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1 Introduction

The P5F111 is a quality, high performance, function enhanced mainboard based on the powerful Intel P54C/P55C, AMD K5/K6/K6-2/K6-3, Cyrix 6x86/M II and IDE WinChip C6 family processor.

With a built-in VIA AGP graphics Chip, Ultra DMA-33/66 Bus Mastering IDE controller, concurrent PCI bus, USB ports and built-in AC97 Digital Audio Controller. It has 1MB or 2MB (optional) pipelined-burst second-level cache on board and two Dual Inline Memory Modules (DIMMs) allow as much as 512MB of 3V SDRAM/EDO memory or 512MB of 3V EDO memory.

The board offers outstanding I/O capabilities, with Ultra DMA-33/66 Bus Mastering IDE interfaces, a floppy controller, two serial port connectors, an EPP/ECP-capable parallel port connector, and IrDA-compatible infrared port, two USB connectors, two USB ports, and more. The three PCI local bus slots, two ISA bus slots, and one AMR slot provide outstanding expandability for add-on peripheral cards.

In addition, the board features a synchronous switching regulator and advanced power and system management functions. The board's BIOS supports automatic device detection--making setup of hard drives, expansion cards, and other devices virtually automatic.

1.1 Features

This section presents an overview of the board's special features.

VIA Apollo MVP4

The Apollo MVP4 is an advanced System Multimedia Architecture (SMA) PC core logic chipset for Socket 7 PC systems. The VIA Apollo MVP4 is a combination of the widely successful VIA Apollo MVP3 chipset and a high performance 2D/3D AGP graphics with setup engine and DVD hardware acceleration (Trident Blade 3D 9880). Paired with the new VIA VT82C686A Super South bridge. The MVP4 is a compelling solution for cost-effective, full-feature desktop and mobile PC designs.

AGP VGA

Integrates an AGP 2.0 - Complaint 2D/3D AGP graphics controller into the north bridge of the chipset, 64-bit 2D/3D graphics engine, and video accelerator with advanced DVD video.

AC97 Audio

Integrated AC97 2.0 (meets PC 98^(TM) Basic Audio Specification) and Sound Blaster-compatible legacy audio.

ISA and PCI Expansion Slots

Provides two 16-bit ISA expansion slots and three 32-bit PCI expansion slots.

Versatile Memory Configuration

The two DIMM sockets support up to 512MB of 3.3V SDRAM memory. Synchronous Dynamic Random Access Memory (SDRAM) provides optimized performance through increased data transfer rate.

Ultra DMA-33/66 Bus Mastering IDE Controller

Provides an Enhanced Intelligent Drive Electronics (IDE) hard disk controller. Support for Ultra DMA-33/66 speeds up disk drive access.

Flash ROM BIOS and Enhanced ACPI

The programmable Flash ROM BIOS offers Advanced Configuration and Power Interface (ACPI). ACPI enables ACPI-supported operating systems (such as Windows 98) and applications to direct system power management.

Synchronous Switching Regulator

The highly efficient synchronous switching design reduces power consumption and heat generation.

External Modem Wakeup (Remote Ring On) (WOM)

With an optional phone line and modem, the board can turn on automatically to answer a phone call.

Wake on LAN (WOL)

Provides a connector to an optional PCI LAN card (with remote wakeup capabilities) so that a remote server can turn on the system through a network.

RTC Walk-up Timer

The RTC wakeup timer can turn on your system at a predefined date and time.

Dual-Function Power Button (Soft-Off Control)

Use the power button to turn off the system instantly or with “soft-off” control. When soft-off is selected, pressing the power button will cause the system to enter Sleep (Suspend) mode. With soft-off, the system won’t turn off unless you continuously hold the power button for 4 seconds or longer. This prevents you from accidentally turning off the system.

System Sleep (Suspend) Mode

To conserve energy, the system employs the following measures when in Sleep (Suspend) mode:

The CPU stops running

The chipset and related circuits go to the lowest power state

The hard disk stops spinning

The monitor goes blank

The CPU cooling fan and system fan are turned off

The Power LED indicator on the front panel dims when the system is in Suspend mode. (If you are using a 3-pin LED, it can display a different color when the system is in Suspend mode).

Desktop Management Interface (DMI)

Supports DMI through the BIOS, which creates a higher level of compatibility by allowing hardware to communicate with a standard protocol.

Super Multi-I/O

Provides two high-speed UART-compatible serial ports and a parallel port with EEP and ECP capabilities. For wireless connections, you can connect an optional infrared module to the IrDA-compatible infrared port.

Automatic Device Detection

Auto-detection support in BIOS makes installation of hard drives, and other devices samples.

1.2 Specifications

Hardware

CPU	Intel® P54C/P55C, AMD K5/K6/K6-2/K6-3, Cyrix 6x86/M II and IDE WinChip C6 Family
VRM	Synchronous switching regulator; provides 1.3V to 3.5V operating voltage
Coprocessor	CPU built-in floating point unit
Speed	System bus clock 66/68/75/83/95/100/112MHz PCI bus clock 27.7/31.75/33.3/34.25/37.5/37.75MHz ISA bus clock 8.33MHz
Chipset	VIA MVP4 (VT8501/VT82C686A)
EIDE Controller	Dual-Channel Enhanced Intelligent Drive Electronics (EIDE) interface supports up to 4 IDE hard disk drives or CD drives; Supports PIO mode 0 through mode 4 drives; Supports Bus Mastering DMA mode 2 drives and Bus Mastering Ultra DMA-33/66 drives
Enhanced I/O	Two serial ports (16550-compatible UART) Parallel port with bidirectional lines supports Standard Parallel Port (SPP), Enhanced Parallel Port (EPP), and Extended Capabilities Port (ECP) IrDA-compatible infrared port
Mouse/Keyboard	PS/2 mouse connector PS/2 keyboard connector
Expansion Slots	3 X 32-bit PCI slots and 2 X 16-bit ISA slots One AMR Slot

Power Management	Compliant with EPA, APM 1.2 and ACPI AT soft-off power control ATX soft-off power control Power - On by Keyboard & PS/2 mouse Power - On by Modem Ring Power - On by Alarm Power - On by Network Card (WOL) Sleep state indicator Fan off in sleep mode
System Management	VIA 686A include PC Health Monitor
Voltage Regulator	Switching regulator
Form Factor	AT Form Factor, 22.0cm x 24.0cm (7.25"x 7.9")

Software

BIOS	AWARD AGP/PCI BIOS 2M-bit Flash BIOS with ESCD block Supports APM, PnP, Multi-Boot, DMI and EIDE devices Supports Removable Media Drive
Driver Utility	IDE Bus mastering Ultra DMA driver Flash utility for BIOS upgrade Hardware Doctor Utility AGP VxD Driver On Chip Trident AGP Driver Audio drivers
O.S.	Operates with MS_DOS 6.2x, Windows 3.x, Windows 95, Windows 98, Windows NT4.x, Window NT5x, OS/2 Warp 4.0, Novell Netware, Novell UnixWare 1.1 and SCO Unix 5.0.x

Environment

Ambient Temperature	0°C to 50° C (Operating)
Relative Humidity	0 to 85% (Operating)
Vibration	0 to 500 Hz
DC Voltage	4.9V to 5.2V
DC Voltage	1.8 V to 3.50V
DC Voltage	-5V, +12V, -12V, +5V _{SB} 5% tolerance.

1.3 What You Have

The P5F111 mainboard comes securely packaged in a sturdy cardboard shipping carton. In addition to this *User's Manual*, the shipping carton contains:

The mainboard

CD with support drivers and utilities OR Diskette with drivers and utilities.

COM1, COM2, VGA, Sound, Printer, Floppy disk drive and IDE ribbon cables

If any of these items is missing or damaged, contact the dealer from whom you purchased the mainboard. Save the shipping materials and carton in case you want to ship or store the board in the future.

Inside the carton, the mainboard is sandwiched between sheets of sponge and packed in an anti-static bag. After you unpack the board, inspect it for damage. Press down all the integrated circuits to make sure they are properly seated in their sockets. Do not apply power to the board if it appears to have been damaged.

1.4 Precautions

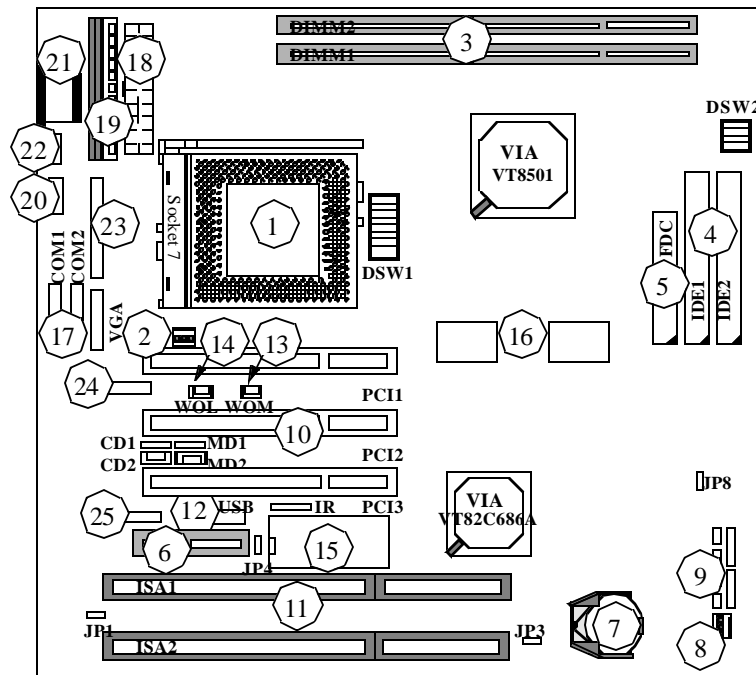
Electrostatic discharge may damage the mainboard. Make sure you ground yourself before handling the mainboard or other system components.

