

# *USER'S*

**More compatible, more functional and more competitive. Excellent quality and faster response.**

# *MANUAL*

Supporting Intel PENTIUM III®, PENTIUM II® or Celeron®  
Processors, Bus Master IDE, UDMA66, PC100/66 SDRAM,  
Integrated VGA Display Controller.

Quality, Performance Mainboards

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# overview

Thank You for purchasing our High Performance PENTIUM III® PENTIUM II or CELERON® Mainboard. Our advanced technology mainboard is designed for processing speeds of 233MHz to 500MHz or above and is upgradeable for future processors.

The Intel Mainboard Utilizes Intel's PCI chipset and their IDE Xccelerator provides an integrated Bus Mastering IDE controller with two high performance IDE interfaces for up to four IDE devices (hard drives, or CD-ROM's). It's I/O controller integrates floppy drive interface, two FIFO serial ports, one parallel port and Consumer Infra Red compatible interface.

Intel 810 Chipset Support Intel Pentium III/II or Celeron Processors with 100MHz Front-side Bus. Support 100MHz PC100 SDRAM DIMM.

Dual Slot1 and Socket 370 Supporting Intel Pentium III, Pentium II or Celeron Processor.

AGP Graphics Controller Integrated inside Intel 810 Chipset. Dynamic Graphics Memory Allocation on System Memory. Hardware Motion Compensation for Accelerated DVD Video Playback. High Graphics Resolution up to 1600x1200 with 8-bit Colour. Full Support for Microsoft Direct 3D and Direct Draw.

Two DIMM slots supporting up to 512MB Memory Capacity. . Audio Modem Riser ( AMR ) slot supporting AMR modem cards. Two USB ports supporting USB Devices. WAKEUP-LINK Header supporting Intel Wake-On-LAN. SB-LINK Header Supporting Creative Labs AWE64D PCI Sound Card.

This Mainboard is among our "Auto Jumper" Series that eliminates the necessity for the user to be overwhelmed by jumper settings on the Mainboard. It is capable of detecting the CPU brand and core voltage, setting the appropriate CPU speed according to the instructions from the user through the CMOS setup.

# Fast start installation

This section will aid you in quickly setting up your series Mainboard, be sure to use caution to avoid personal injury and damage to wiring due to sharp pins on connector's and printed circuit assemblies, rough edges and corners and hot components. Adhere to warnings regarding accessibility into areas designated only for authorized Technicians.



**Auto Jumper.** This Mainboard is among our “Auto Jumper” Series that eliminates the necessity for the user to be Overwhelmed by jumper settings on the Mainboard. It is capable of detecting the CPU brand and core voltage setting the appropriate CPU speed according to the instructions from the user through the CMOS setup.

## Your Location Requirements Are:

- A sturdy, level surface for placement
- Space allowance around mainboard
- Room temperature 50 to 90.5 F 10 to 32.5 C Relative humidity 20% to 80
- A stable environment with no abrupt temperature or humidity changes
- No exposure to chemicals or direct sunlight
- Line voltage and frequency not varying more than + or -10% from the value stated on the package or nameplate (located on the back, opposite the power plug)

## Checking The Package Contents

Remove the items from the box and make sure you have the following items before beginning. If you are missing any of the items below please contact the representative for a replacement part.

### Micro ATX Box Standard Package

- 1) Mainboard
- 2) CD-ROM
- 3) Users Guide
- 4) IDE Hard Drive ribbon cable
- 5) Floppy Drive Ribbon Cable
- 6) Serial Port Cable for **COM2**

### Baby AT Box Standard Package

- 1) Mainboard
- 2) CD-ROM
- 3) Users Guide



# Mainboard diagram

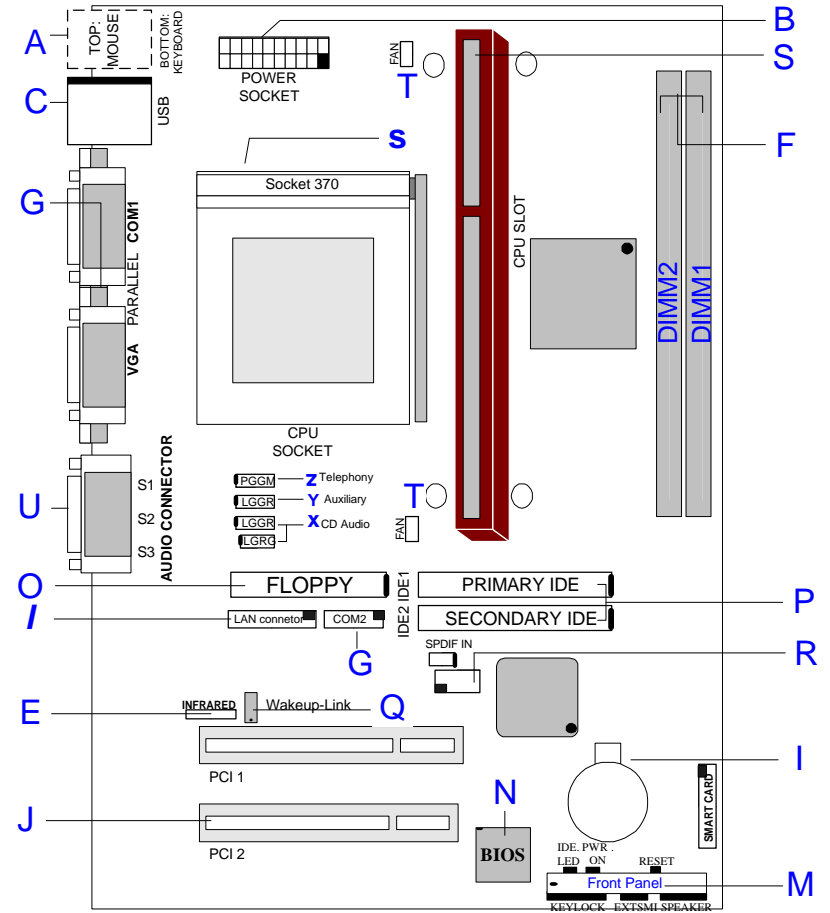
Before we begin installing your series Mainboard we have provided you with a diagram of the Mainboard to help you locate the appropriate "connectors" we will make reference to on the Quick Step portion of this manual. The letters below describes the key Mainboard components. Page number in the right hand column will direct you to a detailed description of the component.



Options :

- Instant810C - L PCI Creative Live Audio Onboard
- N 100Mbps PCI LAN Onboard
- SE AC97 2.1 Compliant 3D Audio Onboard

COMPONENT	PAGE
A- PS/2 Keyboard / Mouse Connector	.42
B- ATX Power Supply	.42
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I- 3V Lithium Battery	.44
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N- Flash BIOS	.46
O- Floppy Drive Connector	.46
P- IDE Device Connector	.46
Q- WAKEUP-LINK Header	.47
R- SB-LINK and Creative PCI Header	.47
S- CPU Slot 1	.47
s- Socket 370 CPU Socket	.50
T- CPU FAN Connector	.47
U- Audio Connectors	.48
X- CD Audio Connector	.48
Y- Auxiliary Connector	.48
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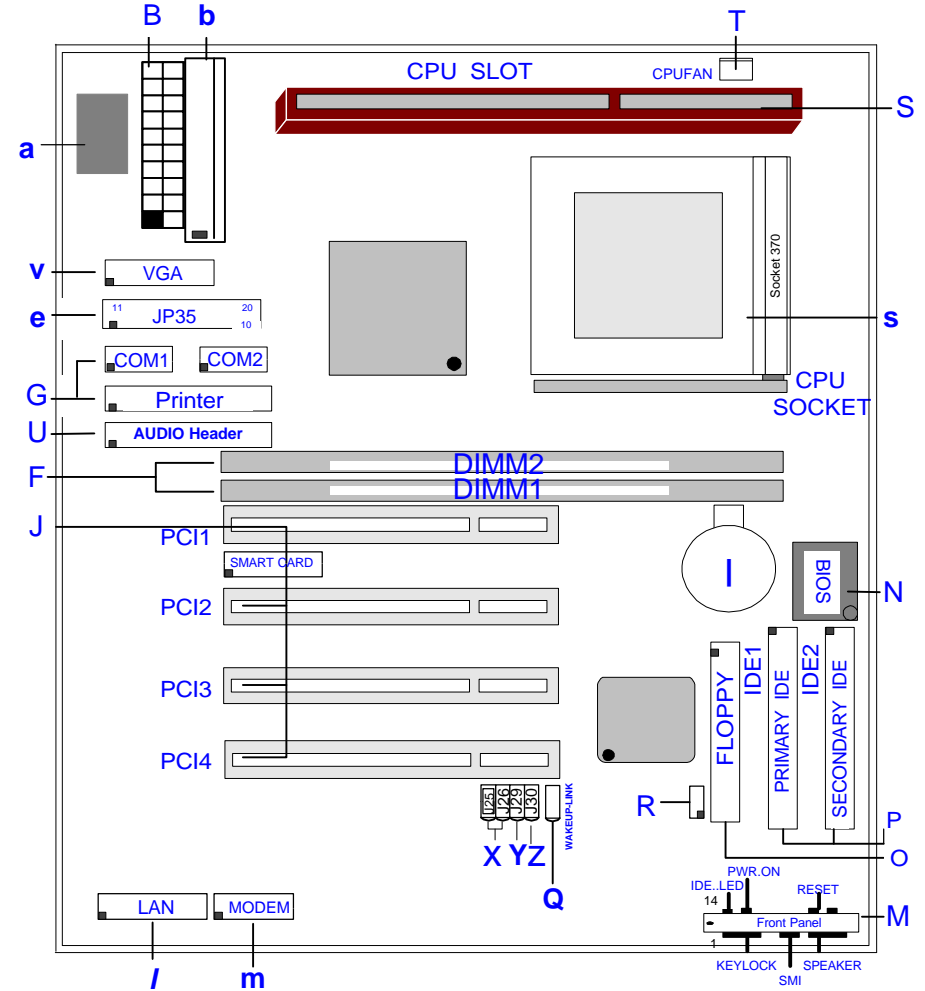


# Mainboard diagram

Before we begin installing your series Mainboard we have provided you with a diagram of the Mainboard to help you locate the appropriate "connector's" we will make reference to on the Quick Step portion of this manual. The letters below describes the key Mainboard components. Page number in the right hand column will direct you to a detailed description of the component.

