P6F215
MOTHER BOARD
USER'S MANUAL

Copyright Notice

Using This Manual

This manual is designed to help you build a reliable Personal Computer based on the P6F215 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. P6F215 Quick Reference

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

1.1. Mainboard Layout
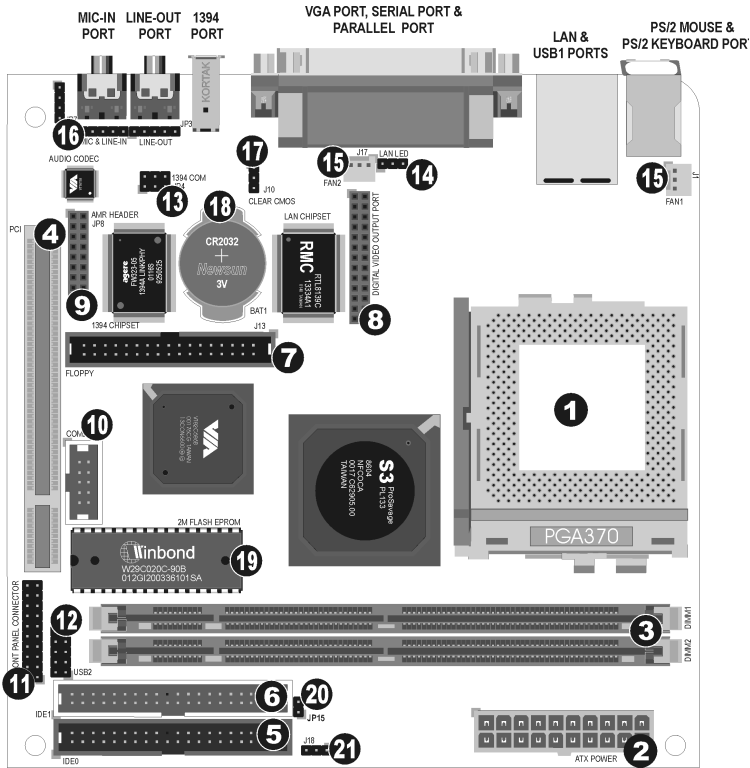
1.   PGA370 CPU socket (PGA370)
2.   ATX power connector (JWR1)
3.   DIMM module sockets (DIMM1~2)
4.   PCI connector (PCI1)
5.   IDE connector (IDE0)
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13. 1394 port (JP4)
14. LAN LED connector (J16)
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18. RTC battery
19. Flash BIOS
20. IDE 5V (JP15)
21. CPU Selector (J18)

1.2. I/O Ports
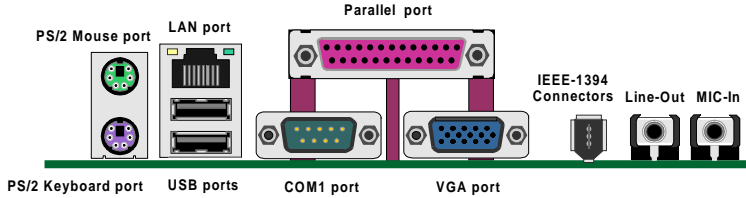
1.3. Front Panel Connector

The following illustration shows the front panel connector pin assignments:
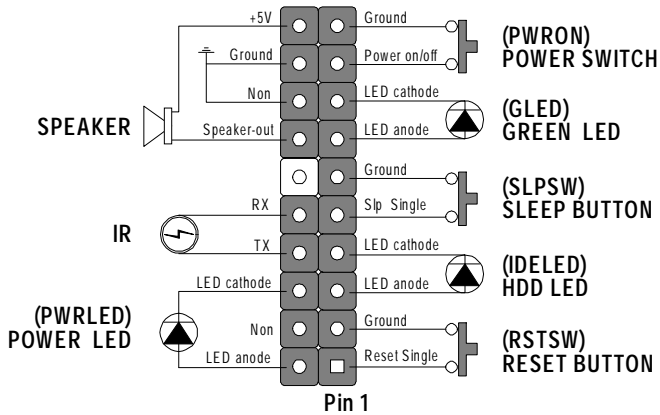
1.4 Jumpers

J10	1-2	Clear CMOS
	2-3	Normal Mode
JP15	Open	NC
	Short	Controller Assign Vcc 5V
J18	1-2	For FSB 133MHz CPU
	2-3	For FSB 66/100MHz CPU

1.5. PCI and AGP Frequency Setting

The PCI and AGP frequency settings are automatically set by the system

1.6.   Memory Installation

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 100 MHz through a two-wire interface of the system clock generator.

168-Pin DIMM SDRAM Memory Configuration

Bank 0 (DIMM1)	8, 16, 32, 64, 128, 256, 512 MB
Bank 1 (DIMM2)	8, 16, 32, 64, 128, 256, 512 MB
Total	8 MB to 1024 MB

1.7. Connectors

FAN1 (J1)	**CPU/Chipset FAN Connector:** This 3-pin header is used for connecting a CPU chipset fan.
FAN2 (J17)	**System Fan Connector:** This 3-pin header is for connecting the case fan that keeps the system cool.
JP4	**1394 Connector:** This 6-pin header is used for connecting a 1394 devices.
JP6	**COM2 Serial Port Connector:** This 10-pin header are used to connect a serial port extension bracket for adding a second serial port to your system.
J8	**Digital Video Output Port:** This 26-pin header is used for connecting an Video port for use of Video devices.
J13	**Floppy Port Connector:** This 34-pin header is used for connecting an Floppy port for use of Floppy devices.
JP8	**AMR Expansion Connector:** This 20-pin header is used for connecting to Audio Modem Riser Card.
J15	**Front USB Connectors:** This 10-pin header is used for connecting front panel USB ports 3 and 4.
JP7	**CD-IN Connec**tor: This 4-pin headers is used for connecting the CD ROM audio input to the sound card.
JP3	**LINE-OUT Connector:** This 5-pin header is used for connecting the stereo headphones or to amplified speaker.
JP5	**MIC & LINE-IN Connector:** This 5-pin header is used for connecting the stereo microphone and stereo line-level input on the front panel.
J16	**LAN LED Connector:** This 3-pin header is used for connecting LAN LED cable on the front panel.

2. Introduction

2.1. Overview

The high quality P6F215 is a high performance, enhanced function mainboard that supports 64-bit Intel FC-PGA and Pentium III/Cyrix Socket 370 processors. The P6F215 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, and concurrent PCI bus. The mainboard accommodates SDRAM (Synchronous DRAM) memory and supports ATA33/66/100.

The mainboard achieves the highest reliability by supporting ECC (Error Checking and Correction) memory protection, enabling the mainboard to achieve superior data integrity and fault-tolerance with respect to memory errors while running applications.

In addition to superior hardware capabilities, features like bus mastering EIDE driver, Plug and Play, Soft-off, APM (Advanced Power Management), Keyboard Turn On, External 1394 Port, Digital Video Output Port, Fan Off in sleeping state and BIOS upgradability are provided with this platform.