Do not remove the anti-static packaging until you are ready to install the mainboard.

Ground yourself before removing any system component from its protective anti-static packaging. To ground yourself, grasp the expansion slot covers or other unpainted parts of the computer chassis.

Handle the mainboard by its edges and avoid touching its components.

1.5 Board Layout



- | | |
|---------------------------------|---------------------------------------|
| 1. CPU Socket | 15. Flash BIOS |
| 2. CPU FAN Connector | 16. 512KB/1MB/2MB Pipeline Cache Chip |
| 3. DIMM Memory Module Sockets | 17. Serial Port Connector (COM1) |
| 4. IDE Connectors | Serial Port Connector (COM2) |
| 5. Floppy Drive Connector | VGA Connector |
| 6. AMR Slot | 18. ATX Power Connector (PW2) |
| 7. RTC Battery (CR2032 Lithium) | 19. AT Power Connector (PW1) |
| 8. Secondary FAN Connector | 20. Primary Dual USB Connector |
| 9. Front Panel Connectors | 21. PS/2 Keyboard Connector |
| 10. PCI Expansion Slots | 22. PS/2 Mouse Connector |
| 11. ISA Expansion Slots | 23. Printer Connector |
| 12. Secondary Dual USB Port | 24. Game Port |
| 13. Wake on Modem | 25. Audio Port |
| 14. Wake on LAN Header | |

1.5.1 Jumper Switches

The board's jumper switches and their functions are listed in the table below. For the location of the switches on the board, see the layout diagram on the previous page.

Switch	Function
SW1	CPU to BUS Frequency Ratio
SW1	CPU External (BUS) Frequency Selection
JP3	Real-Time Clock
SW2	Vcore Voltage
JP1	Enabled/Disabled Onboard AC97 Audio Codec

1.5.2 Expansion Slots

The bus and memory expansion slots are listed in the table below. For the location of the slots on the board, see the layout diagram earlier in this section.

Slot	Function
Socket 7	CPU socket for Intel P54C/P55C, AMD K5/K6/K6-2/K6-3, Cyrix 6x86/M II and IDE WinChip C6 family processors
DIMM1, DIMM2	168-pin expansion slots for 3.3V SDRAM or EDO DRAM memory
PCI1, PCI2, PCI3	32-bit PCI bus expansion slots for optional PCI cards
ISA1, ISA2	16-bit ISA bus expansion slots for optional ISA cards
AMR	For AC97 Modem/Audio Card

1.5.3 Onboard Connectors

This section describes the connectors on the mainboard. For the location of the connectors on the board, see the layout diagram earlier in this section.

Connector	Description
Mouse	PS/2 Mouse connector. This dual-row 8 pin connector connects to the PS/2 port cable with a mounting bracket.
Keyboard	PS/2 Keyboard connector. The 5V line to the PS/2 keyboard is protected with 3Amp/125V fuse.
USB1, USB2	Universal Serial Bus ports. Connect USB devices to these connectors.
LPT	Parallel Printer connector. Connect a parallel printer or EPP/ECP device to this port.
COM1, COM2	Serial connectors. Connect serial devices to these 10-pin connectors. Connect the other ends of the cable to the secondary serial port.
VGA	VGA connectors. Connect CRT monitor to these 16-pin connectors.
Game/MIDI	Game/MIDI Port connector. Connect a MIDI device or joystick to this connector.
Audio	<ol style="list-style-type: none">1. Speaker connector. Plug a set of externally powered speakers.2. Line In connector. Plug an input line.3. Microphone connector. Plug an optional microphone.

Connector	Description
PW1	AT Power Supply connector. Use this connector to connect the board to an AT power supply.
PW2	ATX Power Supply connector. Use this connector to connect the board to an ATX power supply.
FAN1, FAN2	Fan connectors. Connect cooling fans to these connectors.
IR	IrDA connector. Connect an optional wireless transmitting and receiving infrared module to this connector.
FDC	Floppy Disk Drive connector. Connect the single end of a floppy disk drive cable to this 34-pin connector block. Connect the other ends of the cable to one or more floppy disk drives.
CD1, CD2	CD-ROM Audio Input connectors. Depending on the type of installed CD-ROM drive, connect the CD-ROM drive cable to one of these connectors: CD1 is for the Sony CD-Audio interface; CD2 is for the Mitsumi/Panasonic interface. Connect the other end of the cable to the CD-ROM drive.
WOL	Wake on LAN connector. Connect an optional LAN card to this 3-pin connector. This allows the system to power up when a wakeup signal is received from the network through the LAN card.
WOM	Wake on Modem connector. Connect an optional Modem card to this 3-pin connector. This allows the system to power up when a wakeup signal is received from the network through the Modem card.

Connector	Description
IDE1, IDE2	<p>Primary IDE connector. Connect the single end of the included IDE cable to this 39-pin connector block. Connect the other ends of the cable to one or more hard disk drives. Note that if you install two hard disk drives with this connector, you must set the second drive to Slave mode. (For a description of using Master and Slave modes, refer to the documentation that came with your hard disk drive.)</p> <p><i>(i) To have two hard disk drives both configured to Master mode, attach one drive to the IDE1 connector and another to the IDE2 connector.</i></p>
Front Panel Connector	<p>Connect these connectors to the appropriate features on the front panel: Power LED, internal speaker, HDD LED, Reset button, and Power Switch.</p>

2 Mainboard Installation

2.1 Installation Steps

The P5F111 is designed to fit into a standard AT form factor chassis. The pattern of the mounting holes and the position of the back panel connectors meet the AT system board specification. Chassis may come 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.

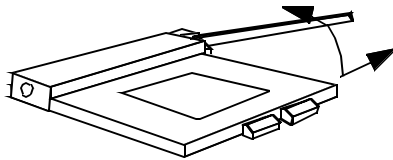
To install the mainboard you need to

- 1.Installing CPU**
- 2.Installing system memory**
- 3.Attach the connectors**
- 4.Set jumpers on the mainboard**

2.2 Installing CPU

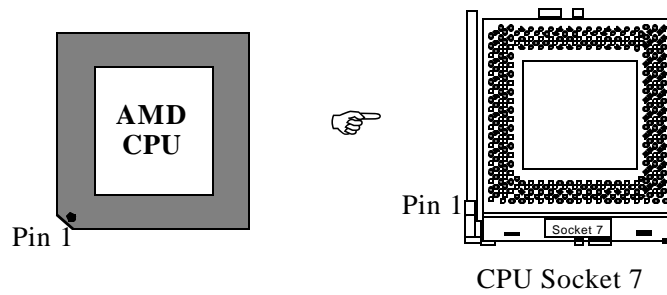
To avoid being broken by the pressure of CPU insertion, the mainboard must be placed on a flat anti-static surface before the CPU is installed. Do not touch the CPU pins with your fingers during the installation.

1. Push the CPU ZIF socket's lever to the side a little and raise it as far as it can go.

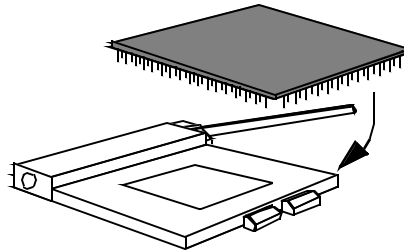


Chapter 2: Hardware Installation

2. Align the CPU with the ZIF Socket 7 so that the pin 1 (cut corner) of CPU is at the pin 1 of the Socket 7 as shown in the figure below, then insert the CPU into the socket.



3. Press the lever down to snap it into place at the side of socket. You will feel some resistance as the pressure starts to secure the CPU in the socket.



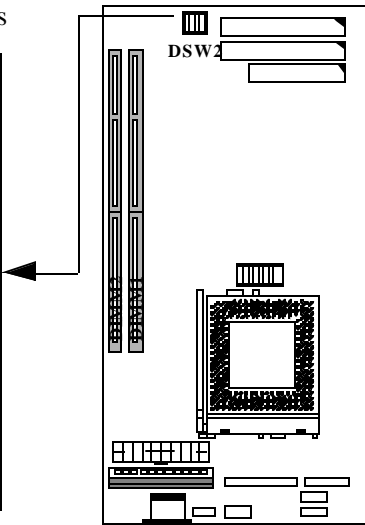
4. Install a heatsink with a cooling fan that is required to protect the CPU from being damaged due to overheating.

2.2.1 Setting the CPU Vcore Voltage (SW2)

The P5F111 supports CPU voltages from 2.1V to 3.5V.

DIP SWITCH (SW2) selects CPU Voltages

CPU Voltage	SW2-P1	SW2-P2	SW2-P3	SW2-P4
2.1	OFF	OFF	OFF	ON
2.2	OFF	OFF	ON	OFF
2.3	OFF	OFF	ON	ON
2.4	OFF	ON	OFF	OFF
2.5	OFF	ON	OFF	ON
2.6	OFF	ON	ON	OFF
2.7	OFF	ON	ON	ON
2.8	ON	OFF	OFF	OFF
2.9	ON	OFF	OFF	ON
3.0	ON	OFF	ON	OFF
3.1	ON	OFF	ON	ON
3.2	ON	ON	OFF	OFF
3.3	ON	ON	OFF	ON
3.4	ON	ON	ON	OFF
3.5	ON	ON	ON	ON



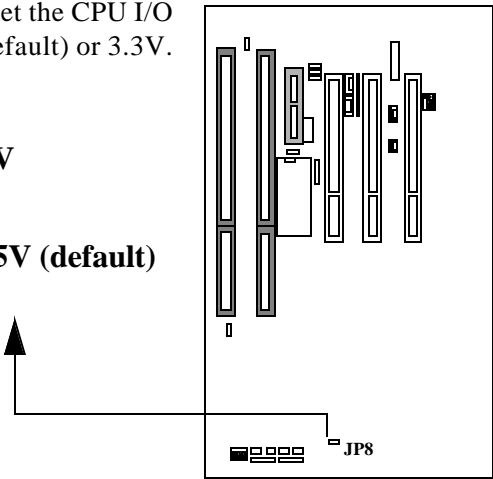
2.2.2 Setting the CPU I/O Voltage (JP8)

This jumper allows you to set the CPU I/O voltages to either 3.45V (default) or 3.3V.

