
P6F107 Mainboard Manual

Friday, March 02, 2001

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Using This Manual

This manual is designed to help you build a reliable Personal Computer based on the P6F107 platform.

Quick Reference

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

Chapter 1—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 2—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 3—BIOS Configuration

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

Chapter 4—Driver and Utility

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

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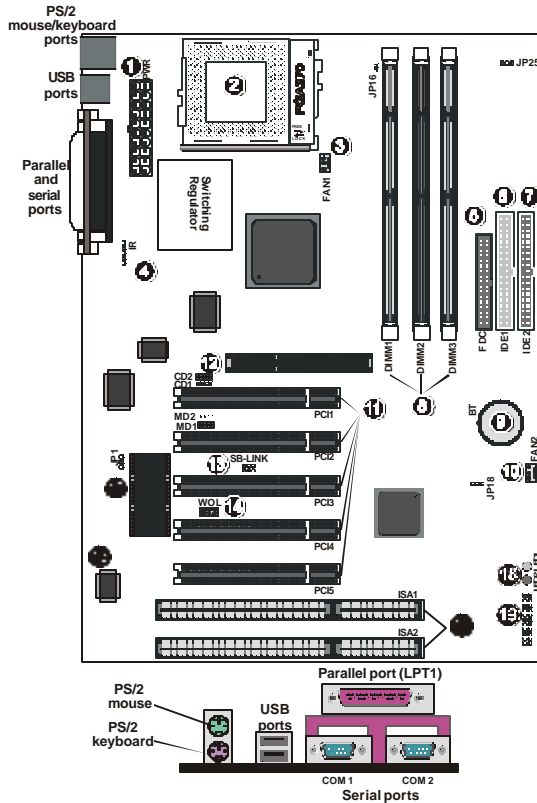
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1. Quick Reference

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

1.1. Mainboard and I/O Ports Layout



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- | | |
|------------------------------------|---------------------------------|
| 1. ATX power connector | 11. PCI expansion slots |
| 2. PGA 370 CPU socket | 12. AGP Slot (3.3V) |
| 3. CPU fan connector (FAN1) | 13. Creative Lab SB-Link |
| 4. IR port header | 14. Wake on LAN (WOL) connector |
| 5. Floppy drive connector (FDC) | 15. Flash BIOS |
| 6. IDE connector IDE1 | 16. System monitor W83783S |
| 7. IDE connector IDE2 | 17. ISA expansion slot |
| 8. DIMM module sockets | 18. Debug LED 1 and LED 2 |
| 9. RTC battery | 19. Front panel connectors |
| 10. Secondary fan connector (FAN2) | |

1.2. Chipset Identification

The P6F107 uses three different chipsets: Intel 82443BX (P6F107); Intel 82443ZX (P6F107Z); and VIA 693A (P6F107V).

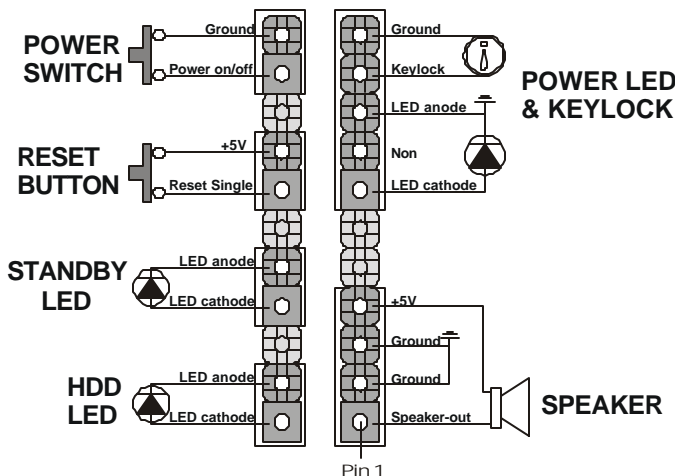
Check the mark on your chipset to identify which chipset is installed on your board.

The main difference between the chipsets is the memory size supported and the error correcting code (ECC) function. The following table outlines the differences:

Model	Chipset	ECC	Memory Slot	Maximum Memory
P6F107	Intel 82443BX	Yes	3 DIMM	768 MB
P6F107Z	Intel 82443ZX	No	2 DIMM	512 MB
P6F107V	VIA 82C693A	Yes	3 DIMM	768 MB

1.3. Front Panel Connector

The following illustration shows the front panel connector pin assignments:



1.4. Jumpers

JP1 (option)	1-2: Disables onboard audio chip
	2-3: Enables onboard audio chip
JP16	ON: AGP CLK is set according to the installed CPU
	OFF: AGP clock = CPU CLK x 0.66
JP18	1-2: Normal Mode
	2-3: Clear CMOS RAM

1.5. Connectors

WOL	Wake On LAN Connector: This 3-pin header is used for remote wake up of the computer through a network card
SB-LINK	Creative Lab SB-LINK Connector: Creative Lab's side band connector that enables PCI sound cards to support old DOS games.

1.6. LEDs

Red	Used for debugging.
Green	Used for debugging.

1.7. Memory Installation

168-Pin DIMM SDRAM Memory Configuration

Bank 0 (DIMM1)	8, 16, 32, 64, 128, 256 MB
Bank 1 (DIMM2)	8, 16, 32, 64, 128, 256 MB
Bank 2 (DIMM3)	8, 16, 32, 64, 128, 256 MB
Total	8 MB to 768 MB (P6F107/P6F107V)
	8 MB to 512 MB (P6F107Z)
Note 1:	The Intel BX and ZX chipsets (P6F107 and P6F107Z) support up to 100 MHz SDRAM and FSB.
Note 2:	The VIA chipset (P6F107V) supports up to 133 MHz SDRAM and FSB.
Note 3:	The mainboard using the Intel ZX chipset (P6F107Z) only has two memory banks, DIMM1 and DIMM2.

1.8. CPU Settings

You can change the clock speed of the CPU from the Chipset Features setup menu in the BIOS Setup program. Follow these instructions:

1. Turn the system on. During the POST press to open the AWARD BIOS setup program.
2. Select "Load Setup Defaults" from the main page and press "Y" to load the setup defaults for the BIOS.
3. If you are using the VIA chipset (P6F107V), select "CPU Speed Setting" from the main menu and press <Enter>. If you are using the Intel BX or ZX chipsets, select "Chipset Features Setup" and press <ENTER>.
4. Set the correct speed for you mainboard using the "CPU Speed" item. After you have set the correct CPU speed, select "Standard CMOS Setup" from the main screen to set the date and time and floppy drive assignment. Set the hard disk type to "Auto."
5. Select "Save & Exit Setup" and press <Enter> to save the information to BIOS and to continue booting the computer.

Note: Celeron processors use the 66.6 MHz FSB. Coppermine processors use the 100 MHz FSB.

2. Introduction

2.1. Overview

The P6F107 series is a high quality, high performance, enhanced function mainboard, based on the powerful Intel® Celeron™ 66 MHz frontside bus (FSB) processor with PPGA 370 package or Intel Coppermine™ 100 MHz FSB processor with FC-PGA package. This mainboard is designed around the latest and fastest Intel 82443BX, Intel 82443ZX and VIA 82C693A chipsets in a standard ATX form factor. The Soft-menu (jumperless) design of the mainboard uses the onboard BIOS for clock frequency, and CPU multiplier-jumper settings are no longer needed.

The mainboard delivers workstation-level performance with an integrated AGP (Accelerated Graphics Port), bus mastering EIDE (Enhanced IDE) controller, and concurrent PCI bus. The mainboard accommodates SDRAM (Synchronous DRAM) memory and supports ATA33/66.

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, in 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 Modem Ring On, Wake On LAN (WOL), Watchdog timer wake up, Sleeping state indicator, Fan Off in sleeping state and BIOS upgradability are provided with this platform.

2.2. Mainboard Specifications and Features

2.2.1. Hardware

CPU	Supports Intel Celeron CPU (PPGA package) at 300~700+ MHz (66 MHz FSB) and Intel Coppermine (FC-PGA package) at 500~800+ MHz (100 MHz FSB),533~933+ MHz (133 MHz FSB)
VRM	Voltage Regulator Module onboard Provides 1.3V to 3.5V operating voltage
Coprocessor	CPU has built-in floating point unit
Speed	System bus clock 66/75/83/100 MHz AGP clock 66/75/83 MHz PCI bus clock 33/37/41 MHz ISA bus clock 8.33~9.35 MHz
Chipset	Intel 82443BX AGPset (P6F107) Intel 82440ZX AGPset (P6F107Z) VIA 82C693A AGPset (P6F107V) Winbond's W83977 I/O chip Winbond's W83783S PC Environment Monitor chip
L2 Cache	CPU has built-in 128 KB L2 cache
DRAM	P6F107/P6F107V Three x 168-pin DIMM sockets Supports 8 MB to 768 MB memory Supports EDO and SDRAM memory P6F107Z Two x 168-pin DIMM sockets Supports 8 MB to 512 MB memory Supports EDO and SDRAM memory
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 Bus Mastering Ultra DMA33 drives Supports Iomega ZIP or LS-120 removable drives

Enhanced I/O	One floppy disk controller One Standard/EPP/ECP parallel port connector Two 16550 compatible serial port connectors One IrDA compatible Infrared port Two USB (Universal Serial Bus) connectors
Mouse and Keyboard	PS/2 mouse connector PS/2 keyboard connector
Expansion Slots	One AGP slot Five 32-bit PCI slots Two 16-bit ISA slots (one PCI/ISA shared slot)
Power Management	Compliant with EPA, APM 1.2 and ACPI ATX soft-off power control Power – on by keyboard and PS/2 mouse Power – on by external modem ring Power – on by alarm Power – on by Wake On LAN (WOL) Sleep state indicator Fan off in sleep mode
System Management	Winbond W83783S PC Health Monitor CPU temperature warning and system temperature detection CPU and system voltage detection CPU and secondary fan RPM detection
Voltage Regulator	Switching regulator CPU voltage auto-detection
Form Factor	ATX form factor 20 cm x 30.5 cm (7.9-inch x 12.0-inch)

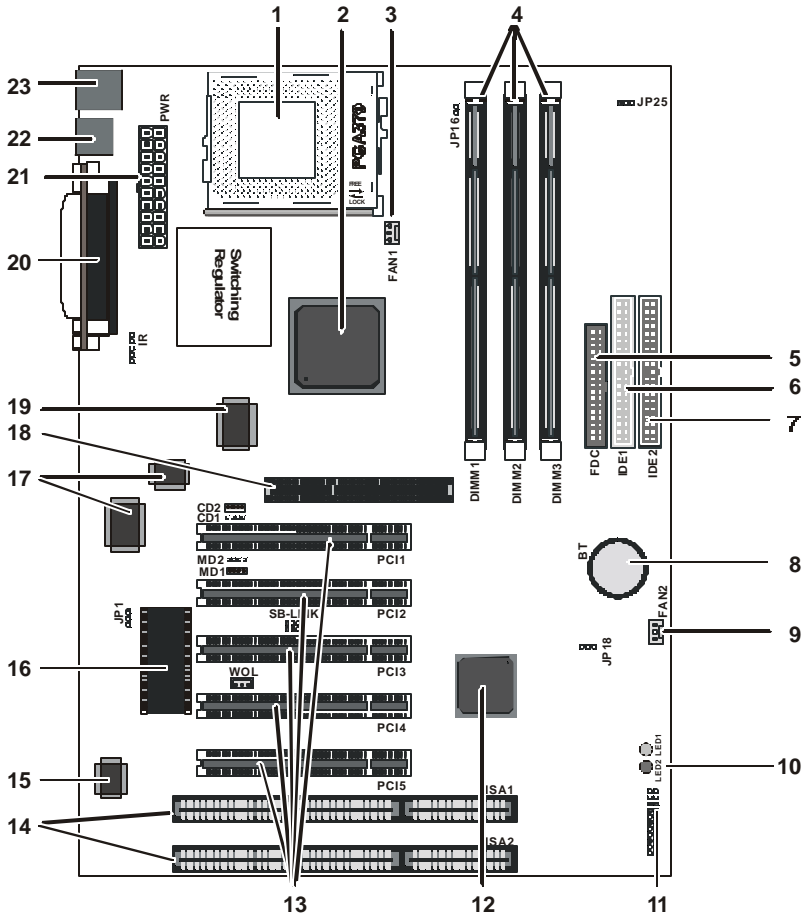
2.2.2. Software

BIOS	Soft-menu (jumperless) design AWARD Pentium II 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 high-capacity LS-120 and ZIP removable media drive
Driver and Utility	IDE Bus mastering Ultra DMA driver Flash utility for BIOS upgrade System Environment Monitoring Utility Optional ES1373 audio drivers
Operating System	Operates with MS_DOS, Windows 3.x/95/98/2000/NT, OS/2, Novell Netware/UnixWare 1.1, and SCO Unix 4.2

2.2.3. 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	1.3V to 3.50V
DC Voltage	-5V, +12V, -12V, +5V _{SB} 5% tolerance

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		PGA CPU Slot
2		Intel 82443BX/82443ZX or VIA 83C693A AGPset
3	FAN1	CPU fan connector
4	DIMM 1~3	Three DIMM module slots
5	FDC	Connector for floppy disk drives
6	IDE1	IDE 1 connector (white)
7	IDE2	IDE 2 connector (black)
8	BT	Backup battery for CMOS memory and real-time clock (RTC)
9	FAN2	Secondary CPU fan connector
10	LED 1 ~ 2	Debugging LEDs
11		Connector for front panel switches and indicators
12		Intel PIIX4 PCIset
13	PCI Slot 1~5	32-bit PCI expansion slots
14	ISA1	ISA expansion slots
15		System monitor chip W83783S
16		Flash BIOS
17		Audio chip (optional)
18	AGP	AGP slot (3.3V)
19		Winbond I/O chip
20		Parallel port (top); two serial ports (bottom)
21	PW	12V ATX power connector
22		Two USB ports
23		PS/2 mouse (top); PS/2 keyboard (bottom)

2.4. Microprocessor

The mainboard is designed to operate with the following processors:

Processor Type	Speed	FSB
Intel Celeron	366 ~ 700+ MHz	66 MHz
Intel Coppermine	500 ~ 800+ MHz	100 MHz
Intel Coppermine	533 ~ 933+ MHz	133 MHz

An onboard switching voltage regulator provides 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.

