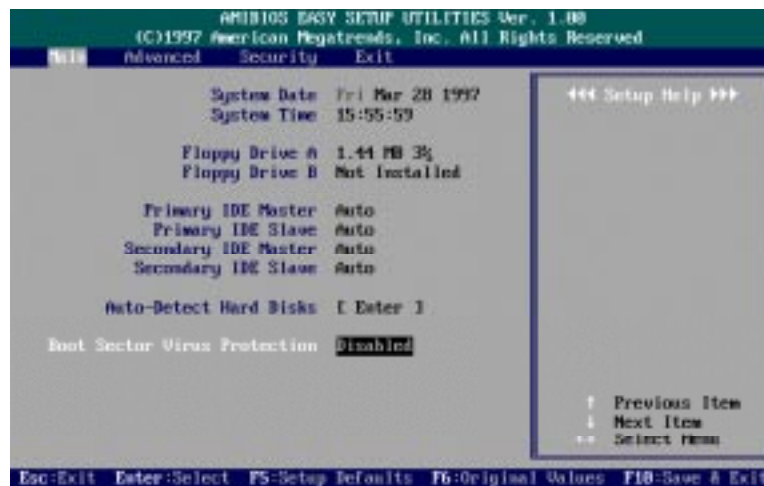# AMI BIOS Setup

The mainboard comes with an AMI BIOS chip that contains the ROM Setup information of your system. This chip serves as an interface between the processor and the rest of the mainboard's components. This chapter explains the information contained in the Setup program and tells you how to modify the settings according to your system configuration.

Main Setup

The Main Setup screen is displayed above. Each item may have one or more option settings. It allows you to change the system Date and Time, IDE hard disk, floppy disk drive types for drive A: and B:.

Auto-Detect Hard Disks
   Allows the system BIOS to detect all hard disk parameters automatically.
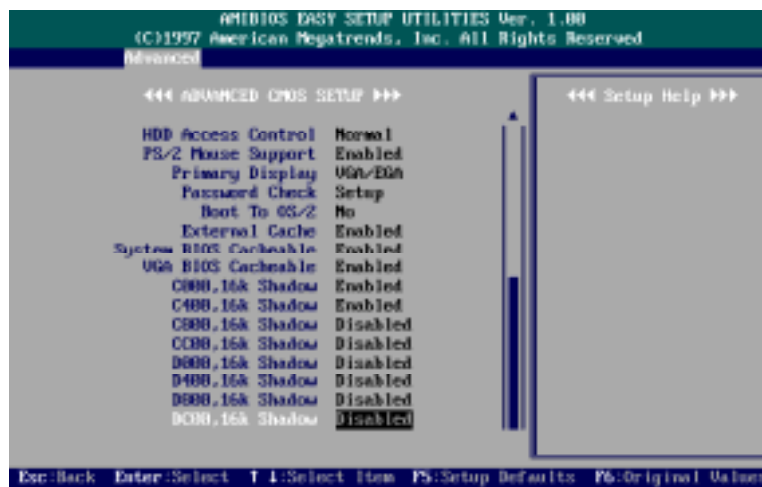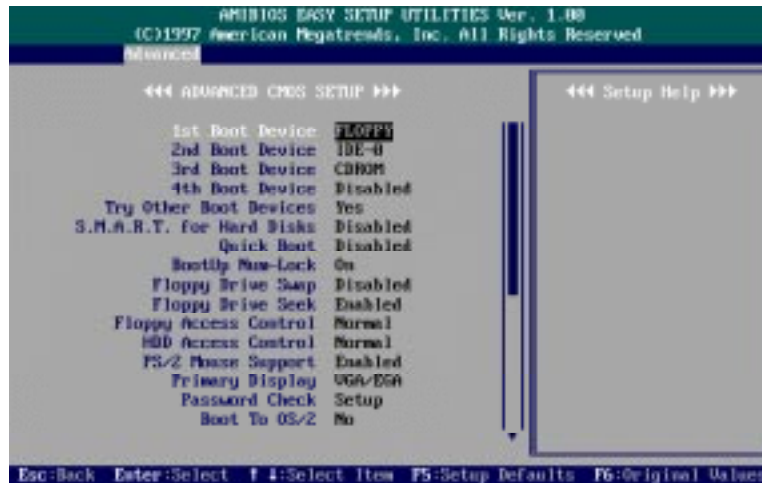
Boot Sector Virus Protection
   When Enabled, a warning will be given when any program or virus sends a Disk Format command or tries to write to the boot sector of a hard disk drive.

