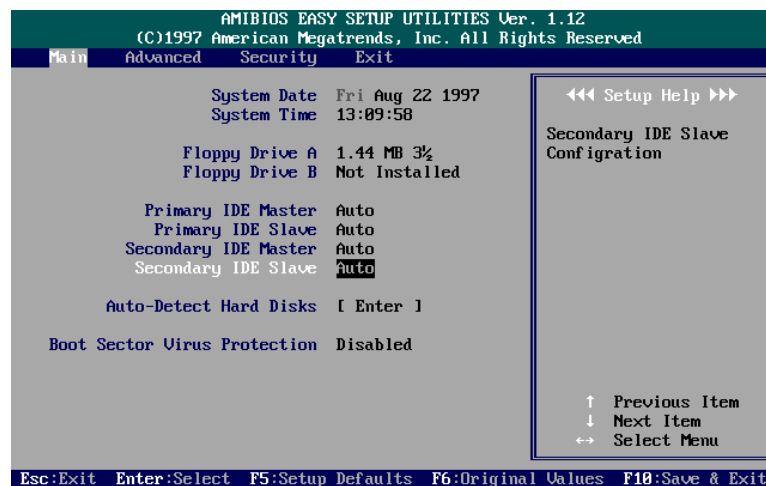


BIOS Setup

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

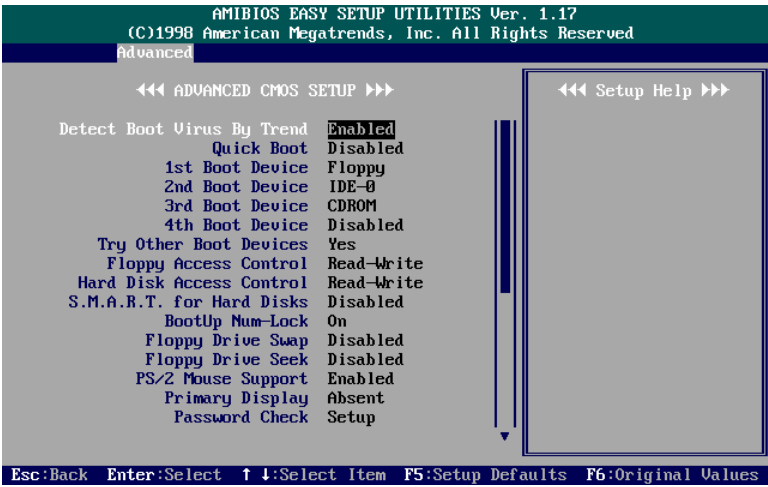
When Enabled, a warning will be given when any program or virus sends a Disk Format command or tries to write to the boot sector of a hard disk drive.

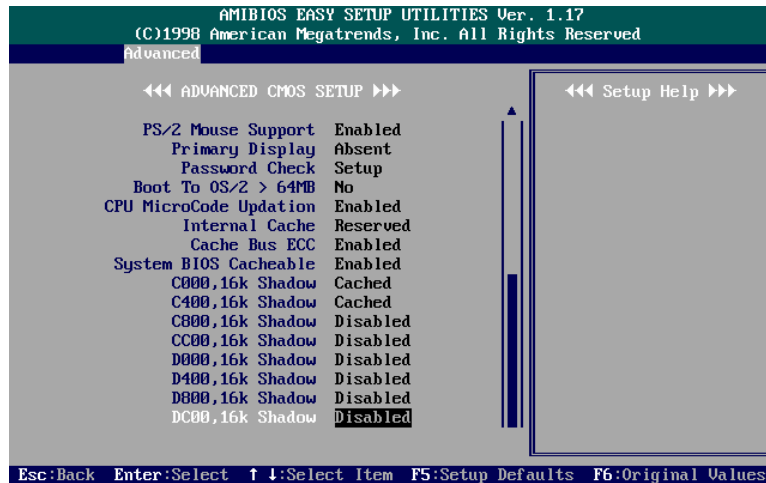
Advanced Setup



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





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 (Default) or Enabled.