Options : - M 56Kbps Software Modem Onboard  
 T810B - N 100Mbps PCI LAN Onboard  
 Onboard - SE AC97 2.1 Compliant 3D Audio  
 COMPONENT PAGE

a- AT Keyboard Connector	49
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F- Memory Module Sockets	44
G- Serial COM1, COM2 and Parallel Port Connector	44
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O- Floppy Drive Connector	46
P- IDE Device Connector	46
Q- WAKEUP-LINK Header	47
R- SB-LINK and Creative PCI Header	47
S- CPU Slot 1	47
s- Socket 370 CPU Socket	50
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U- Audio Connectors	48
v- VGA Connector	50
X- CD Audio Connector	48
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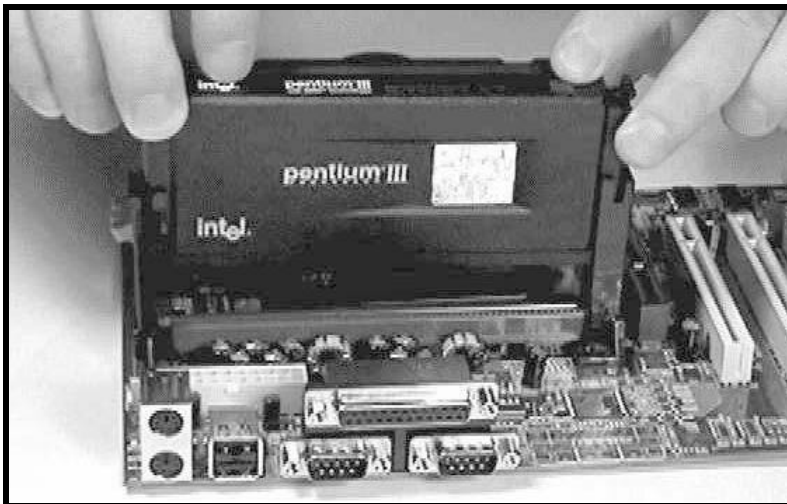


# 6 quick steps

Please follow these steps in order to assure your series Mainboard installation is successful. Please refer to the back chapters for further information regarding boot-up and configuration. An anti static rist band is recommended when handling electronic components, be sure your work area is static free before you begin this section

## 1 Installing the Central Processing Unit (Slot CPU)

The Mainboard provides a 242-pin CPU slot.(S in diagram). The CPU card should have a fan attached to it to prevent overheating. If a fan is not present, user should purchase a fan prior to turning on the system. The fan power connector should be included.



CPU Cooling Fan Installation Diagram The recommended heatsinks for the Pentium III processor are those with three-pin fans that can be connected to the fan connectors on the motherboard. It provides the +12 Volts D.C. for your CPU cooling fan.

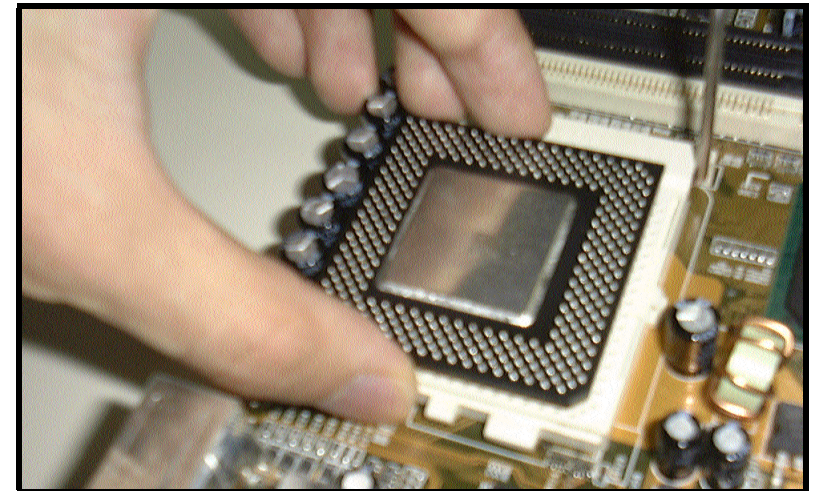


**CAUTION!** Be sure that sufficient air circulation is available across the processor's heatsink by regularly checking that your CPU fan is working. Without sufficient circulation, the processor could overheat and damage both the processor and the motherboard. You may install an auxiliary fan, if necessary.

Insert the Cartridge: Push the SEC cartridge's two locks inward. With the heatsink facing the mainboard's chipset, press this cartridge gently but firmly until it is fully inserted.

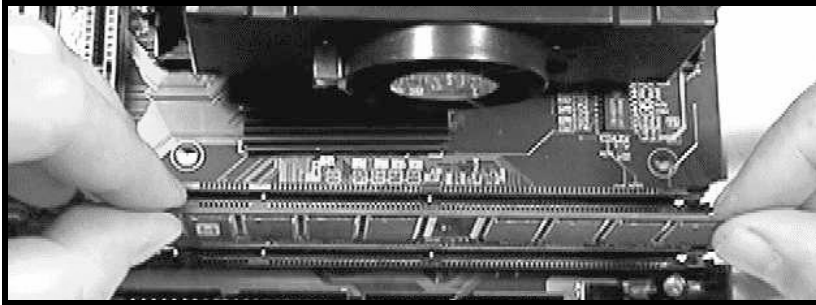
## Installing the Central Processing Unit (PPGA CPU)

The motherboard provides a 370 pins, Socket 370. The CPU should have a fan attached to it to prevent overheating. If a fan is not present, user should purchase a fan prior to turning on the system. The recommended heatsinks for the Socket 370 processor are those with three-pin fans that can be connected to the fan connectors on the motherboard. It provides the +12 Volts D.C. for your CPU cooling fan.



## 2 Installing the memory

Memory is installed in DIMM Sockets 1-3 (F in diagram) as follows, using the chart on the following page.



After you have set the memory firmly into its slot snap the white chip holders up to lock in the memory chip.

## 3 Attaching the power supply ribbon cable



**IMPORTANT:** Ribbon cables should always be connected with the red stripe on the Pin 1 side of the connector. The four corners of the connector's are labeled on the motherboard. Pin 1 is the side closest to the power connector on hard drives and floppy drives.

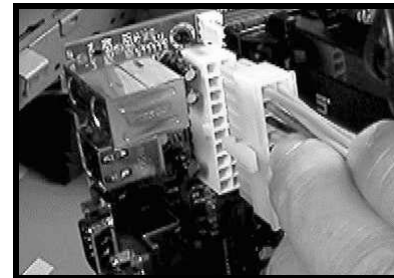
### ATX Power Connector.

ATX Power Supply Connector (20-pin ATXPWR)

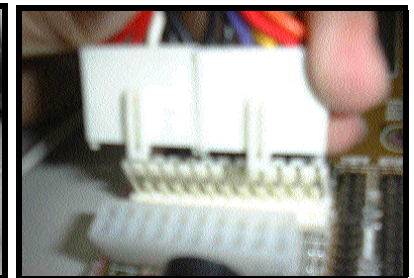
The single 20-pin connector (B in diagram) incorporates standard +5V and +12V, with 3 optional 3.3V soft-on/off signals. With a power supply that supports remote power on/off, the mainboard can turn off the system power through the software control, such as the shutdown in Windows 95 Start Menu. The BIOS system will turn the system power off when it receives the proper APM command from the OS. APM must be enabled in the BIOS and OS systems in order for the soft-off feature to work properly.

### AT Power Connector.

A 12-Pin power supplies provide two plugs incorporates standard +5V and +12V, each containing six wires, two of which are black. Orient the connectors so that the black wires are together.



ATX Power Connector

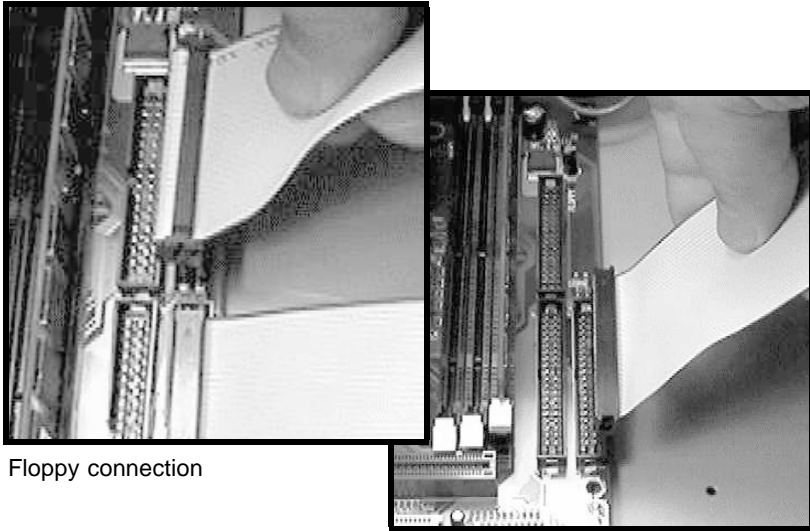


AT Power Connector



## Floppy Disk Drive Connector (34-pin FLOPPY).

This is a 34-pin connector that supports the provided floppy drive ribbon cable. After connecting the single end to the on-board "FLOPPY" connector, (O in diagram) connect the remaining plugs on the other end to the corresponding floppy drives.



