

PT-2010
MAINBOARD
MANUAL

PT-2010

MAINBOARD MANUAL

DOC No. : 15659

Rev. : A0

Date : 11, 1996

Part No. : 25-1061 0-00



Handling Precautions

Warning :

1. Static electricity may cause damage to the integrated circuits on the mainboard.
Before handling any mainboard outside of its protective packaging, ensure that there is no static electric charge in your body.
2. There is a danger of explosion if the battery is incorrectly replaced.
Replace only with the same or an equivalent type recommended by the manufacturer
3. Discard used batteries according to the manufacturer's instructions.

Observe the following basic precautions when handling the mainboard or other computer components:

- Wear a static wrist strap which fits around your wrist and is connected to a natural earth ground.
- Touch a grounded or anti-static surface or a metal fixture such as a water pipe.
- Avoid contacting the components on add-on cards, boards and modules and with the “gold finger” connectors plugged into the expansion slot. It is best to handle system components by their mounting bracket.

The above methods prevent static build-up and cause it to be discharged properly.

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Overview

The **PT-20 10** mainboard combines the advanced capabilities of the Intel 82430VX **PCIset** with a high-performance concurrent PCI local bus architecture to provide the ideal platform for unleashing the unsurpassed speed and power of the Intel Pentium processor.

This highly-flexible mainboard is designed to run a full range of Intel Pentium, Cyrix 6x86, IBM 6x86 and AMD-KS processors, and can be easily upgraded using its 32 l-pin ZIF socket. The processor's advanced performance is complemented by a second level write back Pipeline Burst **SRAM** cache of up to 5 12KB and main memory of up to 128MB DRAM. The main memory is installed using the board's two 168-pin DIMM sockets that accept lightning-fast SDRAMs.

The PT-20 10 integrates a full set of I/O features **onboard**, including two 16550A UART compatible serial ports, one EPP/ECP capable parallel port, and one Floppy Disk Drive controller. The IrDA compliant serial port and **onboard** SIR support further enhance system I/O **connectivity**. It also **comes** with a built in Enhanced IDE controller that provides convenient, high-speed PCI Bus Master connections with up to four IDE devices, including Hard Disk and CD-ROM drives. Four 16-bit ISA slots and four 32-bit PCI slots provide ample room for further expansion. The mainboard also features support for the state-of-the-art Universal Serial Bus (USB) that provides ease-of-use and high-speed Plug & Play connections to future USB compliant peripheral devices.

This chapter gives you a brief overview of the PT-2010 mainboard. In addition to basic information on the board's main components and features, it also provides advice on how to upgrade and expand it. For updated BIOS, drivers, or product release information, please visit FIC's home page at: <http://www.fic.com.tw>.

Congratulations on your decision to adopt the **PT-20 10** mainboard. With its high-speed PCI local bus architecture and ultra-fast I/O connections, the **PT-2010** provides the ultimate solution for optimizing the performance of your high-end system.

Main Features

The PT-20 10 mainboard comes with the following high-performance features:

- **Easy Installation**
Award BIOS with support for Plug and Play, auto detection of Hard Drive and IDE features, and MS Windows 95 compatible.

- **Flexible Processor Support**
The **onboard** 32 1 -pin ZIF socket supports Intel Pentium (**P54C**) CPU speed **75/90/100/120/133/150/166/200** MHz processors/ **P54CTB** / **P55C** (optional by splitting the voltage regulator).
Cyrix **6x86-P120+** (100 MHz) / **6x86-P133+** (110 MHz) / **6x86-P150+** (120 MHz) / **6x86-P166+** (133 MHz) processors.
IBM **6x86-P120+** (100 MHz) / **6x86-P133+** (110 MHz) / **6x86-P150+** (120 MHz) / **6x86-P166+** (133 MHz) processors.
AMD **KS-PR75** (75 MHz) / **K5-PR90** (90 MHz) / **K5-PR100** (100 MHz) / **K5-PR120** (90 MHz) / **K5-PR133** (100 MHz) / **K5-PR150** (120 MHz) / **KS-PR166** (133 MHz) processors.

- **Leading Edge Chipset**
Intel 82430VX **chipset**, including a CPU interface controller, advanced cache controller, integrated DRAM controller, synchronous ISA bus controller, **PCI** local bus interface, integrated power management unit.

- **Ultra-fast Level II Cache**
Supports **onboard 256KB/512KB** synchronous PBSRAM direct-mapped write-back cache memory.

- **Versatile Main Memory Support**
Accepts up to 128MB RAM in two banks using two **168-pin DIMMs** of 8, 16, 32, **64MB** with support for SDRAM and EDO memory.

- **ISA & PCI Expansion Slots**
Four **16-bit ISA** and four **32-bit PCI** expansion slots provide all the room you need to install a full range of add-on cards.

- **USB Support**
Two Universal Serial Bus connectors integrated into rear I/O panel.

- **Enhanced PCI Bus Master IDE Controller**

- **Enhanced PCI Bus Master IDE Controller**
Integrated Enhanced PCI local bus IDE controller with two connectors supports up to four IDE devices such as Hard Disk, CD-ROM or Tape Backup drives via two channels for high speed data throughput. This controller **supports** PIO Modes 3 and 4, and DMA Mode 2 for optimized system performance.

- **Super Multi I/O**
Integrated **Winbond W83877F** Plug and Play Super I/O chipset features two **16550A** UART compatible serial ports, one **EPP/ECP** capable parallel port, one IR port, and one Floppy Disk Drive connector.

This User Manual

This manual is designed to guide you and facilitate your use of the PT-2010 mainboard. It contains a description of the design and features of the mainboard, and also includes useful information for changing the configuration of the board and the system it is installed in. The manual is divided into three chapters:

- **Chapter 1 - Overview**
gives an overview of the mainboard and describes its major components and features.
- **Chapter 2 - Installation Procedures**
gives instructions on how to set up the mainboard, including jumper settings and CPU installation guides.
- **Chapter 3 - Award BIOS Setup**
briefly explains the mainboard's BIOS system setup in general and tells you how to run it and change the system configuration settings.

NOTE : The material in this manual is for information only and is subject to change without notice. We reserve the right to make changes in the product design without reservation and without notification to its users. We shall not be liable for technical or editorial omissions made herein; nor for incidental or consequential damages resulting from the furnishing, performance, or use of this material.

Something. Interesting

This section provides useful information that you will need to know should you decide to modify or upgrade the configuration of the mainboard and the system it is installed in. If you do not have the confidence to upgrade the mainboard yourself, we advise that you consult a qualified service technician for assistance.

The BIOS Setup Utility

The BIOS (Basic Input Output System) is the basic firmware that instructs the computer how to operate. For the BIOS to work properly, there must be a record of the computer's hardware and configuration settings for it to refer to. This record is created using the Setup Utility, a program that is stored permanently in the BIOS ROM chip on the mainboard.

The system configuration record created by the Setup Utility is also stored on the mainboard, but not permanently. This section of the memory it is stored in is the NVRAM.

When you buy your computer, the system configuration record will already be set and may in some cases differ from the basic defaults. The first time you use your computer or when you need to re-configure your system, you should run the Setup Utility and write down the settings.

IRQ Functionality

As you read through this manual, you will see the term **IRQ** on a number of occasions. It is important for you to know what this term means, particularly if you intend to upgrade your system.

IRQ stands for Interrupt Request, the process in which an input or output device tells the processor to temporarily interrupt its current task and immediately process something from the source of the interrupt. When it has completed this, the processor returns to the task it was already processing. Devices that need an **IRQ** line to operate sometimes need to have exclusive use of that line.

A large number of add-on cards, such as sound cards and LAN cards, require the use of an **IRQ** line to function. Some of **IRQs** may already be in use by components in the system such as the keyboard and mouse. Add-on cards that need to use an **IRQ** draw from the unused group of **IRQs**. When installing a card that uses an **IRQ**, it will have a default **IRQ** setting which you might have to change if that **IRQ** is already in use and cannot be shared.

Both **ISA** and **PCI** add-on cards may need to use **IRQs**. System **IRQs** are available to add-on cards installed on the **ISA** bus first; the remaining ones can be used by cards installed on the **PCI** bus. There are two categories of **ISA** add-on cards: so-called Legacy **ISA** cards, which need to be configured manually and then installed in any available **ISA** slot; and Plug and Play (**PnP**) **ISA** cards, which are configured automatically by the system. As a result, when you install Legacy **ISA** cards, you have to carefully configure the system to ensure that the installed cards do not conflict with each other by having the same **IRQ**. With **PnP** cards, on the other hand, **IRQs** are assigned automatically from the ones available in the system. In the case of **PCI** add-on cards, the **BIOS** automatically assigns an **IRQ** card to the **PCI** slot the card is installed in.

DMA Channels of ISA Cards

Some Legacy and PnP ISA add-on cards may also need to use a Direct Memory Access (DMA) channel. DMA assignments for this mainboard are handled in the same way as the IRQ assignment process outlined above. For more information, please refer to Chapter 3 of this manual.

Enhanced IDE

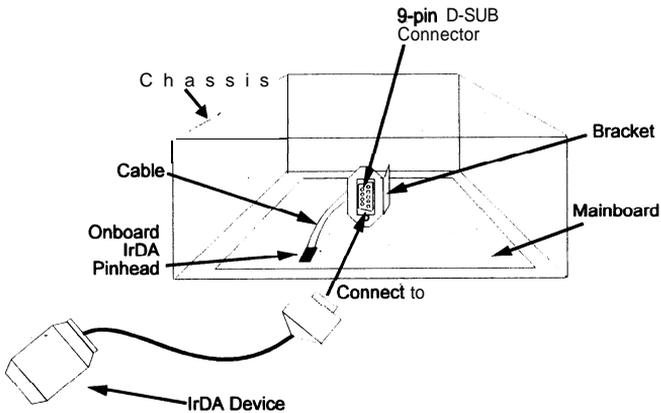
This mainboard features an integrated Enhanced IDE controller that provides convenient, high-speed connections with up to four IDE devices, such as Hard Disk, CD-ROM and Tape Backup Drives. Enhanced IDE is an upgrade of the original IDE specification and provides increased capabilities and performance in a number of areas, including support for Hard Disk Drives of over 1.2GB and faster data transfer rates utilizing the PIO Mode 4 timing scheme.

