Chapter 4

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.

4.1 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.
AGIOMS  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  HIFLEX  SETUP  UTILITIES  -  VERSION 1.20│
 │  (C) 1998 American Megatrends, Inc. All Rights    │
 │                  Reserved                         │
 ├─────────────────────────────────────────────────┤
 │                Standard CMOS  Setup               │
 │                Advanced CMOS  Setup               │
 │              Advanced Chipset Setup               │
 │              Power Management Setup               │
 │              PCI/Plug and Play Setup              │
 │                  Peripheral Setup                 │
 │          Hardware Monitor Setup (optional)        │
 │                Auto-Detect Hard Disks             │
 │                 Change User Password              │
 │              Change Supervisor Password           │
 │            Change Keyboard Wake-up Password       │
 │      Auto Configuration with Optimal Settings     │
 │      Auto Configuration with Fail Safe Settings   │
 │                Save Settings and Exit             │
 │                  Exit without Saving              │
 ├─────────────────────────────────────────────────┤
 │   Standard CMOS setup for changing time, hard disk type, etc.│
 │                                                   │
 │      ESC:Exit ↑↓:Sel F2/F3:Color F10:Save & Exit  │
 └─────────────────────────────────────────────────┘
```

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 4.2 to 4.8 will explain the option in more details.

4.2 Standard CMOS Setup

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

```
        AMIBIOS  SETUP  -  STANDARD  CMOS  SETUP
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Date (mm/dd/yyyy): Fri March 20, 1998
Time (hh/mm/ss):   17:09:25

Floppy Drive A:            1.44 MB 3 1/2
Floppy Drive B:            Not  Installed
                                          LBA   Blk   PIO   32Bit
           Type  Size  Cyln  Head  WPcom Sec  Mode  Mode  Mode  Mode
Pri Master :Auto                          ON    ON    AUTO  ON
Pri Slave  :Auto                          ON    ON    AUTO  ON
Sec Master :Auto                          ON    ON    AUTO  ON
Sec Slave  :Auto                          ON    ON    AUTO  ON

Boot  Sector  Virus  Protection Disabled


Month    : Jan-Dec                ESC:Exit↑↓:Sel
Day      : 01-31                  PgUp/PgDn:Modify
Year     : 1901-2099              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.

4.3 Advanced CMOS Setup

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

```
           AMIBIOS  SETUP  -  ADVANCED  CMOS  SETUP
      (C)  1998  American  Megatrends,  Inc.  All  Rights
                        Reserved

Ist Boot Device            Floppy        Available  Options:
2nd Boot Device            IDE 0         Enabled
3rd Boot Device            CD-ROM        Disabled
Try Other Boot Devices     Yes
Floppy Access Control      Read-Write
S.M.A.R.T. For Hard Disk   Disabled
BootUp Num-Lock            On
Floppy Drive Swap          Disabled
Floppy Drive Seek          Disabled
PS/2 Mouse Support         Enabled
Primary Display            Abset
Password Check             Setup
Parity Check               Disabled
Boot to OS/2 64M           No
System BIOS Cacheable      Enabled
C000, 16k Shadow           Cached
C400, 16k Shadow           Cached
C800, 16k Shadow           Disabled
CC00, 16k Shadow           Disabled
D000, 16K Shadow           Disabled
D400, 16K Shadow           Disabled
D800, 16K Shadow           Disabled      ESC:Exit↑↓:Sel
DC00, 16K Shadow           Disabled      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

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, LS120, ATAPI ZIP	The system will boot from LS-120(120M Floppy) or ATAPI ZIP.
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.

Try other Boot Devices

This option sets the device boot, if all the Four Boot Devices failed.

Floppy Access Control

This option sets the Floppy to Read-only or Read-Write.

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 optimal default and Fail-Safe default settings 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 Optimal and Fail-Safe 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 Optimal and Fail-Safe default settings are Disabled.

PS/2® Mouse Support

When this option is set to Enabled, AMI® BIOS supports a PS/2® mouse. The settings are Enabled and Disabled. The Optimal and Fail-Safe default settings are Enabled.

Primary Display

This option configures the primary display subsytem in the computer. The settings are Mono(monochrome), 40CGA, 80CGA or VGA/EGA. The optimal and Fail-Safe default settings are VGA/EGA.

Password Check

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

Parity Check

Set this option to Enabled to use the Parity Check function. The DIMM module need to have parity bit for this function to work.

Boot to OS/2®

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 Yes or No. The Optimal and Fail-safe default settings are No.

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. The Fail-Safe default setting is Disabled.

C000, 16K Shadow/C400, 16k 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.
Shadow - the Contents of the video ROM from C0000h -
    C7FFFh are copied(shadowed) from ROM to RAM for
    faster execution.
The Optimal and Fail-Safe default setting is Cached.

C800, 16k Shadow/DC00, 16k Shadow

These options specify how the contents of the adaptor ROM named in the option title are handled. The ROM area that is not used by ISA adapter cards will be allocated to PCI adapter cards. The settings are;

Disabled - The specified ROM is not copied to RAM.

Cache - The contents of the ROM area are not only copied from ROM to RAM for faster execution, it can also be written to or read from cache memory.

Shadow - The contents of the ROM area are copied from ROM to RAM for faster execution.

The Optimal and Fail-Safe default settings are Disabled.

4.4 Advanced Chipset Setup

1. Press <ENTER> on "Advanced Chipset Setup" of the main menu screen.

