

# P6F163

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## MOTHER BOARD *USER'S MANUAL*

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# Using This Manual

This manual is designed to help you build a reliable Personal Computer based on the P6F163 platform.

## **Chapter 1—Quick Reference**

This chapter is for advanced users who want to quickly assemble a system. The mainboard layout along with jumper and switch settings, and memory configuration are provided.

## **Chapter 2—Introduction**

This chapter includes an introduction, a checklist of the items that ship with this mainboard, and a summary of the principal features and components.

## **Chapter 3—Hardware Installation**

This chapter explains how to prepare your mainboard for use and how to make the various connections to other computer components and peripheral items.

## **Chapter 4—BIOS Configuration**

This chapter explains how to use the system setup utility that is stored in the mainboard's firmware.

## **Chapter 5—Driver and Utility**

This chapter briefly describes the drivers and utility programs that are packaged with the mainboard.

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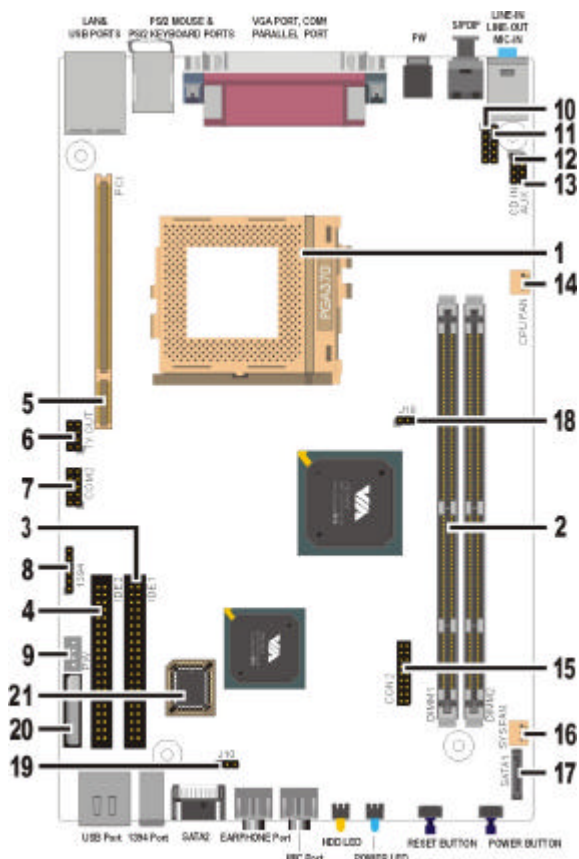




# 1. P6F163 Quick Reference

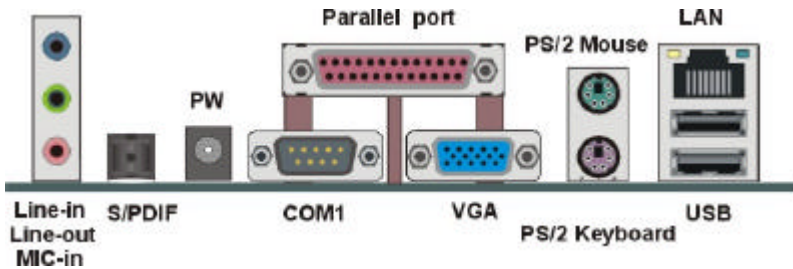
This section is for users to get started using the mainboard straight away.

## 1.1. Mainboard Layout

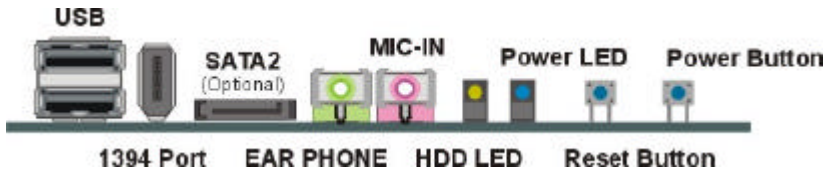


- 
- |                                  |                                     |
|----------------------------------|-------------------------------------|
| 1. PGA370 CPU socket (PGA370)    | 12. AUDIO connector (CD IN)         |
| 2. DIMM module sockets (DIMM1~2) | 13. AUDIO connector (AUX)           |
| 3. IDE connector (IDE1)          | 14. CPU FAN                         |
| 4. IDE connector (IDE2)          | 15. Extension Board connector(CON2) |
| 5. PCI expansion connector (PCI) | 16. SYS FAN                         |
| 6. TV-Out connector (Optional)   | 17. Serial ATA1(SATA1) (Optional)   |
| 7. COM2 connector (COM2)         | 18. CPU Selector(J18)               |
| 8. 1394 connector                | 19. CMOS Jumper (J10)               |
| 9. HDD & CD-ROM Power connector  | 20. RTC Battery                     |
| 10. LINE-IN / MIC connectors     | 21. Flash BIOS                      |
| 11. LINE-OUT connectors          |                                     |

## 1.2. Back I/O Ports



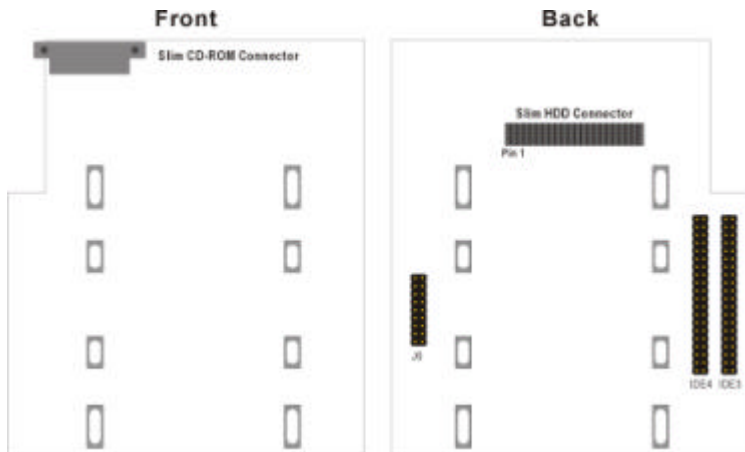
## 1.3. Front I/O Ports



## 1.4. Jumpers

<b>J18</b> (CPU Selector)	1-2	For 133 MHz FSB CPU
	2-3	For 100 MHz FSB CPU
<b>J10</b> (CMOS Clear)	1-2	Clear CMOS
	2-3	Normal Mode

## 1.5. Extended Connector Board



## 1.6. PCI Frequency Setting

The PCI frequency settings are automatically set by the system

## 1.7. Memory Installation

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**Note:** The S3 PL133 chipset family used in this mainboard supports up to two double-sided or three single-sided DIMMs when the DRAM interface is operating at 133 MHz. Installing DIMM modules that exceed these specifications requires that the BIOS down-shifts the SDRAM clocks to 100MHz through a two-wire interface of the system clock generator.

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168-Pin SDRAM Memory Configuration.

<b>Bank 0 (DIMM1)</b>	64MB, 128MB, 256MB, 512MB
<b>Bank 1 (DIMM2)</b>	64MB, 128MB, 256MB, 512MB
<b>Total</b>	1 GB

## 1.8. Connectors

<b>1394</b>	1394 connector
<b>AUX</b>	<b>Auxiliary-IN connector</b> : This 4-pin header is an auxiliary input connector.
<b>CD IN</b>	<b>CD-IN connector</b> : This 4-pin header is used for connecting the CD ROM audio input to the sound card.
<b>CPU FAN</b>	This 3-pin header is used for connecting a CPU fan.
<b>COM2</b>	COM2 connector.
<b>CON2</b>	Extension board connector.
<b>LINE-IN / MIC</b>	Line-in / MIC connector
<b>LINE-OUT</b>	Line-out connector
<b>PW</b>	HDD & CD-ROM power connector.
<b>SATA1 (Optional)</b>	<b>SATA Connector</b> : S-ATA stands for serial ATA. Serial ATA is newest ATA transmission interface. Serial ATA is able to reach 150MB/sec.
<b>S/PDIF</b>	<b>S/PDIF Connector</b> : S/PDIF stands for Sony/Philips digital interface. It's a standard audio transfer file format. It allows the transfer of audio from one file to another without the conversion to and from an analog format.
<b>SYS FAN</b>	This 3-pin header is used for connecting a system fan
<b>TV-OUT</b>	TV-Out connector.

# 2. Introduction

## 2.1. Overview

The high quality P6F163 is a high-performance, enhanced function mainboard that supports Intel® Pentium III/Cyrix-III Socket 370 processors. The P6F163 is based on the VIA S3 PL133 chipset. VIA delivers superior high performance with all the innovative features and proven reliability of the VIA S3 PL133 chipset family. Pin-to-pin compatible with the VIA S3 PL133 chipset.

The mainboard delivers comprehensive multimedia capabilities and bus mastering EIDE (Enhanced IDE) controller, S\_ATA (serial ATA) controller (optional), and concurrent PCI bus. The mainboard accommodates SDRAM (Synchronous DRAM) memory and supports ATA33/66/100.

In addition to superior hardware capabilities, provided with this platform are these features:

- Supports 64-bit advanced memory controller
- Supports a 100/133 memory bus
- Supports up to 1 GB of SDRAM
- Supports serial ATA, serial ATA speed up to 150MB/s (optional)
- Bus mastering EIDE driver
- Supports four USB ports, Plug and Play devices
- Soft-off APM (Advanced Power Management)
- ACPI (Advanced Configuration and Power Interface)
- 1394 Port
- LAN wake up
- BIOS upgrade

## 2.2. Mainboard Specifications and Features

### 2.2.1. Hardware

<b>CPU</b>	Intel® FC-PGA, FC-PGA2 Pentium®III and Cyrix Socket 370 Processors or other compatible Auto-detection CPU
<b>VRM</b>	Onboard Voltage Regulator Module Provides 1.3V to 3.5V operating voltage
<b>Coprocessor Speed</b>	CPU has built-in floating point unit System bus clock 66/100/133 MHz PCI bus clock 33 MHz
<b>Chipset</b>	VIA S3 PL133 AGP set VIA VT82C686B super-I/O integrated peripheral controller
<b>DRAM</b>	Two 168-pin DIMM sockets, up to 1GB Supports 8 MB to 512MB SDRAM memory types
<b>EIDE Controller</b>	Supports for IDE devices in two channels Supports PIO mode 0 through mode 4 drives Supports Bus Mastering DMA mode 2 drivers Supports two Bus Mastering Ultra DMA-ATA 33/66/100 drivers
<b>Enhanced I/O</b>	Supports lomega ZIP or LS-120 removable drivers One Standard/EPP/ECP parallel port connector Two 16550 compatible serial port connector Four USB (Universal Serial Bus) ports One audio port connector, include line-out, line-in, mic-in ports