Set V_{I/O} equal to 3.3V



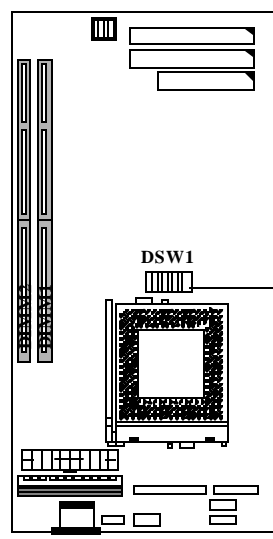
Set V_{I/O} equal to 3.45V (default)



2.2.3 Setting the CPU External Frequency (SW1)

IBM/Cyrix 6x86/MX/MII, IDT C6/WINCHIP2 are designed to have internal and external frequency. The SW1 is the external frequency selector for clock generator and the BUS/PCI clock dividers for the MVP4 chipset. You should set all these jumpers for system running in proper frequency. Please set the CPU external frequency according to following table:

DIP SWITCH (SW1) selects CPU Bus Clock



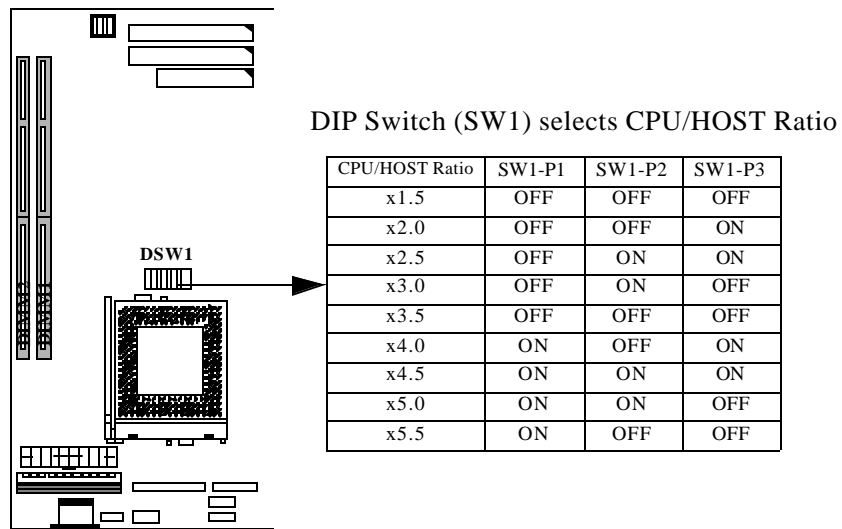
CPU(MHz)	SW1-P4	SW1-P5	SW1-P6	SW1-P7
60	OFF	OFF	OFF	OFF
66.8	OFF	OFF	OFF	ON
70	OFF	OFF	ON	OFF
75	ON	OFF	OFF	OFF
80	OFF	ON	OFF	OFF
80	ON	OFF	OFF	ON
83.3	ON	OFF	ON	OFF
90	OFF	OFF	ON	ON
95.25	OFF	ON	ON	OFF
97	OFF	ON	OFF	OFF
100	OFF	ON	ON	ON
105(103)	ON	OFF	ON	ON
110(107)	ON	ON	OFF	OFF
115(112)	ON	ON	OFF	ON
120(117)	ON	ON	ON	OFF
124(122)	ON	ON	ON	ON

The CPU core frequency = ratio * external bus clock

Warning: The VIA MVP4 chipset supports maximum 100MHz external CPU bus clock, if you want your system running at over-frequency 112MHz, you should have faster SDRAM, PCI add on card and good heat dissipation CPU fan. Otherwise, that may cause your system to become unstable. We recommend you to use the standard CPU frequency for normal operation.

2.2.4 Setting the CPU to BUS Frequency Ratio (SW1)

The CPU to BUS frequency ratio is selected by SW1. Please set the ratio as following table:



The Intel Pentium P55C 233MHz, AMD (K6-PR233/K6-2-333/350), IBM/Cyrix MII-PR300 are using 1.5x jumper setting for 3.5 x frequency ratio.

2.3 Installing Memory

A Dual In-Line Memory Module (DIMM) is a small circuit board filled with DRAM chips that can be installed in one of the board's DIMM sockets.

The board's two DIMM sockets allow as much as 256MB of 3.3V V EDO DRAM memory. The DIMM socket supports 1Mx64/72 (8MB), 2Mx64/72(16MB), 4Mx64/72(32MB), 8Mx64/72(64MB), 16MBx64/72(128MB), 32Mx64/72(256MB) single or double sided DIMM modules. You can install a DIMM into any DIMM socket. Mixing DRAM type within one system is not supported. There are no jumper settings required for the memory size or type, as there are automatically detected by the BIOS.

In order to create a memory array, the following set of rules allows for optimum configurations.

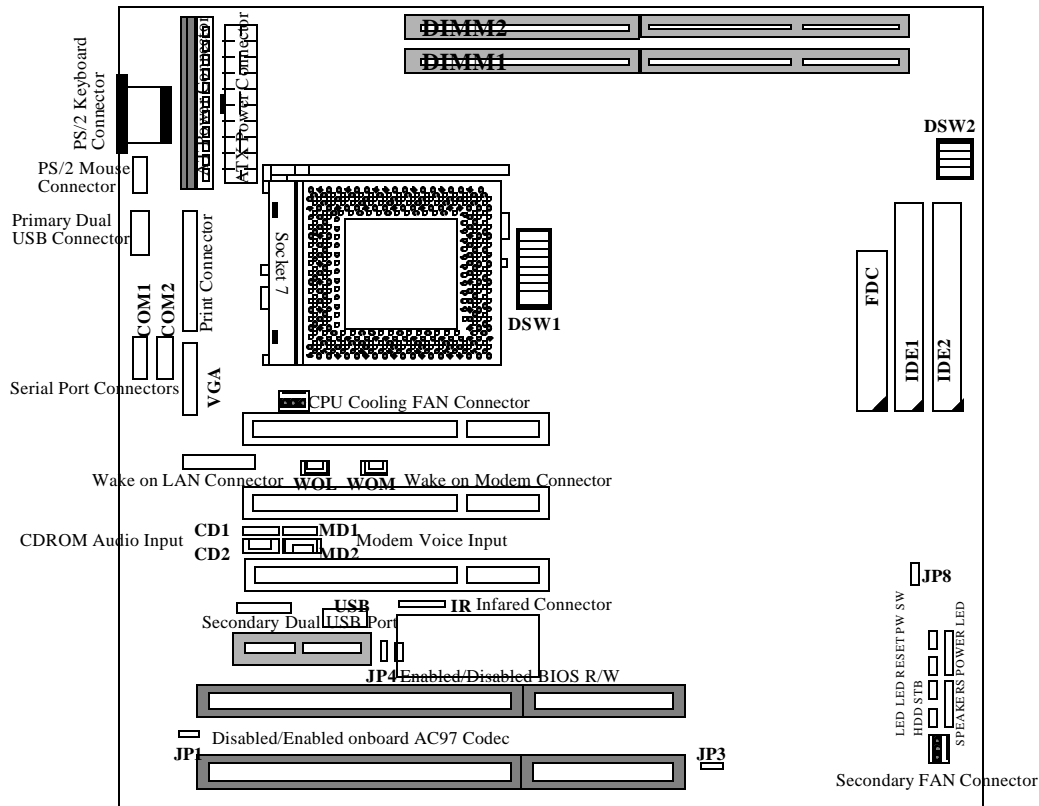
- 1.The memory array is 64- or 72-bits wide (with or without ECC).
- 2.Those modules can be installed in any order.
- 3.Supports single- and double-density DIMM.
- 4.EDO memory speed: 60ns or faster (only for 66MHz system clock).
- 5.SDRAM memory speeds 66.6MHz or faster; CAS latency: 2 or 3.

