

Pentium

82430 TX P54C/P55C PCI Mainboard
User's Guide &
Technical Reference
5BT5

**SOYO**TM

About This Guide

This User's Guide is for assisting system manufacturers and end users in setting up and installing the mainboard. Information in this guide has been carefully checked for reliability; however, no guarantee is given as to the correctness of the contents. The information in this document is subject to change without notice.

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Version 2.0J

5BT5 SERIAL

FC Tested To Comply
With FCC Standards
FOR HOME OR OFFICE USE

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1 Introduction

The 82430 TX PCI mainboard is a high-performance AT form-factor system board that supports P54C/P55C family CPUs. This mainboard is fully compatible with industry standards, and adds many technical enhancements.

Key Features

- Processor supported
- Ä Supports P54C/P55C family CPUs running at 75~233 MHz speeds ; Cyrix 6x86/6x86L/6x86MX CPUs running at PR150~PR266 speeds ; and AMD K5/K6 CPUs running at PR75~PR266
- Ä Supports SOCKET 7 for upgrade
- Ä Supports P54C/P55C series SMM mode and CPU stop clock
- Ä **Supports MMX technology and Smart Detect CPU Voltage function**
- L2 Cache Controller
- Ä **On-board 512K pipeline burst SRAMs cache**
- DRAM Controller
- Ä Supports FPM/EDO SIMM (symmetrical/asymmetrical addressing)
- Ä **Supports 2 strips of 168-pin EDO /SDRM Unbuffered DIMM**
- Ä Memory configurations from 4MB to 256MB
- BUS Controller:
 - Ä Compliant with PCI specification 2.1
 - Ä Four 32-bit PCI slots (Masters) and three ISA slots.
- Ä **Supports Universal Serial Bus --- USB**
- Peripheral Controller:
 - Ä System BIOS built-in NCR810 SCSI Card BIOS and “Plug and Play” function
- Ä Onboard PCI Master IDE controller and floppy controller
- Ä Onboard two high speed UARTS (w/i 16550 FIFO),one SPP/EPP/ECP multi-mode parallel port, and one PS/2 mouse port
- Ä **Onboard FLASH Memory for easy upgrades BIOS**
- Ä **Onboard IR function.**

Unpacking the Mainboard

The mainboard package contains:

- The 82430TX Mainboard
- One CD (including Manuals/Drivers/Utilities)

Note: Do not unpack the mainboard until you are ready to install it.

Follow the precautions below while unpacking the mainboard.

1. Before handling the mainboard, ground yourself by grasping an unpainted portion of the system's metal chassis.
2. Remove the mainboard from its anti-static packaging and place it on a grounded surface, component side up.
3. Check the mainboard for damage. If any chip appears loose, press carefully to seat it firmly in its socket.

Do not apply power if the mainboard appears damaged. If there is damage to the board contact your dealer immediately.

Electrostatic Discharge Precautions

Make sure you ground yourself before handling the mainboard or other system components. Electrostatic discharge can easily damage the components. Note that you must take special precaution when handling the mainboard in dry or air-conditioned environments.

Take these precautions to protect your equipment from electrostatic discharge:

- Do not remove the anti-static packaging until you are ready to install the mainboard and other system components.
- Ground yourself before removing any system component from its protective anti-static packaging. To ground yourself grasp the expansion slot covers or other unpainted portions of the computer chassis.
- Frequently ground yourself while working, or use a grounding strap.
- Handle the mainboard by the edges and avoid touching its components.

Mainboard Layout w/ Default Settings

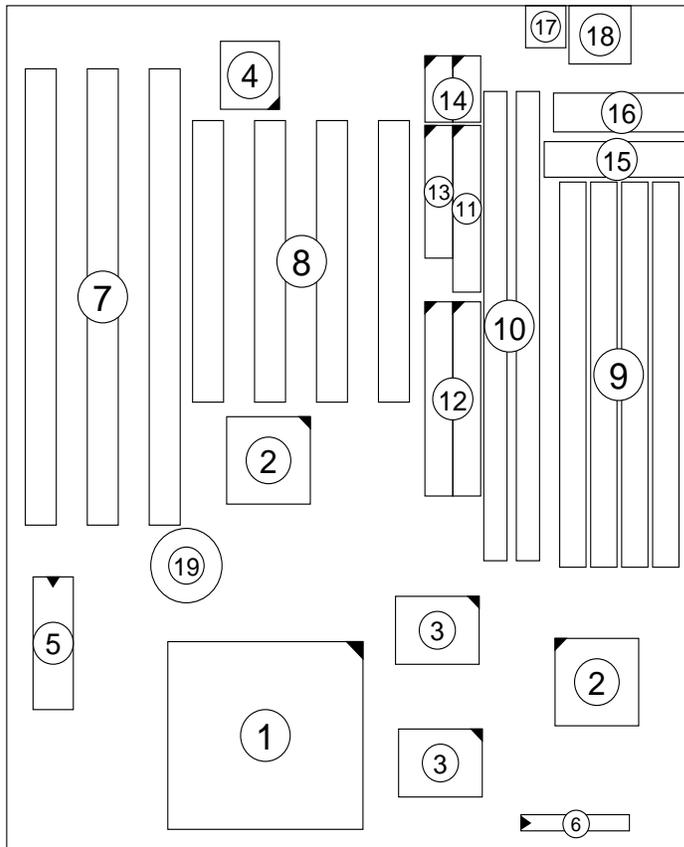


Figure 1-1. Mainboard Layout

- | | |
|---------------------------------|---|
| 1. ZIF socket 7 (for P54C/P55C) | 11. Floppy Connector |
| 2. 82430 TX Chipset | 12. IDE1/IDE2 Connector |
| 3. Pipelined Burst SRAM | 13. Parallel Port Connector |
| 4. Ultra I/O Chip | 14. COM1/COM2 Connector |
| 5. PnP FLASH BIOS | 15. AT Power Supply Connector |
| 6. TAG SRAM | 16. AT/ATX Power Connector |
| 7. ISA Slots | 17. PS/2 Mouse Connector |
| 8. PCI Slots | 18. KB Connector |
| 9. SIMM Bank | 19. Lithium battery (for CMOS memory, 3V) |
| 10. Unbuffered DIMM Bank | |

Default settings are as follows: Pentium 133MHz (P54C) CPU, 512K Pipelined Burst cache, On-board PCI E-IDE Enabled, 2 high speed UARTS Enabled (w/ 16550 FIFO), 1 EPP/ECP port (ECP + EPP mode), 5V DRAM/3.3V DIMM, and AT power supply.