Floppy connection

IDE connection

## IDE Connector.

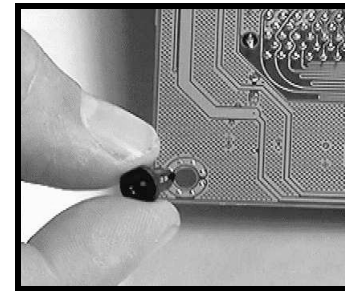
The on-board IDE connector's (P in diagram) support the provided 40-pin IDE hard disk ribbon cable. After connecting the single end to the mainboard, connect the remaining plugs at the other end of your hard disk(s). If you install hard disks, you must configure the drives by setting its jumpers according to the documentation of your hard disk.

Also, you may connect the hard disk drives so that both become Masters, using one ribbon cable on the primary IDE-connector. and the other on the secondary IDE connector.

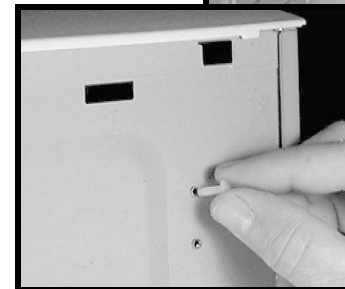
**NOTE:** For the flat ribbon cable connection, please make sure that the pin 1 of the ribbon cable (the red wire side of the cable) is correctly connected to the on-board connector's pin 1 as shown on the "diagram the mainboard".

## 4 Installing the mainboard into your computer chassis

Snap black mounting pins onto the mainboard as shown. Carefully insert the mainboard into the computer chassis and align the corresponding mounting holes on the mainboard with the holes on your chassis. *While chassis design varies you may need to refer to the chassis manual for the mainboard mounting area.* Insert white pins through the chassis and through the mounting holes on the mainboard into the black pin making sure they have snapped fully into place.



Black mount pin



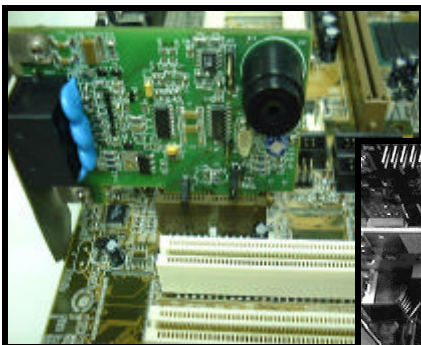
Insert White mount pin



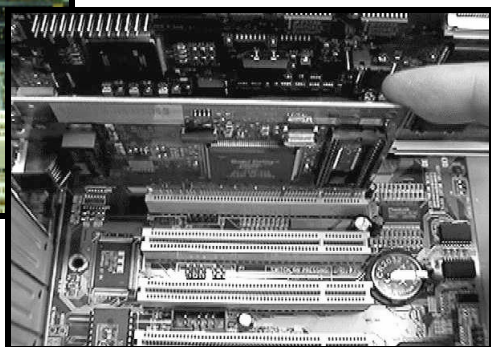
Insert into chassis

## 5 Installing the AMR Add-in Boards

First read your AMR card documentation for hardware and software settings that may be required to set up your specific card. Remove the opening cover plate on your computer case at the slot aligned with the AMR port. Keep the plate for possible future use. Carefully align the card's connector and press firmly. Secure the card on the slot with the screw you removed from the cover plate.



AMR Card



PCI Board Installation

## 6 Installing PCI Add-in Boards

First read your expansion card documentation for hardware and software settings that may be required to set up your specific card. Set any necessary jumpers on your expansion card and remove the opening cover plate on your computer case at the slot you intend to use. Keep the plate for possible future use. Carefully align the card's connector's and press firmly. Secure the card on the slot with the screw you removed from the cover plate.



Make sure to align rear external I/O connector's with the corresponding openings in chassis shown below (A,C & G in diagram)

You can now attach the Front Panel Function Connector (M in diagram) wires and Keyboard, Mouse and Monitor cables to the appropriate serial ports. connect the main power cable and boot your system.

Boot the system while pressing the key on your keyboard to detect CPU speed and auto configure Mainboard.

Press the DEL key when prompted and continue BIOS configurations discussed in the next chapter.



I/O connector aligned with openings

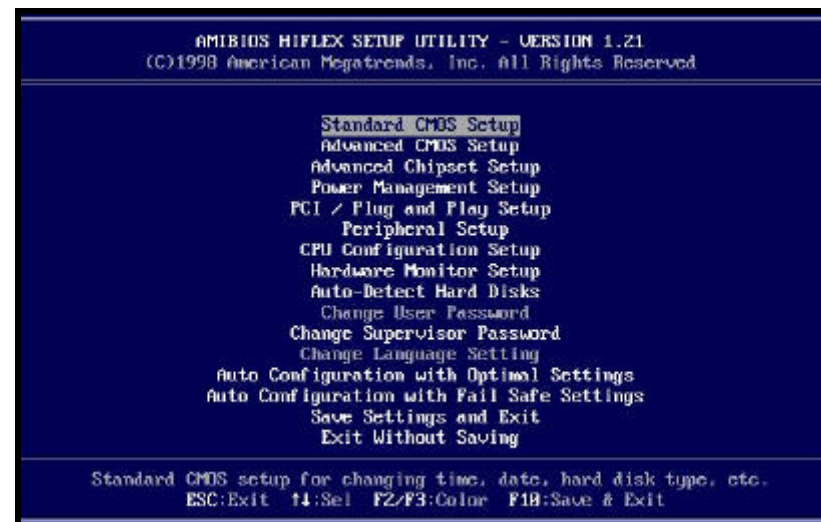


**REMEMBER!** This Mainboard is among our "Auto Jumper" Series that eliminates the necessity for the user to be overwhelmed by jumper settings on the Mainboard. It is capable of detecting the CPU brand and core voltage setting the appropriate CPU speed according to the instructions from the user through the CMOS setup.

Quick Start



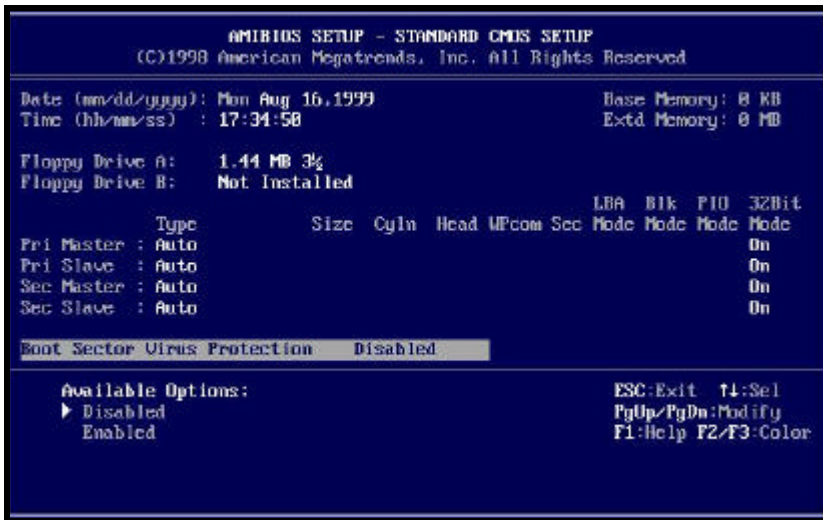
# BIOS Set-Up



## AMIBIOS Setup

Standard CMOS Setup	Sets time, date, hard disk type, types of floppy drive. Monitor type, and if keyboard is installed.
Advanced CMOS Setup	Sets Typematic Rate and Delay, Above 1 MB Memory Test, Memory Test Tick Sound, Hit <Del> Message Display, System Boot Up Sequence, and many others.
Advanced Chipset Setup	Sets chipset-specific options and features.
Power Management Setup	Controls power conservation options.
PCI/PnP Setup	Sets options related to PCI bus and Plug and Play options.
Peripheral Setup	Controls I/O Controller- related options.
CPU Configuration Setup	This option selects the type of CPU install in the motherboard. The settings are Auto (AMIBIOS automatically determines the CPU type.)





## Standard CMOS Setup

Select the AMIBIOS Setup options by choosing Standard Setup from the AMIBIOS Setup main menu. Standard Setup options are described below.

### Floppy Drive A: and B:

Move the cursor to these fields and select the floppy type. The settings are 360 KB 5 1/4 inch, 1.2 MB 5 1/4 inch, 720 KB 3 1/2 inch or 2.88 MB 3 1/2 inch.

### Primary Master

### Primary Slave

### Secondary Master

### Secondary Slave

Select these options to configure the drive named in the option. Select Auto Detect IDE to let AMIBIOS automatically configure the drive. A screen with a list of drive parameters appears. Click on OK to configure the drive.

### Type

SCSI

### How to Configure

Select Type. Select Not Installed to the drive parameter screen. The SCSI drivers provided by the SCSI manufacturer should allow you to configure the SCSI drive.

IDE

Select Type. Select Auto to let AMIBIOS determine the parameters. Click on OK when AMIBIOS displays the drive parameters. Select LBA Mode. Select On if the drive has a capacity greater than 540 MB. Select Block Mode. Select On to allow block mode data transfers. Select 32-Bit Mode. Select On to allow 32-bit data transfers. Select the PIO Mode. It is best to select Auto to allow AMIBIOS to determine the PIO mode. If you select a PIO mode that is not supported by the IDE drive. The drive will not work properly. If you are absolutely certain that you know the drive's PIO mode. Select PIO mode 0-4, as appropriate.