2.2. Mainboard Specifications and Features

2.2.1. Hardware

CPU	Intel® FC-PGA, FC-PGA2 Pentium® III and Cyrix Socket 370 Processors or other compatible Auto-detection CPU
VRM	Onboard Voltage Regulator Module
	Provides 1.3V to 3.5V operating voltage
Coprocessor Speed	CPU has built-in floating point unit
	System bus clock 66/100/133 MHz
	PCI bus clock 33 MHz
Chipset	VIA S3 PL133 AGP set
	VIA VT82C686B super-I/O integrated peripheral controller
DRAM	Two 168-pin DIMM sockets, up to 1GB
	Supports 8 MB to 512MB SDRAM memory types
EIDE Controller	Supports four IDE devices in two channels
	Supports PIO mode 0 through mode 4 drives
	Supports Bus Mastering DMA mode 2 drives
	Supports two Bus Mastering Ultra DMA-ATA 33/66/100 drives
Enhanced I/O	Supports Iomega ZIP or LS-120 removable drives One floppy disk controller
	One Standard/EPP/ECP parallel port connector
	Two 16550 compatible serial port connectors
	Two USB (Universal Serial Bus) ports on board, two front USB ports by cable
I/O Options	One line-out, mic-in, LAN, vga, 1394 on board, One connector for front panel USB ports
	One COM port by cable
Mouse Keyboard	PS/2 mouse connector and
	PS/2 keyboard connector on board

Expansion Slots	One 32-bit PCI slot
	One Digital Video ouptup header
	One AMR header
Power Management	Compliant with EPA, APM 1.2 and ACPI
	Auto Power on
	ATX soft-off power control
	Power – on by keyboard and PS/2 mouse
	Power – on by external modem ring
	Power – on by alarm
	Fan off in sleep mode
System Management	CPU temperature warning and system temperature detection
	CPU and system voltage detection
	CPU and secondary fan RPM detection
	Switching regulator
Voltage Regulator	CPU voltage auto-detection
	Switching regulator
	CPU voltage auto-detection
Form Factor	FATX form factor 17 cm x 17 cm (6.7 x 6.7-inch)

2.2.2.   Software

BIOS	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

Driver and Utility	VIA 4 in 1 driver
	VIA ProSavage Display driver
	AC97 codec audio driver
	LAN driver
	Flash utility for BIOS upgrade
	System Environment Monitoring Utility
Operating System	Operates with MS_DOS, Windows 3.x/9x/ME/XP/ 2000/NT, OS/2, Novell NetWare/UnixWare 1.1, and SCO Unix 4.2

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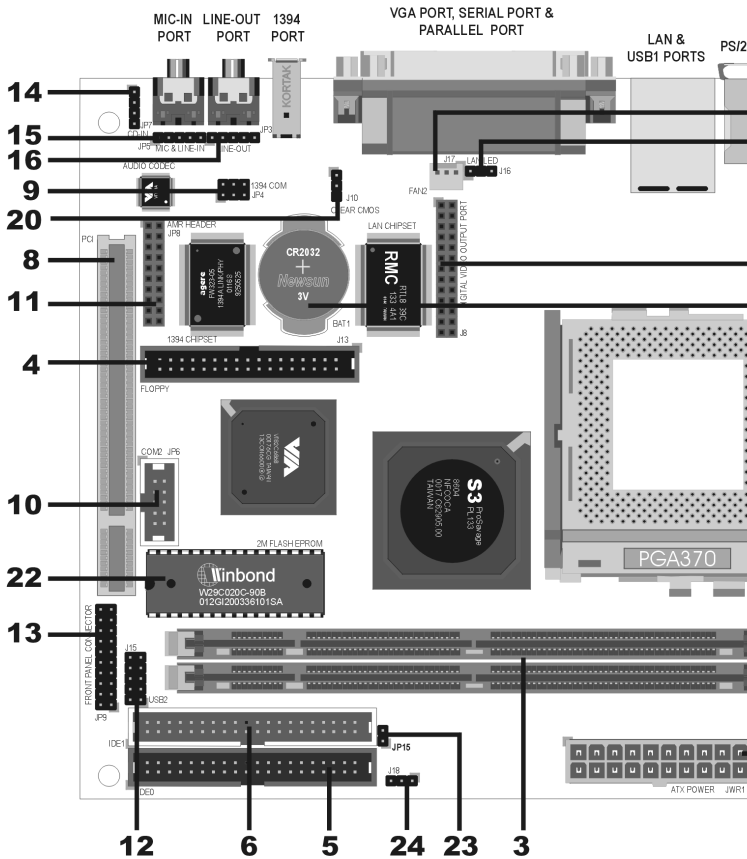
> *Note:* *Because of optional items and design changes, your mainboard*
> *may not be identical to the one shown in the illustration.*

Key to Mainboard Components

No.	Name	Function
1	**PGA370**	CPU socket
2	**JWR1**	ATX power connector
3	**DIMM1~2**	Memory module slots
4	**J13**	Floppy drive connector
5	**IDE0**	IDE 0 connector (blue)
6	**IDE1**	IDE 1 connector (white)
7	**J8**	Digital Vedio output port
8	**PCI1**	32-bit PCI connector
9	**JP4**	6-pin 1394 header
10	**JP6**	COM2 connector
11	**JP8**	AMR header
12	**J15**	Front USB port 3~4
13	**JP9**	Front Panel connector
14	**JP7**	Audio CD-In header
15	**JP5**	Audio Mic-In and Line-In header
16	**JP3**	Audio Line-Out header
17	**J16**	LAN LED header
18	**FAN1(J1)**	CPU/chipset fab connector
19	**FAN2(J17)**	Secondary case fan connector
20	**J10**	Claer CMOS
21	**BAT1**	RTC battery
22	**U54**	Flash BIOS
23	**JP15**	IDE 5V
24	**J18**	CPU Selector

2.4. Microprocessor

The mainboard is designed to operate with the following processors:

Processor Type	FSB
Intel FC-PGA Celeron Intel FC-PGA, FC-PGA2 Pentium III	66/100 MHz 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 CPUs are packaged in a FC-PGA, FC-PGA2 configuration.

2.6. **Chipset**

The P6F215 supports the VIA S3 PL133 chipset. The VIA S3 PL133 chipset is designed for desktops and workstations that provide internal or external graphics, and provides ATA-100 and SDRAM support.

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 ATX power supply
- ◆ PGA370 Processor
- ◆ One SDRAM memory module
- ◆ One floppy disk drive
- ◆ One UDMA-66/100 IDE hard disk drive
- ◆ One CD-ROM drive
- ◆ One display monitor
- ◆ One PS/2 mouse
- ◆ One PS/2 keyboard
- ◆ One set of loudspeakers

Of course, you can use the system I/O ports and expansion slots to add many more features and components to your system than the items listed above.

3.1. Unpacking

The P6F215 mainboard package contains the following items:

- ❏ One mainboard
- ❏ One IDE 66/100 40-pin ribbon cable
- ❏ One floppy 34-pin ribbon cable
- ❏ Driver and utility CD
- ❏ User's manual reference

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 P6F215 is designed to fit into a standard FATX form factor chassis. The pattern of the mounting holes and the position of the back panel connectors meet the FATX system board specification. 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, and set the correct CPU speed in the CMOS setup.

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 your 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.

