Introduction

This system board is available in different configuration levels. Depending on the hardware configuration of your device, it may be that you cannot find several options in your version of the system board, even though they are described.

You may find further information in the description "BIOS Setup".

Notational conventions

The meanings of the symbols and fonts used in this manual are as follows:

Pay particular attention to texts marked with this symbol. Failure to observe this warning endangers your life, destroys the system, or may lead to loss of data.

This symbol is followed by supplementary information, remarks and tips.

▶ Texts which follow this symbol describe activities that must be performed in the order shown.

`Texts in this typeface` are screen outputs.

`Texts in this bold typeface` are the entries you make via the keyboard.

Texts in italics indicate commands or menu items.

"Quotation marks" indicate names of chapters and terms that are being emphasized.

Important notes

Store this manual close to the device. If you pass on the device to third parties, you should also pass on this manual.

Be sure to read this page carefully and note the information before you open the device.

You cannot access the components of the system board without first opening the device. How to dismantle and reassemble the device is described in the Operating Manual accompanying the device.

Please note the information provided in the chapter "Safety" in the Operating Manual of the device.

Incorrect replacement of the lithium battery may lead to a risk of explosion.
The lithium battery must be replaced with an identical battery or a battery type recommended by the manufacturer (CR2032).

Do not throw lithium batteries into the trashcan. It must be disposed of in accordance with local regulations concerning special waste.

The shipped version of this board complies with the requirements of the EEC directive 89/336/EEC "Electromagnetic compatibility".

Compliance was tested in a typical PC configuration.

When installing the board, refer to the specific installation information in the Operating Manual or Technical Manual of the receiving device.

Connecting cables for peripherals must be adequately insulated to avoid interference.

Components can become very hot during operation. Make sure you do not touch components when making extensions to the system board. There is a danger of burns!

The warranty expires if the device is damaged during the installation or replacement of system expansions. Information on which system expansions you can use is available from your sales office or the customer service.

Boards with electrostatic sensitive devices (ESD) may be identified by labels.

When you handle boards fitted with ESDs, you must observe the following points under all circumstances:

- You must always discharge yourself (e.g. by touching a grounded object) before working.
- The equipment and tools you use must be free of static charges.
- Pull out the power plug before inserting or pulling out boards containing ESDs.
- Always hold boards with ESDs by their edges.
- Never touch pins or conductors on boards fitted with ESDs.

Overview

Based on the advanced Apollo Pro+ chip, the board combines blistering Pentium II processor performance with support for the new Accelerated Graphics Port (AGP) interface that provides a dedicated path for memory to deliver faster system performance and arcade-quality 3D graphics.

Also, it accepts two host bus frequencies, 66 MHz and 100 MHz, to run a range of Intel Pentium II/Pentium III and Celeron processors.

Main Features

The mainboard comes with the following high-performance features:

- Easy Installation
  BIOS with support for Plug and Play, auto detection of IDE hard drives, LS-120 drives, MS Windows 98.
- Flexible Processor Support
  Onboard 242-pin Slot1 supports leading-edge processors: Intel Pentium II/Pentium III and Celeron 233/266/300/333/350/400/450/500MHz.
- Versatile Main Memory Support
  Accepts up to 1GB DRAM in four banks by using of 8, 16, 32, 64, 128, 256MB with support for SDRAM DIMMs.
- Onboard Accelerated Graphics Port (AGP)
  One 32-bit AGP slot supports 1x/2x AGP VGA cards for superior 3D video performance with transfer speeds up to 264MB/second under 1x AGP transfer mode and up to 528MB/second under 2x AGP transfer mode.
- Super Multi I/O
  Integrated multi-I/O chip provides keyboard (including power-on password and specific key)/mouse wake-on capability to provide more security and convenience.
- W83782D provides both ISA and I^2C serial bus interface and selectable address setting for application of up to eight devices.
- Restore on AC/Power Loss
  The mainboard offers a features that 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.
- ACPI Ready
  This mainboard fully implements the new ACPI (Advanced Configuration and Power Interface) 1.0 Hardware and BIOS requirement. If you install ACPI aware operating system, such as Windows 98, you fully utilized the power saving under ACPI. It is compatible with all other none ACPI operating systems.

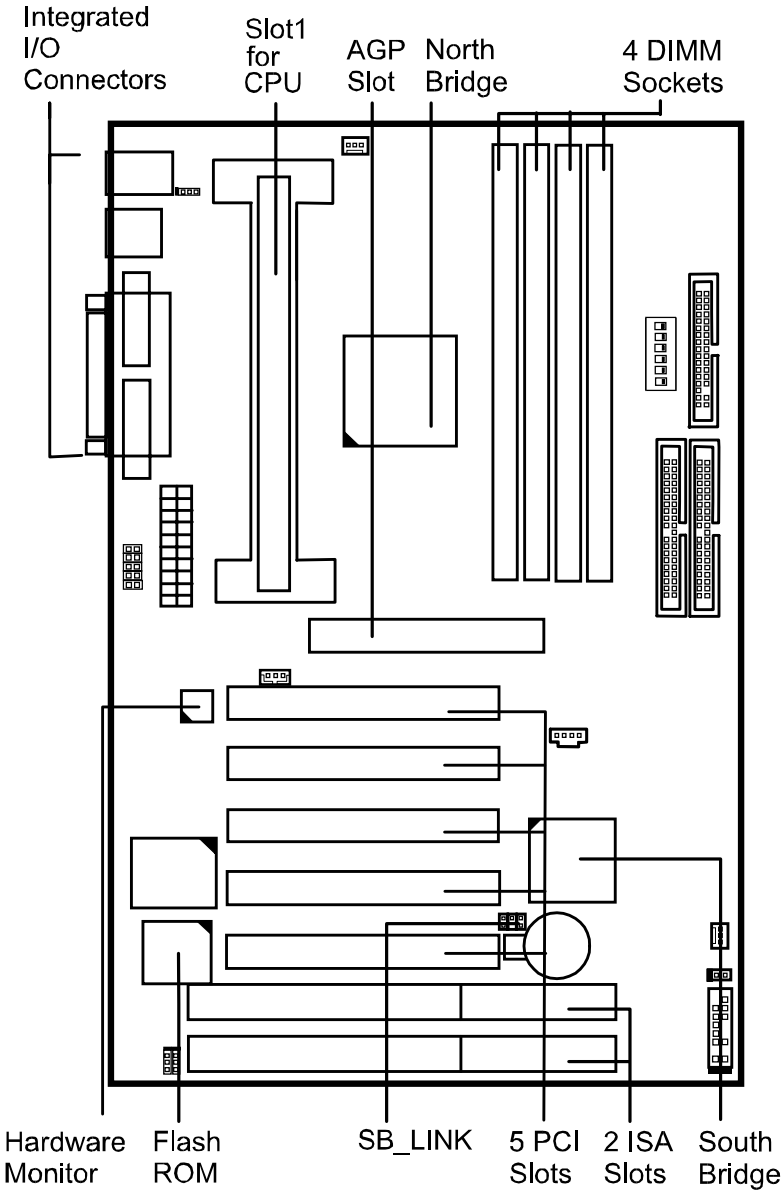
  If you want to setup ACPI feature under Windows 98, please follow the description below:

  Run Windows 98 setup by using **`setup/p j`** on the command line for installing Windows 98 with the ACPI control feature.

  If you type **`setup`** without the parameter **`/p j`**, Windows 98 will be installed as APM, PnP mode, no ACPI will be used.

  For more detail information, visit the web site of Microsoft. Its address is: **`www.microsoft.com/hwtest/`**.

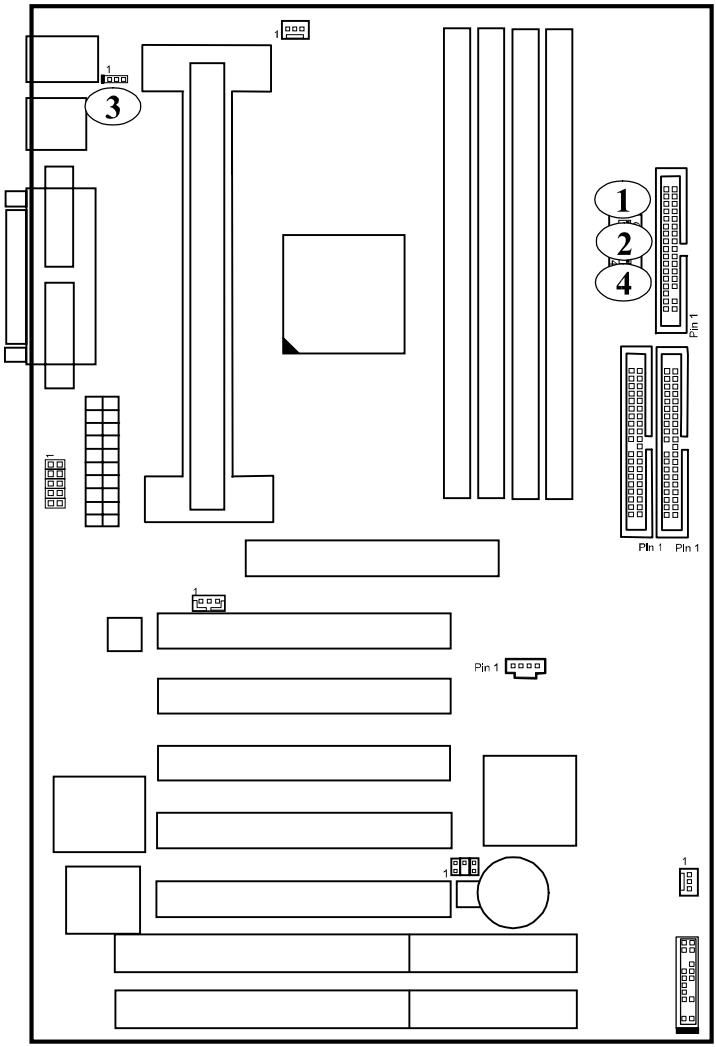
The Mainboard



Installation Procedures

The mainboard has several user-adjustable jumpers/switches on the board that allow you to configure your system to suit your requirements. This chapter contains information on the various hardware settings on your mainboard.

Quick Reference (Jumpers)



Jumpers

Turn off the system power and read Handling Precautions of this manual before installing and removing any part of the system.

No.	Item	Function / Page for Detail information
1	SW1-5 On: **Off:**	Clear CMOS Data / 12 Enabled (clear CMOS) **Disabled**
2	SW1-6 On: **Off**:	Clear Password / 12 Enabled (clear keyboard power & system password) **Disabled**
3	KB_PWN On: **Off**:	Keyboard & Mouse Power-On Feature / 13 Enabled **Disabled**
4	SW1-1/2/3/4	CPU to Bus Frequency Ratio Select / 21 (Table below describes the settings)

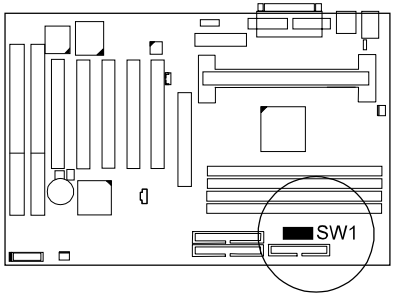
CPU to Bus Frequency Ratio Select

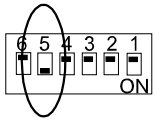
Ratio	Bus Freq. = 100MHz	Bus Freq. = 66MHz	SW1-1	SW1-2	SW1-3	SW1-4
3.5 x	350MHz	233MHz	On	Off	On	Off
4 x	400MHz	266MHz	On	On	Off	On
4.5 x	450MHz	300MHz	On	On	Off	Off
5 x	500MHz	333MHz	On	Off	Off	On

Set System Jumpers/Switches

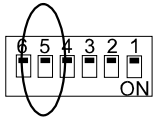
Clear CMOS: SW1-5

The CMOS RAM is powered by the onboard button cell battery. To clear the RTC data: (1). Turn off your computer, (2). Enable this feature by setting the SW1-5 to On position, (3). Turn on your computer, (4). Turn off the computer, (5). Disable the Clear CMOS feature, (6). Turn on the computer. (7). Hold down the Delete key when boots and enter BIOS Setup to re-enter user preferences.