CD-ROM

Select Type. Select CDROM. Click on OK when AMIBIOS displays the drive parameters.

Standard

MFM

Select Type. You must know the drive parameters. Select the drive type that exactly matches your drive's parameters.

Non-Standard

MFM

Select Type. If the drive parameters do not match the drive parameters listed for drive types 1 - 46. Select User and enter the correct hard disk drive parameters.

## Entering Drive Parameters

### Parameter

### Description

Type

The number for a drive with certain identification parameters.

Cylinders

The number of cylinders in the disk drive.

Heads

The number of heads.

Write

The actual physical size of a sector gets progressively smaller as the track diameter diminishes. Yet each sector must still hold 512 bytes. Write precompensation circuitry on the hard disk compensates for the physical difference in sector size by boosting the write current for sectors on inner tracks. This parameter is the track number on the disk surface where write precompensation begins.

Precompensation

Landing Zone

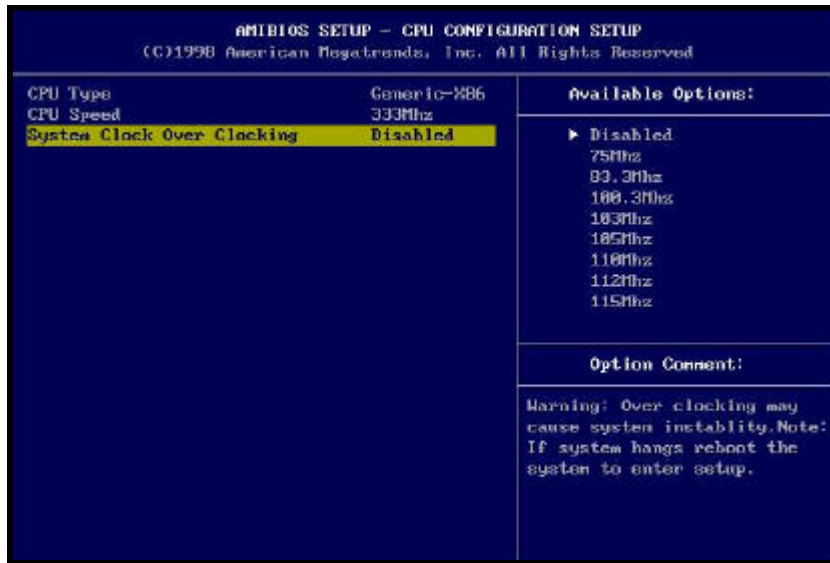
This number is the cylinder location where the heads normally park when the system is shut down.

Sectors

The number is the cylinder location where the heads normally park when the system is shut down.

Capacity

The formatted capacity of the drive is the number of heads times the number of cylinders times the number of sectors per track times 512 (bytes per sector).



## CPU Configuration Setup

The system BIOS is capable to detect the CPU type, say Pentium III, Pentium II or Celeron. The user is only required to select the CPU speed. In addition, overclocking option is provided for advanced users who prefer to run the CPU over the specified clock frequency.

## Advanced CMOS Setup

### Quick Boot

Set this option to Enabled to instruct AMIBIOS to boot quickly when the computer is powered on. This option replaces the old Above 1 MB Memory Test Advanced Setup option. The settings are:

### 1st Boot Device

This option set the type of device for the first boot drives that the AMIBIOS attempts to boot from after AMIBIOS POST completes. The settings are Disabled, Network, Optical, SCSI, CDROM, IDE-0, IDE-1, IDE-2 or IDE-3. The Optimal and Fail-Safe default settings are IDE-0.

### 2nd Boot Device

This option sets the type of device for the second boot drives that the AMIBIOS attempts to boot from after AMIBIOS POST completes. The settings are Disabled, Floppy or IDE-0. The Optimal and Fail-Safe default settings are Floppy.

### 3rd Boot Device

This option sets the type of device for the third boot drives that the AMIBIOS attempts to boot from after AMIBIOS POST completes. The settings are Disable, CD-ROM, or IDE-0. The Optimal and Fail-Safe default settings are CD-ROM.

### Try Other Boot Devices

Set this option to Yes to instruct AMIBIOS to attempt to boot from any other drive in the system if it cannot find a boot drive among the drives specified in the 1st Boot Device, 2nd Boot Device, 3rd Boot Device options.

### Initial Display Mode

Set this option to BIOS to initial display mode by Bios. Settings :BIOS or Silent.

### Display Mode at Add-On ROM Init

Set the display mode at Add-On Rom init : Settings :Force or Keep Current.

### Floppy Access Control

This option specifies the read/write access that is set when booting from a floppy drive. The settings are Read/Write or Read-Only. The Optimal and Fail-Safe default settings are Read/Write.

### Hard Disk Access Control

This option specifies the read/write access that is set when booting from a hard disk drive. The settings are Read/Write or Read-Only. The Optimal and Fail-Safe default settings are Read/Write.

### S.M.A.R.T. For Hard Disks

Set this option to Enable to permit AMIBIOS to use the SMART (System Management and Reporting Technologies) protocol for reporting server system information over a network. The settings are Enable/Disabled. The Optimal and Fail-Safe default settings are Disabled.

### Boot Up Num Lock

Set the option to Off to turn the Num Lock Key off when the computer is boot so you can use the arrow keys on both the numeric keypad and the keyboard. The settings are On or Off. The default settings are On.

### PS/2 Mouse Support

Set this option to enable AMIBIOS support for a PS/2 mouse. Pins 2-3 of the PS/2 mouse support. The settings are Enabled or Disabled. The Optimal and Fail-Safe default settings are Enabled.

### Primary Display

This option configures the type of monitor attached to the computer. The settings are Mon, CGA 40x25, CGA 80x25, VGA/EGA or Absent. The Optimal and Fail-Safe default settings are VGA/EGA.

### Password Check

This option enables password checking when system boots or run AMIBIOS Setup. Settings : Setup or Always.

### Boot To OS/2

Set this option to Enabled if running OS/2 operating system and using more than 64 MB of system memory on the motherboard. The settings are Enabled or Disabled. The Optimal and Fail-Safe default settings are Disabled.

### CPU Serial Number

Set this option to Enabled to display the CPU Serial Number. The settings are Enabled or Disabled. The Optimal and Fail-Safe default settings are Disabled.

### System BIOS Cacheable

When set to Enabled, the contents of the F0000h system memory segment can be read from or written to cache memory. The contents of this memory segment are always copied from the BIOS ROM to system RAM for faster execution. The settings are Enabled or Disabled. The Optimal default setting is Enabled. the Fail-Safe default setting is Disabled.

### C000, 16K Shadow

### C400, 16K Shadow

The options specify how the 32 KB of video ROM at C0000h is treated. The settings are:

Setting	Description
Disabled	The contents of the video ROM are not copied to RAM.
Enabled	The contents of the video ROM area from C0000h - C7FFFh are copied (shadowed) from ROM to RAM for faster execution.
Cached	The contents of the video ROM area from C0000h - C7FFFh are copied from ROM to RAM and can be written to or read from cache memory.

### C800, 16K Shadow

### CC00, 16K Shadow

### D000, 16K Shadow

### D400, 16K Shadow

### D800, 16K Shadow

### DC00, 16K Shadow

These options enable shadowing of the contents of the ROM area named in the option. the ROM area not used by ISA adapter cards is allocated to PCI adapter cards. The settings are:

Setting	Description
Disabled	The contents of the video ROM are not copied to RAM.
Cached	The contents of the video ROM area from C0000h - C7FFFh are copied from ROM to RAM and can be written to or read from cache memory.
Enabled	The contents of the video ROM area from C000h - C7FFFh are copied (shadowed) from ROM to RAM for faster execution.





## Advanced Chipset Setup

Choose Chipset Setup on the AMIBIOS Setup main menu. All Chipset Setup options are then displayed. AMIBIOS Setup can be customized. AMIBIOS Setup can be customized. AMIBIOS Setup can be customized via AMIBCP. See the AMIBIOS Utilities Guide for additional information.

### \*\*\* DRAM Options \*\*\*

#### DRAM Tras/Trc Cycle time <SCLKs>

This option specifies the length of the DRAM Tras/Trc Cycle time. The settings are 5/7 or 6/8. The Optimal and Fail-Safe default settings are 5/7.

#### Address Setup Time <SCLKs>SDRAM Timing Latency

This option specifies the delay between the RAS and CAS signals of the DRAM system memory access cycle. The settings are Auto (AMIBIOS automatically determines the optimal delay) or Manual. The Optimal and Fail-Safe default settings are Auto.

#### CAS# Latency <SCLKs>.

This option sets the latency period for the CAS signal. The settings are 2 CLKs or 3 CLKs. The Optimal and Fail-Safe default settings are 3 CLKs.

#### SDRAM RAS# To CAS# delay <SCLKs>

This option specifies the length of the delay inserted between the RAS and CAS signals of the DRAM system memory access cycle. The settings are 2 CLKs or 3 CLKs. The Optimal and Fail-Safe default settings are 3 CLKs.

#### SDRAM RAS# Precharge

This option specifies the length of the RAS precharge part of the DRAM system memory access cycle when DRAM system memory is installed in this computer. The settings are 3 CLKs, 2 CLKs or Auto. The Optimal and Fail-Safe default setting is 3 CLKs.

#### DRAM Page closing Policy

This option sets the DRAM Page closing Policy. The Optimal and Fail-Safe default settings are Closed or Open.