With the integrated IDE controller you can connect up to four IDE peripheral devices to your system. All devices are categorized in the same way that IDE Hard Disks were configured in the past, with one device set as the Master device and the other as the Slave device. We recommend that Hard Disk Drives use the Primary IDE connector and that CD-ROM drives utilize the Secondary IDE connector for improved system performance.

Serial Infrared (SIR) Connections

This mainboard features support for highly-sophisticated SIR technology, which allows bi-directional and cordless data transactions with other IrDA compliant computers and peripheral devices using infrared as a medium. This transmission is carried out in either Full Duplex Mode or Half Duplex Mode. The former allows simultaneous data transmission and reception, while the latter disables the reception when transmission occurs.

The I/O chipset on this mainboard features a SIR interface that is fully compliant with the IrDA standard. An IrDA device can be installed via a 9-pin D-SUB connector in the rear panel of the computer which is linked by a cable to the onboard IrDA pinhead, as shown in the illustration below.

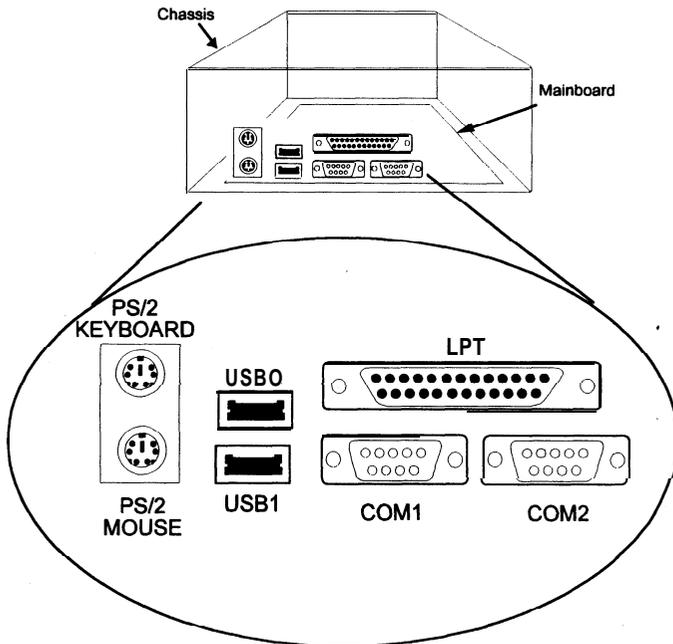


The serial port COM2 on this mainboard is designed to be a SIR compliant port. If you wish to install the SIR connection feature, you need to adjust the BIOS option for high-speed performance.

Highly Convenient Integrated I/O Connectors

This mainboard features an integrated rear I/O panel that incorporates a full set of I/O ports to allow simple and convenient connections to a complete selection of external peripheral devices.

In addition to two 16550A UART compatible serial ports and one EPP/ECP capable parallel port, the panel features two USB connectors that provide high speed connection to the next generation of USB devices. PS/2 keyboard and PS/2 mouse connectors provide additional I/O connectivity.



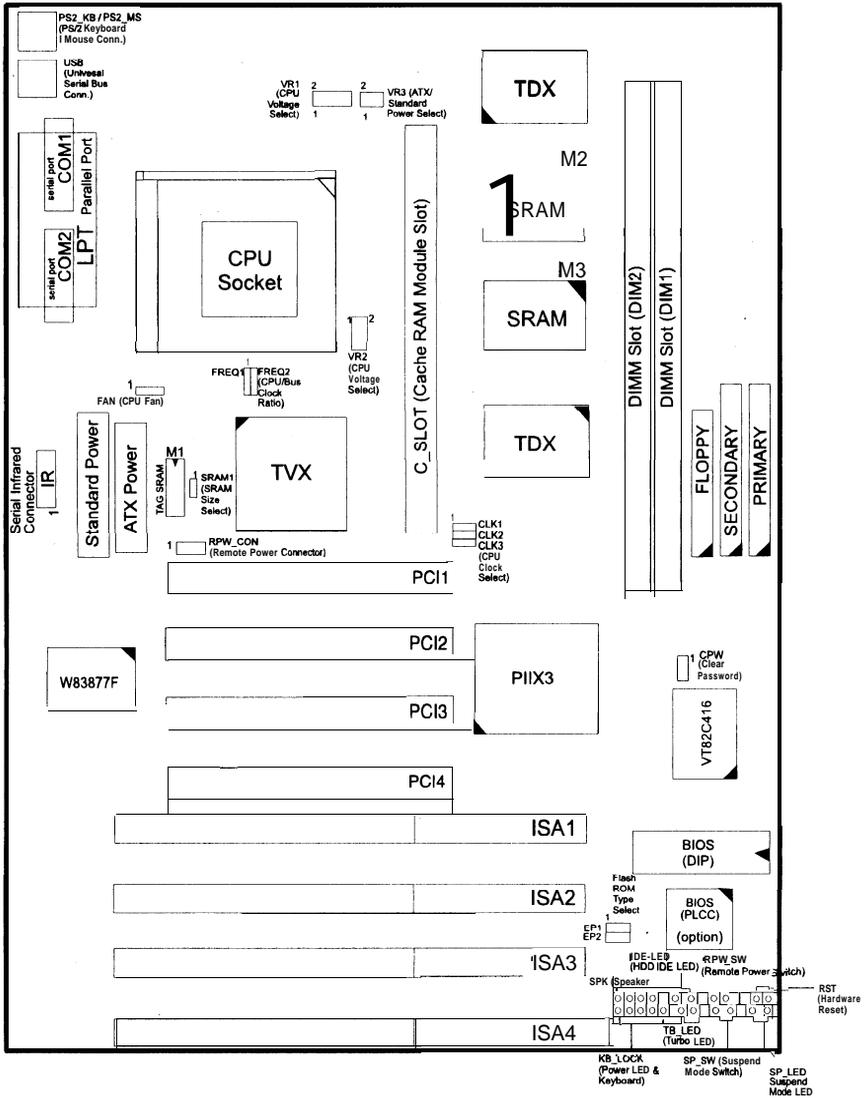
Installation Procedures

The PT-20 10 has several user-adjustable jumpers on the board that allow you to **configure** your system to suit your requirements. This chapter contains information on the various jumper settings on your mainboard.

To set up your computer, you should follow these installation steps:

- Step 1 -
Set system jumpers
- Step 2 -
Install System RAM modules
- Step 3 -
Install the CPU
- Step 4 -
Install expansion cards
- Step 5 -
Connect cables and power supply
- Step 6 -
Set up BIOS feature (please read Chapter 3)

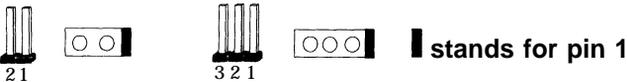
Mainboard Layout



1). Set System Jumpers

Jumpers

Jumpers are used to select the operation modes for your system. Some jumpers on the board have three metal pins with each pin representing a different function. To “set” a jumper, a black cap containing metal contacts is placed over the jumper pin/s according to the required configuration; A jumper is said to be “shorted” when the black cap has been placed on one or two of its pins. The types of jumpers used in this manual are shown below:



Jumpers are shown as above



Jumper cap is shown as above

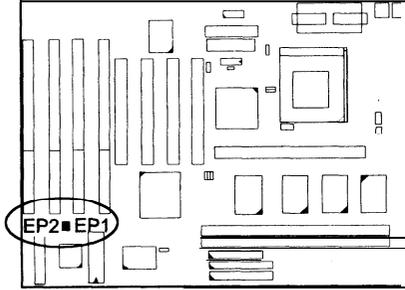


Jumpers in a Block

NOTE : Users are not encouraged to change the jumper settings not listed in this manual. Changing the jumper settings improperly may adversely affect system performance.

Flash ROM Type Selection: **EP1 and EP2**

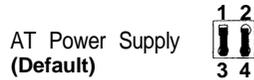
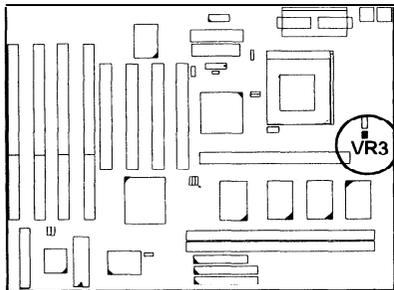
These two jumpers allow you to select the flash ROM type.



ROM Type	EP1	EP2
MXIC 28F1000		
Intel 28F001		
S S T 29EE010		
ATMEL 29C010A		
MXIC 28F2000		
SST 29EE020		

Power Supply Selection: **VR3**

If you use an ATX power supply, please set this 4-pin jumper as shown below.



2). Install System RAM Modules

SDRAM Memory

The working space of the computer is the Random Access Memory (RAM). The system cannot act upon data unless it is loaded into RAM. When more memory is added, the working memory of the computer is larger, thereby increasing total performance.

The mainboard supports lightning-fast SDRAMs through its two 168-pin Dual In-line Memory Modules (DIMM). SDRAM is an advanced new memory technology that boosts overall system performance with its ability to synchronize all operations with the processor clock signal; and speeds up column access time.

SDRAM is an advanced new memory technology that boosts overall system performance with its ability to synchronize all operations with the processor clock signal. This makes the implementation of control interfaces easier, and speeds up column access time. SDRAM features an on-chip burst counter that can be utilized to increment column addresses for very fast burst accesses, which means that SDRAM allows new memory accesses to be initiated before the preceding access has been finished.

Before making DRAM module upgrades you should verify the type and speed of the RAM currently installed from your dealer. Installing mixtures of RAM types other than those described in this manual, will have unpredictable results.