Advanced Setup

Advanced Setup options are displayed by choosing item from the AMI BIOS Setup main menu. All Advanced Setup options are described in this section.

Advanced CMOS Setup

1st Boot Device
This item allows you to select the first drive for booting up the system.
The settings are Disabled, IDE-1, IDE-2, IDE-3, FLOPPY, FLOPTICAL, SCSI, or NETWORK. The default setting is FLOPPY.

2nd Boot Device
This item allows you to select the second drive for booting up the system.
The settings are Disabled, IDE-0, or FLOPTICAL. The default setting is IDE-0.

3rd Boot Device
This item allows you to select the third drive for booting up the system.
The settings are Disabled, FLOPTICAL, CDROM. The default setting is CDROM.

4th Boot Device
This item allows you to select the fourth drive for booting up the system.
The settings are Disabled or FLOPTICAL. The default setting is Disabled.

Try Other Boot Devices
If you select Yes, the BIOS will try to boot up the system from other boot devices if all selected boot devices failed to boot. If No selected, the BIOS will try to boot up the system from only the selected devices.
The settings are Yes or No. The default setting is Yes.

S.M.A.R.T. for Hard Disks
"S.M.A.R.T" stands for "Self-Monitoring, Analysis and Reporting Technology". To enable it will assist you in preventing some (but not all) system down time due to hard disk drive failure.
The settings are Disabled or Enabled. The default setting is Disabled.

Quick Boot
Set this option to Enabled to instruct AMI BIOS to boot quickly when the computer is powered on. This option replaces the old 1MB Memory Test Advanced Setup option.
The settings are Disabled or Enabled. The default setting is Disabled.

BootUp Num-Lock
> Set this option to Off to turn the Num Lock key off when the computer is booted so you can use the arrow keys on both the numeric keypad and the keyboard.
> The settings are On or Off. The default setting is On.

Floppy Drive Swap
> Set this option to Enabled to permit drives A: and B: to be swapped.
> The settings are Disabled or Enabled. The default setting is Disabled.

Floppy Drive Seek
> Set this option to Enabled to specify that floppy drive A: will perform a Seek operation at system boot.
> The settings are Disabled or Enabled. The default setting is Enabled.

Floppy Access Control
> It is effective only if the floppy diskette drive is accessed through BIOS INT40H function.
> The settings are Normal or Read Only. The default setting is Normal.

HDD Access Control
> It is effective only if the hard disk drive is accessed through BIOS INT40H function.
> The settings are Normal or Read Only. The default setting is Normal.

PS/2 Mouse Support
> When this option is set to Enabled, AMI BIOS supports a PS/2-type mouse.
> The settings are Enabled or Disabled. The default setting is Enabled.

Primary Display
> This option specifies the type of display monitor and adapter in the computer.
> The settings are Absent, VGA/EGA, CGA40x25, CGA80x25, or Mono. The default setting is VGA/EGA.

Password Check
> This option enables password checking every time the computer is powered on or every time AMI BIOS Setup is executed. If Always is chosen, a user password prompt appears every time the computer is turned on.
> If Setup is chosen, the password prompt appears if AMI BIOS is executed.
> The settings are Setup or Always. The default setting is Setup.

Boot To OS/2
>   It allows you to enable the system BIOS to run with the IBM OS/2.
>   The settings are Yes or No. The default setting is No.

External Cache
>   This feature allows you to disable the external cache function.
>   The settings are Disabled or Enabled. The default setting is Enabled.

System BIOS Cacheable
>   Enable it to allows the contents of the F0000h memory segment to be read
>   from or written to the L2 cache memory. The contents of the F0000h
>   memory segment are always copied from the BIOS ROM to system RAM for
>   faster execution.
>   The settings are Disabled or Enabled. The default setting is Enabled.

