Quick Reference

Quick Jumpers Setup:

Note:

P54C: Pentium Processor

P55C: Pentium Processor with MMX Technology

CPU Type/Speed	Jumper	DIP SWITCH							
	JP9	P1	P2	P3	P4	P5	P6	P7	P8
P54C 120MHz	1-2	ON	OFF	ON	ON	OFF	ON	ON	ON
P54C 133MHz	1-2	ON	OFF	ON	OFF	ON	ON	ON	ON
P54C 150MHz	1-2	ON	ON	ON	ON	OFF	ON	ON	ON
P54C 166MHz	1-2	ON	ON	ON	OFF	ON	ON	ON	ON
P54C 200MHz	1-2	OFF	ON	ON	OFF	ON	ON	ON	ON
P55C 166MHz 2.8v	2-3	ON	ON	ON	OFF	ON	OFF	OFF	OFF
P55C 200MHz 2.8v	2-3	OFF	ON	ON	OFF	ON	OFF	OFF	OFF
P55C 233MHz 2.8v	2-3	OFF	OFF	ON	OFF	ON	OFF	OFF	OFF

CPU Type/Speed	Jumper	DIP SWITCH							
	JP9	P1	P2	P3	P4	P5	P6	P7	P8
6x86 - P133+	1-2	ON	OFF	OFF	ON	ON	ON	ON	ON
6x86 - P150+	1-2	ON	OFF	ON	ON	OFF	ON	ON	ON
6x86 - P166+	1-2	ON	OFF	ON	OFF	ON	ON	ON	ON
6x86L - P133+ 2.8v	2-3	ON	OFF	OFF	ON	ON	OFF	OFF	OFF
6x86L - P150+ 2.8v	2-3	ON	OFF	ON	ON	OFF	OFF	OFF	OFF
6x86L - P166+ 2.8v	2-3	ON	OFF	ON	OFF	ON	OFF	OFF	OFF
6x86MX-PR166 2.9v	2-3	ON	ON	ON	ON	OFF	ON	OFF	OFF
6x86MX-PR200 2.9v	2-3	ON	ON	ON	OFF	ON	ON	OFF	OFF
6x86MX-PR233 2.9v	2-3	OFF	ON	ON	OFF	ON	ON	OFF	OFF

CPU Type/Speed	Jumper	DIP SWITCH							
	JP9	P1	P2	P3	P4	P5	P6	P7	P8
AMD-K5-PR120	1-2	OFF	OFF	ON	ON	OFF	ON	ON	ON
AMD-K5-PR133	1-2	ON	OFF	ON	OFF	ON	ON	ON	ON
AMD-K5-PR150	1-2	ON	ON	ON	ON	OFF	ON	ON	ON
AMD-K5-PR166	1-2	ON	ON	ON	OFF	ON	ON	ON	ON
AMD-K6/166 2.9V	2-3	ON	ON	ON	OFF	ON	ON	OFF	OFF
AMD-K6/200 2.9V	2-3	OFF	ON	ON	OFF	ON	ON	OFF	OFF
AMD-K6/233 3.2V	2-3	OFF	OFF	ON	OFF	ON	OFF	OFF	ON

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Table Of Contents

1 Introduction

1.1 Overview

The P5F83 is a quality, high performance, function enhanced mainboard based on the Pentium class processor. This mainboard is designed around the Intel 82430VX chipset in a mini-baby AT form factor.

The P5F83 mainboard is a flexible mainboard which is designed to operate with all members of the Pentium class processors: Intel Pentium and Pentium with MMX technology, Cyrix/IBM 6x86, 6x86L and 6x86MX, AMD K5 and K6.

The P5F83 mainboard delivers superior performance with its integrated Bus Mastering EIDE (Enhanced IDE) controller, concurrent PCI bus, 512KB level 2 Pipelined Burst cache, and its ability to accommodate new technology EDO (Extended Data Out) and SDRAM (Synchronous DRAM) memory.

The P5F83 mainboard offers outstanding I/O capabilities. It contains a full set of PC I/O such as dual channel PCI EIDE interfaces, a floppy controller, two FIFOed serial ports, an EPP/ECP capable bidirectional parallel port, an IrDA compatible infrared port, two USB (Universal Serial Bus) ports, and a PS/2 mouse port. Four PCI local bus slots and four full length ISA bus slots provide expandability to add on peripheral cards.

In addition to superior hardware capabilities, features like bus mastering EIDE driver, Plug and Play, APM (Advanced Power Management), and BIOS upgradability are provided on the P5F83 platform.

1.2 P5F83 Specifications/Features

Hardware

CPU	Supports the following CPUs in a ZIF Socket 7 Intel Pentium 75 ~ 200MHz. Intel MMX Pentium 166 ~ 233MHz. Cyrix/IBM 6x86 PR120 ~ 166MHz. Cyrix/IBM 6x86L PR133 ~ 166MHz. Cyrix/IBM 6x86MX PR166 ~ PR233MHz. AMD K5 PR75 ~ 166MHz, AMD K6/166 ~ 233 MHz.
Coprocessor	CPU built-in floating point unit
Speed	System bus clock 50/55/60/66/75 MHz PCI bus clock 25/27.5/30/33/37.5 MHz ISA bus clock 7.5/8.33/9.15/9.4 MHz
Chipset	Intel's 82430VX PCIset ITE's IT8680F I/O chip.
L2 Cache	Pipelined Burst SRAM 512KB
DRAM	2 x 72-pin SIMM and 2 x 168-pin DIMM sockets Supports 8MB to 128MB memory Supports FPM, EDO and SDRAM DRAMs
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 LS-120 drive
Enhanced I/O	One floppy disk controller One Standard/EPP/ECP bidirectional parallel port Two 16550 compatible high speed serial ports One IrDA compatible Infra-red port Two USB (Universal Serial Bus) ports

Mouse/Keyboard	PS/2 mouse port AT keyboard connector
Expansion Slots	Four 32-bit PCI slots Four 16-bit ISA slots (one PCI/ISA shared slot)
Options	External Infra-red port cable with mounting bracket External dual USB ports cable with mounting bracket

