

## **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.

## 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) 1999 American Megatrends Inc.  
A6309 VXXX XXXXXX
```

```
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.

AMIBIOS SIMPLE SETUP UTILITIES - VERSION 1.21f (C) 1998 American Megatrends, Inc. All Rights Reserved	
Standard CMOS Setup	Integrated Peripherals
BIOS Features Setup	Hardware Monitor Setup
Chipset Features Setup	Supervisor Password
Power Management Setup	User Password
PNP/PCI Configuration	IDE HDD Auto Detection
Load BIOS Defaults	Save and Exit Setup
Load Setup Defaults	Exit Without Saving
Esc :Quit                    ↑↓→← : Select Item    (Shift)F2: Change Color F5: Old Values F6 :Load BIOS Defaults      F7 :Load Setup Defaults      F10: Save & Exit	
Standard CMOS Setup for changing time, date , hard disk, etc.	

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>.

## Standard CMOS Setup

1. Press <ENTER> on "Standard CMOS Setup" of the main menu screen .

AMIBIOS SETUP - STANDARD CMOS SETUP							
(C)1999 American Megatrends, Inc. All Rights Reserved							
Date (mm/dd/yyyy):		Fri Oct 29, 1999					
Time (hh/mm/ss):		17:09:25					
	Type	Size	CYLS	HEAD	PRECOMP	LANDZ	SECTOR MODE
Pri Master	:Auto						
Pri Slave	:Auto						
Sec Master	:Auto						
Sec Slave	:Auto						
Floppy Drive A:		1.44 MB		3 1/2			
Floppy Drive B:		Not Installed					
Boot Sector Virus Protection		Disabled					
		Base Memory		: 0 Kb			
		Other Memory		: 384 Kb			
		Extended Memory		: 0 Mb			
		Total Memory		: 1 Mb			
Available Options:		ESC:Exit					
Disabled		↑↓:Select Item					
Enabled		PU/PD/+/-:Modify					
		(Shift)F2: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.

BIOS Features Setup

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

AMIBIOS SETUP - BIOS FEATURES SETUP			
(C) 1999 American Megatrends, Inc. All Rights Reserved			
Quick Boot	:Enabled	D800, 16K Shadow	:Disabled
1st Boot Device	:Floppy	DC00, 16K Shadow	:Disabled
2nd Boot Device	:IDE-0		
3rd Boot Device	:CDROM		
Initial Display Mode	:BIOS		
S.M.A.R.T. For Hard Disk	:Disabled		
Boot Num-Lock	:On		
Floppy Drive Swap	:Disabled		
Floppy Drive Seek	:Disabled		
Password Check	:Setup		
Boot to OS/2 > 64M	:No		
CPU Serial Number	:Enabled		
L2 Cache	:Write Back		
Cache Bus ECC	:Disabled		
System BIOS Cacheable	:Enabled	ESC:Exit	↑↓→← :Select Item
C000, 32k Shadow	:Disabled	F1 :Help	PU/PD/+/-:Modify
C800, 16K Shadow	:Disabled	F5 :Old Values (Shift)	F2:Color
CC00, 16K Shadow	:Disabled	F6 :Load BIOS Defaults	
DC00, 16K Shadow	:Disabled	F7 :Load Setup Defaults	
D000, 16K Shadow	:Disabled		
D400, 16K Shadow	:Disabled		

- 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 BIOS Features Setup, press <ESC> to go back to the main menu.

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

### **Quick Boot**

Set this option to Enabled to permit AMI® BIOS to boot within 5 seconds. This option replaces the old ABOVE 1 MB Memory Test option. The Setup default setting is Enabled. The BIOS default setting is Disabled.

### **1st Boot Device/2nd Boot Device/3rd Boot Device**

This option sets the sequence of boot drives.