```
        AMIBIOS  SETUP  -  ADVANCED  CHIPSET  SETUP
     (C)  1998  American  Megatrends,  Inc.  All  Rights
                         Reserved
────────────────────────────────────────────┬────────────────────────
Auto Configure EDO DRAM Timing    Disabled   │ Available  Options:
EDO DRAM Speed (ns)               60          │ Enabled
  EDO Read Burst Timing           x222        │ Disabled
  EDO Write Burst Timing          x222        │
  EDO RAS Precharge Timing        3 clocks    │
  EDO RAS to CAS Delay            2 clocks    │
  MA wait State                   Fast        │
***** SDRAM Timing *****                      │
  SDRAM RAS to CAS Delay          2 Clks      │
  SDRAM CAS Latency               2 Clks      │
  SDRAM RAS Precharge Time        2 Clks      │
Fixed Memory Hole                 Disabled    │
AGP Aperture Size                 64 MB       │
USB Passive Release               Enabled     │
PIIX4 Passive Release             Enabled     │
PIIX4 Delayed Transaction         Enabled     │
Clock Generator For Spread Spectrum Enabled   │
CPU Plug and Play                 Auto        │
CPU Host Clock (MHz)              66.8        │
USB Function                      Enabled     │
USB Keyboard Legacy Support       Disabled    │
                                              │ 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 follows:

Auto Configure EDO DRAM Timing

Choose Enabled will automatically configure the DRAM timing depending on the "DRAM Speed" selection. Choose disable to customize setup.

EDO DRAM Speed (ns)

This option specifies the RAS access time (in nanoseconds) for the DRAM used in the computer. The settings are 50,60 or 70. The Optimal default setting is 60 and the Fail-Safe default setting is 70.

EDO DRAM Read Burst Timing

Choose DRAM read burst timing for the customize setup.
B stand for BEDO DRAM, E stand for EDO DRAM and F stand for FAST PAGE DRAM.

EDO DRAM Write Burst Timing

Choose DRAM write burst timing for the customize setup.

EDO RAS Precharge Timing

This option defines the RAS# precharge requirements for the EDO memory type in 66MHz clocks.

EDO RAS to CAS Delay

This operation decide the delay in assertion of CAS#(SCAS#) from assertion of RAS#(SRAS#) in 66MHz.

MA Wait State

This option selects Fast or Slow MA bus timing. The Slow timing is equal to Fast+1, in term of clock number for EDO DRAM.

SDRAM RAS to CAS Delay

This operation decide the delay in assertion of CAS#(SCAS#) from assertion of RAS#(SRAS#) in 66MHz.

SDRAM CAS Latency

This option determines the CAS latency time parameter of SDRAM. The settings are 2 clks or 3 clks.

SDRAM RAS Precharge Time

This option defines the RAS# precharge requirements for the SDRAM memory type in 66MHz clocks.

Fixed Memory Hole

This option allows the end user to specify the location of a memory hole. The cycle matching the selected memory hole will be passed to the ISA bus. If Enabled, the selected hole is not remapped.

AGP Aperture Size

This option determines the effective size of the graphics aperture used in the particular PAC 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 PAC 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 Passive Release

During Enabled, this will allow the PIIX4® to use passive release(look at PIIX4® Passive Release) while transferring control information or data for USB transaction. During Disabled, PIIX4® will perform PCI accesses for USB without using passive release.

PIIX4® Passive Release

The PIIX4® ISA bridge support GAT (Guaranteed Access Time) mode, which will now violate the spirit of the PCI specification. The systems provides a programmable passive release mechanism to meet the required master latencies. During Enabled, ISA masters may see long delays in accessing PCI memory, including the main DRAM array. The ISA GAT mode is also not supported during enable. ISA masters must honor IOCHRDY.

PIIX4® Delayed Transaction

During Enabled, the PIIX4® delay transaction mechanism is enabled when the PIIX4® is the target of a PCI transaction. A read cycle from Host to PCI is immediately retrieved due to any pending PCI to DRAM cycle. During Disabled, a read cycle from Host to PCI is waited until time-out due to any pending PCI to DRAM cycle.