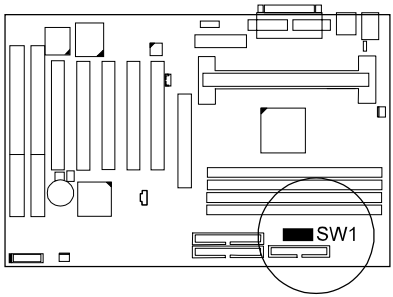
Enable (Clear CMOS)

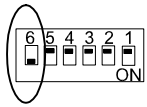


Disable (Default)

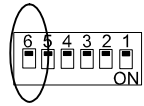
Clear Password: SW1-6

This switch allows you to enable or to disable both the keyboard and system password settings. You may need to adjust it if you forget your password. To clear the password setting: (1). Turn off your computer, (2). Enable this feature by setting the SW1-6 to On position, (3). Turn on your computer, (4). Turn off your computer, (5). Disable the Clear Password feature by setting the SW1-6 to Off position, (6). Turn on your computer, (7). Hold down the Delete key when boots and enter BIOS Setup to re-enter user preferences.





Enable (Clear Password)

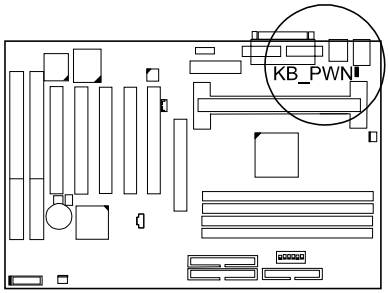


Disable (Default)

i When SW1-6 set at Enabled, the keyboard password (K/B Wake-up function) will be cleared too. Users can power on the system by pushing power button.

Keyboard and Mouse Power-On Feature: KB_PWN

The 3-pin jumper provides you with the capability to power on the system by simply touching your keyboard or mouse.



Enable

Disable
(Default)

Install RAM Modules

RAM Module Configuration

This mainboard provides four onboard DIMM sockets for allowing 3.3 V (unbuffered) SDRAM DIMM modules. Either 8, 16, 32, 64, 128 MB, or 256*MB DIMM can be installed on these four sockets. The maximum total memory supported is up to 1GB*.

Socket	Acceptable Memory Module		Total Memory
1	8/16/32/64/128/256MB 168-pin 3.3V SDRAM	x1	
2	8/16/32/64/128/256MB 168-pin 3.3V SDRAM	x1	
3	8/16/32/64/128/256MB 168-pin 3.3V SDRAM	x1	
4	8/16/32/64/128/256MB 168-pin 3.3V SDRAM	x1	
	Total System Memory allowed up to 1GB	=	

i

* A RAM module of this size was not available for testing at time of printing.

This board only supports 3.3V (unbuffered) SDRAM modules.

This mainboard supports DIMMs with data access time of 12ns, 10ns, 8ns or less. ECC memory and parity check are also supported.

If DIMM runs at the speed of 100MHz, it must meet the PC100 Specification.

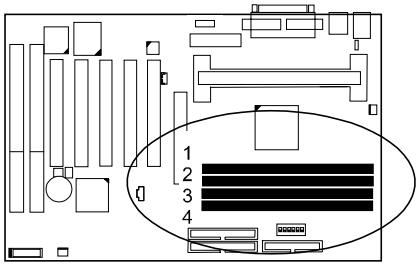
Please use the same memory sizes of DIMM on each socket for better performance.

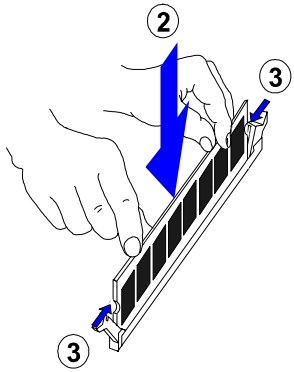
Install DIMMs

This mainboard supports 100MHz SDRAM DIMMs; when the system frequency set to 100MHz, PC100-compliant SDRAM should be used.

Complete the following procedures to install DIMMs:

- Locate the DIMM slots on the mainboard. (See figure below.)





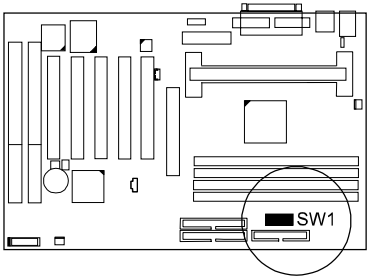
- Install the DIMM straight down into the DIMM slot with both hands.
- The clips of the slot will close up to hold the DIMM in place when the DIMM touches the slot's bottom.

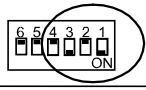
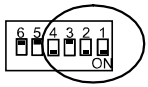
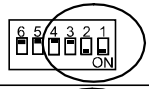
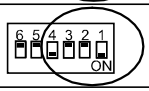
Remove DIMMs

- Press the clips with both hands to remove the DIMM.

CPU

CPU Internal Frequency: SW1-1, SW1-2, SW1-3, SW1-4



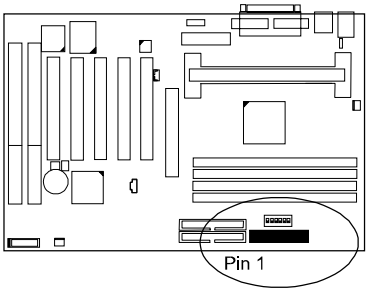
Ratio	*Bus Frequency = 100MHz*	*Bus Frequency = 66MHz*	*Switches Settings*
3.5 x	350MHz	233MHz	
4 x	400MHz	266MHz	
4,5 x	450MHz	300MHz	
5 x	500MHz	333MHz	

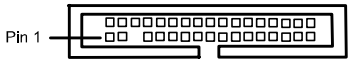
These four switches are used to decide the internal frequency of the CPU.

Connect Devices

Floppy Diskette Drive Connector: FLOPPY

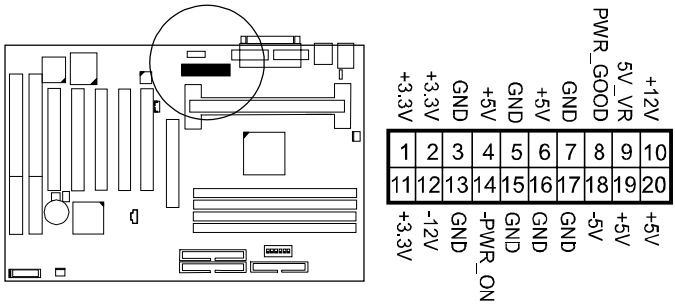
The red stripe of the ribbon cable must be the same side with the Pin 1.