The following table is the valid memory configuration:

Bank	DIMM Module	Total Memory
Bank 0 (DIMM1)	EDO/SDRAM 4,8,16,32,64,128,256MB	4~256MB
Bank 1 (DIMM2)	EDO/SDRAM 4,8,16,32,64,128,256MB	4~256MB
Total System Memory		4~512MB

2.4 Attaching Connectors

P5F111 Mainboard Connector/Jumper Location



Jumpers:

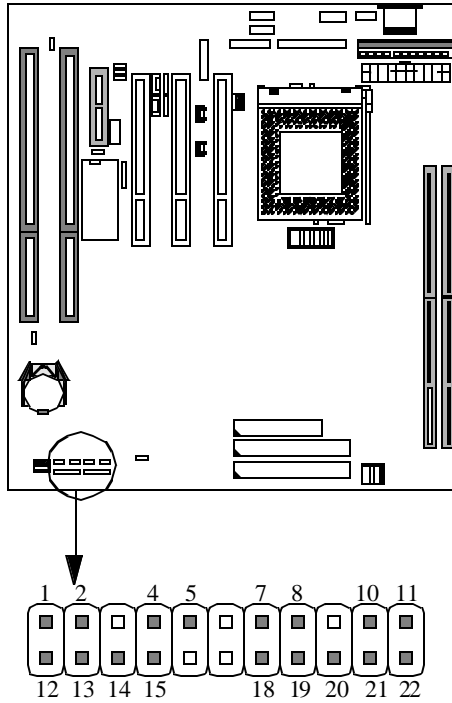
- JP1: 1-2 Disabled onboard Sound
2-3 Enabled onboard Sound (default)
- JP3: 1-2 Normal Mode (default)
2-3 Clear CMOS RAM
- JP4: 1-2 Disable BIOS R/W
2-3 Enable BIOS R/W (default)
- JP8: 1-2 V_{I/O}: 3.45V (default)
2-3 V_{I/O}: 3.3V

Connectors:

- WOL: Wake on LAN Connector
- WOM: Wake on Modem Connector
- CD1: CDROM Audio Signal Input (JST Type)
- CD2: CDROM Audio Signal Input (MPC2 Type)
- MD1: MODEM Voice Signal Input (JST Type)
- MD2: MODEM Voice Signal Input (MPC2 Type)

1. Front Panel Connectors

There are 7 connectors on the mainboard for speaker, switches and indicator lights on the system's front panel



Front Panel Connector

Function	PIN #
HDD LED	1-2
STB LED	4-5
RESET	7-8
POWER SWITCH	10-11
PC SPEAKER	12-15
POWER LED	18-20

Front Panel Connector Pin Assignment

PIN	Function
1	HDD LED+
2	HDD LED-
4	STB LED+
5	STB LED-
7	Power Good
8	Ground
10	Power On/Off
11	Ground
12	Speaker out
13	Ground
14	Ground
15	+5V
18	PW LED+
19	N.C.
20	PW LED-

HDD LED Connector

This 2-pin connector connects to the case-mounted HDD LED to indicate hard disk activity.

STB LED Connector

This 2-pin connector connects to the case-mounted STB LED to indicate standby or power status. The STB LED will still on when system is off to indicate the AC power condition.

Reset Connector

This 2-pin connector connects to the case-mounted reset switch and is used to reboot the system.

Power Switch Connector

This 2-pin connector connects to the case-mounted Power button to turn on/off the system power.

Speaker Connector

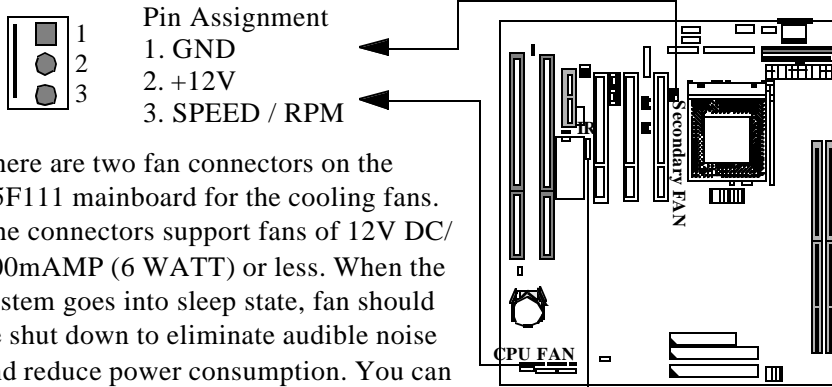
This 4-pin connector connects to the case-mounted speaker

Power LED Connector

This 5-pin connector connects to the power LED.

The front panel on your case may have a turbo switch to deactivate the Turbo mode when a slower speed is required for a specific application. P5F111 does not support the hardware deturbo function. An alternative method of using <CTRL><ALT><+/-> keys to change the speed may be used if necessary.

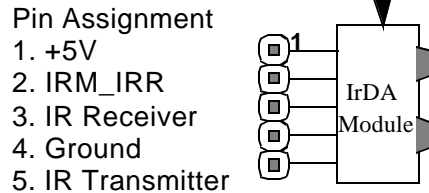
2. Fan Connectors



There are two fan connectors on the P5F111 mainboard for the cooling fans. The connectors support fans of 12V DC/ 500mAMP (6 WATT) or less. When the system goes into sleep state, fan should be shut down to eliminate audible noise and reduce power consumption. You can monitor the fan speed, and the fan must come with a tachometer output.

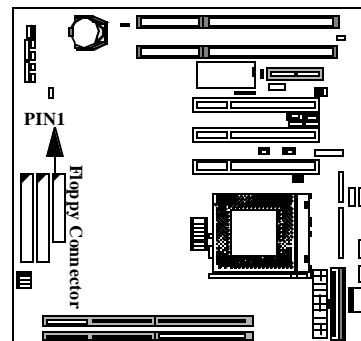
3. IrDA-compliant IR (Infrared) Connector

This 5-pin connector connects to an wireless transmitting and receiving infrared module via a cable and a bracket connect to back panel. This cable and mounting bracket should come with the IrDA modules.



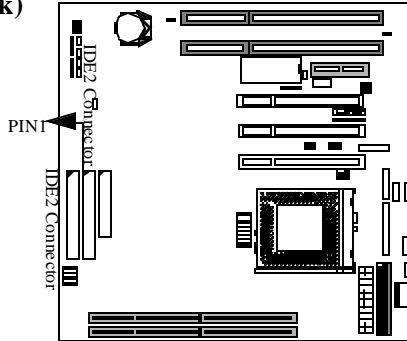
4. Floppy Drive Connector (One 34-pin Block)

A floppy disk drive ribbon cable has 34 wires and 2 connectors to support 2 floppy disk drives. The connector with twisted wires always connects to drive A, and 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 is at the pin 1 of the I/O port connector.



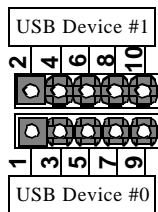
5. IDE Connectors (Two 40-pin Block)

An IDE drive ribbon cable has 40 wires and 2 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.

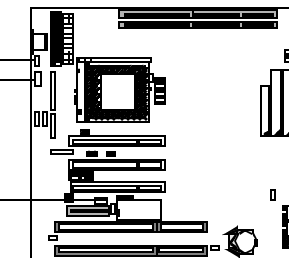


Consult the documentation that comes with your IDE drive for details on jumper locations and settings. You must orient the cable connector so that the pin 1(color) edge of the cable is at the pin 1 of the I/O port connector.

6. USB Connector



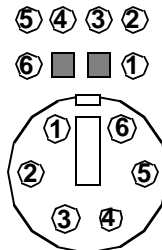
- Pin Assignment**
- 1. +5V 2. +5V
 - 3. USB D0- 4. USB D1-
 - 5. USB D0+ 6. USB D1+
 - 7. Ground 8. Ground
 - 9. Ground 10. Ground



This dual-row 10 pin connector connects to an optional dual USB ports cable with a mounting bracket.

7. PS/2 Mouse Connector

This dual-row 8 pin connector connects to the PS/2 port cable with a mounting bracket.



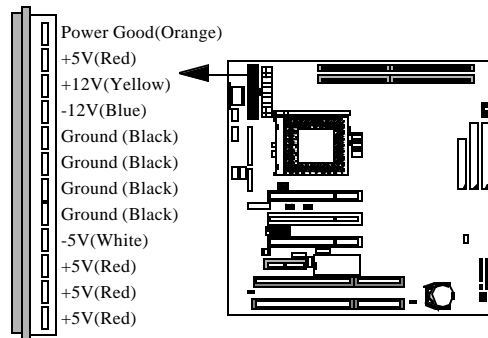
- Pin Assignment**
- 1. N.C.
 - 2. +5V
 - 3. N.C.
 - 4. MSDATA
 - 5. GND
 - 6. MSCLK

8. Power Supply Connector

The P5F111 mainboard provides two power connectors to support either AT or ATX power supplies connectors. This gives you the flexibility to use either an AT power supply or an ATX power supply in your system. There are no jumper settings required for the AT or ATX power supply, which is automatically take care by the Mainboard BIOS.

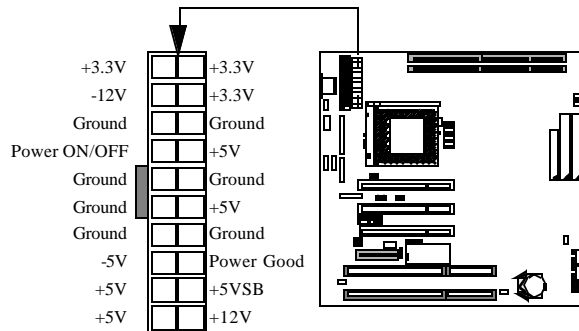
AT Power Connector

Most AT power supplies have two connectors. Each connector has six wires, two of which are black. Orient the two connectors so the black wires are along side each other, making the black wires plug in the middle of the connector. Align the plastic guide pins on the lead cables with the connector on the mainboard. Press the lead connector so that its plastic clips snap into place and secure the leads in the connector.



ATX Power Connector

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.

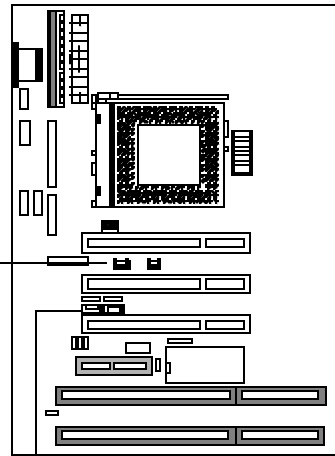
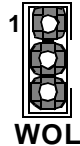


⚠ *Incorrect installation of the power supply could result in serious damage to the mainboard and connected peripherals. Make sure the power supply is unplugged from the AC outlet before connecting the leads from the power supply.*

9. Wake on LAN Connector:

This 3-pin header is used for remote wake up of the computer through a network.