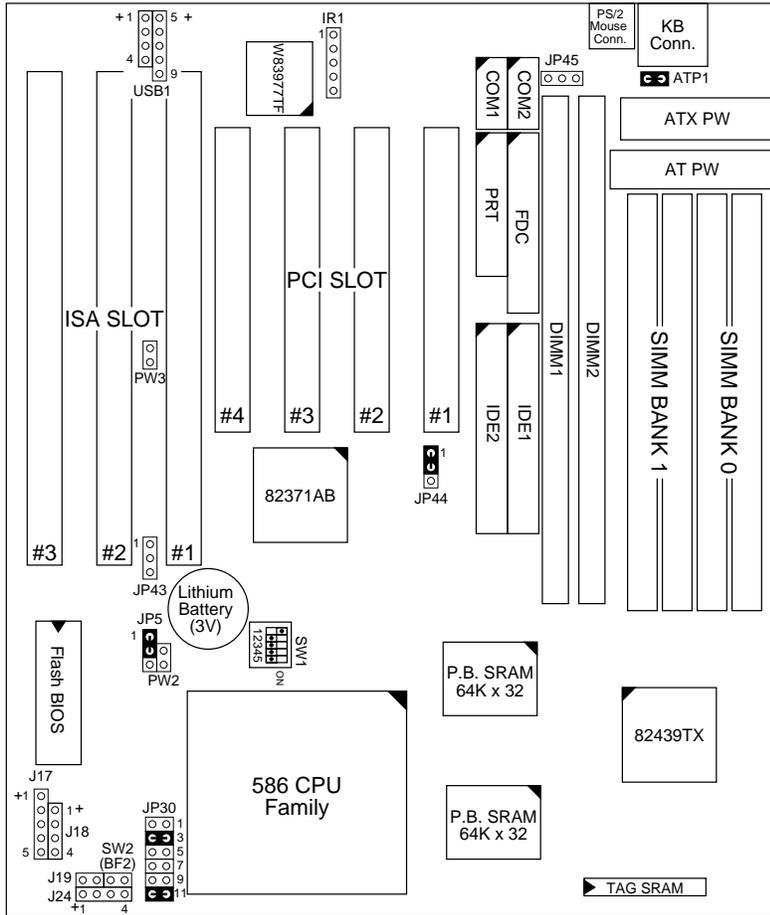


Figure 1-2. Mainboard Default Setting

Important: Make sure the system is well ventilated to prevent overheating and ensure system stability.

2 Hardware Setup

This chapter explains how to configure the mainboard's hardware. After you install the mainboard, you can set jumpers, install memory on the mainboard, and make case connections. Refer to this chapter whenever you upgrade or reconfigure your system.

CAUTION: *Turn off power to the mainboard, system chassis, and peripheral devices before performing any work on the mainboard or system.*

Jumpers

JP5: CMOS Clear Jumper

Clear the CMOS memory by momentarily shorting pin 2–3; then shorting pin 1–2 to retain new settings.

CMOS Setting	JP5
Retain CMOS data (default)	 1
Clear CMOS data	 1

JP40: CE Test Jumper Pin

This connector is reserved for the CE test. If you run into problems during the CE test, unplug the jumper pin and try again.

JP43: CPU Cooling Fan Connector

This 3-pins connector provides 12V power for the CPU cooling fan which matches the pin assignment of this connector. If you enable the Suspend Mode function in BIOS setup, this fan will stop when the system is into the suspend mode.

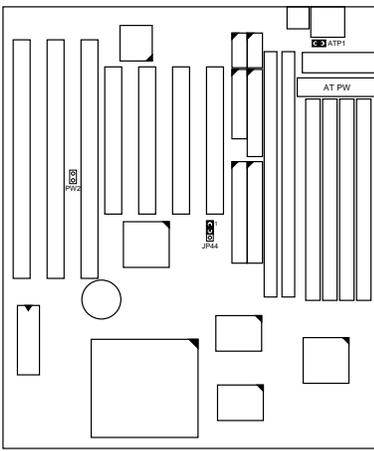
CPU Cooling Fan Connector (Pin Assignment)	
<input type="radio"/>	1 (GND)
<input type="radio"/>	2 (12V)
<input type="radio"/>	3 (GND)

Note: Make sure the pin assignment of our CPU Cooling Fan is matched with this connector before connecting it, otherwise, you may damage either the mainboard or the cooling fan.

ATP1, PW3, JP44: Power Supply Selection Jumpers

These three jumpers let you select either the AT or the ATX power supply. Use only one power supply at a time on this mainboard.

	AT Power Supply (default)	ATX Power Supply
ATP1		
PW3		
JP44		



CPU Type Configuration

This section shows you how to configure your CPU step by step. Note that you need to check the CPU voltage before installation. This mainboard supports 75MHz host bus frequency for Cyrix CPUs. Beware that 75MHz host bus frequency is over the specification of this chipset. Therefore, you have to use high quality devices to meet the standard of these CPUs, i.e., high quality DRAM and VGA card.

□ Step 1: Frequency Setting

Pentium – 90/100 CPU Settings (1.5 x clock)

AMD K5 – PR90/PR100/PR120/PR133 (1.5 x clock)

**Pentium – 75/50 MHz
AMD K5 – PR 75/50MHz**



SW1

**Pentium – 90/60 MHz
AMD K5 – PR 90/60MHz
AMD K5 – PR 120/60 MHz**

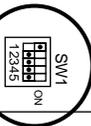
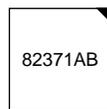


SW1

**Pentium – 100/66 MHz
AMD K5 – PR 100/66 MHz
AMD K5 – PR 133/66 MHz**



SW1



586 CPU
Family

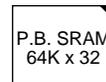
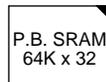


Figure 2-1-1. CPU Jumper Settings

- Note: 1. You must equip the CPU with a fan and heat sink for system stability.
2. AMD K5-PR90= AMD 5_μ86(SSA5)-P90.