#### CPU Latency Timer

This option specifies the latency for the Timer. The settings are Disabled or Enabled. The Optimal and Fail-Safe default settings are Disabled.

### **Memory Hole**

This option specifies the location of an area of memory that cannot be addressed on the PCI bus. The settings are Disabled, 15 MB -16 MB, or Disable. The Optimal and Fail-Safe default settings are Disabled.

### **CPU BIST Enable**

This option specifies the CPU BIST settings. The settings are Disabled or Enable. The Optimal and Fail-Safe default settings are Disabled.

### **ICH Delayed Transaction**

This option specifies the ICH Delay Transaction settings. The settings are Disabled or Enable. The Optimal and Fail-Safe default settings are Disabled.

### **ICH DCB Enable**

This option specifies the ICH DCB Enable settings. The settings are Disabled or Enable. The Optimal and Fail-Safe default settings are

## **\*\*\*\* Graphics Related Options \*\*\*\***

### **Graphic Mode Select**

This option specifies the Graphics Mode settings. The settings are UMA 1MB or UMA 512KB. The Optimal and Fail-Safe default settings are UMA 1MB.

### **Display Cache Window Size**

This option specifies the Display Windows Size. The settings are 64MB or 32MB. The Optimal and Fail-Safe default settings are 64MB.

## **\*\*\*\* Display Cache Options \*\*\*\***

### **Initialize Display Cache Memory**

This option specifies the Initialize Display Cache Memory. The settings are Enable or Disable. The Optimal and Fail-Safe default settings are Enable.

### **Paging Mode Control**

This option specifies the control of Paging Mode. The settings are CLOSE or OPEN. The Optimal and Fail-Safe default settings are CLOSE.

### **RAS-to-CAS**

This option specifies the RAS-to-CAS Settings. The settings are Default or Override. The Optimal and Fail-Safe default settings are Default.

### **CAS Latency**

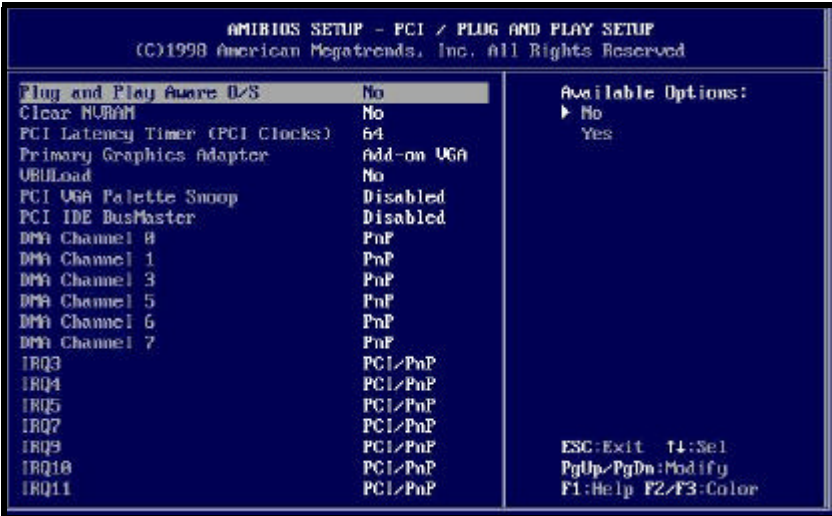
This option specifies the CAS Latency Settings. The settings are Slow or Fast. The Optimal and Fail-Safe default settings are Slow.

### **RAS Timing**

This option specifies the RAS Timing Settings. The settings are Slow or Fast. The Optimal and Fail-Safe default settings are Slow.

### **RAS Precharge Timing**

This option specifies the RAS Precharge Timing. The settings are Slow or Fast. The Optimal and Fail-Safe default settings are Slow.



## PCI/PnP Setup

Choose PCI/Plug and Play Setup from the AMIBIOS Setup screen to display the PCI and Plug and Play Setup options, described below.

### Plug and Play Aware O/S

Set this option to Yes to inform AMIBIOS Setup that the operating system can handle plug and play (PnP) devices. The settings are No or Yes. The Optimal and Fail-Safe default settings are No.

### PCI Latency Timer (PCI Clocks)

This option specifies the latency timing (in PCI clocks) for PCI devices installed in the PCI expansion slots. The settings are 32, 64, 96, 128, 160, 192, 224 or 248. The Optimal and Fail-Safe default settings are 64.

### Primary Graphics Adapter

This option is set to choose Onboard VGA or Add-On VGA.

### VBU Load

The options are No or Yes.

### PCI VGA Palette Snoop

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

### VGA Palette

Snoop Bit	Description
Disabled	Data read and written by the CPU is only directed to the PCI VGA device's palette registers.
Enabled	Data read and written by the CPU is directed to the both the PCI VGA device's palette registers and ISA VGA device palette registers, permitting the palette registers of both devices to be identical.

### PCI IDE Bus Master

Set this option to Enabled to specify that the IDE controller on the PCI bus has bus mastering capability. The settings are Disabled or Enabled. The Optimal and Fail-Safe default settings are Disabled.

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

These options allow you to specify the bus type used by each DMA channel. The settings are PnP or ISA/EISA. The Optimal and Fail-Safe default settings are PnP.

### IRQ3, IRQ4, IRQ5, IRQ7, IRQ9, IRQ10, IRQ11, IRQ12, IRQ14, IRQ15

These options specify the bus that the specified the IRQ line is used on. These options allow you to reserve IRQs for legacy ISA adapter cards. These options determine if AMIBIOS should remove an IRQ from the pool of available IRQs passed to devices that are configureable by the system BIOS. The available IRQ pool is determined by reading the ESCD NVRAM. If more IRQs must be removed from the pool, the end user can use these options to reserve the IRQ by assigning an ISA/EISA setting to it. Onboard I/O is configured by AMIBIOS. All IRQs used by onboard I/O are configured as PCI/PnP. IRQ12 only appears if the Mouse Support option in Advanced Setup is set to Disabled. IRQ14 and 15 will not be available if the onboard PCI IDE is enabled. If all IRQs are set to ISA/EISA and IRQ14 and 15 are allocated to the onboard PCI IDE, IRQ9 will still be available for PCI and PnP devices, because at least one IRQ must be available for PCI and PnP devices. The settings are ISA/EISA and IRQ14 and 15 are allocated to the onboard PCI IDE, IRQ9 will still be available for PCI and PnP devices, because at least one IRQ must be available for PCI and PnP devices. The settings are ISA/EISA or PCI/PnP. The Optimal and Fail-Safe default settings are PCI/PnP.



## Reserved Memory Size

This option specifies the size of the memory area reserved for legacy ISA adapter cards. The settings are Disable, 16K, 32K, or 64K. The Optimal and Fail-Safe default settings are Disabled.

## Reserved Memory Address

This option specifies the beginning address (in hex) of the reserved memory area. The specified ROM memory area is reserved for use by legacy ISA adapter cards.

This option does not appear if the Reserved Memory Size option is set to Disabled.

The settings are N/A. The Optimal and Fail-Safe settings are N/A.



## Power Management Setup

The AMIBIOS Setup options described in this section are selected by choosing Power Management Setup from the AMIBIOS Setup main menu.

### Power Management/APM

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

### Power Button Function

This option specifies how the power button mounted externally on the computer chassis is used. The settings are:

Setting	Description
On/Off	Pushing the power button turns the computer on or off.
Suspend	Pushing the Power button places the computer in Suspend mode or Full On power mode.

### InstantON PC

Set this option to Enabled to enable AMIBIOS support for the Intel InstantON specification. The settings are Enabled or Disabled. The Optimal and Fail-Safe default settings are Disabled.

### Video Power Down Mode

This option specifies the power state that the video subsystem enters when AMIBIOS places it in a power saving state after the specified period of display inactivity has expired. The settings are Standby, Suspend or Disabled. The Optimal and Fail-Safe default settings are Disabled.

### Hard Disk Power Down Mode

This option specifies the power conserving state that the hard disk drive enters after the specified period of hard drive inactivity has expired. The settings are Disabled, Standby, or Suspend. The Optimal and Fail-Safe default settings are Disabled.

### Hard Disk Timeout

This option specifies the length of a period of hard disk drive inactivity. When this length of time expires, the computer enters power-conserving state specified in the Hard Disk Power Down Mode Option (see previous page). The settings are Disable, 1 min. (minute), 2 min., 3 min., 4 min., 5 min., 6 min., 7 min., 8 min., 9 min., 10 min., 11 min., 12 min., 13 min., 14 min., 15 min. The Optimal and Fail-Safe default settings are Disabled.

### Standby/Suspend Timer Unit

This option specifies the unit of time used for the Standby and Suspend timeout periods. The settings are 4 msec., 4 sec, 32 sec, or 4 min. The Optimal and Fail-Safe default settings are 4 min.

### Standby Timeout

This option specifies the length of a period of system inactivity while in Full power on state. When this length of time expires, the computer enters Standby power state. The settings are Disabled, 4 msec, 8 msec, 12 msec, 16 msec, up to 508 msec, in increments of 4 msec. The Optimal and Fail-Safe default settings are Disabled.

### Suspend Timeout

This option specifies the length of a period of system inactivity while in Standby state. When this length of time expires, the computer enters Suspend power state. The settings are Disabled, 4 msec, 8 msec, 12 msec, 16 msec, up to 508 msec, in increments of 4 msec. The Optimal and Fail-Safe default settings are Disabled.

### Throttle Slow Clock Ratio

This option specifies the throttle slow clock ratio. The settings are 87.5%, 75.0%, 62.5%, 50.0%, 37.5%, 25.0%, 12.5%.. The Optimal and Fail-Safe default settings are 50.0%.