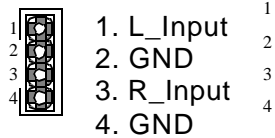
- Pin Assignment
1. +5V_{SB}
 2. GND
 3. Wake-up signal



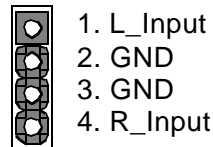
10. CD-ROM Audio Input Connector:

This 1x4 header is used for CD-ROM Audio input signal. The pin out and connect type are different between CD1 and CD2. CD2 is MPC2 type connector which is for SONY/ATAPI CD-ROM. CD1 is JST type connector which is for MITSUMI/PANASONIC CD-ROM.

CD2 Pin Assignment



CD1 Pin Assignment



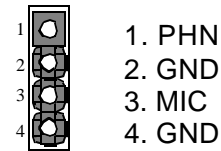
11. Modem Voice Input Connector:

This 1x4 header is used for Voice Modem's internal connector. This allows modem's voice can be direct to the onboard sound chip and amplified by speaker. The pin out and connect type are different between MD2 and MD1. MD1 is a JST type connector and MD2MD2 is a MPC2 type connector.

MD2 Pin Assignment



MD1 Pin Assignment

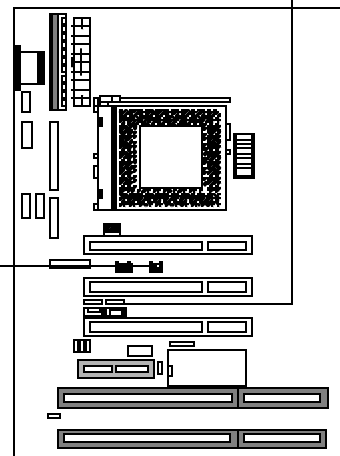
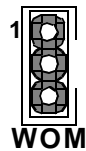


12. Wake on Modem Connector:

This 3-pin header is used for remote wake up of the computer through a network.

Pin Assignment

- 1. +5V_{SB}
- 2. GND
- 3. Wake-up signal



2.5 Set Jumpers on the Mainboard

1. AC97 Codec Setting (JP1)

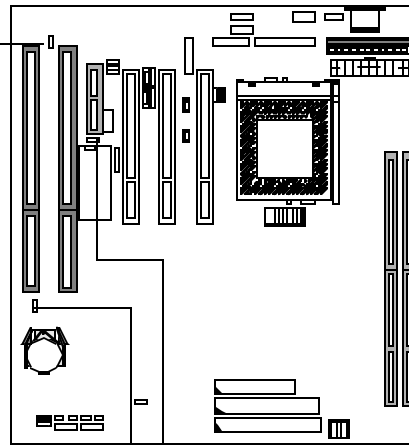
This jumper allows you to enable or disable the onboard audio. This is normally set to enable unless you add an audio expansion card in which case you would need to disable the onboard audio to prevent hardware conflict.

Enabled onboard AC97 Codec

1 JP1

Disabled onboard AC97 Codec

1 JP1



2. Clear CMOS and Password (JP3)

If your system can not boot up because you forget your password, or the CMOS settings need to be reset to default values after the system BIOS has been updated, the following instructions can be performed to clear the CMOS and password.

1. Power off the system
2. Place a shunt to short pin2 and pin3 of JP3 for 5 seconds
3. Put the shunt back to pin1 and pin2 of JP3
4. Power on the system

3. BIOS R/W Setting (JP4)

This jumper allows you to enabled **Enabled BIOS R/W (default)** or disable the BIOS R/W.

1 JP4

Disabled BIOS R/W

1 JP4

3 BIOS Configuration

After hardware configuration of P5F111 Mainboard is completed, and system hardware has been assembled, the completed system may be powered up. At this point, CMOS setup should be run to ensure that system information is correct.

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.

3.1 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. If the error occurs before the display device is initialized, a series of beeps will be transmitted. 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 key. The “CMOS SETUP UTILITY” screen will be displayed at this time.

3.2 CMOS SETUP UTILITY

Main Program Screen

ROM PCI/ISA BIOS (2A5LHF2A) CMOS SETUP UTILITY AWARD SOFTWARE, INC.	
STANDARD CMOS SETUP SYSTEM MONITOR IDE HDD AUTO DETECTION LOAD SETUP DEFAULTS SAVE & EXIT SETUP EXIT WITHOUT SAVING	BIOS FEATURES SETUP CHIPSET FEATURES SETUP POWER MANAGEMENT SETUP PNP/PCI CONFIGURATION INTEGRATED PERIPHERALS SUPERVISOR PASSWORD USER PASSWORD
Esc: Quit F10: Save & Exit Setup	↑ ↓ → ← : Select Item <Shift>F2 : Change Color

This screen provides access to the utility's various functions.

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

<ESC>: Exit the utility.

ARROW KEYS: Use arrow keys to move cursor to the desired selection.

<F10>: Saves all changes made to Setup and exits program.

<Shift> <F2>: Changes background and foreground colors.

3.3 STANDARD CMOS SETUP

Selecting “STANDARD CMOS SETUP “on the main program screen displays this menu:

Standard CMOS Setup Screen

ROM PCI/ISA BIOS (2A5LHF2A) STANDARD CMOS SETUP AWARD SOFTWARE, INC.																			
Date (mm:dd:yy): Thr, Apr 30 1999																			
Time (hh:mm:ss): 10:10:10																			
HARD DISKS	TYPE	SIZE	CYLS	HEAD	PRECOMP	LANDZ	SECTOR	MODE											
Primary Master	:	0	0	0	0	0	0	0	NORMAL										
Primary Slave	:	0	0	0	0	0	0	0	NORMAL										
Secondary Master	:	0	0	0	0	0	0	0	NORMAL										
Secondary Slave	:	0	0	0	0	0	0	0	NORMAL										
Drive A: None																			
Drive B: None																			
Video: EGA/VGA																			
Halt On: All Errors																			
<table border="1"> <tr> <td>Base Memory:</td> <td>640K</td> </tr> <tr> <td>Extended Memory:</td> <td>15360K</td> </tr> <tr> <td>Other Memory:</td> <td>384K</td> </tr> <tr> <td colspan="2"><hr/></td> </tr> <tr> <td>Total Memory:</td> <td>16384K</td> </tr> </table>										Base Memory:	640K	Extended Memory:	15360K	Other Memory:	384K	<hr/>		Total Memory:	16384K
Base Memory:	640K																		
Extended Memory:	15360K																		
Other Memory:	384K																		
<hr/>																			
Total Memory:	16384K																		
ESC: Quit ↑ ↓ → ← : Select Item PU/PD/+/-:Modify F1: Help (Shift) F2 : Change Color																			

The Standard CMOS Setup utility is used to configure the following features:

Set Date: Month, Day, Year.

Set 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).

Hard Disks:

There are four hard disks listed: “Primary Master”, “Primary Slave”, “Secondary Master” and “Secondary Slave”. For each IDE channel, the first device is the “Master” and the second device is “Slave”. Hard disk Types from 1 to 45 are standard ones; Type “Auto” is IDE HDD auto detection; Type “User” is user definable, and Type “None” is not installed (e.g. SCSI).

There are six categories of information you must enter for a HDD: “CYLS” (number of cylinders), “HEAD” (number of heads), “PRECOMP” (write pre-compensation), “LANDZ” (landing zone), “SECTOR” (number of sectors) and “MODE” (Normal, LBA, LARGE and AUTO). The hard disk vendor’s or system manufacturer’s documentation should provide you with the information needed. The “MODE” option is for IDE hard disk drives only. The “MODE” has four options: NORMAL, LBA, LARGE and AUTO. Set MODE to NORMAL for IDE hard disk drives smaller than 528MB. Set MODE to LBA for IDE hard disk drives over 528MB which support Logical Block Addressing mode. Set MODE to LARGE for IDE hard disk drives over 528MB which do not support LBA mode. The LARGE type of drive is very uncommon and can only be used under MS-DOS. Currently most IDE hard disk drives over 528MB support LBA mode. Set MODE to AUTO to enable auto detection of your IDE hard disk drive during bootup.

Floppy Drive A and Floppy Drive B: The options are: “360K, 5.25 in.”, “1.2M, 5.25in.”, “720K, 3.5in.”, “1.44M, 3.5in.”, “2.88M, 3.5in.” and “None (Not Installed)”. Not Installed could be used as an option for diskless workstations.

Video: Set it 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” and “CGA 80”.

Halt On: The options are “All Errors” (default), “No Errors”, “All, But Keyboard”, “All, But Diskette” and “All, But Disk/Key”. This setting determines which type of errors will cause the system to halt during bootup.

3.4 IDE HDD AUTO DETECTION

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 on the Standard CMOS Setup screen.

Note: If you are setting up a new hard disk drive (nothing on it) 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 install it, choose the mode which is used to format it.

3.5 LOAD SETUP DEFAULTS

“LOAD SETUP DEFAULTS” loads optimal settings which are stored in the BIOS ROM.

The defaults loaded only affect the BIOS Features Setup, Chipset Features Setup, Power Management Setup, PnP/PCI configuration setup and Integrated Peripherals Setup. There is no effect on the Standard CMOS Setup. To use this feature, highlight on the main screen and press <Enter>. A line will appear on the screen asking if you want to load the Setup default values. Press the <Y> key and then press the <Enter> key if you want to load the Setup defaults. Press <N> if you don't want to proceed.

