P6F100 Quick Reference

CPU Soft-Menu Settings

1) Turn the system on, then press <**DEL**> key to access the AWARD BIOS SETUP program. A "**CMOS SETUP UTILITY**" will display on the screen. Select "**LOAD SETUP DEFAULTS**" and type "Y" to load BIOS optimal setup.

2) After the BIOS optimal setting is set, at the top right hand side of the **"Chipset Feature Setup"** screen, there is a **"CPU Speed"** options. Refer to the table below and select the correct CPU speed.

CPU SPEED	Soft-Menu Setting	
	Bus Clock	Core to Bus Clock Multiplier
366 MHz	66.6MHz	x5.5
400 MHz	66.6MHz	x6.0
433 MHz	66.6MHz	x6.5
466 MHz	66.6MHz	x7.0
500 MHz	66.6MHz	x7.5
550 MHz	66.6MHz	x8.0

3) Select "**STANDARD CMOS SETUP**" to set the Date /Time, Floppy drive type, and set Hard Disk Type to "Auto".

4) Select "**SAVE & EXIT SETUP**" and press the <Enter> key to save the setting information in the CMOS memory and continue with the booting process.

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1 Introduction

1.1 Overview

The P6F100 is a quality, high performance, function enhanced mainboard based on the powerful Intel Celeron processor in PGA 370 operating at 300A, 333, 366, 400 and 433MHz. This mainboard is designed around the latest Intel 82440LX chipset in a standard ATX form factor. The Soft-menu (jumperless) design of the P6F100 uses the onboard BIOS for clock frequency, and CPU multiplier, jumper settings are no longer needed.

The P6F100 mainboard delivers workstation level performance with its integrated AGP (Accelerated Graphics Port), Bus Mastering EIDE (Enhanced IDE) controller, concurrent PCI bus, and its ability to accommodate EDO (Extended Data Out) and SDRAM (Synchronous DRAM) memory. When this high data stream bandwidth mainboard is equipped with Celeron processor with MMX technology, your system has the power to handle future demanding communication, multi-media, multi-tasking and intensive 32-bit applications on advanced 32-bit operating systems.

The P6F100 mainboard achieves the highest reliability by supporting the ECC (Error Checking and Correction) memory protections. This enables the P6F100 mainboard to have superior data integrity and be fault-tolerant in respect to memory errors while running applications.

The P6F100 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 port connectors, an SPP/EPP/ECP capable bidirectional parallel port connector, an IrDA compatible infrared port, dual USB (Universal Serial Bus) connector, and a PS/2 keyboard connector and a PS/2 mouse connector. One AGP slot, four PCI local bus slots and three ISA bus slots provide expandability to add on peripheral cards.

P6F100 mainboard is OnNow PC, Managed PC and PC98 compliance. It also offers optimized system performance, integrated power management, Trend Chipaway Virus function, Optional Creative Sound and system manageability.

Optimized System Performance: AGP improves the Graphics performance dramatically, Ultra DMA/33 speeds up disk drive access, Enhanced SDRAM support for fastest access to memory, and Concurrent PCI enables simultaneous data transfer.

Integrated Power Management: ACPI (Advanced Configuration and Power Interface) supports enables O/S and application programs to direct the system power management.

Trend Chipaway Virus(TCAV): This unique, specially designed solution stops boot viruses from infecting the boot sector or partition table during the "threat" period that exists before the boot sector loads and traditional anti-virus protection takes effect. Trend ChipAway Virus resides in the BIOS to prevent boot viruses from causing any damage to computers.

Optional Creative Lab sound: The Creative Lab ES1373 sound chip supports Aureal A3D API for 3D positional Audio and 64 Voice WaveTable synthesizer interface to PCI bus and AC97 codec. It compliance with Microsoft PC97/PC98. The P6F100 also give you a flexibility to Enabled or Disabled the onboard Creative Lab sound.

Optional System Manageability: Winbond W83783S Hardware Environment Monitoring chip enables the ability for system voltage, temperature and fan speed monitoring detection.

In addition to superior hardware capabilities, features like "Modem Ring on", "Alarm On", "Wake On LAN(WOL)", "Auto Power On", "Debug LED", "Keyboard Password or Mouse Power On", Sleeping state indicator, fan off in sleeping state and BIOS upgradability are provided on the P6F100 platform.

1.2 P6F100 Specifications/Features

Hardware

CPU	Supports Intel® Celeron™ CPU (PPGA Package) at 300A ~ 533+ MHz.
VRM	Voltage Regulator Module on board Provides 1.8V to 3.5V operating voltage
Coprocessor	CPU built-in floating point unit
Speed	System bus clock 66/68/75/83 MHz AGP clock 66/68/75/83 MHz PCI bus clock 33/34/37/41.5 MHz ISA bus clock 8.33~10.1 MHz
Chipset	Intel's 82440LX AGPset Winbond's W83977xF I/O chip
L2 Cache	Incorporate128-KB L2 Cache on-die
DRAM	3 x 168-pin DIMM sockets Supports 8MB to 384MB SDRAM memory Supports 8MB to 768MB EDO memory Supports EDO and SDRAM memory mix bank configuration
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 DMA/33 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) ports
Mouse/Keyboard	PS/2 mouse connector PS/2 keyboard connector

1. Intel® Celeron™ CPU (PPGA) 400 and 433MHz is not available yet, it is for reference only.

Expansion Slots	One AGP Slot
	Four 32-bit PCI slots
	Three 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 & PS/2 mouse
	Power - On by Modem Ring
	Power - On by Alarm
	Power - On by Network Card (WOL)
	Sleep state indicator
	Fan off in sleep mode
System Management	Winbond W83783S PC Health Monitor
Voltage Regulator	Switching regulator
	CPU voltage auto-detection
Form Factor	ATX Form Factor, 30.5cm x 20cm (12.0"x 7.9")

Software

BIOS	Soft-Menu (Jumperless) design
	Built-in Trend Chipaway Virus(TCAV)
	AWARD Pentium II AGP/PCI BIOS
	2M-bit Flash BIOS with ESCD block
	Supports APM, PnP, Multi-Boot, DMI and
	EIDE devices
	Supports Removable Media Drive
Driver	IDE Bus mastering Ultra DMA driver
Utility	Flash utility for BIOS upgrade
	Optional Hardware Doctor Utility
	Optional ES1373 Audio drivers
O.S.	Operates with MS_DOS 6.2x, Windows 3.x,
	Windows 95, Windows 98, Windows NT4.x,
	OS/2 Warp 4.0, Novell Netware, Novell
	UnixWare 1.1 and SCO Unix 5.0.x

Environment

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

1.3 P6F100 Mainboard Layout
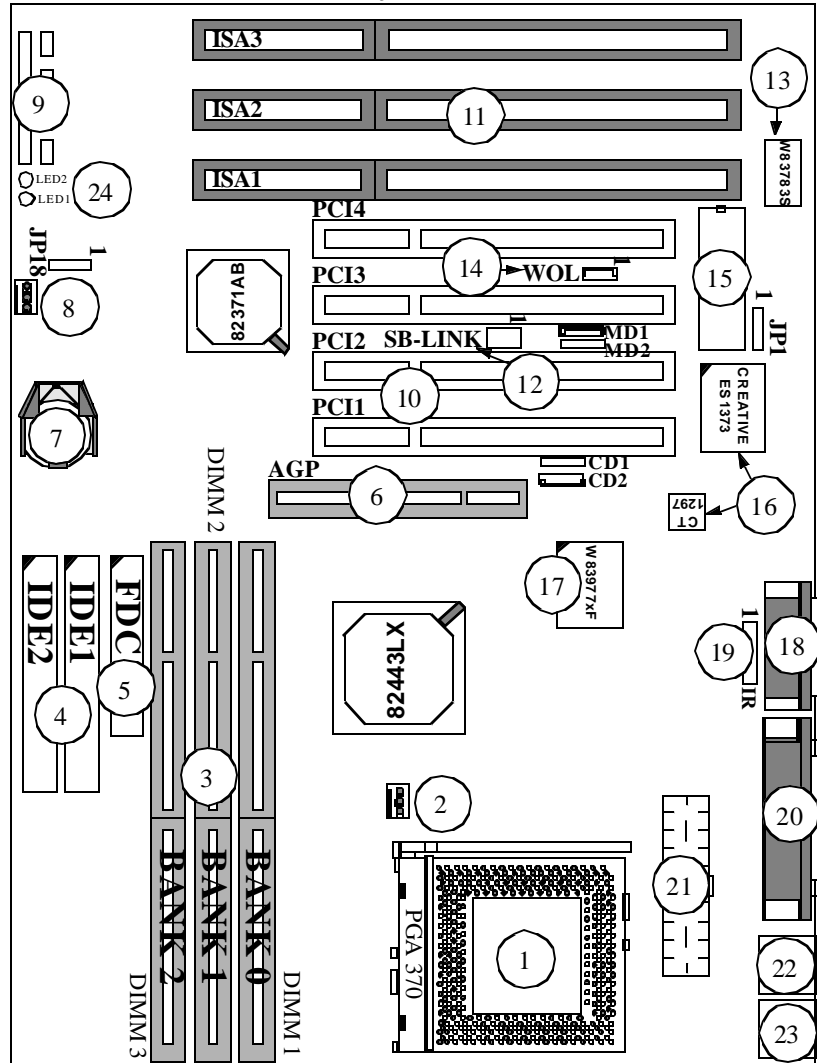
1:CPU Socket
2:CPU FAN Connector
3:DIMM Module Sockets
4:IDE Connectors
5:Floppy Drive Connector
6:AGP Slot
7:Battery (CR2032 Lithium)
8:Secondary FAN Connector
9:Front panel Connectors