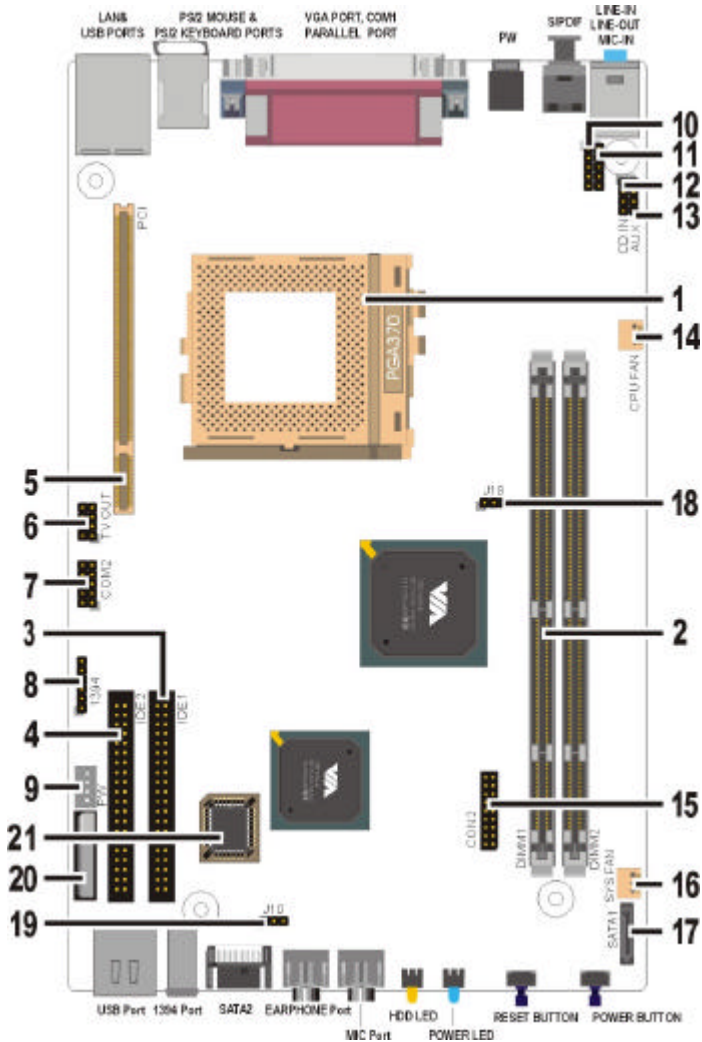
<b>Sound Chip</b>	Chip integrated direct Sound AC97 2.2 interface. Realtek ALC201A
<b>On-Board TV out &amp; LAN</b>	Realtek 8100 LAN chipset, supports 10/100 Mb/s TV-out with 1024x768 input video resolution. (optional)
<b>I/O Options</b>	One connector for front panel USB ports 3/4 One line-out, mic-in, LAN, VGA, 1394 on board Two COM ports by cable
<b>Mouse</b>	PS/2 mouse connector
<b>Keyboard</b>	PS/2 keyboard connector
<b>Expansion Slots</b>	One 32-bit PCI slot
<b>Power Management</b>	Compliant with EPA, APM 1.2 and ACPI ATX soft-off power control Power on by external modem ring Power on by alarm Power on by LAN wake up Fan off in sleep mode
<b>System Management</b>	CPU and system voltage detection CPU and secondary fan RPM detection
<b>Voltage Regulator</b>	Switching regulator CPU voltage auto-detection
<b>Form Factor</b>	Special ATX
<b>Board Size</b>	155 x 250 mm

### **2.2.2. Software**

<b>BIOS</b>	AWARD AGP/PCI BIOS 2M-bit Flash BIOS with ESCD (Extended System Configuration Data) block Supports APM, Plug and Play, Multi-Boot, DMI and EIDE devices Supports ACPI Supports high-capacity LS-120 and ZIP removable media drive
<b>Driver and Utility</b>	IDE Bus mastering Ultra DMA driver AC97 codec audio driver Flash utility for BIOS upgrade
<b>Operating System</b>	Operates with MS_DOS, Windows 3.x/9x/ME/XP/2000/NT, OS/2, Novell NetWare/UnixWare , and SCO Unix



## 2.3. Mainboard Layout



**Note:** *Because of optional items and design changes, your mainboard may not be identical to the one shown in the illustration.*

***Key to Mainboard Components***

<b>NO.</b>	<b>Name</b>	<b>Function</b>
1	PGA370	CPU socket
2	DIMM1~2	SDRAM Memory module slots
3	IDE1	IDE 1 connector
4	IDE2	IDE 2 connector
5	PCI	32-bit PCI Slot
6	TV-Out	TV-Out connector
7	COM2	COM2 connector
8	1394	1394 connector
9	PW	HDD & CD-ROM Power Connector
10	Audio	Front Mic-in, Line-in connector
11	Audio	Front Line-out connector
12	CD IN	Audio CD-In header
13	AUX1	Audio AUX-In header
14	CPU FAN	CPU FAN Connector
15	CON2	Extension IDE board connector
16	SYS FAN	System FAN
17	SATA1	Serial ATA connector (optional)
18	J18	CPU selector
19	J10	Clear CMOS
20	BAT	RTC battery
21	U20	Flash BIOS

## 2.4. Microprocessor

The mainboard is designed to operate with the following processor:

Processor Type	FSB
Intel FC-PGA Celeron	66/100 MHz
Intel FC-PGA, FC-PGA2 Pentium III	100/133 MHz
VIA Cyrix C3	100/133 MHz

An onboard switching voltage regulator provides the required 1.3 to 3.5 volts for the processor. The processor sends five VID (Voltage identification) signals to the switching voltage regulator. The switching regulator generates the correct voltage for the processor.

## 2.5. CPU Packaging

PGA370 CPU are packaged in a FC-PGA, FC-PGA2 configuration.

## 2.6. AC 97 Codec

This mainboard features the AC 97 (ALC210A) codec. The AC 97 (ALC210A) Audio codec is compliant with the AC 97 2..2 specification, and supports 18-bit ADC (Analog Digital Converter) and DAC (Digital Analog Converter) resolution as well as 18-bit stereo full-duplex codec with independent and variable sampling rates. Further features include support for four analog line-level stereo inputs.

## **2.7. Chipset**

The P6F163 supports the VIA S3 PL133 chipset. The VIA S3 PL133 chipset is designed for desktop and workstation that provide internal or external graphics, and provides ATA-100 and SDRAM supports.

The VT82C686B I/O controller hub makes a direct connection between the graphics system, the IDE controller, and the PCI bus. It uses accelerated hub architecture to effectively double the bandwidth between these components enabling more lifelike audio and video. The VT82C686B I/O controller hub includes an integrated audio codec controller that lets the processor more effectively decode sound generated by the integrated audio system.

This concludes Chapter 2. Chapter 3. covers hardware installation.

## 3. Hardware Installation

This chapter explains how to use your mainboard to build a powerful computer system. At a minimum, you will need the following components in order to build a fully functioning system.

- Computer case with P3 special ATX power supply
- PGA370 Processor
- One SDRAM memory module
- One UDMA-66/100 IDE hard disk drive
- One CD-ROM drive
- One display monitor
- One mouse
- One PS/2 keyboard
- One S/PDIF
- One TV-out (optional)
- One 1394
- Two S\_ATA (optional)
- One LAN / Modem
- One set of loudspeakers
- Four USB

### 3.1. Unpacking

The P6F163 mainboard package contains the following items:

- One mainboard
- One AC adapter
- Constitute sketch
- Driver and utility CD
- User' s manual

After removing the mainboard from its anti-static bag, place it on a grounded or antistatic surface (component side up). Inspect the mainboard and contact your vendor immediately if it is damaged.

## **3.2. Installation**

The P6F163 is designed to fit into a special ATX form factor chassis. The chassis comes with various mounting fasteners, which are made of metal or plastic. It is highly recommended to use as many metal fasteners as possible to mount the mainboard in the chassis for better grounding.

To install the mainboard you need to install the CPU and DIMM memory modules, attach the connectors.

## **3.3. Safety Measures**

Computer components and electronic circuit boards can be damaged by discharges of static electricity. Working on computers that are still connected to a power supply can be extremely dangerous. Follow the simple guidelines below to avoid damaging you computer:

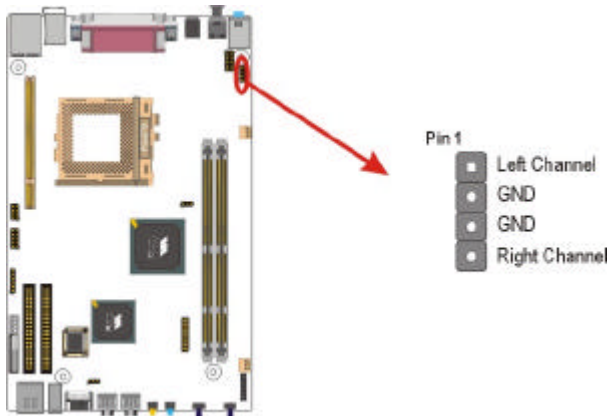
- Always disconnect the mainboard from the ATX power supply, and disconnect the computer from the power outlet whenever you are working inside the computer case.
- If possible, wear a grounded wrist strap when you are installing the mainboard or working inside the computer case. Alternatively, discharge any static electricity by touching the bare metal chassis of the computer case, or the bare metal body of any other grounded appliance.
- Hold electronic circuit boards by the edges only. Do not touch the components on the board unless it is necessary to do so. Do not flex or stress the circuit board.
- Leave each component inside the static-proof packaging that it ships with until you are ready to use the component for the installation.



## 3.5. Attaching Connectors

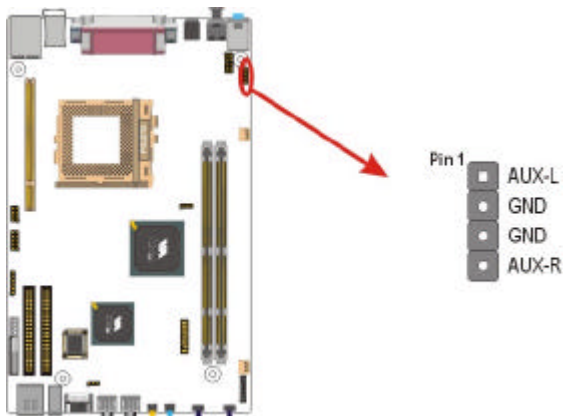
### 3.5.1. Audio CD-In Connector (CD IN)

This connector enables you to connect a CD-ROM to the mainboard and receive stereo audio input.



### 3.5.2. Audio AUX-IN Connectors (AUX)

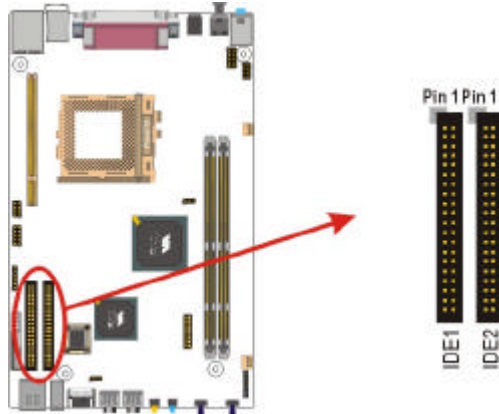
This connector enables you to connect a stereo audio input from CD-ROM, TV-tuner, or MPEG card.