Clock Generator for Spread Spectrum

Set this option to Enable or Disable the Spread Spectrum.

CPU Plug & Play

Set this option to Manual or Auto. If choose Auto, the CPU Host Clock will set to 66.8MHz (default). When choose Manual, you can select 66.8, 68.5, 75 or 83.3 MHz to set the CPU Host Clock.

NOTE: 75 and 83.3 MHz are used for overclocking purposes. We do not guarantee that the Motherboard, CPU or other components will work properly under these speed.

CPU Host Clock (MHz)

This is used to set the CPU Host Clock.

USB Function

Set this option to Enabled or Disabled the on-chip USB controller. The Optional and Fail-Safe default settings are Disabled.

USB Keyboard Legacy Support

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

4.5 Power Management Setup

1. Press <ENTER> on "Power Management Setup" of the main menu screen.

```
         AMIBIOS  SETUP  -  POWER  MANAGEMENT  SETUP
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                          Reserved

Power Management / APM              Disabled    Available  Options:
Green PC LED Status                 Dual Color  Enabled
Green PC Monitor Power State        Stand By    Disabled
Video Power Down Mode               Suspend
Hard Disk Power Down Mode           Stand By
Standby Time Out                    Disabled
Suspend Time Out                    Disabled
Throttle Slow Clock Ratio           50-62.5%
Modem Use IO Port                   N/A
Modem Use IRQ                       N/A
Display Activity                    Ignore
Device 6(Serial Port 1)             Monitor
Device 7(Serial Port 2)             Monitor
Device 8(Parallel Port)             Ignore
Device 5(Floppy Disk)               Monitor
Device 0(Primary master IDE)        Monitor
Device 1(Primary slave IDE)         Ignore
Device 2(Secondary master IDE)      Ignore
Device 3(Secondary slave IDE)       Ignore
Power Button Function               On/Off
Ring Resume From Soft-Off           Disabled
LAN Resume From Soft-Off            Disabled
RTC Alarm Resume From Soft-Off      Disabled
RTC Alarm Date                      15          ESC:Exit↑↓:Sel
RTC Alarm Hour                      12          PgUp/PgDn:Modify
RTC Alarm Minute                    50          F2/F3:Color
RTC Alarm Second                    30
```

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:

Power Management/APM

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

Green PC LED Status

This item determines which status the Power LED will use. The settings are Blink, Dual Color, and Single Color. During Blink, the power LED will blink when the system enters the suspend mode. When the mode is in Dual Color, the power LED will change its color during suspend mode. Choose the Single Color and the power LED will always remain lit.

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 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 Suspend.

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 Optimal and Fail-Safe default settings are Standby.

Standby Time Out

This option specifies the length of a period of system inactivity while in Full power on state. When this length of time expires, the computer enters Standby 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 Optimal and Fail-Safe default settings are Disabled.

Suspend Time Out

This option specifies the length of a period of system inactivity while in Standby 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 Optimal and Fail-Safe default settings are 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 a ratio between the normal CPU clock speed and the CPU clock speed when the computer is in the power-conserving state.

Modem Use IO Port

This indicates which I/O port will be used by the Modem(if there is a Modem).

Modem Use IRQ

This indicates which IRQ no. will be used by the Modem(if there is a Modem).

Display Activity/Device 6/Device 7/Device 8/Device 5/Device 0/Device 1/Device 2/Device 3/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.

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.

Ring Resume from Soft-Off

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

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.

LAN Resume From Soft-Off

During Disabled, the system cannot be boot up through LAN. During Enabled, the system can be boot up through LAN.

RTC Alarm Resume From Soft-Off

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:

RTC Alarm Date   Choose which day the system will boot up.
RTC Alarm Hour   Choose which hour the system will boot up.
RTC Alarm Minute   Choose which minute the system will boot up.
RTC Alarm Second   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.