RAM Module Configuration

TOTAL MEMORY	DIM1 BANK0 (168-PIN X 1)	DIM2 BANK1 (168-PIN X 1)
8MB	8MB	
16MB	16MB	
	8MB	8MB
24 MB	8MB	16MB
	24MB	
32MB	32MB	
	8MB	24MB
	16MB	16MB
40MB	8MB	32MB
	16MB	24MB
48MB	16MB	32MB*
	24MB	24MB
64MB	32MB*	32MB*
72MB	64MB*	8MB
80MB	64MB*	16MB
96MB	64MB*	32MB*
128MB	64MB*	64MB*

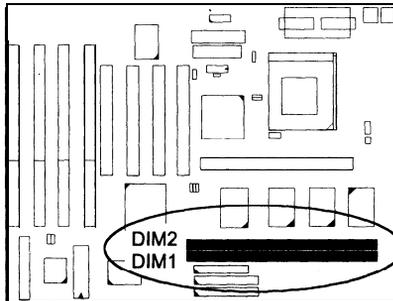
NOTE :

- * A DIMM of this size was not available for testing when this book was printed.
- DIM1 and DIM2 only support 3.3V (unbuffer) EDO and SDRAM modules.

Install DIMMs

Complete the following procedures to install DIMMs:

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



2. Insert the DIMM straight down onto the DIMM slot with both hands carefully until the clips on the ends of the slot close; up to hold the DIMM firmly.

Remove DIMMs

Press the clips on the ends of the slot with both hands. The DIMM will spring out easily.

Cache Memory

Cache memory access is very fast compared to main memory access. The cache holds data for imminent use. Since cache memory is five to more than ten times faster than main memory, the CPU's access time is reduced, giving you better system performance.

Pentium mainboards may implement various types of L2 cache SRAMs. Pipeline Burst SRAM is one of them, delivering the best price performance ratio. They perform much better than asynchronous SRAMs.

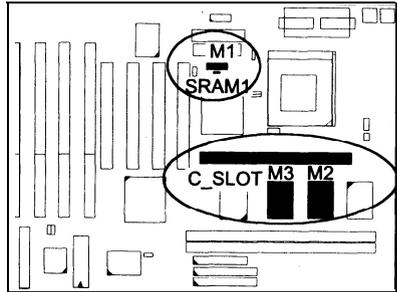
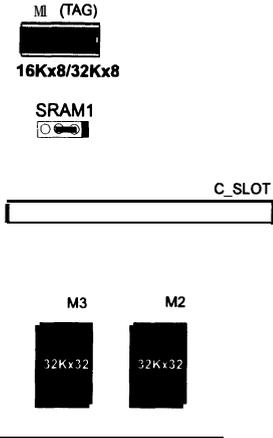
The specification of the SRAM module requires Intel Coast Standard version 3.X, such as FIC's PB512K-3.0.

The PT-2010 comes with **onboard 256/5 12KB synchronous 3V Pipeline Burst SRAMs**, and one optional **256/5 12KB SRAM module (FIC's PB512K-3.0 is recommended)** that can be installed on the SRAM module slot.

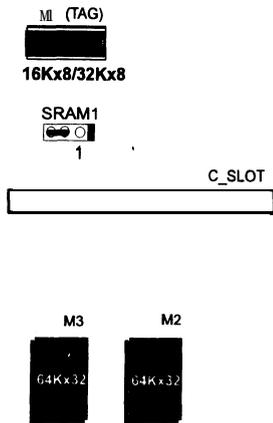
<p>NOTE : Use the correct chips for the amount of cache memory you want to add. Install both the correct SRAM module and tag SRAM.</p>

Onboard Cache RAM (256KB/512KB)

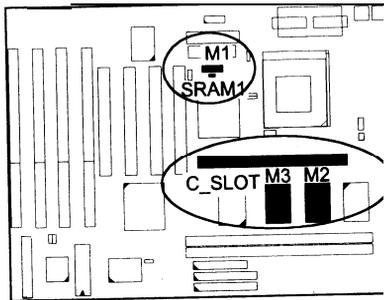
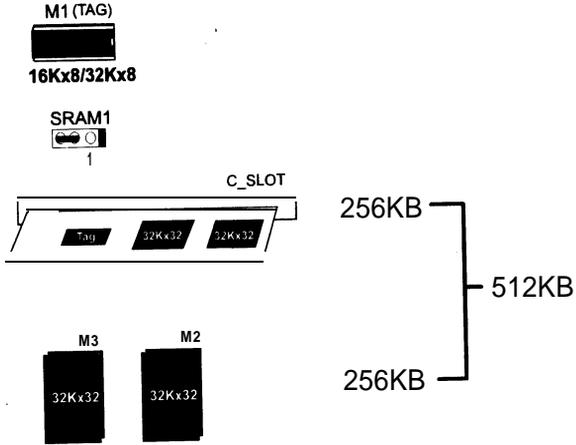
256KB



512KB

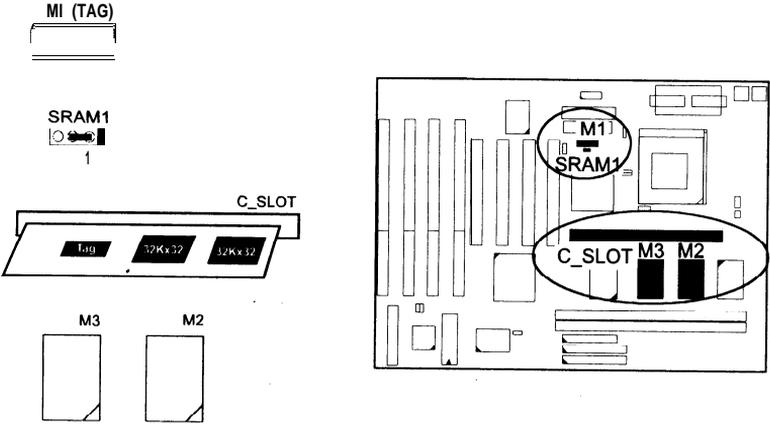


Onboard Cache RAM and SRAM Module Mixture (512KB)

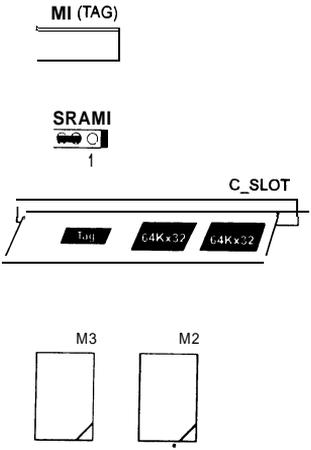


SRAM Module (256KB/512KB)

256KB

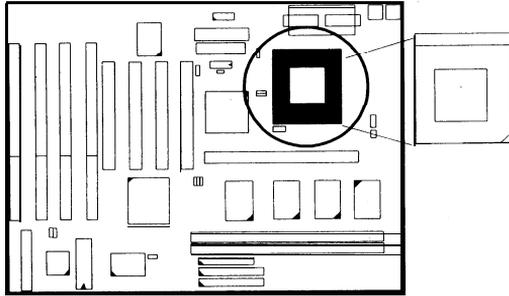


512KB



3). Install the CPU

The CPU module resides in the Zero Insertion Force (ZIF) socket on the mainboard.



CAUTION :

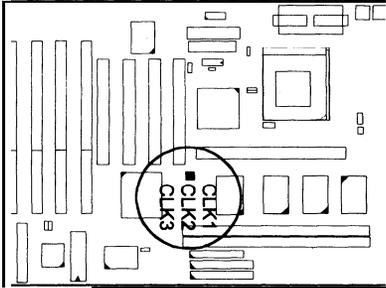
1. Always turn the system power off before installing or removing any device.
2. Always observe static electricity precautions. See "Handling Precautions" at the start of this manual.
3. Inserting the CPU chip incorrectly may damage the chip.

To install the CPU, do the following:

1. Lift the lever on the side of the CPU socket.
2. Handle the chip by its edges and try not to touch any of the pins.
3. Place the CPU in the socket. The chip has a notch to correctly orientate the chip. Align the notch with pin one of the socket. Pin one is located in the blank triangular area. Do not force the chip. The CPU should slide easily into the socket.
4. Swing the lever to the down position to lock the CPU in place.
5. See the following sections for information on the CPU jumpers settings.

CPU External Clock (BUS) Frequency: CLK1, CLK2, and CLK3

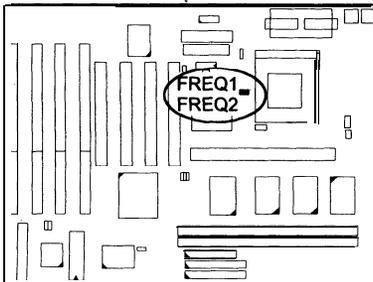
The table below shows the jumper settings for the different CPU speed configurations.



CPU Speed	CLK1	CLK2	C L K 3
66 MHz	1	1	1
60 MHz	1	1	1
55 MHz	1	1	1
50 MHz	1	1	1

CPU to Bus Frequency Ratio: FREQ1 and FREQ2

These two jumpers are used in combination to decide the ratio of the internal frequency of the CPU to the bus clock.