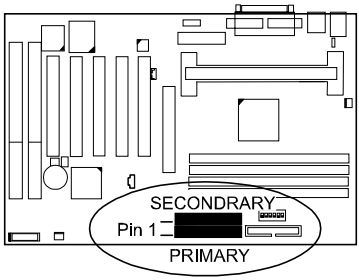
ATX Power Connector: POWER

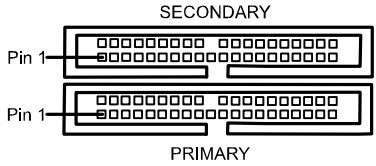
This connector is connected to the ATX power supply. This board does not provide onboard 3.3V support; therefore, your ATX power supply must provide 3.3V voltage.



IDE HDD Device Connectors: PRIMARY, SECONDARY

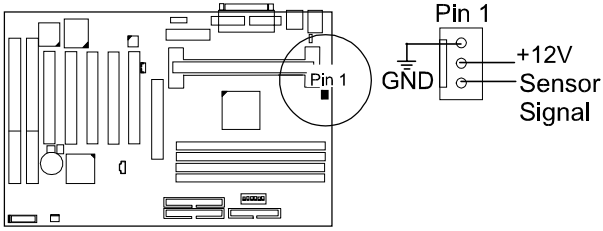
These two connectors are used for your IDE hard disk drives, CD drives, LS-120 drives, or IDE ZIP drives. The red stripe of the ribbon cable must be the same side with the Pin 1.





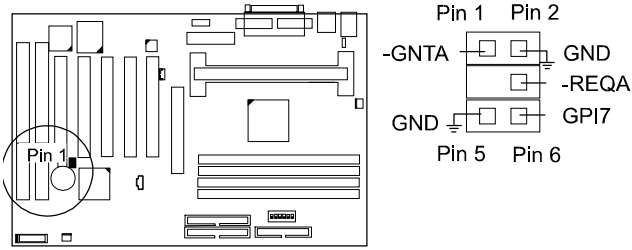
CPU Fan Connector: FAN1

This connector is linked to the CPU fan for cooling the processor temperature.



PCI Audio Card Connector: SB_LINK

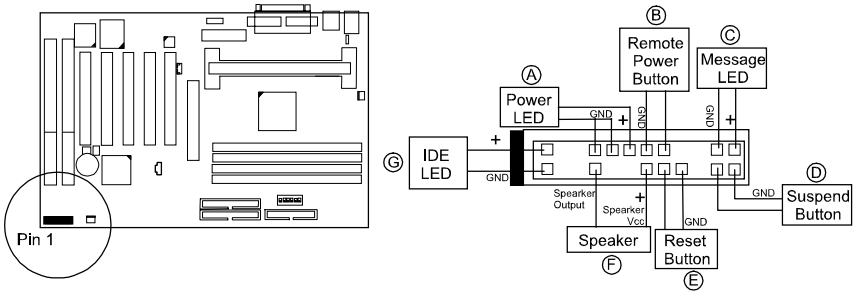
This 6-pin male connector allows you to connect to your Creative®'s sound card or compatible.



Connectors to System Case

Front Panel Block Connector

This block connector concludes the connectors for linking with IDE LED, power LED, remote power button, message LED, suspend button, reset button and speaker on the front panel of the system case. Please identify polarities of plug wires for the case speaker and LEDs.



Power LED (A) is connected with the system power indicator to indicate whether the system is on/off. When the system enter the suspend mode, it blinks.

Remote Power Button (B) is connected with remote power (soft power) switch. Push this switch will turn off and on the system instead of turning the power switch on the power supply.

Message LED (C) is connected with the message LED. When the system is running normally, the indicator is on. When the system hangs up or down, the indicator will be off.

Suspend Button (D) is connected with suspend mode switch.

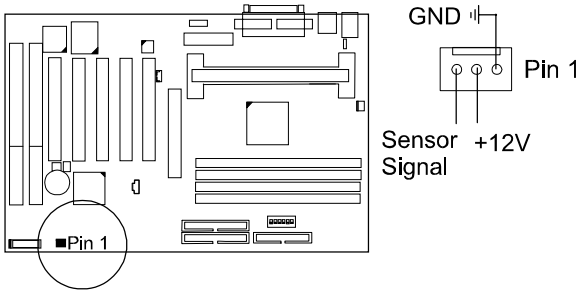
Reset Button (E) is connected to the reset switch. Push this switch to reboot the system instead of turning power switch off and on.

Speaker (F) is connected with the case speaker.

IDE LED (G) is connected IDE device indicator. This LED will blink when the hard disk drives are activated.

System Case Fan Connector: FAN2

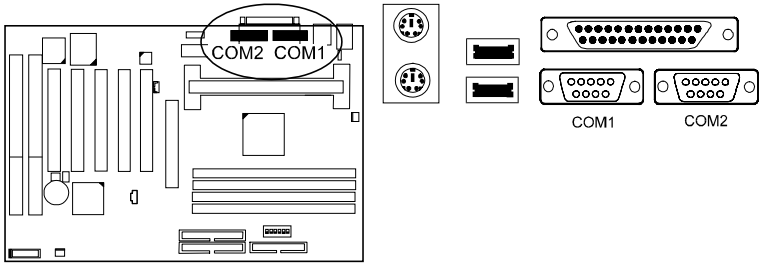
This 3-pin connector links to your cooling fan on the system case to lower the system temperature.



Connectors to External Devices

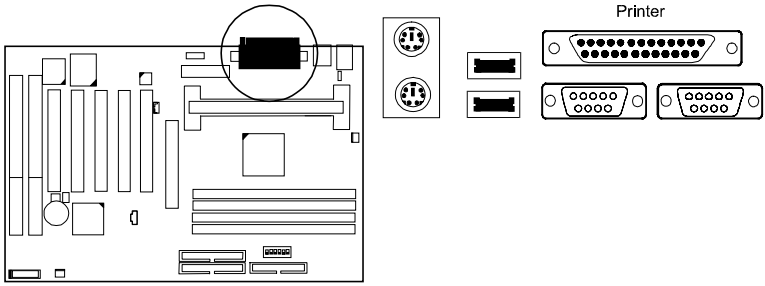
Serial Port Connectors: COM1, COM2

These two 9-pin D-Sub male connectors allow you to connect devices that use serial ports, such as a serial mouse or a modem.