VGA BIOS Cacheable
>   When enabled, allows the system to use the video BIOS codes from SRAMs,
>   instead of the slower DRAMs or ROMs. The settings are Disabled or
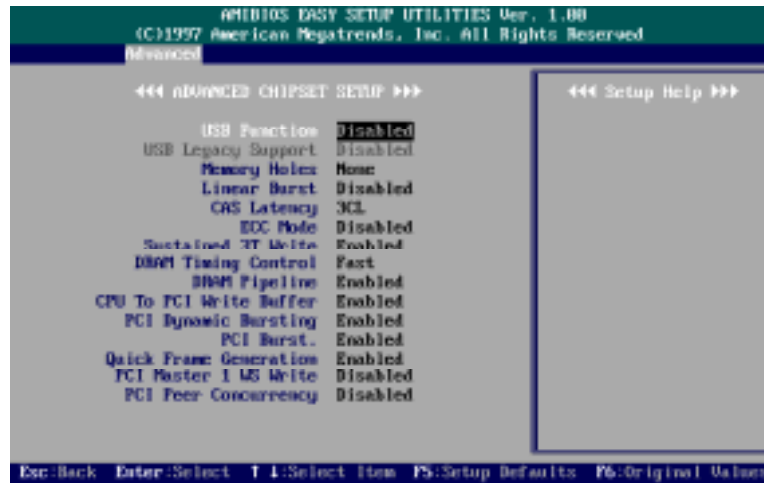>   Enabled. The default setting is Enabled.

C000,16K Shadow; C400,16K Shadow;
C800,16K Shadow; CC00,16K Shadow;
D000,16K Shadow; D400,16K Shadow;
D800,16K Shadow; DC00,16K Shadow

>   These options control the location of the contents of the ROM beginning at
>   the specified memory location. If no adapter ROM is using the named ROM
>   area, this area is made available to the local bus.

>   [Disabled] The video ROM is not copied to RAM. The contents of the video
>   ROM cannot be read from or written to cache
>   memory.
>   [Enabled] The contents of C0000h - DC00h are written to the same address
>   in system memory (RAM) for faster execution. The settings are Disabled,
>   Enabled, Cached. The default setting of "C000, 16K Shadow; C400, 16K
>   Shadow" is Enabled; the others are Disabled.

Advanced Chipset Setup

USB Function
   This option allows you to enable the Universal Serial Bus (USB) feature. The
   settings are Disabled or Enabled. The default setting is Disabled.

USB Legacy Support
   This feature enables your system to use your USB peripheral devices.
   The options are Disabled or Enabled. The default setting is Disabled.

Memory Hole
   When enabled, the memory hole at the 15MB address will be reseved for
   512-640KB, 15-16MB, or 14-16MB address range of the ISA add-on cards
   that request this memory area.
   The options are None, 15M-16M (1M), or 14-16MB (2M). The default
   setting is None.

Linear Burst
   When enabled, allows you to configure the CPU to SRAM data read/wirte
   mode. If you use a Cyrix CPU, select Enabled; if you use an Intel CPU or
   AMD-K5 CPU, please stay with the default value, Disabled. Please refer to
   Page 17, **SRAM**.

CAS Latency

If DIMMs are installed, this feature allows you to select CAS Latency (CL) different DIMM types.

The options are: 2CL, 3CL (Default).

ECC Mode

Set at Enabled, if the RAM modules support ECC function.

The options are: Enabled, Disabled (Default).

Sustained 3T Write

When enabled, allows the CPU to compele the memory writes in 3 clocks.

The options are: Enabled (Default), Disabled.

DRAM Timing Control

Allows you to speed up the data access of 82C595.

The options are: Normal, Fast (Default), Medium, Turbo.

DRAM Pipeline

When enabled, allows DRAMs to execute the pipeline function.

The options are: Enabled (Default), Disabled.

CPU to PCI Write Buffer

When enabled, allows data and address access to the internal buffer of 82C595 so the processor can be released from the waiting state.

The options are: Enabled (Default), Disabled.

PCI Dynamic Bursting

When enabled, the PCI controller allows Bursting PCI transfer if the consecutive PCI cycles come with the address falling in same 1KB space. This improves the PCI bus throughput.

The options are: Enabled (Default), Disabled.

PCI Burst

When enabled, data transfer on PCI Buses will improve. Disable this item during trouble-shooting.

The options are: Disabled, Enabled (Default).

Quick Frame Generation

When enabled, allows the system to start the PCI Bus (by asserting frame) as soon as possible when the bus cylce is going to forward to the PCI Bus.