1st Boot Device

This item allows you to select the first drive for booting up the system. The settings are Disabled, IDE-0, IDE-1, IDE-2, IDE-3, FLOPPY (Default), FLOPTICAL, CDROM, SCSI, or NETWORK.

2nd Boot Device

This item allows you to select the second drive for booting up the system. The settings are Disabled, IDE-0 (Default), or FLOPTICAL.

3rd Boot Device

This item allows you to select the third drive for booting up the system. The settings are Disabled, FLOPTICAL, CDROM (Default).

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 boots up the system from other boot devices if all selected boot devices failed to boot. If No selected, the BIOS boots up the system from only the selected devices. The settings are Yes (Default) or No.

Floppy Access Control

It is effective only if the floppy diskette drive is accessed through BIOS INT40H function. The settings are Read-Write (Default) or Read-Only.

Hard Disk Access Control

It is effective only if the hard disk drive is accessed through BIOS INT40H function. The settings are Read-Write (Default) or Read-Only.

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.

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 (Default).

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 (Default), CGA40x25, CGA80x25, or Mono.

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 > 64MB

This item allows you to enable the system BIOS to run with the IBM OS/2 operating system. The settings are Yes or No. The default setting is No.

CPU MicroCode Updation

This feature allows technicians to update CPU MicroCode by dedicated utility set at Enabled. The settings are Disabled or Enabled (Default).

Internal Cache

This option specifies the caching algorithm used for L1 internal cache memory. If Disabled is selected, L1 is disabled. If WriteThru is selected, use the write-through caching algorithm. If WriteBack is selected, use the write-back caching algorithm.

The settings are Disabled, WriteBack (Default), or WriteThru.

Cache Bus ECC

This feature is for enabling the L2 cache ECC function.
The settings are Disabled or Enabled (Default).

System BIOS Cacheable

Enable it to allow the contents of the F0000h system 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 (Default).

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.

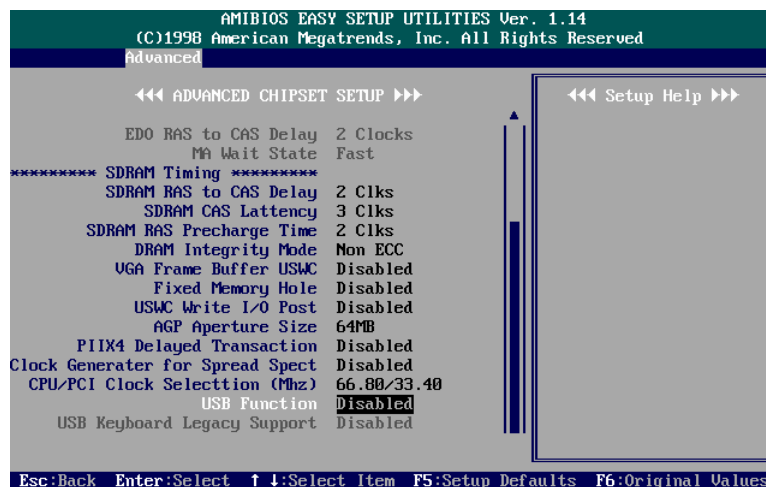
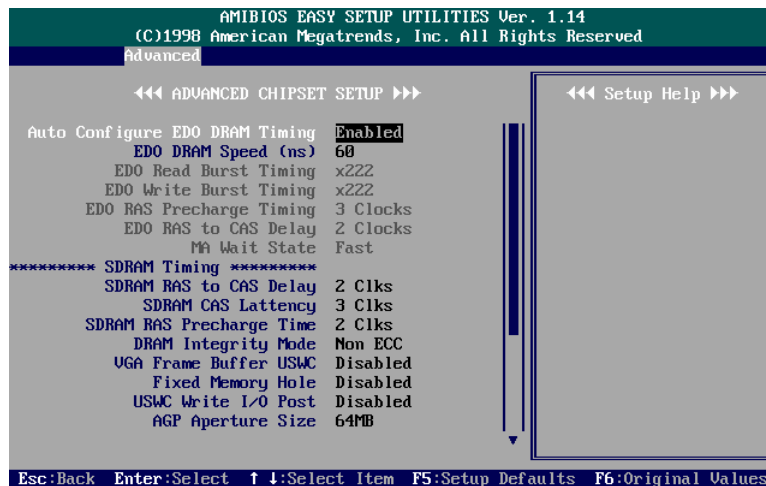
[Disabled] The video ROM is not copied to RAM. The contents of the video ROM cannot be read from or written to cache memory.