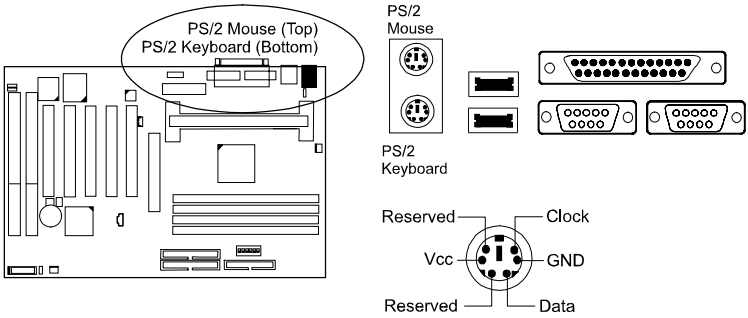
Printer Connector: LPT

This 25-pin D-Sub female connector is attached to your printer.



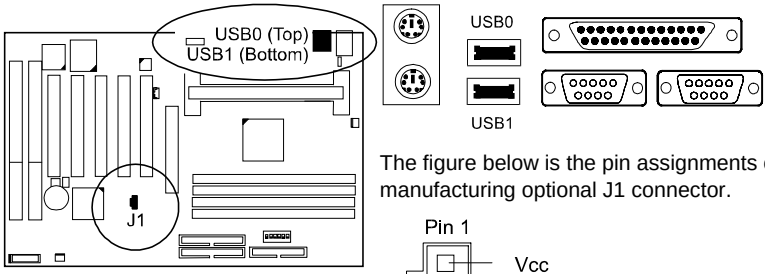
PS/2 Keyboard and Mouse Connector: KB, MS

These two 6-pin female connectors are used for your PS/2 keyboard and PS/2 mouse.

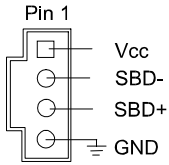


Universal Serial Bus Connectors: USB0, USB1, J1

These two connectors that integrated on the edge of the board are used for linking with USB peripheral devices. Also, this board provides an manufacturing optional connector J1 for linking with the USB socket on the front panel of some system cases. If this connector is onboard and is used, the USB0 connector is disabled. Your operating system must support USB features, such as MS Windows 98.



The figure below is the pin assignments of the manufacturing optional J1 connector.



BIOS Setup

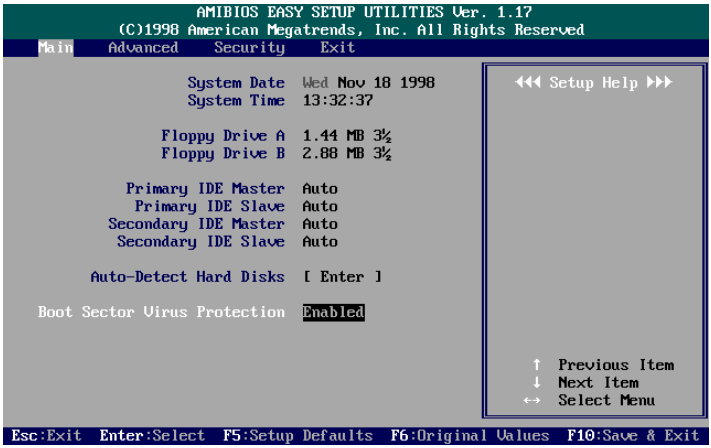
The mainboard comes with an AMI BIOS chip that contains the ROM Setup information of your system. This chip serves as an interface between the processor and the rest of the mainboard's components. This chapter explains the information contained in the Setup program and tells you how to modify the settings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

At power-on RAM testing, the message Press <**Delete**> key to enter Setup appears. If you are a little bit late pressing the mentioned key, POST (Power-On Self Test) will continue with its test routines, thus preventing you from calling up Setup. If you still need to call Setup, reset the system by simultaneously pressing the <**Delete**> key. Use the arrow keys to select and press <**Enter>** key to run the selected program.

The data shown in the Setup screens may not be the same as yours. They depend on your system.

For a BIOS update only use a AMI BIOS at the system manufakturer. When a different BIOS is used, some programs can no longer be installed properly.

Main Setup

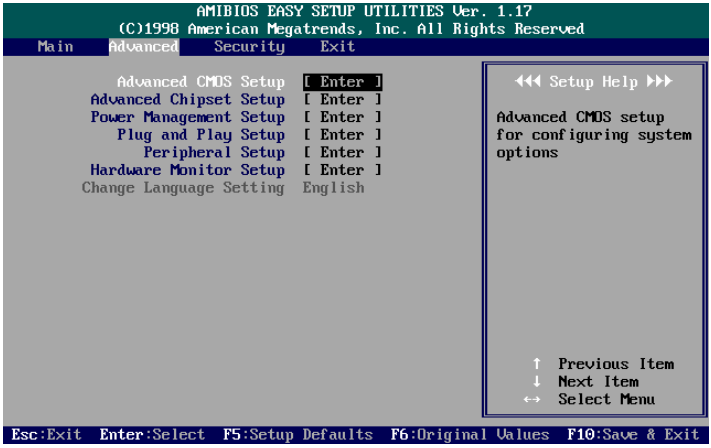


The Main Setup screen is displayed above. Each item may have one or more option settings. It allows you to change the system Date and Time, IDE hard disk, floppy disk drive types for drive A: and B:.

Auto-Detect Hard Disks
: Allows the system BIOS to detect all hard disk parameters automatically.