3.6 SAVE & EXIT SETUP

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

3.7 EXIT WITHOUT SAVING

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

3.8 BIOS FEATURES SETUP

Selecting “BIOS FEATURES SETUP” on the main program screen displays this menu:

BIOS Features Setup Screen

ROM PCI/ISA BIOS (2A5LHF2A) BIOS FEATURES SETUP AWARD SOFTWARE, INC.			
Virus Warning	: Enabled	Video BIOS Shadow	: Enabled
CPU Internal Cache	: Enabled	C8000 - CBFFF Shadow	: Disabled
External Cache	: Enabled	CC000 - CFFFF Shadow	: Disabled
Quick Power On Self Test	: Enabled	D0000 - D3FFF Shadow	: Disabled
Boot Sequence	: C, A, SCSI	D4000 - D7FFF Shadow	: Disabled
Swap Floppy Drive	: Disabled	D8000 - DBFFF Shadow	: Disabled
Boot Up Floppy Seek	: Disabled	DC000 - DFFFF Shadow	: Disabled
OS Select For DRAM > 64MB	: Non-OS2	Cyrix 6x68/MII CPUID	: Enabled
Boot Up NumLock Status	: On	PCI/VGA Palette Snoop	: Disabled
Gate A20 Option	: Fast		
Typematic Rate Setting	: Disabled	ESC: Quit	↑ ↓ → ← :Select Item
Typematic Rate (Chars/Sec)	: 6	F1: Help	PU/PD/+/-:Modify
Typematic Delay (Msec)	: 250	F5: Old Values	(Shift) F2: Color
Security Option	: Setup	F7: Load Setup Defaults	

The following explains the options for each feature:

Virus Warning: The Virus Warning’s default setting is “Disabled”. 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.

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

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

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

Boot Sequence: The default setting is “A, C, SCSI”; the other options are “CDROM, C, A”, “C, CDROM, A”, “C, A, SCSI”, “D, A, SCSI”, “E, A, SCSI”, “F, A, SCSI”, “SCSI, A, C”, “SCSI, C, A”, “LS/ZIP, C” and “C only”. The BIOS will load the operating system from the disk drives in the sequence selected here. You can bootup system from an LS-120 or ATAPI ZIP driver, if you set the boot sequence to “LS/ZIP, C”.

Swap Floppy Drive: The default setting is “Disabled”. This setting gives you an option to swap A and B floppy disks. Normally the floppy drive A is the one at the end of the cable, if you set this option to “Enabled”, the drive at the end of the cable will be swapped to B.

Boot Up Floppy Seek: The default setting is “Disabled”. If set to “Enabled”, during bootup the BIOS will check for installed floppy disk drives.

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

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

Gate A20 Option: the default setting is “Fast”. This is the optimal setting for the Mainboard. The other option is “Normal”.

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

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 on the main program screen.

Video BIOS Shadow: The default setting is “Enabled” which will copy the VGA BIOS into system DRAM.

C8000-CBFFF Shadow to DC000-DFFFF Shadow: The default setting for the shadow feature is “Disabled”. When set to enable, the ROM with the specific address is copied into system DRAM. It will also reduce the size of memory available to the system.

PCI/VGA Palette Snoop: If there are two VGA cards in your system (one PCI and one ISA) and this option is set to “Disabled”, data read and written by CPU is only directed to the PCI VGA card's palette registers. If set to “Enabled”, data read and written by CPU will be directed to both the palette registers of the PCI VGA and ISA VGA cards. This option must be set to “Enabled” if any ISA VGA card installed in your system requires VGA palette snooping to fix improper color problem.

After you have made your selection(s) in the BIOS FEATURES SETUP, press the <ESC> key to go back to the main program screen.

3.9 CHIPSET FEATURES SETUP

Selecting “CHIPSET FEATURES SETUP” on the main program screen displays this menu:

Chipset Features Setup Screen

ROM PCI/ISA BIOS (2A5LHF2A) CHIPSET FEATURES SETUP AWARD SOFTWARE, INC.			
Bank 0/1 DRAM Timing	: SDRAM 10ns	OnChip USB	: Enabled
Bank 2/3 DRAM Timing	: SDRAM 10ns	USB Keyboard Support	: Disabled
Bank 4/5 DRAM Timing	: SDRAM 10ns	OnChip Sound	: Enabled
		OnChip Modem	: Disabled
SDRAM Cycle Length	: 3	Auto Detect DIMM/PCI Clk	: Enabled
DRAM Read Pipeline	: Disabled	Spread Spectrum	: Disabled
Sustained 3T Write	: Enabled		
Cache R/CPU W Pipeline	: Enabled		
Cache Timing	: Fast		
Video BIOS Cacheable	: Enabled		
System BIOS Cacheable	: Enabled		
Memory Hole	: Disabled		
Init Display First	: AGP	ESC: Quit	↑ ↓ → ← :Select Item
Frame Buffer Size	: 8M	F1: Help	PU/PD/+/-:Modify
AGP Aperture Size	: 64M	F5: Old Values	(Shift) F2: Color
		F7: Load Setup 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 change unless you are familiar with the chipset.

Bank 0/1 2/3 4/5 DRAM Timing. This item allows you to select the value in the field, depending on whether the board has paged SDRAMs or EDO (extended data output) DRAMs. The choice: SDRAM 10ns, SDRAM 8ns, Normal, Medium, Fast and Turbo.

SDRAM Cycle Length. You can select CAS latency time in HCLKs of 2/2 or 3/3. The system board designer should have set the values in this field, depending on the DRAM installed. Do not change the values in this field unless you change specifications of the installed DRAM or the installed CPU.

Video BIOS Cacheable. Choose Enabled or Disabled (default).
When Enabled, the access to the VGA BIOS addressed is cached.

System BIOS Cacheable. Choose Enabled or Disabled (default).
When Enabled, the access to the system BIOS ROM addressed at F0000H-FFFFFH is cached.

Memory Hole: The default setting is “Disabled”. Set to “Enabled” means that when the system memory size is equal to or greater than 16M bytes, the physical memory address from 15M to 16M will be passed to PCI or ISA and there will be 1MBytes hole in your system memory. This option is designed for some OS with special add-in cards which need 15M-16M memory space.

Init Display First. This item allows you to decide to active whether PCI Slot or AGP first. The choice: PCI Slot, AGP.

Frame Buffer Size: This option selects the size of frame buffer. The size of the buffer should not impinge on local memory. The options are “All”, “1M”, “2M”, “4M”, “8M”, “16M” and “Disabled”.

AGP Aperture Size: This option determines the effective size of the AGP Graphic Aperture, which memory-mapped graphic data structures can reside in. The options are “16M”, “32M”, “64M”, “128M” and “256M”. The default is “64M”.

OnChip USB. This should be enabled if your system has a USB installed on the system board and you wish to use it. Even when so equipped, you will need to disable this feature. The choice: Enabled, Disabled.

USB Keyboard Support. *Enabled:* Enables function when the USB keyboard is being used. *Disabled:* (default) When the AT keyboard is being used.

OnChip Sound. *Enabled (default):* Turn on AC97 chip Controller. *Disabled:* Turn off AC97 chip Controller or User can external add-on sound card.

OnChip Modem. *Enabled:* Turn on MC99 feature. *Disabled (default):* disable AC97 chip controller or User can external add-on modem.

Auto Detect DIMM/PCI Clk: When set to “Enabled”, system will automatically turn off PCI and DIMM clock which is not use and reduce electromagnetic interference.

Spread Spectrum: Options are “1.5% CNTR”, “0.6% CNTR”, “1.5% DOWN”, “0.6% DOWN”, “Disabled”. System clock frequency will automatically be modulated which helps reducing electromagnetic interference. Default is “Disabled”.

After you have made your selections in the CHIPSET FEATURES SETUP, press the <ESC> key to go back to the main program screen.

3.10 POWER MANAGEMENT SETUP

The “Power Management Setup” controls the mainboard’s “Green” features. Selecting “POWER MANAGEMENT SETUP” on the main program screen displays this menu:

Power Management Setup Screen

ROM PCI/ISA BIOS (2A5LHF2A) POWER MANAGEMENT SETUP AWARD SOFTWARE, INC.					
ACPI function	:	Disabled	Primary INTR	:	ON
Power Management	:	User Define	IRQ3 (COM2)	:	Primary
PM Control by APM	:	Yes	IRQ4 (COM1)	:	Primary
Video Off Method	:	V/H SYNC + Blank	IRQ5 (LPT2)	:	Primary
MODEM Use IRQ	:	3	IRQ6 (FDD)	:	Primary
Doze Mode	:	Disabled	IRQ7 (LPT1)	:	Primary
Suspend Mode	:	Disabled	IRQ8 (Alarm)	:	Disabled
HDD Power Down	:	Disabled	IRQ9 (Rsv)	:	Secondary
Soft-Off by PWRBTN	:	Instant-Off	IRQ10 (Rsv)	:	Secondary
		** PM Events **	IRQ11 (Rsv)	:	Secondary
VGA	:	OFF	IRQ12 (PS/2)	:	Primary
LPT & COM	:	LPT/COM	IRQ13 (Copro)	:	Primary
HDD & FDD	:	ON	IRQ14 (HDD)	:	Primary
DMA/master	:	OFF	IRQ15 (Rsv)	:	Disabled
Resume by Alarm	:	Disabled			
Resume by Ring	:	Disabled			
		ESC: Quit ↑↓ → ← :Select Item F1: Help PU/PD/+/-:Modify F5: Old Values (Shift) F2: Color F7: Load Setup Defaults			

ACPI Function. *Enabled:* Turn on ACPI Function. *Disabled (default):* Turn off ACPI Function.

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.

Optimize: This is the recommended setting for general use.

Test/Demo: This is for test/demonstration purposes.

Disabled: Disables the power management features.

PM Control by APM: The default setting is “Yes”. When set to “Yes”, system BIOS will wait for APM’s prompt before it enters any PM mode. If your system power management is controlled by APM and there is a task running, the APM will not prompt the BIOS to enter any power saving mode after time out. Note: If APM is not installed, this option has no effect.