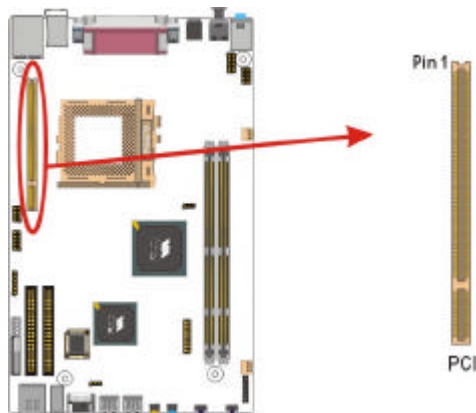
### 3.5.3. IDE Connectors

Connect the slim HDD to slim HDD connector in extended connector board and connect the slim CD-ROM to slim CD-ROM connector.



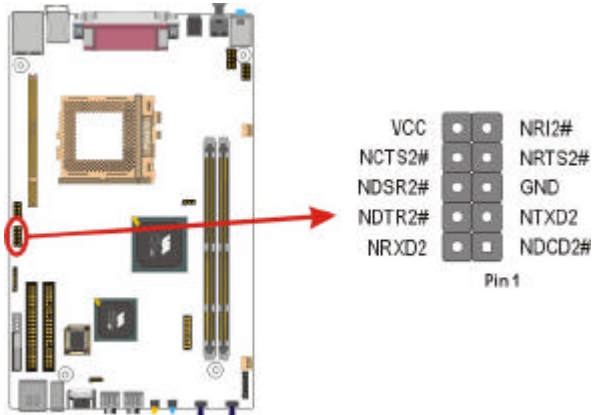
### 3.5.4. PCI Connector (PCI)

PCI connector is one of equipment interfaces that connect peripheral equipment and motherboard. Its transfer speed is faster than traditional ISA.



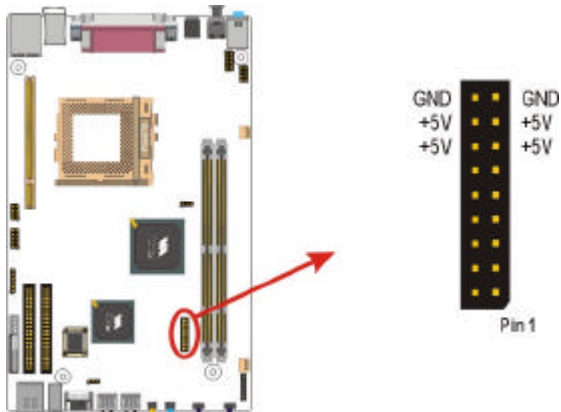
### 3.5.5. Serial COM2 Connector (COM2)

The mainboard provides one onboard serial COM2 connector. The COM2 connector has the same signal with COM1 on the back panel.



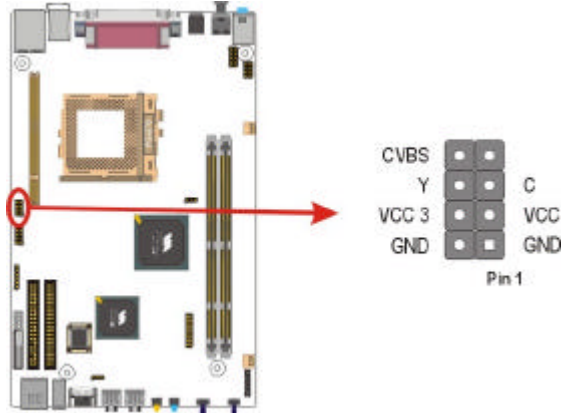
### 3.5.6. CON2 Connector (CON2)

CON2 is IDE connector. Connect “Extended Connector Board”.



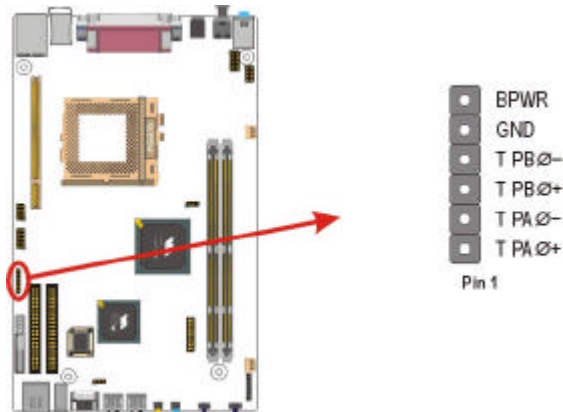
### 3.5.7. TV-Out Connector (Optional)

Connect the cable attached from this connector to TV-Out.



### 3.5.8. 1394 Connector

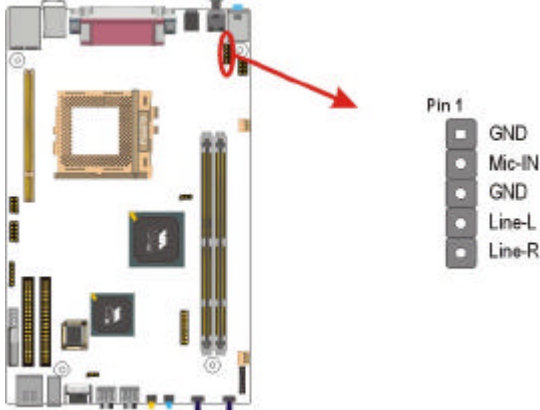
Connect the cable attached to 1394 connector on front panel.



### 3.5.9. Front Mic-IN, Line-IN Connector

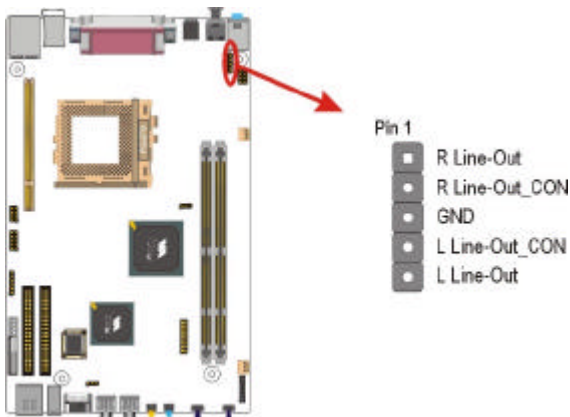
Connect a tape player or another audio source to the light blue Line-in connector to record audio on your computer or to play audio through your computer's sound chip and speaker.

Connect a microphone to the pink microphone connector to record audio to your computer.



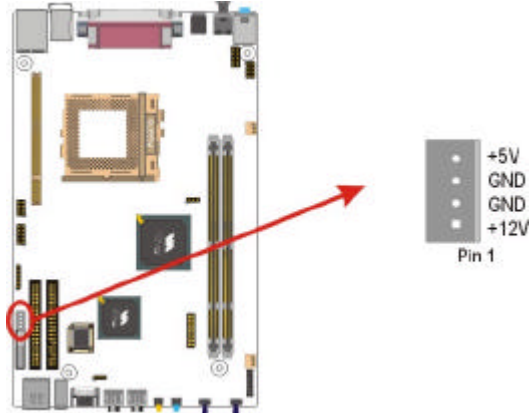
### 3.5.10. Front Line-OUT Connector

Connect the cable attached to line-out connector on front panel. This header shared same signal with line-out back panel.



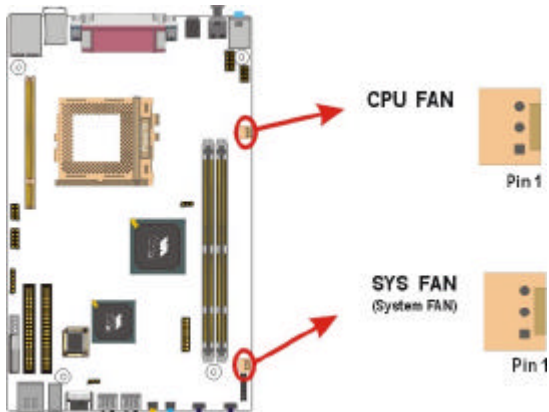
### 3.5.11. HDD & CD-ROM Power Connector

Connect 15cm power cable attached from this connector to HDD or CD-ROM.



### 3.5.12. CPU / System Fan Power Supplies

There are three fan connectors on the mainboard for the cooling fans. The connectors support fans of 12VDC/500mAMP (six watt) or less. When the system goes into sleep state, fans should be shut down to eliminate audible noise and reduce power consumption.

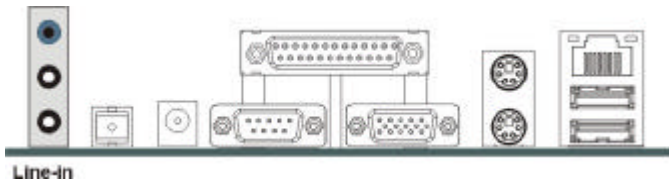


### 3.5.13. Back I/O Port

The back panel provides external access to PS/2 style keyboard and mouse connectors, one serial port, one parallel port, one S/PDIF port, VIN\_12V port, one VGA port, one LAN port, dual USB ports, and audio Line-out, Line-in, Mic-in, ports which are integrated on the mainboard. The figures below show the location of the back panel I/O connectors.

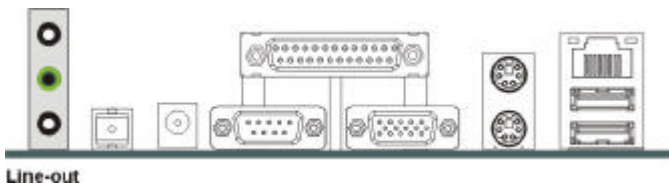
#### Audio Line-In Port

You can connect a tape player or another audio source to the light blue Line-in connector to record audio on your computer or to play audio through your computer's sound chip and speakers.



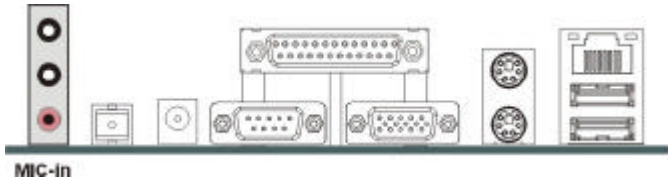
#### Audio Line-Out Port

You can connect various audio devices to this audio jacks. Connect headphones or powered speakers to the lime-colored lineout connector.