Pentium- 150/166 CPU Settings (2.5 x clock)
AMD K5/K6- PR166 CPU Setting

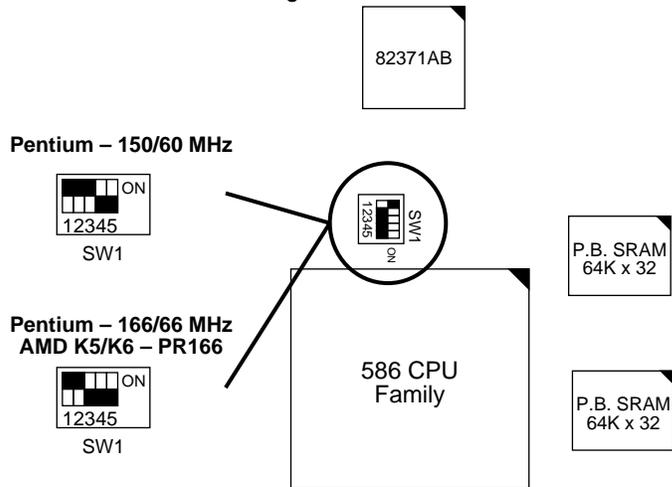


Figure 2-1-3. CPU Jumper Settings

Pentium - 180/200 CPU Settings (3.0 x clock)
AMD K6 - PR200 CPU Setting

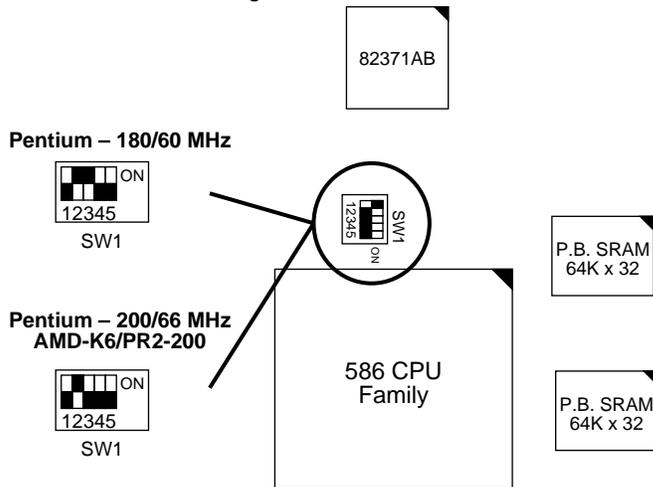


Figure 2-1-4. CPU Jumper Settings

Note: You must equip the CPU with a fan and heat sink for system stability.

Pentium – 233 CPU Settings (3.5 x clock)
AMD K6 – PR233 CPU Setting

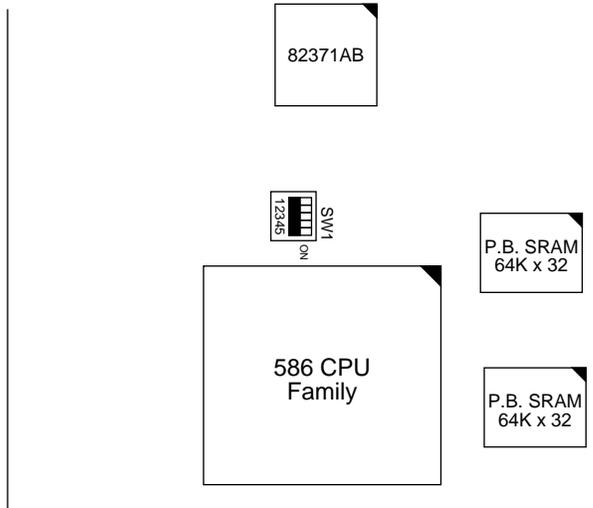


Figure 2-1-5. CPU Jumper Settings

Note: You must equip the CPU with a fan and heat sink for system stability.

AMD K6 – PR266 CPU Setting (4.0 x clock)

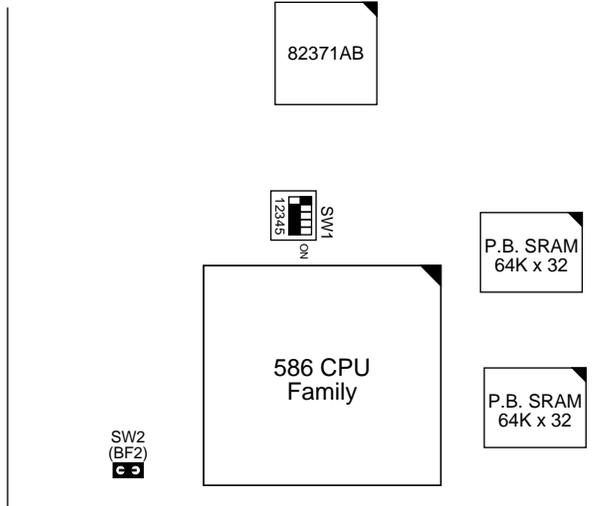


Figure 2-1-6. CPU Jumper Settings

|

□ Step 2: CPU Single/Dual Voltage Setting

There are two kinds of CPU input voltages in the market—Single and Dual. Set your CPU according to the type that you have.

For Intel P54C/P55C series CPUs, there is no need to adjust any jumper for CPU voltage due to the **Smart Detect CPU Voltage** function that this board has.

Single Voltage CPU Setting

Signal voltage CPUs use the same voltage for both VIO and VCore. The CPUs which fall into this category are: P54CX, AMD-K5, and Cyrix 6x86. Refer to the following figures to set the voltage for these CPUs:

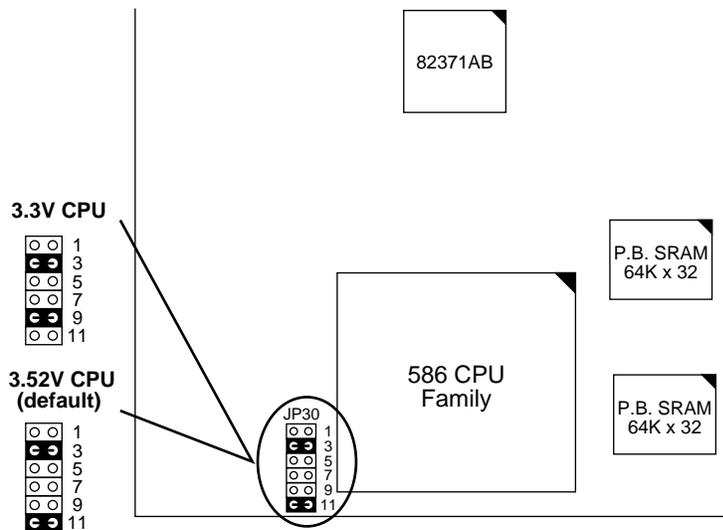


Figure 2-2-1. Single Voltage CPU

Dual Voltage CPU Setting

Dual voltage CPUs are designed to use different voltage for VIO and VCore. They include P55CX series, Cyrix 6x86L/6x86MX. Refer to the following figures to set the voltage for these CPUs:

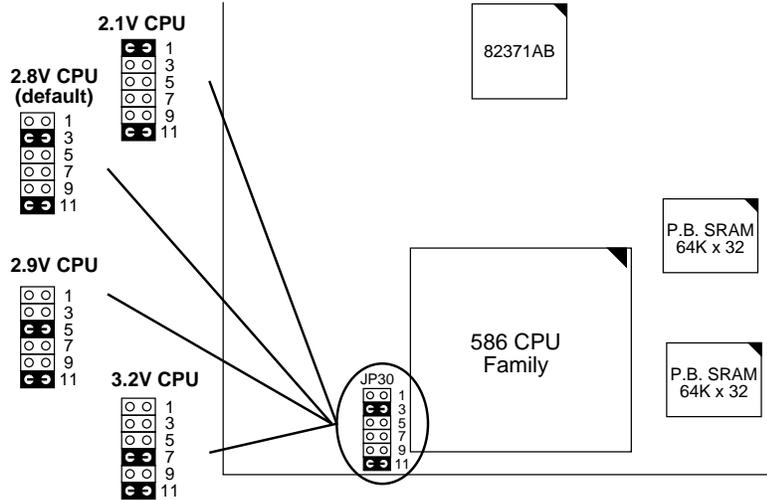


Figure 2-2-2. Dual Voltage CPU

Note: Due to various design, please ask your dealer for the correct voltage settings for your specific CPU.

Memory Configuration

The mainboard supports two banks of **72-pin SIMM modules** and **two strips of 168-pin/3.3V Unbuffered DIMM modules**. The mainboard requires SIMM of at least 70ns access time.

The mainboard supports **from 4 to 256 Mbytes** with no other restrictions on memory configurations. You can install SIMM in any combination without having to rely on a memory configuration table. Memory configuration is thus "**Table-Free**" in any SIMM bank. You must install two strips of SIMM modules to complete a bank.

Memory Configuration Table

	SIMM Bank		DIMM Bank	
	Bank 0	Bank 1	DIMM 1	DIMM 2
RAM Type	FPM/EDO	FPM/EDO	FPM/EDO/ SDRAM	FPM/EDO/ SDRAM
Single RAM Module Size (MB)	4/8/16/32/64	4/8/16/32/64	8/16/32/64	8/16/32/64

Note: Do not install FPM or EDO SIMM/DIMM when you already installed SDRAM type of DIMM.

RAM Bank Installation Notice

Due to the RAS line share architecture of TX chipset, the possible combination of DIMM/SIMM in this mainboard are as one of the followings:

1. In Bank 0
2. In Bank 1
3. In Bank 0 & Bank 1
4. In DIMM 1
5. In DIMM 2
6. In DIMM 1 & DIMM 2
7. In Bank 0 & DIMM 2
8. In Bank 1 & DIMM 1

Cache Configuration

The mainboard has a write-back caching scheme with built-in 512KB Level 2 Pipelined Burst cache onboard to improve the system performance.

Cache Size and RAM Locations

Cache Size	Cache RAM	TAG RAM	Cacheable Range
512KB	64K x 32, 2pcs on U5, U6	16K x 8 on U9	64 MB

Multi I/O Port Addresses

Default settings for multi-I/O port addresses are shown in the table below.

Port	I/O Address	IRQ	Status
LPT1*	378H	7	ECP + EPP
COM1	3F8H	4	
COM2	2F8H	3	

* If default I/O port addresses conflict with other I/O cards (e.g. sound cards or I/O cards), you must adjust one of the I/O addresses to avoid address conflict. (You can adjust these I/O addresses from the BIOS.)

Note: Some sound cards have a default IRQ setting for IRQ7, which may conflict with printing functions. If this occurs do not use sound card functions at the same time you print.

Connectors

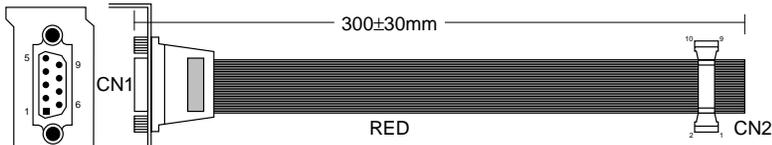
Attach the mainboard to case devices via connectors on the mainboard. Refer to Figure 1-1 for connector locations and connector pin positions.

PW2 — ATX Power Supply On/Off Switch Connector (Momentary Type)

Attach a two-pin switch to this connector for turning the ATX power supply on/off.

COM1, COM2 — COM1/COM2 Connectors

Attach COM1/COM2 device cable to these connectors. Refer to the following drawing for pin assignment:



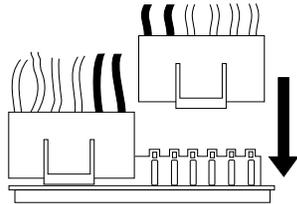
CN1	1	6	2	7	3	8	4	9	5	NC
CN2	1	2	3	4	5	6	7	8	9	10

FDC — FDC Connector

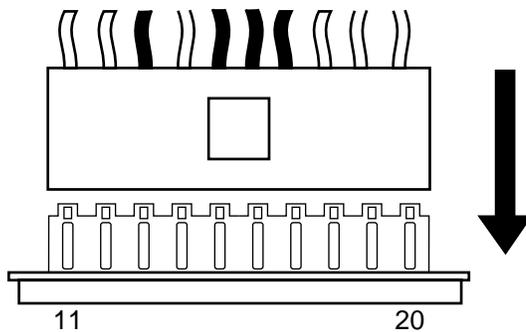
Attach floppy cable to this connector.