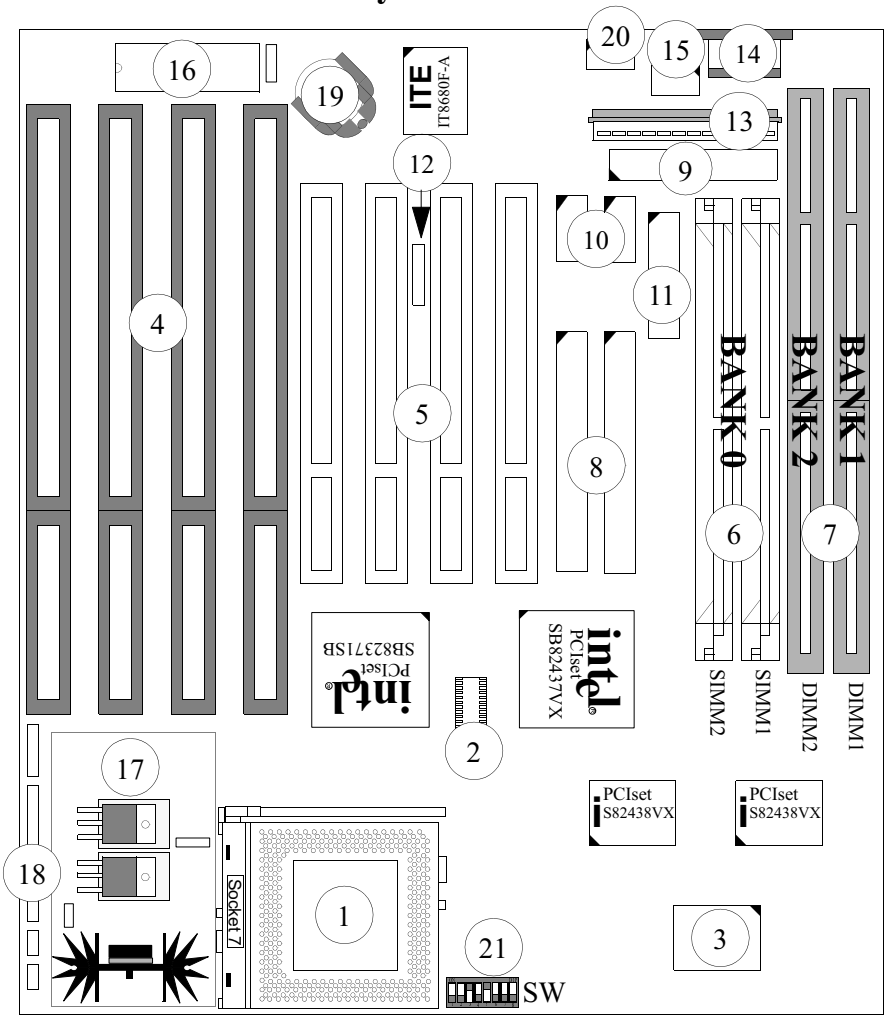
Software

BIOS	AWARD Pentium PCI BIOS Flash BIOS with ESCD (Extended System Configuration Data) block Supports APM, PnP, and EIDE devices Built-in NCR SCSI BIOS
Driver	Bus mastering EIDE driver
Utility	Flash utility for BIOS upgrade
O.S.	Operates with MS_DOS, Windows, Windows for Work Groups, Windows 95, Windows NT, OS/2, Novell Netware, Novell UnixWare and SCO Unix

Environment

Ambient Temperature	0^0C to 50^0C (Operating)
Relative Humidity	0 to 85% (Operating)
Vibration	0 to 500 Hz
DC Voltage	4.9V to 5.2V
DC Voltage	-5V, +12V, -12V, 5% tolerance.

1.3 P5F83 Mainboard Layout



1:CPU
2:TAG SRAM Chip
3:Cache SRAM Chip
4:ISA Expansion Slots
5:PCI Expansion Slots
6:SIMM Module Sockets
7:DIMM Module Sockets
8:IDE Connectors
9:Floppy Drive Connector
10:Serial Port Connectors
11:Paralle Port Connector
12:IR Port Connector
13:AT Power Connector
14:Keyboard Connector
15: PS/2 Mouse Connector
16: Flash BIOS
17: Switching Voltage Regulator
18: Front panel Connectors
19: Battery (CR2032 Lithium)
20: USB Header
21: DIP Switch

1.4 Microprocessor

The P5F83 meets the requirements of the Pentium flexible mainboard. Pentium flexible mainboard is defined as a mainboard capable to support all members of the Pentium class processors.

The requirements for the Pentium flexible mainboard are:

1. CPU ZIF socket is Socket 7.
2. BIOS can support various Pentium class processors with different CPU core frequency.
3. On-board switching regulators and heat sinks meet CPU's core and I/O voltage/current/thermal specifications.

The P5F83 mainboard can support the following CPUs

Intel Pentium 75 ~ 200MHz.
Intel MMX Pentium 166 ~ 233MHz.
Cyrix/IBM 6x86 P120 ~ 166MHz.
Cyrix/IBM 6x86L P133 ~ 166MHz.
AMD K5 PR75 ~ 166MHz,
AMD K6 /166 ~ 233 MHz.

A cooling fan and heat sink assembly are required to protect the CPU from being damaged due to overheating.

P-rating: The "P-rating" is a new performance rating scale. It expresses the performance of AMD or Cyrix/IBM Pentium class CPU relative to Intel Pentium CPU. For example, the Cyrix/IBM 6x86L P166+ can reach the same or better performance than Intel Pentium 166 MHz. But the actual Cyrix/IBM 6x86L P166+ internal core clock is only 133MHz.

1.5 Level 2 Cache

The P5F83 mainboard provides standard 512KB synchronous pipelined SRAM cache on board.

1.6 Chipset

The Intel 82430VX PCIset consists of one 82437VX System Controller (TVX), two 82438VX Data Path Unit (TDX), and one 82371SB PCI ISA/IDE Accelerator (PIIX3).

82437VX (TVX):	- CPU interface controller - Cache and DRAM controllers - Fully synchronous PCI bus interface
82438VX (TDX):	- Extensive CPU-to-DRAM, PCI-to-DRAM and CPU-to-PCI data buffering
82371SB (PIIX3):	- Interface between the PCI and the ISA buses - USB controller - EIDE controller - Seven DMA channels, one timer/counter, two eight-channel interrupt controllers, NMI logic, SMI interrupt logic, and PCI/ISA bus arbitrator.

1.7 Main Memory

The P5F83 mainboard provides two 72-pin SIMM and two 168-pin DIMM sockets to support 8MB to 128MB of system memory. The sockets support 1M x 32 (4MB), 2M x 32 (8MB), 4M x 32 (16MB), 8M x 32 (32MB) SIMM and 1M x 64 (8MB), 2M x 64 (16MB), 4M x 64 (32MB), 8M x 64 (64MB) DIMM in either single- or double-sided modules.

The P5F83 supports three types of DRAMs, Fast Page Mode (FPM), Extended Data Out (EDO), and Synchronous DRAM (SDRAM). Memory Timing requires 70ns or faster for FPM and EDO, and 66.7MHz speed grade for SDRAMs.

Both SIMMs in a bank must be of the same memory size, type and speed. There are no jumper settings required for the memory size or type, which is automatically detected by the BIOS.

EDO DRAM is designed to improve the DRAM read performance. It holds the memory data valid until the next memory access cycle, unlike FPM DRAM that tri-states the memory data when the precharge cycle occurs, prior to the next memory access cycle.

SDRAM use the system clock to synchronize the flow of addresses, data, control and pipeline memory accesses. This yields a significant memory performance improvement.

1.8 Switching Regulator

The P5F83 mainboard uses switching regulator design instead of a linear one to improve power efficiency.

1.9 Enhanced IDE Support

TheP5F83 mainboard provides two enhanced high performance PCI IDE interfaces capable of supporting four PIO mode 0 through mode 4 and bus-mastering DMA mode 2 ATAPI devices. Detection of IDE device type and transfer rate (PIO mode) is automatically performed by the BIOS.

The traditional PIO IDE requires a substantial amount of CPU bandwidth to handle all the activities of IDE access including waiting for mechanical activity. The Bus Master logic designed in the Intel 82430VX chipset is intended to reduce the workload of the CPU, and to increase CPU efficiency. The Bus Master will take care of the data transfer between IDE and memory and let the CPU to handle other tasks. In true multi-tasking operating systems such as Windows 95, Windows NT, and OS/2, by using bus-mastering IDE, the CPU bandwidth can be freed up to complete other tasks while disk data transfers are occurring. In order to make the EIDE drive operate at bus-mastering DMA mode 2, the driver must be loaded.

1.10 Universal Serial Bus Support

The P5F83 provides two USB ports. The USB is a serial bus interface standard that is designed to bring the "Plug and Play" concept to the outside of the computer system chassis. The bus allows devices to be attached, configured, used and also detached while the host system is in operation.