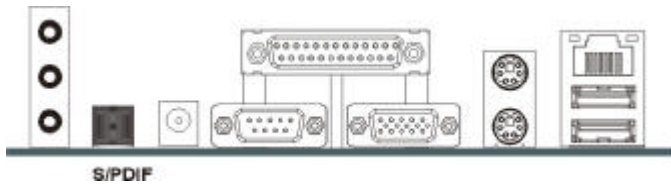
### **Audio Mic-In Port**

You can connect a microphone to the pink microphone connector to record audio to your computer.



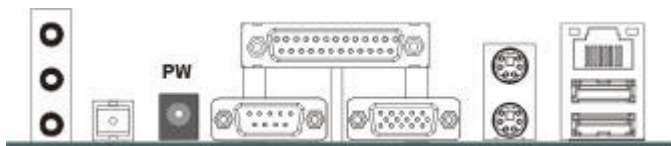
### **S/PDIF Port**

You can connect S/PDIF device to the black connector to your computer. S/PDIF (Sony / Philips Digital Interface) is a standard audio transfer file format.



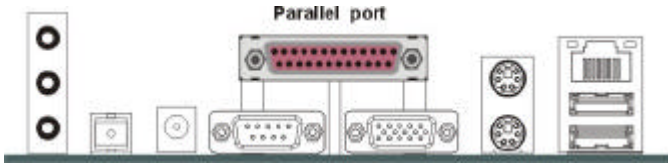
### **PW Port**

You can connect a VIN\_12V adapter to the black connector to your computer.



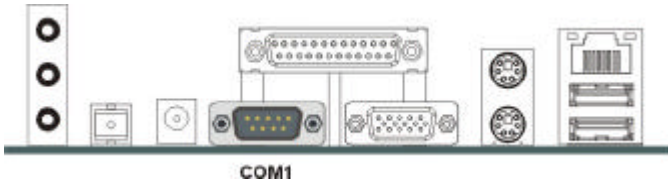
### **Parallel Port**

Connect a printer or other parallel device to the burgundy-colored 25-pin parallel port. You can set the parallel port IRQ and parallel port mode in BIOS. Refer to Integrated Peripherals in Chapter 4 for details.



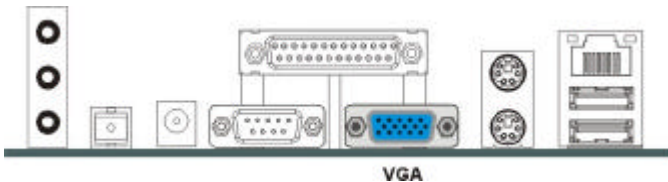
### **Serial Port**

Connect a serial device such as a mouse or modem to the 9-pin serial port. You can set the serial port IRQs in BIOS. Refer to integrated Peripherals in Chapter 4 for details.



### **VGA Port**

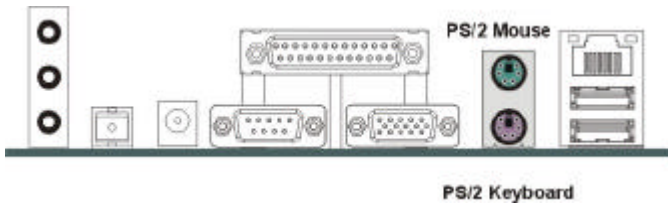
Connect an external monitor to the blue 15-pin VGA port.





### **PS/2 Mouse and PS/2 Key board Ports**

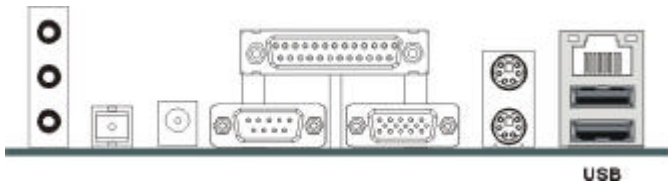
Connect a PS/2 mouse to the green 6-pin mini DIN connector. The system will automatically assign IRQ 12 to the PS/2 mouse if one is connected.



Connect a PS/2 keyboard to the purple 6-pin mini DIN connector. If you want to connect a standard AT size (large DIN) connector, you must use an adapter.

### **Universal Serial Bus Ports**

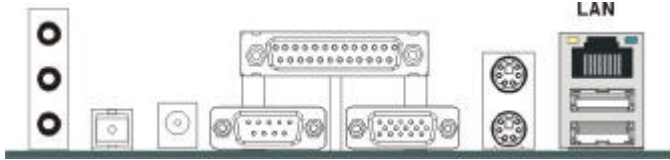
You can connect two USB devices or USB hubs to the USB ports.



The USB ports provide a hardware interface for low-speed peripherals such as the keyboard, mouse, joystick, scanner, printer and telephony devices, and also support MPEG-1 and MPEG-2 digital video. The USB ports have a maximum bandwidth of 480 Mbits/sec (equivalent to 60 Mbytes/sec), and up to 127 devices can be attached. Fast devices can use the full bandwidth, while lower-speed ones can transfer data using a 60 Mbytes/sec sub-channel.

### LAN Port

Connect a device to the LAN port on the back panel.

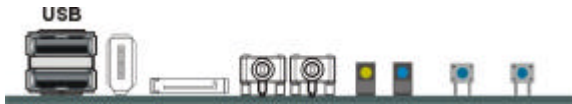


### 3.5.14. Front I/O Port

The Front panel provides two USB ports, one 1394 port, one S\_ATA port, one earphone port, one MIC port. The figure below shows the location of the front panel connectors.

#### Universal Serial Bus Ports

You can connect two USB devices or USB hubs to the USB ports.



The USB ports provide a hardware interface for low-speed peripherals such as the keyboard, mouse, joystick, scanner, printer and telephony devices, and also support MPEG-1 and MPEG-2 digital video. The USB ports have a maximum bandwidth of 480 Mbits/sec (equivalent to 60 Mbytes/sec), and up to 127 devices can be attached. Fast devices can use the full bandwidth, while lower-speed ones can transfer data using a 60 Mbytes/sec sub-channel.

#### 1394 Port

Connect a device to the 1394 port on the front panel.





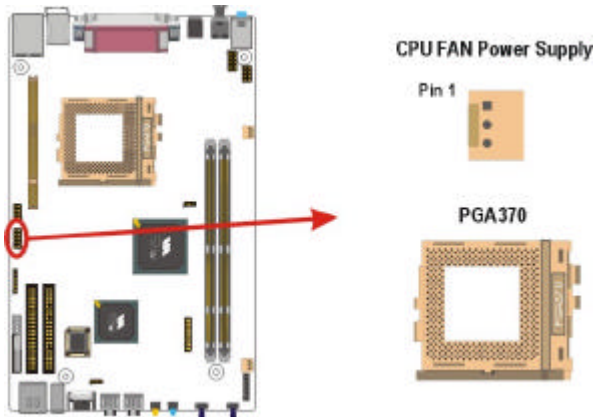
## 3.6. Installing the CPU

### 3.6.1. Before You Begin

1. Be sure that your processor kit includes the following items:
  - One processor with the fan or heat sink attached
  - One power cable (for CPU with cooling fan attached)
2. Place the mainboard on a workbench (not in a chassis). Be sure that the mainboard is empty (that is, no DIMMs, cables, or cards are installed) and that the holes for the fan or heat sink support pegs are empty.

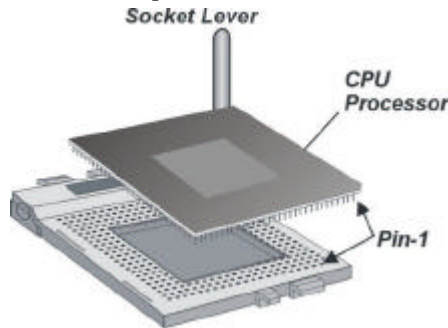
### 3.6.2. Installation Procedure

1. On the motherboard, identify the CPU Socket 370 and the cooling fan power supply connector CPU FAN.



2. Push the CPU socket level slightly to the side and then raise it as far as it can go.

3. Identify the pin-1 corner of the PGA370. The pin-1 corner is on the same side as the locking lever, as shown in the illustration below.
4. Identify the pin-1 corner of the processor (the pin-1 corner on the processor has a beveled edge).
5. Align the pin-1 corners and drop the processor into the mPGA370. The processor should drop into place without any force. If it doesn't seat properly, check that you have the pin-1 corner in the correct position.



6. Swing the locking lever down to lock the processor in place and latch the lever under the catch on the side of the socket.
7. Plug the cable from the heat sink/cooling fan assembly into the processor cooling fan power supply CPU FAN.
8. Configuration of the processor is carried out using the system setup utility as described in Chapter 4. Configure the processor the first time you turn on the assembled computer.

### **3.6.3. Removing the Processor**

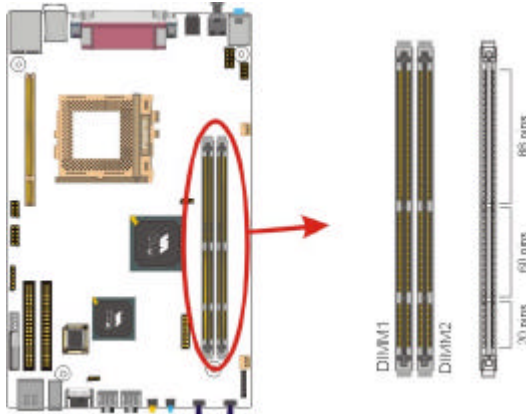
First, remove the mainboard from the chassis. To remove the processor from the mainboard, follow these steps:

1. Disconnect the fan power cable from the mainboard.
2. Push the CPU socket lever slightly to the side and then raise it as far as it can go. You will feel a resistance as the processor is freed from the socket.
3. Remove the processor.

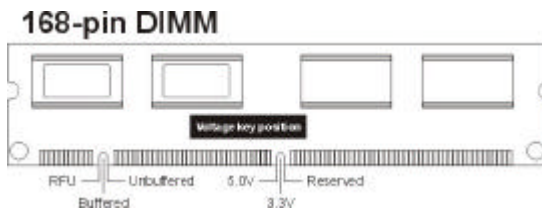
### 3.7. Installing System Memory

Maximum system memory supported by the mainboard is 1GB.

The mainboard has two DIMM Sockets. Memory can be installed using 184-pin DDR SDRAM DIMM memory modules. These are no jumper settings required for the memory size or type, which is automatically detected by the BIOS.



You must use 2.5V DIMMs in the mainboard. To determine the DIMM type, check the notches on the DIMMs.

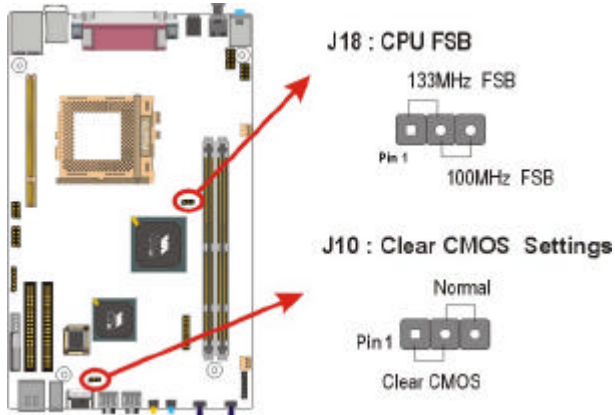


Install the 168-pin DDR SDRAM modules in any combination as follows:

<b>Bank 0 (DIMM1)</b>	64MB/128MB/512MB
<b>Bank 1 (DIMM2)</b>	64MB/128MB/512MB
<b>Total System Memory</b>	64MB ~ 1GB

## 3.8. Setting Jumpers

Refer to the following illustration and instructions to set the jumpers on your mainboard.