The settings are:

Disabled	Disable this sequence
IDE-0	The system will boot from the first HDD.
IDE-1	The system will boot from the Second HDD.
IDE-2	The system will boot from the Third HDD.
IDE-3	The system will boot from the Fourth HDD.
Floppy	The system will boot from Floppy.
ZIP A:/LS120	The system will boot from LS-120 (120M Floppy).
Atapi ZIP C:	The system will boot from the ZIP.
CDROM	The system will boot from the CD-ROM
SCSI	The system will boot from the SCSI.
Network	The system will boot from the Network drive.

### **Initial Display Mode**

Set this option to BIOS mode for normal boot-up. Silent mode to show the MSI logo during system boot-up. The settings are BIOS or Silent.

**S.M.A.R.T. for Hard Disks**

This option sets the SMART Function for the hard disk. The hard disk need to have SMART function for this feature to work.

**Boot up Num Lock**

When this option is set to Off, AMI® BIOS turns off the Num Lock key when the system is powered on. The end user can then use the arrow keys on both the numeric keypad and the keyboard. The settings are On or Off. The Setup default and BIOS default setting are On.

**Floppy Drive Swap**

Set this option to Enabled to specify that floppy drives A: and B: are swapped. The setting are Enabled and Disabled. The Setup and BIOS default settings are Disabled.

**Floppy Drive Seek**

When this option is set to Enabled, AMI® BIOS performs a Seek command on floppy drive A: before booting the system. The settings are Enabled and Disabled. The Setup and BIOS default settings are Disabled.

**Password Check**

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

**Boot To OS/2® > 64MB**

Set this option to Enabled to permit the BIOS to run properly, if OS/2® is to be used with > 64MB of DRAM. The settings are Enabled or Disabled. The Setup and BIOS default settings are Disabled.

**L2 CacheECC**

This option enables the Level 2 Cache memory ECC(Error Check Correction).

**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 Setup default setting is Enabled. The BIOS default setting is Disabled.

**C000, 32K Shadow**

These options specify how the contents of the video ROM are handled. The settings are:

**Disabled** - the Video ROM is not copied to RAM.

**Cached** - the contents of the video ROM from C0000h - C7FFFh are not only copied from ROM to RAM; it can also be written to or read from cache memory.

**Enabled** - the Contents of the video ROM from C0000h - C7FFFh are copied (shadowed) from ROM to RAM for faster execution.

The Setup and BIOS default setting is Enabled.



## Chipset Features Setup

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

AMIBIOS SETUP - CHIPSET FEATURES SETUP	
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Set SDRAM Timing by SPD	:Disabled
DRAM Frequency	:100Mhz
SDRAM CAS# Latency	:3
DRAM Integrity Mode	:Disabled
CPU In Order Queue	:4-Level
Memory Hole	:Disabled
AGP Mode	:Auto
AGP Comp. Driving	:Auto
Manual AGP Comp. Driving	:CB
AGP Aperture Size	:64MB
USB Controller	:USB Port 0&1
USB KB/Mouse Legacy	:Disabled
USB 60/64 Port Emulation	:Disabled
ESC:Exit      ↑↓→← :Select Item F1 :Help      PU/PD/+/-:Modify F5 :Old Values (Shift)F2:Color F6 :Load BIOS Defaults F7 :Load Setup Defaults	

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 Chipset Features Setup, press <ESC> to go back to the main menu.

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

### **Set SDRAM Timing By SPD**

Choose Enabled, will automatically configure the DRAM Timing depending on the “DRAM Speed” selection. Choose Disabled, to customize the setup.

### **DRAM Frequency**

This item specify the DRAM frequency of the system.

The settings are:

**66MHz FSB Processor**    66/100MHz DRAM Frequency

**100MHz FSB Processor**   66/100/133MHz DRAM Frequency

**133MHz FSB Processor**   100/133MHz DRAM Frequency

### **SDRAM CAS# Latency**

When synchronous DRAM is installed, the number of clock cycles of CAS latency depends on the DRAM timing. The settings are: 2 and 3.

### **DRAM Integrity Mode**

This item will automatically detect your DIMM for ECC. The Setup and BIOS default setting is Disabled.