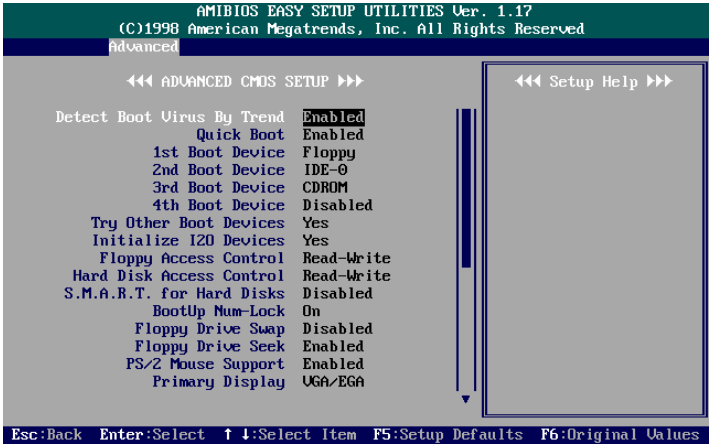
Boot Sector Virus Protection
: When Enabled, a warning will be giver when any program or virus sends a Disk Format command or tries to write to the boot sector of a hard disk drive.

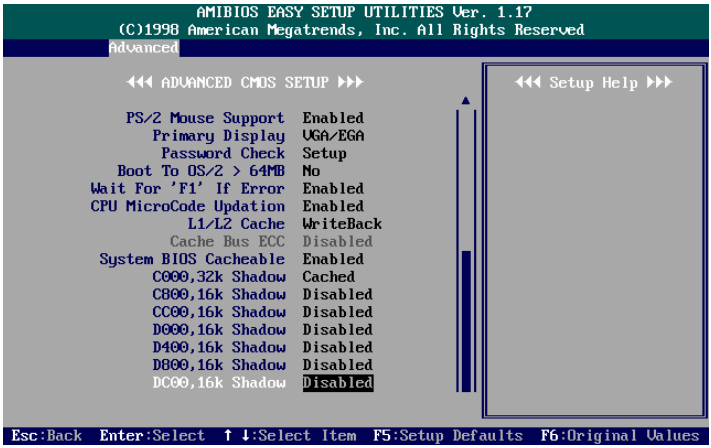
Advanced Setup



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





Detect Boot Virus By Trend

This feature starts the virus scan tool to detect if boot virus in boot sector of the first hard disk. The options are: *Enabled* (default), *Disabled*.

Quick Boot

Set this option to Enabled to instruct AMI BIOS to boot quickly when the computer is powered on. The settings are *Disabled* or *Enabled* (default).

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* (default) or *FLOPTICAL*.

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*.

Initialize I2O Device

If set at Yes, the BIOS will initilize I2O processors, I2O storage devices, and provide INT13 support for I2O storage device.
The settings are *Yes* (default), *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* (default) or *Enabled*.

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* (default) or *Off*.

Floppy Drive Swap

Set this option to Enabled to permit drives A: and B: to be swapped. The settings are *Disabled* (default) or *Enabled*.

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* (default) or *Disabled*.

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 (default) or Always.

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* (default).

Wait For 'F1' If Error

When set at Enabled, the BIOS will prompt F1 to wait for users if the keyboard or floppy drive/s error occurs. The settings are *Enabled* (default) or *Disabled*.

CPU MicroCode Updation

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

L1/L2 Cache

This feature allows users to select the cache policy. WriteThrough means that memory is updated with data held in the cache whenever the CPU issues a write cycle. On the other hand, WriteBack causes memory to be updated only under certain conditions, such as read requests to the memory whose contents are currently in the cache. WriteBack allows the CPU to operate with fewer interruptions, increasing its efficiency. The settings are: *WriteBack* (default) or *WriteThrough*.

Cache Bus ECC

This feaure is for enabling the cache ECC function. The settings are *Disabled* or *Enabled* (default).

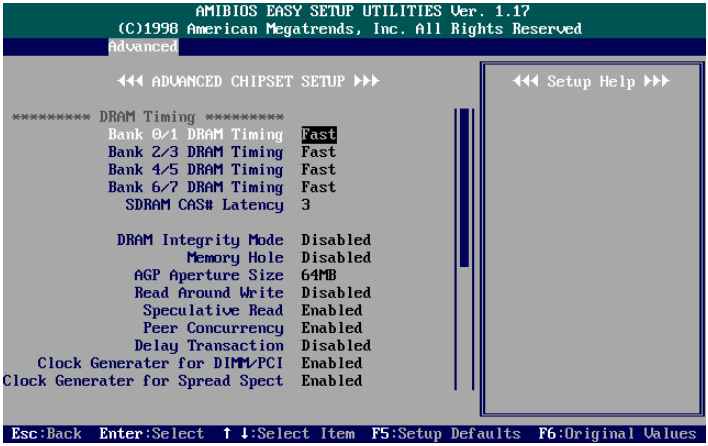
System BIOS Cacheable

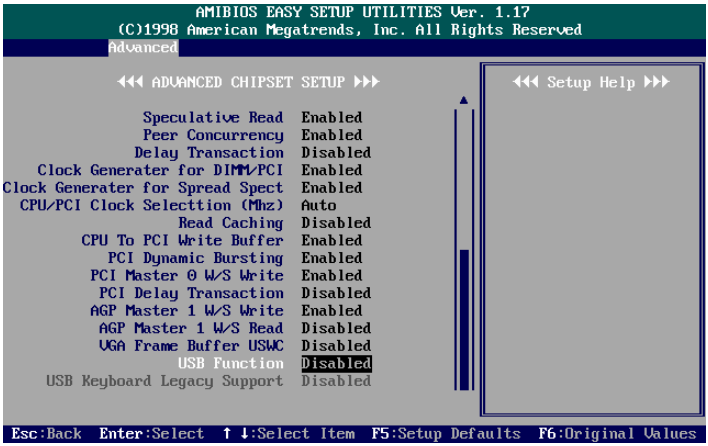
Enable it to allows the contents of the F0000h system memory segment to be read from or written to the L2 cache memory. The contents of the F0000h memory segment are always copied from the BIOS ROM to system RAM for faster execution. The settings are *Disabled* or *Enabled* (default).

C000,32K 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, 32K Shadow; C800, 16K Shadow* is *Cached*; the others are *Disabled*.

Advanced Chipset Setup





Bank 0/1 DRAM Timing; Bank 2/3 DRAM Timing;
Bank 4/5 DRAM Timing; Bank 6/7 DRAM Timing;

This feature allows you to select the DRAM read/write speed. The settings are: *Normal*, *Fast* (default), *Turbo*.