### 3.8.1. Clear CMOS Jumper (J10)

You may need to clear the CMOS if your system cannot boot up because you forgot your password, the CPU clock setup is incorrect, or the CMOS setting need to reset to default values after the system BIOS has been updated.

Refer to the following solutions to reset your CMOS setting:

#### *Solution A*

1. Power off the system and disconnect the power cable.
2. Place a shunt to short pin 2 and pin 3 of J10 for five seconds.
3. Place the shunt back to pin 1 and pin 2 of J10.
4. Power on the system.

***Solution B***

If the CPU clock setup is incorrect, you may not be able to boot up .  
In this case, follow these instructions:

1. Turn the system off, then on again. The CPU will automatically boot up using standard parameters.
2. As the system boots, enter BIOS and set up the CMOS value.

---

***Note:*** *If you are unable to enter BIOS setup, turn the system on and off a few times.*

---

### **3.8.2. CPU FSB Jumper (J18)**

The 3-pin header is used for CPU FSB. You can set “100 MHz” or “133 MHz”.



# 4. BIOS Configuration

After the hardware configuration of the mainboard is finished, and the system hardware has been assembled, the system may be powered up. At this point, CMOS setup should be run to ensure that system information is correct.

The mainboard employs the latest Award BIOS CMOS chip with support for Windows Plug and Play. This CMOS chip contains the ROM Setup instructions for configuring the mainboard's BIOS. The BIOS (Basic Input and Output System) Setup program is a menu driven utility that enables you to make changes to the system configuration and tailor your system to suit your individual work needs. It is a ROM-based configuration utility that displays the system's configuration status and provides you with a tool to set system parameters. These parameters are stored in non-volatile battery-backed-up CMOS RAM that saves this information even when the power is turned off. When the system is turned back on, the system is configured with the values found in CMOS.

Using easy-to-use pull down menus, you can configure such items as:

- ▶ Hard drives, diskette drives, and peripherals
- ▶ Video display type and display options
- ▶ Password protection from unauthorized use
- ▶ Power management features

The settings made in the Setup program intimately affect how the computer performs. It is important, therefore, first to try to understand all the Setup's options, and second, to make settings appropriate for the way you use the computer. This chapter provides clear explanations for all Setup options.

This program should be executed under the following conditions:

- ▶ When changing the system configuration
- ▶ When a configuration error is detected by the system and you are prompted to make changes to the Setup program
- ▶ When resetting the system clock
- ▶ When setting the CPU clock speed so that it automatically runs either fast or slow
- ▶ When redefining the communication ports to prevent any conflicts
- ▶ When making changes to the Power Management configuration
- ▶ When changing the password or making other changes to the security setup

Normally, CMOS setup is needed when the system hardware is not consistent with the information contained in the CMOS RAM, whenever the CMOS RAM has lost power, or the system features need to be changed.

## **4.1. Entering Setup**

When the system is powered on, the BIOS will enter the Power-On Self Test (POST) routines. These routines perform various diagnostic checks; if an error is encountered, the error will be reported in one of two different ways:

1. If the error occurs before the display device is initialized, a series of beeps will be transmitted.
2. If the error occurs after the display device is initialized, the screen will display the error message.

After the POST routines are completed, the following message appears:

**“Press DEL to enter SETUP”**

To access the AWARD BIOS SETUP program, press the <DEL> key to display the “CMOS SETUP UTILITY” screen:

These screens provide access to the utility’s various functions.

Listed below are explanations of the keys displayed at the bottom of the screen:



Key	Function
Esc	Escape key: Exits the current menu
↑↓→←	Cursor keys: Scroll through the items on a menu
+/-/PU/PD	Plus, minus, Page Up and Page Down keys: Modify the selected field’s values
F10	F10 key: Saves the current configuration and exits setup
F1	F1 key: Displays a screen that explains all key functions
F5	F5 key: Loads previously saved values to CMOS
F6	F6 key: Loads a minimum configuration for troubleshooting
F7	F7 key: Loads optimum set of values for peak performance

## 4.2. Standard CMOS Features

Standard CMOS Features is the same for all three chipsets. Selecting “**Standard CMOS Features**” on the main program screen displays the following menu:



The Standard CMOS Setup utility is similar for all three chipsets and is used to configure the following features:

**Date** : Month, Day, Year

**Time** : Hour, Minute, and Second. Use 24 Hour clock format (for PM numbers, add 12 to the hour, you would enter 4:30 p.m. As 16:30).

**IDE Devices** : Your computer has two IDE channels (Primary and Secondary) and each channel can be installed with one or two devices (Master and Slave). Use these items to configure each device on the IDE channel. Press **Enter** to display the IDE sub-menu:

► **IDE HDD Auto-Detection** : Press <Enter> while this item is highlighted if you want the Setup Utility to automatically detect and configure a hard disk drive on the IDE channel.

If your system has an IDE hard drive, you can use this utility to detect its parameters and enter them into the Standard CMOS Setup automatically

If the auto-detected parameters displayed do not match the ones that should be used for your hard drive, do not accept them. Press the <N> key to reject the values and enter the correct ones manually in the Standard CMOS Setup screen.

---

*Note: If you are setting up a new hard disk drive that supports LBA mode, more than one line will appear in the parameter box. Choose the line that lists LBA for an LBA drive.*

---

Do not choose “Large” or “Normal” if the hard disk drive is already fully formatted when you installed it. Select the mode that was used to format it.

► **IDE Primary/Secondary Master/Slave** : If you leave this item at “Auto,” the system will automatically detect and configure any IDE devices it finds. If it fails to find a hard disk, change the value to “Manual” and then manually configure the drive by entering the characteristics of the drive in the items below (Capacity, Cylinder, Head, Precomp, etc.). Refer to your drive’s documentation or look on the drive if you need to obtain this information. If no device is installed, change the value to “None.”

► **Access Mode** : This item defines some special ways that can be used to access IDE hard disks such as LBA (Large Block Addressing). Leave this value at “Auto” and the system will automatically decide the fastest way to access the hard disk drive.

Press <Esc> to close the IDE device sub-menu and return to the Standard CMOS Features page.

**Video :** Set this field to the type of graphics card installed in your system. If you are using a VGA or higher resolution card, choose the “EGA/VGA” option. The options are:

- MONO
- CGA 40
- CGA 80
- EGA/VGA

**Halt On :** This setting determines which type of errors will cause the system to halt during boot up. The options are:

- All Errors
- No Errors
- All, But Keyboard
- All, But Diskette
- All, But Disk / Key”.

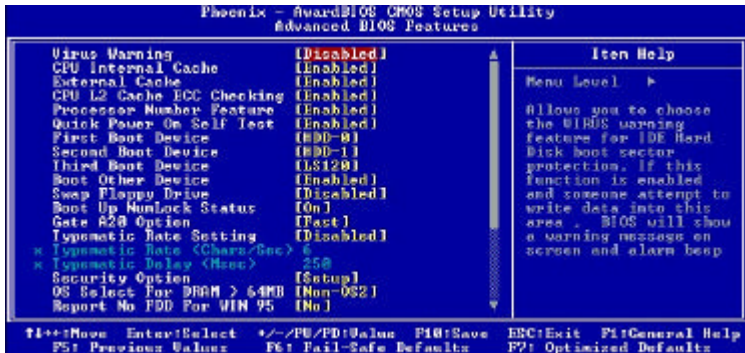
**Select Display Device :** You can select display device. The items are Auto, CRT, LCD, CRT+LCD, TV, CRT+TV.

**Base/Extended/Total Memory :** These items are automatically detected by the system at start up time. These are display-only fields. You cannot make changes to these fields.

After you have made your selections in the Standard CMOS Setup screen, press <ESC> to go back to the main screen.

### 4.3. Advanced BIOS Features

Selecting “**Advanced BIOS Features**” on the main program screen displays this menu, which allows you to define advanced information about your system. You can make modifications to most of these items without introducing fatal errors to your system. Note that the page has a scroll-bar to scroll down to more items.



The following explains the options for each feature:

**Virus Warning :** When enabled, any attempt to write to the boot sector or partition table will halt the system and cause a warning message to appear. If this happens, you can use an anti-virus utility on a virus free, bootable floppy diskette to reboot and clean your system. The default setting is “Disabled”.

**CPU Internal Cache :** This Setting enables the CPU internal cache. The default setting is “Enabled”.

**External Cache :** This setting enables the Level 2 cache. The default setting is “Enabled”.

**CPU L2 Cache ECC Checking :** This item enables or disables ECC (Error Correction Code) error checking on the CPU cache memory. The default setting is “Enabled”.

**Processor Number Feature :** Some new processors are installed with a unique processor number. This number may be used for verification in Internet transactions and e-commerce. If you prefer not to use or distribute the unique processor number, set this item to Disabled to suppress the processor number. The default setting is “Enabled”.

**Quick Power On Self Test :** This will skip some diagnostic checks during the Power On Self Test (POST) to speed up the booting process. The default setting is “Enabled”.

**First/Second/Third Boot Device :** Use these three items to select the priority and order of the devices that your system searches for an operating system at start-up time. The default settings are “Floppy”, “HDD-0”, “HDD-1” or “LS120” respectively. If you want to boot up the system from S\_ATA then you should choose the “SCSI” option.

**Boot Other Device :** If you enable this item, the system will search all other possible locations for an operating system if it fails to find one in the devices specified under the First, Second, and Third boot devices. The default setting is “Enabled”.

**Swap Floppy Drive :** If you have two floppy diskette drives in your system, this item allows you to swap the assigned drive letters so that drive A becomes drive B, and drive B becomes drive A. The default setting is “Disabled”.



**Boot Up Numlock Status :** If set to “Off,” the cursor controls will function on the numeric keypad. The default setting is “On”.

**Gate A20 Option :** This option accesses memory above 1 MB using the fast gate A20 line when set to “Fast” (default). The other option is “Normal.”

**Typematic Rate Setting :** If set to “Enabled,” enables you to set the Typematic Rate and Typematic Delay. The default setting is “Disabled”.

- ▶ **Typematic Rate (Chars/Sec) :** This setting controls the speed at which the system registers repeated keystrokes. The choices range from 6 to 30 Chars/Sec. The default setting is “6” Chars/Sec.
- ▶ **Typematic Delay (Msec) :** This setting controls the time between the display of the first and second characters. There are four delay choices: 250ms, 500ms, 750ms and 1000ms. The default setting is “250” ms.