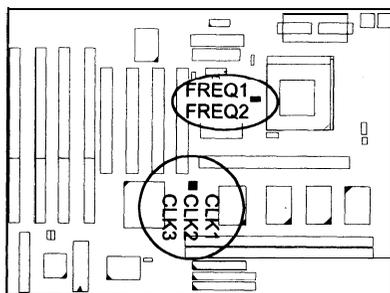


Ratio	FREQ1	FREQ2
3x		
2.5 x		
2 x		
1.5 x		

Intel Pentium CPUs

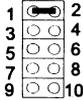
Frequency

CPU Speed	External (CPU/CLK)	CLK1	CLK2	CLK3	CPU Clock Rate		
					Internal	FREQ1	FREQ2
200 MHz	66 MHz				3 x		
166 MHz	66 MHz				2.5 x		
150 MHz	60 MHz				2.5 x		
133 MHz	66 MHz				2 x		
120 MHz	60 MHz				2 x		
100 MHz	66 MHz				1.5 x		
90MHz	60 MHz				1.5x		
75 MHz	50 MHz				1.5 x		



Voltage

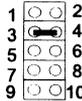
VR1



VR2



Core : 3.4V-3.6V
IO : Same
P54C VRE

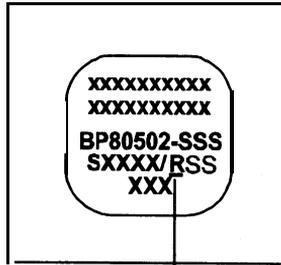


Core : 3.3V
IO : Same
P54C STD



Core : 2.8V
IO : 3.3V
P55C

**Intel Pentium CPU
 Bottom Side Marking**

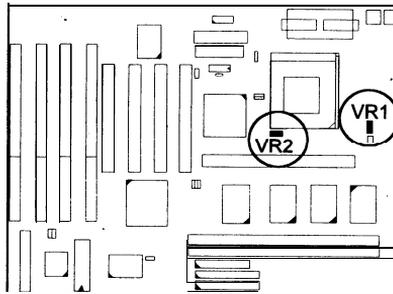


R (Identifier for Voltage Range) :

V for VRE Voltage Range

or

S for Standard Voltage Range

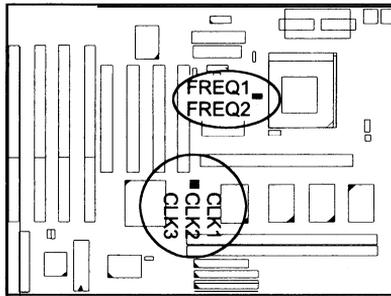


AMD-K5 CPUs

Frequency

Model Name	CPU Speed	External (CPU/CLK)	CLK1	CLK2	CLK3	CPU Clock Rate		
						Internal	FREQ1	FREQ2
K5-PR166 *	133 MHz	66 MHz				2 x	1	1
K5-PR150 *	120 MHz	60 MHz				2 x	1	1
K5-PR133	100 MHz	66 MHz				1.5x	1	1
KS-PRI 20	90 MHz	60 MHz				1.5x	1	1
K5-PR100	100 MHz	66 MHz				1.5x	1	1
K5-PR90	90 MHz	60 MHz				1.5 x	1	1
K5-PR75	75 MHz	50 MHz				1.5 x	1	1

NOTE : * This CPU had not been tested when this manual was printed.



Voltage

VR1



Core : 3.4V-3.6V
IO : Same
AMD-K5 - B

VR2



Core : 3.3V
IO : Same
AMD-K5 - C, F



Core : 2.9V
IO : 3.3V
AMD-KS - H



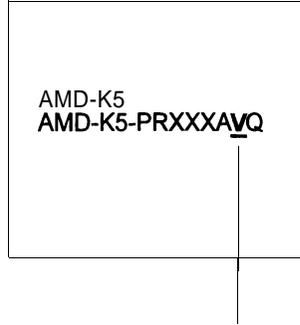
Core : 2.8V
IO : 3.3V
AMD-K5 - J



Core : 2.5V
IO : 3.3V
AMD-K5 - K



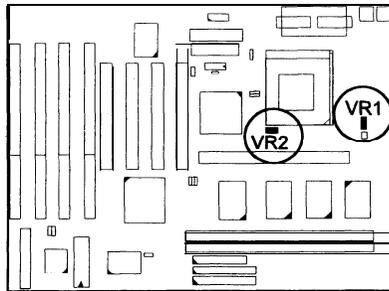
AMD-K5 CPU Top Side Marking



v (Identifier for Operation Voltage) :

B
C
F
H
J
K

Please refer to
the left-hand-side table

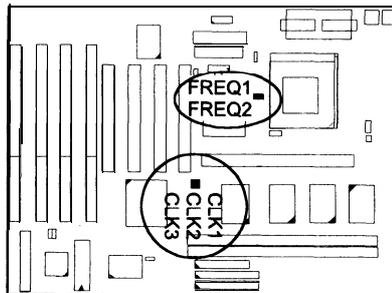


Cyrix 6x86 CPUs

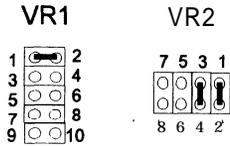
Frequency

Model Name	CPU Speed	External (CPU/CLK)	CLK1	CLK2	CLK3	CPU Clock Rate		
						Internal	FREQ1	FREQ2
M2*	200 MHz	66 MHz	1 	1 	1 	3x	 1	 1
M2*	180 MHz	60 MHz	1 	1 	1 	3 x	 1	 1
M2*	166 MHz	66 MHz	1 	1 	1 	2.5x	 1	 1
6x86-P1.66+ 6x86L-P166+*	133 MHz	66 MHz	1 	1 	1 	2 x	 1	 1
6x86-P150+ 6x86L-P150+*	120 MHz	60 MHz	1 	1 	1 	2 x	 1	 1
6x86-P133+ 6x86L-P133+*	110 MHz	55 MHz	1 	1 	1 	2x	 1	 1
6x86-P120+ 6x86L-P120+*	100 MHz	50 MHz	1 	1 	1 	2 x	 1	 1

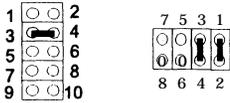
NOTE :* This CPU had not been tested when this manual was printed.



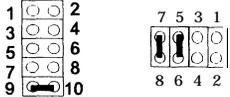
Voltage



Core : 3.4V-3.6V
IO : Same
Cyrix 6x86-028

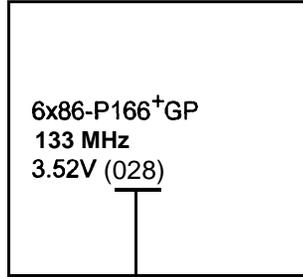


Core : 3.3V
IO : Same
Cyrix 6x86-016



core : 2.5V
IO : 3.3V
Cyrix 6x86L *

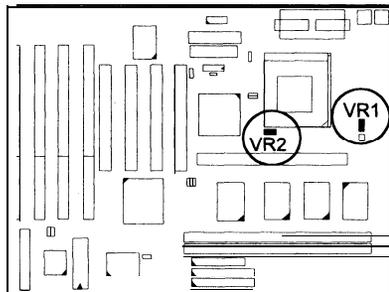
Cyrix 6x86 CPU Top Side Marking



(016) : 3.3V

(028) : 3.52V

NOTE :* This CPU had not been tested when this manual was printed.

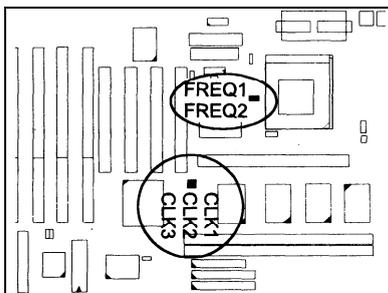


IBM 6x86 CPUs

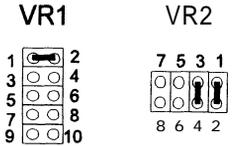
Frequency

Model Name	CPU Speed	External (CPU/CLK)	CLK1	CLK2	CLK3	CPU Clock Rate		
						Internal	FREQ1	FREQ2
M2*	200 MHz	66 MHz	1	1	1	3 x	1	1
M2*	180 MHz	60 MHz	1	1	1	3 x	1	1
M2*	166 MHz	66 MHz	1	1	1	2.5 x	1	1
6x86-P166+ 6x86L-P166+*	133 MHz	66 MHz	1	1	1	2 x	1	1
6x86-P150+ 6x86L-P150+*	120 MHz	60 MHz	1	1	1	2x	1	1
6x86-P133+ 6x86L-P133+*	110 MHz	55 MHz	1	1	1	2x	1	1
6x86-P120+ 6x86L-P120+*	100 MHz	50 MHz	1	1	1	2 x	1	1

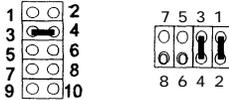
NOTE :* This CPU had not been tested when this manual was printed.



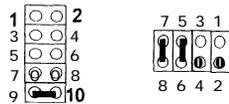
Voltage



Core : 3.4V-3.6V
IO : Same
IBM 6x86-028



Core : 3.3V
IO : Same
IBM 6X86-01 6



Core : 2.5V
IO : 3.3V
IBM 6x86L*

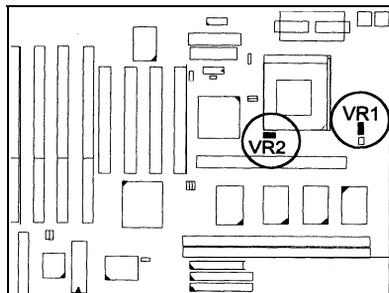
**IBM 6x86 CPU
 Top Side Marking**



(016) : 3.3V

(028) : 3.52V

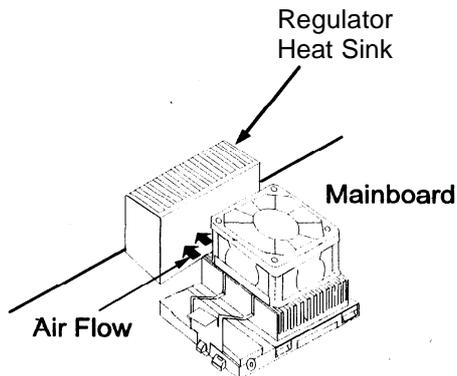
NOTE : * This CPU had not been tested when this manual was printed.



Installation of Cyrix (or IBM) 6x86 CPU Fan

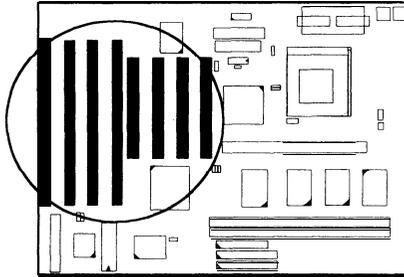
CAUTION : When you install a Cyrix (or IBM) 6x86 CPU fan, please pay attention to the direction of the air flow. Make sure the air flow is the direction of the regulator; **otherwise**, the system may overheat.

- 1). Supplier : BIRCHTECK, Taiwan (Phone : 886-2-7935677)
Model Number - **BEC6x86B2**.
- 2). Supplier : Cyrix (or IBM). The fan comes with the Cyrix (or IBM) 6x86 CPU purchase. For the stable system performance, make sure that the air flow blow toward the regulator the temperature of the regulator.