The USB will allow as many as 63 devices to be daisy chained in any combination per port. Up to 12Mbits/sec transfer rate, makes it suitable for devices such as keyboard, mouse, digital joystick, game pad, fax/modem, scanner, printer, ISDN and telephony device.

1.11 Real-time Clock, CMOS RAM and Battery

The integrated real-time clock (RTC) provides a time of day clock, 100-year calendar with alarm features. The RTC also has 242 bytes battery backed CMOS RAM which stores the system setup information and password. The RTC and CMOS RAM can be set via the BIOS SETUP program. The content of the CMOS RAM can be cleared by placing a shunt to short pin2 and pin3 of JP1 for 5 seconds when the system power is off.

An external coin-cell style Lithium CR2302 battery is used to provide power to the RTC and CMOS memory. The battery has three years lifetime if the system does not power up. When the system powers up, the power for the RTC and CMOS RAM is supplied from the 5 V power supply to extend the life of the battery.

1.12 IrDA Infra-red Support

A 5-pin header connector is used to connect a Hewlett Packard HSDSL-1000 compatible IrDA Infrared module. Once the module is installed, the user can use application software such as Laplink to transfer files between the computer system and portable devices such as laptops and printers. The Serial port 2 must be configured to support an IrDA module via the BIOS SETUP program.

2 Hardware Installation

2.1 Unpacking

The P5F83 mainboard package contains the following:

* P5F83 mainboard
* One IDE 40-pin ribbon cable
* One floppy 34-pin ribbon cable
* Two serial ports cable with mounting bracket
* One parallel port cable and one PS/2 mouse port cable with mounting bracket
* User's manual

Before removing the mainboard from its anti-static bag, you need to eliminate any static electricity that may be accumulated on your body by touching a grounded or anti-static surface. If nothing is available, touch the housing of the power supply which is plugged into the AC outlet.

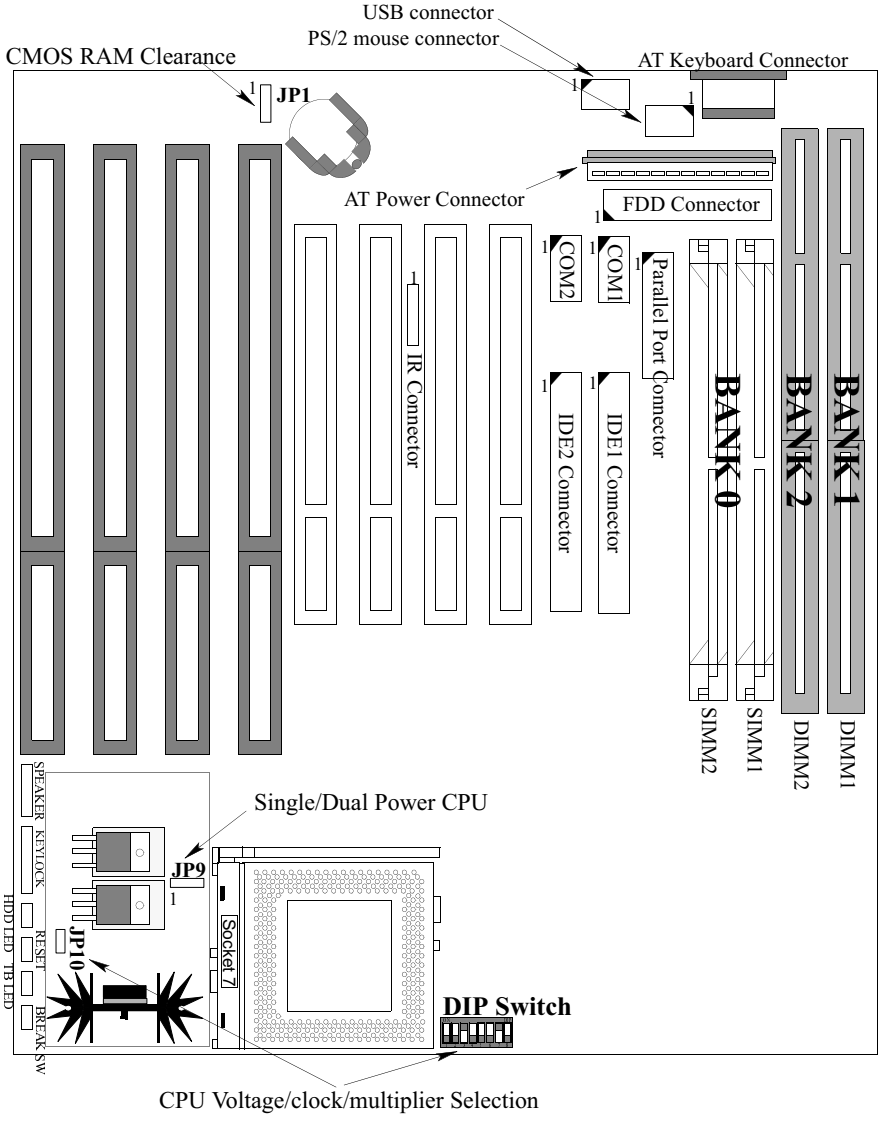
After removing the mainboard from its anti-static bag, place it only on a grounded or anti-static surface, component side up. Inspect the mainboard to see if it is damaged, call the vendor immediately if it is damaged.

2.2 Installation

The P5F83 is designed to fit into a standard AT form factor chassis. The pattern of the mounting holes and the position of the back panel connectors match the AT system board specification. Chassis may come with various mounting fasteners which are made of metal or plastic. It is highly recommended to use as many metal fasteners as possible to mount the mainboard in the chassis for better grounding.

To install the mainboard you need to set DIP Switch, attach connectors, install CPU and SIMM/DIMM memory modules.

P5F83 Mainboard DIP Switch and Jumper Location



2.2.1 Setting DIP Switch & Jumpers

This section provides the DIP Switch and Jumper settings for the P5F83 mainboard.

You need to configure DIP Switch to set
1) CPU core to bus clock multiplier
2) CPU bus clock
3) CPU core and I/O voltages

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 66.6MHz and the CPU Core to Bus Multiplier is 3, the actual CPU core clock will be 66.6 x 3 = 200MHz.

CPU Bus Clock: The CPU Bus Clock is defined as the CPU input clock. For example: the CPU Bus Clock for Intel Pentium 100, 133 and 166 MHz is 66.6 MHz.

CPU Core and I/O Voltages: Two voltages Vcore and VI/O are required for Pentium class CPUs. The Vcore is used for CPU internal operation and the VI/O is used to supply the voltage for external interface.

CPU Bus Clock Setting

DIP Switch Position 3, 4, 5 are used to set CPU Bus Clock.

CPU Bus Clock	DIP SWITCH Position 3, 4, 5		
	P3	P4	P5
50MHz	ON	ON	ON
55MHz	OFF	ON	ON
60MHz	ON	ON	OFF
66MHz(default)	ON	OFF	ON
75MHz	OFF	ON	OFF

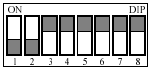
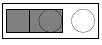
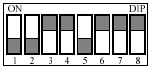
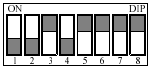
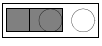
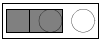
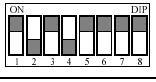
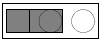
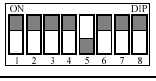
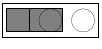
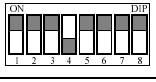
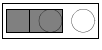
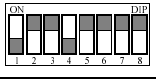
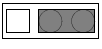
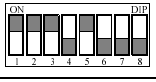
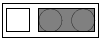
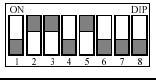
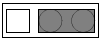
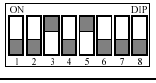
CPU Voltage Setting

Jumpers JP9, JP10 and DIP Switch Position 6, 7, 8 are used to set CPU Voltage.