3.4. Connector/Jumper Location
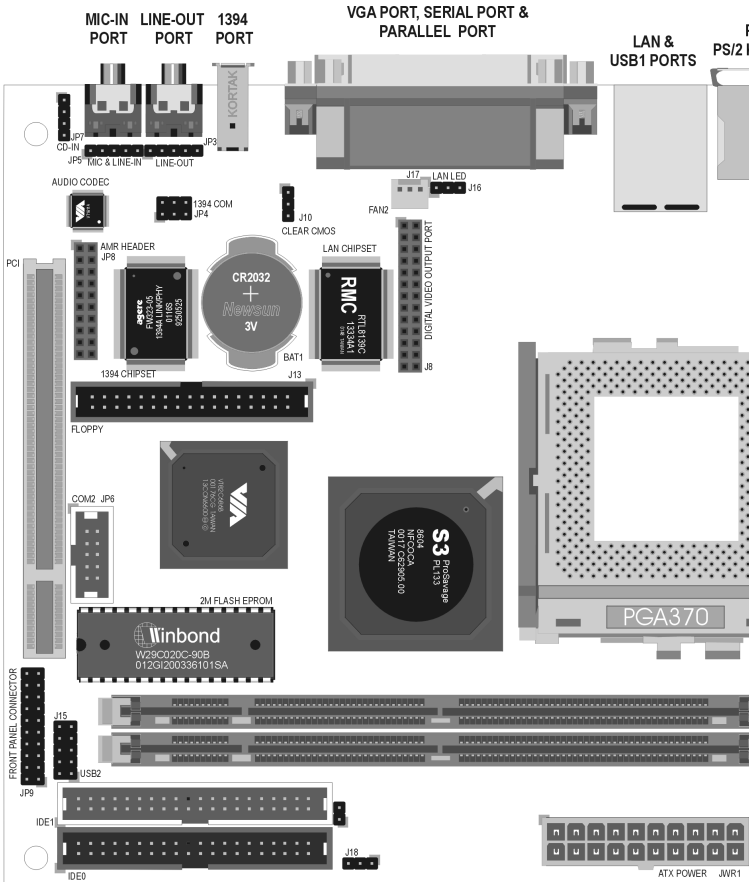
3.5. Attaching Connectors

3.5.1.   Front Panel Connectors (JP9)

There are seven connectors on the mainboard for speaker, switches, and indicator lights on the system's front panel.
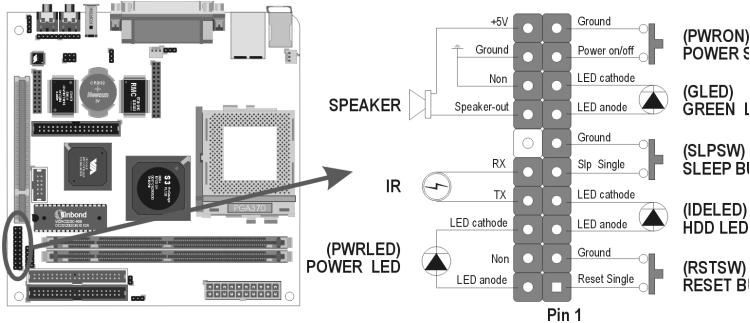
PWRON	This 2-pin connector connects to the case-mounted Power button.
GLED	This 2-pin connector connects to the case-mounted Green LED to indicate a standby status. The LED remains lit even when the system is off to indicate that AC power is available. When the system enter standby mode, the LED starts blinking.
SLPS	This 2-pin connector connects to the case-mounted sleep switch. Press the sleep switch to force the system into power saving mode; press again to resume normal operation.
IDELED	This 2-pin connector connects to the case-mounted HDD LED to indicate hard disk activity.
RSTSW	This 2-pin connector connects to the case-mounted reset switch and is used to reboot the system.
SPEAKE	This 4-pin connector connects to the case-mounted speaker.
IR	The 2-pin connector connects to the case-mounte t IR
PWRLED	This 3-pin connector connects to the case-mounted the power LED.

3.5.2.   Audio CD-In Connector (JP7)

This connector enable you to connect a CD-ROM to the mainboard and receive stereo audio input.
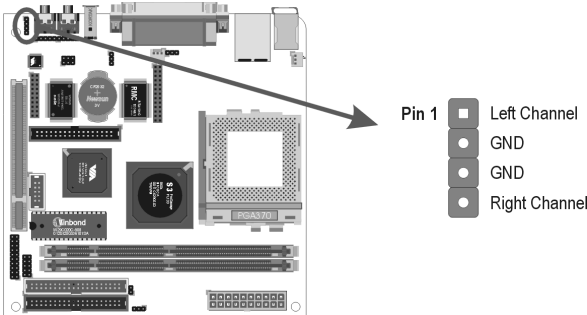
3.5.3.   Audio Line-Out Connectors (JP3)

Connect the cable attached to line-out connector on front panel. This header shared same signal whth line-out on back panel.
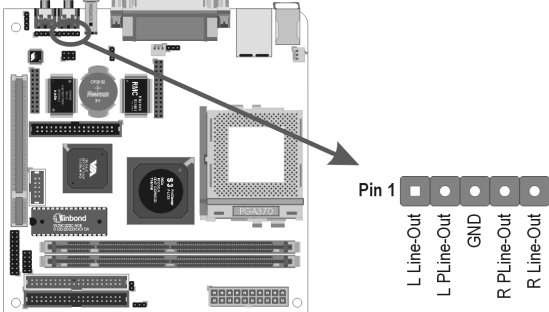
3.5.4. LAN LED Connector (J16)

Connect on set of 3-pin of LAN LED cable to LAN LED header, when detecting the outside signal, the LED head would be light, and the light will besparkle during the transferring data.
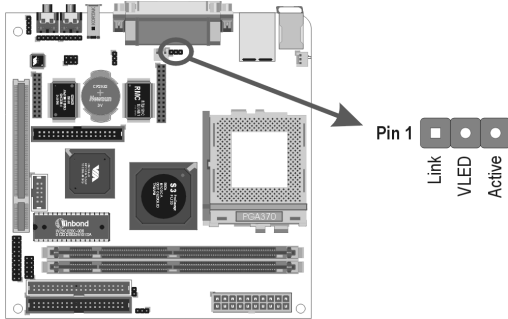
3.5.5. Audio Mic-In and Line-In Connectors (JP5)

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.
Connect a micro-phone to the pink microphone connector to record audio to your computer.
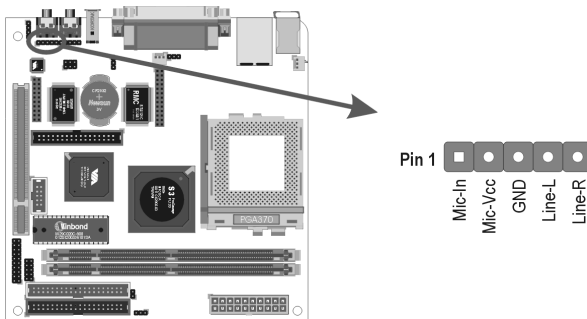
3.5.6.　Serial COM2 Connector (JP6)

The mainboard provides one onboard serial COM2 connector. The COM2 connector on the same signal with COM1 on the back panel.
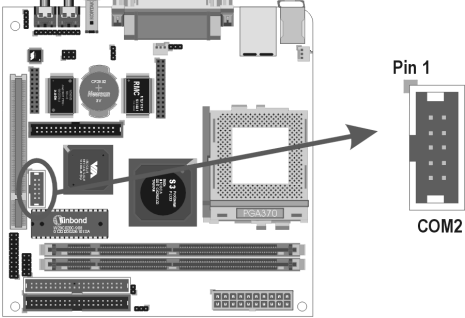
3.5.7.　Front USB Header (J15)

The mainboard provides oen onboard 10-pin of dual USB port (port 3 and port 4) headers. The headers on the same signal with USB port 1 and port 2 on the back panel.
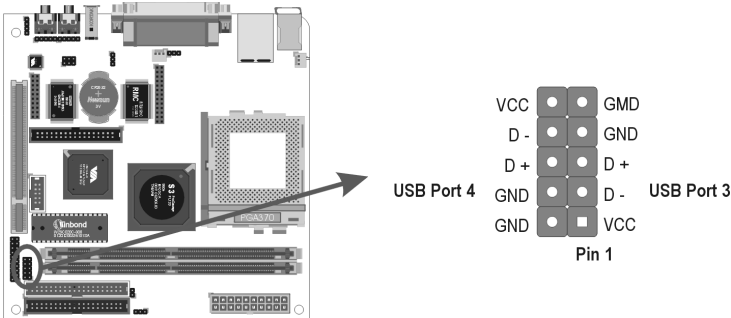
3.5.8. AMR Header (JP8)

The AMR headers Supports the Audio and modem function.
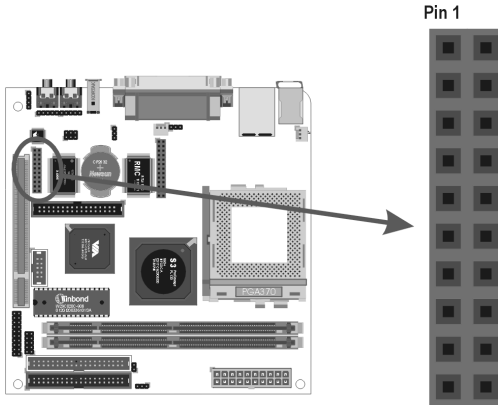
3.5.9. Floppy Drive Header (J13)