4). Install Expansion Cards

Your mainboard features four 16-bit ISA Bus and four 32-bit PCI Bus expansion slots.



This section describes how to connect an expansion card to one of your system's expansion slots. Expansion cards are printed circuit boards that, when connected to the mainboard, increase the capabilities of your system. For example, expansion cards can provide video and sound capabilities.

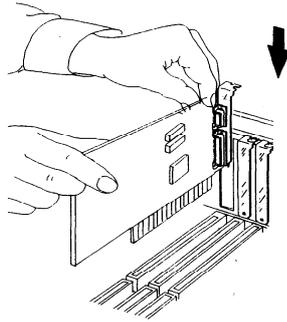
CAUTION :

1. Always turn the system power off before installing or removing any device.
2. Always observe static electricity precautions.
See "Handling Precautions" at the start of this manual.

To install an expansion card, do the following:

1. Remove the chassis cover and select an empty expansion slot.
2. Remove the corresponding slot cover from the chassis.
Unscrew the mounting screw that secures the slot cover and pull the slot cover out from the chassis. Keep the slot cover mounting screw nearby.

3. Holding the edge of the peripheral card, carefully align the edge connector with the expansion slot. (See figure below.)

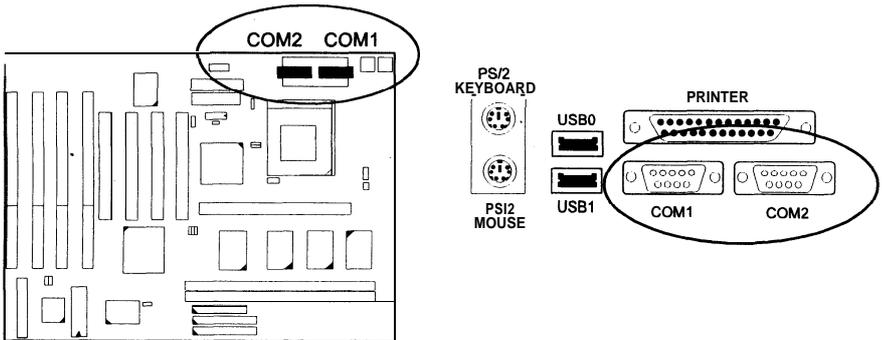


4. Push the card **firmly** into the slot. Push down on one end of the expansion card, then the other. Use this “**rocking**” motion until the add-in card is **firmly** seated inside the slot.
5. Secure the board with the mounting screw removed in Step 2. Make sure that the card has been placed evenly and completely into the expansion slot.

5). Connect Cables and Power Supply

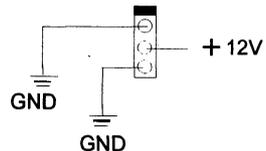
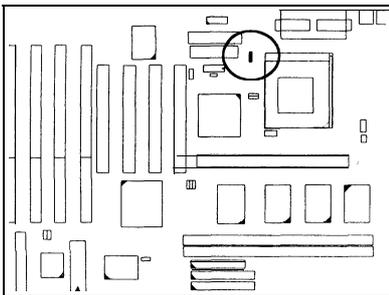
Serial Port Connector: COM1 and COM2

These two 9-pin D-Sub male connectors allow you to connect with your devices that take serial ports, such as a serial mouse or a modem. The COM2 Port on the mainboard can also be used as another IR Port. Usually, your serial mouse is attached to COM1. Your modem is linked to COM2. When you do not use the modem, you can set the BIOS to let COM2 be an IR port to save a dedicated SIR port.



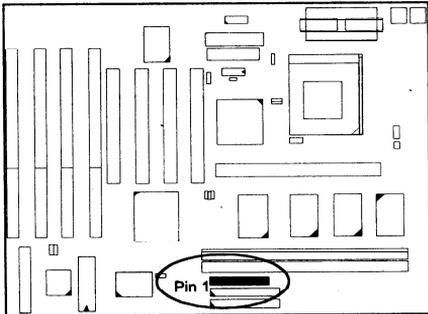
CPU Fan Connector: FAN

This connector is linked to the CPU fan.



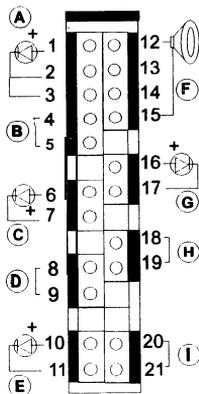
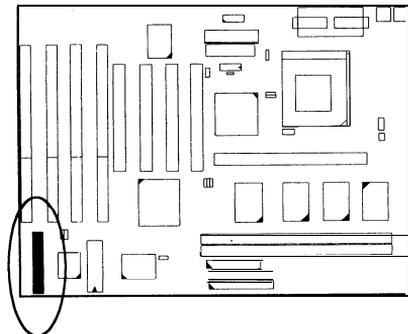
Floppy Diskette Drive Connector: FLOPPY

This 34-pin block connector connects to your floppy diskette drive (FDD) using the cable that is provided with this mainboard.



Front Panel Block Connector: F PNL

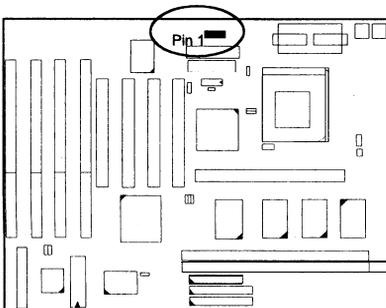
This block connector concludes : PW_LED, KB LOCK, TB_LED, SP_SW, SPK, SP_LED, IDE_LED, RPW_SW, and RST connectors.



Item	Connector	Pin Type	Feature
A	PW_LED	2-pin male	indicates the system power status
B	KB_LOCK	2-pin male	allows the keyboard to access the system
C	TB_LED	2-pin male	indicates the system speed is in normal or turbo speed
D	SP_SW	2-pin male	Suspend Mode switch
E	SP_LED	2-pin male	indicates the system into Suspend Mode when LED lit
F	SPK	4-pin male	connects to speaker
G	IDE-LED	2-pin male	indicates the IDE HDD I/O access LED lit
H	RPW_SW	2-pin male	Remote Power switch
I	RST	2-pin male	allows you to reset the system

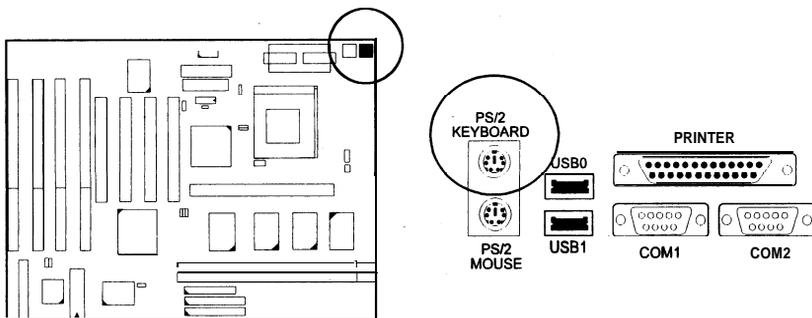
Infrared Connector: IR

This 10-pin male connector is used for connecting to the infrared (SIR) port and allows transmission of data to another system which also supports the SIR feature.



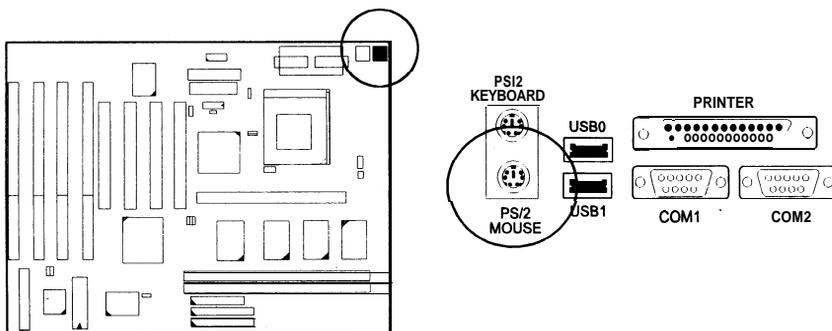
PS/2 Keyboard Connector: PS2_KB

This 6-pin female connector is used for your PS/2 keyboard.



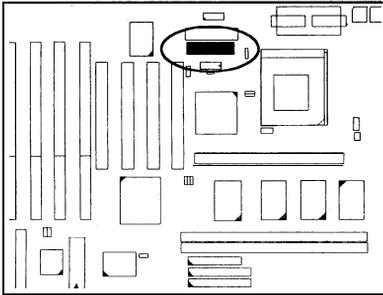
PS/2 Mouse Connector: PS2_MS

This connector is connected to the PS/2 mouse.



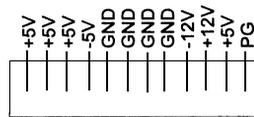
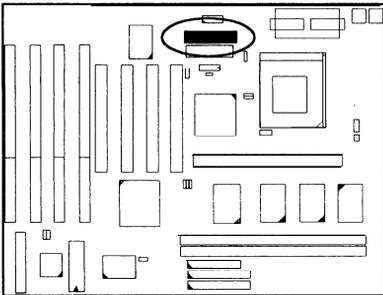
ATX Power Connector: ATXPOWER

This 20-pin male block connector is connected to the ATX power supply.

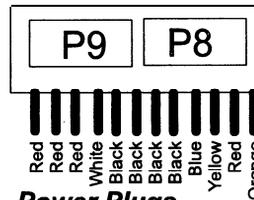


Standard Power Connector: POWER

This 12-pin block connector is used for connecting to the standard 5V power supply. In the picture below, notice that, in most cases, there are two marks “P8” and “P9” on the surface of the connector. You have to insert the “P8” plug into the “P8” section of the connector, and so forth for “P9”. Two black wires must be in the middle.