### Keyboard & PS/2 Mouse Access

Option : Monitor or Ignore

### FDC/LPT/COM Ports Access

Option : Monitor or Ignore

### SB & MSS Audio Ports Access

Option : Monitor or Ignore

### MIDI ports Access

Option : Monitor or Ignore

### ADLIB Ports Access

Option : Monitor or Ignore

### Primary/Secondary, Master/Slave IDE Access

Option : Monitor or Ignore

### PIRQ [A]-[D] IRQ Active

Option : Monitor or Ignore

### System Thermal

Option : Monitor or Ignore

## Keyboard Wakeup & PS/2 Mouse Wakeup Guide

These features enable using Keyboard or PS/2 Mouse to wakeup the system

### Keyboard Wake-Up Setup

1. Boot Up System
2. Press DEL to enter CMOS
3. Select Power Management Setup
4. Enable Keyboard Power On
5. Select Wakeup string & Press Enter

### Wake-up String

The Screen shows " Enter new keyboard wakeup string : "

- a. Press <Enter> <Enter> to set default as Right Shift Key ( R Shift )
- b. Enter a Wakeup String for Keyboard Wakeup { eg. apple }

### PS/2 Mouse Wake-Up Setup

1. Boot Up System
2. Press DEL to enter CMOS
3. Select Power Management Setup
4. Enable PS/2 Power On

## How to wakeup using Keyboard or PS/2 Mouse ?

### Keyboard Wakeup

Shut down system -> Press "Right Shift" or Type the preset string {eg. apple} & Press "Enter"

### Mouse Wakeup

Bootup OS with Mouse Driver eg. Win98 -> Shut Down -> Double Click Left Mouse Button



## Peripheral Setup

Peripheral Setup options are displayed by choosing Peripheral Setup from the AMIBIOS Setup main menu. All Peripheral Setup options are described here.

### USB Function

Set this option to Enabled to enable USB (Universal Serial Bus) support. The settings are Enabled or Disabled.

### USB Keyboard/Mouse Legacy Support

Set this option to Enabled to enable support for older keyboards and mouse devices if the USB Function option is set to Enabled. The settings are Enabled or Disabled.

### On board 3D Audio

Set this option to Enabled to enable the onboard 3D Audio. The settings are Enabled or Disabled.

### On board Game Port

Set this option to Enabled to enable the onboard Game Port. The settings are 200, 208 or Disabled.

### Onboard IDE

This option specifies the IDE channel used by the onboard IDE controller. The settings are Disabled, Primary, or Secondary.

### Onboard Floppy Controller

Set this option to Enabled to enable the floppy drive controller on the motherboard. The settings are Auto (AMIBIOS automatically determines if the floppy controller should be enabled), Enabled or Disabled.

### Onboard Serial Port 1

This option specifies the base I/O port address of serial port 1. The settings are Auto (AMIBIOS automatically determines the correct base I/O port address), Disabled, 3F8h, 2F8h, 2E8h, or 3E8h. The Optimal and Fail-Safe default settings are Auto.

### Onboard Serial Port 2

This option specifies the base I/O port address of serial port 2. The settings are Auto (AMIBIOS automatically determines the correct base I/O port address), Disabled, 3F8h, 2F8h, 2E8h, or 3E8h. The Optimal and Fail-Safe default settings are Auto.

### IR Mode

This option specifies the type of infrared devices supported by the system. This option only appears if the Onboard Serial Port option is not set to Auto or disabled. The settings are Encoded or Non-Encoded. There are no default settings.

### IR Duplex Mode

This option specifies type of duplexing used for infrared on serial port 2. This option only appears if the Onboard Serial Port option is not set to Auto or Disabled. The settings are Half or Full. There are no default settings.

### IR Transmitter

This option specifies the type of transmission used by the infrared devices attached to serial port 2. This option only appears if the Onboard Serial Port option is not set to Auto or Disabled. The settings are 1.6 uS or 3/16 Buad. There are no default settings.

### Onboard Parallel Port

This option specifies the base I/O port address of the parallel port on the motherboard. The settings are Disabled, 378h, 278h or 3BCh. The Optimal default setting is 378h.



### Parallel Port Mode

This option specifies the parallel port mode. The Optimal default setting is Normal. The Fail-Safe default setting is Disabled. The settings are:

Setting	Description
Normal	The normal parallel port mode is used.
Bi-Dir	Use this setting to support Bidirectional transfers on the parallel port.
EPP	The parallel port can be used with devices that adhere in the Enhanced Parallel Port (EPP) specification. ECP uses the DMA protocol to achieve data transfer rates up to 2.5 Megabits per second. ECP provides symmetric bidirectional communication.

### Epp Version

This option specifies the Enhanced Parallel Port specification version number that is used in the system. This option only appears if the Parallel Port Mode option is set to EPP.

The settings are 1.7 or 1.9. There are no Optimal and Fail-Safe default settings because the default setting for the Parallel Port Mode option is not EPP.

### Parallel Port DMA Channel

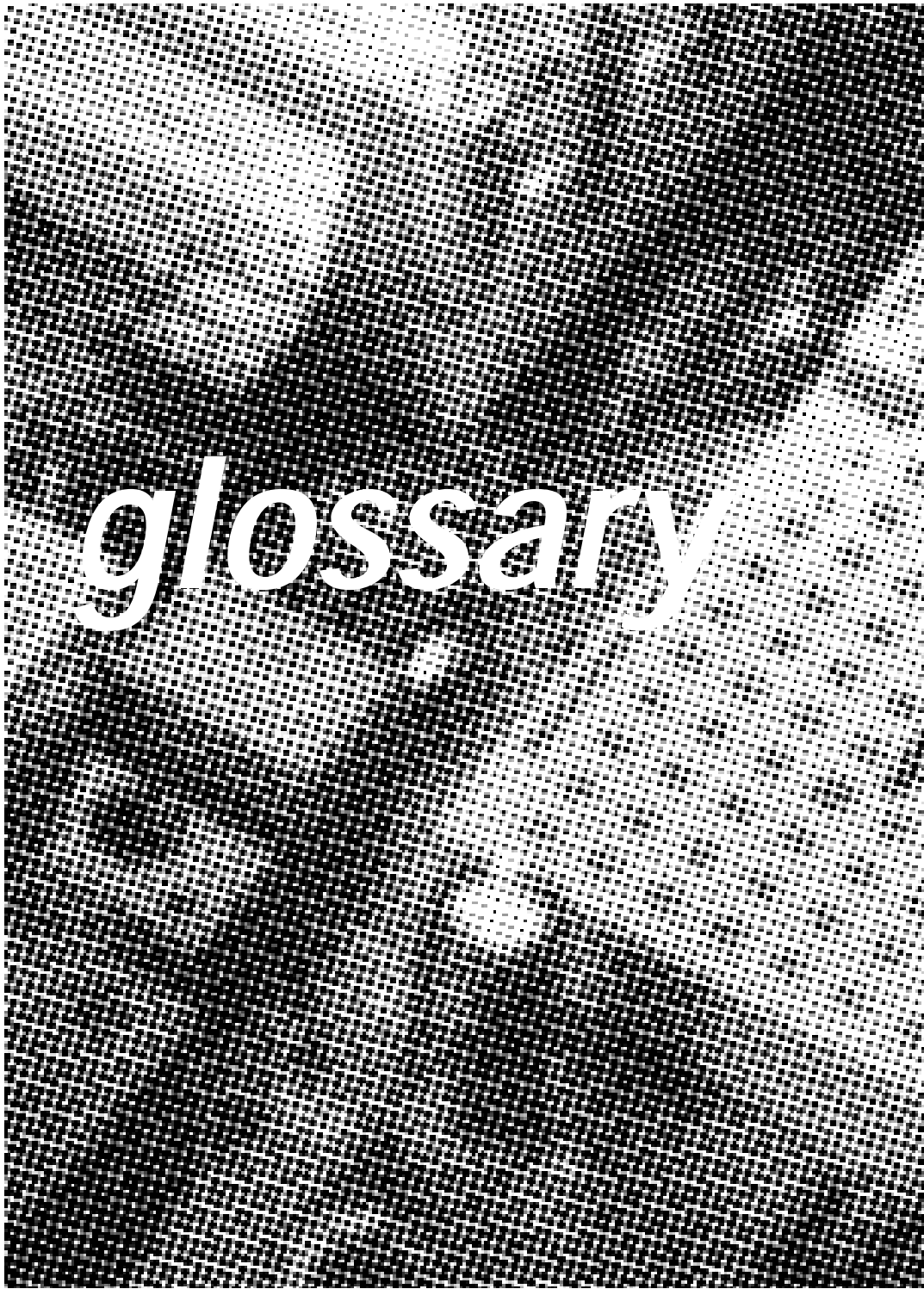
This option is only available if the setting for the Parallel Port Mode option is ECP. This option is ECP. This option sets the DMA channel used by the parallel port. The settings are (DMA Channel 0, 1 or 3). The Optimal and Fail-Safe default settings are not provided.

### Parallel Port IRQ

This option specifies the IRQ used by the parallel port. The settings are Auto, (IRQ) 5, or (IRQ) 7. The Optimal and Fail-Safe default settings are Auto.

### Onboard Midi Port

Set this option to Enabled to enable the onboard Game Port. The settings are 200, 208 or Disabled.



glossary

# glossary

A  PS/2 Keyboard and Mouse Connector

The Mainboard provides two on-board PS/2 connector, one for the keyboard, and an other for the mouse. PS/2 devices all have a standard 6-pin round shape connector. If you are already using a PS/2 mouse or keyboard, simply plug them into the corresponding connector's. No jumper settings are necessary.