AT PW — Power Supply Connectors

The mainboard requires a power supply with at least 200 watts and a “power good” signal. AT PW has two 6-pin male header connectors. Plug the dual connectors from the power directly onto the board connector while making sure the black leads are in the center.

**ATX PW — ATX Power Supply Connectors**

The motherboard provides an ATX power supply connector. It is a twenty-pin male header connector. Plug the connector from the power directly onto the board connector while making sure the pin1 is in its position.

**J19 – Hardware Reset Control**

Attach the Reset switch to J19. Closing the Reset switch restarts the system.

J24 – HDD LED Connectors

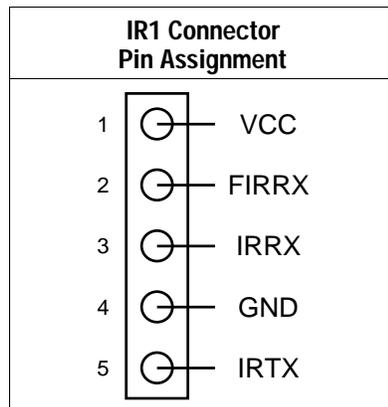
Attach the cable of hard disk drive LEDs to this connector. The LED lights when an HDD is active.

IDE1/IDE2 – On-board Primary/Secondary IDE HDD Connectors

Attach cables of hard disk drives to these connectors.

IR1 – IR Connector

Attach a 5-pin infrared device cable to this connector for enabling the infrared transfer function. This mainboard meets the specification of ASKIAR and HPSIR.



J17 – Keylock & Power LED Connector

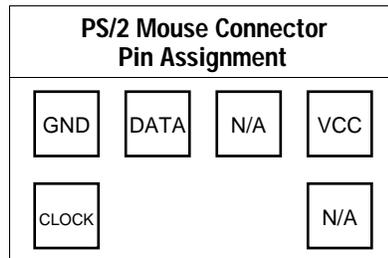
J17 is a connector for a lock that may be installed on the system case for enabling or disabling the keyboard. J17 also attaches to the case's Power LED. (Pin 1, 3 for power LED and pin 4, 5 for keylock.)

KB Conn. – Keyboard Connector

A 5-pin female DIN keyboard connector is located at the rear of the board. Plug the keyboard jack into this connector.

PS/2 Mouse Conn. – PS/2 Mouse Connector

Attach 6-pin male PS/2 mouse cable to this connector to enable PS/2 mouse function.

**PRT – Parallel Port Connector**

Attach parallel port cable to this connector.

J18 — Speaker Connector

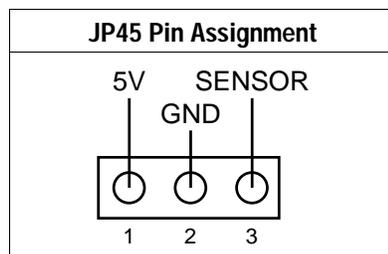
Attach a 4-pin case-mounted speaker to this connector.

USB1 – Universal Serial Bus Connectors

Attach 9-pin USB cable to these connectors for external USB device.

JP45 – Wake-On-Lan (WOL) Header

Attach a 3-pin connector from the LAN card which supports the Wake-On-Lan (WOL) function. This function lets users wake up the connected computer through the LAN card. (The cable should be included with the LAN card.)



Standard CMOS Setup

Run the Standard CMOS Setup as follows.

1. Choose "STANDARD CMOS SETUP" from the Main Menu. A screen appears.

ROM PCI/ISA BIOS
STANDARD CMOS SETUP
AWARD SOFTWARE, INC.

Date (mm:dd:yy) : Fri, Feb 1 1995	
Time (hh:mm:ss) : 7 : 30 : 33	
HARD DISKS	TYPE SIZE CYLS HEAD PRECOMP LANDZ SECTOR MODE
Primary Master	: AUTO 0 0 0 0 0 0 AUTO
Primary Slave	: None 0 0 0 0 0 0 ----
Secondary Master	: None 0 0 0 0 0 0 ----
Secondary Slave	: None 0 0 0 0 0 0 ----
Drive A : 1.44M, 3.5 in.	Base Memory: 640K Extended Memory: 3328K Other Memory: 128K
Drive B : None	
Video : EGA/VGA	Total Memory: 4096K
Halt On : All Errors	
Esc : Quit	↑ ↓ → ← : Select Item PU/PD/+/- : Modify
F11 : Help	(Shift) F2 : Change Color F3 : Toggle Calendar

2. Use arrow keys to move between items and select values. Modify selected fields using PgUp/PgDn/+/- keys. Some fields let you enter values directly.

Date (mm/dd/yy) Type the current date.

Time (hh:mm:ss) Type the current time.

Primary (Secondary) First, choose the type of hard disk that you already installed:

Master & Slave

- Auto – BIOS detects hard disk type automatically (default)
- 1 ~ 46 – Selects standard hard disk type
- User – User defines the type of hard disk.

Next, choose hard disk mode:

- Auto – BIOS detects hard disk mode automatically (default)
- Normal – Normal IDE hard disk (smaller than 528MB)
- LBA – Enhanced-IDE hard disk (larger than 528MB)

Primary (Secondary) Master & Slave (Continued)	Large – Large IDE hard disk (for certain hard disk) <i>Note: If you have any questions on your hard disk type or mode, ask your hard disk provider or previous user for details.</i>
Drive A & B	Choose 360KB , 5 1/4 in., 1.2MB , 5 1/4 in., 720KB , 3 1/2 in., 1.44M , 3 1/2 in.(default), 2.88 MB, 3 1/2 in. or Not installed
Video	Choose Monochrome, Color 40x25, VGA/EGA (default), Color 80x25
Halt On	Choose halt mode when BIOS detects system errors: All Errors (default) All, But Diskette No Errors All, But Keyboard All, But Disk/Key

3. When you finish, press the <ESC> key to return to the Main Menu.

BIOS Features Setup

Run the BIOS Features Setup as follows.