A floppy disk drive ribbon cable has two connectors to support two floppy disk drives. The connector with twisted wires always connects to drive A; the connector with untwisted wires connects to drive B. You must orient the cable connector so that the pin 1 (color) edge of the cable corresponds with pin 1 of the I/O port connector.
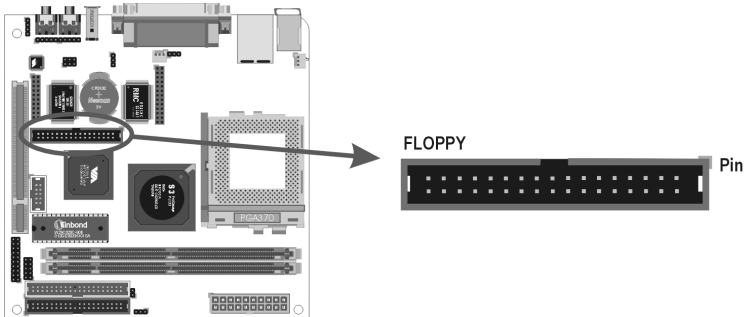
3.5.10. 1394 Header (JP4)

This 6-pin header enable you to connect a 1394 device on the 1394 header.
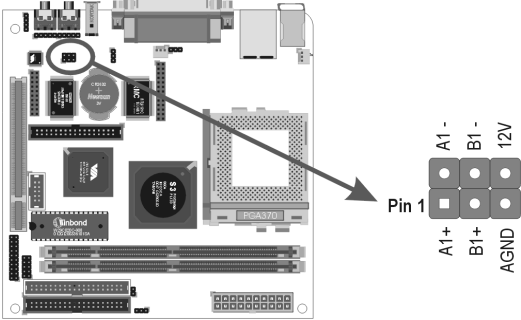
3.5.11. Digital Video Output Port (J8)

The mainboard provide one 26-pin header enable you to connect a Digital Video devices on the digital video port.
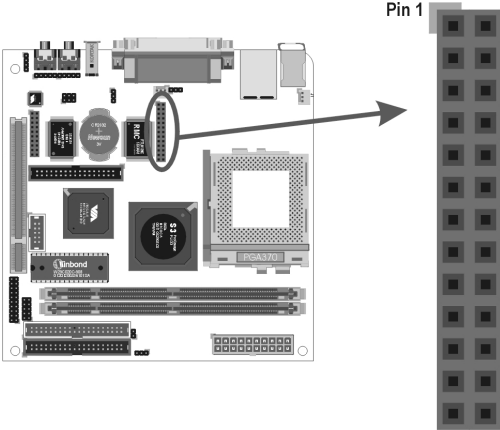
3.5.12.   IDE Connectors

An IDE drive ribbon cable has two connectors to support two IDE drives. If a ribbon cable connects to two IDE drives at the same time, one of them has to be configured as Master and the other has to be configured as Slave by setting the drive select jumpers on the drive.

Consult the documentation that came with your IDE drive for details on jumper locations and settings. You must orient the cable connector so that the pin 1 (color) edge of the cable corresponds to pin 1 of the I/O port connector.
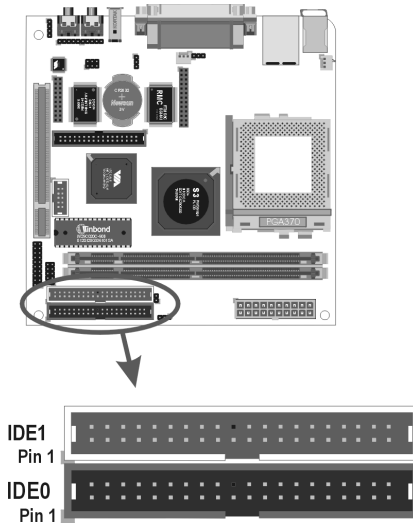
3.5.13.   Back Panel Connectors

The back panel provides external access to PS/2 style keyboard and mouse connectors, one serial port, one VGA port, one parallel port, dual USB ports, one LAN port, one 1394 port, and audio Line-out, Mic-in port which are integrated on the mainboard. The figures below show the location of the back panel I/O connectors.

PS/2 Mouse and PS/2 Keyboard 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.

PS/2 Mouse port
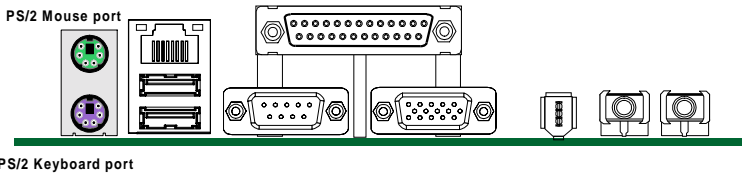
PS/2 Keyboard port

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.
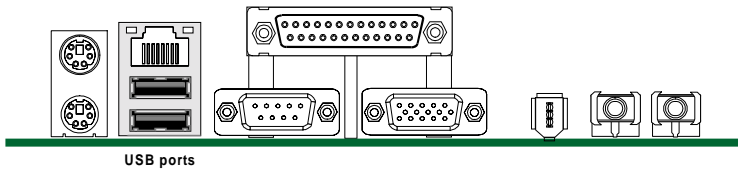
USB ports

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 12 Mbits/sec (equivalent to 1.5 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 1.5 Mbits/sec sub-channel.

LAN Port
Connect a device to the LAN port on the back panel.
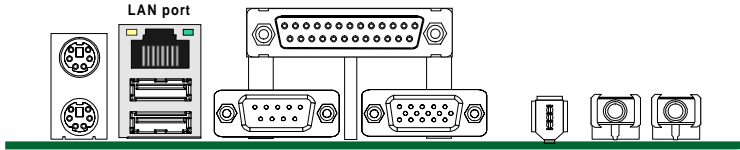
Parallel Port
Connect a printer or other parallel device to the burgundy-colored 25-pin parallel port. You can set the parallel port IRQ and parallel port mode in BIOS. Refer to Integrated Peripherals in Chapter 4 for details.
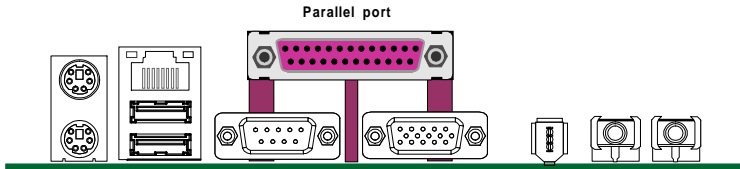
VGA Port
Connect an external monitor to the blue 15-pin VGA port.
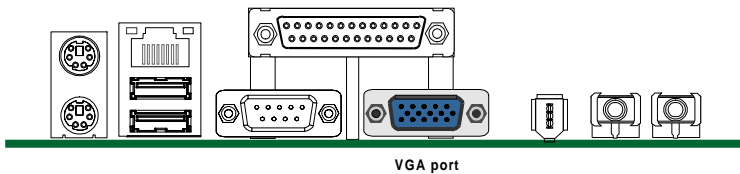
Serial Port
Connect a serial device such as a mouse or modem to the turquoise 9-pin serial port. You can set the serial port IRQs in BIOS. Refer to Integrated Peripherals in Chapter 4 for details.

COM1 port
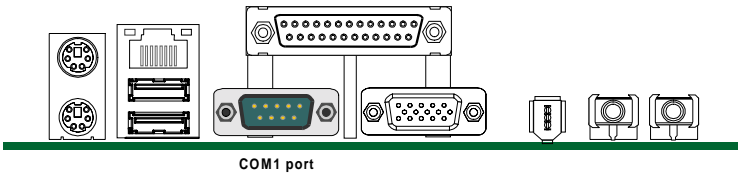
Note: Serial printers must be connected to the serial port.

1394 Port Connector
You can connect 1394 devices to 1394 port on the back panel.

1394 port
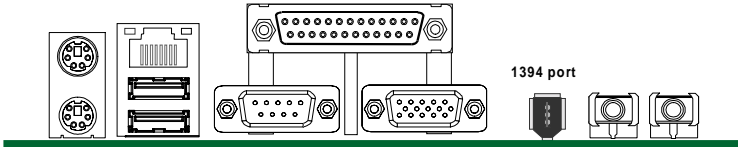
Audio Line-Out Port Connectors
You can connect various audio devices to this audio jacks. Connect headphones or powered speakers to the lime-colored lineout connector.