CPU Voltage	Jumper		DIP SWITCH		
	JP9	JP10	P6	P7	P8
2.0 V	2-3	open	OFF	OFF	OFF
2.1 V	2-3	open	ON	OFF	OFF
2.2 V	2-3	open	OFF	ON	OFF
2.3 V	2-3	open	ON	ON	OFF
2.4 V	2-3	open	OFF	OFF	ON
2.5 V	2-3	open	ON	OFF	ON
2.6 V	2-3	open	OFF	ON	ON
2.7 V	2-3	open	ON	ON	ON
2.8 V	2-3	short	OFF	OFF	OFF
2.9 V	2-3	short	ON	OFF	OFF
3.0 V	2-3	short	OFF	ON	OFF
3.1 V	2-3	short	ON	ON	OFF
3.2 V	2-3	short	OFF	OFF	ON
3.3 V	1-2	short	ON	OFF	ON
3.4 V	1-2	short	OFF	ON	ON
3.5 V (default)	1-2	short	ON	ON	ON

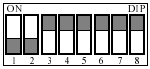
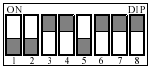
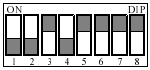
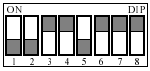
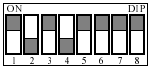
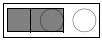
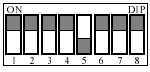
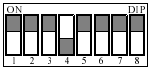
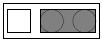
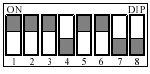
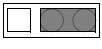
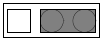
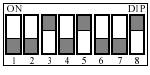
Pentium CPU Clock/Voltage Setting

Intel Pentium CPU clock setting

CPU Speed	JP9	JP10	DIP Switch
Pentium -75 50MHz x 1.5			
Pentium -90 60MHz x1.5			
Pentium -100 66MHz x 1.5			
Pentium - 120 60MHz x 2			
Pentium -133 66MHz x 2			
Pentium - 150 60MHx x 2.5			
Pentium -166 66MHz x 2.5			
Pentium -200 66MHz x 3			
Pentium MMX-166 66MHz x 2.5			
Pentium MMX-200 66MHz x 3			
Pentium MMX-233 66MHz x 3.5			

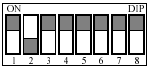
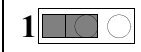
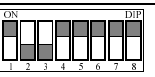
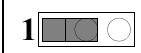
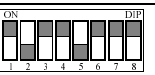
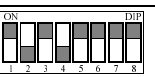
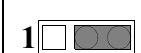
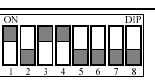
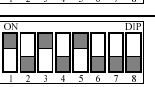
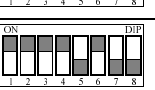
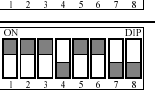
AMD® CPU Clock/Voltage Setting

AMD CPU Clock Setting

CPU Speed	JP9	JP10	DIP Switch
AMD-K5-PR75 50MHz x 1.5			
AMD-K5-PR90 60MHz x 1.5			
AMD-K5-PR100 66MHz x 1.5			
AMD-K5-PR120 60MHz x 1.5			
AMD-K5-PR133 66MHz x 1.5			
AMD-K5-PR150 60MHz x 1.75			
AMD-K5-PR166 66MHz x 1.75			
AMD-K6 / 166 66MHz x 2.5			
AMD-K6 / 200 66MHz x 3			
AMD-K6 / 233 66MHz x 3.5			

Cyrix® IBM® 6x86 CPU Clock/Voltage Setting

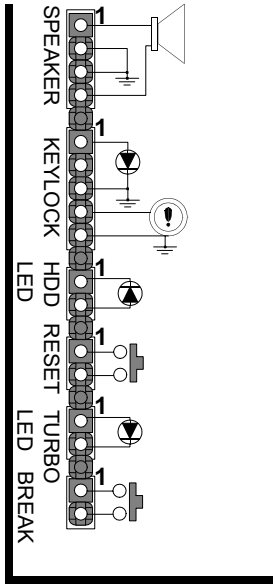
Cyrix/IBM 6x86 CPU clock setting

CPU Speed	JP9	JP10	DIP Switch
Cyrix/IBM 6x86-P120+ 50MHz x 2			
Cyrix/IBM 6x86-P133+ 55MHz x 2			
Cyrix/IBM 6x86-P150+ 60MHz x 2			
Cyrix/IBM 6x86-P166+ 66MHz x 2			
Cyrix/IBM 6x86L-P150+ 60MHz x 2			
Cyrix/IBM 6x86L-P166+ 66MHz x 2			
Cyrix/IBM 6x86MX-PR166 60MHz x 2.5			
Cyrix/IBM 6x86MX-PR200 66MHz x 2.5			
Cyrix/IBM 6x86MX-PR233 66MHz x 3			

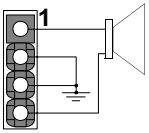
2.2.2 Attaching Connectors

Front Panel Connectors

There are 6 connectors on the mainboard for switches and indicator lights on the system's front panel.



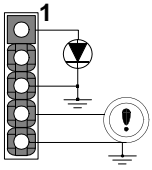
SPEAKER



Pin Assignment
1. Speaker out
2. Ground
3. Ground
4. +5V

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

KEYLOCK



Pin Assignment
1. LED Cathode
2. N. C.
3. LED Anode (Ground)
4. Keylock
5. Ground

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 Connector

Pin Assignment
1. LED Anode
2. LED Cathode

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

Reset Connector

Pin Assignment
1. Power Good
2. Ground

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

Turbo LED Connector

Pin Assignment
1. LED Cathode
2. LED Anode (Ground)

This 2-pin connector connects to the case-mounted Turbo LED switch.

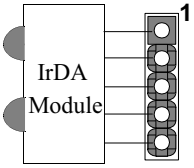
Break Switch Connector

Pin Assignment
1. Break
2. Ground

This 2-pin connector connects to the case-mounted Break switch.

The front panel on your case may have a turbo switch to deactivate the Turbo mode when a slower speed is required for a specific application. The Intel 82430VX chipset does not support the hardware deturbo function. An alternative method of using <CTRL><ALT><+/-> keys to change the speed may be used if necessary.

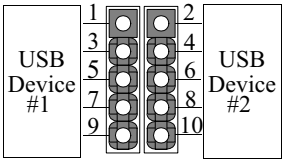
IR Connector



Pin Assignment
1. +5V
2. N. C.
3. IR Receiver
4. Ground
5. IR Transmitter

This 5-pin connector connects to an optional wireless transmitting and receiving infrared module via a cable and a bracket. You must also configure the setting through BIOS setup to direct UART2 for use with IrDA.

USB Connector

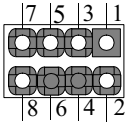


Pin Assignment

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

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

PS/2 Mouse Connector



Pin Assignment

1. +5V	2. N.C.
3. N.C.	4. N.C.
5. MSDATA	6. N.C.
7. Ground	8. MSCLK

Use the following information to connect the floppy disk drives, IDE drives, USB cable, and PS/2 mouse cable.