### **Memory Hole**

This option allows the end user to specify the location of a memory hole (15MB-16MB). The cycle matching the selected memory hole will be passed to the ISA bus.

**AGP Aperture Size**

This option determines the effective size of the graphics aperture used in the particular MCM configuration. The AGP aperture is memory - mapped, while graphics data structure can reside in a graphics aperture. The aperture range should be programmed as not cacheable in the processor cache, accesses with the aperture range are forwarded to the main memory, then MCM will translate 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.

**USB Controller**

Set this option to Enabled or Disabled the on-chip USB controller. The settings are USB Port 0 & 1, USB Port 2 & 3 or All USB Port. The Setting and BIOS default setting is USB Port 0 & 1.

**USB KB/Mouse Legacy Support**

Set this option to Enabled or Disabled USB Mouse & keyboard. The default setting is Disabled.

Power Management Setup

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

AMIBIOS SETUP - POWER MANAGEMENT SETUP			
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Compliance With O/S	:Yes	System Thermal	:Ignore
ACPI Standby State	:S1/POS	Thermal Slow Clock Ratio	:50%-56.25%
Power Management/APM	:Enabled	Power Button Function	:On/Off
Green PC LED Status	:Dual Color	Restore on AC/Power Loss	:Last State
Video Power Down Mode	:Suspend	Resume On Ring/LAN	:Enabled
Hard Disk Power Down Mode	:Stand-by	Resume On PME#	:Disabled
Standby Time Out (Minute)	:Disabled	Resume On RTC Alarm	:Disabled
Suspend Time Out (Minute)	:Disabled	RTC Alarm Date	:15
Throttle Slow Clock Ratio	:50%-56.25%	RTC Alarm Hour	:12
Display Activity	:Ignore	RTC Alarm Minute	:30
IRQ3	:Monitor	RTC Alarm Second	:30
IRQ4	:Monitor		
IRQ5	:Ignore		
IRQ7	:Monitor		
IRQ9	:Ignore	ESC:Exit	↑↓→← :Select Item
IRQ10	:Ignore	F1 :Help	PU/PD/+/-:Modify
IRQ11	:Ignore	F5 :Old Values (Shift)	F2:Color
IRQ13	:Ignore	F6 :Load BIOS Defaults	
IRQ14	:Monitor	F7 :Load Setup Defaults	
IRQ15	:Ignore		

- 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 follows:****Compliance With O/S**

Set this option to Yes if the operating system supports ACPI. If the setting is No, the operating system supports APM.

**ACPI Standby State**

This item will set which ACPI standby type will be used.

**Power Management/APM**

Set this option to enable the chipset's power management features and APM(Advanced Power Management). The settings are Enabled, Inst-On(instant-on) or Disabled. The Setup default setting is Enabled. The BIOS Default is Disabled

**Green PC 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. The Setup and BIOS default setting is 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 default setting is Standby.

**Hard Disk 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 settings are Disabled, Standby or Suspend. The Setup and BIOS default setting is Standby.

**Standby TimeOut (Minute)**

This option defines the continuous idle time before the system enters STANDBY mode. If any item defined in the options of “Power Down and Resume events” is enabled & active, STANDBY timer will be reloaded. When the system has entered Standby mode, any of the items that are enabled in “Wake Up Events of Doze and Standby” will trigger the system to wake up. The settings are Disabled, 1 min, 2 min, 3 min, 4 min, 5 min, 6 min, 7 min, 8 min, 9 min, 10 min, 11 min, 12 min, 13 min, 14 min or 15 min. The default settings is Disabled.

**Suspend Time Out (Minute)**

This option specifies the length of a period of system inactivity while in Suspend state. When this length of time expires, the computer enters Suspend power state. The settings are Disabled, 1 min, 2 min, 4 min, 8 min, 10 min, 20 min, 30 min, 40 min, 50 min or 60 min. The default setting is Disabled.