Celeron and Coppermine processors implement MMX technology and maintain full backward compatibility with the 486 and Pentium processors. The processor's numeric coprocessor significantly increases the speed of floating-point operations.

2.5. Celeron and Coppermine Packaging

The Celeron is packaged in a PPGA (Plastic Pin Grid Array) and the Coppermine is packaged in a FC-PGA configuration. This packing technology is similar to the mature Pentium processor package. The processor features a P6 micro-architecture-based core in an economical high performance PPGA package. Although the manufacturing process reduces the heat output of the processor and enables Celeron processors to use smaller heat sinks, you still need to install a CPU cooling fan to protect the CPU and make your system more reliable.

2.6. Chipset

The P6F107 series supports three chipsets: Intel 82443BX and Intel 82443ZX chipsets and the VIA 82C693A chipset. The chipsets come in pairs—the North Bridge chip and the South Bridge chip.

- North Bridge**
 - CPU interface controller (66/100 MHz FSB)
 - AGP interface controller (AGP 2x)
 - Integrated DRAM controller (Synchronous 66/100 MHz SDRAM)
 - Fully synchronous PCI 2.1 bus interface
 - Data buffering:
 - ◆ CPU-to-AGP
 - ◆ CPU-to-DRAM
 - ◆ CPU-to-PCI
 - ◆ AGP-to-DRAM
 - ◆ AGP-to-PCI
 - ◆ PCI-to-AGP
 - ◆ PCI-to-DRAM

- Southbridge**
 - Interface between the PCI and ISA buses
 - Power Management Logic
 - USB controller
 - EIDE controller (ATA33)
 - Seven DMA channels
 - One timer/counter
 - Two eight-channel interrupt controllers
 - NMI logic and SMI interrupt logic
 - PCI/ISA bus arbitrator
 - SMBus interface
 - Power management Logic
 - Realtime clock (RTC)
 - ACPI controller

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
- Intel 370 PPGA Celeron or FC-PGA Coppermine processor
- One SDRAM memory module
- One floppy disk drive
- One UDMA 33 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 essential items listed above.

3.1. Unpacking

The P6F107 mainboard package contains the following items:

- One mainboard
- One IDE 40-pin ribbon cable
- One floppy 34-pin ribbon cable
- Driver and utility CD
- User's manual

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

3.2. Installation

The P6F107 is designed to fit into a standard ATX form factor chassis. The pattern of the mounting holes and the position of the back panel connectors meet the ATX system board specification. The 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.

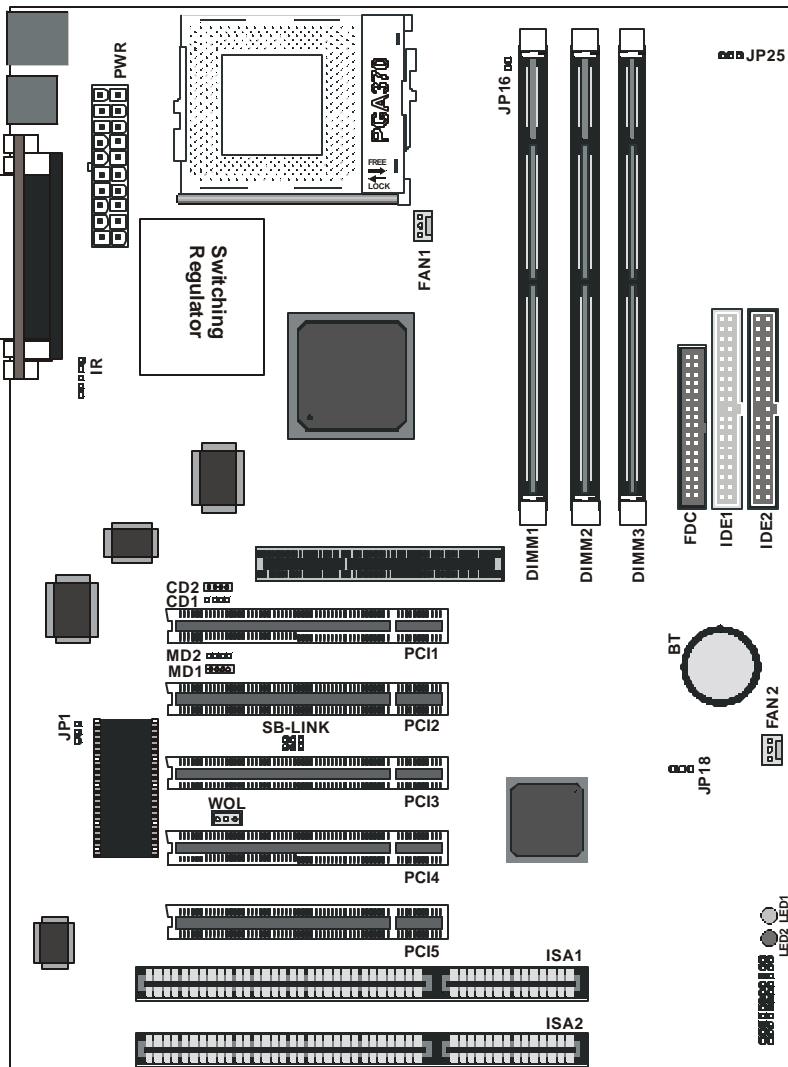
To install the mainboard you need to install the CPU and DIMM memory modules, attach the connectors, and set the correct CPU speed in the CMOS setup.

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.

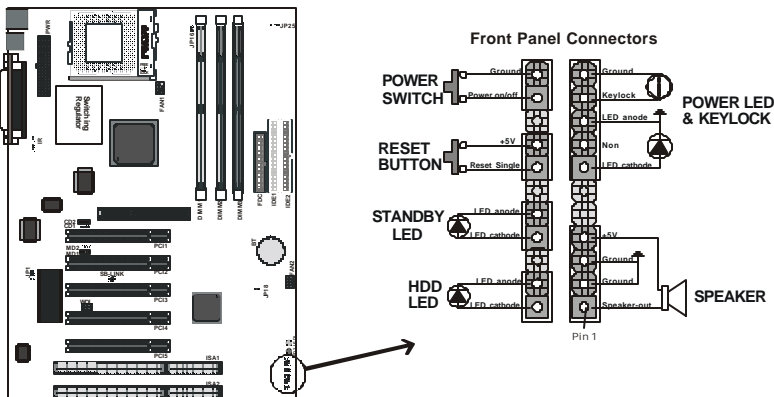
3.4. Connector/Jumper Location



3.5. Attaching Connectors

3.5.1. Front Panel Connectors

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

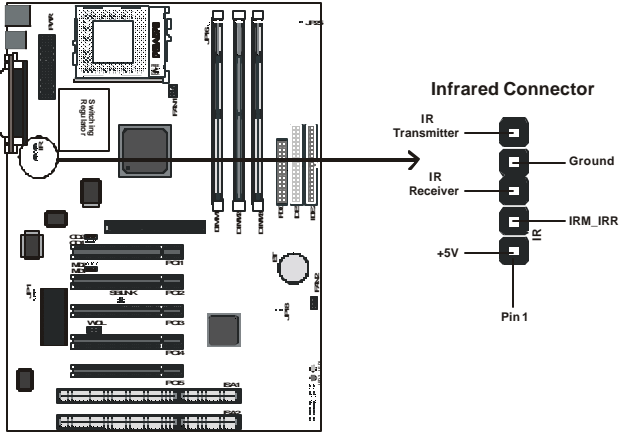


Speaker	This 4-pin connector connects to the case-mounted speaker.
Power LED & Keylock	This 5-pin connector connects to the case-mounted keylock switch and the power LED. The keylock switch is used to lock the keyboard for security purposes.
HDD LED	This 2-pin connector connects to the case-mounted HDD LED to indicate hard disk activity.
STB LED	This 2-pin connector connects to the case-mounted STB 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 enters standby mode, the LED starts blinking.
Reset	This 2-pin connector connects to the case-mounted reset switch and is used to reboot the system.
PW SW	This 2-pin connector connects to the case-mounted Power button.

The front panel on your case may have a turbo switch to deactivate Turbo mode when a slower speed is required for a specific application. The P6F107 series does not support the hardware turbo deactivation function. Use <CTRL><ALT><+/-> keys to change the speed if necessary.

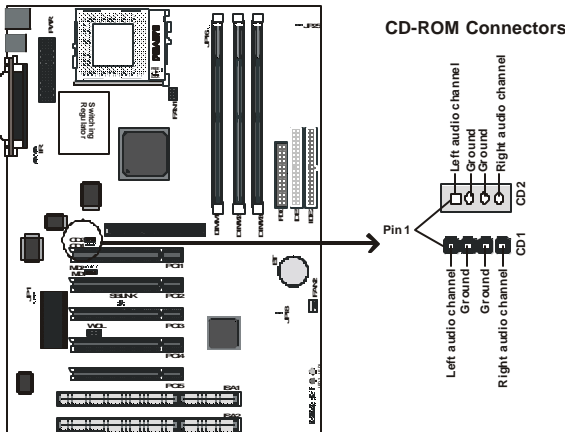
IrDA-compliant (Infrared) Connector

This 5-pin connector connects to an optional wireless transmitting and receiving infrared module via a cable and a bracket. Configure BIOS to enable the IrDA port if you attach an infrared module to this connector. Refer to Integrated Peripherals in Chapter 4 for details.



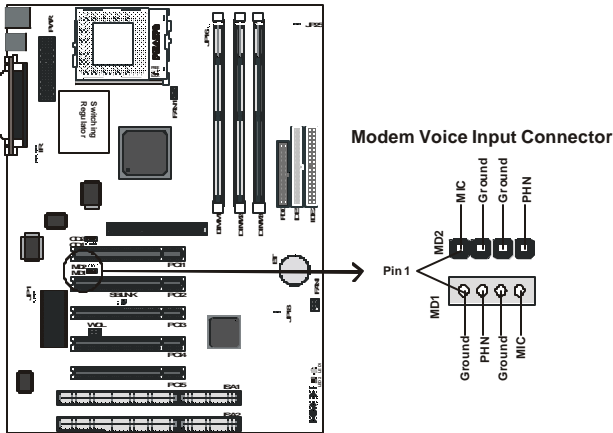
CD-ROM Connectors

These connectors enable you to connect a CD-ROM to the main-board and receive stereo audio input.