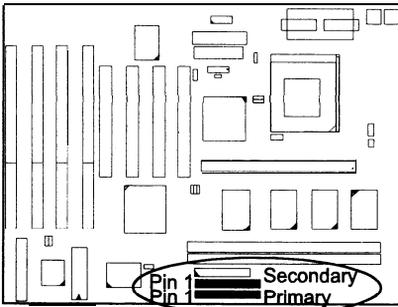
Power Connector



Power Plugs of Power Supply

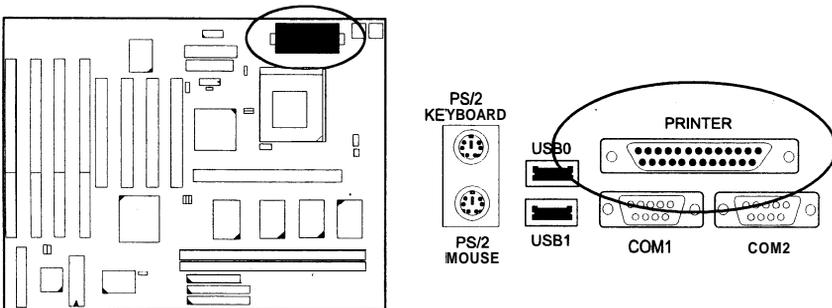
IDE HDD Device Connector: PRIMARY and SECONDARY

These two 40-pin block connectors are used for your IDE hard disks. If you have one IDE hard disk, connect it to the PRIMARY connector using the IDE HDD flat cable provided with the mainboard. The BIOS auto detection sets it to be a “Primary Master” disk. If you want to install another IDE hard disk or CD-ROM, please use the SECONDARY connector. If two hard disks are connected to the PRIMARY connector using the same cable, one of them is the master drive, the other one is the slave drive. You may need to set jumpers for the slave drive; please refer to the HDD manual for details.



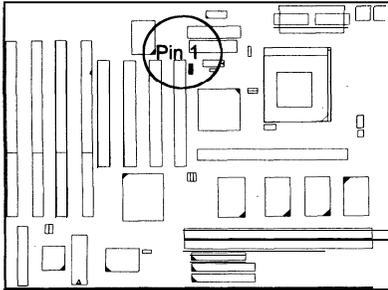
Printer Connector: PRINTER

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



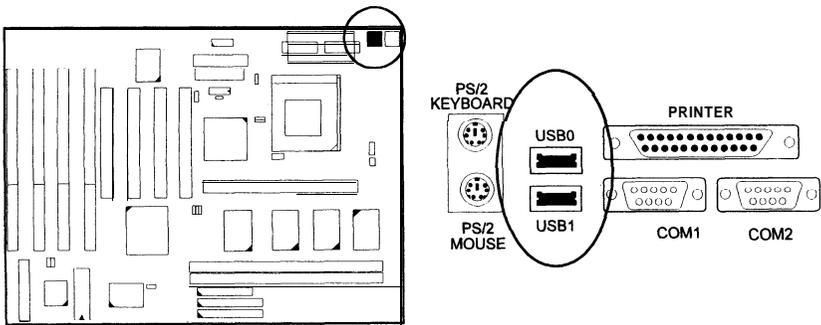
Remote Power Supply Connector: RPW_CON

This 3-pin male connector allows you to enable or disable the system power if the RPW_SW is on or off.



Universal Serial Bus Connectors

These two connectors are reserved for future upgrade for linking with the peripherals devices that support Universal Serial Bus connection. The connector pinheads are not installed on this mainboard currently.



Award BIOS Setup

The mainboard comes with the Award 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.

CMOS Setup Utility

ROM PCI/ISA BIOS (2A59GF09) CMOS SETUP UTILITY AWARD SOFTWARE, INC.	
STANDARD CMOS SETUP BIOS FEATURES SETUP CHIPSET FEATURES SETUP POWER MANAGEMENT SETUP PNP/PCI CONFIGURATION LOAD BIOS DEFAULTS LOAD SETUP DEFAULTS	INTEGRATED PERIPHERALS SUPERVISOR PASSWORD USER PASSWORD IDE HDD AUTO DETECTION SAVE & EXIT SETUP EXIT WITHOUT SAVING
ESC : Quit F10: Save & Exit Setup	↑ ↓ → ← : Select Item (Shift) F2 : Change Color
Time, Date, Hard Disk Type...	

A Setup program, built into the system BIOS, is stored in the CMOS RAM. This Setup utility program allows changes to the mainboard configuration settings. It is executed when the user changes system configuration; user changes system backup battery; or the system detects a configuration error and asks the user to run the Setup program. Use the arrow keys to select and press Enter to run the selected program.

Standard CMOS Setup

ROM PCI/ISA BIOS (2A59GF09) STANDARD CMOS SETUP AWARD SOFTWARE, INC.								
Date (mm:dd:yy) : Mon, Jan 24 1994 Time (hh:mm:ss) : 15 : 38 : 55								
HARD DISKS	TYPE	SIZE	CYLS	HEAD	PRECOMP	LANDZ	SECTOR	MODE
Primary Master	: User	541	1409	16	65535	1408	63	Normal
Primary Slave	: None	0	0	0	0	0	0	-----
Secondary Master	: None	0	0	0	0	0	0	-----
Secondary Slave	: None	0	0	0	0	0	0	-----
Drive A : 1.44M, 3.5 in. Drive B : 1.2M, 5.25 in.						Base Memory: 640K Extended Memory: 7168K Other Memory: 384K		
Video : EGA/VGA Halt On : All Errors						Total Memory: 8192K		
ESC : Quit FI : Help			↑↓→← : Select Item (Shift)F2 : Change Color			PU/PD/+/- : Modify		

The Standard CMOS Setup screen is displayed above. Each item may have one or more option settings. The system BIOS automatically detects memory size, thus no changes are necessary. Use the arrow keys to highlight the item and then use the PgUp or PgDn keys to select the value you want in each item.

Hard Disk Configurations

TYPE:

Select from 1 to 45 to fill remaining fields with predefined values of disk drives. Select User to fill the remaining fields. Select Auto to detect the HDD type automatically.'

SIZE:

The hard disk size. The unit is **Mega Bytes**.

CYLS:

The cylinder number of the hard disk.

HEAD:

The read/write head number of hard disk. The range is from 1 to 16.

PRECOMP:

The cylinder number at which the disk drive changes the write timing.

LANDZ:

The cylinder number that the disk drive heads (read/write) are seated when the disk drive is parked.

SECTOR:

The sector number of each track defined on the hard disk. The range is from 1 to 64.

MODE:

Select Auto to detect the mode type automatically. If your hard disk supports the LBA mode, select LBA or Large. However, if your hard disk **cylinder** is more than 1024 and does not support the LBA function, you have to set at Large.

Select Normal if your hard disk supporting cylinders is below 1024.

Software Turbo Speed

The BIOS supports Software Turbo Speed feature. Instead of pressing the Turbo Speed Button on the front panel, simply press the **Alt, Ctrl, and +** keys at the same time to enable the Turbo Speed feature; and press the **Alt, Ctrl, and -** keys at the same time to disable the feature.

BIOS Features Setup

ROM PCI/ISA BIOS (2A5L9F09) BIOS FEATURES SETUP AWARD SOFTWARE, INC.		
Virus Warning	: Disabled	Video BIOS Shadow : Enabled
CPU Internal Cache	: Enabled	C8000 - CBFFF Shadow : Disabled
External Cache	: Enabled	CC000 - CFFFF Shadow : Disabled
Quick Power On Self Test	: Disabled	DC000 - D3FFF Shadow : Disabled
Boot Sequence	: A, C	04000 - D7FFF Shadow : Disabled
Swap Floppy Drive	: Disabled	08000 - DBFFF Shadow : Disabled
Boot Up Floppy Seek	: Enabled	DC000 - DFFFF Shadow : Disabled
Boot Up NumLock Status	: On	
Boot Up System Speed	: High	
Gate A20G Option	: Fast	
Typematic Rate Setting	: Disabled	
Typematic Rate (Chars/Sec)	: 6	
Typematic Delay (Msec)	: 250	ESC : Quit
Security option	: Setup	F1 : Help
PS/2 mouse function control	: Enabled	F5 : Old Values
		F6 : Load BIOS Defaults
		F7 : Load Setup Defaults
OS Select For DRAM > 64MB	: Non-OS2	t ↓ → ← : Select Item
		PU/PD/+/- : Modify
		(Shift) F2 : Color

Virus Warning

When enabled, assigns the BIOS to monitor the master boot sector and the DOS boot sector of the first hard disk drive.

The options are: Enabled, Disabled (Default).

CPU Internal Cache

When enabled, improves the system performance. Disable this item when testing or trouble-shooting.

The options are: Enabled (Default), Disabled.

External Cache

When enabled, supports an optional cache SRAM.

The options are: Enabled (Default), Disabled.

Quick Power On Self Test

When enabled, allows the BIOS to bypass the extensive memory test.

The options are: Enabled, Disabled (Default).

Boot Sequence

Allows the system BIOS to first try to boot the operating system from the selected disk drive.

The options are: A, C (Default); C, A; C, CDROM, A; CDROM, C, A.

Swap Floppy Drive

Allows you to switch the order in which the operating system accesses the floppy drives during boot up.

The options are: Enabled, Disabled (Default)

Boot Up Floppy Seek

When enabled, assigns the BIOS to perform floppy diskette drive tests by issuing the time-consuming seek commands.

The options are: Enabled (Default), Disabled.

Boot Up Numlock Status

When set to On, allows the BIOS to automatically enable the Num Lock Function when the system boots up.

The options are: On (Default), Off.

Boot Up System Speed

Allows you to adjust the system speed when the system boots up.

The options are: High (Default), Low.

Gate A20 Option

When set at Fast, allows a faster access response under Protected mode.

The options are: Fast (Default), Normal.

Typematic Rate Setting

The term typematic means that when a keyboard key is held down, the character is repeatedly entered until the key is released. When this item is enabled, you may change the typematic repeat rate.

The options are: Disabled (Default), Enabled.

Typematic Rate (Chars/Sec)

Sets the rate of a character repeat when the key is held down.

The options are: 6 (Default), 8, 10, 12, 15, 20, 24, 30.

Typematic Delay (Msec)

Sets the delay time before a character is repeated.