**Throttle Slow Clock Ratio**

This option specifies the speed at which the system clock runs in power saving states. The settings are expressed as ratio between the normal CPU clock speed and the CPU clock speed when the computer is in the power-conserving state.

**Display Activity/IRQ 3/IRQ 4/IRQ 5/IRQ 7/IRQ 9/IRQ1 0/  
IRQ 11/IRQ 13/IRQ 14/IRQ 15/System Thermal**

When set to Monitor, these options enable event monitoring on the specified hardware interrupt request line. If set to Monitor and the computer is in a power saving state, AMI® BIOS watches for activity on the specified IRQ line. The computer enters the full on power state if any activity occurs.

AMI® BIOS reloads the Standby and Suspend timeout timers if activity occurs on the specified IRQ line.

**Thermal Slow Clock Ratio**

When set to Monitor, then you can choose the throttle ratio. This option is connected with the **CPU Critical Temperature** Option.

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### **Power Button Function**

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

### **Restore on AC/Power Loss**

The settings are power on, power off or last state. During power on, after every AC power loss, the system will be turned on. During last status, after every AC power off, whatever the system status, it will be the same when the AC power returns. During power off, after every AC power loss, the system will remain shut down.

### **Resume On Ring/LAN**

During Disabled, the system will ignore any incoming call from the modem/LAN network card. During Enabled, the system will boot up if there's an incoming call from the modem/LAN network card.

**Note:** If you have change the setting, you must let the system boot up until it goes to the operating system. Then, power off the system. This function will work the next time you power on.

### **Resume On PME#**

During Disabled, the system will ignore any event on PME (Power Management Event). During Enabled, the system will boot up if there's an event on PME. The default setting is Disabled.

**Resume On RTC Alarm**

This function is for setting the Date, Hour, Minute, and Second for your computer to boot up. During Disabled, you cannot use this function. During Enabled, Choose the Date, Hour, Minute, and Second:

- |                         |  |
|-------------------------|--|
| <b>RTC Alarm Date</b>   | Choose which day the system will boot up.    |
| <b>RTC Alarm Hour</b>   | Choose which hour the system will boot up.   |
| <b>RTC Alarm Minute</b> | Choose which minute the system will boot up. |
| <b>RTC Alarm Second</b> | Choose which second the system will boot up. |

**Note:** If you have change the setting, you must let the system boot up until it goes to the operating system. Then, power off the system. This function will work the next time you power on.



PNP/PCI Configuration

- 1. Press <ENTER> on “PNP/PCI Configuration” of the main menu screen.

AMIBIOS SETUP - PNP/PCI CONFIGURATION		
(C) 1999 American Megatrends, Inc. All Rights Reserved		
PnP Aware O/S	:No	
Clear NVRAM	:No	
PCI Latency Timer	:64	
Primary Graphics Adapter	:PCI	
PCI VGA Palette Snoop	:Disabled	
DMA Channel 0	:PnP	
DMA Channel 1	:PnP	
DMA Channel 3	:PnP	
DMA Channel 5	:PnP	
DMA Channel 6	:PnP	
DMA Channel 7	:PnP	
IRQ3	:PCI/PnP	
IRQ4	:PCI/PnP	
IRQ5	:PCI/PnP	
IRQ7	:PCI/PnP	
IRQ9	:PCI/PnP	
IRQ10	:PCI/PnP	ESC:Exit           ↑↓→← :Select Item F1 :Help           PU/PD/+/-:Modify F5 :Old Values (Shift)F2:Color F6 :Load BIOS Defaults F7 :Load Setup Defaults
IRQ11	:PCI/PnP	
IRQ14	:PCI/PnP	
IRQ15	:PCI/PnP	

- 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 PNP/PCI Configuration, press <ESC> to go back to the main menu.

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

### **Plug and Play Aware O/S**

Set this option to Yes if the operating system in this computer is aware of and follows the Plug and Play specification. The settings are Yes or No. The default setting No.

### **Clear NVRAM**

During Yes, this will clear NVRAM data on every boot.