[Enabled] The contents of C0000h - DC00h are written to the same address in system memory (RAM) for faster execution.

[Cached] The contents of the named ROM area are written to the same address in system memory (RAM) for faster execution, if an adapter ROM will be using the named ROM area. Also, the contents of the RAM area can be read from and written to cache memory.

The settings are Disabled, Enabled, Cached. The default setting of “C000, 16K Shadow; C400, 16K Shadow” is Cached; the others are Disabled.

Advanced Chipset Setup



Auto Configure EDO DRAM Timing

When set at Disabled, it allows you to configure the features that from the second one (DRAM Read Burst Timing) to the sixth one (RAS Precharge). The settings are Disabled, Enabled. The default setting is Enabled.

EDO DRAM Speed (ns)

This item allows you to select the DRAM speed.

The settings are 50ns, 60ns, or 70ns. The default setting is 60ns.

EDO Read Burst Timing

When Auto Configure DRAM Timing set at Disabled, allows you to define the DRAM read burst timing.

The settings are x333 or x222. The default setting is x222, depends on the CPU frequency and DRAM type.

EDO Write Burst Timing

When Auto Configure DRAM Timing set at Disabled, allows you to define the DRAM write burst timing.

The settings are x333 or x222. The default setting is x222, depends on the CPU frequency and DRAM type.

EDO RAS Precharge Timing

Allows you to select the DRAM RAS# Precharge Time.

The settings are 4 Clocks or 3 Clocks. The default setting is 3 Clocks.

EDO RAS to CAS Delay

When Auto Configure DRAM Timing set at Disabled, allows you to define the delay time that from the DRAM RAS# active to CAS# active.

The settings are 2 Clocks or 3 Clocks. The default setting is 3 Clocks, depends on the CPU frequency and DRAM type.

MA Wait State

Allows you to select the memory address wait state.

The settings are Slow or Fast. The default setting is Slow.

SDRAM RAS to CAS Delay

When Auto Configure SDRAM Timing set at Disabled, allows you to define the delay time that from the DRAM RAS# active to CAS# active.

The settings are 2 Clocks or 3 Clocks. The default setting is 2 Clocks, depends on the CPU frequency and DRAM type.

SDRAM CAS Lattency

If any DIMM is installed, this feature allows you to select the CAS Latency.

The settings are 2 Clocks or 3 Clocks. The default setting is 3 Clocks.

SDRAM RAS Precharge Timing

Allows you to select the SDRAM RAS# Precharge Time.
The settings are 2 Clocks (Default) or 3 Clocks.

DRAM Integrity Mode

This feature provides software configurability of selecting between ECC (ECC generation and checking/correction) mode, EC-only (error checking only) mode, or non-ECC mode of operation of the DRAM interface.
The settings are Non-ECC (Default), EC-only or ECC.

VGA Frame Buffer USWC

When set at Enabled, it enables the video frame buffering using USWC (Uncacheable, Speculatable, Write-Combined) memory. Stay with the default setting, Disabled, when installed some older ISA VGA card drivers.
The settings are Enabled or Disabled (Default).

Fixed Memory Hole

When enabled, the memory hole at 15MB address will be relocated to the 15~16MB address range of the ISA cycle when the processor accesses the 15~16MB address area. When Disabled, the memory hole at the 15MB address will be treated as a DRAM cycle when the processor accesses the 15~16MB address area. The settings are Disabled, 512KB-640KB, or 15MB-16MB. The default setting is Disabled.