1. You must orient the cable connector so that the pin 1(color) edge of the cable is at the pin 1 of the I/O port connector.

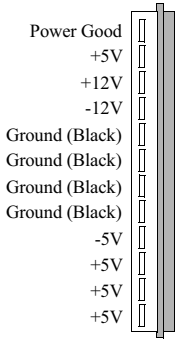
2. A floppy disk drive ribbon cable has 34 wires and 2 connectors to support 2 floppy disk drives. The connector with twisted wires always connects to drive A, and the connector which does not have twisted wire connects to drive B.

3. 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 one has to be configured as Slave by setting the drive select jumpers on the drive. Consult the documentation that comes with your IDE drive for details on jumper locations and settings.

Power Supply Connector

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

AT Power Connector



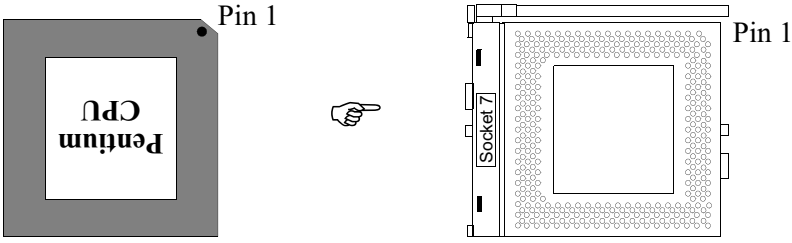
Most AT power supplies have two leads. Each lead has six wires, two of which are black.

Orient the leads so the black wires are along side each other, making the black wires plug in the middle of the connector. Align the plastic guide pins on the lead cables with the connector on the mainboard. Press the lead connector so that its plastic clips snap into place and secure the leads in the connector.

2.2.3 Installing CPU

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

1. Push the CPU ZIF socket's lever to the side a little and raise it as far as it can go.
2. Align the CPU with the ZIF Socket 7 so that the pin 1 (cut corner) of CPU is at the pin 1 of the Socket 7 as shown in the figure below, then insert the CPU into the socket.
3. Press the lever down to snap it into place at the side of socket. You will feel some resistance as the pressure starts to secure the CPU in the socket.
4. Install a heatsink with a cooling fan that is required to protect the CPU from being damaged due to overheat.



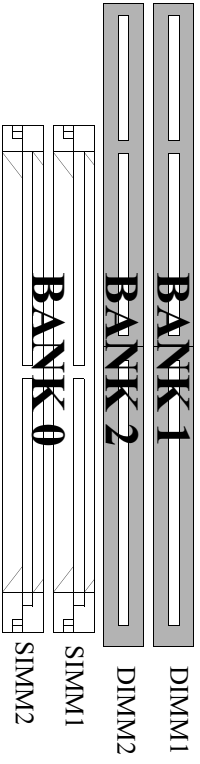
CPU SOCKET 7

2.2.4 Installing System Memory

The maximum system memory supported by the Intel 430VX PCIset is 128 MB. If more than 128MB memory are populated on the P5F83 mainboard, the portion of the memory which exceed the 128MB boundary will be invalidated.

The P5F83 Mainboard has two SIMM Sockets and two DIMM Sockets to support up to 128MB of system memory. The two SIMM sockets (SIMM1 ~ SIMM2) is in one Bank which is BANK0, Two SIMM modules must be installed at a time, and each pair of modules must be of the same size, type and speed.

Memory can be installed by using 72-pin EDO/FPM SIMM and/or 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. Due to the P5F83 Mainboard high speed design, the memory modules for the P5F83 must meet all of the following requirements.



DRAM TYPE	EDO (Extended Data Output) FPM (Fast Page Mode)	SDRAM (Synchronous DRAM)
Module Size	Single-Sided Symmetric: 1Mx32, 4Mx32 Asymmetric: 1Mx32, 2Mx32, 4Mx32 Double-Sided Symmetric: 2Mx32, 8Mx32 Asymmetric: 1Mx32, 2Mx32, 4Mx32, 8Mx32	Single-sided Asymmetric: 1Mx64, 2Mx64, 4Mx64 Double-Sided Asymmetric: 2Mx64, 4Mx64, 8Mx64
Requirements	DRAM Speed: 60ns or 70ns RAS Access Time : 60ns ~70ns CAS Access Time: 10ns ~20ns Two SIMM modules must be installed at a time, and each pair of modules must be the same size, type and speed.	**3.3V unbuffered DIMM module** Speed grade: 66.7MHz CAS latency: 3 or faster

Install 72-pin SIMM modules in any combination as follows:

Memory Configuration for 72-Pin SIMM Module installed with no DIMM installed

BANK 0 (SIMM1&SIMM2)	Total
1M x 32(4MB)	8MB
2M x 32(8MB)	16MB
4M x 32(16MB)	32MB
8M x 32(32MB)	64MB

Memory Configuration for 168-Pin DIMM Module installed with no SIMM installed

BANK 1 (DIMM1)	BANK 2(DIMM2)	Total
1M x 64(8MB)	Empty	8MB
1M x 64(8MB)	1M x 64(8MB)	16MB
1M x 64(8MB)	2M x 64(16MB)	24MB
1M x 64(8MB)	4M x 64(32MB)	40MB
1M x 64(8MB)	8M x 64(64MB)	72MB
2M x 64(16MB)	Empty	16MB
2M x 64(16MB)	1M x 64(8MB)	24MB
2M x 64(16MB)	2M x 64(16MB)	32MB
2M x 64(16MB)	4M x 64(32MB)	48MB
2M x 64(16MB)	8M x 64(64MB)	80MB
4M x 64(32MB)	Empty	32MB
4M x 64(32MB)	1M x 64(8MB)	40MB
4M x 64(32MB)	2M x 64(16MB)	48MB
4M x 64(32MB)	4M x 64(32MB)	64MB
4M x 64(32MB)	8M x 64(64MB)	96MB
8M x 64(64MB)	Empty	64MB
8M x 64(64MB)	1M x 64(8MB)	72MB
8M x 64(64MB)	2M x 64(16MB)	80MB
8M x 64(64MB)	4M x 64(32MB)	96MB
8M x 64(64MB)	8M x 64(64MB)	128MB
Empty	1M x 64(8MB)	8MB
Empty	2M x 64(16MB)	16MB
Empty	4M x 64(32MB)	32MB
Empty	8M x 64(64MB)	64MB

168-Pin DIMM and 72 Pin SIMM Modules mix Memory Configuration

BANK 0 SIMM1, 2	BANK 1 (DIMM1)	BANK 2 (DIMM2)	Total
1M x 32(4MB)	Empty	1M x 64(8MB)	16MB
2M x 32(8MB)	Empty	1M x 64(8MB)	24MB
4M x 32(16MB)	Empty	1M x 64(8MB)	40MB
8M x 32(32MB)	Empty	1M x 64(8MB)	72MB
1M x 32(4MB)	Empty	2M x 64(16MB)	24MB
2M x 32(8MB)	Empty	2M x 64(16MB)	32MB
4M x 32(16MB)	Empty	2M x 64(16MB)	48MB
8M x 32(32MB)	Empty	2M x 64(16MB)	80MB
1M x 32(4MB)	Empty	4M x 64(32MB)	40MB
2M x 32(8MB)	Empty	4M x 64(32MB)	48MB
4M x 32(16MB)	Empty	4M x 64(32MB)	64MB
8M x 32(32MB)	Empty	4M x 64(32MB)	96MB
1M x 32(4MB)	Empty	8M x 64(64MB)	72MB
2M x 32(8MB)	Empty	8M x 64(64MB)	80MB
4M x 32(16MB)	Empty	8M x 64(64MB)	96MB
8M x 32(32MB)	Empty	8M x 64(64MB)	128MB

The following SIMM/DIMM mix memory configuration is for users who can distinguish double-sided (two Row Address Strobes) memory module from single-sided (one Row Address Strobe) memory module.