Line-Out
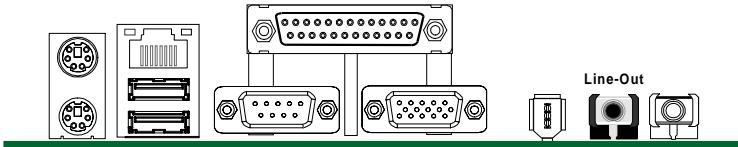
Audio Mic-In Port Connectors
You can connect dynamic mono or stereo microphone to the mic-in connector.

Mic-In

3.5.14. Power Supply Connector (JWR1)

The ATX power supply has a single lead connector with a clip on one side of the plastic housing. There is only one way to plug the lead into the ATX power connector. Press the lead connector down until the clip snaps into place and secures the lead onto the connector.

Warning: Incorrect installation of the power supply could result in serious damage to the mainboard and connected peripherals. Make sure the power supply is unplugged from the AC outlet before connecting the leads from the power supply.

3.5.15.　CPU/System Fan Power Supplies FAN1(J1) / FAN2(J17)

There are two fan connectors on the mainboard for the cooling fans. The connectors support fans of 12V DC/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. You can monitor the fan speed by way of the VT82C686B chip (providing the fan comes with a tachometer output).
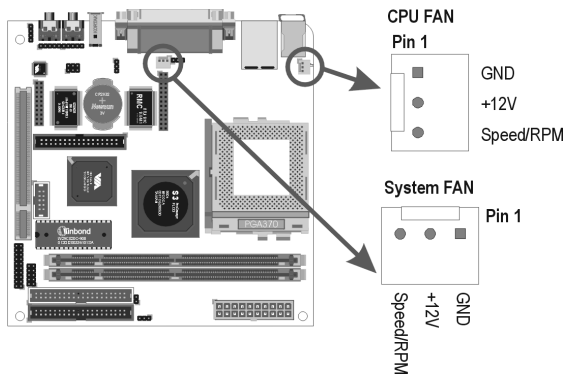
3.5.16.   PCI Connector (PCI1)

PCI connector is one of equipment interfaces that connects pheripheral equipment and motherboard. Its transfer speed is faster than traditional ISA. PCI is the mainstream transfer interface for extra adopter.
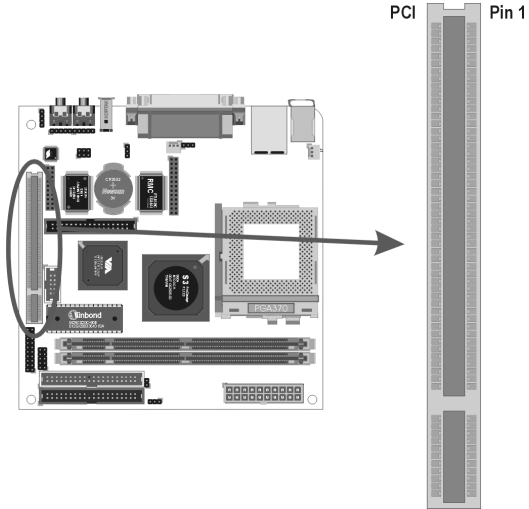
3.6. Installing the CPU

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.
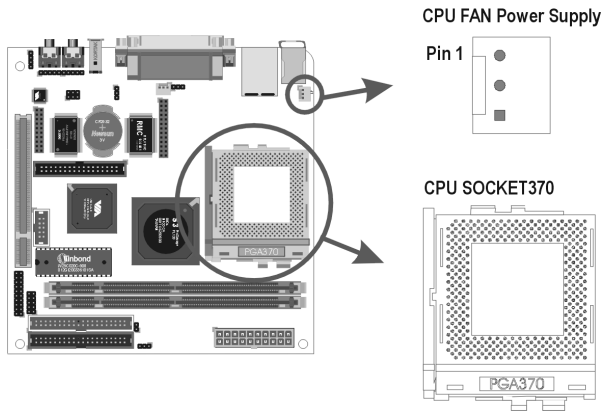
2. Push the CPU socket lever slightly to the side and then raise it as far as it can go.
3. Identify the pin-1 corner of the PGA370. The pin-1 corner is on the same side as the locking lever, as shown in the illustration below.
4. Identify the pin-1 corner of the processor (the pin-1 corner on the processor has a beveled edge).
5. Align the pin-1 corners and drop the processor into the PGA370. 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.
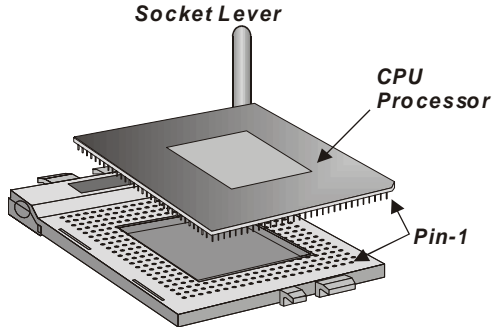
6. Swing the locking lever down to lock the processor in place and latch the lever under the catch on the side of the socket.
7. Plug the cable from the heat sink/cooling fan assembly into the processor cooling fan power supply CPU FAN.
8. Configuration of the processor is carried out using the system 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.

3.6.4.   Installing System Memory

Maximum system memory supported by the mainboard is 1 GB.

The mainboard has two DIMM Sockets. Memory can be installed using 168-pin SDRAM DIMM memory modules. There are no jumper settings required for the memory size or type, which is automatically detected by the BIOS.
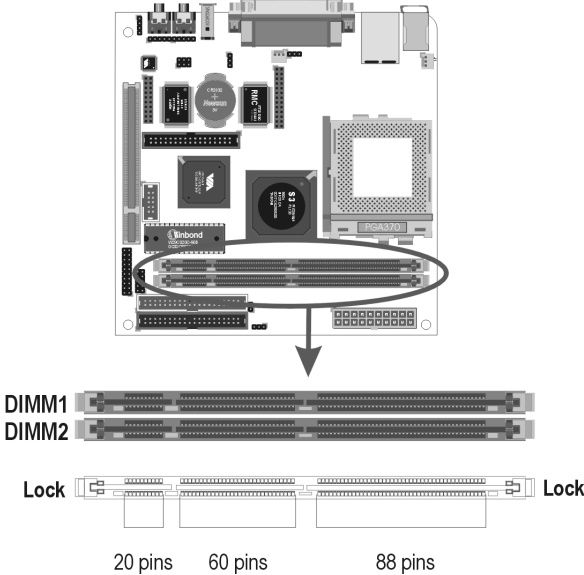
You must use 3.3V unbuffered DIMMs in the mainboard. To determine the DIMM type, check the notches on the DIMMs.
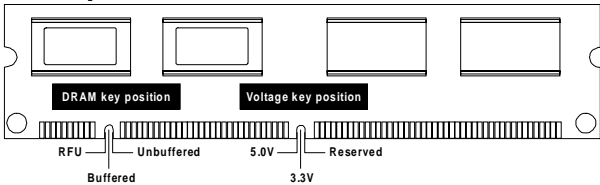
Due to the high-speed design of the mainboard, the memory modules must meet the following requirements:

DRAM TYPE	SDRAM (Synchronous DRAM)	
Module Size	Single Sided Asymmetric 1Mx64, 4Mx64, 8Mx64, 16Mx64	
	Double-Sided Asymmetric 2Mx64, 4Mx64, 8Mx64, 16Mx64, 32Mx64	
Requirements	**EDO** **Extended Data Output**	**SDRAM** **Synchronous DRAM**
	DRAM Speed *60 ns or faster* *RAS Access Time* *60 ns or faster* *CAS Access Time* *20 ns or faster*	*DIMM module* *3.3V unbuffered* *Speed Grade* *66.6 MHz or faster* *CAS latency* *3 or faster*

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

Bank 0 (DIMM1)	8/16/32/64/128/256/512 MB
Bank 1 (DIMM2)	8/16/32/64/128/256/512 MB
Total System Memory	8 MB ~ 1024 MB

3.6.5.   Setting Jumpers

Refer to the following illustration and instructions to set the jumpers on your mainboard.
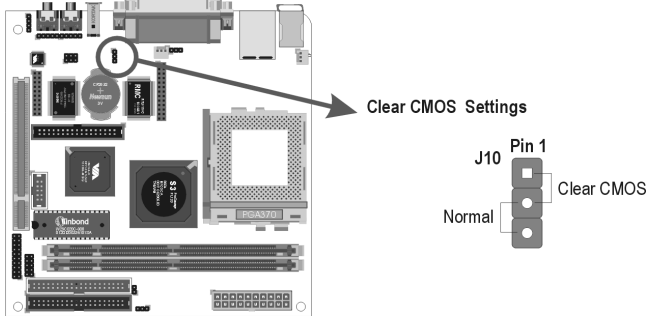
Clear CMOS Jumper (J10)

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 settings need to be 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 1 and pin 2 of J10 for five seconds.
3. Place the shunt back to pin 2 and pin 3 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 CPU clock.