B  ATX Power Supply Connector

The Mainboard provides a single 20-pin ATX power supply connector, which incorporates standard +5V and +12V, with optional 3.3V and soft-on/off signals. With a power supply that supports remote power on/off, the mainboard can turn off the system power through software control, such as the shutdown command in the Windows 95 Start Menu. The BIOS system will turn the system power off when it receives the proper APM command from the OS. APM must be enabled in the BIOS and OS systems in order for the soft-off feature is to work properly.

Pin	Signal Name	Pin	Signal Name
1	+3.3V	11	+3.3V
2	+3.3V	12	-12V
3	Ground	13	Ground
4	+5V	14	PW_ON
5	Ground	15	Ground
6	+5V	16	Ground
7	Ground	17	Ground
8	PWRGOOD	18	-5V
9	+5VSB	19	+5V
10	+12V	20	+5V



About the Soft Touch Power Button

In an ATX based system, the new soft touch power button replaces the main power switch that turns your system on and off. From an OFF state, you can switch the system ON by simply pressing the power button. From an ON state, the system can be turned OFF by pressing and holding the power button for four (4) seconds. The functions of the power button can also be altered in the Power Management section of the CMOS setup.

C  Universal Serial Bus (USB) Connector

The Mainboard provides two 4-pin Universal Serial Bus (USB) connector's. USB is a new interface standard for adding external Plug-and-Play (PnP) devices to the computer system. Peripherals that support USB PnP capabilities can operate at up to a 12Mb/sec data transfer rate. Eventually, all external devices connected to your computer will be standardized to USB.

E  Infra-Red (IR) Connector

The Mainboard provides a 5-pin header interface, IR for connection to a Hewlett Packard HSDSL-1000 compatible infrared (IrDA) transmitter/receiver. Connect IR to the front panel I/O IrDA connector provided with your system. Once the module is connected to the front panel I/O IrDA connector, Serial port 2 can be re-directed to the IrDA module. When configured for IrDA, the user can transfer files to or from portable devices such as laptops, PDA's and printers using application software such as LapLink. The IrDA specification provides for data transfers at 115 kbps from a distance of 1-meter. Support for Consumer infrared (ASK-IR) is also included. Please refer to your IR equipment for more detailed information.

The header pin-out is as follows:

Pin	Signal Name
1	.VCC, power source
2	.No Connection
3	.IRRX, infra-red receive
4	.No Connection
5	.IRTX, infra-red transmit

F  3.3V Memory Module Sockets (DIMM)

The Mainboard provides 168 pin standard DIMM sockets for installation of 3.3V unbuffered Single or Double Bank SDRAM modules.


G  Serial COM1, Serial COM2 and Parallel Port Connector

The **ATX** Mainboard provides two serial port connector's and one parallel port connector. Based on the ATX standard, (2) 9-pin serial ports and (1) 25-pin parallel port are now built on the mainboard back panel. This design makes your mainboard's installation easier. The parallel port can be BIOS configured into standard (SPP) mode, Enhanced Parallel Port (EPP) mode, and a high speed Extended capabilities Port (ECP) mode. EPP Mode requires a driver provided by the peripheral manufacturer in order to operate properly.

The **AT** Mainboard provides two 10-pin serial ports and one 26-pin parallel port pin Headers for Cable are now built on the mainboard.

I LITHIUM BATTERY

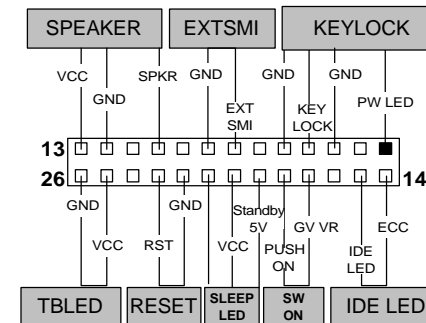
A 3V, CR-2030, Lithium battery is installed on the on-board battery socket. This battery is used to supply the CMOS RAM backup power during system powered-off. Danger of explosion if battery is incorrectly replaced. Therefore, if you have any difficulties, please consult to the technical personnel.

J  PCI Add-In Board Connector

M  Front Panel Function Connector

The Mainboard integrates all system front panel functions into a single on-board 26-pin connector, JP9. These include connections for the following features:

Function	Connector Pin-Out Label
System Reset	RESET
Power LED / Keylock	KEYLOCK
Hard Drive Activity LED	IDE LED
System Speaker	SPEAKER
Soft-Touch Button Power On/Off	SW ON
Turbo LED	TBLED
External Power Saving Control (optional)	EXTSMI



N  Flash BIOS

The Mainboard flash BIOS provides users with more flexibility in upgrading their mainboards. The flash BIOS can be easily reprogrammed via software.

O  Floppy Drive Connector

The Mainboard provides a 34-pin connector that supports the included floppy drive ribbon cable. After connecting the single end to the on-board "FLOPPY" connector, connect the remaining plugs on the other end of the cable to the corresponding floppy drives.

NOTE: Pin 5 is removed to prevent inserting the connector in the wrong orientation.

P  IDE Device Connector


The Mainboard provides (2) independent bus-mastering PCI IDE interfaces capable of supporting up to Mode 4 and Ultra DMA-33 devices. The system BIOS supports automatic detection of the IDE device data transfer rate and translation between different kinds of device modes such as Logical Block Addressing (LBA), Extended Cylinder Sector Head (ECSH) translation modes and ATAPI (e.g., CD-ROM) devices on both IDE interfaces.

The two on-board IDE connector support the provided 40-pin IDE hard disk ribbon cables. After connecting the single end to the mainboard connector, connecting the two remaining plugs at the other end of your hard disk(s) and/or CD-ROM drive(s). If you install two hard disks and/or CD-Rom drives, you must configure the two drives by setting their IDE master/slave jumpers according to the documentation for those devices.

Also, you may connect the two hard disk drives so that both become Masters, using one ribbon cable on the primary IDE connector and one on the secondary IDE connector.

Q  WAKEUP-LINK Header

The Mainboard provides a WAKEUP-LINK header used to connect an add-in NIC (Network Interface Card) which has Wake-on-LAN capability.

R  SB-LINK and Creative PCI Header

The Mainboard provides headers for PCI add-in cards that support the Creative SB-Link.

The Creative SB-LINK interface supports Sound Blaster AWE64D PCI compatible sound solutions. SB-LINK utilizes Intel's PC-PCI technology that exists in Intel 440LX or newer corelogic chipsets.

S  CPU Card Slot 1

The Mainboard provides a 242-pin CPU card slot for use with Intel Pentium II / III processor. The CPU card should have a fan attached to it to prevent overheating. If a fan is not present, a fan should be installed prior to turning the system on.

T  CPU Fan Connector


The recommended heatsinks for the processor are those with 12 Volt three-conductor fans that can be connected to the fan connector J17 on the mainboard. J17 provides +12 Volts DC to the CPU cooling fan as follows:

J17 PIN	SIGNAL NAME
1	(No Connection)
2	+12V
3	Ground



**CAUTION!** Be sure that sufficient air circulation is available across the processor's heatsink by regularly checking that your CPU fan is working. Without sufficient circulation, the processor could overheat and damage both the processor and the mainboard. You may install an auxiliary fan if necessary.



U  Audio Connectors

The **ATX** Mainboard provides Audio headers.


- Audio Connectors S1 : Line Output  
 S2 : Line Input  
 S3 : Microphone Input


The **AT** Mainboard provides Audio header for Audio Cable.


- Audio Connectors Black : Line Output  
 Green : Line Input  
 Red : Microphone Input


W  GL520SM Hardware Monitor


The Mainboard provides sophisticated hardware monitoring via the on-board GL520SM integrated circuit. The GL520SM can be used to monitor temperatures, power supply voltages, and fan speeds and will generate interrupts and audible tones that allow the system speaker to sound an alarm if it detects an abnormal system situation. Through the SMBus software interface, the host can program the temperature trip points and query the GL520SM about system interrupt status, current temperature, voltage, and fan speed.

X  CD Audio Connector  
 CD Audio Input ( 1,3:Ground,2:Right,4:Left )  
 CD Audio input ( 1:Left,2,3:Ground,4:Right )


Y  Auxiliary Connector  
 Auxiliary input ( 1:Left,2,3:Ground,4:Right )

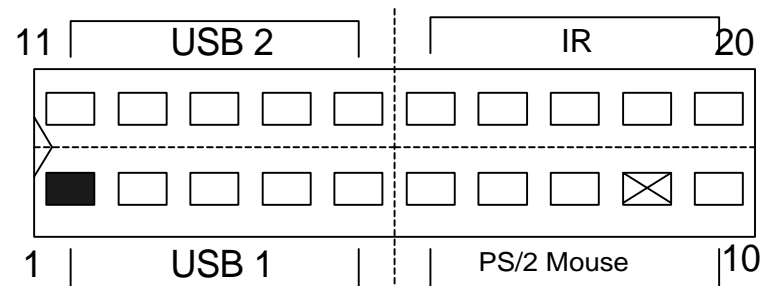
Z  Telephony Connector  
 Telephony input( 1:Phone,2,3:Ground,4:Mono)

a  AT Keyboard Connector  
 The Mainboard provides a on-board AT keyboard connector.

b  AT Power Connector  
 A 12-Pin power supplies provide two plugs incorporates standard +5V and +12V, each containing six wires, two of which are black. Orient the connectors so that the black wires are together.