### **PCI Latency Timer**

This option specifies the latency timings (in PCI clocks) for all PCI devices on the PCI bus. The settings are 32, 64, 96, 128, 160, 192, 224 or 248. The Setup and BIOS default settings is 64.

### **Primary Graphics Adapter**

This option is for selecting which VGA card is to be your primary display graphics adapter.

### **PCI VGA Palette Snoop**

When this option is set to Enabled, multiple VGA devices operating on different buses can handle data from the CPU on each set of palette registers on every video device. Bit 5 of the command register in the PCI device configuration space is the VGA Palette Snoop bit (0 is disabled). For example, if there are two VGA devices in the computer (one PCI and ISA) and the Bit settings are:

**Disabled** - Data read and written by the CPU is only directed to the PCI VGA device's palette registers.

**Enabled** - Data read and written by the CPU is directed to both the PCI VGA device's palette registers and the ISA VGA device palette registers, permitting the palette registers of both devices to be identical.

This option must be set to Enabled if an ISA adapter card requires VGA palette snooping. The settings are Enabled or Disabled. The default setting is Disabled.

**DMA Channel 0/1/3/5/6/7**

These options specify the bus that the specified DMA channel is used. These options allow you to reserve DMAs for legacy ISA adapter cards.

These options determine if AMI® BIOS should remove a DMA from the available DMAs passed to devices that are configurable by the system BIOS. The available DMA pool is determined by reading the ESCD NVRAM. If more DMAs must be removed from the pool, the end user can use these options to reserve the DMA by assigning an ISA/EISA setting to it.

**IRQ3/IRQ4/IRQ5/RQ7/IRQ9/IRQ10/IRQ11/IRQ14/IRQ15**

These options specify the bus that the specified IRQ line is used on. These options allow you to reserve IRQs for legacy ISA adapter cards.

These options determine if AMI® BIOS should remove an IRQ from the pool of available IRQs passed to devices that are configurable by the system BIOS. The available IRQ pool is determined by reading the ESCD NVRAM. If more IRQs must be removed from the pool, the end user can use these options to reserve the IRQ by assigning an ISA/EISA setting to it. Onboard I/O is configured by AMI® BIOS. All IRQs used by onboard I/O are configured as PCI/PnP. If all IRQs are set to ISA/EISA and IRQ14 and 15 are allocated to the onboard PCI IDE, IRQ9 will still be available for PCI and PnP devices, because at least one IRQ must be available for PCI and PnP devices. The settings are ISA/EISA or PCI/PnP. The default setting is PCI/PnP.

Integrated Peripherals

- 1. Press <ENTER> on “Integrated Peripherals” of the main menu screen.

AMIBIOS SETUP - INTEGRATED PERIPHERALS		
(C) 1999 American Megatrends, Inc. All Rights Reserved		
Onboard IDE	:Both	
Onboard FDC	:Auto	
Onboard Serial Port 1	:Auto	
Onboard Serial Port 2	:Auto	
Serial Port 2 Mode	:Normal	
Duplex Mode	:N/A	
Onboard Parallel Port	:Auto	
Parallel Port Mode	:ECP	
EPP Version	:N/A	
Parallel Port DMA	:Auto	
Parallel Port IRQ	:Auto	
Onboard AC'97 Audio	:Enabled	
Onboard MC'97 Modem	:Disabled	
Codec Variable Rate	:Enabled	
		ESC:Exit           ↑↓→← :Select Item
		F1 :Help            PU/PD/+/-:Modify
		F5 :Old Values (Shift)F2:Color
		F6 :Load BIOS Defaults
		F7 :Load Setup Defaults

- 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 Integrated Peripherals, 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 Setup and BIOS default setting is Auto.

### Onboard Serial Port 1/Onboard Serial Port 2

Choose 3F8, 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.

### Serial Port2 Mode

This item allows the user to determine which InfraRed (IR) function of the onboard I/O chip. The settings are Normal, IRDA and ASK IR. The default setting is Normal.