USWC Write I/O Post

This feature allows system to reduce the access times of CPU write to I/O data so that speed up the performance.
The options are Disabled (Default) or Enabled.

AGP Aperture Size

It allows you to select the main memory frame size for AGP use.
The options are 4, 8, 16, 32, 64, 128, 256MB. The default setting is 64MB.

PIIX4 Delayed Transaction

Enable this feature to force the current PCI bus master retry the current PCI bus master cycle and to accept the new PCI master request, it reaccepts the original PCI bus master and returns the PCI data to the original PCI master. It will enhance the system performance.
The options are Disabled or Enabled. The default setting is Disabled.

CPU/PCI Clcok Selection (Mhz)

This feature allows you to set the ratio of CPU external clock to PCI bus clock. The options are 50.00/25.00, 75.00/32.00, 83.00/41.05, 68.5/34.25, 55.00/27.50, 75.00/37.50, 60.00/30.00, 66.80/33.40. The default setting is 66.80/33.40.

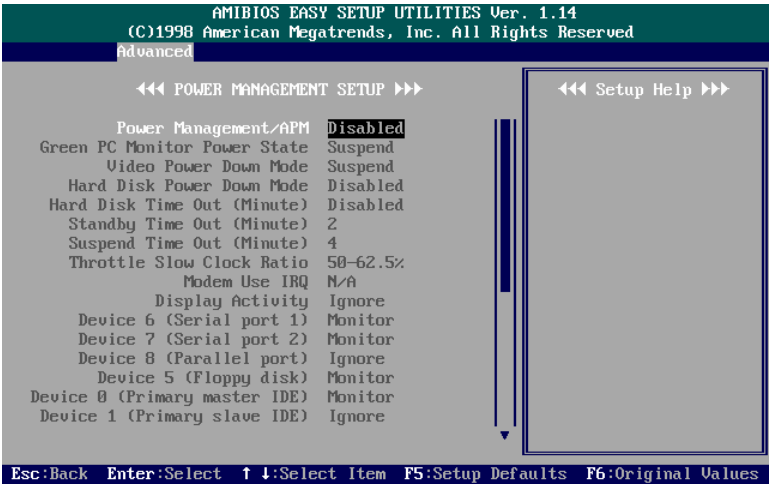
USB Function

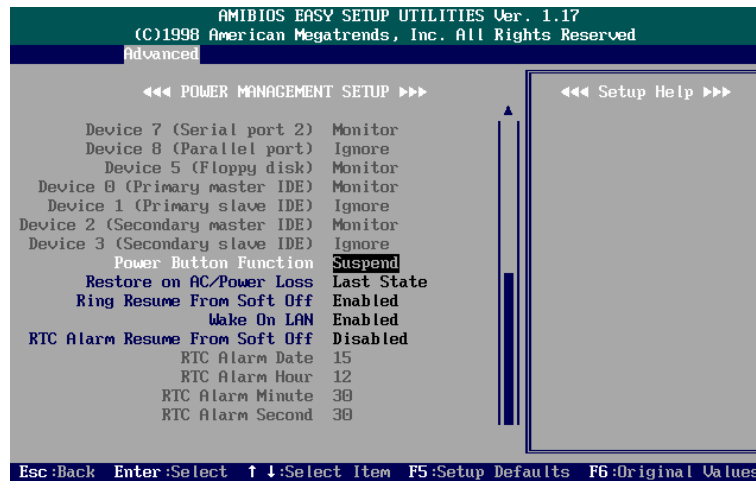
This option allows you to enable the Universal Serial Bus (USB) feature. The settings are Disabled or Enabled. The default setting is Disabled.

USB Keyboard/Mouse Support

If you use a USB keyboard/mouse, set at Enabled. Otherwise, keep it disabled. When enabled, allows the BIOS to detect and initiate the USB keyboard/mouse for making the keyfunctions of POST to work. The settings are Disabled or Enabled. The default setting is Disabled.

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

Specifies the power management state that the Green PC-compliant video monitor enters after the specified period of system inactivity has expired.

The settings are Suspend (Default), Off, Blank, or Standby.