The options are: 250 (Default), 500, 750, 1000 millisecond.

Security Option

Allows you to set the security level of the system.

The options are: Setup (Default), System.

PS/2 Mouse Function Control

When enabled, allows you to release IRQ 12 for using the PS/2 mouse.

The options are: Enabled (Default), Disabled.

OS Select For DRAM 64MB

If your operating system (OS) is OS2, select the option OS2. Otherwise, stay with the default setting Non-OS2.

The options are: Non-OS2 (Default), OS2.

Video BIOS Shadow

Allows the BIOS to copy the video ROM code of the add-on video card to the system memory for faster access.

The options are: Enabled (Default), Disabled.

C8000-CBFFF to DCOOO-DFFFF Shadow

Allows the BIOS to copy the BIOS ROM code of the add-on card to system memory for faster access. It may improve the performance of the add-on card.

Some add-on cards will not function properly if its BIOS ROM code is shadowed. To use these options correctly, you need to know the memory address range used by the BIOS ROM of each add-on card.

The options are: Enabled, Disabled (Default).

Chipset Features Setup

ROM PCI/ISA BIOS (2A59GF09) CHIPSET FEATURES SETUP AWARD SOFTWARE, INC.		
Auto Configuration	: Enabled	Delayed PCI Transaction : Disabled
DRAM Timrng	: 60 ns	
Fast RAS To CAS Delay	: 3	ESC : Quit ↑ ↓ → ← : Select Item F1 : Help PU/PD+/- : Modify F5 : Old Values (Shift) F2: Color F6 : Load BIOS Defaults F7 : Load Setup Defaults
DRAM Read Burst(EDO/FP)	: x222/x333	
DRAM Write Burst Timing	: x222	
Fast MA to RAS# Delay CLK	: 2	
Fast EDO Path Select	: Enabled	
Refresh RAS# Assertion	: 5 Clks	
SDRAM (CAS Lat/RAS-to-CAS)	: 3/3/5/8	
System BIOS Cacheable	: Disabled	
Video BIOS Cacheable	: Enabled	
8 Bit I/O Recovery Time	: 1	
16 Bit I/O Recovery Time	: 1	
Memory Hole At 15M-16M	: Disabled	
Peer Concurrency	: Enabled	

Auto Configuration

When set at Enabled, it allows you to configure the features that from the third one, Fast RAS To CAS Delay, to the eighth one, Refresh RAS# Assertion.

The options are: Enabled (Default), Disabled.

DRAM Timing

Allows you to select the speed of data access to EDO DRAM.

The options are: 60 ns (Default), 70 ns.

Fast RAS To CAS Delay

Allows you to define the delay time that from DRAM RAS# active to CAS# active.

The options are: 3, 2. Unit: Clock T.

DRAM Read Burst (EDO/FP)

Allows you to define DRAM read burst timing.

The options are: x222/x333, x332/x333, x444/x444, x333/x444.

DRAM Write Burst Timing

Allows you to define DRAM write burst timing.

The options are: X-3-3-3, X-2-2-2, X-4-4-4.

Fast MA to RAS# Delay CLK

Allows you to select the clock of the memory address (MA) to RAS# delay. This feature is for technician use. The options are: 1, 2.

Fast EDO Path Select

When enabled, it allows you to select a fast path for CPU to DRAM read cycles for the **leadoff**. This is valid for **EDO** DRAMs only. The options are: Disabled, Enabled.

Refresh RAS# Aassertion

This feature allows you to control the number of clocks RAS# is asserted for Refresh cycles. The options are: 4 Clks, 5 Clks.

SDRAM (CAS Lat/RAS-to-CAS)

If you install a DIMM, this feature allows you to select the ratio of CAS Latency to RAS-to-CAS. The default setting is slowest. The 2|3|4|7 is fastest. The second one is 2|3|5|8, then is 3|3|4|7. The options are: 3|3|5|8 (Default), 3|3|4|7, 2|3|4|7.

System BIOS Cacheable

When enabled, allows the ROM area F0000H-FFFFFH to be cacheable when cache controller is activated. The options are: Disabled (Default), Enabled.

Video BIOS Cacheable

When enabled, allows the system to use the video BIOS codes from SRAMs, instead of the slower DRAMs or ROMs. The options are: Enabled (Default), Disabled.

.8 Bit I/O Recovery Time

Allows you to set the **8-bit** ISA I/O recovery time. The options are: 1 (Default), 2, 3, 4, 5, 6, 7, NA, 8. Unit: Bus clock.

16 Bit I/O Recovery Time

Allows you to set the **16-bit** ISA I/O recovery time. The options are: 1 (Default), 2, 3, NA, 4. Unit: Bus clock.

Memory Hole At **15M-16M**

When enabled, the memory hole at the **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 options are: Enabled, Disabled (Default).

Peer Concurrency

Enable this item to allow the processor to continue its operation while another **PCI Bus** is active.

The options are: Enabled (Default), Disabled.

Delay PCI Transaction

Enable this item to allow the **PIIX3** chip to abort the current **PCI** master cycle and to accept the new **PCI** master request; after it services the new **PCI** master request, it reaccepts the original **PCI** master and returns the **PCI** data phase to the original **PCI** master. This should enhance the system performance.

The options are: Enabled, Disabled (Default).

Power Management Setup

ROM PCI/ISA BIOS (2A59GF09) POWER MANAGEMENT SETUP AWARD SOFTWARE, INC.		
Power Management	: Disable	* * Power Down & Resume Events * *
PM Control by APM	: Yes	IRQ3 (COM 2) : ON
Video Off Method	: DPMS	IRQ4 (COM 1) : ON
MODEM Use IRQ	: NA	IRQ5 (LPT 2) : OFF
Doze Mode	: Disable	IRQ6 (Floppy Disk) : OFF
Standby Mode	: Disable	IRQ7 (LPT 1) : OFF
Suspend Mode	: Disable	IRQ8 (RTC Alarm) : OFF
HDD Power Down	: Disable	IRQ9 (IRQ2 Redir) : OFF
** Wake Up Events In Doze & Standby * *		IRQ10 (Reserved) : OFF
IRQ3 (Wake-Up Event)	: ON	IRQ11 (Reserved) : OFF
IRQ4 (Wake-Up Event)	: OFF	IRQ12 (PS/2 Mouse) : ON
IRQ12 (Wake-Up Event)	: ON	IRQ13 (Coprocessor) : OFF
		IRQ14 (Hard Disk) : ON
		IRQ15 (Reserved) : OFF
		ESC : Quit ↑ ↓ → ← : Select Item
		F1 : Help PU/PD +/- : Modify
		F5 : Old Values (Shift) F2 : Color
		F6 : Load BIOS Defaults
		F7 : Load Setup Defaults

Power Management

This item allows you to adjust the power management features. Select Disable for disabling global power management features. Select User Defined for configuring your own power management features. MIN Saving initiates all **predefined** timers in their minimum values. MAX Saving, on the other hand, initiates maximum values.

The options are: Disable (Default), User Defined, MIN Saving, MAX Saving.

PM Control by APM

The option No allows the BIOS to ignore the APM (Advanced Power Management) specification. Selecting Yes will allow the BIOS wait for APM's prompt before it enters Doze mode, Standby mode, or Suspend mode.

If the APM is installed, it will prompt the BIOS to set the system into power saving mode when all tasks are done.

The options are: No, Yes (Default).

Video Off Method

The option V/H SYNC+Blank allows the BIOS to blank off screen display by turning off the V-Sync and H-Sync signals sent from add-on VGA card. DPMS Supported allows the BIOS to blank off screen display by your add-on VGA card which supports DPMS (Display Power Management Signaling function). Blank Screen allows the BIOS to blank off screen display by turning off the red-green-blue signals.

The options are: V/H SYNC+Blank, DPMS (Default), Blank Screen.

MODEM Use IRQ

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

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

Doze Mode

When disabled, the system will not enter Doze mode. The specified time option defines the idle time the system takes before it enters Doze mode.

The options are: Disabled(Default), 1, 2, 4, 6, 8, 10, 20, 30, 40 Min, 1 Hr.

Standby Mode

When disabled, the system will not enter the Standby mode. The specified time option defines the idle time the system takes before it enters Standby mode.

The options are: Disabled (Default), 1, 2, 4, 6, 8, 10, 20, 30, 40 Min, 1 Hr.

Suspend Mode

When disabled, the system will not enter Suspend mode. The specified time option defines the idle time the system takes before it enters Suspend mode.

The options are: Disabled (Default), 1, 2, 4, 6, 8, 10, 20, 30, 40 Min, 1 Hr.

HDD Power Down

Selecting **Disable** will not turn off the hard disk drive (HDD) motor. Selecting **1 Min.. 15 Min** allows you define the HDD idle time before the HDD enters the Power Saving Mode. The option **When Suspend** lets the BIOS turn the HDD motor off when system is in Suspend mode.

The options **1 Min.. 15 Min** and **When Suspend** will not work concurrently. When HDD is in the Power Saving Mode, any access to the HDD will wake the HDD up.

The options are: **Disable (Default)**, **1 Min.. 15 Min**, **When Suspend**.

IRQ3, 4, 8, 12 (Wake-Up Event)

Selecting **OFF** allows the BIOS to refrain from waking up the system. Selecting **ON** allows the BIOS to wake up the system **from Doze mode, Standby mode, or Suspend mode.**

The options are: **OFF, ON.**

The default of **IRQ3, 4, 12 (Wake-Up Event): ON.**

The default of **IRQ8 (Wake-Up Event): OFF.**

Power Down Activities / IRQ3 - IRQ15

Selecting **ON** will enable the power management timers when a no activity event is detected in the specified I/O port or component.

Selecting **OFF** will disable the PM timer even if a no activity event is detected.