**Security Option :** This setting controls the password feature. The options are “Setup” and “System.” Selecting “Setup” will protect the configuration settings from being tampered with. Select “System” if you want to use the password feature every time the system boots up. The default setting is “Setup.” You can create your password by using the “SUPERVISOR/USER PASSWORD” utility in the main program screen.

**OS Select For DRAM > 64MB :** Set to “OS2” if the system memory size is greater than 64 MB and the operating system is OS/2. The default setting is “Non-OS2”.

**Report No FDD For WIN 95 :** If you are running a system with no floppy drive and using the Windows 95 OS, select Yes for this item to ensure compatibility with the Windows 95 logo certification. The default setting is “Yes.”

**Video BIOS Shadow :** Determines whether video BIOS will be copied to RAM. However, it is optional depending on chipset design. Video Shadow will increase the video speed. The default setting is “Enabled.”

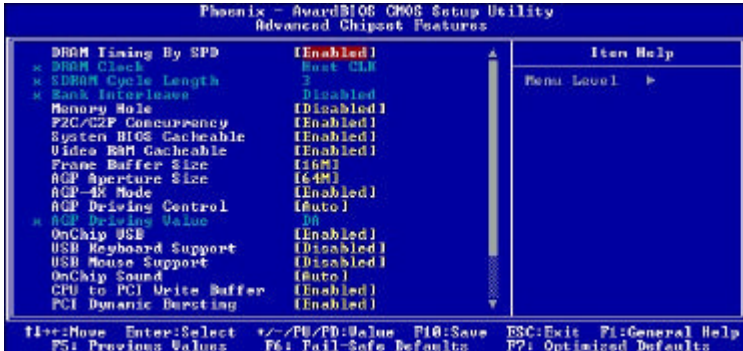
**C8000-DFFFF Shadow :** These categories determine whether option ROMs will be Chipset Feature Setup Auto Configuration copied to RAM. An example of such option ROM would be support of on-board SCSI. The default setting is “Disable”.

**Small Logo (EPA) Show :** Enables and disables the EPA logo when booting up. The default setting is “Enabled”.

After you have made your selections in the BIOS Features Setup screen, press <ESC> to go back to the main screen.

## 4.4. Advanced Chipset Features

Selecting “**Advanced Chipset Features**” on the main program screen displays this menu:



This option displays a table of items that define critical timing parameters of the mainboard. You should leave the items on this page at their default values unless you are very familiar with the technical specification of your system hardware. If you change the values incorrectly, you may introduce fatal errors or recurring instability into your system.

**DRAM Timing By SPD :** This item allows you to select the value in this field, depending on whether the board using which kind of SDR DRAM. The default setting is “Enabled”.

- ▶ **DRAM Clock :** This item enabled you to manually set the DRAM Clock. We recommend that you leave this item at the default.
- ▶ **SDRAM Cycle Length :** When synchronous DRAM is installed, the number of clock cycles of CAS latency depends on the DRAM timing. Do not reset this field from the default value specified by the system designer. The default setting is “3”.

- ▶ **Bank Interleave :** The interleave number of internal banks, can be set to 2 way, 4 way interleave or disabled. For VCM and 16Mb type dram chips, the bank interleave is fixed at 2 way interleave. When the dram timing is selected by SPD, it will be set by the value on SPD of the RAM module(DDR or SDR). The default setting is “Disabled”.

**Memory Hole :** In order to improve performance, some space in memory can be reserved for ISA cards. The default setting is “Disabled”.

**P2C/C2P Concurrency :** This item allows you to enable/disable the PCI to CPU and CPU to PCI concurrently. The default setting is ”Enabled”.

**System BIOS Cacheable :** When set to “Enabled” the System BIOS will be cached for faster execution. The default setting is “Enabled”.

**Video RAM Cacheable :** Selecting Enabled allows caching of the video RAM , resulting in better system performance. However, if any program is written to this memory area, a system error may result. The default setting is “Enabled”.

**Frame Buffer Size :** This item allows you to control the VGA frame buffer size. The default setting is “16M”.

**AGP Aperture Size :** Select the size of Accelerated Graphics Port (AGP) aperture. The aperture is a portion of the PCI memory address range dedicated to graphics memory address space. Host cycles that hit the aperture range are forwarded to the AGP without any translation. The default setting is “64M”.

**AGP-4X Mode :** This item allows you to enable/disable the AGP-4X Mode. The default setting is “Enabled”.

**AGP Driving Control :** This item enables the system to automatically select its output buffer drive strength or make it manually selectable by an end user. The default setting is “Auto”.

- ▶ **AGP Driving Value :** This item enables an end user to manually select the AGP output buffer drive strength. Key in a HEX number: Min=0000, Max=00FF.

**On Chip USB :** This should be enabled if your system has a USB installed on the system board and you want to use it. Even when on chip USB so equipped, if you add a higher performance controller, you will need to disable this feature. The default setting is “Enabled”.

**USB Keyboard Support :** Enabled (default) this function when a USB keyboard is used. Set to “Disabled” when an AT keyboard is being used.

**USB Mouse Support :** Enabled (default) this function when a USB mouse is used. Set to “Disabled” when an PS/2 mouse is being used.

**On Chip Sound :** This item allows you to control the onboard AC 97 audio. The default setting is “Auto”.

**CPU to PCI Write Buffer :** When this field is Enabled, the writing from CPU to PCI bus is buffered, to compensate for the speed differences between the CPU and the PCI bus. When Disabled, the writing is are not buffered and the CPU must wait until the write is complete before starting another write cycle. The default setting is “Enabled”.

**PCI Dynamic Bursting :** This item allows you to enable/disable the PCI dynamic bursting function. The default setting is “Enabled”.

**PCI Master 0 WS Write :** When this item enabled, writing to the PCI bus is executed with zero wait state. The default setting is “Enabled”.

**PCI Delay Transaction :** The chipset has an embedded 32-bit posted write buffer to support delay transactions cycles. Select Enabled to support compliance with PCI specification version 2.1. The default setting is “Disabled”.

**PCI #2 Access #1 Retry :** When this item disabled, PCI#2 will not be disconnected until access finishes (default); On the contrary, PCI#2 will be disconnected if max etries are attempted without success. The default setting is “Enabled”.

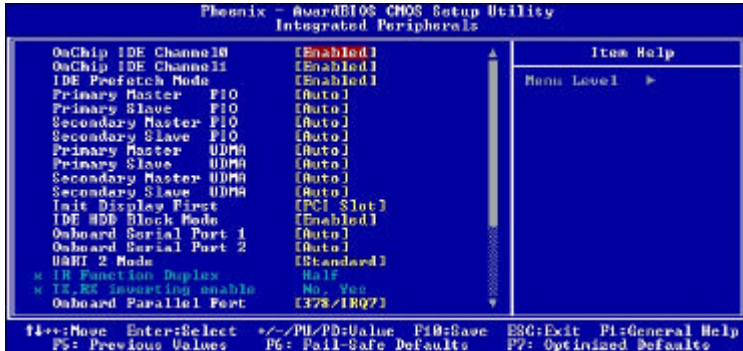
**AGP Master 1 WS Write :** When this item enabled, writing to the AGP (Accelerated Graphics Port) is executed with one wait state. The default setting is ”Disabled”.

**AGP Master 1 WS Read :** When this item enabled, reading from the AGP (Accelerated Graphics Port) is executed with one wait state. The default setting is “Disabled”.

After you have made your selections in the Advanced Chipset Feature screen, press <ESC> to go back to the main screen.

## 4.5. Integrated Peripherals

Selecting “**Integrated Peripherals**” on the main program screen displays field.



**OnChip IDE Channel 0** : The chipset contains a PCI IDE interface with support to two IDE channels. Select Enabled to activate the primary IDE interface; select Disabled to deactivate this interface. The default settings are “Enabled”.

**OnChip IDE Channel 1** : The chipset contains a PCI IDE interface with support to two IDE channels. Select Enabled to activate the secondary IDE interface; select Disabled to deactivate this interface. The default settings are “Enabled”.

**IDE Prefetch Mode** : The onboard IDE drive interfaces support IDE prefetching for faster drive access. If you install a primary and/or secondary add-on IDE interface, set this field to Disabled if the interface does not support prefetching. The default settings are “Enabled”.

**IDE Primary/Secondary Master/Slave PIO** : When set to “Auto” the BIOS will automatically set the mode to match the transfer rate of the hard disk. If the system won't boot up when set to “Auto” set it manually to a lower mode, e.g., from Mode 3 to Mode 2. All IDE drives should work with PIO mode 0. There are six options:

Auto (default)  
Mode 0  
Mode 1  
Mode 2  
Mode 3  
Mode 4

**IDE Primary/Secondary Master/Slave UDMA :** Each IDE channel supports a master device and a slave device. This mainboard supports Ultra DMA technology, which provides faster access to IDE devices.

If you install a device that support Ultra DMA, change the appropriate item on this list to “Auto”. You may have to install the Ultra DMA driver supplied with this mainboard in order to use an Ultra DMA device.

**Init Display First :** This item sets whether the PCI Slot or AGP is activated first. The options are “PCI Slot” (default) and “Onboard AGP”.

**IDE HDD Block Mode :** Enable this field if your IDE hard drive supports block mode. Block mode enables BIOS to automatically detect the optimal number of block read and writes per sector that the drive can support. The default setting is “Enabled”.

**Onboard Serial Port 1/2 :** These options are used to assign the I/O addresses for the two onboard serial ports. They can be assigned as follows:

3F8/ IRQ4  
2F8/ IRQ3  
3E8/ IRQ4  
2E8/ IRQ3  
Auto (Port 1/2 default)  
Disabled (disables the onboard serial port)

**UART 2 Mode :** This item allows you to select which mode for the Onboard Serial Port 2. The default setting is “Standard”.



- ▶ **IR Function Duplex :** This item allows you to select the IR half/full duplex function. The default setting is “Half”.
  
- ▶ **TX, RX inverting enable :** This item allows you to enable the TX, RX inverting which depends on different H/W requirement. This field is not recommended to change its default setting for avoiding any error in your system. The default setting is “No, Yes”.

**Onboard Parallel Port :** This option is used to assign the I/O address for the onboard parallel port. The options are:

378/IRQ7 (default)

278/IRQ5

3BC/IRQ7

Disabled (disables the onboard parallel port).

**Onboard Parallel Port Mode :** There are four options the setting ”EPP”(Enhanced Parallel Port), “ECP”(Extended Capabilities Port), “ECP/EPP” and “Normal” Change the mode from ”Normal”(default) to the enhanced mode only if your peripheral device can support it.

**ECP Mode Use DMA :** When the onboard parallel port is set to ECP mode, the parallel port has the option to use DMA “3”(default) or DMA “1”.

**Parallel Port EPP Type :** Select a DMA channel for the parallel port for use during ECP mode. The default setting is “EPP1.9”.

