set this option to Enable or Disable USB keyboard/mouse.  
The Optional and Fail-Safe default settings are Disabled.

### **Graphics Aperture Size**

This option determines the effective size of the graphics aperture used in the particular configuration. The AGP aperture is memory-mapped, while graphics data structure can reside in a graphics aperture. The aperture range should be programmed as non cacheable in the processor cache, access with the aperture range are forwarded to the main memory, then translated to the original issued address via a translation table that is maintained on the main memory. The option allows the selection of an aperture size of 4MB, 8MB, 16MB, 32MB, 64MB, 128MB, and 256MB.

### **Primary Frame Buffer**

The processor provides a write-combining with buffering strategy for write operation. This is useful for frame buffering. Writing to USWC memory can be buffered and combined in the processor's write-combining buffer (WCB). The WCBs are viewed as a special purpose outgoing write buffers, rather than a cache. The WCBs are written into memory to allocate a different address, or after executing a serializing, locked, or I/O instructions.

During Enabled, this will enable the processor memory location C000 and DFFF segment as USWC memory type.

### **Onboard Sound Chip**

Choosing Enabled will allow the system to use onboard sound.  
Choose Disabled, when using add-on sound card.



3.5 Power Management Setup

- 1. Press <ENTER> on “Power Management Setup” of the main menu screen.

AMIBIOS SETUP - POWER MANAGEMENT SETUP		
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Power Management / APM	Enabled	Available Options: Disabled Enabled
Green Monitor Power State	Off	
Video Power Down Mode	Stand By	
Hard Disk Power Down Mode	Disabled	
Power Button Function	Soft Off	
		ESC:Exit :Sel PgUp/PgDn:Modify F2/F3:Color

- 2. Use <Up> and <Down> to choose the item and <PgUp> and <PgDn> keys to modify the highlighted item.
- 3. After you have finished with the Power Management Setup, press <ESC> to go back to the main menu.



## **Description of the item on screen are as follows:**

### **Power Management/APM**

Set this option to Enabled to enable the power management features and APM(Advanced Power Management). The settings are Enabled, Inst-On(instant-on) or Disabled. The Optimal and Fail-Safe default settings are Disabled.

### **Green Monitor Power State**

This option specifies the power state that the green PC-compliant video monitor enters when AMI® BIOS places it in a power savings state after the specified period of display inactivity has expired. The settings are Off, Standby, Suspend or Disabled. The Optimal and Fail-Safe default settings are Standby.

### **Video Power Down Mode**

This option specifies the power conserving state that the VESA VGA video subsystem enters after the specified period of display inactivity has expired. The settings are Disabled, Standby or Suspend. The Optimal and Fail-Safe default settings are Standby.

### **Hard Disk Power Down Mode**

This option will specifies the power conserving state that the hard disk drive enters after the specified period of hard drive inactivity has expired. The settings are Disabled, Standby or Suspend. The Optimal and Fail-Safe default settings are Disabled.

### **Power Button Function**

During Suspend, if you push the switch once, the system goes into suspend mode and if you push it for more than 4 seconds, the system will be turned off. During On/Off, the system will turn off once you push the switch.



3.6 Peripheral Setup

- 1. Press <ENTER> on “Peripheral Setup” of the main menu screen.

AMIBIOS SETUP - PERIPHERAL SETUP		
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OnBoard FDC	Enabled	Available Options: Enabled Disabled
OnBoard Serial Port1	3F8H/COM1	
OnBoard Parallel Port	378H	
Parallel Port Mode	Normal	
EPP Version	N/A	
Parallel Port IRQ	7	
Parallel Port DMA Channel	N/A	
Onboard IDE	Both	
CDROM Dual Mode	Normal	
		ESC:Exit :Sel PgUp/PgDn:Modify F2/F3:Color

- 2. Use <up> and <down> to choose the item and <PgUp> and <PgDn> keys to modify the highlighted item.
- 3. After you have finished with the Peripheral Setup, press <ESC> to go back to the main menu.



## Description of the item on screen follows:

### Onboard FDC

Choose Auto, for the BIOS to automatically detect the device.

If the ISA add-on card has	Onboard FDC to be set at
FDC exist	Disabled
none FDC exist	Enabled

Choose Enabled, Enabling onboard FDC.

Choose Disabled, Disabling onboard FDC.

The Optimal and Fail-Safe default settings are Auto.

### Onboard Serial Port 1

Choose Auto, for the BIOS to automatically detect the device.

If the ISA add-on card has				Onboard Serial port to be set at			
COM1 (I/O:3F8H)	COM2 (I/O:3F8H)	COM3 (I/O:3E8H)	COM4 (I/O:2E8H)	PORT1	IRQ ASSIGNED	PORT2	IRQ ASSIGNED
✓	✓	✓	✓	DISABLED	X	DISABLED	X
✓	✓	X	X	COM3	4	COM4	3
X	X	✓	✓	COM1	4	COM2	3
✓	X	X	✓	COM2	3	COM3	4
X	✓	✓	X	COM1	4	COM4	3
✓	✓	✓	X	COM4	3	DISABLED	X
✓	✓	X	✓	COM3	4	DISABLED	X
✓	X	✓	✓	COM2	3	DISABLED	X
X	✓	✓	✓	COM1	4	DISABLED	X
X	X	X	X	COM1	4	COM2	3
✓	X	X	X	COM2	3	COM3	4
X	✓	X	X	COM1	4	COM3	4
X	X	✓	X	COM1	4	COM2	3
X	X	X	✓	COM1	4	COM2	3

**Note:** If the onboard serial port interrupt and ISA add-on card interrupt are in conflict, the serial port will not work properly. Please disable one of the devices.



### Onboard Parallel Port

Choose Auto, for the BIOS to automatically assign the onboard parallel port to the available parallel port or disabled.

If the ISA add-on card has			Onboard parallel port to be set as	
LPT1 I/O:378H	LPT2 I/O:278H	LPT3 I/O:3BCH	PORT ASSIGNED	IRQ ASSIGNED
✓	✓	✓	Disabled	X
✓	✓	X	LPT3	5
✓	X	✓	LPT2	5
X	✓	✓	LPT1	7
✓	X	X	LPT2	5
X	✓	X	LPT1	7
X	X	✓	LPT1	7
X	X	X	LPT1	7

**Note:** If the onboard parallel port interrupt and ISA add-on card interrupt are in conflict, the parallel port will not work properly. Please disable one of the devices.

### EPP Version

This option is for setting which EPP version will be used. The settings are 1.7 and 1.9.

### Parallel Port Mode

This option allows user to choose the operating mode of the onboard parallel port. The settings are Normal, SPP/EPP or ECP mode.



### **Parallel Port IRQ**

If the onboard parallel mode is not on auto mode, the user can select the interrupt line for onboard parallel port. We suggest that the user select the interrupt for the onboard parallel port as shown below:

<b>Onboard parallel port set at</b>	<b>Parallel Port IRQ</b>
LPT1(378H)	7
LPT2(278H)	5
LPT3(3BCH)	5

### **Parallel Port DMA Channel**

This option allows user to choose DMA channel 1 to 3 for the onboard parallel port on ECP mode.

### **Onboard IDE**

Set this option to enable or disable the on board IDE controller.

### **CDROM DMA Mode**

Set this option to Normal or Turbo.