The options are: **ON, OFF.**

The default value of **IRQ3 (COM2), IRQ4 (COM1), IRQ12 (PS/2 Mouse), IRQ14 (Hard Disk) : ON.**

The default setting of other IRQs: **OFF.**

PNP/PCI Configuration Setup

ROM PCI/ISA BIOS (2A59GF09) PNP/PCI CONFIGURATION AWARD SOFTWARE, INC.	
PNP OS Installed : No Resource Controlled By : Auto Reset Configuration Data : Disabled	PCI IRQ Activated By : Level
ESC : Quit ↑ ↓ → ← : Select Item F1 : Help PU/PD/+/- : Modify F5 : Old Values (Shift) F2 : Color F6 : Load BIOS Defaults F7 : Load Setup Defaults	

PNP OS Installed

If your operating system is a Plug-and-Play one, such as Windows 95, select Yes.

The options are: No (Default), Yes.

Resources Controlled By

If you set at Auto, the BIOS automatically arranges all system resources for you. If there exists conflict or you are not satisfy with the configuration, simply set all the resources listed in the above figure by selecting Manual.

The options are: Auto (default), Manual. The manual options of IRQ- / DMA- assigned to are: Legacy ISA, PCI/ISA PnP.

Reset Configuration Data

When enabled, allows the system to clear the last BIOS configuration data and reset them with the default BIOS configuration data.

The options are: Enabled, Disabled (default).

PCI IRQ Activated By

We suggest that you set this to its default configuration unless you are a qualified technician.

The options are: Level (Default), Edge.

Load BIOS Defaults

BIOS defaults contain the most appropriate values of the system parameters that allow minimum system performance. The OEM manufacturer may change the defaults through **MODBIN** before the binary image bums into the ROM.

Load Setup Defaults

Selecting this field loads the factory defaults for BIOS and **Chipset** Features which the system automatically detects.

Integrated Peripherals

ROM PCI/ISA BIOS (2A59GF09) INTEGRATED PERIPHERALS AWARD SOFTWARE, INC.	
IDE HDD Block Mode	: Enabled
IDE Primary Master PIO	: Auto
IDE Primary Slave PIO	: Auto
IDE Secondary Master PIO	: Auto
IDE Secondary Slave PIO	: Auto
On-Chip Primary PCIIDE	: Enabled
On-Chip Secondary PCIIDE	: Enabled
USB Controller	: Disabled
Onboard FDD Controller	: Enabled
Onboard Serial Port 1	: 3F8/IRQ4
Onboard Serial Port 2	: 2F8/IRQ3
UART 2 Mode	: Standard
Onboard Parallel Port	: 378H/IRQ7
Onboard Parallel Mode	: SPP
ESC : Quit ↑ ↓ → ← : Select Item F1 : Help PU/PD +/- : Modify F5 : Old Values (Shift) F2 : Color F6 : Load BIOS Defaults F7 : Load Setup Defaults	

IDE HDD Block Mode

When enabled, allows the system to execute read/write requests to hard disk in block mode.

The options are: Enabled (Default), Disabled.

IDE Primary Master PIO

Allows an automatic or a manual configuration of the PCI primary IDE hard disk (master) mode.

The options are: Auto (Default), Mode 0, Mode 1, Mode 2, Mode 3, Mode 4.

IDE Primary Slave PIO

Allows an automatic or a manual configuration of the PCI primary IDE hard disk (slave) mode.

The options are: Auto (Default), Mode 0, Mode 1, Mode 2, Mode 3, Mode 4.

IDE Secondary Master PIO

Allows an automatic or a manual configuration of the PCI secondary IDE hard disk (master) mode.

The options are: Auto (Default), Mode 0, Mode 1, Mode 2, Mode 3, Mode 4.

IDE Secondary Slave PIO

Allows an automatic or a manual configuration of the PCI secondary IDE hard disk (slave) mode.

The options are: Auto (Default), Mode 0, Mode 1, Mode 2, Mode 3, Mode 4.

On-Chip Primary PCI IDE

When enabled, allows you to use the **onboard** primary PCI IDE.

The options are: Enabled (Default), Disabled.

On-Chip Secondary PCI IDE

When enabled, allows you to use the **onboard** secondary PCI IDE.

The options are: Enabled (Default), Disabled.

USB Controller

If you do not use the **onboard** USB feature, it allows you to disable it.

The options are: Enabled, Disabled (Default).

Onboard FDD Controller

When enabled, the floppy diskette drive (FDD) controller is activated.

The options are: Enabled (Default), Disabled.

Onboard Serial Port 1

If the serial port 1 uses the **onboard** I/O controller, you can modify your serial port parameters. If an I/O card needs to be installed, COM3 and COM4 may be needed.

The options are: 3F8/IRQ4 (Default), 2F8/IRQ3, 3E8/IRQ4, 2E8/IRQ3, Disabled, 3F8/IRQ11, 2F8/IRQ 10, 3E8/IRQ11, 2E8/IRQ 10.

Onboard Serial Port 2

If the serial port 2 uses the **onboard** I/O controller, you can modify your serial port parameters. If an I/O card needs to be installed, COM3 and COM4 may be needed.

The options are: 2F8/IRQ3 (Default), 3E8/IRQ4, 2E8/IRQ3, Disabled, 3F8/IRQ11, 2F8/IRQ10, 3E8/IRQ 11, 2E8/IRQ 10, 3F8/IRQ4.

UART 2 Mode

Allows you to select the IR modes if the serial port 2 is used as an IR port. Set at Standard, if you use COM2 as the serial port as the serial port, instead as an IR port.

The options are: HPSIR, ASKIR, Standard (Default).

IR Function Duplex

This feature allows you to select the infrared data transaction way.

The options are: Half (Default), Full.

RxD , TxD Active

The feature allows you to select the active signals of the reception end and the transmission end. This is for technician use only.

The options are: Hi, Hi (Default); Hi, Lo; Lo, HI; Lo, Lo.

Onboard Parallel Port

Select from a given set of parameters if the parallel port uses the **onboard** I/O controller.

The options are: 378H/IRQ7 (Default), Disabled, 3BCH/IRQ7, 278H/IRQ5.

Onboard Parallel Mode

Allows you to connect with an advanced printer. Select **SPP** for standard parallel port (SPP) used on IBM PC/XT, PC/AT and bi-directional parallel port found on PS/2 system. Select **Extended** for extended parallel port. Select **EPP Mode** for enhanced parallel port. Select **ECP Mode** for Microsoft and HP Extended Capabilities Parallel Port. Select **ECP+EPP Mode** for both ECP and EPP Modes ports.

The options are: SPP (Default), EPP/SPP, ECP, ECP/EPP.

ECP Mode Use DMA

If you select ECP mode to be the parallel port mode, this feature allows you to select Direct Memory Access (DMA) channel.

The options are: 3 (Default), 1.

Parallel Port EPP Type

If you select **EPP/SPP** mode to be the parallel port mode, this feature allows you to select the EPP type version.

The options are: EPP1.9 (Default), EPP1.7.

IMPORTANT : I/O port 240h is reserved for the onboard Winbond I/O chip. Devices requiring I/O port address should not use port 240h.

Supervisor/User Password

To enable the Supervisor/User passwords, select the item from the Standard CMOS Setup. You will be prompted to create your own password. Type your password up to eight characters and press Enter. You will be asked to confirm the password. Type the password again and press Enter. You may also press Esc to abort the selection and not enter a password. To disable password, press Enter when you are prompted to enter password. A message appears, confirming the password is disabled.

Under the BIOS Feature Setup (refer to page 46) if System is selected under the Security Option field and the Supervisor Password is enabled, you Will be prompted for the Supervisor Password every time you try to enter the CMOS Setup Utility. If System is selected and the User Password is enabled, you will be requested to enter the User Password every time you reboot the system. If Setup is selected under the Security Option field and the User Password is enabled, you will be prompted only when you reboot the system.

IDE HDD Auto Detection

ROM PCI/ISA BIOS 2A5L9F09 STANDARD CMOS SETUP AWARD SOFTWARE, INC.							
HARD DISKS TYPE SIZE CYLS HEAD PRECOMP LANDZ SECTOR MODE							
Primary Master							
Select Primary Master Option (N=Skip) : N							
<u>OPTIONS</u>	<u>SIZE</u>	<u>CYLS</u>	<u>HEAD</u>	<u>PRECOMP</u>	<u>LANDZ</u>	<u>SECTOR</u>	<u>MODE</u>
2 (Y)	852	825	16	0	1850	63	N O R R
3	851	1851 825	32	65535 65535	183 183	63	
Note : Some OSes (like SCO-UNIX) must use "NORMAL" for installation							

The IDE Hard Disk Drive Auto Detection feature automatically configures your new hard disk. Use it for a quick configuration of new hard drives. This feature allows you to set the parameters of up to four IDE HDDs. The option with (Y) are recommended by the system BIOS. You may also keys in your own parameters instead of setting by the system BIOS. After all settings, press Esc key to to return the main menu. For confirmation, enter the Standard CMOS Setup feature.

Save and Exit Setup

ROM PCI/ISA BIOS (2A59GF09) CMOS SETUP UTILITY AWARD SOFTWARE, INC.	
STANDARD CMOS SETUP BIOS FEATURES SETUP CHIPSET FEATURES SETUP POWER MANAGEMENT SETUP PNP/PCI CONFIGURATION LOAD BIOS	INTEGRATED PERIPHERALS SUPERVISOR PASSWORD USER PASSWORD IDE HDD AUTO DETECTION SAVE & EXIT SETUP LOAD SETUP DEFAULTS
SAVE to CMOS and EXIT (Y/N)? Y	
ESC : Quit F10 : Save & Exit Setup	↑ ↓ → ← : Select Item (Shift) F2 : Change Color
SAVE DATA TO CMOS and EXIT SETUP	

After you have made changes under Setup, press Esc to return to the main menu. Move cursor to Save and Exit Setup or press F 10 and then press Y to change the CMOS Setup. If you did not change anything, press Esc again or move cursor to Exit Without Saving and press Y to retain the Setup settings. The following message will appear at the center of the screen to allow you to save data to CMOS and exit the setup utility:

SAVE to CMOS and EXIT (Y/N)?

Exit Without Saving

If you select this feature, the following message will appear at the center of the screen to allow you to exit the setup utility without saving CMOS modifications:

Quit Without Saving (Y/N)?

Note Default values of the various Setup items on this chapter may not necessarily be the same ones shown on your screen.