10:PCI Expansion Slots
11:ISA Expansion Slots
12:Creative Lab SB-LinK
13:Health Monitor Chip
14: Wake On LAN Header
15:Flash BIOS
16:Creative Lab Audio Chip
17: Winbond 83977xF I/O Chip

18:GAME(T)/Audio(B) Port
19:IR Port Header
20:Parallel Port Connector(T)
    Serial Port Connectors(B)
21:ATX Power Connector
22:Dual USB Connector
23:PS/2 Mouse Connector(T)
    PS/2 Keyboard Connector(B)
24: Debug LED
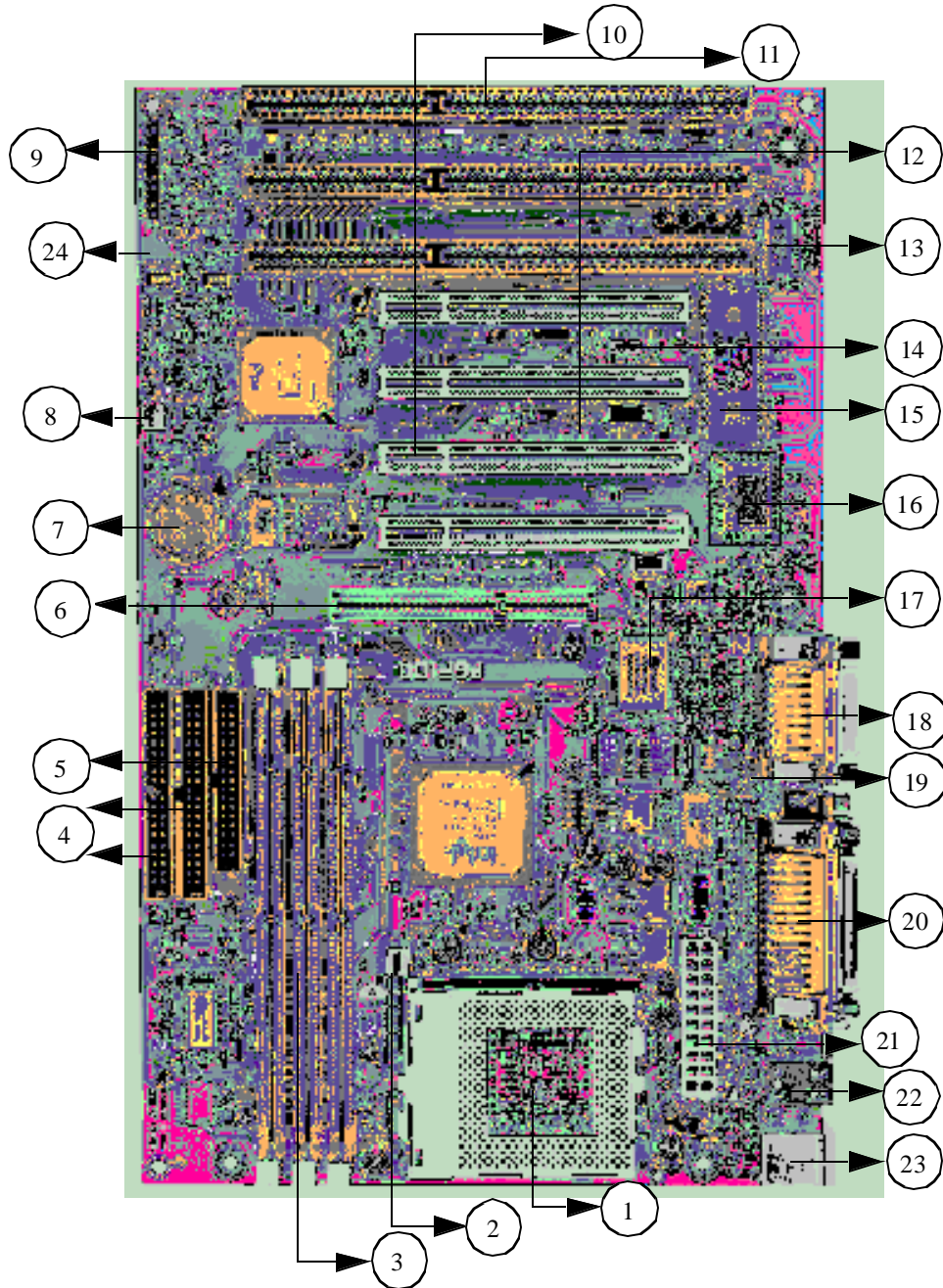
1.4 Microprocessor

The P6F100 mainboard is designed to operate with the Intel® Celeron™ processor in PPGA (Plastic Pin Grid Array) package which runs at 300A ~ 533+ MHz. The Intel Celeron processor (PPGA), implements a Dynamic Execution Micro-architecture and executes MMX™ media technology instructions for enhanced media and communication performance. The Intel® Celeron™ processor (PPGA) includes an integrated 128KB second level cache with a separate 16K instruction and 16K data level one cache. The second level cache is capable of caching 4GB of system memory address space. An on board switching voltage regulator provides the required 1.8 to 3.5 volts for the processor. The Celeron processor will send 4 VID (Voltage Identification) signals to the switching voltage regulator, and the switching regulator will generate correct voltage for the processor accordingly.

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

1.6 Celeron Packaging

The Celeron is packaged in an P.P.G.A. (Plastic Pin Grid Array). This packaging technology is similar to the mature Pentium processor package. This processor features a P6-microarchitecture-based core but in a PPGA package for use in low cost but high performance systems in the Basic PC market segment. Although the 0.25 micron manufacturing process, which reduces processor heat, enables the Intel Celeron processor to use a smaller heat sink but the highly integrates L2 cache design, it required a CPU cooling fan in order to protect CPU and make your system more reliable.

1. Intel® Celeron™ CPU (PPGA) 400 and 433MHz is not available yet, it is for reference only.

1.7 Chipset

The Intel 82440LX AGPset consists of one 82443LX (PAC) System Controller, and one 82371AB (PIIX4E) PCI ISA/IDE Accelerator.

82443LX (PAC):	- CPU interface controller
	- AGP Interface controller
	- Integrated DRAM controller
	- Fully synchronous PCI 2.1 bus interface
	- Extensive CPU-to-AGP, CPU-to-DRAM, CPU-to-PCI, AGP-to-DRAM, AGP-to-PCI, PCI-to-AGP and PCI-to-DRAM data buffering
82371AB (PIIX4E):	- Interface between the PCI and ISA buses
	- Power Management Logic
	- 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
	- SMBus interface
	- Real-Time clock
	- Power Management Logic
	- ACPI Controller

1.8 Main Memory

The P6F100 mainboard provides three 3.3volt 168-pin DIMM sockets to support 8MB to 384MB SDRAM (Synchronous DRAM) or 8MB to 768MB EDO (Extended Data Out) RAM. The DIMM sockets support 1M x 64 (8MB), 2M x 64 (16MB), 4M x 64 (32MB), 8M x 64 (64MB), 16Mx64(128MB) and 32Mx64(256MB EDO only) DIMM in single- or double-sided modules.

Memory Timing requires 60ns or faster for EDO, and at least 66.6MHz speed grade for SDRAMs. Each DIMM belongs to different banks, each bank can have different size, type, speed of memory. SDRAM and EDO DIMMs can be mixed within the

memory array. There are no jumper settings required for the memory size and type, which are automatically detected by the BIOS.

The P6F100 mainboard achieves the highest reliability by supporting the ECC (Error Checking and Correction) memory protections. The ECC is a hardware scheme which detects all single and dual-bit errors, and corrects all single-bit error during main memory access. The ECC can be supported only if all the DIMM memory modules come with parity bits.

1.9 Accelerated Graphics Port (AGP) slot

The P6F100 mainboard is equipped with an Accelerated Graphic Port slot which is compliant to the AGP specification. The AGP runs at 66.6MHz clock and supports both 1x and 2x mode for 66.6MHz/ 133MHz 3.3V devices. The data transfer rate on the AGP bus may be 4 times as fast as on the PCI bus.

The following is a clock frequency for different system clock operating modes:

System Clock	CPU Bus Clock	AGP Clock	PCI Clock
66MHz	66MHz	66MHz	33MHz
75MHz	75MHz	75MHz	37.5MHz
83MHz	83MHz	84MHz	42MHz

1.10 Enhanced IDE Support

The P6F100 mainboard provides two enhanced high performance PCI IDE interfaces capable of supporting four devices with PIO mode 0 through mode 4, bus-mastering DMA mode 2, and bus-mastering Ultra DMA/33 ATAPI devices. Detection of IDE device type and transfer rate is automatically performed by the BIOS.

The traditional PIO IDE device requires a substantial amount of CPU bandwidth to handle all the activities of IDE access including waiting for mechanical activities. The Bus Master logic designed in the Intel 82440LX chipset is intended to reduce the workload of the CPU, hence to increase CPU efficiency. The Bus Master will take care of the data transfer between IDE and memory and let the CPU

handle other tasks. In true multi-tasking operating systems such as
Windows 98, Windows NT, and OS/2, by using bus-mastering IDE,
the CPU workload can be reduced to complete other tasks while disk
data transfers are occurring. The driver must be loaded in order to
make the EIDE drive operate in bus-mastering DMA mode.