The options are: Disabled, Enabled (Default).

PCI Master 1 WS Write

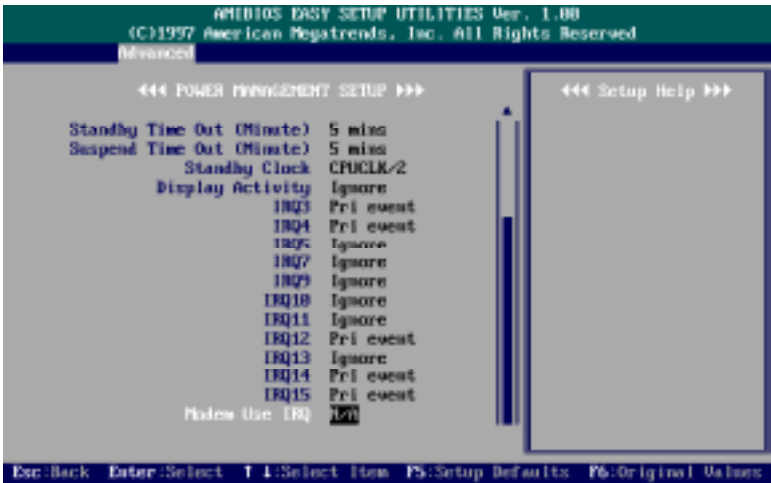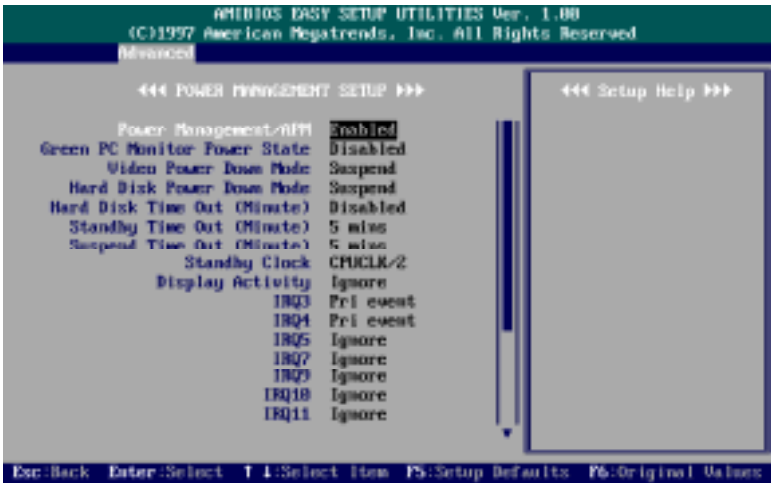When enabled, allows a zero-wait-state-cycle delay when the PCI master drive writes data to DRAM.
The options are: Enabled, Disabled (Default).

PCI Peer Concurrency
Enable this item to allow the CPU to continue its opeartion when another PCI bus ia active.
The options are: Enabled, Disabled (Default).

Power Management Setup

Power Management/APM

Set this option to Enabled to enable the power management and APM (Advanced Power Management) features.

The settings are Enabled or Disabled. The default setting is Disabled.

Green PC Monitor Power State

This option specifies the power management state that the Green PC-compliant video monitor enters after the specified period of display inactivity has expired.

The settings are: Disabled (Default), Suspend, Off, or Stand By.

Video Power Down Mode

This option specifies the power management state that the video subsystem enters after the specified period of display inactivity has expired.

The settings are: Disabled, Stand By, Suspend (Default).

Hard Disk Power Down Mode

This option specifies the power management state that the hard disk drive enters after the specified period of display inactivity has expired.

The settings are: Disabled, Stand By, Suspend (Default).

Hard Disk Time Out (Minute)

This option specifies the length of a period of hard disk inactivity. When this period expires, the hard disk drive enters the power-conserving mode specified in the Hard Disk Power Down Mode option described above.

The settings are Disabled, 1 minute, and all one minute intervals up to and including 15 min. The default setting is Disabled.

Stand By Time Out (Minute)

This option specifies the length of the period of system inactivity when the computer is in Full-On mode before the computer is placed in Stand By mode. In Stand By mode, some power use is curtailed.

The settings are: Disabled, 1, 2, 5 (Default), 10, 15, 30, 60 mins.