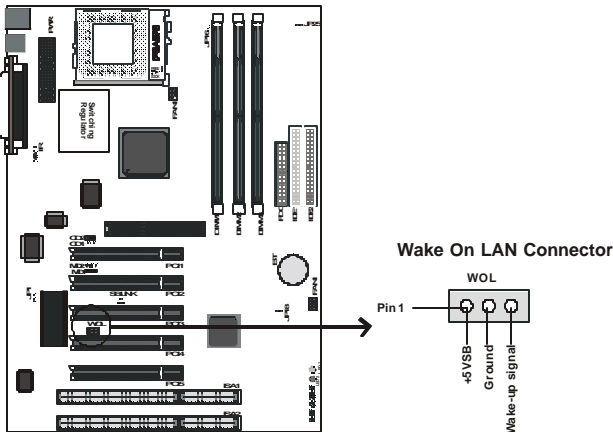
Modem Voice Input Connector

This 4-pin header is used for the Voice Modem's internal connector



Wake on LAN Connector:

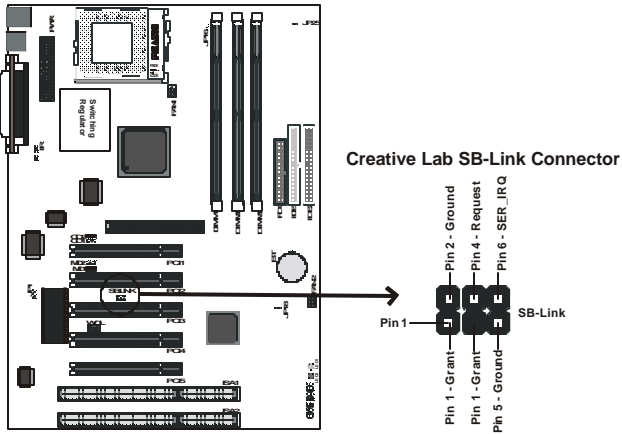
This 3-pin header is used for remote wake up of the computer through a network.



Note: You must enable the Wake On LAN feature in the BIOS setup if you use this feature. Refer to the Power Management section in Chapter 4 for details.

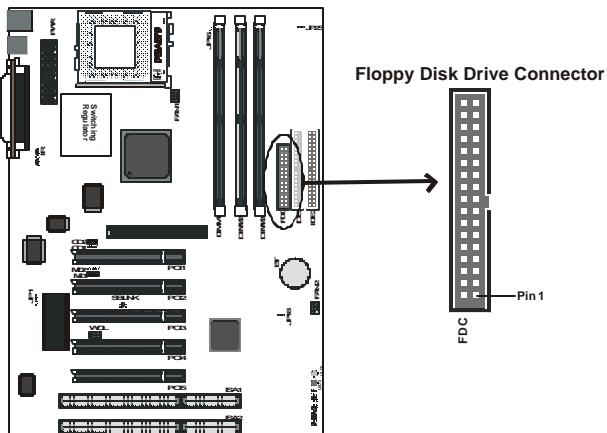
Creative Lab SB (Side-band) Link Connector:

This 2x3 ways, straight-3 header is used for a Creative Lab PCI sound card. In order to migrate the legacy Sound Blaster compatible audio to the PCI bus, the following signals have to be delivered to the PCI audio card through a flat cable:



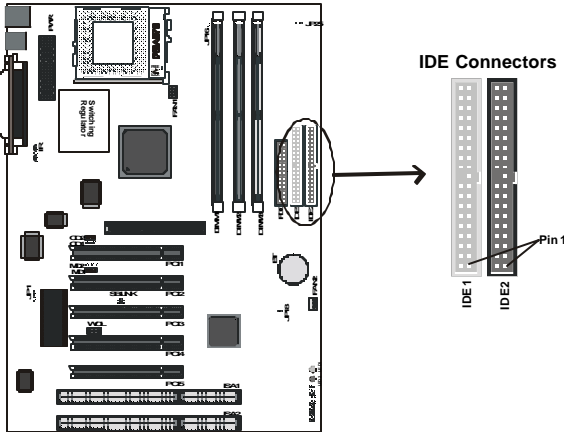
Floppy Drive Connector (One 34-pin Block)

A floppy disk drive ribbon cable has 34 wires and 2 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.



IDE Connectors

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 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.

3.5.2. Back Panel Connectors

The back panel provides external access to PS/2 style keyboard and mouse connectors, two serial ports, one parallel port and dual USB ports which are integrated on the mainboard. Some mainboards have a game port and audio ports as optional accessories. The figures below show the location of the back panel I/O connectors.

PS/2 Mouse and PS/2 Keyboard

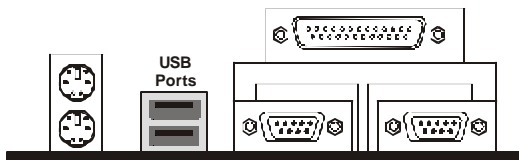
Connect a PS/2 mouse to the green 6-pin mini DIN connector. The system will automatically assign IRQ 12 to the PS/2 mouse if one is connected.



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

Universal Serial Bus Ports

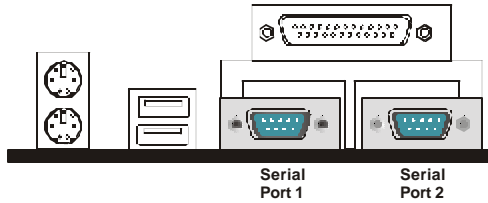
You can connect two USB devices or USB hubs to the USB ports.



The USB ports provide a hardware interface for low-speed peripherals such as the keyboard, mouse, joystick, scanner, printer and telephony devices, and also support MPEG-1 and MPEG-2 digital video. The USB ports have a maximum bandwidth of 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 subchannel.

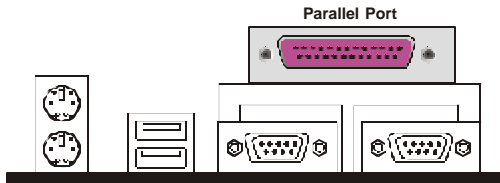
Parallel Port Connector

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



Serial Port Connectors

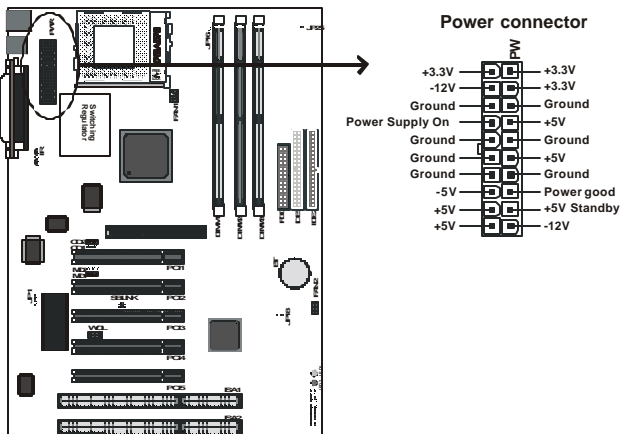
Connect a serial device such as a mouse or modem to the turquoise 9-pin serial ports. You can set the serial port IRQs in BIOS. Refer to *Integrated Peripherals* in Chapter 4 for details.



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

Power Supply 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

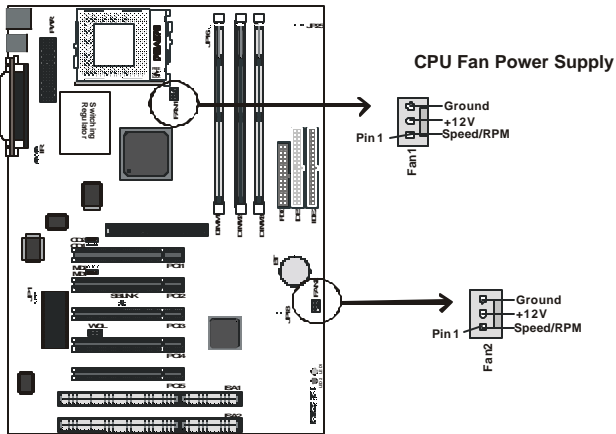


Warning: Incorrect installation of the power supply could result in serious damage to the mainboard and connected peripherals. Make sure the power supply is unplugged from the AC outlet before connecting the leads from the power supply.

CPU Fan Power Supply

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 W83783S chip (providing the fan comes with a tachometer output).

You can monitor the fans' RPM with the Hardware Doctor utility. Refer to *System Environment Monitor* in Chapter 5 for details.



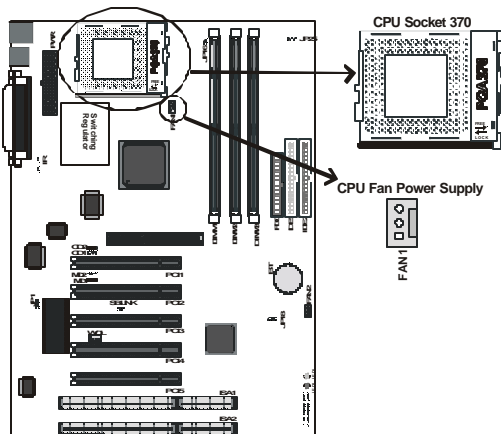
3.6. Installing the CPU

3.6.1. Before You Begin

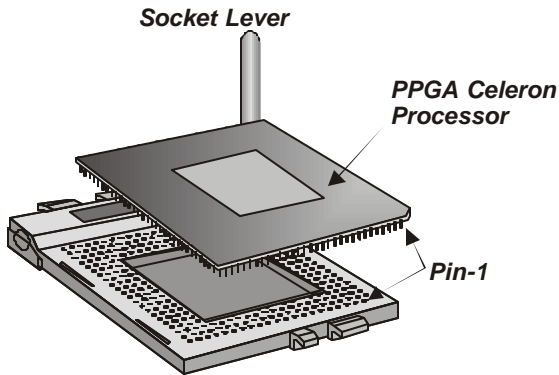
1. Be sure that your Intel processor kit includes the following items:
 - ◆ One processor with the fan or heat sink attached
 - ◆ One power cable (for CPU with cooling fan attached)
2. Place the mainboard on a workbench (not in a chassis). Be sure that the mainboard is empty (that is, no DIMMs, cables, 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 FAN1.



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 Socket-370. 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 Socket-370. The processor should drop into place without any force. If it doesn't seat properly, check that you have the pin-1 corners 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 FAN1.
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

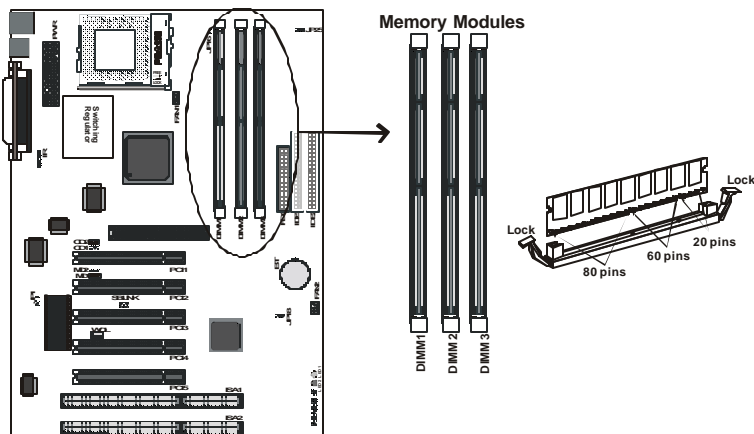
First, remove the mainboard from the chassis. To remove the processor from the mainboard, follow these steps:

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

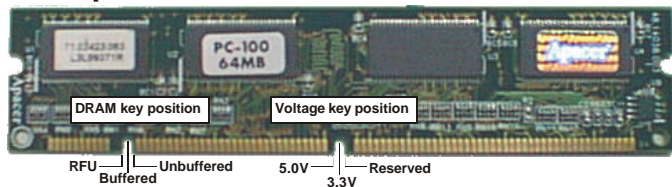
Maximum system memory supported by the mainboard is 768 MB or 512 MB in the P6F107Z model. When using the 133 MHz FSB (available in the P6F107V model), the end user must use the PC133's memory at the same time.

The mainboard has three DIMM Sockets (two sockets in the P6F107Z model). 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.

168-pin DIMM



Due to the high-speed design of the mainboard, the memory modules must meet the following requirements:

DRAM TYPE	SDRAM (Synchronous DRAM)	
Module Size	<i>Single Sided Asymmetric</i> 1Mx64, 4Mx64, 8Mx64, 16Mx64	
	<i>Double-Sided Asymmetric</i> 2Mx64, 4Mx64, 8Mx64, 16Mx64, 32Mx64	
Requirements	EDO Extended Data Output	SDRAM Synchronous DRAM
	<ul style="list-style-type: none"> • <i>DRAM Speed</i> 60 ns or faster • <i>RAS Access Time</i> 60 ns or faster • <i>CAS Access Time</i> 20 ns or faster 	<ul style="list-style-type: none"> • <i>DIMM module</i> 3.3V unbuffered • <i>Speed Grade</i> 66.6 MHz or faster • <i>CAS latency</i> 3 or faster

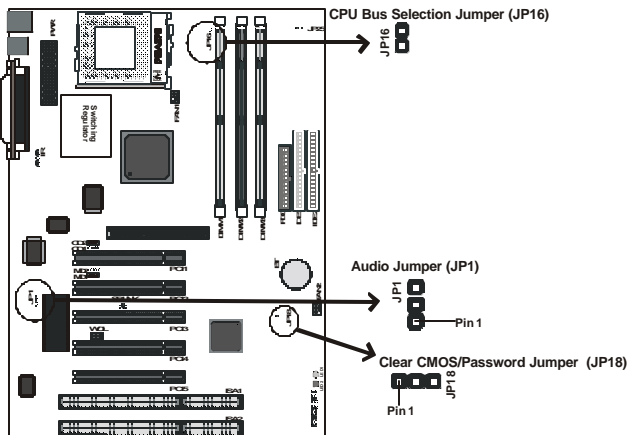
Install the 168-pin SDRAM modules in any combination as follows:

BANK 0 (DIMM1)	8/16/32/64/128/256 MB
BANK 1 (DIMM2)	8/16/32/64/128/256 MB
BANK 2 (DIMM3)	8/16/32/64/128/256 MB
<i>Total System Memory</i>	8 ~ 768 MB (P6F107 and P6F107V)
	8 ~ 512 MB (P6F107Z)

Note: The P6F107Z only has two DIMM slots, DIMM1 and DIMM2.