Video Power Down Mode

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

The settings are Disabled, Standby, or 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 system inactivity has expired.

The settings are Disabled (Default), Standby, or Suspend.

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 Min (minutes), and all one minute intervals up to and including 15 Min. The default setting is Disabled.

Standby 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 Standby mode. In Standby mode, some power use is curtailed.

The settings are Disabled, 1 Min, 2 Min, and all one minute intervals up to and including 15 Min. The default setting is 2 Min.

Suspend Time Out (Minute)

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

The settings are Disabled, 1 Min, 2 Min, and all one minute intervals up to and including 15 Min. The default setting is 4 Min.

Throttle Slow Clock Ratio

This option specifies the speed at which the system clock runs in power saving modes. The settings are expressed as a ratio between the normal clock speed and the power down clock speed.

The settings are 0-12.5 %, 12.5 - 25 %, 25-37.5 %, 37.5-50 %, 50-62.5 %, 62.5 - 75%, 75-87.5 %. The default setting is 50-62.5 %.

Modem Use IRQ

This feature allows you to select the IRQ# of the system that is the same IRQ# as the modem use.

The options are: NA (Default), 3, 4, 5, 7, 9, 10, 11.

Display Activity, Device 6 (Serial port 1), Device 7 (Serial port 2), Device 8 (Parallel port), Device 5 (Floppy disk), Device 0 (Primary master IDE), Device 1 (Primary slave IDE), Device 2 (Secondary master IDE), Device 3 (Secondary slave IDE)

The devices that connected to the system via these channels or ports can be set at Monitor for waking up the system when the system in Suspend mode

The settings are Ignore or Monitor.

The default setting of Display Activity, Device 8, Device 1, Device 3 is Ignore. The default setting of Device 6, 7, 5, 0, 2 is Monitor.

Power Button Function

This allows you to set Power Button usage. If you select ON/OFF, pressing the Power Button will turn the system power on or off. If you select Suspend, pressing the Power Button will put the system into Suspend mode. Keeping the button pressed for 4 seconds will then put the system into Power Off mode. The settings are ON/OFF, Suspend (Default).

Restore on AC/Power Loss

When the system is shut down owing to the power failure, the system will not be back to power on by itself. This feature allows you to set the system back to which power status of the system when the system power is resumed.

The options are: Last State (Default), Power on, Stay off.

Ring Resume From Soft Off

An input signal on the serial Ring Indicator (RI) line (in other words, an incoming call on the modem) awakens the system from a soft off state.

The options are Disabled or Enabled (Default).

Wake On Lan

An input signal from the LAN card (via WOL connector) awakens the system from a soft off state. The options are Disabled or Enabled (Default).

RTC Alarm Resume From Soft Off

When set at Enabled, it allows you to set the time when the system to be turned on from the system power-off status.

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

RTC Alarm Data

This feature allows you to set the day of the alarm starts when the RTC Alarm Resume From Soft Off is set to be Enabled.

The settings are Every Day, 1, 2, 3, ..., 31 day. The default setting is 15.

RTC Alarm Hour

This feature allows you to set the hour of the alarm starts when the RTC Alarm Resume From Soft Off is set to be Enabled.

The settings are 0, 1, 2, ..., 23 hours. The default setting is 12.