1. Choose “BIOS FEATURES SETUP” from the Main Menu and a screen with a list of items appears. **(The screen below shows the BIOS default settings.)**

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

2. Use the arrow keys to move between items and to select values. Modify the selected fields using the PgUp/PgDn/+/- keys. <F> keys are explained below:
 - <F1>: “Help” gives options available for each item.
 - Shift <F2>: Change color.
 - <F5>: Get the old values. These values are the values with which the user started the current session.
 - <F6>: Load all options with the BIOS Setup default values.
 - <F7>: Load all options with the Power-On default values.

A short description of screen items follows:

- CPU Internal Cache** This option enables/disables the CPU’s internal cache. (The Default setting is Enabled.)
- External Cache** This option enables/disables the external cache memory. (The Default setting is Enabled.)
- Quick Power On Self Test** Enabled provides a fast POST at boot-up .

Boot Sequence	Choose the boot device sequence as your need. For example, "A, C, SCSI" means BIOS will look for an operating system first from drive A, drive C, then SCSI device. Options of this function are: A, C, SCSI C, A, SCSI C, CD-ROM, A CD-ROM, C, A D, A, SCSI E, A, SCSI F, A, SCSI SCSI, A, C SCSI, C, A C only.
Swap Floppy Drive	Enabled changes the sequence of the drive A and drive B to drive B and drive A. (The Default setting is Disabled.)
Boot Up Num Lock Status	Choose On or Off . On puts numeric keypad in Num Lock mode at boot-up. Off puts this keypad in arrow key mode at boot-up.
Typematic Rate Setting	Enable this option to adjust the keystroke repeat rate.
Typematic Rate (Chars/Sec)	Choose the rate a character keeps repeating.
Typematic Delay (Msec)	Choose how long after you press a key that a character begins repeating.
Security Option	Choose Setup or System . Use this feature to prevent unauthorized system boot-up or use of BIOS Setup. "System" – Each time the system is booted the password prompt appears. "Setup" – If a password is set, the password prompt only appears if you attempt to enter the Setup program.

PCI/VGA Palette Snoop	Enabled: The color of the monitor may be incorrect if uses with MPEG card. Enable this option to make the monitor normal.
	Disabled: Disable Snoop function (default).
OS Select for DRAM >64MB	OS2 – Choosing this when you are using OS/2 operation system.
	Non-OS/2 – Choosing this when you are using no-OS/2 operation system.
Video Adapter BIOS Shadow	BIOS shadow copies BIOS code from slower ROM to faster RAM. BIOS can then execute from RAM. These 16K segments can be shadowed from ROM to RAM. BIOS is shadowed in a 16K segment if it is enabled and it has BIOS present.

3. After you have finished with the BIOS Features Setup program, press the <ESC> key and follow the screen instructions to save or disregard your settings.

Chipset Features Setup

The Chipset Features Setup option changes the values of the chipset registers. These registers control system options in the computer.

Note: Change these settings only if you are familiar with the Chipset.

Run the Chipset Features Setup as follows.

1. Choose "CHIPSET FEATURES SETUP" from the Main Menu and the following screen appears. (The screen below shows default settings.)

ROM PCI/ISA BIOS CHIPSET FEATURES SETUP AWARD SOFTWARE, INC.	
Auto Configuration	: Enabled
DRAM Timing	: 60 ns
DRAM Leadoff Timing	: 10/6/3
DRAM Read Burst (EDO/FP)	: x222/x333
DRAM Write Burts Timing	: x222
Fast EDO Lead Off	: Disabled
Refresh RAS# Assertion	: 4 CLKs
Fast RAS To CAS Delay	: 3
DRAM Page Idle Timer	: 2 Clks
DRAM Enhanced Paging	: Enabled
Fast MA to RAS# Delay	: 2 Clks
SDRAM (CAS Lat/RAS-to-CAS)	: 3/3
SDRAM Speculative Read	: Disabled
System BIOS Cacheable	: Disabled
Video BIOS Cacheable	: Disabled
8 Bit I/O Recovery Time	: 3
16 Bit I/O Recovery Time	: 3
Memory Hole At 15M-16M	: Disabled
ESC : Quit ↑ ↓ → ← : Select Item F1 : Help PU/PD/+/- : Modify F5 : Old Values (Shift) F2 : Color F6 : Load BIOS Defaults F7 : Load Setup Defaults	

2. Use the arrow keys to move between items and select values. Modify selected fields using the PgUp/PgDn/+/- keys.

A short description of screen items follows:

Auto Configuration Enable this option (strongly recommended) and the system automatically sets all options on the left side of the screen (except cache update mode & BIOS cacheable).

If this option is Enabled you must boot from Turbo mode.

DRAM Timing Use the default setting.

DRAM Leadoff Timing Use the default setting.

DRAM Read Burst (EDO/FP)	Use the default setting.
DRAM Write Burst Timing	Use the default setting.
Fast EDO Lead Off	Use the default setting.
Refresh RAS# Assertion	Use the default setting.
Fast RAS to CAS Delay	Use the default setting.
DRAM Page Idle Timer	Use the default setting.
DRAM Enhanced Paging	Use the default setting.
Fast MA to RAS# Delay	Use the default setting.
SDRAM (CAS Lat/RAS-to-CAS)	Use the default setting.
SDRAM Speculative Read	Use the default setting.
System BIOS Cacheable	Disabled – The ROM area F0000H-FFFFFH is not cached. Enabled – The ROM area F0000H-FFFFFH is cacheable if cache controller is enabled.
Video BIOS Cacheable	Disabled – The video BIOS C0000H-C7FFFH is not cached. Enabled – The video BIOS C0000H-C7FFFH is cacheable if cache controller is enabled.
8Bit I/O Recovery Time	Use the default setting.
16Bit I/O Recovery Time	Use the default setting.

Memory Hole At 15M-16M Choose **Enabled** or **Disabled** (default). Some interface cards will map their ROM address to this area. If this occurs, you should select Enabled, otherwise use Disabled.

- After you have finished with the Chipset Features Setup, press the <ESC> key and follow the screen instructions to save or disregard your settings.

Power Management Setup

The Power Management Setup option sets the system's power saving functions.

Run the Power Management Setup as follows.

- Choose "POWER MANAGEMENT SETUP" from the Main Menu and a screen with a list of items appears.