3.6.5. Setting Jumpers

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



Enable Audio Chip (JP1 - optional)

If you have the audio chip option as part of your package, you must enable the onboard audio chip if you are not using an audio add-in card inserted in one of your PCI slots.

The following table describes the settings:

JP1 (option)	1-2: Disables onboard audio chip
	2-3: Enables onboard audio chip

Setting the AGP Clock (JP16)

Use JP16 to automatically configure your mainboard's AGP clock according to the CPU installed.

The following table describes the settings:

JP16	ON: AGP CLK is set according to the installed CPU
	OFF: AGP clock = CPU CLK x 0.66

Clear CMOS and Password (JP18)

You may need to clear the CMOS if your system cannot boot up because you forgot your password, or the CMOS settings need to be reset to default values after the system BIOS has been updated.

There are two methods for resetting your CMOS setting.

Method 1: Press and hold the <INS> key and then power on the computer. The BIOS will clear the CMOS RAM and reset the CMOS settings to the default values.

Method 2: Through jumper setting. Follow these instructions:

1. Power off the system.
2. Place a shunt to short pin 2 and pin 3 of JP18 for five seconds.
3. Place the shunt back to pin 1 and pin 2 of JP18.
4. Power on the system.

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.

3.6.7. Celeron CPU Soft-menu Setting

The Soft-menu (jumperless) design of the mainboard enables the user to set CPU Bus Clock and CPU core to a Bus clock multiplier through the BIOS.

CPU Bus Clock: The CPU Bus Clock is defined as the CPU input clock.

CPU Core to Bus Clock Multiplier: The CPU internal core clock is equal to the “CPU Bus Clock” times the “CPU Core to Bus Clock Multiplier.” For example, if the CPU Bus Clock is 100 MHz and the CPU Core to Bus clock Multiplier is 5.5, the actual CPU core clock will be 550 MHz.

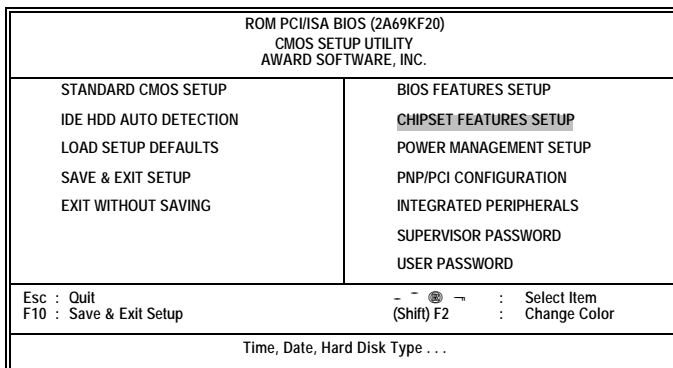
CPU Voltage: There are no hardware or BIOS settings needed for the CPU operating voltage. The switching regulator circuit auto-

detects the CPU type on the mainboard and generates the proper operating voltage for the CPU.

Setting CPU Speed (P6F107 and P6F107Z chipsets)

Follow these steps to configure the CPU speed for the P6F107 and P6F107Z chipsets:

1. Turn the system on.
2. During the POST, press the key to access the AWARD BIOS SETUP program. The “CMOS Setup Utility” is displayed on the screen.
3. In the CMOS Setup Utility screen select “Chipset Features Setup” and press <Enter>.



4. On the top right-hand side of the “CPU Speed Setting” screen, there is a “CPU Speed” option:

ROM PCI/ISA BIOS (2A69KF2K) CHIPSET FEATURES SETUP AWARD SOFTWARE, INC.			
Auto Configuration	: Enabled	CPU Speed	: 333MHz(66.6x5)
EDO CAS# MA Wait State	: 2	CPU Vcore Select	: Default
EDO RAS# Wait State	: 1	AGP Aperture Size (MB)	: 4
SDRAM RAS-to-CAS Delay	: 3	Auto Detect DIMM/PCI Clk	: Enabled
SDRAM RAS Precharge Time	: 3	Spread Spectrum	: Enabled
SDRAM CAS Latency Time	: 2	CPU Warning Temperature	: 66°C/151°F
SDRAM Precharge Control	: Disabled	Current CPU Temperature	: 60°
DRAM Data Integrity Mode	: Non-ECC	Current CPU FAN Speed	:
System BIOS Cacheable	: Enabled	Current FAN2 Speed	:
Video BIOS Cacheable	: Enabled	Vcore : +	3.3V : +
Video RAM Cacheable	: Enabled	+ 5 V : +	+12 V : +
8 Bit I/O Recovery Time	: NA	-12 V : -	
16 Bit I/O Recovery Time	: NA	Shutdown Temperature :	Disabled
Memory Hole At 15M-16M	: Enabled	Esc : Quit	- - - - - : Select Item
Passive Release	: Disabled	F1 : Help	PU/PD/+- : Modify
Delayed Transaction	: Disabled	F5 : Old Values	(Shift) F2 : Color
		F7 : Load Setup Defaults	

5. The following table shows what settings are available:

CPU Bus Clock = 66/100 MHz

CPU Speed	Soft-menu Setting	
	CPU Frequency	CPU Ratio
300A MHz	66.6 MHz	x4.5
333 MHz	66.6 MHz	x5.0
366 MHz	66.6 MHz	x5.5
400 MHz	66.6 MHz	x6.0
433 MHz	66.6 MHz	x6.5
466 MHz	66.6 MHz	x7.0
500 MHz	66.6 MHz	x7.5
533 MHz	66.6 MHz	x8.0
500E MHz	100 MHz	x5.0
550E MHz	100 MHz	x5.5

6. After the CPU speed has been set, return to the CMOS SETUP UTILITY screen:

ROM PCI/ISA BIOS (2A69KF20) CMOS SETUP UTILITY AWARD SOFTWARE, INC.	
STANDARD CMOS SETUP 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
Time, Date, Hard Disk Type . . .	

7. Select “SAVE & EXIT SETUP” and press the <Enter> key to save the information in the CMOS memory and continue with the booting process.

System Clock (CPU Bus Clock)

Set “CPU SPEED” to manual if you want to manually configure the CPU Ratio and CPU Frequency. Refer to the following table for setting options:

CPU Type	Speed (MHz)	Frequency (MHz)
Celeron	300 ~ 700+ MHz	66/75/83
Coppermine	500 ~ 800+ MHz	100/103/112
Coppermine	533 ~ 933+ MHz	133

Setting CPU Speed

Follow these steps to configure the CPU speed for the P6F107V chipset:

1. Turn the system on.
2. During the POST, press the key to access the AWARD BIOS SETUP program. The “CMOS SETUP UTILITY” is displayed on the screen.
3. In the CMOS SETUP UTILITY screen select “CPU Speed Setting” and press <Enter>.

ROM PCI/ISA BIOS (2A6LGF2C) CMOS SETUP UTILITY AWARD SOFTWARE, INC.	
STANDARD CMOS SETUP CPU SPEED SETTING 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
Time, Date, Hard Disk Type . . .	

- On the top left-hand side of the “CPU Features Setup” screen, there is a “CPU Ratio” option.

ROM PCI/ISA BIOS (2A6LGF2D) CPU FEATURES SETUP AWARD SOFTWARE, INC.	
CPU Speed : Manual CPU Ratio : X3 CPU Features : Disabled	
	Esc : Quit - - - - - : Select Item F1 : Help PU/PD/+/- : Modify F5 : Old Values (Shift) F2 : Color F7 : Load Setup Defaults

- Refer to the tables that follow to select the correct CPU speed:

CPU Type	Speed (MHz)	Frequency (MHz)
Celeron	300 ~ 700+ MHz	66/75/83
Coppermine	500 ~ 800+ MHz	100/103/112
Coppermine	533 ~ 933+ MHz	133

6. After the CPU speed has been set, return to the CMOS SETUP UTILITY screen:

ROM PCI/ISA BIOS (2A6LGF2D) CMOS SETUP UTILITY AWARD SOFTWARE, INC.	
STANDARD CMOS SETUP CPU SPEED SETTING IDE HDD AUTO DETECTION LOAD SETUP DEFAULTS <u>SAVE & EXIT SETUP</u> 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
Time, Date, Hard Disk Type . . .	

7. Select “SAVE & EXIT SETUP” and press the <Enter> key to save the information in the CMOS memory and continue with the booting process.

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.

Note: There are some differences in the BIOS settings between P6F107/P6F107Z and P6F107V motherboards. In the following descriptions, ensure that you are reading the instructions for your platform.

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 key to display the “CMOS SETUP UTILITY” screen:

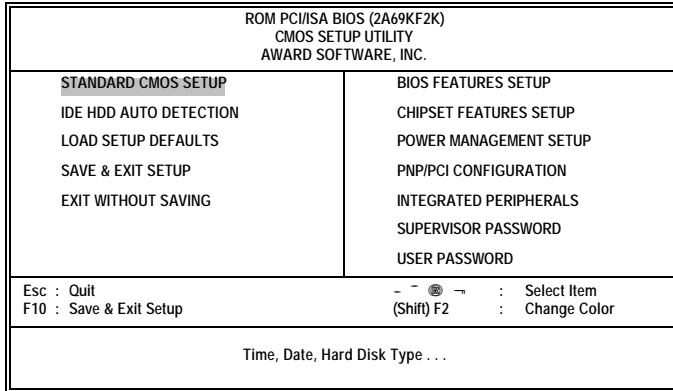


Figure 4-1: P6F107/P6F107Z setup utility main screen

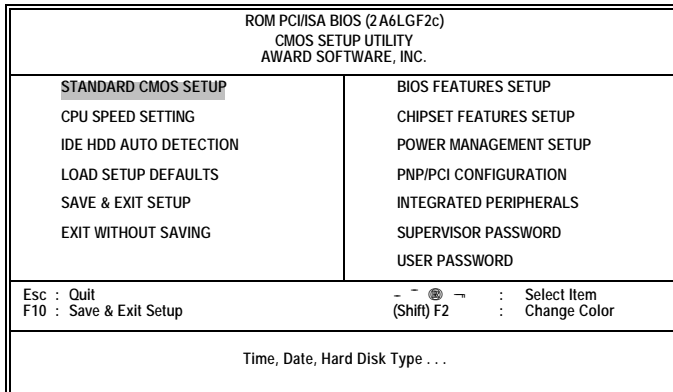


Figure 4-2: P6F107V setup utility main screen

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

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

Key	Function
Esc	Exits the current menu.
↑ ↓ → ←	Select item.
SHIFT +F2	Change color.
PgUp	Modify
PgDn	Modify
F10	Save and Exit Setup

4.2. Standard CMOS Setup

Standard CMOS Setup is the same for all three chipsets. Selecting “STANDARD CMOS SETUP “on the main program screen displays the following menu:

ROM PCI/ISA BIOS (2A69KF2K)								
STANDARD CMOS SETUP								
AWARD SOFTWARE, INC.								
Date (mm:dd:yy) : Mon, Feb 7 2000								
Time (hh:mm:ss) : 8 : 38 : 16								
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								
Esc : Quit			- - - - - : Select Item			PU/PD/+/- : Modify		
F10 : Save & Exit Setup			(Shift) F2 : Change Color					

Figure 4-3: P6F107 series standard CMOS setup screen

The Standard CMOS Setup utility is similar for all three chipsets and 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” enables BIOS to perform IDE HDD auto detection. Type “User” is defined by the user. Type “None” is not installed (for example, a SCSI device).