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

3.6.6. Auto Power On

After losing AC power, the system will not turn on automatically when the power comes back unless you set the options in BIOS.

This concludes Chapter 3. Chapter 4 covers the BIOS setup program.

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:

```
CMOS Setup Utility - Copyright (C) 1984-2001 Award Software

 ▶ Standard CMOS Features          ▶ Frequency/Voltage Control

 ▶ Advanced BIOS Features            Load Fail-Safe Defaults

 ▶ Advanced Chipset Features         Load Optimized Defaults

 ▶ Integrated Peripherals            Set Supervisor Password

 ▶ Power Management Setup            Set User Password

 ▶ PnP/PCI Configurations            Save & Exit Setup

 ▶ PC Health Status                  Exit Without Saving

 Esc : Quit      F9 : Menu in BIOS      ↑ ↓ → ←   : Select Item
 F10 : Save & Exit Setup

                  Time, Date, Hard Disk Type...
```

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:

```
        CMOS Setup Utility - Copyright (C) 1984-2001 Award Software
                         Standard CMOS Features
   ┌─────────────────────────────────────────────┬──────────────────────┐
   │ Date (mm:dd:yy)         Sun, Dec  9 2001     │     Item Help        │
   │ Time (hh:mm:ss)         21 : 25 :  9         ├──────────────────────┤
   │                                              │ Menu Level    ▶      │
   │ ▶ IDE Primary Master                         │                      │
   │ ▶ IDE Primary Slave                          │ Change the day, mont │
   │ ▶ IDE Secondary Master                       │ year and century     │
   │ ▶ IDE Secondary Slave                        │                      │
   │                                              │                      │
   │ Drive A                 [None]               │                      │
   │ Drive B                 [None]               │                      │
   │                                              │                      │
   │ Video                   [EGA/VGA]            │                      │
   │ Halt On                 [All Errors]         │                      │
   │                                              │                      │
   │ Base Memory                   640K           │                      │
   │ Extended Memory             65472K           │                      │
   │ Total Memory                 1024K           │                      │
   │                                              │                      │
   ├──────────────────────────────────────────────┴──────────────────────┤
   │ ↑↓←:Move  Enter:Select  +/-/PU/PD:Value  F10:Save  ESC:Exit  F1:General│
   │   F5: Previous Values    F6: Fail-Safe Defaults   F7: Optimized Defaults│
   └──────────────────────────────────────────────────────────────────────┘
```

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:

▶ **IDD HDD Auto-Detection:** Press **<Enter>** while this item is high lighted 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 param eter 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.

▶ **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.

Floppy Drive A and Floppy Drive B: Options for these fields are:

△ 360K, 5.25 in.
△ 1.2M, 5.25in.
△ 720K, 3.5in.
△ 1.44M, 3.5in.
△ 2.88M, 3.5in.
△ None (Not Installed) (Drive A/B default)

The "Not Installed" option could be used as an option for diskless workstations.

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:

△ EGA/VGA (default)

△ MONO

△ CGA 40

△ CGA 80

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

△ All Errors (default)

△ No Errors

△ All, But Keyboard

△ All, But Diskette

△ All, But Disk/Key

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.

```
         CMOS Setup Utility - Copyright (C) 1984-2001 Award Software
                            Advanced BIOS Features
   ┌─────────────────────────────────────────────┬──────────────────────────┐
   │ Virus Warning              [Disabled]    ▲   │       Item Help          │
   │ CPU Internal Cache         [Enabled]         │                          │
   │ External Cache             [Enabled]         │ Menu Level    ▶          │
   │ CPU L2 Cache ECC Checking  [Enabled]         │                          │
   │ Processor Number Feature   [Enabled]         │ Allows you to choose     │
   │ Quick Power On Self Test   [Enabled]         │ the VIRUS warning        │
   │ First Boot Device          [Floppy]          │ feature for IDE Hard     │
   │ Second Boot Device         [HDD-0]           │ Disk boot sector         │
   │ Third Boot Device          [LS120]           │ protection. If this      │
   │ Boot Other Device          [Enabled]         │ function is enabled      │
   │ Swap Floppy Drive          [Disabled]        │ and someone attempt      │
   │ Boot Up NumLock Status     [On]              │ write data into this     │
   │ Gate A20 Option            [Fast]            │ area , BIOS will sh      │
   │ Typematic Rate Setting     [Disabled]    ▒   │ a warning message on     │
   │ x Typematic Rate (Chars/Sec) 6          ▒    │ screen and alarm bee     │
   │ x Typematic Delay (Msec)     250             │                          │
   │ Security Option            [Setup]           │                          │
   │ OS Select For DRAM > 64MB  [Non-OS2]         │                          │
   │ Report No FDD For WIN 95   [No]          ▼   │                          │
   ├─────────────────────────────────────────────┴──────────────────────────┤
   │ ↑↓→←:Move  Enter:Select  +/-/PU/PD:Value  F10:Save  ESC:Exit  F1:General H│
   │   F5: Previous Values    F6: Fail-Safe Defaults    F7: Optimized Defaults │
   └──────────────────────────────────────────────────────────────────────────┘
```

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 unmber may be used for verification in Internet transactions and ecommerce. 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."

1st/2nd/3rd/Boot Other Device: Use these four 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," "LS120," and "Enabled." respectively.

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 PASS-WORD" 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 "No."

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."

XX000-XXFFF 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 "Disabled."

Small Logo (EPA) Show: This setting enables or disables the EPA logo. 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:

```
      CMOS Setup Utility - Copyright (C) 1984-2001 Award Software
                     Advanced Chipset Features
   ┌─────────────────────────────────────────────────────────────────┐
     DRAM Timing By SPD       [Enabled]        ▲      Item Help
   x DRAM Clock                Host CLK
   x SDRAM Cycle Length        3                     Menu Level    ▶
   x Bank Interleave           Disabled
     Memory Hole              [Disabled]
     P2C/C2P Concurrency      [Enabled]
     System BIOS Cacheable    [Enabled]
     Video RAM Cacheable      [Enabled]
     Frame Buffer Size        [8M]
     AGP Aperture Size        [64M]
     AGP-4X Mode              [Enabled]
     AGP Driving Control      [Auto]
   x AGP Driving Value         DA
     OnChip USB               [Enabled]
     USB Keyboard Support     [Enabled]
     USB Mouse Support        [Enabled]
     OnChip Sound             [Auto]
     OnChip Modem             [Disable]
     CPU to PCI Write Buffer  [Enabled]    ▼

   ↑↓→←:Move  Enter:Select  +/-/PU/PD:Value  F10:Save  ESC:Exit  F1:General H
        F5: Previous Values     F6: Fail-Safe Defaults   F7: Optimized Defaults
```

This screen controls the settings for the board's chipset. All entries related to the DRAM timing on the screen are automatically configured. Do not make any changes unless you are familiar with the chipset.

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 allows you to control the DRAM speed. The default setting is "Host CKL."

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 "8M."

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."

On Chip Modem: This item allows you to control the onboard MC 97 Modem. The default setting is "Disabled."

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 func-tion. 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."