Suspend Time Out (Minute)

This option specifies the length of the period of system inactivity when the computer is already in Stand By mode before the computer is placed in Suspend mode. In Suspend mode, nearly all power use is curtailed.

The settings are Disabled, 1, 2, 5 (Default), 10, 15, 30, 60 mins.

Standby Clock

This feature allows you to set the system clock in Stand By mode.
The settings are: CPUCLK/2 (Default), CPUCLK/4.

Display Activity, IRQ3, 4, 5, 7, 9, 10, 11, 12, 13, 14, 15

After the time period which you set at in Suspend Mode Feature, the system advances from Doze Mode to Suspend Mode in which the CPU clock stops and the screen display is off. At this moment, if the IRQ activity which is defined as **Primary Event (Pri-event)** occurs, the system goes back to Full-on Mode directly.
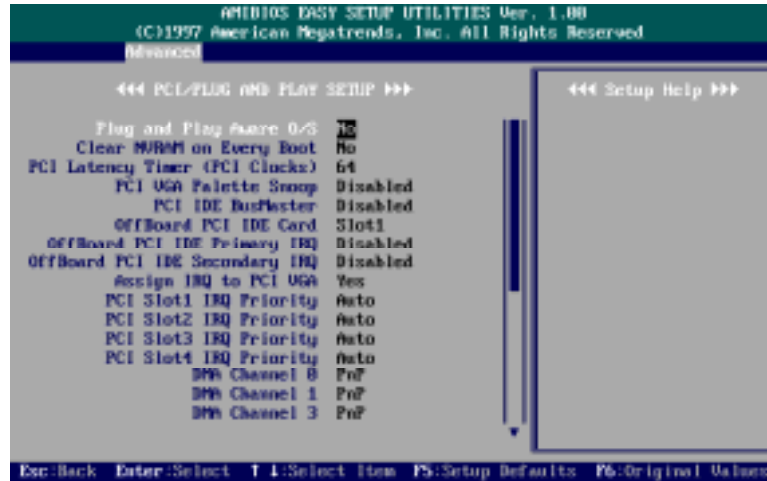
If the IRQ activity which is defined as **Secondary Event (Sec-event)** takes place, the system enters another low power state, Dream Mode, in which the system will act as Full-on Mode except that the screen display remains off until the corresponding IRQ handler finishes, then back to Suspend Mode. For instance, if the system connects to a LAN and receives an interruption from its file server, the system will enter the dreaming mode to execute the corresponding calling routine.

The options are: Ignore, Pri-event, Sec-event. The default values of IRQ3, 4, 12, 14, 15 are: Pri-event.

MODEM Use IRQ

This feature allows you to select the IRQ# to meet your modem's IRQ#.
The options are: NA, 3 (Default), 4, 5, 7, 9, 10, 11.

Plug and Play Setup

Plug and Play Aware OS

Set this option to Yes if the operating system installed in the computer is Plug and Play-aware. AMI BIOS only detects and enables PnP ISA adapter cards that are required for system boot. The Windows 95 operating system detects and enables all other PnP-aware adapter cards. Windows 95 is PnP-aware. Set this option to No if the operating system (such as DOS, OS/2, Windows 3.x) does not use PnP. You must set this option correctly or PnP-aware adapter cards installed in the system will not be configured properly. The settings are No or Yes. The default setting is No.

Clear NVRAM on Every Boot

When set at Yes, it allows the system to clear NVRAM when every booting. The settings are No or Yes. The Default setting is No.

PCI Latency Timer (PCI Clocks)

This option sets latency of all PCI devices on the PCI bus. The settings are in units equal to PCI clocks. The settings are 32, 64 (Default), 96, 128, 160, 192, 224, 248.

PCI VGA Palette Snoop

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

PCI IDE BusMaster

Set this option to Enabled to specify that the IDE controller on the PCI local bus has bus mastering capability. The settings are Disabled or Enabled. The default setting is Disabled.

OffBoard PCI IDE Card

The option specifies if an offboard PCI IDE controller adapter card is used in the computer. You must also specify the PCI slot on the mainboad where the offboarfd PCI IDE controller card is installed. If an offboard PCI IDE controller is used, the onboard IDE controller on the mainboard is automatically disabled. The settings are Auto (Default), Slot1, Slot2, Slot3, Slot4.