The following is a data transfer rate comparison table for different
IDE operating modes:

Operating Mode	Maximum Data Transfer Rate
PIO Mode 4	16.6 MB/Second
DMA Mode 1	13.3 MB/Second
DMA Mode 2	16.6 MB/Second
Ultra DMA/33	33.2MB/Second

1.11 Keyboard, Mouse and USB Interface

PS/2 keyboard, PS/2 mouse, and USB connectors are located on the
back panel of the P6F100 mainboard. The 5V line to the PS/2
Keyboard and PS/2 Mouse connectors are protected with a
PolySwitch circuit that acts like a self-healing fuse which will re-
establishing the connection after an over-current condition is
removed. While this device eliminates the possibility of replacing
fuse, you still need to be sure to turn off the system power before
connecting or disconnecting a keyboard or a mouse.

The P6F100 mainboard has a dual USB connector to support 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 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. With up to 12Mbits/sec transfer rate, USB
is suitable for devices such as keyboard, mouse, digital joystick,
game pad, fax/modem, scanner, printer, ISDN and telephony device.

1.12 Real-time Clock, CMOS RAM and Battery

The integrated real-time clock (RTC) provides a time of day clock, and an 85-year calendar with alarm features. P6F100 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 JP18 for 5 seconds when the system power is off.

A coin-cell style Lithium CR2032 battery is used to provide power to the RTC and CMOS memory. The battery has a three year life if the system is not powered 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.

1.13 IrDA Infrared Support

A 5-pin header connector is used to connect a Hewlett Packard HSDSL-1000 compatible IrDA or Sharp ASKIR 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.

1.14 Power Management

The integrated DPMA (Dynamic Power Management Architecture) features in the Intel 440LX AGPSet go far beyond the original vision of the "Green PC" to create exciting new application models for the "OnNow" PC platform. The "OnNow" PC is a PC which is always on and ready for use but appears to be off when not in use. The P6F100 not only complies with EPA, APM1.2 and ACPI (Advanced Configuration and Power Interface)1.0, but also provides the following power management features.

- Power-on by a modem ring in or a Alarm
 System could be powered on by phone ring, or by software that has requested the PC to wake up at a preset time.

- Suspend mode indicator
 The power LED becomes dim when system is in suspend mode.

- Fan off in suspend mode
 The CPU cooling fan will be turned off in suspend mode.

1.15 System Power On/Off Control

System power can be turned on by a power button, a modem ring, an alarm, a PS/2 Keyboard or a PS/2 Mouse. To enable the "Modem Ring on" feature, the option "Resume by Ring" in the BIOS Power Management Setup has to be set to "Enabled". To enable the "Alarm on" feature, the option "Resume by Alarm" in the BIOS Power Management Setup has to be set to "Enabled". To enable the "Power - On by PS/2 Keyboard or PS/2 Mouse" feature, the option "POWER On Function" in the BIOS Integrated Peripherals Setup has to be set to "Keyboard 98" or "Mouse Left/Right. in the BIOS accordingly.

System power can be turned off in one of two ways: a front panel power button or soft-off control. When the option "Soft off by PWR-BTTN" in the BIOS Power Management Setup is set to "Instant-Off", pressing the power button will immediately turn off the system power. But if the "Soft-Off by PWR-BTTN" option is 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. The system power can also be turned off via software control. The system BIOS will turn the system power off when it receives the proper APM command from the Operating System. For example, Windows 98 will issue Soft Off APM command when the user selects "Shutdown" in Start Menu. In order for the Soft Off feature to work properly, Power Management/APM must be enabled in the system BIOS and Operating System.

The P6F100 Auto Power On feature gives you the option to turn on the system power automatically when the AC power failure happen, is especially useful for the server application. To enable the "Auto Power on" feature, the option "PWRON After PWR-Fail" in the BIOS Power Management Setup has to be set to "On". When "PWRON After PWR-fail" sets to "Former-Sts", system will remember the power status (on or off) before power failure and set according when AC power comes back.

1.16 System Sleep / Resume

When Advanced Power Management (APM) is activated in the system BIOS and the Operating System's APM/ACPI driver is loaded, Sleep mode (Suspend) can be entered in one of three ways: press the front panel power button, select "Suspend" in Windows 98 Start Menu or no system activity for a pre-defined length of time. To use the power button to control system sleep/resume, the option "Soft-Off by PWR-BTTN" in the BIOS Power Management Setup has to be set to "Delay 4 Sec."

When the system enters the sleep mode, the CPU stops running, the 82440LX AGPset and related circuits stay in the lowest power state, the HDD stops spinning, the monitor screen becomes blank, the power LED indicator on the front panel dims, and the CPU cooling fan and secondary fan are turned off (Note: in order to turn off the fan in sleep mode, you need to connect the CPU cooling fan or Chassis fan to the on-board fan power connectors marked FAN1 or FAN2)

1.17 System Manageability

An optional System Management Chip (Winbond W83783S) with software allows user to monitor system environment such as fan speed (requires fan with tachometer output), system temperature and system operating voltages.

1.18 Wake On LAN (WOL)

Wake on LAN (WOL) is a 1x3 pin header for remote wake up of the computer through a network. Wake on LAN requires a PCI add-in network interface card (NIC) with remote wake up capabilities. The remote wake up header on the NIC must be connected to the onboard Wake on LAN header. The NIC monitors network traffic at the MII interface and when it detects a Magic Packet (MP Wake-up) it asserts a wake up signal that powers up the computer.

Note: For Wake on LAN, the 5-V standby line for the power supply must be capable of delivering 5V with 5% tolerance at 720mA.

2 Hardware Installation

2.1 Unpacking

The P6F100 mainboard package contains the following:
- ☑ P6F100 mainboard
- ☑ One IDE 40-pin ribbon cable
- ☑ One floppy 34-pin ribbon cable
- ☑ Driver and Utility Compact Disc
- ☑ 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 and call the vendor immediately if it is damaged.

2.2 Installation Steps

The P6F100 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. Chassis may come with various mounting fasteners which are made of metal or plastic. It is highly recommended to use as many metal fasteners as possible to mount the mainboard in the chassis for better grounding.

To install the mainboard you need to

1.Installing CPU
2.Installing system memory
3.Attach the connectors
4.Set jumpers on the Motherboard (if necessary)
5.Set CPU speed in the CMOS setup.

2.2.1 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.
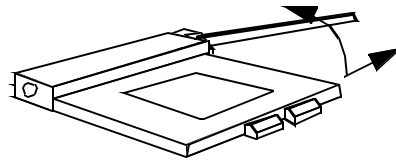
2. Align the CPU with the ZIF Socket 7 so that the pin 1 (cut corner) of CPU is at the pin 1 of the Socket 7 as shown in the figure below, then insert the CPU into the socket.

Celeron Processor

Pin 1

PGA 370

Pin 1

CPU SOCKET 370
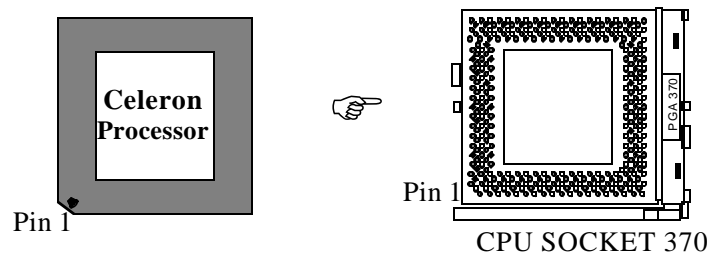
3. Press the lever down to snap it into place at the side of socket. You will feel some resistance as the pressure starts to secure the CPU in the socket.
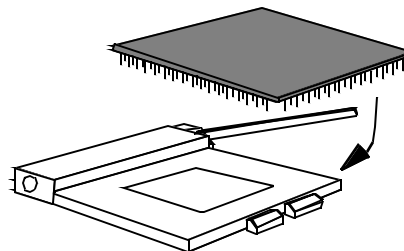
4. Install a heatsink with a cooling fan that is required to protect the CPU from being damaged due to overheat.

2.2.2 Installing System Memory

The P6F100 support SDRAM up to 384MB and EDO RAM up to 768MB. If more than maximum size memory are populated on the P6F100 mainboard, the portion of the memory which exceed the boundary will be invalidated.

The P6F100 Mainboard has three DIMM Sockets. Memory can be installed by using 168-pin SDRAM DIMM or EDO 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 P6F100 Mainboard high speed design, the memory modules for the P6F100 must meet all of the following requirement:

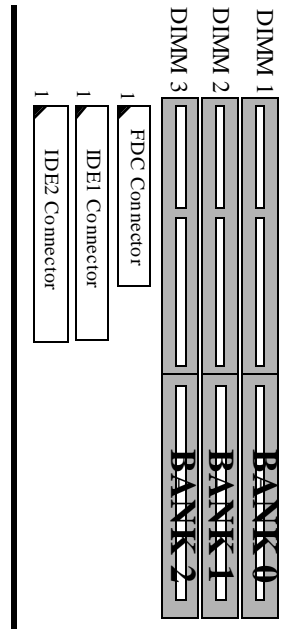| DRAM TYPE	EDO (Extended Data Output)	SDRAM (Synchronous DRAM)
Requirements	DRAM Speed: 60ns or faster RAS Access Time: 60ns or faster CAS Access Time: 20ns or faster	**3.3V unbuffered DIMM module** Speed grade: 66.6 MHz or faster CAS latency: 3 or faster

Install 168-pin DIMM modules in any combination as follows:

168-Pin DIMM Modules Memory Configuration.