ROM PCI/ISA BIOS CMOS SETUP UTILITY POWER MANAGEMENT SETUP		
Power Management	: User Define	** Reload global Timer Events **
PM Control by APM	: Yes	IRQ [3-7, 9-15],NMI : Enabled
Video Off Method	: V/H SYNC+Blank	Primary IDE 0 : Disabled
Video Off After	: Standby	Primary IDE 1 : Disabled
		Secondary IDE 0 : Disabled
Doze Mode	: Disabled	Secondary IDE 1 : Disabled
Standby Mode	: Disabled	Floppy Disk : Disabled
Suspend Mode	: Disabled	Serial Port : Enabled
HDD Power Down	: Disabled	Parallel Port : Disabled
VGA Active Monitor	: Enabled	
Soft-Off by PWR-BTTN	: Delay 4 Sec.	
CPU Fan Off In Suspend	: Enabled	ESC : Quit ↑ ↓ → ← : Select Item
Resume by Ring	: Disabled	F1 : Help PU/PD/+/- : Modify
Resume by Alarm	: Disabled	F5 : Old Values (Shift)F2 : Color
** Break Event From Suspend **		F6 : Load BIOS Defaults
IRQ8 Clock Event	: Disabled	F7 : Load Setup Defaults

- Use the arrow keys to move between items and to select values. Modify the selected fields using the PgUp/PgDn/+/- keys.

A short description of selected screen items follows:

Power Management	Options are as follows: User Define – Let's you define the HDD and system power down times (default). Disable – Disables the Green PC Features. Min Saving – Doze timer = 1 Hour Standby timer = 1 Hour Suspend timer = 1 Hour HDD Power Down = 15 Min Max Saving – Doze timer = 1 Min Standby timer = 1 Min Suspend timer = 1 Min HDD Power Down = 1 Min
PM Control by APM	Choose Yes or No (default). APM stands for Advanced Power Management. To use APM, you must run "power.exe" under DOS v6.0 or later version.
Video Off Method	Choose V/H Sync+Blank (default), Blank screen , or DPMS for the selected PM mode.
Video Off After	Choose Standby (default), Suspend , Doze , or N/A mode .
Doze Mode	When the set time has elapsed, the BIOS sends a command to the system to enter doze mode (system clock drops to 33MHz). Time is adjustable from 1 Min to 1 Hour.
Standby Mode	The default is Disabled. Time is adjustable from 1 Min to 1 Hour.
Suspend Mode	The default is Disabled. Only an SL-Enhanced (or SMI) CPU can enter this mode. Time is adjustable from 1 Min to 1 Hour. Under Suspend mode, the CPU stops completely (no instructions are executed.)

HDD Power Down	When the set time has elapsed, the BIOS sends a command to the HDD to power down, which turns off the motor. Time is adjustable from 1 to 15 minutes. The default setting is Disabled. Some older model HDDs may not support this advanced function.
VGA Active Monitor	Choose Enabled (default) or Disabled. Enabled – enables the power management timers when a “no activity” event is detected.
Soft-Off by POR-BTTN	Choose Instant-off or Delay 4 Sec (default). Delay 4 Sec turns off the system power 4 seconds after pushing the power button
CPU Fan Off In Suspend	Choose Enabled to stop the CPU fan when the system runs into the suspend mode (refer to Power Management Setup.)
Resume by Ring	Choose Enabled or Disabled (default). This function only works when the computer is powered on. Enabled – The system will resume active when modem is ringing. Disabled – The system will not resume when modem is ringing.
Resume by Alarm	Choose Enabled or Disabled (default). Enabled – Set alarm to wake up the system either by the date (1-31) or time (hh:mm:ss), and if the date is set to 0, it means that the system will wake up by the alarm everyday. Disabled – The system ignores the alarm.
IRQ8 Clock Event	Choose Enabled or Disabled (default). Alarm function will be activated when this function is enabled.
IRQ[3-7,9-15], NMI	Choose Enabled (default) or Disabled. The BIOS monitors these items for activity. If activity occurs from the Enabled item the system wakes up.

- Primary/Secondary IDE 0** Choose **Enabled** or **Disabled** (default).
Enabled – Enables the power management timers when “no activity” event is detected.
- Primary/Secondary IDE 1** Choose **Enabled** or **Disabled**.
Enabled – enables the power management timers when “no activity” event is detected.
- Floppy Disk/Serial Port/Parallel Port** Choose **Enabled** or **Disabled**.
Enabled – enables the power management timers when “no activity” event is detected.

3. After you have finished with the Power Management Setup, press the <ESC> key to return to the Main Menu.

PNP/PCI Configuration Setup

This option sets the mainboard’s PCI Slots. Run this option as follows:

1. Choose “PNP/PCI CONFIGURATION SETUP” from the Main Menu and the following screen appears. (The screen below shows default settings.)

```
ROM PCI/ISA BIOS
PNP/PCI CONFIGURATION
AWARD SOFTWARE, INC.
```

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 : PCI/ISA PnP* 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 : PCI/ISA PnP* IRQ-15 assigned to : PCI/ISA PnP* 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 IDE IRQ Map To : PCI-AUTO Primary IDE INT# : A Secondary IDE INT# : B Used MEM Base Addr : N/A ESC : Quit ↑↓→←: Select Item F1 : Help PU/PD/+/- : Modify F5 : Old Values (Shift)F2 : Color F6 : Load BIOS Defaults F7 : Load Setup Defaults
--	--

*: These items will disappear when Resource Controlled. is Auto.

2. Use the arrow keys to move between items and select values. Modify selected fields using the PgUp/PgDn/+/- keys.

A short description of screen items follows:

Resources Controlled By	Manual – BIOS doesn't manage PCI/ISA PnP card (i.e., IRQ) automatically.
	Auto – BIOS auto manage PCI and ISA PnP card (recommended).
Reset Configuration Data	Disabled – Retain PnP configuration data in BIOS.
	Enabled – Reset PnP configuration data in BIOS.
IRQX and DMA assigned to	Choose PCI/ISA PnP or Legacy ISA . If the first item is set to Manual , you could choose IRQX and DMA assigned to PCI/ISA PnP card or ISA card.
PCI IRQ Activated By	Choose Edge or Level . Most PCI trigger signals are Level. This setting must match the PCI card.
PCI IDE IRQ Map To	Select PCI-AUTO , ISA , or assign a PCI SLOT number (depending on which slot the PCI IDE is inserted). The default setting is PCI-AUTO. If PCI-AUTO does not work, then assign an individual PCI SLOT number.
Primary IDE INT#	Choose INTA#, INTB#, INTC#, or INTD#. The default setting is INTA#.
Secondary IDE INT#	Choose INTA#, INTB#, INTC#, or INTD#. The default setting is INTB#.
Used MEM Base Addr	Choose C800, CC00, D000, D400, D800, or DC00 for setting the I/O address of your add-on card. You should ask your add-on card dealer for the exactly I/O address. Use this function only when problems occur while using the add-on card.