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)
- MODE (Normal, LBA, LARGE or 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. MODE has four options:

- NORMAL
- LBA
- LARGE
- AUTO

Set MODE to “NORMAL” for IDE hard disk drives smaller than 528 MB. Set MODE to “LBA” for IDE hard disk drives larger than 528 MB which support Logical Block Addressing mode. Set MODE to “LARGE” for IDE hard disk drives larger than 528 MB that 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 528 MB 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: 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)

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

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

4.3. CPU Speed Setting (P6F107V)

The “CPU Speed Setting” item is in the BIOS for the VIA chipset platform. In the Main Program screen, scroll to the “CPU SPEED SETTING” item and press <Enter>. The following menu is displayed:

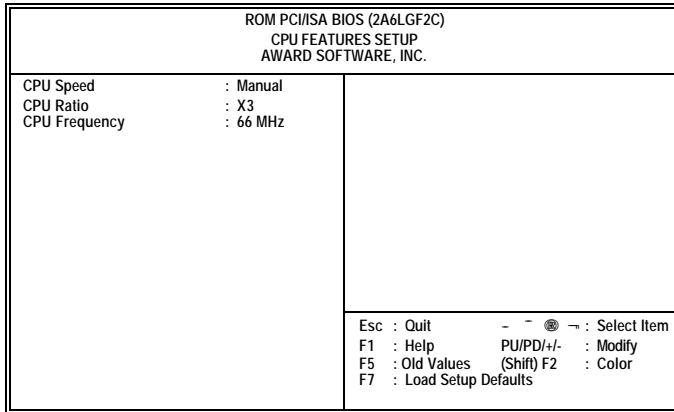


Figure 4-4: P6F107V CPU features setup utility

CPU Speed: This option sets the speed of the CPU. The options are:

- 200MHz(66x3) (default)
- 233MHz(66x3.5)
- 266MHz(66x4)
- 300MHz(66x4.5)
- 333MHz(66x5)
- 366MHz(66x5.5)
- 400MHz(66x6)
- 433MHz(66x6.5)
- 466MHz(66x7)
- 500MHz(66x7.5)
- 533MHz(66x8)
- 500MHz(100x5)
- 550MHz(100x5.5)
- Manual

When set to “Manual,” two other options appear—“CPU Ratio” and “CPU Frequency”—enabling you to set the CPU core to bus clock ratio and CPU bus clock manually.

CPU Ratio: This option enables you to manually set the CPU core to bus clock multiplier. The speed is set in a ratio of bus speed times a multiplier, from 3 to 8, in 0.5 increments. The following table displays the options:

Option	CPU Bus Clock (MHz)	CPU Speed (MHz)	CPU Bus Clock (MHz)	CPU Speed (MHz)
X 3	66	200	—	—
X 3.5	66	233	—	—
X 4	66	266	—	—
X 4.5	66	300	—	—
X 5	66	333	100	500
X 5.5	66	366	100	550

CPU Frequency: This item sets CPU bus clock. The options are:

- 66MHz
- 68MHz
- 75MHz
- 83MHz

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

4.4. 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 in the Standard CMOS Setup screen.

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

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

4.5. BIOS Features Setup (P6F107/P6F107Z)

Selecting “BIOS Features Setup” on the main program screen displays this menu:

ROM PCI/ISA BIOS (2A69KF2K)	
BIOS FEATURES SETUP	
AWARD SOFTWARE, INC.	
Virus Warning	: Enabled
CPU Internal Cache	: Enabled
External Cache	: Disabled
CPU L2 Cache ECC Checking	: Default
Quick Power On Self Test	: Enabled
Boot Sequence	: A, C, SCSI
Swap Floppy Drive	: Disabled
Boot Up Floppy Seek	: Disabled
Floppy Disk Access Control	: R/W
Boot Up NumLock Status	: On
Gate A20 Option	: Fast
Typematic Rate Setting	: Disabled
Typematic Rate (Chars/Sec)	: 6
Typematic Delay (Msec)	: 250
Security Option	: Setup
Video BIOS Shadow	: Disabled
C8000-CBFFF Shadow	: Disabled
CC000-CFFFF Shadow	: Disabled
D0000-D3FFF Shadow	: Disabled
D4000-D7FFF Shadow	: Disabled
D8000-DBFFF Shadow	: Disabled
DC000-DFFFF Shadow	: Disabled
Processor Number Feature	: Enabled
PCI/VGA Palette Snoop	: Disabled
Assign IRQ For VGA	: Disabled
OS Select For DRAM > 64 MB	: Non-OS2
HDD S.M.A.R.T. capability	: Disable
Report No FDD For WIN 95	: No
Esc : Quit - Ⓚ → : Select Item	
F1 : Help	PU/PD/+/- : Modify
F5 : Old Values	(Shift) F2 : Color
F7 : Load Setup Defaults	

Figure 4-5: P6F107/P6F107Z BIOS features setup

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 Virus Warning’s 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: Set to “Enabled” only if the CPU L2 cache has ECC (Error Checking and Correction). The default setting is “Disabled.”

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.”

Boot Sequence: The BIOS will load the operating system from the disk drives in the sequence selected here. Options are:

- C, A, SCSI (default)
- CDROM, C, A
- C, CDROM, A
- A, C, SCSI
- D, A, SCSI
- E, A, SCSI
- F, A, SCSI
- SCSI, A, C
- SCSI, C, A
- LS/ZIP, C
- C only

Swap Floppy Drive: This setting enables you to swap the A and B floppy disk drives. Floppy drive A is usually connected to the end of the FDD cable. If you set this option to “Enabled,” the drive at the end of the cable will be swapped to B. The default setting is “Disabled.”

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

Floppy Disk Access Control: Enables you to set the floppy disk drive access to read and write, or read only. The options are “R/W” (read and write - default) and “Read Only.”

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

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

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

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

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

Video BIOS Shadow: When set to “Enabled” (default), copies the VGA BIOS into system DRAM.

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

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

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 the 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 color problems.

Assign IRQ For VGA: Names the interrupt request (IRQ) line assigned to the VGA (if any) on your system. Activity of the selected IRQ always awakens the system.

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.”

HDD S.M.A.R.T. capability: The S.M.A.R.T. (Self-Monitoring, Analysis, and Reporting Technology) system is a diagnostics technology that monitors and predicts device performance. S.M.A.R.T. software resides on both the disk drive and the host computer. The disk drive software monitors the internal performance of the motors, media, heads, and electronics of the drive. The host software monitors the overall reliability status of the drive. If a device failure is predicted, the host software, through the Client WORKS S.M.A.R.T. applet, warns the user of the impending condition and advises appropriate action to protect the data.

Report No FDD For Win 95: If you are running a system with no floppy drive and using Windows 95, select “Yes” for this item to ensure compatibility with the Windows 95 logo certification. Otherwise, select “No.”

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

4.6. BIOS Features Setup (P6F107V)

Selecting “BIOS Features Setup” on the main program screen displays this menu:

ROM PCI/ISA BIOS (2A6LGF2C)			
BIOS FEATURES SETUP			
AWARD SOFTWARE, INC.			
Anti-Virus Protection	: Enabled	Video BIOS Shadow	: Disabled
CPU Internal Cache	: Enabled	C8000-CBFFF Shadow	: Disabled
External Cache	: Disabled	CC000-CFFFF Shadow	: Disabled
CPU L2 Cache ECC Checking	: Default	D0000-D3FFF Shadow	: Disabled
Processor Number Feature	: Enabled	D4000-D7FFF Shadow	: Disabled
Quick Power On Self Test	: Enabled	D8000-DBFFF Shadow	: Disabled
Boot Sequence	: A, C, SCSI	DC000-DFFFF Shadow	: Disabled
Swap Floppy Drive	: Disabled	PCI/VGA Palette Snoop	: Disabled
Boot Up Floppy Seek	: Disabled	OS Select For DRAM > 64 MB	: Non-0S2
Floppy Disk Access Control	: R/W	HDD S.M.A.R.T. capability	: Disabled
Boot Up NumLock Status	: On		
IDE HDD Block Mode	: Disabled		
Gate A20 Option	: Fast	Esc : Quit	- - - - - : Select Item
Memory Parity/ECC Check	: Disabled	F1 : Help	PU/PD/+- : Modify
Typematic Rate Setting	: Disabled	F5 : Old Values	(Shift) F2 : Color
Typematic Rate (Chars/Sec)	: 6	F7 : Load Setup Defaults	
Typematic Delay (Msec)	: 250		
Security Option	: Setup		

Figure 4-6: P6F107V BIOS features setup

The following explains the options for each feature:

Anti-Virus Protection: 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 Virus Warning’s 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: Set to “Enabled” only if the CPU L2 cache has ECC (Error Checking and Correction). The default setting is “Disabled.”

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

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.”

Boot Sequence: The BIOS will load the operating system from the disk drives in the sequence selected here. Options are:

- C, A, SCSI (default)
- CDROM, C, A
- C, CDROM, A
- A, C, SCSI
- D, A, SCSI
- E, A, SCSI
- F, A, SCSI
- SCSI, A, C
- SCSI, C, A
- LS/ZIP, C
- C only

Swap Floppy Drive: This setting enables you to swap the A and B floppy disk drives. Floppy drive A is usually connected to the end of the FDD cable. If you set this option to “Enabled,” the drive at the end of the cable will be swapped to B. The default setting is “Disabled.”

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

Floppy Disk Access Control: Enables you to set the floppy disk drive access to read and write, or read only. The options are “R/W” (read and write - default) and “Read Only.”

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

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

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.”

Memory Parity/ECC Check: This item allows you to select between three methods of memory error checking: “Auto,” “Enabled” and “Disabled.” Enable this item to allow BIOS to perform a parity check to the POST memory tests. Select “Enabled” only if the system DRAM supports parity checking.

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

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

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

Video BIOS Shadow: When set to “Enabled” (default), copies the VGA BIOS into system DRAM.

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

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 the 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 color problems.

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.”

HDD S.M.A.R.T. capability: The S.M.A.R.T. (Self-Monitoring, Analysis, and Reporting Technology) system is a diagnostics technology that monitors and predicts device performance. S.M.A.R.T. software resides on both the disk drive and the host computer. The disk drive software monitors the internal performance of the motors, media, heads, and electronics of the drive. The host software monitors the overall reliability status of the drive. If a device failure is predicted, the host software, through the Client WORKS S.M.A.R.T applet, warns the user of the impending condition and advises appropriate action to protect the data.

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

4.7. Chipset Features Setup (P6F107/P6F107Z)

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

ROM PCI/ISA BIOS (2A69KF2K) CHIPSET FEATURES SETUP AWARD SOFTWARE, INC.			
Auto Configuration	: Enabled	CPU Speed	: Manual
EDO DRAM Speed Selection	: 60ns	CPU Ratio	: X 3
EDO CASx# MA Wait State	: 2	CPU Frequency	: 66/33 MHz
EDO RASx# Wait State	: 1	CPU Vcore Select	: Default
SDRAM RAS-to-CAS Delay	: 3	AGP Aperture size (MB)	: 4
SDRAM RAS Precharge Time	: 3	Auto Detect DIMM/PCI Clk	: Enabled
SDRAM CAS Latency Time	: 2	Spread Spectrum	: Enabled
SDRAM Precharge Control	: Disabled	CPU Warning Temperature	: 66°C/151°F
DRAM Data Integrity Mode	: Non-ECC	Current CPU Temperature	: 60°
System BIOS Cacheable	: Enabled	Current CPU FAN Speed	:
Video BIOS Cacheable	: Enabled	Current FAN2 Speed	:
Video RAM Cacheable	: Enabled	Vcore : +	+3.3V : +
8 Bit I/O Recovery Time	: NA	+ 5 V : +	+12 V : +
16 Bit I/O Recovery Time	: NA	-12 V : -	-5 V : -
Memory Hole At 15M-16M	: Enabled	Esc : Quit	- - - - - : Select Item
Passive Release	: Disabled	F1 : Help	PU/PD/+/- : Modify
Delayed Transaction	: Disabled	F5 : Old Values	(Shift) F2 : Color
		F7 : Load Setup Defaults	

Figure 4-7: P6F107/P6F107Z chipset features setup

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.

Auto Configuration: Enable this field to allow BIOS to set the Chipset features for your system automatically. Auto Configuration selects predetermined optimal values of chipset parameters. When set to “Disabled,” chipset parameters revert to setup information stored in CMOS. Some fields in this screen are not available when Auto Configuration is enabled. The options are “Disabled” and “Enabled” (default).

EDO DRAM Speed Selection: Enables you to set the speed of the EDO (Extended Data Out) DRAM. This field becomes available when Auto Configuration is enabled.

DRAM timing is controlled by the DRAM Timing Registers. The timings programmed into this register are dependent on the system design. Slower rates may be required in certain system designs to support loose layouts or slower memory. The options “50ns” and “60ns” (default)

EDO CASx# MA Wait State: Enables you to select the timing control type of EDO DRAM CAS (Column Address Strobe) MA (memory address) bus. This field is unavailable when Auto Configuration is enabled. Options are “1”, and “2” (default).

EDO RASx# Wait State: Enables you to select the timing control type of EDO DRAM RAS (Row Address Strobe) MA (memory address) bus. This field is unavailable when Auto Configuration is enabled. Options are “1” (default), and “2.”