APM (Advanced Power Management) should be installed to keep the system’s time updated when the computer enters suspend mode activated by the BIOS Power Management. For DOS environments, you need to add `DEVICE=C:\DOS\POWER.EXE` in your `CONFIG.SYS`. For Windows 3.1x and Windows 95, you need to install Windows with the APM feature. Double-click a battery and power cord icon labeled “Power” in the “Control Panel” and choose “Advanced” in the Power Management field.

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

MODEM Use IRQ: This determines the IRQ in which the MODEM can use. The choices: 3, 4, 5, 7, 9, 10, 11, NA.

Doze Mode: Options are from “1 Min” to “1 Hour” and “Disabled”. The system speed will change from turbo to slow if no Power Management events occur for a specified length of time. Full power function will return when a Power Management event is detected. When system entering DOZE Mode the STB LED will start blinking once a second, indicates your system at DOZE Mode.

Suspend Mode: Options are from “1 Min” to “1 Hour” and “Disabled”. 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. When system entering Suspend Mode the STB LED will stop blinking and stay on, indicates your system at Suspend Mode.

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

PM Events: PM events are I/O events whose occurrence can prevent the system from entering a power saving mode or can awaken the system from such a mode. In effect, the system remains alert for anything which occurs to a advice which is configured as On, even which the system is in a power down mode.

VGA. When Enabled, you can set the LAN awakens the system.

LPT & COM. When On of LPT & COM, any activity from one of the listed system peripheral devices or IRQs wakes up the system.

HDD & FDD. When On of HDD & FDD, any activity from one of the listed system peripheral devices wakes up the system.

DMA/master. When you are On of DMA/ISA Master, any activity from one of the list system peripheral devices wakes up the system.

Resume by Alarm: If “Enabled”, you may set the date (day of the month), hour, minute and second to turn on your system. When you set “0” (zero) for the day of the month, the alarm will power on your system every day at the specified time.

Resume by Ring: If “Enabled”, the system power will be turned on if an FAX/Modem receives an incoming telephone ringing.

Chapter 3: BIOS Configuration

Modem Use IRQ: To enable the internal PnP modem ring to wake up your system from suspend mode, the IRQ assigned to the modem has to be the same as the setting in this option.

Press the <ESC> key to go back to the main program screen, after you have made your selections in the POWER MANAGEMENT SETUP.

3.11 PnP / PCI CONFIGURATION

Both the ISA and PCI buses on the Mainboard use system IRQs & DMAs. You must set up the IRQ and DMA assignments correctly thru the PnP/PCI Configuration Setup utility, otherwise the Mainboard will not work properly.

Selecting “PnP / PCI CONFIGURATION” on the main program screen displays this menu:

PnP / PCI Configuration

ROM PCI/ISA BIOS (2A5LHF2A) PNP / PCI CONFIGURATION AWARD SOFTWARE, INC.			
PNP OS Installed	: No	CPU to PCI Write Buffer	: Enabled
Resources Controlled By	: Manual	PCI Dynamic Bursting	: Enabled
Reset Configuration Data	: Disabled	PCI Master 0 WS Write	: Enabled
IRQ-3 assigned to	: PCI/ISA PnP	PCI Delay Transaction	: Enabled
IRQ-4 assigned to	: PCI/ISA PnP	PCI#2 Access #1 Retry	: Disabled
IRQ-5 assigned to	: PCI / ISA PnP	AGP Master 1 WS Write	: Enabled
IRQ-7 assigned to	: Legacy ISA	AGP Master 1 WS Read	: Disabled
IRQ-9 assigned to	: PCI / ISA PnP	Assign IRQ For USB	: Enabled
IRQ-10 assigned to	: PCI / ISA PnP	Assign IRQ For VGA	: Enabled
IRQ-11 assigned to	: PCI / ISA PnP		
IRQ-12 assigned to	: PCI / ISA PnP		
IRQ-14 assigned to	: Legacy ISA		
IRQ-15 assigned to	: Legacy ISA		
DMA-0 assigned to	: PCI / ISA PnP		
DMA-1 assigned to	: PCI / ISA PnP		
DMA-3 assigned to	: PCI / ISA PnP		
DMA-5 assigned to	: PCI / ISA PnP		
DMA-6 assigned to	: PCI / ISA PnP		
DMA-7 assigned to	: PCI / ISA PnP		
ESC: Quit ↑ ↓ → ← :Select Item F1: Help PU/PD/+/-:Modify F5: Old Values (Shift) F2: Color F7: Load Setup Defaults			

PnP OS Installed: Setting this option to “Yes” allows the PnP OS, instead of BIOS to assign the system resources such as IRQ and I/O address to the ISA PnP device. The default setting is “No”

Resources Controlled By: The default setting is “Manual” which 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.

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 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 “Enabled”, the ESCD will be cleared and forced to update and then automatically set this option to “Disabled”.

IRQ and DMA Assigned to: If there is a legacy ISA device which uses an IRQ or a DMA, set the corresponding IRQ or DMA to “Legacy ISA”, otherwise you should set to PCI/ISA PnP.

PCI IDE IRQ Map To, Primary IDE INT#, Secondary IDE INT#: If you disable onboard PCI IDE controller and install a PCI IDE card on the Mainboard, you need to set this option. If a PCI IDE Card uses ISA IRQ directly thru a paddle card installed on an ISA slot, select “ISA” for the option “PCI IDE IRQ Map To”. If a PCI IDE Card uses PCI “INT” and is compliant to PCI Plug and Play specification, select “PCI-AUTO” for the option “PCI IDE IRQ Map To”. Otherwise select “PCI-SLOT n” (PCI-SLOT 1, PCI-SLOT 2, PCI-SLOT 3 or PCI-SLOT4) depending on which slot the PCI IDE Card is installed.

Only INT A and INT B are available for a PCI IDE Card, therefore you must set the PCI IDE Card’s primary interrupt to INT A and secondary interrupt to INT B. The INT A is routed to IRQ 14 and the INT B is routed to IRQ 15 thru a hardware router in the chipset.

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

3.12 INTEGRATED PERIPHERALS

Selecting “INTEGRATED PERIPHERALS” on the main program screen displays this menu:

Integrated Peripherals Screen

ROM PCI/ISA BIOS (2A5LHF2A) INTEGRATED PERIPHERALS AWARD SOFTWARE, INC.			
OnChip IDE Channel0	: Enabled	Onboard Parallel Port	: 378/IRQ7
OnChip IDE Channel1	: Enabled	Onboard Parallel Mode	: Normal
IDE Prefetch Mode	: Enabled		
IDE HDD Block Mode	: Enabled		
Primary Master PIO	: Auto	Onboard Legacy Audio	: Enabled
Primary Slave PIO	: Auto	Sound Blaster	: Enabled
Secondary Master PIO	: Auto	SB I/O Base Address	: 220H
Secondary Slave PIO	: Auto	SB IRQ Select	: IRQ 5
Primary Master UDMA	: Auto	SB DMA Select	: DMA 1
Primary Slave UDMA	: Auto	MPU-401	: Enabled
Secondary Master UDMA	: Auto	MPU-401 I/O Address	: 330-333H
Secondary Slave UDMA	: Auto	FM Port (388-38BH)	: Enabled
Onboard FDD Controller	: Enabled	Game Port (200-207H)	: Enabled
Onboard Serial Port 1	: Auto	ESC: Quit	↑ ↓ → ← :Select Item
Onboard Serial Port 2	: Auto	F1: Help	PU/PD/+/-:Modify
UART 2 Mode	: Standard	F5: Old Values	(Shift) F2: Color
		F7: Load Setup Defaults	

OnChip IDE Channel 0/1: The default setting is “Enabled”. This option enables the onboard IDE controller.

IDE Prefetch Mode: The onboard IDE drive interfaces supports IDE prefetching, for faster drive accesses. If you install a primary and/or secondary add-in IDE interface, set this field to Disabled if the interface does not support prefetching. The choice: Enabled, disabled.

IDE HDD Block Mode: The Default setting is “Enabled”. This feature enhances hard disk performance by making multi-sector transfers instead of one sector per transfer. Most IDE drives, except very early design, have the Block Mode transfer feature.

Master PIO, Slave PIO, Master UDMA, Slave UDMA: There are six options “Auto”, “Mode 0”, “Mode 1”, “Mode 2”, “Mode 3” and “Mode 4” for PIO Mode HDD. There are two options “Enabled” or “Disabled” for the Ultra DMA Hard Disk. The default setting is “Auto”. When set to “Auto” the BIOS will automatically set the PIO or Ultra DMA mode to match the transfer rate of hard disk. If the system won’t boot up when set to “Auto”, set it manually to the lower mode, e.g, from Mode 3 to Mode 2. All IDE drives should work with PIO mode 0.

Onboard FDD Controller: The default setting is “Enabled”. This option enables the onboard floppy disk drive controller.

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

3F8/ IRQ4, 2F8/ IRQ3

3E8/ IRQ4, 2E8/ IRQ3

Auto (default)

Disabled (Disable the onboard serial port)

UART 2 Mode: The options are “Standard” (default), “HPSIR” and “ASKIR”. The HPSIR is Hewlett Packard infrared communication protocol with maximum baud rate up to 115.2K bps, and the ASKIR is Sharp infrared communication protocol with maximum baud rate up to 57.6K bps. The UART mode setting depends on which type of infrared module is used in the system. When set to “ASKIR” or “HPSIR”, the UART 2 is used to support the infrared module connected on the mainboard. If this option is not set to “Normal”, a device connected to the COM2 port, will no longer work.

Onboard Parallel Port: This option is used to assign the I/O address for the onboard parallel port. The options are “378/IRQ7” (defaults), “278/IRQ5”, “3BC/IRQ7” and “Disabled” (disable the onboard parallel port).