### Onboard Parallel Port

Choose Auto, the BIOS automatically assigned 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.

### 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.

### EPP Version

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

### **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**

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 on board IDE controller.

### **Onboard AC'97 Audio**

This item allows you to decide to enable/disable the VIA chipset family to support AC97Audio. The settings are Enabled, Disabled.

### **Onboard MC'97 Modem**

This item allows you to decide to enable/disable the VIA chipset family to support MC97 Modem. The settings are Enabled, Disabled.

Hardware Monitor Setup

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

AMIBIOS SETUP - Hardware Monitor Setup		
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ClkGen Spread Spectrum	:Enabled	
CPU Host Clock (MHz)	:Auto	
CPU Ratio Selection	:3.0X	
CPU Vcore Selection (V)	:Auto	
-- System Monitor --		
Current CPU Temperature	:45°C/113°F	
Current System Temperature	:32°C/89°F	
Current CPU Fan Speed	:5200 RPM	
Current Chassis Fan Speed	:0 RPM	
Vcore	:2.112V	
+2.500V	:2.575V	
+3.300V	:3.373V	
+5.000V	:4.946V	
+12.000V	:11.986V	
ESC:Exit		↑↓→← :Select Item
F1 :Help		PU/PD/+/-:Modify
F5 :Old Values (Shift)		F2:Color
F6 :Load BIOS Defaults		
F7 :Load Setup Defaults		

- 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:****ClkGen Spread Spectrum**

This item allows you to select the clock generator Spread Spectrum function. When overclocking the processor, always set this item to Disabled. The default setting is Enabled.

**CPU Host Clock (Mhz)**

Check your processor and set this function accordingly. If you set this to Manual, you can set the CPU Host Clock accordingly.

CPU Frequencies are: 66.8, 79, 85, 87.5, 90, 92.5, 100, 110, 115, 120, 124, 129, 133, 138.

**CPU Voltage Selection (V)**

Check your processor and set this function accordingly.

IDE HDD Auto Detection

You can use this utility to automatically detect the characteristics of most hard drives.

AMIBIOS SETUP - STANDARD CMOS SETUP									
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Date (mm/dd/yyyy): Fri Oct 29, 1999									
Time (hh/mm/ss): 17:09:25									
	Type	Size	CYLS	HEAD	PRECOMP	LANDZ	SECTOR	MODE	
Pri Master	:Auto								
Pri Slave	:Auto								
Sec Master	:Auto								
Sec Slave	:Auto								
Floppy Drive A:					1.44 MB 3 1/2				
Floppy Drive B:					Not Installed				
Boot Sector Virus Protection					Disabled				
					Base Memory : 0 Kb				
					Other Memory : 384 Kb				
					Extended Memory : 0 Mb				
					Total Memory : 1 Mb				
Available Options:					ESC:Exit				
Disabled					↑↓:Select Item				
Enabled					PU/PD/+/-:Modify				
					(Shift)F2:Color				

## **Supervisor/User Password**

This Main Menu item lets you configure the system so that a password is required each time the system boots or an attempt is made to enter the Setup program. Supervisor Password allows you to change all CMOS settings but the User Password setting doesn't have this function. The way to set up the passwords for both Supervisor and User are as follow:

1. Choose "Supervisor/User Password" in the Main Menu and press <Enter>. The following message appears:

"Enter New Supervisor/User Password:"

2. The first time you run this option, enter your password up to 6 characters only and press <Enter>. The screen will not display the entered characters. For no password, just press <Enter>.
3. After you enter the password, the following message appears prompting you to confirm the password:

"Retype New Supervisor/User Password:"

4. Enter exactly the same password you just typed in to confirm the password and press <Enter>.
5. Move the cursor to Save and Exit Setup to save the password.
6. If you need to delete the password you entered before, choose the Supervisor/User Password and press <Enter>. It will delete the password that you had before.
7. Move the cursor to Save and Exit Setup to save the option you did. Otherwise, the old password will still be there when you turn on your machine next time.