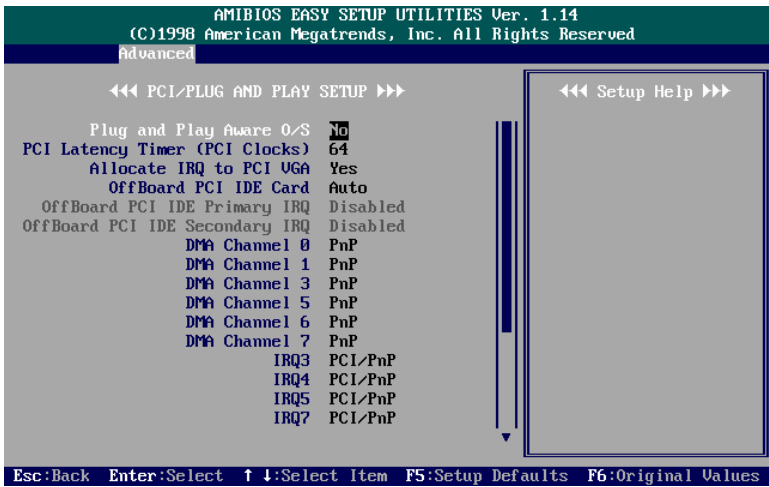
RTC Alarm Minute

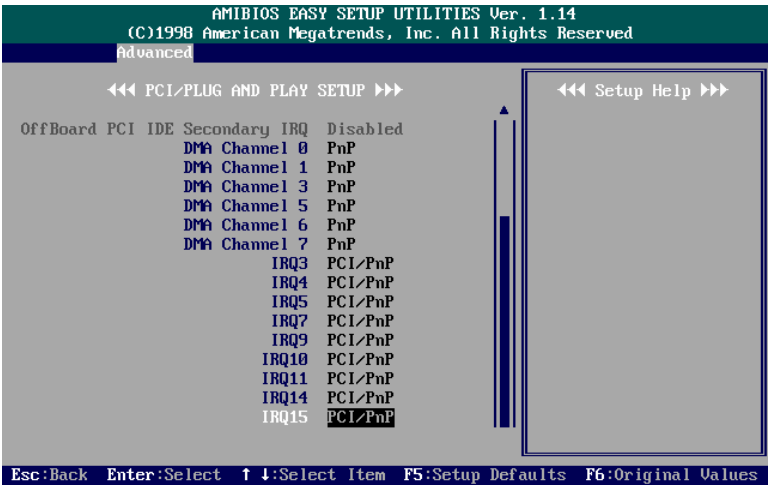
This feature allows you to set the minute of the alarm starts when the RTC Alarm Resume From Soft Off is set to be Enabled.
The settings are 0, 1, 2, ..., 59 minutes. The default setting is 30.

RTC Alarm Second

This feature allows you to set the minute of the alarm starts when the RTC Alarm Resume From Soft Off is set to be Enabled.
The settings are 0, 1, 2, ..., 59 seconds. The default setting is 30.

Plug and Play Setup





Plug and Play Aware O/S

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 support PnP. You must set this option correctly or PnP-aware adapter cards installed in your computer will not be configured properly. The settings are No (Default) or Yes.

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, or 248.

Allocate IRQ to PCI VGA

When set at Yes, allows users to assign IRQs for PCI/AGP VGA cards. The settings are No or Yes (Default).

OffBoard PCI IDE Card

The option specifies if an offboard PCI IDE controller adapter card is used. You must also specify the PCI slot where the card is installed. If an offboard PCI IDE controller is used, the onboard IDE controller is disabled. The settings are Auto (Default), Slot1, Slot2, Slot3, Slot5, Slot6. The default setting is Auto.