BANK 0 (DIMM1)	**SDRAM** 8MB, 16MB, 32MB, 64MB, 128MB **EDO RAM** 8MB, 16MB, 32MB, 64MB, 128MB, 256MB
BANK 1 (DIMM2)	**SDRAM** 8MB, 16MB, 32MB, 64MB, 128MB **EDO RAM** 8MB, 16MB, 32MB, 64MB, 128MB, 256MB
BANK 2 (DIMM3)	**SDRAM** 8MB, 16MB, 32MB, 64MB, 128MB **EDO RAM** 8MB, 16MB, 32MB, 64MB, 128MB, 256MB
Total System Memory	**SDRAM** 8MB to Max. 384MB **EDO RAM** 8MB to Max. 768MB

2.2.3 Attaching Connectors

P6F100 Mainboard Connector/Jumper Location
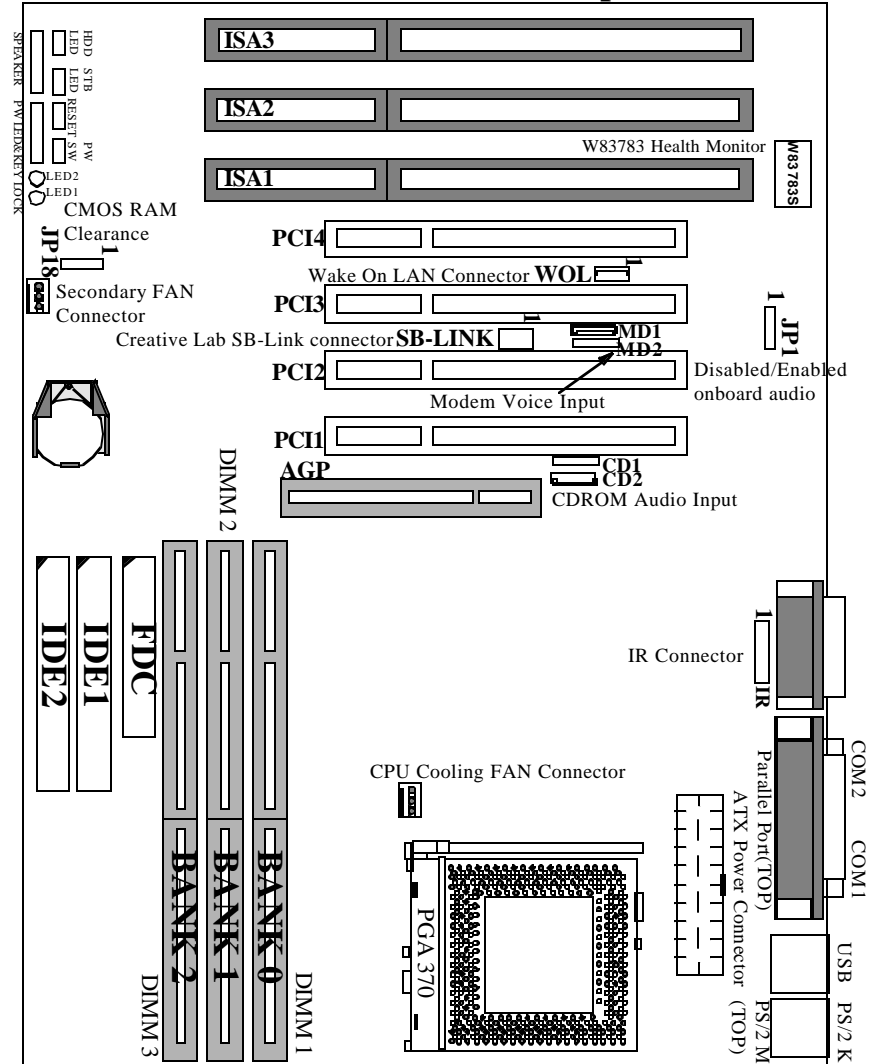
Jumpers:

JP1: 1-2 Disabled onboard Audio Chip
     2-3 Enabled onboard Audio Chip

JP18: 1-2 Normal Mode
     2-3 Clear CMOS RAM

Connector:

WOL: Wake On LAN Connector
SB-LINK: Creative Lab SB-LINK Connector
CD1: CDROM Audio Signal Input (JST Type)
CD2: CDROM Audio Signal Input (MPC2 Type)
MD1: MODEM Voice Signal Input (MPC2 Type)
MD2: MODEM Voice Signal Input (JST Type)

1. Front Panel Connectors

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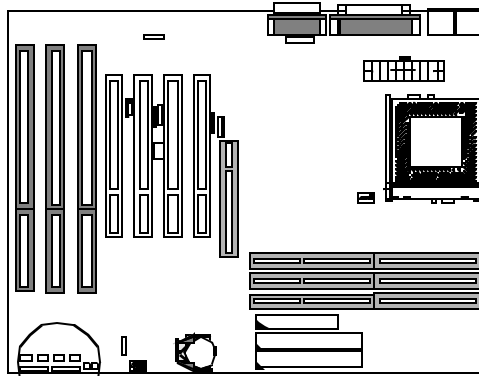
Front Panel Connector

Function	PIN #
HDD LED	1-2
STB LED	4-5
RESET	7-8
POWER SWITCH	10-11
PC SPEAKER	12-15
POWER LED	18-20
KEYLOCK	21-22
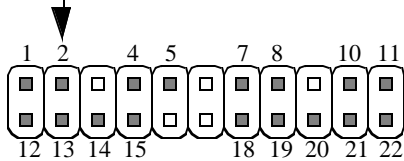
Front Panel Connector
Pin Assignment

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

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

STB LED Connector
This 2-pin connector connects to the case-mounted STB LED to indicate standby or power status. The STB LED will still on when system is off to indicate the AC power condition. When system entering standby (sleeping) mode the STB LED will start to blink.

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

Power Switch Connector
This 2-pin connector connects to the case-mounted Power button to

turn on/off the system power.

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

Power LED & Keylock Connector
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.

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 82440LX 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.

2. Fan Connectors

Pin Assignment
1. GND
2. +12V
3. SPEED / RPM

1
2
3
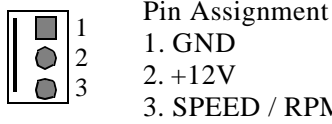
There are two fan connectors on the P6F100 mainboard for the cooling fans. The connectors support fans of 12V DC/ 500mAMP (6 WATT) or less. When the system goes into sleep state, fan should be shut down to eliminate audible noise and reduce power consumption. To monitor the fan speed, you need an W83783S chip, and the fan must come with a tachometer output.

Secondary FAN

IR

CPU FAN
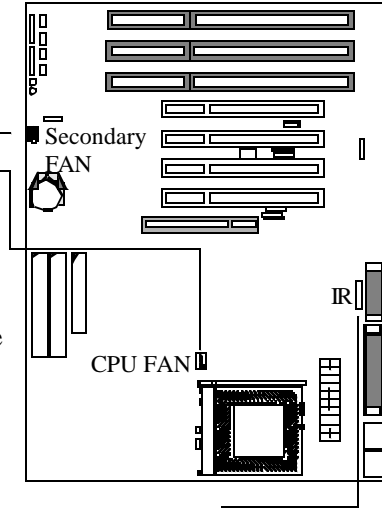
3. IrDA-compliant IR (Infrared) Connector

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

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

1

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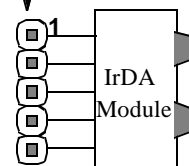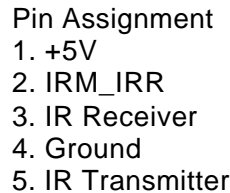
4. Floppy Drive Connector (One 34-pin Block)

A floppy disk drive ribbon cable has 34 wires and 2 connectors to support 2 floppy disk drives. The connector with twisted wires always connects to drive A, and the connector with untwisted wires connects to drive B. You must orient the cable connector so that the pin 1(color) edge of the cable is at the pin 1 of the I/O port connector.

PIN 1

Floppy Connector
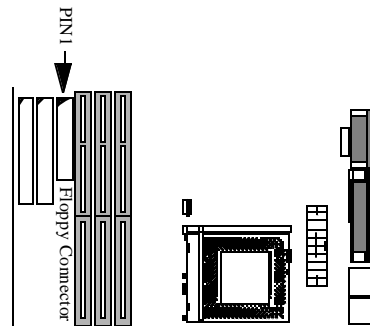
5. IDE Connectors (Two 40-pin Block)

An IDE drive ribbon cable has 40 wires and 2 connectors to support two IDE drives. If a ribbon cable connects to two IDE drives at the same time, one of them has to be configured as Master and the other has to be configured as Slave by setting the drive select jumpers on the drive.

PIN1

IDE1 Connector
IDE2 Connector
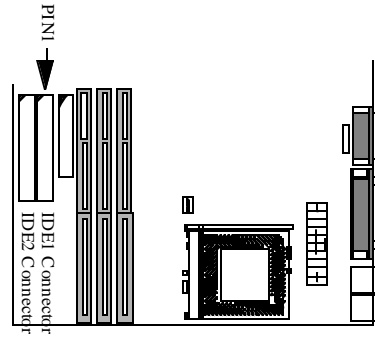
Consult the documentation that comes with your IDE drive for details on jumper locations and settings. You must orient the cable connector so that the pin 1(color) edge of the cable is at the pin 1 of the I/O port connector.