**Onboard Legacy Audio :** This field controls the onboard legacy audio. The default setting is “Enabled”.

**Sound Blaster :** This item enables/disables the onboard Sound Blaster. The default setting is “Disabled”.

**SB I/O Base Address :** This item selects the Sound Blaster I/O Base Address. The default setting is “220H”.

**SB IRQ Select :** This item selects the Sound Blaster IRQ. The default setting is “IRQ 5”.

**SB DMA Select :** This item selects the Sound Blaster DMA. The default setting is “DMA 1”.

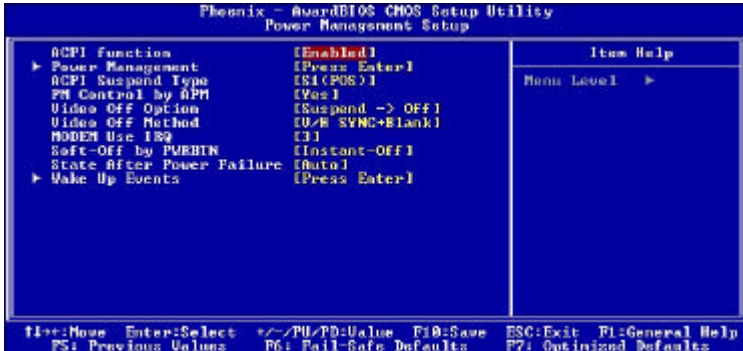
**MPU-401 :** This item enables/disables on-board MPU-401. The default setting is “Disabled”.

**MPU-401 I/O Address :** This item selects MPU-401 I/O Address. The default setting is “330-333H”.

After you have made your selections in the Integrated Peripherals screen, press <ESC> to go back to the main screen.

## 4.6. Power Management Setup

This option lets you control system power management. The system has various power-saving modes including powering down the hard disk, turning off the video, suspending to RAM, and software power down that allows the system to be automatically resumed by certain events.



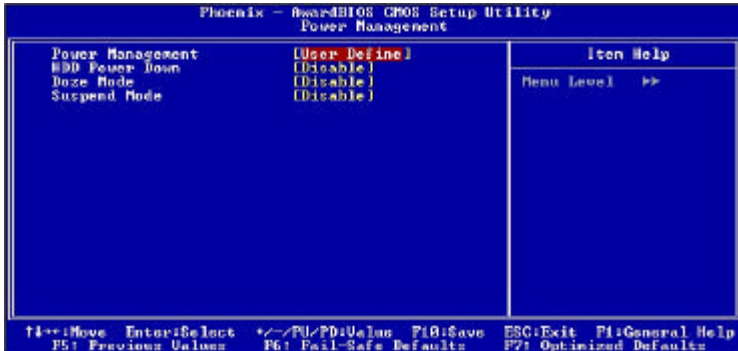
**ACPI Function :** When set to “Enabled”, turns on the ACPI Function . The default setting is “Enabled”.

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**Note:** *ACPI (Advanced Configuration and Power Interface) is a power management specification that makes hardware status information available to the operating system. ACPI enables a PC to turn its peripherals on and off for improved power management. It also allows the PC to be turned on and off by external devices, so that mouse or keyboard activity wakes up the computer.*

---

- ▶ **Power Management** : Scroll to this item and press <Enter> to view the following screen:



**Power Management** : This item acts like a master switch for the power-saving modes and hard disk timeout. If this item is set to Max Saving, power-saving modes occur after a short timeout. If this item is set to Min Saving, power-saving modes occur after a your own timeouts for the power-saving modes.

**User Define** : allows you to customize all power saving timer features

**Max Saving** : recommended setting for general use

**Min Saving** : sets power saving at minimum values

**HDD Power Down** : The IDE hard drive will spin down if it is not accessed within a specified length of time. Options are from “1 Min” to “15 Min” and “Disable”. The default is “Disabled”.

**Doze Mode** : When this item enabled and after the set up time of system inactivity, the CPU clock will run at a lower speed while all other devices still operate at full speed. Options are from “Disabled”, 1 Min, 2 Min, 4 Min, 6 Min, 8 Min, 10 Min, 20 Min, 30 Min, 40 Min, or 1 Hour. The default is “Disabled”.

**Suspend Mode :** The CPU clock will be stopped and the video signal will be suspended if no Power Management events occur for a specified length of time. Full power function will return when a Power Management event is detected. Options are from “Disabled”, 1 Min, 2 Min, 4 Min, 6 Min, 8 Min, 10 Min, 20 Min, 30 Min, 40 Min, or 1 Hour. The default is “Disabled”.

Press <ESC> to go back to Power Management Setup screen.

**ACPI Suspend Type :** Use this item to define how your system suspends. If set to S1(POS) (default), the suspend mode is equivalent to a software power down. If set to S3(STR), the suspend mode is a suspend to RAM the system shuts down with the exception of a refresh current to the system memory.

**PM Control by APM :** When this item enabled, an Advanced Power Management device will be activated to enhance the Max. Power Saving mode and stop the CPU internal clock. If Advance Power Management (APM) is installed on your system, selecting Yes gives better power saving. If the Max. Power Saving is not enabled, this will be preset to No. The default setting is “Yes”.

**Video Off Option :** When enabled, this feature allows the VGA adapter to operate in a power saving mode.

- |                  |   |
|------------------|---|
| <b>Always</b>    | <b>On</b> Monitor will remain on during power saving mode.                  |
| <b>Suspend</b>   | <b>Off</b> Monitor is blanked when the system enters the Suspend mode.      |
| <b>All Modes</b> | <b>Off</b> Monitor is blanked when the system enters any power saving mode. |

The default setting is “Suspend off.”

**Video Off Method :** This setting controls the video off method in power saving mode. The “PMS” option allows the BIOS to control the video card if it has the DPMS (Display Power Management System) feature. Other options are “V/H SYNC+Blank” (default) and “Blank Screen”. The “V/H SYNC+Blank” which disables V/H SYNC signals and blanks the screen. The “Blank Screen” option is used when you do not have a “Green” monitor

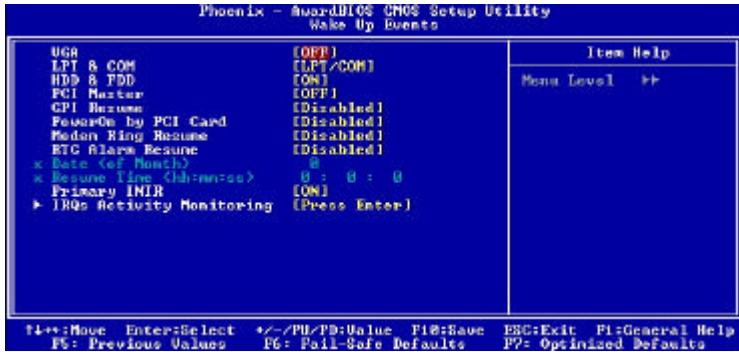
**MODEM Use IRQ :** If you want an incoming call on a modem to automatically resume the system from a power-saving mode, use this item to specify the interrupt request line (IRQ) that is used by the modem. You might have to connect the fax/modem to the mainboard Wake On Modem connector for this feature to work.

**Soft-Off by PWRBTN :** When set to “Instant-Off” (default), pressing the power button will turn off the system power. When set to “Delay 4 Sec”. You have to press the power button and hold it for more than 4 seconds to turn off the system power. Otherwise, the system just goes into suspend mode. The options are “Instant-Off” and “Delay 4 Sec”.

**State After Power Failure :** This item to set the ATX power supply status when power resume after unexpected power fail. When off is selected, power supply will maintain on soft-off status, when power is resume. When on is selected, power supply will turn on, and when Auto is selected, power supply will maintain on the status before unexpected power fail.

**Wake Up Events :** This item enables a user to select wake up events.

Scroll to this item and press <Enter> to view the following screen:



**VGA :** When this item enabled, you can set VGA to awaken the system. The default is “Off”.

**LPT & COM:** When LPT & COM stays On, any activity from one of the listed system peripheral devices or IRQs wakes up the system. The default is “LPT/COM”.

**HDD & FDD :** When HDD & FDD stays On, any activity from one of the listed system peripheral devices wakes up the system. The default is “ON”.

**PCI Master :** When PCI Master stays On, any activity from one of the listed system peripheral devices wakes up the system.

**GPI Resume :** You can enable and disable GPI resume. The default is “Disabled”.

**PowerOn by PCI Card :** This item enables/disables the power on function of PCI Card. The default is “Disabled”.

**Modem Ring Resume :** When set to “Enabled,” any activity on the Modem port will wake up the system from a power saving mode. The options are “Enabled” and “Disabled” (default).

**RTC Alarm Resume :** When this item enabled, your can set the date and time at which the RTC (real-time clock) alarm awakens the system from Suspend mode. The default is “Disabled”.

**Data (of Month) :** This item selects the alarm date. Key in a DEC number: Min=0, Max=31.

**Resume Time (hh:mm:ss) :** This item selects the alarm time.

[hh] : Key in a DEC number:Min=0, Max=23.

[mm/ss]: Key in a DEC number:Min=0, Max=59.

**Primary INTR :** Press Enter to on/off the wake up ability of a specified IRQ. In the following is a list of IRQ' s, Interrupt Requests, which can be exempted much as the COM ports and LPT ports above can. When an I/O device wants to gain the attention of the operating system, it signals this by causing an IRQ to occur. When the operating system is ready to respond to the request, it interrupts itself and performs the service. When On mode exist, activity will neither prevent the system from going into a power management mode nor awaken it.

- IRQ3 (COM 2 )
- IRQ4 (COM 1)
- IRQ5 (LPT 2)
- IRQ6 (Floppy Disk)
- IRQ7 (LPT 1)
- IRQ8 (RTC Alarm)
- IRQ9 (IRQ2 Redir)
- IRQ10 (Reserved)
- IRQ11 (Reserved)
- IRQ12 ( PS / 2 Mouse )
- IRQ13 (Coprocessor)



IRQ14 (Hard Disk)  
IRQ15 (Reserved).

Press <Esc> to return to the previous screen.

After you have made your selections in the Power Management screen, press <ESC> to go back to the main screen.

Press <ESC> to return to the main menu.

## 4.7. PnP/PCI Configuration

This option displays a table of items that configures how PnP (Plug and Play) and PCI expansion cards operate in your in your system. Both the ISA and PCI buses on the Mainboard use system IRQs (Interrupt Requests) and DMAs (Direct Memory Access). You must set up the IRQ and DMA assignments correctly through the PnP/PCI Configurations Setup utility; otherwise, the mainboard will not properly.

Selecting PnP/PCI Configurations on the main program screen displays this menu:



**PNP OS Installed :** This item allows you to determine PnP OS is installed or not. The default is “No”.

**Reset Configuration Data :** The system BIOS supports the Plug and Play feature so the resources assigned to each peripheral have to be recorded to prevent them from conflicting. The location to store the assigned resources is called ESCD (Extended System Configuration Data) which is located in the system flash EEPROM. If this option is set to “Disabled,” the ESCD will update automatically when the new configuration varies from the last one. If set to “Enable,” the ESCD will be cleared and updated and then this option will automatically be set to “Disabled.”