4.5. Integrated Peripherals

Selecting **"Integrated Peripherals"** on the main program screen displays this menu:

```
           CMOS Setup Utility - Copyright (C) 1984-2001 Award Software
                             Integrated Peripherals
   ┌────────────────────────────────────────────────┬─────────────────────┐
   │ OnChip IDE Channel0        [Enabled]        ▲   │     Item Help       │
   │ OnChip IDE Channel1        [Enabled]            │                     │
   │ IDE Prefetch Mode          [Enabled]            │  Menu Level  ▶      │
   │ Primary Master    PIO      [Auto]               │                     │
   │ Primary Slave     PIO      [Auto]               │                     │
   │ Secondary Master PIO       [Auto]               │                     │
   │ Secondary Slave  PIO       [Auto]               │                     │
   │ Primary Master    UDMA     [Auto]               │                     │
   │ Primary Slave     UDMA     [Auto]               │                     │
   │ Secondary Master UDMA      [Auto]               │                     │
   │ Secondary Slave  UDMA      [Auto]               │                     │
   │ Init Display First         [AGP]                │                     │
   │ IDE HDD Block Mode         [Enabled]            │                     │
   │ Onboard FDD Controller     [Enabled]            │                     │
   │ Onboard Serial Port 1      [Auto]               │                     │
   │ Onboard Serial Port 2      [Auto]               │                     │
   │ UART 2 Mode                [Standard]           │                     │
   │ x IR Function Duplex        Half                │                     │
   │ x TX,RX inverting enable    No, Yes         ▼   │                     │
   ├────────────────────────────────────────────────┴─────────────────────┤
   │ ↑↓→←:Move  Enter:Select  +/-/PU/PD:Value  F10:Save  ESC:Exit  F1:General H│
   │   F5: Previous Values     F6: Fail-Safe Defaults    F7: Optimized Defaults│
   └──────────────────────────────────────────────────────────────────────┘
```

OnChip IDE Channel0: The chipset contains a PCI IDE interface with support to two IDE chan-nels. Select Enabled to activate the primary IDE interface; select Disabled to deactivate this interface. The default settings are "Enabled."

OnChip IDE Channel1: 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 second-ary add-on IDE interface, set this field to Disabled if the interface does not support prefetching. The default settings are "Disabled."

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: When set to "Auto" the BIOS will automatically load the Ultra DMA 33 driver to match the transfer rate of IDE hard disk drives that support Ultra DMA 33 mode. The options are "Auto" (default) and "Disabled."

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 FDC Controller: This option enables the onboard floppy disk drive controller. 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 funcion. 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.."

If you make any changes to the onboard FDD controller, serial ports or parallel ports in this setup, save the changes and turn off the system. After powering up the system, ensure that the changes have taken effect.

4.6. **Power Management Setup**

Power Management Setup controls the mainboard's "Green" features. Selecting **"Power Management Setup"** on the main program screen displays this menu:

```
        CMOS Setup Utility - Copyright (C) 1984-2001 Award Software
                         Power Management Setup
 ┌──────────────────────────────────────────┬───────────────────────┐
 │  ACPI function            [Enabled]       │      Item Help        │
 │ ▶ Power Management        [Press Enter]   │                       │
 │  ACPI Suspend Type        [S1(POS)]       │   Menu Level    ▶     │
 │  PM Control by APM        [Yes]           │                       │
 │  Video Off Option         [Suspend -> Off]│                       │
 │  Video Off Method         [V/H SYNC+Blank]│                       │
 │  MODEM Use IRQ            [3]              │                       │
 │  Soft-Off by PWRBTN       [Instant-Off]   │                       │
 │  State After Power Failure [Off]          │                       │
 │ ▶ Wake Up Events          [Press Enter]   │                       │
 │                                           │                       │
 │                                           │                       │
 │                                           │                       │
 │                                           │                       │
 │                                           │                       │
 ├──────────────────────────────────────────┴───────────────────────┤
 │ ↑↓←→:Move  Enter:Select  +/-/PU/PD:Value  F10:Save  ESC:Exit  F1:General H│
 │     F5: Previous Values     F6: Fail-Safe Defaults    F7: Optimized Defaults│
 └──────────────────────────────────────────────────────────────────┘
```

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

> **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: This setting controls the System Doze Mode, Standby Mode, and Suspend Mode Timer features. There are four options:

△ 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."

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.

Always -->   On Monitor will remain on during power saving mode.

Suspend --> Off Monitor is blanked when the system enters the Suspend mode.

All Modes --> Off 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 "DPMS" 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 a mainboard Wake On Modem connector for this feature to work. Options are:

△ 3 (default)
△ 4
△ 5
△ 7
△ 9
△ 10
△ 11
△ NA

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 Failurs: 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. The default is "Off."

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

Press "Enter" to choose whether a specified event can wake up a system from suspend mode or not ; events include "VGA", "LPT &COM", "HDD & FDD", "PCI Mster", "PowerOn by PCI Card", "Wake Up On LAN/ Ring", "RTC Alarm Resume", "Primary INTR", and "IRQs Activity Monitoring".

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.

Power-On by PCI Card: This item enables/disables the power on function of PCI Card. The default is "Disabled."

Wake Up On LAN/Ring: This item determines the system will resume by activity of LAN/Ring. If enabled this feature enabled, system will power on itself from power-off mode when the activity of LAN/Ring. The default is "Disabled."

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 speci-

fied 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 main menu.

4.7. PnP/PCI Configurations

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 Configuration Setup utility; otherwise, the mainboard will not work properly.

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

```
          CMOS Setup Utility - Copyright (C) 1984-2001 Award Software
                             PnP/PCI Configurations
  ┌──────────────────────────────────────────────┬───────────────────────┐
  │  PNP OS Installed        [No]                 │       Item Help       │
  │  Reset Configuration Data [Disabled]          ├───────────────────────┤
  │                                               │  Menu Level   ►       │
  │  Resources Controlled By   [Auto(ESCD)]       │                       │
  │ x IRQ Resources             Press Enter       │  Select Yes if you ar │
  │ x DMA Resources             Press Enter       │  using a Plug and Pla │
  │                                               │  capable operating    │
  │  PCI/VGA Palette Snoop     [Disabled]         │  system Select No if  │
  │  Assign IRQ For VGA        [Enabled]          │  you need the BIOS to │
  │  Assign IRQ For USB        [Enabled]          │  configure non-boot   │
  │                                               │  devices              │
  │                                               │                       │
  │                                               │                       │
  │                                               │                       │
  │                                               │                       │
  │                                               │                       │
  ├──────────────────────────────────────────────┴───────────────────────┤
  │ ↑↓←→:Move  Enter:Select  +/-/PU/PD:Value  F10:Save  ESC:Exit  F1:General H│
  │   F5: Previous Values    F6: Fail-Safe Defaults   F7: Optimized Defaults │
  └──────────────────────────────────────────────────────────────────────┘
```

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 default setting is "Manual" which allows you to control IRQs and DMAs individually. The other option is "Auto" (default) which will detect the system resources and automatically assign the relative IRQs and DMAs for each peripheral.

IRQ/DMA Resources: When resources are controlled manually, assign each system interrupt a type, depending on the type of device using the interrupt.

> **IRQ3/4/5/7/9/10/11/12/14/15 assigned to:** 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 compli-ant with the Plug-and-Play standard whether designed for PCI or ISA bus architecture.

> **DMA 0/1/3/5/6/7 assigned to**: 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 specifica-tion, requir-ing 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 some 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. The default setting is "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 sytem device under Windows95/98. The default setting is "Enabled."