Pin	Signal Name	Pin	Signal Name
1	Power Good Signal	7	Ground
2	+5V	8	Ground
3	+12V	9	-5V
4	-12V	10	+5V
5	Ground	11	+5V
6	Ground	12	+5V

e  Integrated Function Connector  
 The total of two USB device connectors, a PS/2 mouse, and an Infrared devices are all allocated at this connector (JP2).  
 · Pin1 to Pin5 for USB1 connector  
 · Pin11 to Pin15 for USB2 connector  
 · Pin6 to Pin10 for PS/2 connector  
 · Pin16 to Pin20 Infra-Red connector



The connector pin out signal definitions are described as the table below:

<u>Pin</u>	<u>Signal Name</u>	<u>Pin</u>	<u>Signal Name</u>
1 (USB1)	USB +5 Volt	11 (USB2)	USB +5 Volt
2	USB Port 1-	12	USB Port 2-
3	USB Port 1+	13	USB Port 2+
4	Ground	14	Ground
5	No Connect	15	No Connect
6(PS/2 Mouse)	PS/2 Data	16 (IR)	+5V
7	PS/2 Clock	17	No Connect
8	Ground	18	Infrared Receive
9	No Connect	19	Ground
10	+5V	20	Infrared Transmit

**L**  LAN Connector

The Mainboard provides a 15-pin LAN Connector for the Onboard 100Mbps PCI LAN.

**r**  Audio Modem Riser (AMR) Connector

The Mainboard provides a AMR Connector for the AMR cards.

**V**  VGA Connector

The Mainboard provides a VGA Connector for the Integrated Graphics Controller.

**S**  370 CPU SOCKET

The Mainboard provides a 370-pin Socket 370 CPU Socket for use with Intel Socket 370 Celeron processor. The CPU should have a fan attached to it to prevent overheating. If a fan is not present, a fan should be installed prior to turning the system on.

For Software Installation, please refer to the CD-ROM.

**Introduce INSTANT ON function:**

**INSTANT ON** is a Windows 98 ACPI sleep mode function. When recovering from sleep mode, the system is able, in just a few seconds, to retrieve the last “state” of the system before it went to sleep and recover to that state. The “state” is stored in memory (RAM) before the system goes to sleep. During sleep mode, your system uses only enough energy to maintain critical information and system functions, primarily the system state and the ability to recognize various “wake up” triggers or signals, respectively.

**INSTANT ON function Installation**

Please follow the steps to complete the **INSTANT ON** function installation.

- 1** For using the **INSTANT ON** function, the system must be in Windows 98 ACPI mode. Putting Windows 98 into ACPI mode is fairly easy.

There are two ways :

**1. Setup with Windows 98 CD:**

- A.** Insert the Windows 98 CD into your CD-ROM drive, select Start, and then Run.
- B.** Type (without quotes) “D:\setup /p j” in the window provided. Hit the enter key or click OK.
- C.** After setup completes, remove the CD, and reboot your system (This manual assumes that your CD-ROM device drive letter is D:).

## 2. Update from Windows98 (Advance Power Management) APM mode:

If your Windows 98 system is in APM mode, please follow the steps to update your system to ACPI mode.

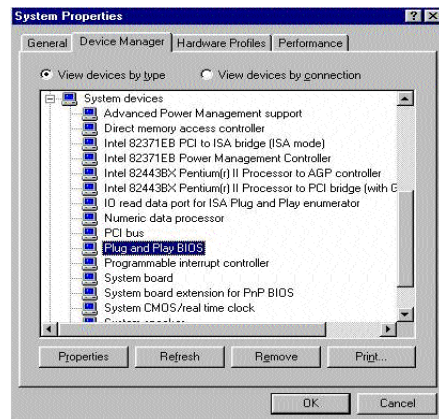
1. When Windows 98 finishes loading, open the “Control Panel” in Windows 98 “My Computer” area.



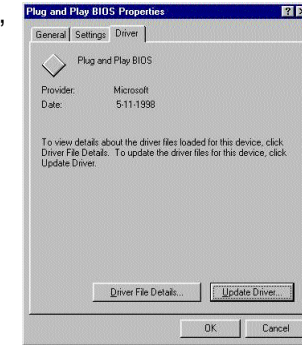
2. Double click the “System” item.



3. Select the “Device Manager” tab and then the “System Devices” item. Double click the “Plug and Play BIOS” item or select “Properties”



4. Select the “Driver” item and “Update Driver”



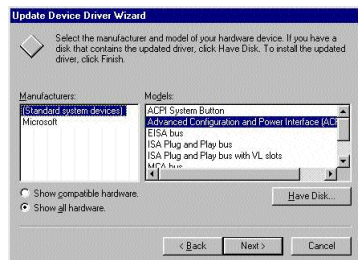
5. The “Update Device Driver Wizard” will appear. Press the “Next” button



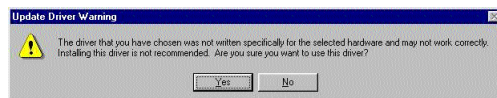
6. In the “Update Device Driver Wizard” window, select the “Display a list of all the drivers in a specific location, so you can select the driver you want.” Then press the “Next” button “



7. Select the “Show all hardware” item , then select the “Advance Configuration and Power Interface (ACPI) BIOS” and press the “Next” button.



8. “Update Driver Warning” will show up and ask “Are you sure you want to use this driver?” Select the “Yes” button.



9. “Update Device Driver Wizard” will show up again. Select the “Next” button and start copying files to the system.



10. When complete, press the “Finish” button.



11. Restart your computer. Your system will start up using the ACPI mode.

- 2 Power on the computer when memory counting starts, press <Del>. You will enter BIOS Setup. Select the item “**POWER MANAGEMENT SETUP**”, then select **Enable** in “**Suspend to RAM**” option. Remember to save the settings by pressing "ESC" and choose the “**SAVE & EXIT SETUP**” option.
- 3 The installation of **INSTANT ON** is completed. You can use this function in Windows 98.



## 4 How to put your system into Stand by mode ?

There are two ways :

1. Choose the “Stand by” item in the “Shut Down Windows” area.

A. Press the “Start” button and then select “Shut Down”

A. Press the “Start” button and then select “Shut Down”

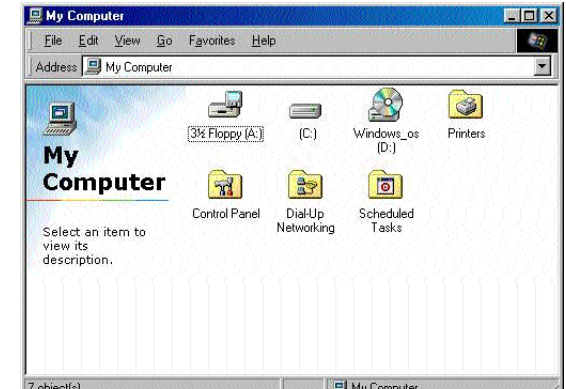


B. Choose the “Stand by” item and Click “OK”

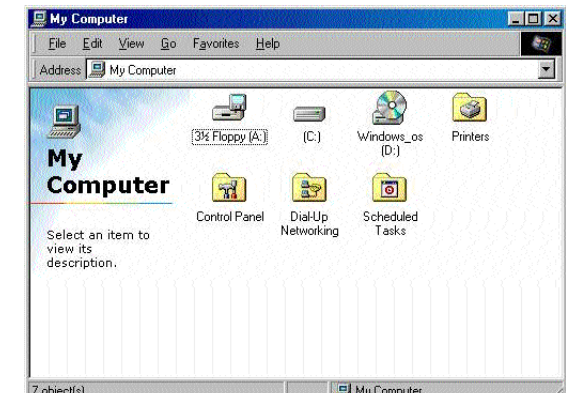


2. Set the system “power on” button to initiate sleep mode:

A. Double click “My Computer” and then “Control Panel”



B. Double click the “Power Management” item.

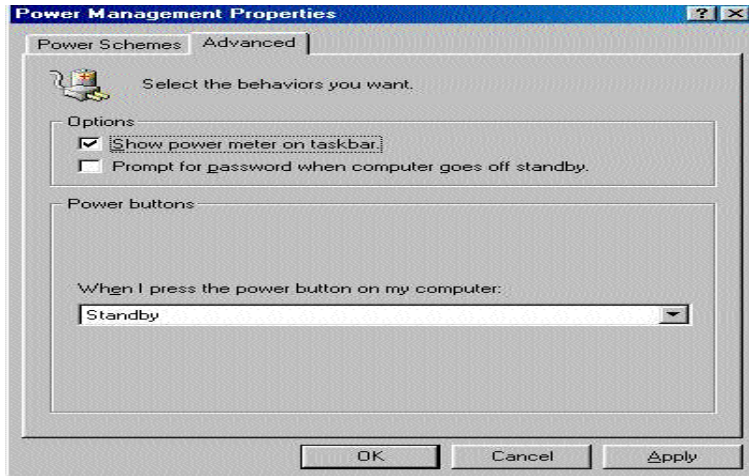


C. Select the “Advanced” tab and “Standby” mode in Power Buttons.



C. Select the “Advanced” tab and “Standby” mode in Power Buttons.

Restart your computer to complete setup.  
Now when you want to enter sleep mode, just momentarily press the “Power on” button..



## 5 How to recover from the sleep mode?

There are **six** ways to “wake up” the system:

1. Press the “Power On” button
2. Use the “Keyboard Power On” function.
3. Use the “Mouse Power On” function
4. Use the “Resume by Alarm” function
5. Use the “Modem Ring On” function
6. Use the “Wake On LAN” function.

## Notice to INSTANT ON users :

1. ATX power supply requirement
  - comply with the ATX 2.01
  - provide more than 720 mA 5V Stand-By current
2. SDRAM requirement
  - PC-100 compliant.