6. Back Panel Connectors

The back panel provides external access to PS/2 keyboard/mouse connectors, two serial port connectors, one parallel port connector, dual USB port connectors, game/MIDI port connector and microphone/Line-in/Line-out connectors which are integrated on the mainboard.

PS/2 Mouse (TOP)

Parallel Port (TOP)

Game/MIDI port (TOP)

USB1

PCB

PS/2 Keyboard   USB2   COM1   COM2   Line-Out   Microphone
Line-In
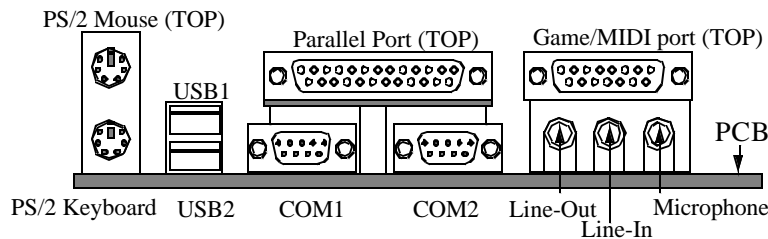
7. Power Supply Connector

+3.3V
-12V
Ground
Power ON/OFF
Ground
Ground
Ground
-5V
+5V
+5V

+3.3V
+3.3V
Ground
+5V
Ground
+5V
Ground
Power Good
+5VSB
+12V
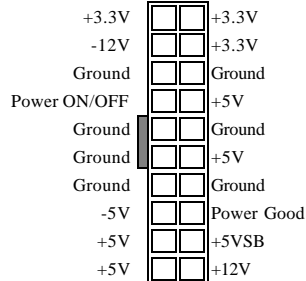
The ATX power supply has a single lead connector with a clip on one side of the plastic housing. There is only one way to plug the lead into the ATX power connector. Press the lead connector down until the clip snaps into place and secures the lead onto the connector.

8. Wake on LAN Connector:

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

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

WOL
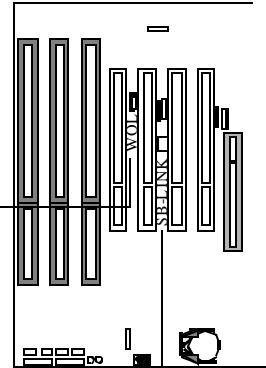
9. Creative Lab SB (Sideband) Link Connector:

This 2x3 ways, straight-3 header is used for Creative Lab PCI sound card (Ex. AWE64D PCI Audio WaveTable Card). In order to migrate the legacy Sound Blaster compatible audio to the PCI bus, the following signal have to be delivered to the PCI audio card through a flat cable.

SB-LINK

Pin Assignment
1. Grant
2. GND
3. N.C.(Key Pin)
4. Request
5. GND
6. SER_IRQ

9. CD-ROM Audio Input Connector:

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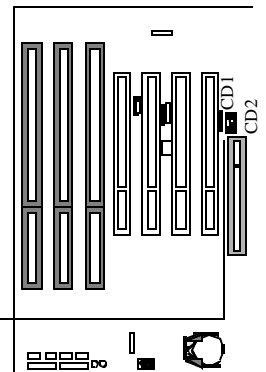
CD2 Pin Assignment
1. L_Input
2. GND
3. R_Input
4. GND

CD1 Pin Assignment
1. L_Input
2. GND
3. GND
4. R_Input

10. Modem Voice Input Connector:

MD2 Pin Assignment

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

1. MIC
2. GND
3. GND
4. PHN
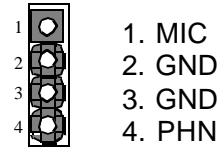
MD1 Pin Assignment

1. GND
2. PHN
3. GND
4. MIC
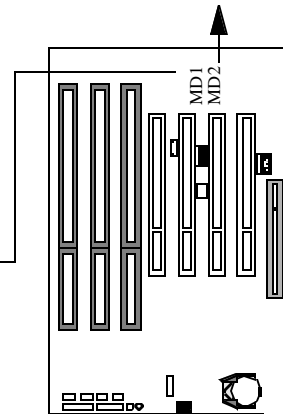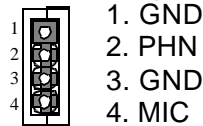
2.2.4 Set jumpers on the Motherboard

1. Clear CMOS and Password (JP18)
If your system can not boot up because you
forget your password, or the CMOS set-
tings need to be reset to default values after
the system BIOS has been updated, the fol-
lowing 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
   JP18 for 5 seconds
3. Put the shunt back to pin1 and pin2 of
   JP18
4. Power on the system
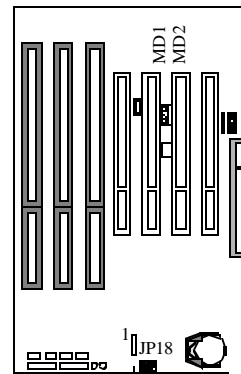
2. Audio Setting (JP1)

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

Enabled onboard Audio
1 □ ○ ○ **JP1**

Disabled onboard Audio
1 ■ ○ ○ **JP1**
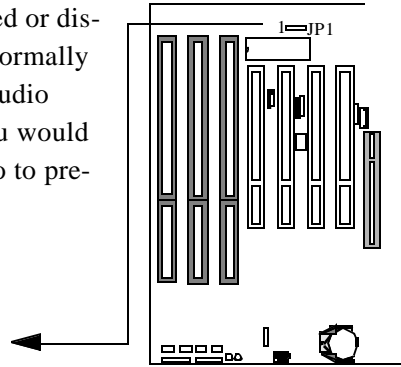
2.2.5 Set CPU Speed in the CMOS Setup

The Soft-Menu (jumperless) design of the P6F100 allows the user to set CPU Bus Clock and CPU core to Bus clock multiplier through the BIOS.

CPU Bus Clock: The CPU Bus Clock is defined as the CPU input clock. For example; the CPU Bus Clock for Intel Celeron, 300A, 333 and 366MHz is 66.6MHz.

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 clock Multiplier is 5.5, the actual CPU core clock will be 366MHz.

CPU Voltage: There is no hardware or BIOS settings needed for CPU operating voltage. The switching regulator circuit can auto-detect the CPU type on the P6F100 mainboard and generate the proper operating voltage for the CPU.

Follow these three steps to setup CPU speed.

1) Turn the system on, then press <**DEL>** key to access the AWARD BIOS SETUP program. A "**CMOS SETUP UTILITY**" will display on the screen. At "**CMOS SETUP UTILITY**" screen selects **"Chipset Features Setup"** and press **<Enter>**.

```
              ROM PCI/ISA BIOS (2A69JF2S)
                 CMOS SETUP UTILITY
                 AWARD SOFTWARE, INC.

  STANDARD CMOS SETUP          BIOS FEATURES SETUP

  IDE HDD AUTO DETECTION       CHIPSET FEATURES SETUP        ☞

  LOAD SETUP DEFAULTS          POWER MANAGEMENT SETUP

  SAVE & EXIT SETUP            PNP/PCI CONFIGURATION

  EXIT WITHOUT SAVING          INTEGRATED PERIPHERALS

                               SUPERVISOR PASSWORD

                               USER PASSWORD

  Esc: Quit                  ↑↓ → ←      : Select Item
  F10: Save & Exit Setup     <Shift>F2   : Change Color
```

2) On the top right hand side of the **"Chipset Feature Setup"** screen, there is a **"CPU Speed"** option. Refer to the table below and select the correct CPU speed.

```
                    ROM PCI/ISA BIOS (2A69JF2S)
                     CHIPSET FEATURES SETUP
                      AWARD SOFTWARE, INC.

  Auto Configuration        : Enabled    CPU Speed            : 333Mhz(66.6x5)  ☞
  EDO DRAM Speed Selection  : 60 ns
  EDO CASx# MA Wait State   : 2
  EDO RASx# Wait State      : 2          AGP Aperture Size (MB)  : 64
                                         Auto Detect DIMM/PCI Clk  Enabled
  SDRAM CAS Latency Time    : 2          Spread Spectrum Modulated Enabled



  System BIOS Cacheable     : Enabled
  Video  BIOS Cacheable     : Enabled
  Video RAM Cacheable       : Disabled

  8 Bit I/O Recovery Time   : 1
  16 Bit I/O Recovery Time  : 1
                                         ESC: Quit      ↑↓ → ←   :Select Item
  Memory Hole At 15M-16M    : Disabled   F1: Help
                                         F5: Old Values     PU/PD/+/-:Modify
  Passive Release           : Enabled                         (Shift) F2: Color
  Delayed Transaction       : Disabled   F7: Load Setup Defaults
```

CPU Bus Clock=66.6MHz:

CPU SPEED	Soft-Menu Setting	
	Bus Clock	Core to Bus Clock Multiplier
400 MHz	66.6MHz	x6.0
433 MHz	66.6MHz	x6.5
466 MHz	66.6MHz	x7.0
500 MHz	66.6MHz	x7.5
533 MHz	66.6MHz	x8.0

3) After the **"CPU Speed"** is set, go to "**CMOS SETUP UTILITY**" screen and select "**SAVE & EXIT SETUP**" to save the setting information in the CMOS memory and continue with the booting process.

4) When "CPU SPEED" set to "manual", which allows user to set "CPU Ratio" and "CPU Frequency" manually. The available options for "CPU Frequency" are "66MHz", "68MHz", "75MHz" and "83MHz".