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

4.8. PC Health Status

On mainboards that 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:

```
       CMOS Setup Utility - Copyright (C) 1984-2001 Award Software
                            PC Health Status
   Current CPU Temp.                      ┌─────────────────────────┐
   Current System Temp.                   │        Item Help        │
   Current CPUFAN1 Speed                  │                         │
   Vcore                                  │  Menu Level      ▶      │
    1.5V                                  │                         │
    3.3V                                  │                         │
      5V                                  │                         │
     12V                                  │                         │
                                          │                         │
                                          │                         │
                                          │                         │
                                          │                         │
                                          │                         │
                                          │                         │
                                          │                         │
   ↑↓→←:Move  Enter:Select  +/-/PU/PD:Value  F10:Save  ESC:Exit  F1:General H
       F5: Previous Values      F6: Fail-Safe Defaults   F7: Optimized Defaults
```
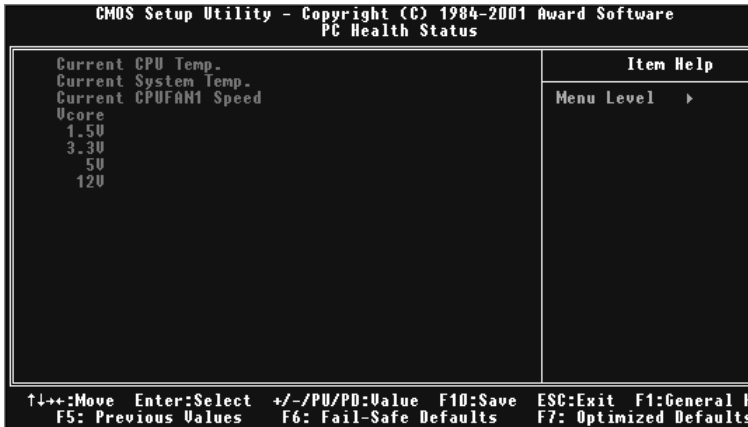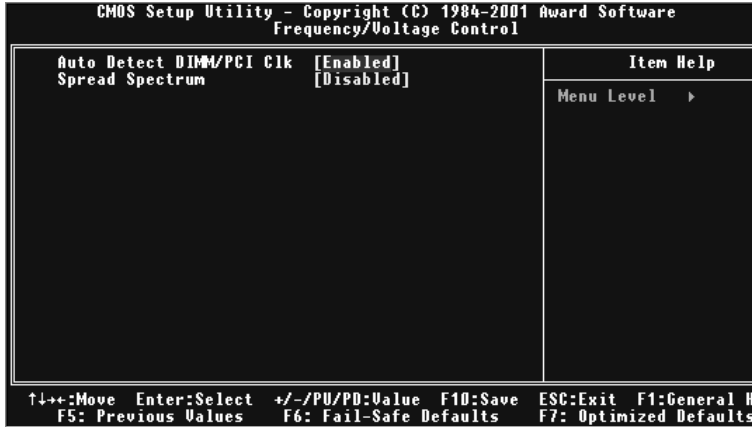
System Component Characteristics: These fields provide you with information about the systems current operating status. You cannot make changes to these fields. The following information is displayed:

  △ Current CPU temp.

  △ Current System temp.

  △ Current CPUFAN1 speed (in RPMs)

  △ Vcore

  △ 1.5 V

  △ 3.3 V

  △ 5 V

  △ 12 V

After you have made your selections in the PC Health Status Setup, press the **<ESC>** key 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 are determined by the kind of processor you have installed in your system.

```
       CMOS Setup Utility - Copyright (C) 1984-2001 Award Software
                       Frequency/Voltage Control
  Auto Detect DIMM/PCI Clk   [Enabled]              Item Help
  Spread Spectrum            [Disabled]
                                             Menu Level    ▶




↑↓←→:Move  Enter:Select  +/-/PU/PD:Value  F10:Save  ESC:Exit  F1:General H
    F5: Previous Values     F6: Fail-Safe Defaults   F7: Optimized Defaults
```

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. The default setting is "Disabled."

After you have made your selections in the Frequency/Voltage Control Setup, press the **<ESC>** key to go back to the main program screen.

4.10. Load Optimized Defaults Option

This option opens a dialog box that lets you install optimized defaults for all appropriate items in the whole Setup Utility.

Press the **<Y>** key and then **<Enter>** to install the defaults.

Press the **<N>** key 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 the **<F7>** key.

4.11. Set Supervisor/User Password

The **" Set Supervisor/User Password"** utilities set the passwords.

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.

> **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 J10 to short pin 1 and pin 2 for five seconds, then putting the shunt back to pin 2 and pin 3 of J10.

4.12. Save & Exit Setup

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

4.13. 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 P6F215 mainboard can be upgraded by using a Flash utility. A new version of the BIOS can be downloaded from the factory's BBS and Web site. The system BIOS is stored in a 1 M-bit Flash EEPROM that can be erased and reprogrammed by the Flash utility.

There are two files in the D:\DRIVER\FLASH directory:

△ FLASH.EXE   Flash utility for AWARD BIOS upgrade
△ README.TXT   Text file of instructions

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 diskette 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 by pass the CONFIG.SYS and AUTOEXEC.BAT.

5.2. CD Driver Overview

To start your mainboard CD disc, insert into your CD-ROM drive and the CD AutoRun screen should appear. If the AutoRun screen does not appear, duble click or run D:\ Autorun.exe (assuming that your CD-ROM drive is drive D:)

The P6F215 CD include
1. Install Mainboard Software (VIA)
2. Install display device driver (ProSavage)
3. Install Audio Device Software (AC97)
4. Install LAN Driver (RTL8139)
5. Install VIA System monitor driver
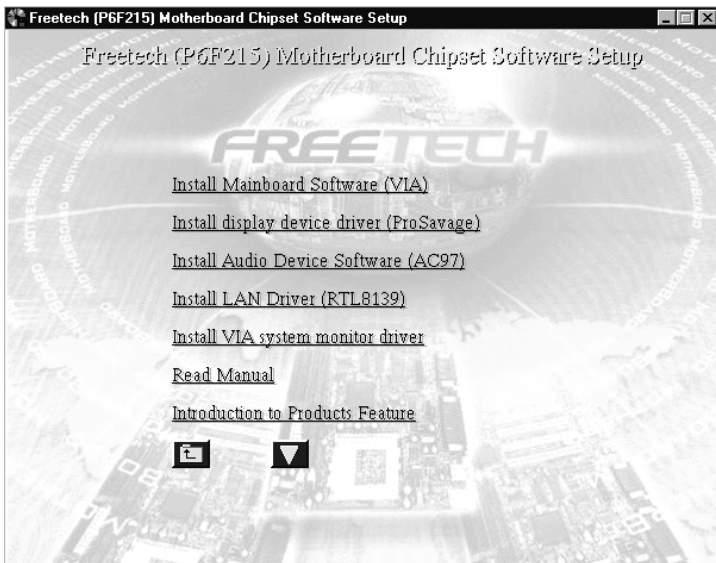
5.2.1. VIA 4 In 1 driver

This folder has 4 in 1drivers for Windows Millennium/2000/98/95/NT.

The Installation Steps:

1. Insert the manufacturer's CD-ROM into your CD-ROM drive.
2. Click **Driver** Install.
3. Select the folder **Driver\Via\4in1**driver for WIN2000/9X/ ME or NT 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's CD-ROM into your PC's CD-ROM drive.
2. Click **Driver** Install.
3. Select the folder **Driver\Via\Video\pm-pl** driver for WIN2000/ 9X/NT40/ME or LINUX 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. AC97 Audio Driver

Software and drivers are provided for the VT82C686B codec sound system that is integrated on this mainboard. The VT82C686B codec allows the system to generate optimal sound effects. Drivers are provided for Windows NT/2000/98SE/95/NT.

The manual Installation Steps:

1. Insert the manufacturer's CD-ROM into your PC's CD-ROM drive.
2. Click **Driver** Install.
3. Select the folder **Driver\Via\Audio\686** driver for WIN98SE, WIN2000/WIN95/WINNT 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 RTL8139 controller that is integrated on this mainboard. The RTL8139 controller allows the system to generate transmit effects. Drivers are provided for Windows NT/2000/98/95/ME/CE.

The Installation Steps:
1. Insert the manufacturer's CD-ROM into your PC's CD-ROM drive.
2. Click **Driver** Install.
3. Select the folder **Driver\\Lan\8139** driver for WIN98, WIN2000/WIN95/WINNT/WINME/WINCE 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.

5.3. 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