SDRAM RAS-to-CAS Delay: Enables you to select the RAS to CAS delay time in HCLKs of 2/2 or 3/3. The value is set at the factory depending on the DRAM installed. Do not change the values in this field unless you have changed the specifications of the installed DRAM or the installed CPU. The options are “2” and “3” default.

SDRAM RAS Precharge Time: DRAM must continually be refreshed or it will lose its data. Normally, DRAM is refreshed entirely as the result of a single request. This option allows you to determine the number of CPU clocks allocated for the Row Address Strobe (RAS) to accumulate its charge before the DRAM is refreshed. If insufficient time is allowed, refresh may be incomplete and data lost. Options are “2” and “3” (default).

SDRAM CAS Latency Time: Enables you to select the CAS latency time in HCLKs of 2/2 or 3/3. The value is set at the factory 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. The options are “2” and “3” default.

SDRAM Precharge Control: This field enables or disables the SDRAM precharge control. The default setting is “Disabled.”

DRAM Data Integrity Mode: Set this to “ECC” (error-correcting code—default) or “Non-ECC,” according to the type of installed DRAM.

System BIOS Cacheable: When set to “Enabled” (default), the System BIOS will be cached for faster execution.

Caching of the system BIOS ROM occurs at F000h-FFFFh, resulting in better system performance. However, if any program writes to this memory area, a system error may result.

Video BIOS Cacheable: When set to “Enabled” (default), the video BIOS will be cached for faster execution.

Caching of the video BIOS ROM occurs at C0000h-F7FFFh, resulting in better video performance. However, if any program writes to this memory area, a system error may result.

Video RAM Cacheable: When set to “Enabled,” the graphics card’s local memory will be cached for faster execution. However, if any program writes to this memory area, a system error may result. The default setting is “Disabled.”

8 Bit I/O Recovery Time: This item allows you to determine the recovery time allowed for 8-bit I/O. The recovery time is the length of time (measured in CPU clocks) in which the system delays after the completion of an input/output request. This delay occurs because the CPU is operating so much faster than the input/output bus that the CPU must be delayed to allow for the completion of the I/O. Options are “NA” and “1” (default) through “8.”

16 Bit I/O Recovery Time: This item allows you to determine the recovery time allowed for 16-bit I/O. Options are “NA” and “1” (default) through “4.”

Memory Hole At 15M-16M: If Set to “Enabled”, 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 a 1 MB hole in your system memory. This option is designed for some OS with special add-in cards which need 15-16 MB memory space. The default setting is “Disabled.”

Passive Release: When set to “Enabled” (default), CPU to PCI bus access is allowed during passive release. Otherwise, only PCI master access to local DRAM is permitted.

Delayed 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.”

CPU Speed: Enables you to set the CPU clock speed. When set to “Manual,” the CPU Ratio and CPU Frequency fields become available. The Options for this field are:

- 200MHz(66x3) (default)
- 233MHz(66x3.5)
- 266MHz(66x4)
- 300MHz(66x4.5)
- 333MHz(66x5)
- 366MHz(66x5.5)
- 400MHz(66x6)
- 433MHz(66x6.5)
- 466MHz(66x7)
- 500MHz(66x7.5)
- 533MHz(66x8)
- 500MHz(100x5)
- 550MHz(100x5.5)
- Manual

CPU Ratio: This field becomes available when CPU Speed is set to “Manual.” The options are outlined in the following table:

Option	CPU Bus Clock (MHz)	CPU Speed (MHz)	CPU Bus Clock (MHz)	CPU Speed (MHz)
X 3	66	200	—	—
X 3.5	66	233	—	—
X 4	66	266	—	—
X 4.5	66	300	—	—
X 5	66	333	100	500
X 5.5	66	366	100	550

CPU Frequency: Enables you to set the CPU frequency. Options are:

- 66 MHz
- 68 MHz
- 75 MHz
- 83 MHz

CPU Vcore Select: Enables you to set the CPU Vcore voltage. Options are:

- Default (default)
- +0.05V
- +0.1V
- +0.2V
- +0.3V
- +0.4V
- -0.05V
- -0.1V

AGP Aperture Size (MB): This option determines the effective size of the AGP Graphic *Aperture*, where memory-mapped graphic data structures are located.

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

Spread Spectrum: When set to “Enabled,” the system clock frequency will automatically be modulated to help reduce electromagnetic interference. Default is “Enabled”.

CPU Warning Temperature: This feature enables you to set the warning temperature for CPU overheating. When the CPU temperature exceeds the set temperature, the PC speaker will beep. The beep sound will not turn off unless you power down the computer and allow your CPU to cool down.

Current CPU Temperature: This field displays the current CPU temperature. This feature gives you the ability to monitor your system’s temperature without opening the chassis.

Current CPU FAN/FAN2 Speed: These fields display the CPU FAN or FAN2 RPM (Revolution Per Minute) reading. You cannot make changes to these fields. This feature gives you the ability to monitor CPU FAN and FAN2 conditions.

Vcc3, Vccp, +5V, -5V, +12V, -12V: This feature gives you the ability to monitor the condition of the system's power. These fields display the voltages of the following components

- Vcc3 (onboard 3.3 volt)
- Vccp (CPU Core voltage)
- +5V (power supply's +5 volt)
- -5V (power supply's -5 volt)
- +12V (power supply's +12 volt)
- -12V (power supply's -12 volt)

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

4.8. Chipset Features Setup (P6F107V)

Selecting "Chipset Features Setup" on the main program screen displays this menu:

ROM PCI/ISA BIOS (2A6LGF2C) CHIPSET FEATURES SETUP AWARD SOFTWARE, INC.			
Bank 0/1 DRAM Timing	: SDRAM 10ns	Auto Detect DIMM/PCI CLK	: Enabled
Bank 2/3 DRAM Timing	: SDRAM 10ns	Spread Spectrum	: Disabled
Bank 4/5 DRAM Timing	: SDRAM 10ns	AGP Aperture Size	: 128M
SDRAM Cycle Length	: 3	AGP-2X Mode	: Disabled
DRAM Clock	: Host CLK		
Memory Hole	: Disabled		
Read Around Write	: Disabled		
Concurrent PCI/Host	: Disabled		
System BIOS Cacheable	: Enabled		
System RAM Cacheable	: Enabled		
OnChip USB	: Enabled		
USB Keyboard Support	: Disabled		
		Esc : Quit	- - - : Select Item
		F1 : Help	PU/PD/+/ : Modify
		F5 : Old Values	(Shift) F2 : Color
		F7 : Load Setup Defaults	

Figure 4-8: P6F107V chipset features setup

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.

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. The following options are allowed:

- SDRAM 10ns
- SDRAM 8ns
- Normal
- Medium
- Fast
- Turbo

SDRAM Cycle Length: This field enables you to set the 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.

DRAM Clock: Enables you to select the DRAM Clock. The options are:

- Host CLK
- HCLK +33
- HCLK -33

Memory Hole: If Set to “Enabled”, 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 a 1 MB hole in your system memory. This option is designed for some OS with special add-in cards which need 15-16 MB memory space. The default setting is “Disabled.”

Read Around Write: Optimizes DRAM. If a memory read is addressed to a location whose latest write is being held in a buffer before being written to memory, the read is satisfied through the buffer contents, and the read is not sent to the DRAM. The options are “Enabled” (default), and “Disabled.”

Concurrent PCI/Host: When set to “Disabled,” the CPU bus will be occupied during the entire PCI operation period. The options are “Enabled” (default), and “Disabled.”

System BIOS Cacheable: When set to “Enabled” (default), the System BIOS will be cached for faster execution.

Video RAM Cacheable: When set to “Enabled,” the graphics card’s local memory will be cached for faster execution. The default setting is “Disabled.”

OnChip USB: This should be enabled if your system has a USB installed on the system board and you wish to use it. Options are “Disabled” (default) and “Enabled.”

USB Keyboard Support: Enables function when the USB keyboard is being used. Set to “Disabled” (default) when an AT keyboard is used.

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

Spread Spectrum: When set to “Enabled,” the system clock frequency will automatically be modulated to help reduce electromagnetic interference. Default is “Enabled”.

AGP Aperture Size (MB): This option determines the effective size of the AGP Graphic *Aperture*, where memory-mapped graphic data structures are located.

AGP-2X Mode: Set this to “Enabled” to allow AGP to transfer data at 528 MB/sec (2x AGP—clock 133MHz). The default setting is “Disabled” (AGP transfers data at 264 MB/sec).

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

4.9. Power Management (P6F107/P6F107Z)

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

ROM PCI/ISA BIOS (2A69KF2K) POWER MANAGEMENT SETUP AWARD SOFTWARE, INC.		
ACPI function	: Enabled	** Reload Global Timer Events **
Power Management	: User Define	PCI/VGA ActMonitor : Disabled
PM Control by APM	: Yes	IRQ[3 -7,9-15],NMI : Disabled
Video Off Method	: V/H SYNC+Blank	Primary IDE 0 : Disabled
Doze Mode	: Disable	Primary IDE 1 : Disabled
Standby Mode	: Disable	Secondary IDE 0 : Disabled
Suspend Mode	: Disable	Secondary IDE 1 : Disabled
HDD Power Down	: Disable	Floppy Disk : Disabled
HDD Down When Suspend	: Disable	Serial Port: Disabled
Throttle Duty Cycle	: 62.5X	Parallel Port : Disabled
CPUFAN Off in Suspend	: Off	Mouse Break Suspend : Yes
Soft-Off by PWR-BTTN	: Instant-Off	MODEM Use IRQ : 3
PowerOn by Ring	: Disabled	IRQ 8 Break Suspend : Disabled
Resume by Alarm	: Enabled	Esc : Quit - - - - - : Select Item
Date (of Month) Alarm	: 0	F1 : Help PU/PD/+/- : Modify
Time (hh:mm:ss) Alarm	: 7: 0: 0	F5 : Old Values (Shift) F2 : Color
Wake Up On LAN	: Disabled	F7 : Load Setup Defaults

Figure 4-9: P6F107/P6F107Z power management setup

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

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 Power Savings:** recommended setting for general use.
- **Test/Demo:** for test/demonstration purposes
- **Disable:** disables the power management features

PM Control by APM: When set to “Yes” (default), the system BIOS will wait for APM’s prompt before it enters any power management 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 the time out period.

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 the line “DEVICE=C:\DOS\POWER.EXE” in your CONFIG.SYS file. For Windows 3.1x and Windows 95, you need to install Windows with the APM feature. Double-click the 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 disables 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.

Doze Mode: 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. Options are from “30 Sec” to “1 Hour” and “Disabled.”

Standby Mode: When enabled and after the set time of system inactivity, the fixed disk drive and the video would be shut off while all other devices still operate at full speed. Options are from “1 Min” to “1 Hour” and “Disabled.”

Suspend Mode: When enabled and after the set time of system inactivity, all devices except the CPU will be shut off. Options are from “1 Min” to “1 Hour” and “Disabled.”

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 “Disabled.”

HDD Down When Suspend: If set to “Enabled,” the IDE hard drive will spin down during suspend mode. Options are from “Enabled” and “Disabled” (default).

Throttle Duty Cycle: When the system enters Doze mode, the CPU clock runs only part of the time. You can select the percent of time that the clock runs. Options are:

- 12.5%
- 25.0%
- 37.5%
- 50.0%
- 62.5%
- 75.0%

CPUFAN Off in Suspend: Enables you to set the CPU fan to turn off during suspend mode. The options are “OFF” (default), and “ON.”

Soft-Off by PWR-BTTN: 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.”

Note: During the booting process, the power button is ignored.

PowerOn by Ring: When set to “Enabled,” any incoming phone call on the modem will power on the system. The options are “Enabled” and “Disabled” (default).

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

Wake Up On LAN: When set to “Enabled,” any activity on the LAN port will wake up the system from a power saving mode. The options are “Enabled” and “Disabled” (default).

**** Reload Global Timer Events ****

This section enables you to set timer events for power management.

PCI/VGA ACT-Monitor: When set to “Enabled,” any video activity restarts the global timer for Standby mode. Options are “Enabled” and “Disabled” (default).

IRQ[3-7,9-15],NMI: When set to “Enabled” (default), any event occurring at IRQs 3 through 15 (excluding IRQ 8) will awaken a system which has been powered down.

Primary/Secondary IDE 0/1: When set to “Enabled”, any activity from one of the listed system peripheral devices wakes up the system.

Floppy Disk: When set to “Enabled”, any activity from the floppy disk drive wakes up the system.

Serial/Parallel Port: When set to “Enabled”, any activity from one of the listed system ports wakes up the system.

Mouse Break Suspend: This field allows you to enable or disable monitoring of the mouse so it does not awaken the system from Suspend mode. Options are “Yes” (default) and “No.”

MODEM Use IRQ: This determines which IRQ the MODEM can use. Options are 3, 4, 5, 7, 9, 10, 11, and NA.