Available Options for CPU Frequency	66MHz (default)
	68MHz
	75MHz
	83MHz

NOTE:
Over clock (68MHz, 75MHz, 83MHz) may cause system intermittent lock up or fail to boot-up (no video). If this happens there are two methods you can reset your CMOS setting and get your system back again.

Method 1:
Press and hold the **<INS>** key before power on the computer. Once BIOS detect the **<INS>** key is pressed, it will clear CMOS RAM and reset CMOS setting to the default values.

Method 2:
Set jumper to clear CMOS RAM
1. Power off the system
2. Place a shunt to short pin2 and pin3 of JP18 for 5 seconds
3. Put the shunt back to pin1 and pin2 of JP18
4. Power on the system

3 BIOS Configuration

After hardware configuration of P6F100 Mainboard is completed, and system hardware has been assembled, the completed system may be powered up. At this point, CMOS setup should be run to ensure that system information is correct.

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

3.1 Entering Setup

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

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

"Press DEL to enter SETUP"

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

3.2 CMOS SETUP UTILITY

Main Program Screen

```
                ROM PCI/ISA BIOS (2A69JF2S)
                    CMOS SETUP UTILITY
                  AWARD SOFTWARE, INC.

   STANDARD CMOS SETUP          BIOS FEATURES SETUP

   IDE HDD AUTO DETECTION       CHIPSET FEATURES SETUP

   LOAD SETUP DEFAULTS          POWER MANAGEMENT SETUP

   SAVE & EXIT SETUP            PNP/PCI CONFIGURATION

   EXIT WITHOUT SAVING          INTEGRATED PERIPHERALS

                                PASSWORD SETTING


   Esc: Quit                  ↑ ↓ → ←    : Select Item
   F10: Save & Exit Setup     <Shift>F2  : Change Color
```

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

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

<ESC>: Exit the utility.

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

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

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

3.3 STANDARD CMOS SETUP

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

Standard CMOS Setup Screen

```
                    ROM PCI/ISA BIOS (2A69JF2S)
                       STANDARD CMOS SETUP
                       AWARD SOFTWARE, INC.

 Date (mm:dd:yy): Thr, Dec 15 1998
 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                            Base Memory:     640K
 Floppy 3 Mode Support: Disabled       Extended Memory: 15360K
                                          Other Memory:     384K
 Video:  EGA/VGA
 Halt On:  All Errors But Keyboard        Total Memory:  16384K

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

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

Set Date: Month, Day, Year.

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

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

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

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

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 will save the new setting information in the CMOS memory and continue with the booting process.

3.7 EXIT WITHOUT SAVING

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

3.8 BIOS FEATURES SETUP

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

BIOS Features Setup Screen

```
ROM PCI/ISA BIOS (2A69JF2S)
BIOS FEATURES SETUP
AWARD SOFTWARE, INC.

Trend Chipaway Virus       : Enabled      Video BIOS Shadow          : Enabled
                                          C8000 - CBFFF Shadow       : Disable
CPU Internal Cache         : Enabled      CC000 - CFFFF Shadow       : Disable
External Cache             : Enabled      D0000 - D3FFF Shadow       : Disable
                                          D4000 - D7FFF Shadow       : Disable
Quick Power On Self Test   : Enabled      D8000 - DBFFF Shadow       : Disable
Boot Sequence              : A,C, SCSI    DC000 - DFFFF Shadow       : Disable
Swap Floppy Drive          : Disabled
Boot Up Floppy Seek        : Disabled     PCI/VGA Palette Snoop      : Disable
Boot Up NumLock Status     : On           Assign IRQ For VGA         : Enabled
Floppy Disk Access Control : R/W          OS Select For DRAM > 64MB  : Non-OS2

Gate A20 Option            : Fast         HDD S.M.A.R.T. Capability  :  Disabled
                                          Report No FDD For WIN 95   :  Yes
Typematic Rate Setting     : Disable
Typematic Rate (Chars/Sec) : 6            ESC: Quit       ↑↓ → ◄  :Select Item
Typematic Delay (Msec)     : 250
                                          F1: Help            PU/PD/+/-:Modify
Security Option            : Setup        F5: Old Values      (Shift) F2: Color
                                          F7: Load Setup Defaults
```

The following explains the options for each feature:

Trend Chipaway Virus: The Trend Chipaway Virus's default setting is "Enabled". Presently, one solution provided by some BIOS venders to protect against boot viruses involves a BIOS function used to write-protect the partition table. This solution prevents viruses from writing to the partition table but also prevents computer users from doing legitimate modifications e.g. using FDISK to re-configure hard drive partitions. Also this function will be disabled whenever the BIOS has been reset. Trend ChipAway Virus (TCAV) is unique, specially designed solution stops boot viruses from infecting the boot sector or partition table during the "threat" period that exists before the boot sector loads and traditional anti-virus protection takes effect. Trend ChipAway Virus resides in the BIOS to prevent boot viruses from causing any damage to computers.

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

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

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

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

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

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

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

Floppy Disk Access Control: The default setting is "R/W" (Read and Write) which allows the floppy disk data can be read and write into floppy diskette. If set to "Read Only", the write action is not allow.

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 "Disable". If set to "Enabled", you can set the typematic Rate and typematic Delay.

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

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

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

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

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

PCI/VGA Palette Snoop: If there are two VGA cards in your system (one PCI and one ISA) and this option is set to "Disable", 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.

Assign IRQ For VGA: The default setting is "Enabled". When set to "Disable" BIOS will not assign any IRQ (Interrupt request line) for PCI VGA card. If your VGA card requires IRQ then set this option to "Enabled".

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.

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 Win95: The default setting is "Yes". Set this option to "Yes" to request BIOS to report the FDD status to Windows 95.

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

3.9 CHIPSET FEATURES SETUP

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

Chipset Features Setup Screen

```
                ROM PCI/ISA BIOS (2A69JF2S)
                 CHIPSET FEATURES SETUP
                   AWARD SOFTWARE, INC.

Auto Configuration        : Enabled   CPU Speed            :  266Mhz(66x4.0)
DRAM Speed Selection      : 60 ns     CPU Ratio            :  x 4.0
MA Wait State             : Fast      CPU Frequency        :  66.6MHz
EDO RAS# To CAS# Delay     : 3         Memory Hole At 15M-16M :  Disable
EDO RAS# Precharge Time    : 4         AGP Aperture Size (MB)  :  64
EDO DRAM Read Burst        : x222      Auto Detect DIMM/PCI Clk :  Enabled
EDO DRAM Write Burst       : x222      Spread Spectrum Modulated :  Enabled
                                       CPU Warning Temperature  :  66/151
SDRAM RAS-to-CAS Delay     : Slow      Current System Temp.     :
SDRAM RAS Precharge Time   : Slow
SDRAM CAS Latency Time     : 3         FAN1 Speed               :
                                       FAN2 Speed               :
DRAM Data Integrity Mode   : Non-ECC    Vcc3   :  +       Vccp    :  +
System BIOS Cacheable      : Enabled   + 12V   :  +       +5V     :  +
Video  BIOS Cacheable      : Enabled   - 5V    :  -       - 12V   :  -
Video RAM Cacheable        : Disable
8 Bit I/O Recovery Time     : 1        ESC: Quit        ↑↓ → ←   :Select Item
16 Bit I/O Recovery Time    : 1        F1: Help           PU/PD/+/-:Modify
Passive Release            : Enabled   F5: Old Values      (Shift) F2: Color
Delay Transaction          : Disabled  F7: Load Setup Defaults
```

The following explains the options for each feature:

Auto Configuration: The default setting is "Enabled" which will set optimal DRAM timing automatically depending on whether the DRAM used is 50ns or 60ns. The other option is "Disabled" which allows you to change DRAM timing manually.

DRAM Speed Selection: This option should be set according to the speed of the DRAM in the system. The options are "50ns" and "60ns".

MA Wait State: This option selects "Fast" or "Slow" memory MA bus timing. For EDO, the Slow timing is one more wait state than the Fast timing. For SDRAM, Fast timing means zero MA wait state.

EDO RAS# to CAS# Delay: The options are "2" and "3". This option controls the number of clocks between the assertion of RAS# and the assertion of CAS#. The default setting is "3".

EDO RAS# Precharge Time: The options are "3" and "4". This option sets the length of time in terms of number of clocks required for the RAS# precharge. The default setting is "3".

EDO DRAM Read Burst: The options are "x222" and "x333". This option sets the DRAM read burst timing. Slower rates may be required for slower memory. Normally set this option to "x222" for 50ns DRAMs and set to "x333" for 60ns DRAMs.

EDO DRAM Write Burst: The options are "x222" and "x333". This option sets the DRAM write burst timing. Slower rates may be required for slower memory.

SDRAM RAS-to-CAS Delay: The options are "Fast" and "Slow". This option controls the number of clocks between the assertion of SRAS# and the assertion of SCAS#. The default setting is "Fast".

SDRAM RAS Precharge Time: The options are "Fast" and "Slow". This option sets the length of time in terms of number of clocks required for the SDRAM RAS# precharge. The default setting is "Fast".

SDRAM CAS Latency Time: The options are "2" and "3". Slower rate "3" may be required for slower SDRAMs or more than 2 banks of SDRAM DIMMs are installed. The default setting is "3".

DRAM Data Integrity Mode: The options are "ECC" and "Non-ECC". Set to "ECC" only when DIMM modules with parity bits are used. This will enable the Error Checking and Correction function to ensure the data integrity

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

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

Video RAM Cacheable: When set to "Enabled", the Graphics card's local memory will be cached for faster execution. The default setting is "Disable".

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".

Passive Release: When set to "Enabled", CPU-to PCI bus accesses are allowed during passive release. When set to "Disable", only PCI bus-master access to local DRAM is allowed during passive release.

Delayed Transaction: This termination is used by targets that can't complete the initial data phase within the requirement of this specification. One advantage of a Delay Transaction is that the bus is not held in wait states while completing an access to a slow device. While the originating master rearbitrates for the bus, other bus masters are allowed to use the bus bandwidth that would normally be wasted holding the master in wait states. Another advantage is that all posted memory write data is not required to be flushed before the request is accepted. Chipset has an embedded 32-bit post write buffer to support delay transactions cycles. Select "Enabled" to support compliance with PCI specification version 2.1.

CPU SPEED: This option sets the CPU speed. The default setting is "233MHz (66x3.5)". The other options are "266MHz (66x4.0)", 300MHz (66x4.5)", "333MHz (66x5.0)" and "366MHz (66x5.5)". When set to "Manual" two more options "CPU Ratio" and "CPU Frequency" will pop up to let user set the CPU core to bus clock ratio (CPU Ratio) and CPU Bus clock (CPU Frequency) manually.

CPU Ratio: This option sets the CPU Core to Bus Clock Multiplier. The options are "3", "3.5", 4", "4.5", "5", and "5.5".

CPU Frequency: This option sets the CPU Bus Clock. The options are "66MHz", "68MHz", "75MHz" and "83MHz".

Memory Hole At 15M-16M: The default setting is "Disable". 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.

AGP Aperture Size (MB): This option determines the effective size of the AGP Graphic Aperture which memory-mapped, graphics data structures can reside in.

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

Spread Spectrum Modulated: When set to "Enabled", system clock frequency will automatically be modulated which helps reducing electromagnetic interference.

CPU Warning Temperature (optional): This feature gives you the ability to set warning temperature for CPU. When the CPU temperature exceeds the set temperature, the PC speaker will beep. The beep sound will not off unless you turn off computer and change your CPU cooling condition. This feature gives you CPU overheat protection.

Current System Temperature (optional): This feature will only come with motherboard which has W83783S chip installed. This is current system temperature reading. This feature gives you the ability to monitor your system temperature without opening the chassis.

FAN1/FAN2 SPEED (optional): This feature will only come with motherboard which has W83783S chip installed. This is FAN1 or FAN2 RPM (Revolution Per Minute) reading. This feature gives you the ability to monitor conditions of FAN1 and FAN2.

Vcc3, Vccp, +5V, -5V, +12V, -12V(optional): This feature will only come with motherboard which has W83783S chip installed. This is 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) and -12V(power supply's -12 volt) reading. This feature gives you the ability to monitor condition of system power.

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

3.10 POWER MANAGEMENT SETUP

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

Power Management Setup Screen