4.6 PCI/Plug and Play Setup

1. Press <ENTER> on "PCI/Plug and Play Setup" of the main menu screen.

```
        AMIBIOS  SETUP  -  PCI/PLUG  AND  PLAY  SETUP
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                         Reserved

  Plug and Play Aware O/S          No        Available  Options:
  PCI Latency Timer (PCI Clocks)   64        Enabled
  PCI VGA Palette Snoop            Disabled  Disabled
  Allocate IRQ to PCI VGA          Yes
  OffBoard PCI IDE Card            Auto
  OffBoard PCI IDE Primary IRQ     Disabled
  OffBoard PCI IDE Secondary IRQ   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
  IRQ11                            PCI/PnP
  IRQ12                            PCI/PnP
  IRQ14                            PCI/PnP   ESC:Exit↑↓:Sel
  IRQ15                            PCI/PnP   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 PCI/Plug and Play Setup, 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. Currently, only Windows® 95 or 98 is PnP-aware. The settings are Yes or No. The Optimal and Fail-Safe default settings No.

PCI Latency Timer (PCI Clocks)

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 Optimal and Fail-Safe default settings are 64.

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 Optimal and Fail-Safe default settings are Disabled.

Allocate IRQ to PCI VGA

Choose the IRQ to be assigned to the PCI VGA display adapter card. The Optimal and Fail-Safe default setting is Yes.

Offboard PCI IDE Card

This option specifies if an offboard PCI IDE controller adapter card is installed in the computer. You must specify the PCI expansion slot on the mainboard where the offboard PCI IDE controller is installed. If an offboard PCI IDE controller is used, the onboard IDE controller is automatically disabled. The settings are Auto(AMI® BIOS automatically determines where the offboard PCI IDE controller adaper card is installed), Slot1, Slot2, or Slot3. The Optimal and Fail-Safe settings are Auto.

If an offboard PCI IDE controller adapter card is installed in the computer, you must also set the Offboard PCI IDE Primary IRQ and Offboard PCI IDE Secondary IRQ options.

Offboard PCI IDE Primary IRQ/
Offboard PCI IDE Secondary IRQ

These options specify the PCI interrupt used by the Primary (or Secondary) IDE channel on the offboard PCI IDE controller. The settings are Disabled, Hardwired, INTA, INTB, INTC or INTD. The Optimal and Fail-Safe default settings are 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 Optimal and Fail-Safe default settings are IRQ3 through 7 are ISA/EISA. The Optimal and Fail-Safe default settings PCI/PnP.

4.7 Peripheral Setup

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

```
           AMIBIOS  SETUP  -  PERIPHERAL  SETUP
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OnBoard  Audio                 Enabled      Available  Options:
OnBoard  FDC                   Auto         Enabled
OnBoard  Serial  PortA         3F8h/COM1    Disabled
OnBoard  Serial  PortB         2F8h/COM2
IR I/O Pin Location Select     SINB/SOUTB
  Serial  Port  Mode           Normal
  IR  Protocol                 N/A
OnBoard  Parallel  Port        378
  Parallel  Port  Mode         ECP
  EPP  Version                 N/A
  Parallel  Port  IRQ          7
  Parallel  Port  DMA Channel  3
Power  Loss  Control           Off
K/B  Wake-up  Function         Disabled
Mouse  Wake-up  Function       Disabled
Onboard  IDE                   Both




                                            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 Audio

This is used to Enabled or Disabled the Onboard Audio.

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 A/Onboard Serial Port B

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 PortB Mode

Choose Normal, IrDA, or ASK IR, to select the serial port B mode. When IrDA or ASK IR is selected, the IR will use the serial port B mode as its address port. Choose Normal to disable IR.

IR Duplex Mode	This option shows the IR duplex mode.
IR Protocol	This option shows the IR protocol of IrDA/Ask IR.

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.*

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:

Onboard parallel port set at	Parallel Port IRQ
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.

Power Loss Control

This option allows user to choose ON, OFF, or Keep Last for the Power Loss Control

Keyboard Wake-Up Function

This option allows user to disable Keyboard Wake-Up Function by choosing Disabled. Choose Anykey or Specific Key to enable Keyboard Wake-Up Function. In case user choose Specific Key, the Keyboard Wake-Up Function password should be set up in the main menu (Change Keyboard Wake-Up Password).

Mouse Wake-Up Function

This option allows user to enable the Mouse Wake-Up Function by choosing Left Button, or Right Button. Default is Disabled.

Onboard IDE

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

4.8 Hardware Monitor Setup (Optional)

The Hardware Monitor Setup is used to monitor the Current CPU temperature, CPU Fan speed, Chassis Fan Speed, Power fan speed, Vcore, etc.

```
         AMIBIOS  SETUP  -  HARDWARE  MONITOR  SETUP
    (C)  1998  American  Megatrends,  Inc.  All  Rights
                        Reserved

-=System Hardware Monitor=-              Available  Options:
System  Thermal                Ignore   Enabled
Thermal Slow Clock Ratio       50-62.5% Disabled
CPU  Critical  Temperature     40°c/104°f
  Current  System Temperature  30°c/100°f
  Current  CPU Temperature      30°c/100°f
  Current  CPU Fan Speed        5273RPM
  Current  Chassis Fan Speed    0 RPM
  Current  Power Fan Speed      0 RPM
  Vcore                         2.0V
  Vtt                           1.5V
  Vio                           3.3V
  +5,000V                       +5V
  +12,000V                      +12V
  -12,000V                      -12V
  -5,000V                       -5V




                                        ESC:Exit↑↓:Sel
                                        PgUp/PgDn:Modify
                                        F2/F3:Color
```