IRQ 8 Break Suspend: This field allows you to enable or disable monitoring of IRQ8 so that it does not awaken the system from Suspend mode. Options are “Enabled” and “Disabled” (default).

Press the <ESC> key to go back to the main program screen, after you have made your selections in the Power Management Setup screen.

4.10. Power Management (P6F107V)

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

ROM PCI/ISA BIOS (2A6LGF2C) POWER MANAGEMENT SETUP AWARD SOFTWARE, INC.			
ACPI function	: Enabled	Primary INTR	: ON
Power Management	: User Define	IRQ3 (COM 2)	: Primary
PM Control by APM	: Yes	IRQ4 (COM 1)	: Primary
Video Off Method	: V/H SYNC+Blank	IRQ5 (LPT 2)	: Primary
Doze Mode	: Disable	IRQ6 (Floppy Disk)	: Primary
Suspend Mode	: Disable	IRQ7 (LPT 1)	: Primary
Soft-Off by PWRBTN	: Instant-Off	IRQ8 (RTC Alarm)	: Disabled
HDD Power Down	: Disable	IRQ9 (IRQ2 Redir)	: Secondary
HDD Down In Suspend	: Disable	IRQ10 (Reserved)	: Secondary
		IRQ11 (Reserved)	: Secondary
** PM Events **		IRQ12 (PS/2 Mouse)	: Primary
VGA	: OFF	IRQ13 (Coprocessor)	: Primary
LPT & COM	: LPT/COM	IRQ14 (Hard Disk)	: Primary
HDD & FDD	: ON	IRQ15 (Reserved)	: Disabled
DMA/master	: OFF		
Modem Ring Resume	: Disabled	Esc : Quit	- - - : Select Item
RTC Alarm Resume	: Enabled	F1 : Help	PU/PD/+- : Modify
Date (of Month) :	0	F5 : Old Values	(Shift) F2 : Color
Timer (hh:mm:ss) :	7: 0: 0	F7 : Load Setup Defaults	
MODEM Use IRQ	: 3		

Figure 4-10: P6F107V power management setup

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

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
- **Optimize:** recommended setting for general use
- **Test/Demo:** for test/demonstration purposes
- **Disable:** disables the power management features

PM Control by APM: When set to “Yes” (default), the system BIOS will wait for APM’s prompt before it enters any power management 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 the time out period.

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 the line “DEVICE=C:\DOS\POWER.EXE” in your CONFIG.SYS file. For Windows 3.1x and Windows 95, you need to install Windows with the APM feature. Double-click the 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 disables 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.

Doze Mode: 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. Options are from “30 Sec” to “1 Hour” and “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 “30 Sec” to “1 Hour” and “Disabled.”

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.”

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 “Disabled.”

HDD Down In Suspend: If set to “Enabled,” the IDE hard drive will spin down during suspend mode. Options are from “Enabled” and “Disabled” (default).

PM Events: PM events are I/O events whose occurrence prevents the system from entering a power saving mode or awakens the system from a power saving mode. The following options are available:

- **VGA:** when enabled, VGA activity wakes up the system
- **LPT & COM:** when set to “On”, any activity from one of the listed system peripheral devices or IRQs wakes up the system
- **HDD & FDD:** when set to “On”, any activity from one of the listed system peripheral devices wakes up the system
- **DMA/master:** when set to “On”, any activity from one of the listed devices wakes up the system
- **Modem Ring Resume:** when set to “Enabled”, the system power will be turned on if the FAX/Modem receives an incoming telephone call
- **RTC Alarm Resume:** when set to “Enabled,” you may set the date (day of the month), hour, minute and second to turn on your system. When set to set “0” (zero) for the day of the month, the alarm will power on your system every day at the specified time.

MODEM Use IRQ: This determines which IRQ the MODEM can use. Options are 3, 4, 5, 7, 9, 10, 11, and NA.

Primary INTR: When set to “On” (default), any event occurring at the specified IRQ will awaken a system which has been powered down.

The following is a list of IRQs (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. Options are “On,” and “Off” (default).

When set to On, activity will not prevent the system from going into a power management mode and will not awaken it.

- IRQ3 (COM2)
- IRQ4 (COM1)
- IRQ5 (LPT2)
- IRQ6 (Floppy Disk)
- IRQ7 (LPT1)
- IRQ8 (RTC Alarm)
- IRQ9 (IRQ2 Redir)
- IRQ10 (Reserved)
- IRQ11 (Reserved)
- IRQ12 (PS/2 Mouse)
- IRQ13 (Coprocessor)
- IRQ14 (Reserved)
- IRQ15 (Reserved)

Press the <ESC> key to go back to the main program screen, after you have made your selections in the Power Management Setup screen.

4.11.PnP/PCI Configuration (P6F107/P6F107Z)

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 CONFIGURATION” on the main program screen displays this menu:

ROM PCI/ISA BIOS (2A69KF2K)					
PnP/PCI CONFIGURATION					
AWARD SOFTWARE, INC.					
PnP OS Installed	:	No	Slot 1 Use IRQ No.	:	Auto
Resources Controlled by	:	Manual	Slot 2 Use IRQ No.	:	Auto
Reset Configuration Data	:	Disabled	Slot 3 Use IRQ No.	:	Auto
IRQ-3 assigned to	:	PCI/ISA PnP	Slot 4 Use IRQ No.	:	Auto
IRQ-4 assigned to	:	PCI/ISA PnP	Used MEM base addr	:	DC00
IRQ-5 assigned to	:	PCI/ISA PnP	Used MEM Length	:	8K
IRQ-7 assigned to	:	Legacy ISA	Assign IRQ For USB	:	Enabled
IRQ-9 assigned to	:	PCI/ISA PnP			
IRQ-10 assigned to	:	PCI/ISA PnP			
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-7 assigned to	:	PCI/ISA PnP			
			Esc	:	Quit
			-	:	Select Item
			PU/PD/+/-	:	Modify
			F5	:	Old Values (Shift) F2
			F7	:	Load Setup Defaults

Figure 4-11: P6F107/P6F107Z configuration

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 (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.”

IRQ and DMA Assigned to: These fields only become available if the Resources Controlled By field is set to “Manual.” 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 this field to “PCI/ISA PnP.”

Slot 1/2/3/4 Use IRQ No.: These fields let you select the PCI IDE IRQ mapping or PC AT (ISA) interrupts. If your system does not have one or two PCI IDE connectors on the system board, select values according to the type of IDE interface(s) installed in your system (PCI or ISA). Standard ISA interrupts for IDE channels are IRQ14 for primary and IRQ15 for secondary

Used MEM base addr: Select a base address for the memory area used by any peripheral that requires high memory. Options are:

- C800
- CC00
- D000
- D400
- D800
- DC00
- N/A (default)

Used MEM Length: Select a length for the memory area specified in the previous field. This field does not appear if no base address is specified. Options are:

- 8K
- 16K
- 32K
- 64K

Assign IRQ for USB: Names the interrupt request (IRQ) line assigned to the USB on your system. Activity of the selected IRQ always awakens the system.

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

4.12.PnP/PCI Configuration (P6F107V)

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 CONFIGURATION” on the main program screen displays this menu:

ROM PCI/ISA BIOS (2A6LGF2C) PNP/PCI CONFIGURATION AWARD SOFTWARE, INC.					
PNP OS Installed	:	No	CPU to PCI Write Buffer	:	Disabled
Resources Controlled by	:	Manual	PCI Dynamic Bursting	:	Disabled
Reset Configuration Data	:	Disabled	PCI Master 0 WS Write	:	Enabled
IRQ-3 assigned to	:	PCI/ISA PnP	PCI Delay Transaction	:	Disabled
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	:	Disabled
IRQ-7 assigned to	:	PCI/ISA PnP	AGP Master 1 WS Read	:	Disabled
IRQ-9 assigned to	:	PCI/ISA PnP	Assign IRQ For USB	:	Disabled
IRQ-10 assigned to	:	PCI/ISA PnP	Assign IRQ For VGA	:	Disabled
IRQ-11 assigned to	:	PCI/ISA PnP			
IRQ-12 assigned to	:	PCI/ISA PnP			
IRQ-14 assigned to	:	PCI/ISA PnP			
IRQ-15 assigned to	:	PCI/ISA PnP			
DMA-0 assigned to	:	PCI/ISA PnP	Esc : Quit	- - - - : Select Item	
DMA-1 assigned to	:	PCI/ISA PnP	F1 : Help	PU/PD/+- : Modify	
DMA-3 assigned to	:	PCI/ISA PnP	F5 : Old Values	(Shift) F2 : Color	
DMA-5 assigned to	:	PCI/ISA PnP	F7 : Load Setup Defaults		
DMA-7 assigned to	:	PCI/ISA PnP			

Figure 4-12: P6F107V configuration

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 (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.”

IRQ and DMA Assigned to: These fields only become available if the Resources Controlled By field is set to “Manual.” 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 this field to “PCI/ISA PnP.”

CPU to PCI Write Buffer: When enabled, up to four words of data can be written to the PCI bus without interrupting the CPU. When disabled, a write buffer is not used and the CPU read cycle will not be completed until the PCI bus signals that it is ready to receive the data.

PCI Dynamic Bursting: When set to “Enabled,” every write transaction goes to the write buffer. “Burstable” transactions then burst on the PCI bus and “nonburstable” transactions do not. The options are “Enabled,” and “Disabled.”

PCI Master 0 WS Write: When set to “Enabled,” writes to the PCI bus are executed with zero wait states. The options are “Enabled,” and “Disabled.”

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 options are “Enabled,” and “Disabled.”

PCI #2 Access #1 Retry: This item allows you enable/disable the PCI#2 Access #1 Retry.

AGP Master 1 WS Write: This implements a single delay when writing to the AGP Bus. By default, two-wait states are used by the system, allowing for greater stability. The options are “Enabled,” and “Disabled.”

AGP Master 1 WS Read: This implements a single delay when reading to the AGP Bus. By default, two-wait states are used by the system, allowing for greater stability. The options are “Enabled,” and “Disabled.”

Assign IRQ for USB/VGA: Names the interrupt request (IRQ) line assigned to the USA/VGA (if any) on your system. Activity of the selected IRQ always awakens the system.

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

4.13. Integrated Peripherals (P6F107/P6F107Z)

Selecting “Integrated Peripherals” on the main program screen displays this menu:

ROM PCI/ISA BIOS (2A69KF20) INTEGRATED PERIPHERALS AWARD SOFTWARE, INC.			
IDE HDD Block Mode : Disabled IDE Primary Master PIO : Auto IDE Primary Slave PIO : Auto IDE Secondary Master PIO : Auto IDE Secondary Slave PIO : Auto IDE Primary Master UDMA : Auto IDE Primary Slave UDMA : Auto IDE Secondary Master UDMA : Auto IDE Secondary Slave UDMA : Auto On-Chip Primary PCI IDE : Auto On-Chip Secondary PCI IDE : Auto USB Keyboard Support : Disabled Init Display First : AGP Onboard FDC Controller : Disabled Onboard Serial Port 1 : Auto Onboard Serial Port 2 :	UART Mode Select : IrDA UART2 Duplex Mode : Full Rx D , Tx D Active : Hi,Hi IR Transmission delay : Disabled Onboard Parallel Port : 378/IRQ7 Parallel Port Mode : half ECP Mode User DMA : 3 EPP Mode Select : EPP1.9 POWER ON Function : KB Power ON Password : Enter Hot Key Power ON : Ctrl-F12 PWERON After PWR-Fail : Off		
Esc : Quit - - - : Select Item F1 : Help PU/PD +/- : Modify F5 : Old Values (Shift) F2 : Color F7 : Load Setup Defaults			

Figure 4-13: P6F107/P6F107Z integrated peripherals

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.”

IDE Primary/Secondary Master/Slave PIO: When set to “Auto” the BIOS will automatically set the mode to match the transfer rate of 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.”

OnChip Primary/Secondary PCI IDE: This option enables or disables the onboard IDE controller. The default setting is “Enabled.”

USB Keyboard Support: Enable this item if you are using a keyboard connected through the USB Port. The default setting is “Disabled.”

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

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

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

UART Mode Select: Enables you to select the infrared communication protocol—Normal (default), IrDA, or ASKIR. IrDA is Hewlett Packard’s infrared communication protocol with a maximum baud rate up to 115.2K bps. ASKIR is Sharp’s infrared communication protocol with a maximum baud rate up to 57.6K bps.

UART2 Duplex Mode: This item enables you to determine the type of infrared (IR) transmission of the onboard infrared chip. The options are “Half” (default) and “Full.”

Full duplex mode means that information can be transmitted and received simultaneously. Half duplex means that data can be transmitted in both directions, but only one direction at a time.