Parallel Port Mode: There are four options “Normal” (default), “EPP”, “ECP”, “ECP+EPP”. Change the mode from “Normal” to the enhanced mode only if your peripheral device can support it.

3.13 SUPERVISOR / USER PASSWORD

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 and you can use up to 8 alphanumeric characters, press <Enter> after entering the password. At the next prompt, confirm the new password by typing it and pressing <Enter> again.

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

If you have set both supervisor and user password, only the supervisor password allows you to enter the BIOS SETUP PROGRAM.

4 Driver and Utility

4.1 Flash Utility

The BIOS of the P5F111 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 FLASH utility can be extract from the BIOS files that you download or at manufacturer diskette under FLASH directory which comes with the mainboard.

FLASH.EXE The Flash utility for AWARD BIOS upgrade
README.TXT A 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 <F5> function key while the "Starting MS-DOS..." message appearing on the screen to bypass the CONFIG.SYS and AUTOEXEC.BAT.

4.2 The Steps to Install the VIA GRAT AGP Driver

There are two methods you can install your VIA GRAT AGP Driver, CD-ROM or diskette.

If you have CD-ROM.

- Step 1. Insert the manufacturer CD-ROM to your PC.
- Step 2. Click the "Install Driver" option in your installation screen.
- Step 3. Click the "VIA_GRAT AGP Driver" option. (It will start the installation.)
- Step 4. Follow the instruction shows on the screen to finished the installation. (The system will restart.)

If you have Diskette.

- Step 1. Insert the VIA_GRAT AGP Driver into your PC.
- Step 2. Make copy of the self-extracting file in the diskette into your hard disk and run it.
- Step 3. Double click the “Setup” option to install the VIA GRAT AGP Driver.
- Step 4. Follow the instruction shows on the screen to finished the installation. (The system will restart.)

After system back on then you are complete the installation of VIA GRAT AGP driver and ready to install the driver for AGP VGA card. A new version of the VIA GRAT AGP drive can be downloaded from the factory's BBS and Web site

4.3 The Steps to Install the VIA Bus Master PCI IDE Driver

The Bus Master PCI IDE logic designed in the VIA MVP4 chipset is intended to reduce the workload of the CPU and make the CPU running more efficiently. It will take care the data transfer between IDE drives and system memory and let CPU handle other tasks.

There are two methods you can install your VIA Bus Master PCI IDE Driver, CD-ROM or diskette.

If you have CD-ROM.

- Step 1. Insert the manufacturer CD-ROM to your PC.
- Step 2. Click the “Install Driver” option in your installation screen.
- Step 3. Click the “VIA IDE Bus Master Driver” option. (It will start the installation.)
- Step 4. Follow the instruction shows on the screen to finished the installation. (The system will restart.)

If you have Diskette.

- Step 1. Insert the VIA IDE Bus Master Driver into your PC.
- Step 2. Make copy of the self-extracting file in the diskette into your hard disk and run it.
- Step 3. Double click the “Setup” option to install the VIA IDE Bus Master Driver.
- Step 4. Follow the instruction shows on the screen to finished the installation. (The system will restart.)

After system back on then you are complete the installation of VIA IDE Bus Master driver. A new version of the VIA IDE Bus Master drive can be downloaded from the factory's BBS and Web site.

4.4 The Steps to Install the VGA Driver

There are two methods you can install your VGA Driver, CD-ROM or diskette.

If you have CD-ROM.

- Step 1. Insert the manufacturer CD-ROM to your PC.
- Step 2. Click the “Install Driver” option in your installation screen.
- Step 3. Click the “VGA” option. (It will start the installation.)
- Step 4. Follow the instruction shows on the screen to finished the installation. (The system will restart.)

If you have Diskette.

- Step 1. Insert the VGA Driver into your PC.
- Step 2. Make copy of the self-extracting file in the diskette into your hard disk and run it.
- Step 3. Double click the “Setup” option to install the VGA Driver.
- Step 4. Follow the instruction shows on the screen to finished the installation. (The system will restart.)

After system back on then you are complete the installation of VGA driver. A new version of the VGA drive can be downloaded from the factory's BBS and Web site.

4.5 The Steps to Install the MVP4 Sound Card Driver

Please follow the steps below to install the MVP4 Sound Card.

- Step 1. Insert the MVP4 Sound Card Driver Diskette in your PC.
- Step 2. Under the “Control Panel”, Choose the “Add New Hardware” to find and instal the new MVP4 Sound Card.
- Step 3. Follow the instruction shows on the screen to finished the installation.
- Step 4. Restart the PC.

After system back on then you are complete the installation of VIA IDE Bus Master driver. A new version of the VIA GRAT AGP drive can be downloaded from the factory's BBS and Web site.

4.6 USB Driver

Q: How to configure the USB controller on P5F111?

A: USB controller requires the USB supplement install, so please make sure your system install the USB supplement first. You can click at “Control panel” and “Add/Remove Program” icon to check the USB supplement install or not?

For Windows 95 (OSR2.1 or later) users, The USB supplement can be located at the Windows95 OSR2.1 CD's `\others\usb\usb-supp.exe` directory. For Windows95 (OSR2.0 or before) users, you need to update your system to OSR2.1 or contact Microsoft for update information.

After USB supplement installed, system will reboot and find the “**Standard OpenHCD USB Host Controller**” and ask for file “**openhci.sys**”. The “openhci.sys” file is locate at `C:\windows\system` directory. Click on “Browser” icon and give the path for “openhci.sys”. After the file loaded, then you are complete the configure of USB controller and ready to install the USB device driver.

Note: You do not need to install USB supplement or configure the USB controller for Windows98, windows will automatically configure it during the installation.

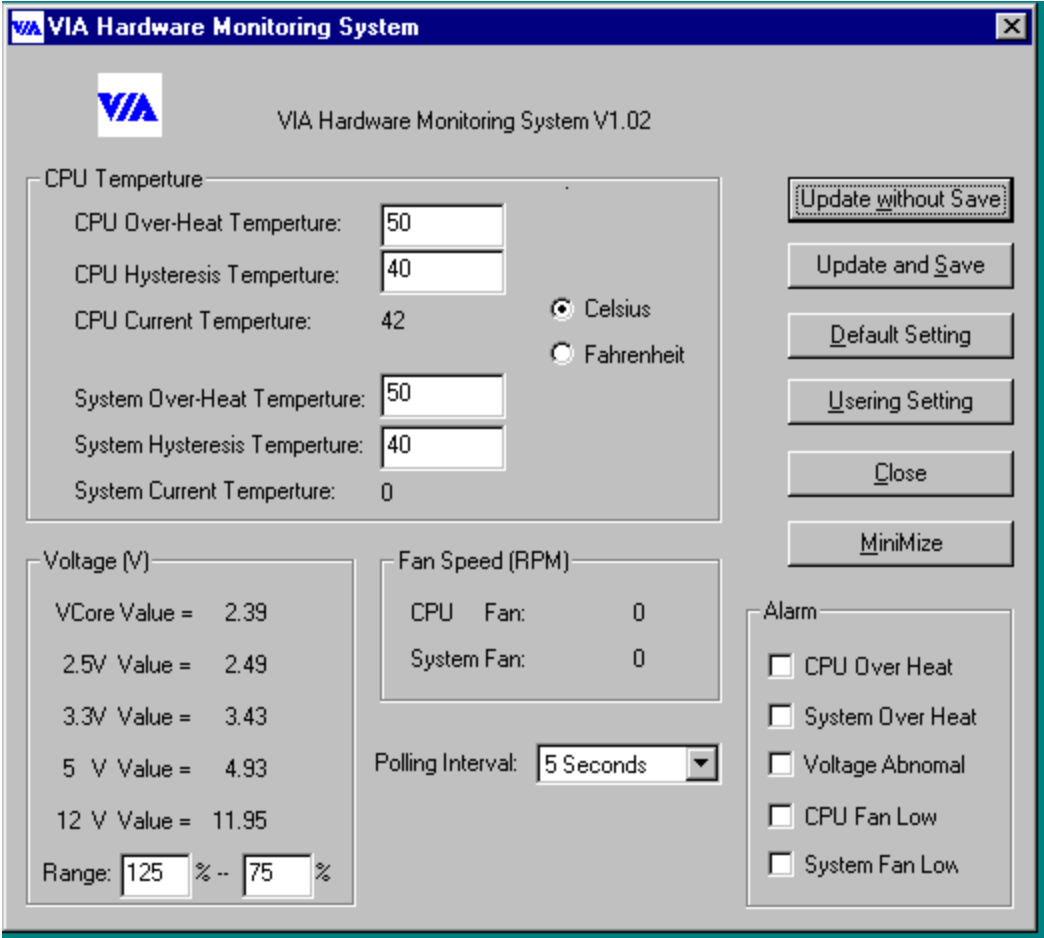
System Environment Monitor

The System Environment Monitoring utility with the onboard VIA Hardware monitoring system chip allow you to monitor your system's temperature, Fan speed and CPU voltage. Using this utility, you can setup the upper and lower limits of these monitored parameters. A pre-warning message will pop up on the screen when the monitored parameters is out of the preset range.

A.1 The Steps to Install the System Environment Monitor Driver

- Step 1. Insert the manufacturer CD-ROM or diskette to your PC to install the system monitor.
- Step 2. Follow the instruction shows on the screen to finished the installation. (The system will restart.)
- Step 3. The following screen will appear (shown in the next page).
- Step 4. Restart the PC.

After system back on then you are complete the installation of VGA driver. A new version of the VGA drive can be downloaded from the factory's BBS and Web site.



Click “OK” and continue setup procedure.