```
                    ROM PCI/ISA BIOS (2A69JF2S)
                    POWER MANAGEMENT SETUP
                    AWARD SOFTWARE, INC.

Power Management      : Disable        ** Reload Global Timer Events **
PM Control by APM     : Yes         PCI/VGA Active Monitor  : Enabled
Video Off Method      : V/H SYNC+Blank  IRQ [3-7, 9-15], NMI  : Disable
                                    Primary IDE 0           : Disable
Doze Mode             : Disable     Primary IDE 1           : Disable
Standby Mode          : Disable     Secondary IDE 0         : Disable
Suspend Mode          : Disable     Secondary IDE 1         : Disable
HDD Power Down        : Disable     Floppy Disk             : Disable
HDD Down when Suspend : Disable     Serial Port             : Disable
                                    Parallel Port           : Disable
CPU Fan Off in Suspend  : Enabled
                                    Mouse Break Suspend     : No(PS/2)
Soft-Off by PWR-BTTN  : Instant - Off
                                    Modem Use IRQ           : 3

Resume by Ring        : Disabled   ESC: Quit      ↑↓ → ←    :Select Item
Resume by Alarm       : Disabled   F1: Help           PU/PD/+/-:Modify
Wake Up On LAN        : Disabled   F5: Old Values      (Shift) F2: Color
IRQ 8 Break Suspend   : Disabled   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 purposes.

Disable: Disables the power management features.

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

APM (Advanced Power Management) should be installed to keep the system 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 "V/H SYNC+Blank" which will disable V/H SYNC signals and blanks the screen. Other options are "DPMS" and "Blank Screen". The "DPMS" option allows the BIOS to control the video card if it has the DPMS (Display Power Management System) feature. The "Blank Screen" option is used when you do not have a "Green" monitor.

Doze Mode: Options are from "30 Sec" 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 Power Management event is detected.

Standby Mode: Options are from "30 Sec" to "1 Hour" and "Disable". The system speed will change from turbo to slow and the video signals 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.

Suspend Mode: Options are from "30 Sec" 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 Power Management 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.

HDD Down when Suspend: Options are "Enabled" and "Disable". When this option is sets to "Enabled", the IDE hard drive will spin down if the system goes into power management "suspend" mode.

CPUFAN off in Suspend: If set to "Enabled" CPU fan and Secondary fan will be turned off in Suspend Mode.

Soft-Off by PWR-BTTN: The options are "Instant-Off" and "Delay 4 Sec.". When set to "Instant-Off", 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 to the suspend mode. Note: During the booting process, the power button is ignored. The default setting is "Instant-Off".

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

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

Wake Up On LAN: If "Enabled", the system power will be turned on if the network (NIC) card receives an incoming Wake On LAN(WOL) signal.

IRQ 8 Break Suspend: When this option and the option of "Power-On by alarm" are both set to "Enabled", you may set the date (day of month), hour, minute and second to wake up your system from suspend mode.

Mouse Break Suspend: The options are "Yes", "No(COM1)", "No(COM2)" and "No(PS/2)". When set to "Yes" the mouse activity can wake up your system from sleep mode. If you do not want to wake up the system due to the sensitivity of the mouse, you can set this option to "No(COM1)" or "No(COM2)" depending on which COM port is connected to your serial mouse or set to "No(PS/2)" if you are using a PS/2 mouse.

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

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

3.11 PNP / PCI CONFIGURATION

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

Selecting "PNP / PCI CONFIGURATION" on the main program screen the following menu will display:

PNP / PCI Configuration

```
ROM PCI/ISA BIOS (2A69JF2S)
PNP / PCI CONFIGURATION
AWARD SOFTWARE, INC.
```

PNP OS Installed	: Yes		PCI IDE IRQ Map To	: PCI - AUTO
Resources Controlled By	: Manual		Primary IDE INT#	: A
Reset Configuration Data	: Disabled		Secondary IDE INT#	: B
IRQ-3 assigned to	: Legacy ISA			
IRQ-4 assigned to	: Legacy ISA		Slot 1 Use IRQ No.	: Auto
IRQ-5 assigned to	: PCI / ISA PnP		Slot 2 Use IRQ No.	: Auto
IRQ-7 assigned to	: Legacy ISA		Slot 3 Use IRQ No.	: Auto
IRQ-9 assigned to	: PCI / ISA PnP		Slot 4 Use IRQ No.	: Auto
IRQ-10 assigned to	: PCI / ISA PnP			
IRQ-11 assigned to	: PCI / ISA PnP		Used MEM base addr.	: N/A
IRQ-12 assigned to	: PCI / ISA PnP			
IRQ-14 assigned to	: Legacy ISA			
IRQ-15 assigned to	: Legacy ISA		Assign IRQ For USB	: Enabled
DMA-0 assigned to	: PCI / ISA PnP			
DMA-1 assigned to	: PCI / ISA PnP			
DMA-3 assigned to	: PCI / ISA PnP		ESC: Quit	↑↓ → ← :Select Item
DMA-5 assigned to	: PCI / ISA PnP		F1: Help	PU/PD/+/-:Modify
DMA-6 assigned to	: PCI / ISA PnP		F5: Old Values	(Shift) F2: Color
DMA-7 assigned to	: PCI / ISA PnP		F7: Load Setup Defaults	

PNP OS Installed: Set this option to "Yes" allows the PnP OS (Plug-and-Play's operation system) to manage the PnP function instead of BIOS to assign the system resources such as IRQ and I/O address to the ISA PNP device. The default setting is "No"

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

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

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

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

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

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

3.12 INTEGRATED PERIPHERALS

Selecting "INTEGRATED PERIPHERIALS" on the main program
screen displays this menu:

Integrated Peripherals Screen

```
                  ROM PCI/ISA BIOS (2A69JF2S)
                   INTEGRATED PERIPHERIALS
                     AWARD SOFTWARE, INC.

IDE HDD Block Mode        : Enabled     UART Mode Select         : Normal
IDE Primary Master PIO    : Auto
IDE Primary Slave   PIO   : Auto
IDE Secondary Master PIO  : Auto
IDE Secondary Slave  PIO  : Auto        Onboard Parallel Port    : 378 / IRQ7
IDE Primary Master UDMA   : Auto         Parallel Port Mode      : Normal
IDE Primary Slave UDMA    : Auto
IDE Secondary Master UDMA : Auto
IDE Secondary Slave UDMA  : Auto        Power On Function        : Button Only
On-Chip Primary PCI IDE   : Enabled     KB Power ON Password     : Enter
On-Chip Secondary PCI IDE : Enabled
                                        Hot Key Power ON         : Ctrl-F1
USB Keyboard Support      : Disable
                                        PWRON After PWR-Fail     : Off
Onboard FDD Controller    : Enabled

Onboard Serial Port 1     : 3F8 / IRQ4  ESC: Quit      ↑↓ → ←   :Select Item
Onboard Serial Port 2     : 2F8 / IRQ3  F1: Help          PU/PD/+/-:Modify
                                        F5: Old Values      (Shift) F2: Color
                                        F7: Load Setup Defaults
```

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

**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 automati-
cally 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.