OffBoard PCI IDE Primary IRQ

This options allow you to select the IRQs if you use an offboard primary PCI IDE card. The settings are Disabled, INTA, INTB, INTC, INTD, Hardwired. The default setting is Disabled.

OffBoard PCI IDE Secondary IRQ

This options allow you to select the IRQs if you use an offboard secondary PCI IDE card. The settings are Disabled, INTA, INTB, INTC, INTD, Hardwired. The default setting is Disabled.

Assign IRQ to PCI VGA Card

If your VGA card supports hardware MPEG, please set at Yes to enable the BIOS to assign an available IRQ to the card.

The settings are No or Yes. The default setting is Yes.

PCI Slot 1 IRQ Priority,
PCI Slot 2 IRQ Priority,
PCI Slot 3 IRQ Priority,
PCI Slot 4 IRQ Priority

This option allows you to specify the IRQs for the add-on cards.

The settings are Auto, 3, 4, 5, 7, 9, 10, 11, 12. The default setting is Auto.

DMA Channel 0, 1, 3, 5, 6, 7

This option allows you to specify the bus type that the named DMA channels are used on.

The settings are PnP or ISA/EISA. The default setting is PnP.

IRQ3, 4, 5, 7, 9, 10, 11, 12, 14, 15

These options specify the bus that the named interrupt request lines (IRQs) are used on. These options allow you to specify IRQs for use by legacy ISA adapter cards. These options determine if AMI BIOS should remove an IRQ from the pool of available IRQs passed to BIOS configurable devices. 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 PCI/PnP Setup options to remove the IRQ by assigning the option to the ISA/EISA setting. Onboard I/O is configurable by AMI BIOS. The IRQs used by onboard I/O are configured as PCI/PnP.

The settings are PCI/PnP or ISA/EISA. The default setting of IRQ5, 9, 10, 11, 12, 14, 15 is PCI/PnP; the default setting of IRQ3, 4, 7 IS ISA/EISA.

Peripheral Setup

Onboard FDC
> This option enables the floppy drive controller on the mainboard.
> The settings are Auto, Enabled, or Disabled. The default setting is Auto.

Onboard Serial Port1
> This option enables serial port 1 on the mainboard and specifies the base I/O
> port address for serial port 1.
> The settings are 3F8h (Default) , 2F8h, 3E8h, 2E8h, Disabled.

Onboard Serial Port2
> This option enables serial port 2 on the mainboard and specifies the base I/O
> port address for serial port 2.
> The settings are 3F8h, 2F8h (Default), 3E8h, 2E8h, Disabled.

Serial Port2 Mode
> This option enables serial port 2 on the mainboard and specifies the base I/O
> port address for serial port 2. The settings are Standard, IrDA, ASK IR. The
> default setting is Standard.

IR Transmission Mode

This feature allows you to select IR transmission mode.

The settings are Full Duplex or Half Duplex. The default setting is Full Duplex.

Receiver Polarity

This feature allows you to set the reciver polarity if your IR device is used as a receiver.

The settings are Non Inverted or Inverted. The default setting is Non Inverted.

Transmitter Polarity

This feature allows you to set the transmitter polarity if your IR device is used a transmitter.

The settings are: Non Inverted (Default), Inverted.

OnBoard Parallel Port

This option enables the parallel port on the mainboard and specifies the parallel port base I/O port address.

The settings are: 378 (Default), 278, 3BC, Auto, Disabled.

Parallel Port Mode

This option allows you to select the IRQs of the parallel port.

The settings are Normal, EPP, ECP. The default setting is Normal.

EPP Version

This option allows you to select the EPP version.

The settings are 1.9, 1.7. The default setting is 1.9.

Parallel Port IRQ

This option allows you to select the parallel port IRQ.