OffBoard PCI IDE Primary IRQ

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

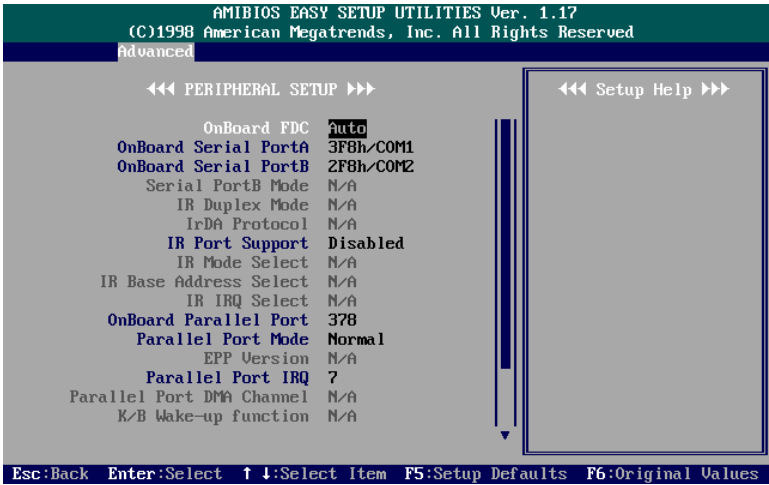
DMA Channel 0, 1, 3, 5, 6, 7

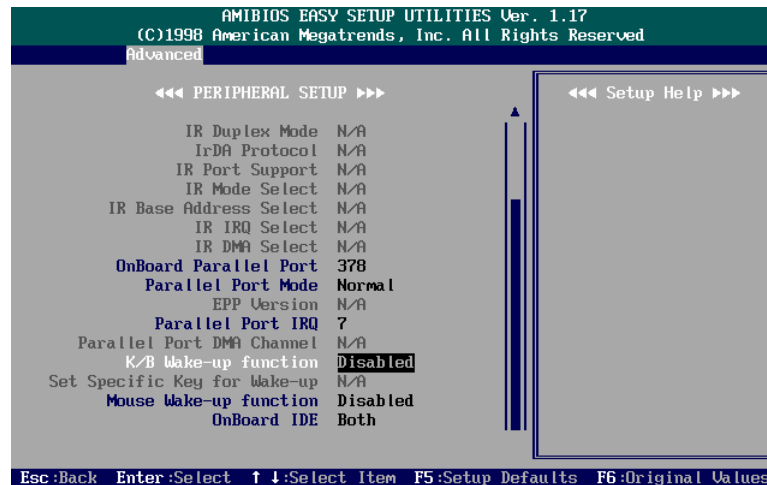
This option allows you to specify the bus type that the named DMA channels are used on. The settings are PnP or ISA/EISA . The default setting is PnP.

IRQ3, 4, 5, 7, 9, 10, 11, 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 is PCI/PnP.

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 PortA

This option enables serial port 1 on the mainboard and specifies the base I/O port address for serial port 1. The settings are Auto, Disabled, 3F8h/COM1, 2F8h/COM2, 3E8h/COM3, 2E8h/COM4. The default setting is 3F8h/COM1.

Onboard Serial PortB

This option enables serial port 2 on the mainboard and specifies the base I/O port address for serial port 2. The settings are Auto, Disabled, 3F8h/COM1, 2F8h/COM2, 3E8h/COM3, 2E8h/COM4. The default setting is 2F8h/COM2.

Serial PortB Mode

Select an operating mode for the second serial port. Stay with the default setting, Normal, if you use COM2 as the serial port as the serial port, instead as an IR port. The options are: Normal (Default), IrDA, ASK IR.

IR Duplex Mode

When the option IrDA of the above feature selected, this feature appears on the display to allow users to select the duplex mode.

The options are: Full Duplex, Half Duplex (Default).

IrDA Protocol

When the option IrDA or ASK IR of the feature Serial PortB Mode selected, this field allows users to select the protocol of IrDA.

The options are: 1.6 micro second, 3/16 (Default).

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 378h, 278h, 3BCh, Auto, or Disabled. The default setting is 378h.

Parallel Port Mode

This option allows you to select the mode of the parallel port. The settings are Normal, Bi-Dir, EPP, or 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 IRQ of the parallel port. The settings are 5 or 7. The default setting is 7.

Parallel Port DMA Channel

This option allows you to select the DMA channel of the parallel port. The settings are 1 or 3. The default setting is 3.

K/B Wake-up function

This feature allows users to wake up the system by keyboards from the soft-off status.

The options are: Disable (Default), Specific key, Any key, Password.

Set Specific Key for Wake-up

When the feature of K/B Wake-up function set at Specific key, this field allows you to select a set of specific key to power on your computer.

The options are: Ctrl-F1 (Default), Ctrl-F2, Ctrl-F3, Ctrl-F4, Ctrl-F5, Ctrl-F6, Ctrl-F7, Ctrl-F8, Ctrl-F9, Ctrl-F10, Ctrl-F11, Ctrl-F12.