SDRAM CAS# Lattency

If any DIMM is installed, this feature allows you to select the CAS Latency. The settings are *2* or *3* (Default).

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 configurablity of selecting between ECC (ECC generation and checking/correction) mode, or disable non-ECC mode of operation of the DRAM interface. The settings are *Disabled* (Default), *ECC*.

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* (default), *512KB-640KB*, or *15MB-16MB*.

AGP Aperture Size

It allows you to select the main memory frame size fo AGP use. The options *are 4, 8, 16, 32, 64* (default), *128, 256MB*.

Read Around Write

This feature speeds up data read performance when it stays Enabled.
The options are *Disabled* or *Enabled* (default).

Speculative Read

If a sequential data read occur, the chipset will generate a speculative read cycle to preread data before the CPU request. The settings are: *Enabled* (default), *Disabled*.

Peer Concurrency

Peer concurrency means: if not the same bus, the system can active different bus master cycle at the same time. The settings are: *Enabled* (default), *Disabled*.

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* (default) or *Enabled*.

Clock Generator for DIMM/PCI

When no DIMM/PCI adapter card on the slot, the clock of the slot will be stoped if this feature set at Enabled. The options are: *Enabled* (default), *Disabled*.

Clock Generator for Spread Spect

Set at Enable for allowing spread spectrum in order to solve the EMI solution of the clock generator. The options are: *Enabled* (default), *Disabled*.

CPU/PCI Clcok Selection (MHz)

This feature allows you to set the ratio of CPU external clock to PCI bus clock. When CPU external frequency is at 66MHz. The options are: Auto (default), 75/37.5, 83.3/41.6, 66.8/33.4. When CPU external frequency is at 100MHz. The options are: *Auto* (Default), *124/41.33, 112/37.3, 133.3/44.43, 100/33.3*.

Read Caching

This feature is for cache read performance better. The settings are: *Disabled* (default), *Enabled*.

CPU To PCI Write Buffer

When enabled, it allows data and address access to the internal buffer of the South Bridge so that the CPU can be released from the waiting state. The settings are: *Enabled* (default), *Disabled*.

PCI Dynamic Bursting

When set at *Enabled*, the PCI controller allows bursting PCI transfer if the consecutive PCI cycles come with the address falling in the same 1KB space. The settings are: *Enabled* (default), *Disabled*.

PCI Master 0 W/S Write

When set at *Enabled*, it allows a zero-wait-state-cycle delay if the PCI master drive writes data to DRAM. The settings are: *Enabled* (default), *Disabled*.

PCI Delay Transaction

Enabling this feature will abort the current PCI master cycle and will accept a new PCI master request, it reaccepts the original PCI master and returns the PCI data phase to the original PCI master. The settings are: *Enabled*, *Disabled* (default).

AGP Master 1 W/S Write

When set at *Enabled*, it allows a one-wait-state-cycle delay if the AGP master drive writes data to DRAM. The settings are: *Enabled* (default), *Disabled*.

AGP Master 1 W/S Read

When set at *Enabled*, it allows a one-wait-state-cycle delay if the AGP master drive reads data from DRAM. The settings are: *Disabled* (default), *Enabled*.

VGA Frame Buffer USWC

When set at *Enabled*, it enables CPU write to video frame buffer using USWC (Unspeculative Write-Combined) way. Stay with the default setting, Disabled, when installed some older VGA card drivers. The settings are: *Disabled* (default), *Enabled*.

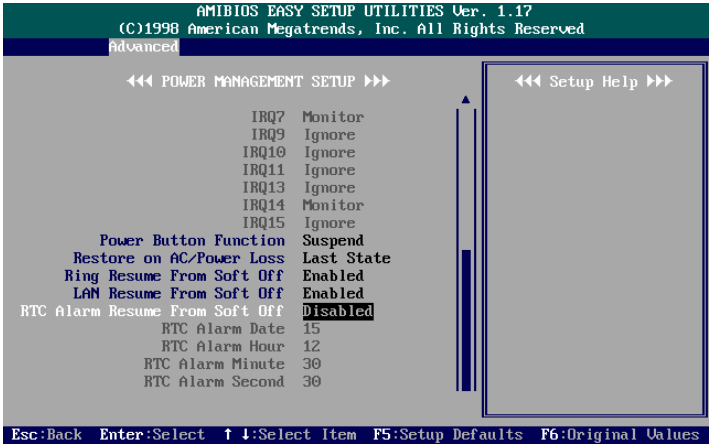
USB Function

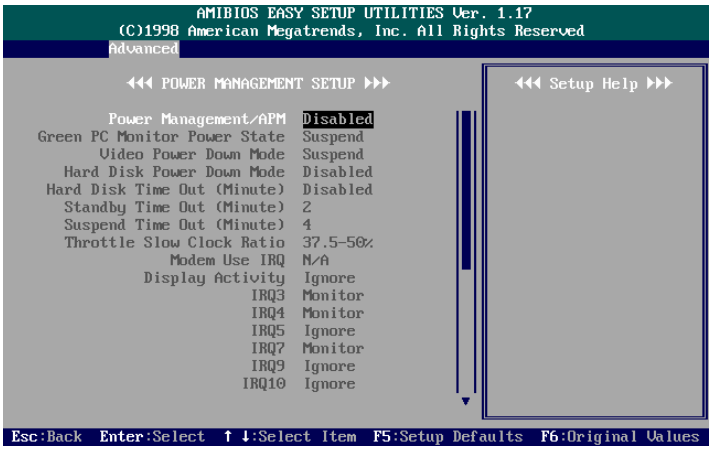
This option allows users to enable the Universal Serial Bus (USB) feature. The options are *Disabled* (Default) or *Enabled*.

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 options are *Disabled* (default) or *Enabled*.

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* (default).

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 *37.5-50 %*.

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: *N/A* (Default), *3, 4, 5, 7, 9, 10, 11*.

Display Acitivity, IRQ3/4/5/7/9/10/11/13/14/15

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*, *IRQ5/9/10/11/13/15* is *Ignore*.
The default setting of is *IRQ3/4/7/14* 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* (default), *Suspend*.

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).

LAN Resume From Soft Off

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*.