RxD, TxD Active: Defines the voltage level for Infrared module RxD (receive) mode and TxD (transmit) mode. This setting has to match the requirements of the infrared module used in the system. The options are:

- Hi, Hi (default)
- Hi, Lo
- Lo, Hi
- Lo, Lo

IR Transmission Delay: When set to “Enabled,” utilizes the capability of the mainboard to allow faster infrared transmission rates. The options are “Enabled” and “Disabled.”

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).

Parallel Port Mode: There are four options—"Normal" (default), "EPP" (Enhanced Parallel Port), "ECP" (Extended Capabilities Port), and "ECP+EPP." Change the mode from "Normal" 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."

EPP Mode Select: Sets the EPP specification. There are two options—"EPP1.9" (default) and "EPP1.7."

POWER ON Function: When set to "Button Only" (default), the system power can be turned on by the power button. When set to "Password," system power can be turned on by entering password. You have to enter a password to activate this option.

Note: If "Password" is selected for this option, the power button will not be able to turn on the system. If you forget the password, then you need to clear CMOS RAM. Clear the CMOS memory by turning power off and placing a shunt on jumper JP12 to short pin 2 and pin 3 for 5 seconds, then putting the shunt back to pin1 and pin2 of JP12.

When set to "Hot KEY," system power can be turned on by pressing a keyboard function key <Ctrl>+<F1> through <Ctrl>+<F12>.

PWERON After PWR-Fail: Set this item to "On" to enable your computer to automatically restart after a power failure. The default setting is "Off."

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.

4.14. Integrated Peripherals (P6F107V)

Selecting “Integrated Peripherals” on the main program screen displays this menu:

ROM PCI/ISA BIOS (2A6LGF2C) INTEGRATED PERIPHERALS AWARD SOFTWARE, INC.			
IDE Prefetch Mode	: Enabled	UART Mode Select	: IrDA
OnChip IDE Channel 0	: Enabled	UART2 Duplex Mode	: Full
Primary Master PIO	: Auto	RxD , TxD Active	: Hi,Hi
Primary Slave PIO	: Auto	IR Transmission delay	: Disabled
Primary Master UDMA	: Auto	POWER ON Function	:
Primary Slave UDMA	: Auto	KB Power ON Password	: Enter
OnChip IDE Channel 1	: Enabled	Hot Key Power ON	: Ctrl-F12
Secondary MasterPIO	: Auto	KBC input clock	: 6 MHz
Secondary Slave PIO	: Auto	ECP Mode User DMA	: 3
Secondary MasterUDMA	: Auto	EPP Mode Select	: EPP1.9
Secondary Slave UDMA	: Auto	Init Display First	: AGP
Parallel Port Mode	: half	PWRON After PWR-Fail	: Off
Onboard Parallel Port	: 378/IRQ7	Esc : Quit	- - - - : Select Item
Onboard FDC Controller	: Disabled	F1 : Help	PU/PA/+- : Modify
Onboard Serial Port 1	: Auto	F5 : Old Values	(Shift) F2 : Color
Onboard Serial Port 2	:	F7 : Load Setup Defaults	

Figure 4-14: P6F107V integrated peripherals

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 default setting is “Enabled.”

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

IDE Primary/Secondary Master/Slave PIO: When set to “Auto” the BIOS will automatically set the mode to match the transfer rate of 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.”

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

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

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

UART Mode Select: Enables you to select the infrared communication protocol—Normal (default), IrDA, or ASKIR. IrDA is Hewlett Packard’s infrared communication protocol with a maximum baud rate up to 115.2K bps. ASKIR is Sharp’s infrared communication protocol with a maximum baud rate up to 57.6K bps.

UART2 Duplex Mode: This item enables you to determine the type of infrared (IR) transmission of the onboard infrared chip. The options are “Half” (default) and “Full.”

Full duplex mode means that information can be transmitted and received simultaneously. Half duplex means that data can be transmitted in both directions, but only one direction at a time.

RxD, TxD Active: Defines the voltage level for Infrared module RxD (receive) mode and TxD (transmit) mode. This setting has to match the requirements of the infrared module used in the system. The options are:

- Hi, Hi (default)
- Hi, Lo
- Lo, Hi
- Lo, Lo

IR Transmission Delay: When set to “Enabled,” utilizes the capability of the mainboard to allow faster infrared transmission rates. The options are “Enabled” and “Disabled.”

Power On Function: When set to “Button Only” (default), the system power can be turned on by the power button. When set to “Password,” system power can be turned on by entering password. You have to enter a password to activate this option.

Note: If “Password” is selected for this option, the power button will not be able to turn on the system. If you forget the password, then you need to clear CMOS RAM. Clear the CMOS memory by turning power off and placing a shunt on jumper JP12 to short pin 2 and pin 3 for 5 seconds, then putting the shunt back to pin1 and pin2 of JP12.

When set to “Hot KEY,” system power can be turned on by pressing a keyboard function key <Ctrl>+<F1> through <Ctrl>+<F12>.

KBC input clock: Enables you to set the KBC input clock. Options are:

- 6 MHz
- 8 MHz (default)
- 12 MHz
- 16 MHz

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.”

EPP Mode Select: Sets the EPP specification. There are two options—"EPP1.9" (default) and "EPP1.7."

Init Display First: This item sets whether the PCI Slot or AGP is activated first. The options are "PCI Slot" and "AGP."

PWERON After PWR-Fail: Set this item to "On" to enable your computer to automatically restart after a power failure. The default setting is "Off."

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.

4.15.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. 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 the <Enter> key 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 JP12 to short pin 2 and pin 3 for 5 seconds, then putting the shunt back to pin1 and pin2 of JP12.

4.16.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.

4.17.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.

4.18.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.

5. Driver and Utility

5.1. Flash Utility

The BIOS of the P6F107 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 1M-bit Flash EEPROM that can be erased and reprogrammed by the Flash utility.

There are two files in the 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 bypass the CONFIG.SYS and AUTOEXEC.BAT.

5.2. PIIX Bus Master IDE Driver (Intel)

The Bus Master EIDE logic designed in the Intel chipsets (P6F107/P6F107Z) is intended to reduce the workload of the CPU and make the CPU run more efficiently by handling data transfer tasks between IDE drives and the system memory and letting the CPU handle other tasks. The driver must be loaded in order to enable the EIDE drive to operate in bus-mastering DMA or Ultra DMA33 mode.

There are three self-extracting archive files in the BMIDE directory:

- BMIDE_95.EXE For Windows 95
- BMIDE_NT.EXE For Windows NT
- BMIDEOS2.EXE For OS/2

Execute the file corresponding to your operating system to extract files for the driver and a set of installation instructions.

5.3. VIA 4-in-1 Driver

A 4-in-1 driver has been designed for the VIA Apollo Pro chipset. You can install AGP, IRQ, ACPI and IDE drivers together from the manufacturer's support CD. The installation file is "4-in-1/Setup.exe." You do not need to install the drivers one by one—the VIA 4in-1 installation program will automatically detect and install the drivers.

Installation is in two steps:

Step 1: Insert the manufacturer's CD-ROM into your PC's CD-ROM drive.

Step 2: Run "4-in-1\Setup.exe" from your operating system to start the installation. Follow the instructions on your screen.

5.4. System Environment Monitor

The System Environment Monitoring utility along with the onboard Winbond 83783S system monitor chip enables you to monitor your system's operating characteristics such as temperature, fan speed and CPU voltage. Using this utility, you can define the upper and lower limits of these monitored parameters. A pre-warning message will pop up on the screen when the monitored parameters move out of the preset range. This software must be installed under Windows9x. However, the feature version may run on different operating systems, such as Windows NT.

5.4.1. Hardware Doctor Setup

The Installation Steps:

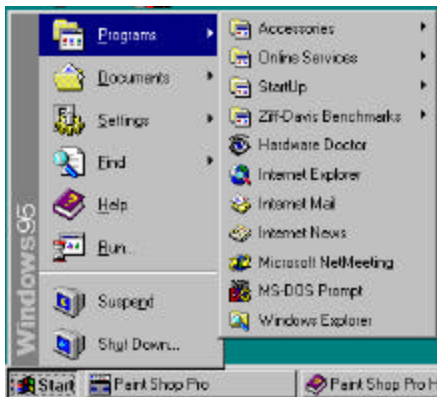
Step 1: Insert the manufacturer's CD-ROM into your CD-ROM drive.

Step 2: Install Hardware Doctor from the directory "Monitor\Setup.exe" on the CD-ROM to start the installation.



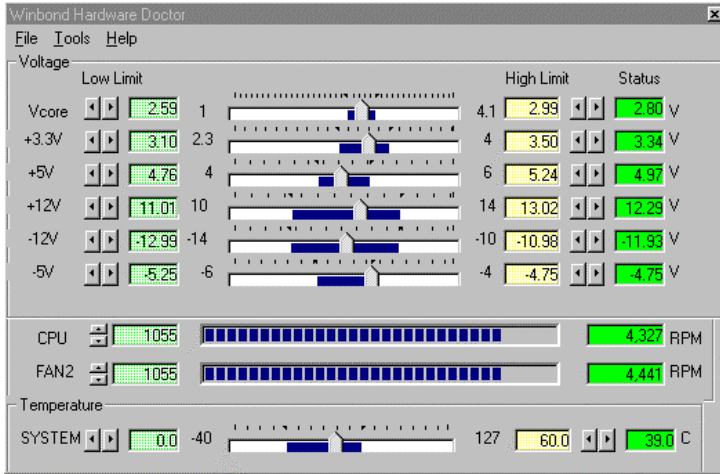
Step 3: Follow the instructions on the screen to complete the installation. After setup is completed, you need to restart the computer before you can activate the program.

The "Hardware Doctor" option will be added to the "program" directory. Click on the "Hardware Doctor" icon to access the program.



5.4.2. Setting the Threshold

Set the threshold for system temperature, voltages and fan speeds by moving the slide bars or by clicking the increase/decrease buttons.



5.5. Creative Lab SB AudioPCI 64V (optional)

The compact disc that comes with your mainboard may have the Sound Blaster AudioPCI 64V utility, which is the driver for the optional onboard ES1373 audio chip. The driver supports Windows 95/98/NT4.x operating systems. The drivers are located on the CD-ROM in the following locations:

D:\Audio\English\NTdrvSB	AudioPCI 64V driver for Windows NT4.x
D:\Audio\English\win95drvSB	AudioPCI 64V driver for Windows 95/98

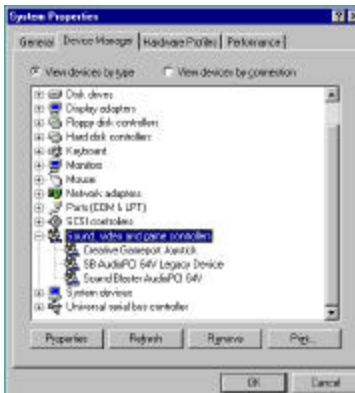
Note: D is the letter that corresponds to your CD-ROM drive.

Installing the SB AudioPCI 64V driver

1. Insert the CD-ROM into your CD-ROM drive. If the installation screen does not display automatically, check that “auto insert notification” has been enabled in the Control Panel System Device Manager. Alternatively, you can use the Windows Explorer and go to the \CTRUN directory in the CD-ROM. Execute the CTRUN.EXE command to display the installation screen:



2. Click “Install” and follow the instructions on the screen to finish the installation.
3. After the driver installation has been completed, Windows will prompt you to restart the system. As the system restarts, the new hardware will be detected by Windows.



4. For the Windows NT4.x installation, double-click the multimedia icon which in the Control Panel and select “Add Audio Device.” Follow the instructions on the screen to add the drivers. The Windows NT 4.x driver can be found in the \Audio\English\NTdrv directory of the CD.

After the drivers have been installed, you will be able to use the following audio programs:

Creative CD	CD audio tools
Creative MIDI	MIDI audio edit tools
Creative Remote	(not supported)
Creative Wave	WAV audio edit tools
SB Audio 64V Mixer	Audio Mixer
Sound LE	Line-in or Microphone recording

5.6. ATA66 Controller Options

When using the ATA66 controller, the HPT366 BIOS setting will allow users to “Set Device Mode” and “Select Boot Sequence.”

Setting Device Mode: Choose UDMA (0~4), PIO (0~4), and MW DMA (0~2) setting options transfer mode for any hard disks attached to the HPT366.

Select Boot Sequence: This option allows users to choose the boot sequence for the hard disk(s) attached to the HPT366. (No options will be shown if there is a bootable disk on default IDE channels.)

5.7. Online Services

Flexus Computer Technology, under the FREETECH brand name, has consistently won recognition for excellence in the design and manufacturing of high quality - feature rich mainboards for the last eight years!

We aggressively push the edge of technology to encompass our products with the most reliability, superior innovation, and enhanced longevity. Our products are globally recognized as one of the leading cost-performance mainboards in the industry today and we are recognized as an 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 professional partnership service system. We create value for our partners in the high-end market and we are always ready to service 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