Mouse Wake-up function

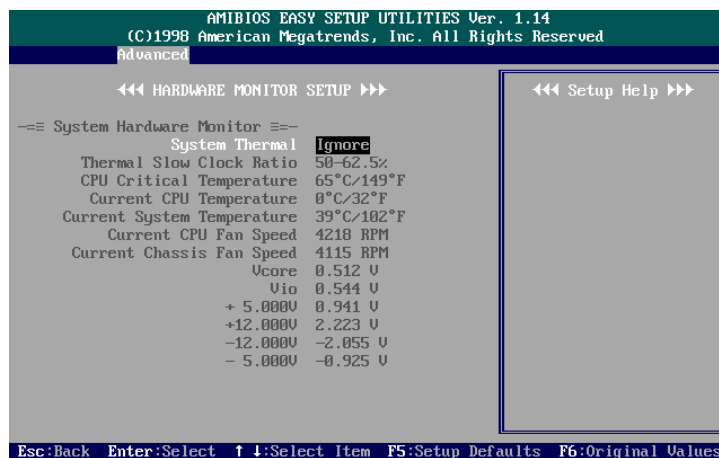
This feature allows you to select mouse to power on the computer system by double clicking either on the left button or right button of your mouse.

The options are: Disable (Default), Left-button, Right-button.

OnBoard IDE

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

Hardware Monitor Setup



This feature allows end users and technicians to monitor the data provided by the LDCM function of this mainboard.

System Thermal, Thermal Slow Clock Ratio, CPU Critical Temperature

When System Thermal set at Monitor, the system will slow down the CPU clock by the setting of Thermal Slow Clock Ratio when the system temperature approaches the setting of CPU Critical Temperature.

The options of System Thermal are: Ignore (Default), Monitor.

The options of Thermal Slow Clock Ratio are: 0-12.5%, 12.5-25%, 25-37.5%, 37.4-50%, 50-62.5% (Default), 62.5-75%, 75-87.5%.

The options of CPU Critical Temperature are: Disabled, 45°C/113°F, 50°C/122°F, 55°C/131°F, 60°C/140°F, 65°C/149°F (Default), 70°C/158°F, 75°C/167°F.

Security Setup

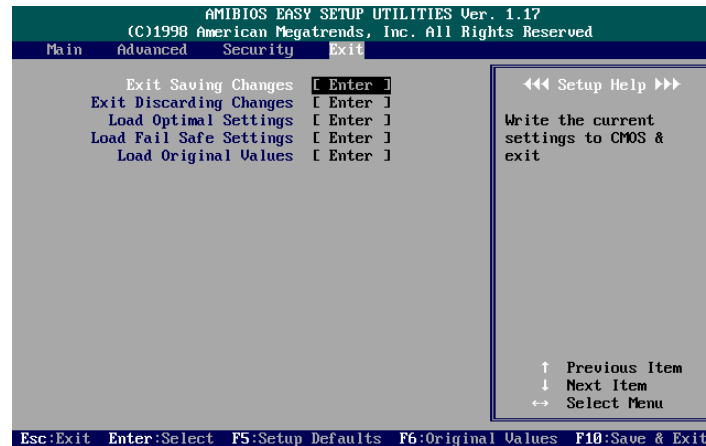
Set Supervisor and User Passwords: You can set either a Supervisor password or a User password. If you do not use a password, Just press **Enter** when the password prompt appears. The password check option is enabled in Advanced Setup by choosing either Always (the password prompt appears every time the system is powered on) or Setup (the password prompt appears only when AMI BIOS is run). 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 when typed.

Changing a Password: Enter the password and press **Enter**. 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.

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.

Set Keyboard Wake Up Password: It allows When set at Password, it allows you to set a password to power the system. Press the Enter key when you are prompted to set the power-on password. Type it up to five characters and press the Enter key; then confirm it by typing the password again and pressing the Enter key to complete the setting procedures. To disable the power-on password, press the Enter key when it is disabled. When the power-on password is set, the system can not be powered on by power button. Once the power-on password is set, you can power on the system simply by entering the password. This feature offers the security on your computer system.

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.

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