**Resources Controlled By :** The setting “Manual” allows you to control IRQs and DMAs individually. The other option is “Auto” which will detect the system resources and automatically assign the relative IRQs and DMAs for each peripheral.

**IRQ Resources :** This item allows you to determine the IRQ assigned to the ISA bus and is not available to any PCI slot. Legacy ISA for devices is compliant with the original PC AT bus specification; PCI/ISA PnP (default) for devices is compliant with the Plug-and-Play standard whether designed for PCI or ISA bus architecture.

**DMA Resources :** When resources are controlled manually, assign each system DMA channel as one of the following types, depending on the type of device using the interrupt: Legacy ISA Devices compliant with the original PC AT bus specification, requiring a specific interrupt ( such as IRQ4 for serial port 1). PCI/ISA PnP (default) Devices compliant with the Plug-and-Play standard, whether designed for PCI or ISA bus architecture.

**PCI/VGA Palette Snoop :** This item is designed to overcome problems that can be caused by some non-standard VGA cards. This board includes a built-in VGA system that does not require palette snooping so you must leave this item disabled.

**Assign IRQ For VGA :** This item allows the user to set VGA IRQ Routing table Enabled or Disabled. The default setting is “Enabled”.

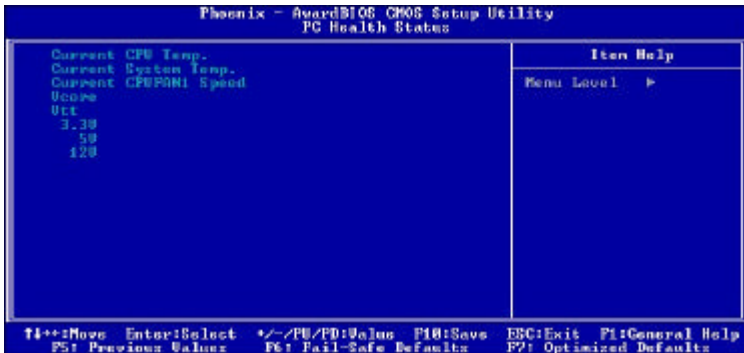
**Assign IRQ For USB :** This item allows the user the option to assign an IRQ to on-board USB controller. Since the on-board controller is always enabled, if no IRQ is assigned to it, there will be a question mark report on the system device under Windows95/98. The default setting is “Enabled”.

After you have made your selections in the PnP/PCI Configurations, press <Esc> to go back to the main program screen.

## 4.8. PC Health Status

On mainboards the support hardware monitoring, this item lets you monitor the parameters for critical voltages, critical temperatures and fan speeds:

Selecting “PC Health Status” on the main program screen displays this menu:



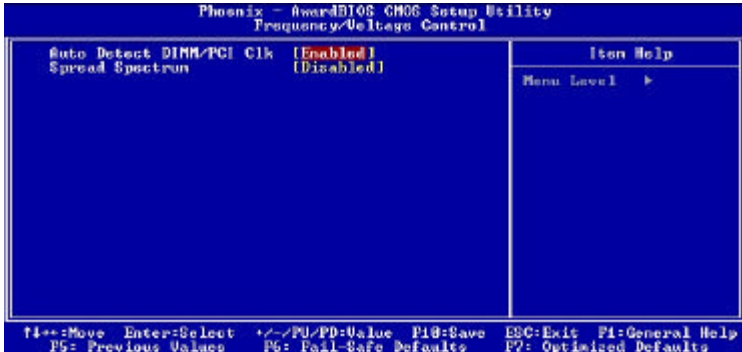
**System Component Characteristics :** These fields provide you with information about the systems current operating status. You cannot make changes to these fields. The following information is displayed:

- Current CPU Temp.
- Current System Temp.
- Current CPUFAN1 Speed
- Vcore
- Vtt
- - 3.3V
- 5V
- 12V

After you have made your selections in the PC Health Status Setup, press <Esc> to go back to the main program screen.

## 4.9. Frequency/Voltage Control

This item enables you to set the clock speed and system bus for your system. The clock speed and system bus is determined by the kind of processor you have installed in your system.



**Auto Detect DIMM/PCI Clk:** When set to “Enabled” (default), the system will automatically turn off the PCI and DIMM clock when not in use to reduce electromagnetic interference.

**Spread Spectrum:** If you enable spread spectrum, it can significantly reduce the EMI (Electro-Magnetic Interference) generated by the system.

After you have made your selections in the Frequency / Voltage Control Setup, press the <Esc> to return to the previous screen.

## 4.10. Load Fail-Safe Defaults Option

This option opens a dialog box that lets you install fail-safe defaults for all appropriate items in the Setup Utility:

Press <Y> and then <Enter> to install the defaults. Press <N> and then <Enter> to not install the defaults. The fail-safe defaults place no great demands on the system and are generally stable. If your system is not functioning correctly, try installing the fail-safe defaults as a first step in getting your system working properly again. If you only want to install fail-safe defaults for a specific option, select and display that option, and then press <F6>.

## 4.11. Load Optimized Defaults

This option opens a dialog box that lets you install optimized defaults for all appropriate items in the Setup Utility. Press <Y> and then <Enter> to install the defaults. Press <N> and then <Enter> to not install the defaults. The optimized defaults place demands on the system that may be greater than the performance level of the components, such as the CPU and the memory. You can cause fatal errors or instability if you install the optimized defaults when your hardware does not support them. If you only want to install setup defaults for a specific option, select and display that option, and then press <F7>.

## 4.12. Set Supervisor/User Passwords

The “**Supervisor/User Password**” utility sets the password.

The mainboard is shipped with the password disabled. If you want to change the password, you must first enter the current password, then at the prompt enter your new password. The password is case sensitive. You can use up to eight alphanumeric characters.

Press <Enter> after entering the password. At the next prompt, confirm the new password by retyping it and pressing <Enter> again.

To disable the password, press <Enter> instead of entering a new password when the “Enter Password” dialog box appears. A message appears confirming that the password has been disabled.

If you have set supervisor and user passwords, only the supervisor password allows you to enter the BIOS Setup Program.

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**Note:**        *If you forget your password, the only way to solve this problem is to discharge the CMOS memory by turning power off and placing a shunt on jumper JP12 to short pin 2 and pin 3 for five seconds, then putting the shunt back to pin 1 and pin 2 of JP12.*

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## 4.13. Save & Exit Setup Option

Selecting this option and pressing <Enter> will save the new setting information in the CMOS memory and continue with the booting process.

## 4.14. Exit Without Saving

Selecting this option and pressing <Enter> will exit the Setup Utility without recording any new values or changing old ones.

This concludes Chapter 4. Chapter 5 describes the drivers and utility programs that are packaged with the mainboard.

# 5. Driver and Utility

## 5.1 Flash Utility

The BIOS of the P6F163 mainboard can be upgraded by using a Flash utility. A new version of the BIOS can be downloaded from the factory's Website. The system BIOS is stored in a 2 M-bit Flash EEPROM that can be erased and reprogrammed by the Flash utility.

The Flash utility will not work with any memory manager software running in the system. In order to make sure no memory manager software is running, boot your system from a bootable floppy disk which does not contain CONFIG.SYS and AUTOEXEC.BAT files. If you are using MS-DOS 6.x, you can press the <F5> function key when the "Starting MS-DOS." Message appears on the screen to bypass the CONFIG.SYS and AUTOEXEC.BAT.



## 5.2. CD Driver Overview

The mainboard has drivers and utilities designed for the VIA PL133 chipset. You can install AGP, IRQ, ACPI and IDE drivers together from the manufacturer support CD. The support CD has an easy to use menu that enables you to automatically install the drivers and software that you want.

The P6F163 CD include

1. Install Mainboard Software (VIA)
2. Install display device driver (ProSavage)
3. Install Audio Device Software (ALC)
4. Install LAN Device (RTL8100)
5. Install VIA system monitor driver



Click the links to install the listed software, read the online manual, read a list of the mainboard's features, or browse to the Freotech homepage.

You can also browse the CD and install the software manually from Windows Explorer. We recommend that you install all of the supplied software and drivers item for maximum performance.

### **5.2.1. VIA 4 In 1 Driver**

This folder has 4 in 1 drivers for various kinds of operating system system.

The Installation Steps:

1. Insert the manufacturer CD-ROM into your CD-ROM drive.
2. Click Driver Install.
3. Select the folder Driver\VIA\4 in 1 driver for various kinds of operating system to start the installation:
4. Follow the instructions on the screen to complete the installation. After setup is completed, you need to restart the computer.

### **5.2.2. VIA ProSavage Display Driver**

This folder has the software and drivers for the graphics system built into the VIA S3 PL133 chipset

The Installation Steps:

1. Insert the manufacturer CD-ROM into your PC CD-ROM drive.
2. Click Driver Install.
3. Select the folder Driver\VIA\Video\pm-pl driver for various kinds of operating system to start the installation:
4. Follow the instructions on the screen to complete the installation. After setup is completed, you need to restart the computer.

### **5.2.3. ALC201A Audio Driver**

Software and drivers are provided for the ALC201A codec sound system that is integrated on this mainboard. The ALC201A codec allows the system to generate optimal sound effects. Drivers are provided for various kinds of operating system system.

The manual Installation Steps:

1. Insert the manufacturer CD-ROM into your PC CD-ROM drive.
2. Click Driver Install.
3. Select the folder Driver\Sound\ALC driver for various kinds of operating system to start the installation:
4. Follow the instructions on the screen to complete the installation. After setup is completed, you need to restart the computer.

### **5.2.4. LAN Driver**

Software and drivers are provided for the Realtek RTL8100 controller that is integrated on this mainboard. The Realtek RTL8100 controller allows the system to transmit effects. Drivers are provided for various kinds of operating system.

The installation Steps:

1. Insert the manufacturer CD-ROM into your PC CD-ROM drive.
2. Click Driver Install.
3. Select the folder Driver\LAN\8100 driver for various kinds of operating system to start the installation:

## **5.3. Online Services**

Flexus Computer Technology, under the Freetech brand name, has consistently won recognition for excellence in the design and manufacturing of high quality mainboards!

Our products are globally recognized among the leading cost-performance mainboards in the industry today and we are a certified ISO-9002 manufacturer!

Our customers are our partners! Flexus practices partnership service “not customer service”! Our attention to partnership service is aggressive and proactive, by using our global partnership service system. We create value for our partners in the high-end market and we are always ready to see to our partners’ requirements, because at Flexus, we believe our partners’ success is our success!

If you need technical support, information on products, or updated versions of the BIOS, drivers and utilities access the Internet and point your browser to:

*[www.freetech.com](http://www.freetech.com)*