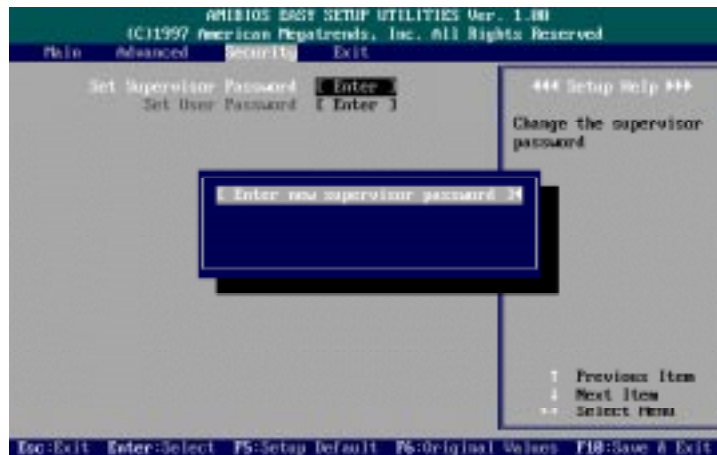The default setting is 5 or 7. The default seting is 7.

Parallel Port DMA Channel

This option allows you to select the parallel port DMA channel.

The settings are 0, 1, or 3. The default setting is 3.

VIA OnBoard PCI IDE

This option allows you to enable the primary and secondary onboard IDE features. The settings are: Disabled, Primary, Secondary, Both (Default).

Security Setup

Set Supervisor and User Passwords

AMI BIOS Password Support AMI BIOS Setup has a password feature. The system can be configured so that all users must enter a password every time the system boots or when AMI BIOS Setup is executed. You can set either a Supervisor password or a User password. If you do not use a password, Just press **Enter** when the password prompt appears. The password check option is enabled in Advanced Setup by choosing either Always (the password prompt appears every time the system is powered on) or Setup (the password prompt appears only when AMI BIOS is run). The password is stored in CMOS RAM.

You can enter a password by typing the password on the keyboard. When you select Supervisor or User, AMI BIOS prompts for a password. You must set the Supervisor password before you can set the User password. Enter a 1 to 6 character password. The password does not appear on the screen when typed. Make sure you write it down. If you forget it, please read Clear Password Section on the next page.
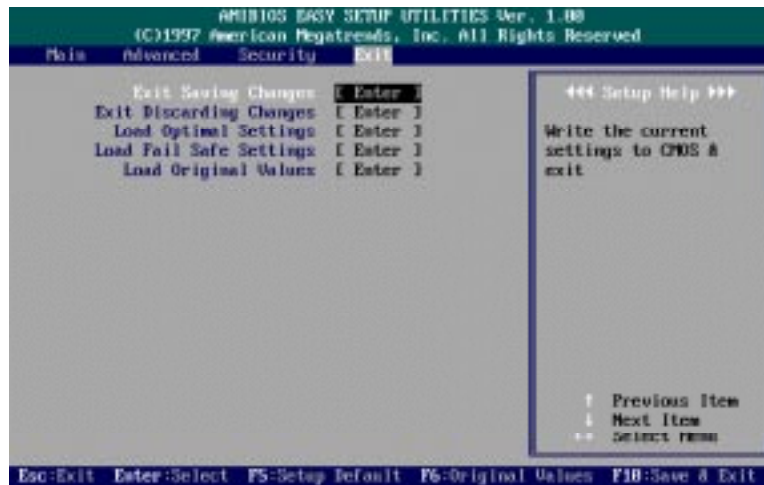
Changing a Password

Enter the password and press **Enter**. The screen does not display the characters entered. After the new password is entered, retype the new password as prompted and press **Enter**. If the password confirmation is incorrect, an error message appears. If the new password is entered without error, press to return to the AMI BIOS Main Menu. The password is stored in CMOS RAM after AMI BIOS completes. The next time the system boots, you are prompted for the password if the password function is present and is enabled.

Clear Password

If you forget your password, turn off the system power first and remove the system unit cover. Locate Jumper CPW and cap it. Remove Jumper CPW and reset the system. At this point, you will not be asked for the password to enter Setup.

Exit Setup

Exit Saving Changes
   This item allows you to write the current settings to CMOS and exit.

Exit Discarding Changes
   This item allows you to exit without writing the current settings to CMOS.

Load Optimal Settings
   This item is selected for settings which provide the best system performance.

Load Fail Safe Settings
   This item is for settings that provide a more efficient computer. If the computer will not boot, select this option and try to diagnose the problem after the computer boots. These settings do not give optimal performance.

Load Original Values
   This item recalls your last set of previous settings. This option is convenient if you change settings and decide you wish to return to the previous settings.