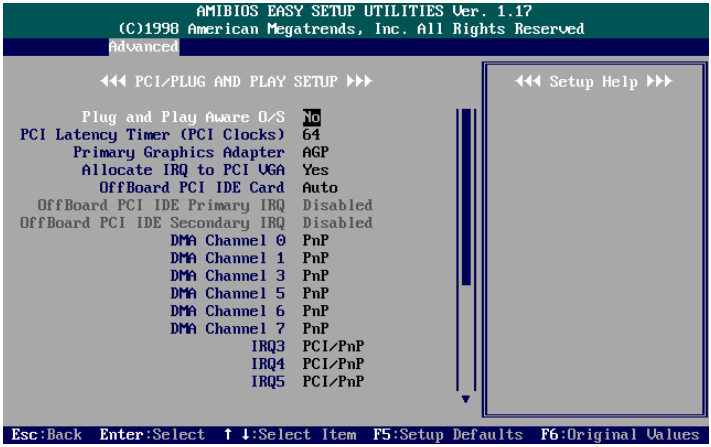
RTC Alarm Minute

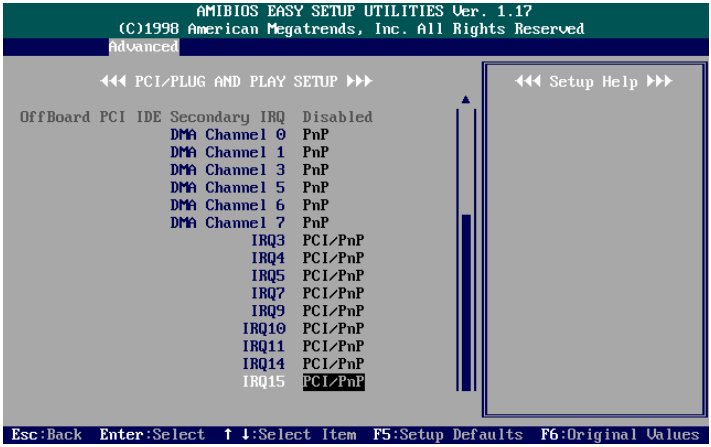
This feature allows you to set the minute of the alarm starts when the RTC Alarm Resume From Soft Off is set to be Enabled.
The settings are *0, 1, 2, ..., 59 minutes*. The default setting is *30*.

RTC Alarm Second

This feature allows you to set the second 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*.

PCI/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*.

Primary Graphics Adapter

When an AGP VGA and PCI VGA card installed at the same time. They will be selected to be the primary display by this feature. The settings are *PCI* or *AGP* (default).

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*.

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* (default), *INTA, INTB, INTC, INTD, Hardwired*.

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* (default), *INTA, INTB, INTC, INTD, Hardwired*.

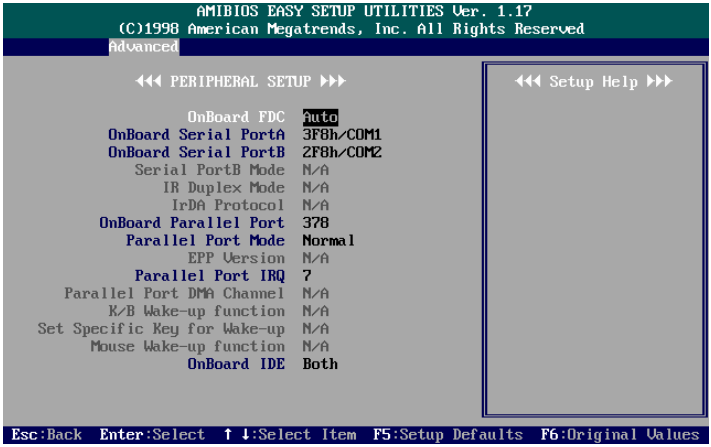
DMA Channel 0, 1, 3, 5, 6, 7

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

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* (default) or *ISA/EISA*.

Peripheral Setup



Onboard FDC

This option enables the floppy drive controller on the mainboard.
The settings are *Auto* (default), *Enabled*, or *Disabled*.

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* (default), *2F8h/COM2, 3E8h/COM3, 2E8h/COM4*.

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* (default), *3E8h/COM3, 2E8h/COM4*.

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, 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* (default), *278h, 3BCh, Auto*, or *Disabled*.

Parallel Port Mode

This option allows you to select the mode of the parallel port. The settings are *Normal* (default), *Bi-Dir*, *EPP*, or *ECP*.

EPP Version

This option allows you to select the EPP version.
The settings are *1.9* (default), *1.7*.

Parallel Port IRQ

This option allows you to select the IRQ of the parallel port. The settings are *5* or *7* (default).

Parallel Port DMA Channel

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

K/B Wake-up function

This feature allows users to wake up the system by keyboards from the soft-off status. If set at Password, the power button will not be able to power-on the system. The options are: *Disable* (default), *Specifc key*, *Any key*, *Password*.

Set Sepecific 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-F2*, *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* (default).

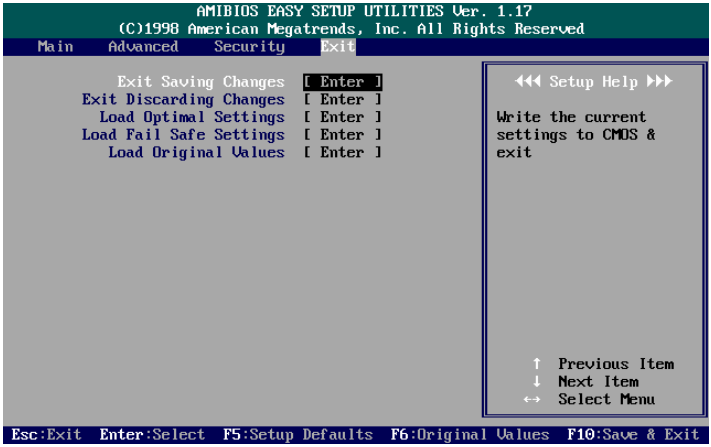
Security Setup

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.

Set Keyboard Wake Up Password:
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
: allows you to write the current settings to CMOS and exit.

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

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

Load Fail Safe Settings
: 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
: 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.

Contents

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February 1999 edition