BANK 0 (SIMM1, 2)	BANK 1 (DIMM1)	BANK 2 (DIMM2)
Single-Sided	Empty	Single-Sided
Single-Sided	Empty	Double-Sided
Single-Sided	Single-Sided	Empty
Single-Sided	Single-Sided	Single-Sided
Single-Sided	Single-Sided	Double-Sided
Double-Sided	Empty	Single-Sided
Double-Sided	Empty	Double-Sided
Empty	Double-Sided	Single-Sided
Empty	Double-Sided	Double-Sided

2.2.5 Clearing CMOS and Password

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

1. Power off the system
2. Place a shunt to short pin2 and pin3 of JP1 for 5 seconds
3. Remove the shunt
4. Power on the system

3 BIOS Configuration

After hardware configuration of P5F83 Mainboard is completed, and system hardware has been assembled, the completed system may be powered up. At this point, software setup should be run to ensure that system information is correct.

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

3.1 Entering Setup

When the system is powered on, the BIOS will enter the Power-On Self Test (POST) routines. These routines perform various diagnostic checks at the time the system is powered up; if an error is encountered, the error will be reported in one of two different ways. If the error occurs before the display device is initialized, a series of beeps will be transmitted. If the error occurs after the display device is initialized, the screen will display the error message.

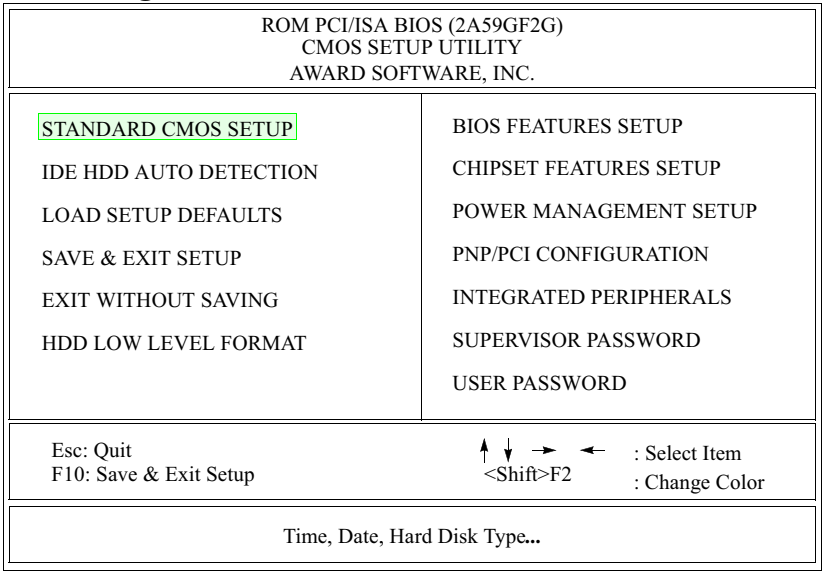
After the POST routines are completed, the following message appears:

"Press DEL to enter SETUP"

To access the AWARD BIOS SETUP program, press the <DEL> key. The "CMOS SETUP UTILITY" screen will be displayed at this time.

3.2 CMOS SETUP UTILITY

Main Program Screen



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

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

<ESC>: Exit the utility.

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

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

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

3.3 STANDARD CMOS SETUP

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

Standard CMOS Setup Screen

ROM PCI/ISA BIOS (2A59GF2G)
STANDARD CMOS SETUP
AWARD SOFTWARE, INC.

Date (mm:dd:yy): Fri, Jun 26 1997
Time (hh:mm:ss): 10:10:10

HARD DISKS	TYPE	SIZE	CYLS	HEAD	PRECOMP	LANDZ	SECTOR	MODE
Primary Master	: Auto	0	0	0	0	0	0	Auto
Primary Slave	: Auto	0	0	0	0	0	0	Auto
Secondary Master	: Auto	0	0	0	0	0	0	Auto
Secondary Slave	: Auto	0	0	0	0	0	0	Auto

Drive A: 1.44M, 3.5 in.
Drive B: None
Floppy 3 Mode Support: Disabled
Video: EGA/VGA
Halt On: All Errors

Base Memory: 640K
Extended Memory: 15360K
Other Memory: 384K
Total Memory: 16384K

ESC: Quit ↑ ↓ → ← : Select Item PU/PD/+/-:Modify
F1: Help (Shift) F2 : Change Color

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

Set Date: Month, Date, Year.

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

Hard Disks:
There are four hard disks listed: “Primary Master”, “Primary Slave”, “Secondary Master” and “Secondary Slave”. For Each

IDE channel, the first device is the “Master” and the second device is “Slave”.

Hard disk Types from 1 to 45 are standard ones; Type “Auto” is IDE HDD auto detection; Type “User” is user definable, and Type “None” is not installed (e.g. SCSI).

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

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

Floppy 3 Mode Support: The options are “Disabled” (default), “Drive A”, “Drive B” and “Both”. This is the Japanese standard floppy drive which stores 1.2MB in a 3.5" diskette.

Video: Set it to the type of graphics card installed in your system. If you are using a VGA or higher resolution card, choose the “EGA/VGA” option. The options are “EGA/VGA” (default), “Mono”, “CGA 40" and “CGA 80".

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

3.4 IDE HDD AUTO DETECTION

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

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

Note: If you are setting up a new hard disk drive (nothing on it) that supports LBA mode, more than one line will appear in the parameter box, choose the line that lists LBA for an LBA drive.

Do not choose Large or Normal if the hard disk drive is already fully formatted when you install it, choose the mode which is used to format it.

3.5 LOAD SETUP DEFAULTS

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

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

3.6 SAVE & EXIT SETUP

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

3.7 EXIT WITHOUT SAVING

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

3.8 HDD LOW LEVEL FORMAT

Selecting this option and pressing the <Enter> key enable you to perform low level format of hard disk drive.

3.9 BIOS FEATURES SETUP

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

BIOS Features Setup Screen

ROM PCI/ISA BIOS (2A59GF2G)
BIOS FEATURES SETUP
AWARD SOFTWARE, INC.

Virus Warning	: Disabled	Video BIOS Shadow	: Enabled
		C8000 - CBFFF Shadow	: Disabled
CPU Internal Cache	: Enabled	CC000 - CFFFF Shadow	: Disabled
External Cache	: Enabled	D0000 - D3FFF Shadow	: Disabled
		D4000 - D7FFF Shadow	: Disabled
Quick Power On Self Test	: Enabled	D8000 - DBFFF Shadow	: Disabled
Boot Sequence	: C, A, SCSI	DC000 - DFFFF Shadow	: Disabled
Swap Floppy Drive	: Disabled		
Boot Up Floppy Seek	: Disabled	OS Select for DRAM > 64MB	: Non-OS2
Boot Up NumLock Status	: On		
Gate A20 Option	: Fast		
Typematic Rate Setting	: Disabled	ESC: Quit	↑↓→← :Select Item
Typematic Rate (Chars/Sec)	: 6	F1: Help	PU/PD/+/-:Modify
Typematic Delay (Msec)	: 250	F5: Old Values	(Shift) F2: Color
Security Option	: Setup	F6: Load BIOS Defaults	
PCI/VGA Palette Snoop	: Disabled	F7: Load Setup Defaults	

The following explains the options for each features:

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

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

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

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

Boot Sequence: The default setting is "C, A, SCSI"; the other option are "CDROM, C, A", "C, CDROM, A", "A, C, SCSI", "D, A, SCSI", "E, A, SCSI", "F, A, SCSI", "SCSI, A, C", "SCSI, C, A", "LS120, C" and "C only". The BIOS will load the operating system from the disk drives in the sequence selected here.