IDE Primary Master UDMA, IDE Primary Slave UDMA, IDE Secondary Master UDMA, IDE Secondary Slave UDMA: The options are "Auto" (default) and "Disabled". When set to "Auto" the BIOS will automatically load Ultra DMA 33 driver to match the transfer rate of IDE hard disk drive which supports Ultra DMA 33 mode. The default setting is "Auto".

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

USB Keyboard Support: Set this option to "Enabled" if an Universal Serial Bus (USB) keyboard is used in your system. The default setting is "Disable".

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

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

> 3F8/ IRQ4, 2F8/ IRQ3
> 3E8/ IRQ4, 2E8/ IRQ3
> Auto (default)
> Disabled (Disable the onboard serial port)

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

RxD, TxD Active: The options are "Hi, Hi" (default), "Hi, Lo", "Lo, Hi" and "Lo, Lo". It will define voltage level for your Infrared module RxD (receive) mode and TxD (transmit) mode. This setting has to match the infrared module used in the system.

IR Transmission Delay: The options are "Enabled" and "Disable". When set to "Enabled", you will utilize the capability of your board to allow for faster infrared transmission rates.

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

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

EPP Mode Select: There are two options "EPP1.9" (default), "EPP1.7".

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

Power On Function: There are five options "Button Only" (default), "Password", "Hot KEY", "Mouse Left" and "Mouse Right". When set to "Button Only", system power can be turned on by power button. When set to "Password", system power can be turned on by entering password. When set to "Mouse Left/Right", system power can be turned on by pressing PS/2 mouse left/right key. This function works with a standard two-button PS/2 mouse only. You have to enter "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. (see section 2.2.4 for detail).

Hot Key Power On: When "Power On Function" set to "Hot KEY", system power can be turned on by pressing keyboard function key,i.e., <Ctrl>+<F1> through <Ctrl>+<F12>.

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

3.13 PASSWORD SETTING

The "PASSWORD SETTING" 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 enter-
ing a new password when the "Enter Password" dialog box
appears. A message will appear confirming that the password is
disabled.

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 JP18 to short pin 2 and pin 3 for 5 seconds, then
putting the shunt back to pin1 and pin2 of JP18.

4 Driver and Utility

4.1 Flash Utility

The BIOS of the P6F100 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 2M-bit Flash EEPROM which can be erased and reprogrammed by the Flash utility.

There are two files in the Compact Disc's FLASH directory.

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

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

4.2 EIDE Bus Master Driver

The Bus Master EIDE logic designed in the Intel 82440LX chipset is intended to reduce the workload of the CPU and make the CPU running more efficiently. The driver must be loaded in order to make the EIDE drive operating at 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 BMIDE_95.EXE to extract files for driver and installation instructions for Windows 95. Execute the BMIDE_NT.EXE to extract files for driver and installation instructions for Windows NT. Execute the BMIDEOS2.EXE to extract files for driver and installation instructions for OS/2.

4.3 PIIX4(E) Utility for Windows 95

The PIIX4(E) utility is a an upgrade utility that can be employed under Win95 to automatically upgrade your current IDE controller support to PIIX4. For example, while install a Windows95 from PIIX4 platform,

> Under Win95, My computer, control Panel, Device Manager. View device by Type
> Other Device! PCI Bridge,! PCI Universal Serial BUS.

To let Win95 properly report your device resource, follow below instructions:

> Implement WINP2X4
> Under Win95 DOS prompt, type WINP2X4
> After issuing this command, a display similar to this appear:

> **WinP2X4.EXE V1.xx**
> **Copyright(c) Award Software, inc. 1997 All rights Reserved**
> **=== Microsoft Windows 95 implement for Intel PIIX4 ===**
> **The Windows 95 directory is C:/WINDOWS (Y/N)?**

Respond "Y" if windows 95 directory is correct. If the Windows 95 directory is other than the default directory, please respond "N", and follow the on-screen prompt to enter the correct path.

> **Please input directory name of your Windows 95 system: XXXX**
> ****** Modifying your Windows 95 system.....success**
> **You have to restart the Windows95 system right now.**

Follow the on-screen prompt to restart your system to let the change take effect. You may be prompted to update device drivers after system restart.

Note: 1) The device driver for ideatapi.mpd is locate at
C:\windows\system\iosubsys directory.

2) It is unnecessary to install this driver under Windows98
Windows98 had built-in PIIX4(E) driver already.

4.4 Creative Lab SB AudioPCI 64V (optional)

The Compact Disc comes with your motherboard may have Sound Blaster AudioPCI 64V utility which is the driver for onboard optional ES1373 audio chip. The driver supports Windows95/98 and WindowsNT 4.x operating system.
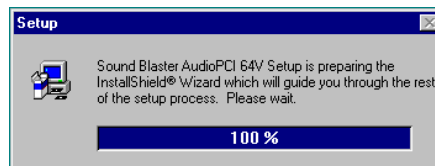
:\Audio\English\NTdrv SB AudioPCI 64V driver for Windows NT4.x.
\\Audio\English\win95drv SB AudioPCI 64V driver for Windows95/98

Install SB AudioPCI 64V driver

1) Usually, the auto-inseration notification function will pop-out the installation screen automatically when you insert the Compact Disc into your CDROM. If the Installation screen is not pop-out automatically, please check the "auto insert notification" which is under **/control panel/system/device manager/CD ROM/ properity/setting.** or use the windows explorer and go to the **\CTRUN** directory and executes the **CTRUN.EXE** command, which will force the installation screen to pop-out.
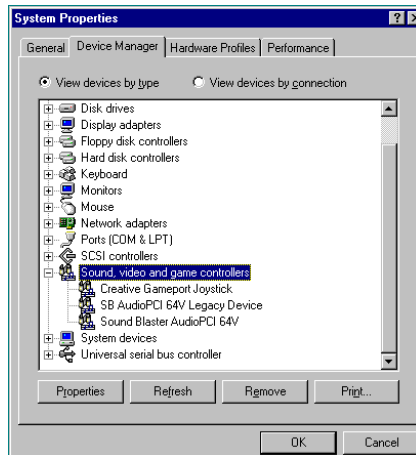

2) Click on "install" and follows the instruction on the screen to create the directory and finished the installation.

3) After driver install complete, system need to restart and new
    hardware (like SB AudioPCI 64V Legacy Device/Creative Game Joystick/
    Sound Blaster Audio 64V) will find.

4) For windows NT4.x installation, please use the **multimedia icon**
    which is under the control panel and selects "Add Audio Device".
    The WindowsNT 4.x driver can be found in the
    \Audio\English\NTdrv directory of the CD.

5) There are eight category will create after the driver installation:
Creative CD	For CD Audio tools
Creative MIDI	For the MIDI audio edit tools
Creative Remote	**This function is not support yet.**
Creative Wave	For the WAV audio edit tools
SB Audio 64V Mixer	For Audio Mixer
Sound 's LE	For Line-in or Microphone record

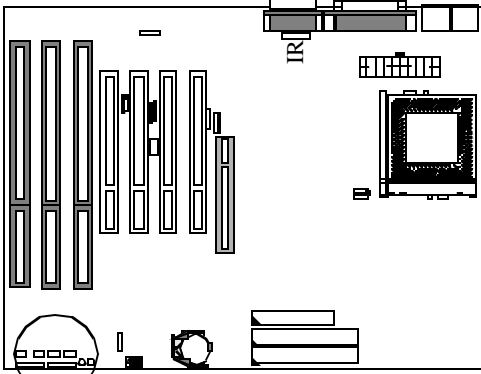## 4.5 System Environment Monitoring Utility (optional)

The System Environment Monitoring utility with the onboard
Winbond 83783S system monitor chip allow you to monitor your
system's temperature, Fan speed and CPU voltage. Using this utility,
you can setup the upper and lower limits of these monitored
parameters. A pre-warning message will pop up on the screen when
the monitored parameters is out of the preset range.

5 Debug & Troubleshooting

5.1 Debug LED

The P6F100 motherboard comes with a unique debug LED design to help system integrated catch the problem right away.

There are two debug LED close to the front panel connector LED1 and LED2. The LED1 is GREEN color and LED2 is RED. The table below will help you to identify the problem before video comes out.

Debug LED True Table

Possible Problem	LED1	LED2
CPU (not install) or motherboard fail	ON	OFF
memory fail	Blink	ON
Video fail	OFF	ON
Normal (no problem)	OFF	OFF

Front Panel Connector LED2 (red) LED1 (green)

Online Services

Freetech is a leading designer and manufacturer of high performance system boards for desktop PCs, workstations and network servers. Since its inception in the heart of Silicon Valley in 1990, it has continued to provide valued products to its customers by focusing on service, quality and technology.

If you need technical support, information on products, and updated version of BIOS, driver and utility, access the Internet and go to:

http://www.freetech.com/