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

Boot Up Floppy Seek: The defaults setting is "Enabled". When enabled, the BIOS will check whether there is a floppy disk drive installed.

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

Gate A20 Option: the defaults setting is "Fast". This is the optimal setting for the Mainboard. The other option is "Normal".

Typematic Rate Setting: The default setting is "Disabled". If enabled, you can set the typematic Rate and typematic Delay.

Typematic Rate (Chars/Sec): This setting controls the speed at which the system registers repeated keystrokes. The choices range from 6 to 30 Chars/Sec. The default setting is "6" Chars/Sec.

Typematic Delay (Msec): This setting controls the time between the display of the first and second characters. There are four delay choices: 250ms, 500ms, 750ms and 1000ms. The default setting is "250" ms.

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

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

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

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

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

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

3.10 CHIPSET FEATURES SETUP

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

Chipset Features Setup Screen

ROM PCI/ISA BIOS (2A59GF2G)
CHIPSET FEATURES SETUP
AWARD SOFTWARE, INC.

Auto Configuration	:	Enabled	Memory Hole At 15M-16M	:	Disabled
DRAM Timing	:	60 ns	Peer Concurrency	:	Enabled
DRAM RAS# Precharge Time	:	4	Passive Release	:	Enabled
DRAM R/W Leadoff Timing	:	6	Delayed Transaction	:	Disabled
Fast RAS To CAS Delay	:	3			
DRAM Read Burst (EDO/FP)	:	x222/x333			
DRAM Write Burst Timing	:	x333			
Fast MA to RAS# Delay Clk	:	1			
Fast EDO Path Select	:	Disabled			
Refresh RAS# Assertion	:	4 Clks			
ISA Bus Clock	:	PCICLK/4			
SDRAM (CAS Lat/RAS-to-CAS)	:	3/3			
System BIOS Cacheable	:	Enabled	ESC: Quit	↑↓→←	:Select Item
Video BIOS Cacheable	:	Enabled	F1: Help		PU/PD/+/-:Modify
8 Bit I/O Recovery Time	:	1	F5: Old Values		(Shift) F2: Color
16 Bit I/O Recovery Time	:	1	F6: Load BIOS Defaults		
			F7: Load Setup Defaults		

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

Auto Configuration: The default setting is "Enabled" which will set optimal DRAM timing automatically depending on whether the DRAM used is 70ns or 60ns. The other option is "Disabled" which allows you to change DRAM timing manually.

DRAM Timing: This option should be set according to the speed of the DRAM in the system. The options are "60ns" and "70ns".

Video BIOS Cacheable: When set to "Enabled", the Video BIOS will be cached for faster execution. The default setting is "Enabled".

8 Bit I/O Recovery Time: This option sets the delay between back-to-back 8-bit I/O instructions. The options are 1, 2, 3, 4, 5, 6, 7, 8 Sysclks and NA. The default setting is "1".

16 Bit I/O Recovery Time: This option sets the delay between back-to-back 16-bit I/O instructions. The options are 1, 2, 3, 4 Sysclks and NA. The default setting is "1".

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

Peer Concurrency: The default setting is "Enabled" which allows CPU to run DRAM/External Cache cycles when PCI masters are running cycles targeting PCI peer devices. The other option is "Disabled".

Passive Release, Delayed Transaction: To enable PCI Concurrency, these two options have to be set to "Enabled".

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

3.11 POWER MANAGEMENT SETUP

Power Management Setup Screen

The “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 (2A59GF2G)
POWER MANAGEMENT SETUP
AWARD SOFTWARE, INC.

Power Management	:	User Define
PM Control by APM	:	Yes
Video Off Method	:	DPMS
Doze Mode	:	Disable
Standby Mode	:	Disable
Suspend Mode	:	Disable
HDD Power Down	:	Disable

** Wake Up Events **

IRQ3 (Wake-Up Event)	:	OFF
IRQ4 (Wake-Up Event)	:	OFF
IRQ8 (Wake-Up Event)	:	OFF
IRQ12(Wake-Up Event)	:	OFF

** Power Down / Resume Events **

IRQ3 (COM 2)	:	OFF
IRQ4 (COM 1)	:	OFF
IRQ5 (LPT 2)	:	OFF
IRQ6 (Floppy Disk)	:	OFF
IRQ7 (LPT 1)	:	OFF
IRQ8 (RTC Alarm)	:	OFF
IRQ9 (IRQ2 Redir)	:	OFF
IRQ10 (Reserved)	:	OFF
IRQ11 (Reserved)	:	OFF
IRQ12 (PS/2 Mouse)	:	OFF
IRQ13 (Coprocessor)	:	OFF
IRQ14 (Hard Disk)	:	OFF
IRQ15 (Reserved)	:	OFF

ESC: Quit ↑↓→← :Select Item
F1: Help PU/PD/+/-:Modify
F5: Old Values (Shift) F2: Color
F6: Load BIOS Defaults
F7: Load Setup Defaults

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

User Define: Allows you to customize all power saving timer features.

Optimize: This is the recommended setting for general use.

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

Disable: Disable the power management features.

PM Control by APM: The default setting is “Yes”. When set to “Yes”, system BIOS will wait for APM’s prompt before it enters any PM mode. If your system power management is controlled by APM

and there is a task running, the APM will not prompt the BIOS to enter any power saving mode after time out. Note: If APM is not installed, this option has no effect.

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

Video Off Method: This setting controls the Video off method in power saving mode. The default setting is "DPMS (Display Power Management System)" This setting allows the BIOS to control the Video display card if it has the DPMS feature. Other options are "Blank Screen" and "V/H SYNC+Blank".

Doze Mode: Options are from "1 Min" to "1 Hour" and "Disable". 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 Wake-Up event is detected.

Standby Mode: Options are from "1 Min" to "1 Hour" and "Disable". The system speed will change from turbo to slow 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 Wake-Up event is detected.

Suspend Mode: Options are from "1 Min" to "1 Hour" and "Disable". 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 Wake-Up event is detected.

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

Wake-Up Events: When a hardware event is enabled, the occurrence of a corresponding event will return the system to full speed.

Power Down / Resume Events: when a hardware event is enabled, the occurrence of a corresponding event will prevent the system from entering any PM mode.

After you have made your selection in the POWER MANAGEMENT SETUP, press the <ESC> key to go back to the main program screen.

3.12 PNP / PCI CONFIGURATION

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

Selecting "PNP / PCI CONFIGURATION" on the main program screen displays this menu:

PNP / PCI Configuration

ROM PCI/ISA BIOS (2A59GF2G)
PNP / PCI CONFIGURATION
AWARD SOFTWARE, INC.

PNP OS Installed	: Yes
Resources Controlled By	: Manual
Reset Configuration Data	: Disabled
IRQ-3 assigned to	: Legacy ISA
IRQ-4 assigned to	: Legacy ISA
IRQ-5 assigned to	: PCI / ISA PnP
IRQ-7 assigned to	: Legacy ISA
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-6 assigned to	: PCI / ISA PnP
DMA-7 assigned to	: PCI / ISA PnP

PCI IRQ Actived By	: Level
PCI IDE IRQ Map To	: PCI - AUTO
Primary IDE INT#	: A
Secondary IDE INT#	: B

ESC: Quit ↑ ↓ → ← :Select Item
F1: Help PU/PD/+/-:Modify
F5: Old Values (Shift) F2: Color
F6: Load BIOS Defaults
F7: Load Setup Defaults

PNP OS Installed: Set this option to "Yes", if your system is running under a Plug and Play Operating System such as Windows 95 or Windows NT. The default setting is "Yes"

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

Reset Configuration Data: The system BIOS supports the Plug and Play feature so the resource assigned to each peripheral has to be recorded to prevent resources from conflicting. The location to store the assigned resources is called ESCD which is located in the system flash EEPROM. If this option is set to "Disabled" the ESCD will update automatically when the new configuration varies from the last one. If set to "Enabled", the ESCD will be cleared and forced to update and then auto set this option to "Disabled".

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

PCI IRQ Actived By: Options are "Level" or "Edge". The default setting is "Level". This option is used to select the IRQ's trigger method.

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

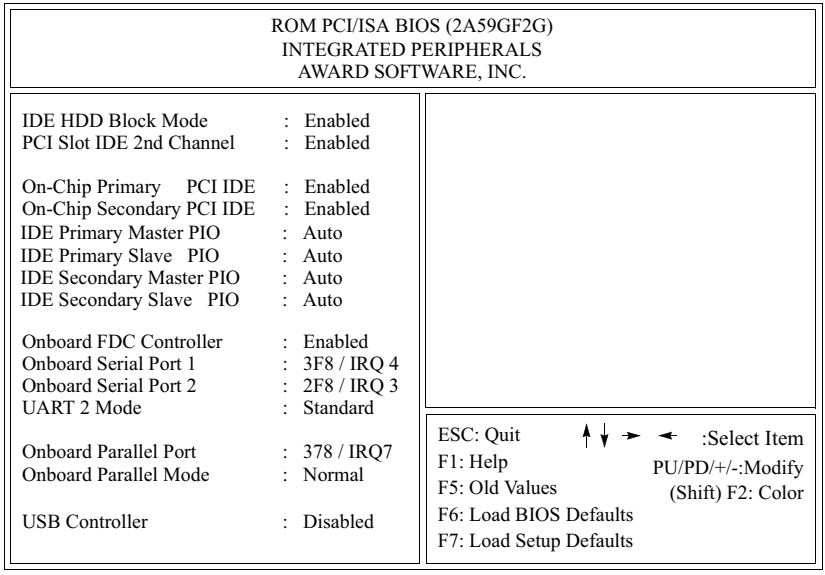
Only INT A and INT B are available for a PCI IDE Card, therefore you must set the PCI IDE Card's primary interrupt to INT A and secondary interrupt to INT B. The INT A is routed to IRQ 14 and the INT B is routed to IRQ 15 thru a hardware router in the chipset.

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

3.13 INTEGRATED PERIPHERALS

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

Integrated Peripheral Screen



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

PCI Slot IDE 2nd Channel
The default setting is “Enabled”. This option enables the Secondary PCI IDE controller of the PCI IDE adapter.

On-Chip Primary/Secondary PCI IDE: The default setting is “Enabled”. This option enables the onboard Primary / Secondary PCI IDE controller.

IDE Primary Master PIO, IDE Primary Slave PIO, IDE Secondary Master PIO, IDE Secondary Slave PIO: There are six options "Auto", "Mode 0", "Mode 1", "Mode 2", "Mode 3" and "Mode 4". The default setting is "Auto". 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 the lower mode. (e.g. From Mode 3 to Mode 2). All IDE drives should work with PIO mode 0.

Onboard FDC Controller: The default setting is "Enabled". This option enables the onboard FDD controller.

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 (Disable the onboard serial port)

UART 2 Mode: When set to "IrDA 1.0" or "ASK IR" or "FIR" or "MIR 0.57M" or "MIR 1.15M" (depends on the type of infra-red module), the UART 2 is used to support the infrared module connected on the mainboard. If this option is not set to "Standard", a device connected to the COM2 port, will no longer work.

Onboard Parallel Port: This option is used to assign the I/O address for the onboard parallel port. The options are "378/IRQ7" (defaults), "278/IRQ7", "3BC/IRQ7" and "Disabled" (disable the onboard parallel port). Note: Printer port always use IRQ7 when set "378/IRQ7" or "278/IRQ7" or "3BC/IRQ7" to "Enabled".

Onboard Parallel Mode: There are four options "Normal" (default), "ECP", "ECP/EPP" and "EPP/SPP". Change the mode from "Normal" to the enhanced mode only if your peripheral device can support it.

ECP Mode Use DMA: When on-board parallel port set to ECP mode, the parallel port has option to use DMA "3"(default) or "1".

USB Controller: To activate the Universal Serial Bus function, this feature has to be set to "Enabled".

If you make any change for onboard FDD controller, serial ports or parallel port in this setup, save the change and turn off the system. After turning system on again the change will be effective.

3.14 SUPERVISOR / USER PASSWORD

The "SUPERVISOR/USER PASSWORD" utility sets the password. The Mainboard is shipped with the password disabled. If you want to change the password, you must first enter the current password, then at the prompt enter your new password. The password is case sensitive and you can use up to 8 alphanumeric characters, press <Enter> after entering the password. At the next prompt, confirm the new password by typing it and pressing <Enter> again.

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

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

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 the JP1 to short pin 2 and pin 3 for 5 seconds, then removing the shunt.

4 Driver and Utility

4.1 Flash Utility

The BIOS of the P5F83 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. Consult your vendor for the factory's BBS phone number and Web site address. The system BIOS is stored in a 1M-bit Flash EEPROM which can be erased and reprogrammed by the Flash utility.

There is a self-extracting archives file AWDFLASH.EXE. Execute the AWDFLASH.EXE to extract the following files.

FLASH.EXE	The Flash utility for AWARD BIOS upgrade.
README.TXT	A text file of instructions

The Flash utility will not work with any memory manager software running in the system. In order to make sure no memory manager software is running, boot your system from a bootable floppy disk which does not contain CONFIG.SYS nor AUTOEXEC.BAT files. If you are using MS-DOS 6.x, you can press <F5> function key while the “Starting MS-DOS...” appears on the screen to bypass the CONFIG.SYS and AUTOEXEC.BAT.

4.2 EIDE Bus Master Driver

The Bus Master EIDE logic designed in the Intel 82430VX chipset is intended to reduce the workload of the CPU and make the CPU running more efficiently. It will take care the data transfer between IDE drives and system memory and let CPU handle other tasks. In order to make the EIDE drive operate at bus-mastering DMA mode 2, the driver must be loaded properly.

There is a self-extracting archives file BMEIDE.EXE in the factory's BBS and Web site. Consult your vendor for the factory's BBS phone number and Web site address. Execute the BMEIDE.EXE to extract the following files.

BMIDE_95.EXE	Windows 95 archives
BMIDE_NT.EXE	Windows NT achieve
BMIDEOS2.EXE	OS/2 archives
README.TXT	A text file of instructions
LICENSE.TXT	A text file of license

Online Services

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If you need technical support, information on products, and updated version of BIOS, driver and utility. Access the Internet and type:

http://www.freetech.com/