- After you have finished with the PCI Slot Configuration, press the <ESC> key and follow the screen instructions to save or disregard your settings.

Load Setup Defaults

This item loads the system values you have previously saved. Choose this item and the following message appears:

“Load SETUP Defaults (Y/N)? N”

To use the SETUP defaults, change the prompt to “Y” and press <Enter>. This item is recommended if you need to reset the system setup.

Note: The SETUP Defaults are optimized for the most stabilized performance.

Load BIOS Defaults

Choose this item and the following message appears:

“Load BIOS Defaults (Y/N)?N”

To use the BIOS defaults, change the prompt to “Y” and press <Enter>.

Note: BIOS DEFAULTS values are adjusted for high performance. If you run into any problems after loading BIOS DEFAULTS, please load the SETUP DEFAULTS for the stable performance.

Integrated Peripherals

The Integrated Peripherals option changes the values of the chipset registers. These registers control system options in the computer.

Note: Change these settings only if you are familiar with the Chipset.

Run the Integrated Peripherals as follows.

1. Choose “Integrated Peripherals” from the Main Menu and the following screen appears. (The screen below shows default settings:)

```

ROM PCI/ISA BIOS
INTEGRATED PERIPHERALS
AWARD SOFTWARE, INC.

```

IDE HDD Block Mode : Enabled	IR Transmission Delay : Enabled
IDE Primary Master PIO : Auto	IR IRQ Select : IRQ4
IDE Primary Slave PIO : Auto	(FIR Mode Use DMA : 0)
IDE Secondary Master PIO : Auto	Onboard Parallel Port : 378/IRQ7
IDE Secondary Slave PIO : Auto	Parallel Port Mode : ECP+EPP
IDE Primary Master UDMA : Auto	ECP Mode Use DMA : 3
IDE Primary Slave UDMA : Auto	EPP Mode Select : EPPl.9
IDE Secondary Master UDMA : Auto	
IDE Secondary Slave UDMA : Auto	
On-Chip Primary PCI IDE : Enabled	
On-Chip Secondary PCI IDE : Enabled	
PCI Slot IDE 2nd Channel : Disabled	
USB Keyboard Support : Enabled	
Onboard FDC Controller : Enabled	
Onboard Serial Port 1 : 3F8/IRQ4	ESC : Quit ↑↓ → ← : Select Item
Onboard Serial Port 2 : 2F8/IRQ3	F1 : Help PU/PD/+/- : Modify
Onboard IR Controller : Enabled	F5 : Old Values (Shift)F2 : Color
IR Address Select : 2F8H	F6 : Load BIOS Defaults
IR Mode : IrDA	F7 : Load Setup Defaults

2. Use the arrow keys to move between items and select values. Modify selected fields using the PgUp/PgDn/+/- keys.

A short description of screen items follows:

- IDE HDD Block Mode** Choose **Enabled** (default) or **Disabled**. Enabled invokes multi-sector transfer instead of one sector per transfer. Not all HDDs support this function.
- IDE Primary Master PIO/**
IDE Primary Slave PIO/
IDE Secondary Master PIO/
IDE Secondary Slave PIO Choose **Auto** (default) or **mode 0~4**. Mode 0 is the slowest speed, and HDD mode 4 is the fastest speed. For better performance and stability, we suggest you use the Auto setting to set the HDD control timing.

IDE Primary Master UDMA/ IDE Primary Slave UDMA/ IDE Secondary Master UDMA/ IDE Secondary Slave UDMA	Choose Auto (default) or Disabled . Auto – Supports Ultra DMA mode.
On-chip Primary PCI IDE/ On-chip Secondary PCI IDE	Enabled – Use the on-board IDE (default) Disabled – Turn off the on-board IDE
USB Keyboard Support	Choose Disabled (default) or Enabled . You need to use the regular keyboard to get in the BIOS Setup to enable this function before using the USB keyboard.
Onboard FDC Controller	Enabled – Use the on-board floppy controller (default). Disabled – Turn off the on-board floppy controller.
Onboard Serial Port 1/ Onboard Serial Port 2	Choose serial port 1 & 2's I/O address. Do not set port 1 & 2 to the same value except for Disabled. IRQ can be released when choose Auto . (??I don't quite understand this sentence??)
Onboard IR Controller	Choose Enabled to use the onboard IR function
IR Address Select	Choose 3F8H, 2F8H, 3E8H, 2E8H, 3E0H, or 2E0H to decide your IR address.
IR Mode	Choose IrDA, ASK2R, FIR, or CIR. Contact with your IR device provider for choosing the right mode.

IR Transmission Delay	Choose Enabled (default) or Disabled . Due to the various design of IR devices, transmission delay has to be added on for different protocol.
IR IRQ Select	Choose IRQ3, IRQ4 (default), IRQ10, or IRQ11. If you have IRQ conflict problem during using the IR device, select another IRQ then try again.
FIR Mode Use DMA	Choose Disabled, 0, 1, or 3. When you choose FIR in IR Mode , you need to select a DMA channel to make the FIR transmission work.
Onboard Parallel Port	Choose the parallel port I/O address: 378H/IRQ7 (default), 3BCH/IRQ7, 278H/IRQ5, or Disabled to disable this port.
Parallel Port Mode	Choose ECP+EPP (default), SPP , EPP , or ECP . The mode depends on your external device that connects to this port.
ECP Mode Use DMA	Choose DMA3 (default) or DMA1 . This setting only works when the Onboard Printer Mode is set at the ECP mode.
EPP Mode Select	Choose EPP1.9 (default) or EPP1.7. Check with your parallel port device provider to select the right mode.

3. After you have finished with the Integrated Peripherals, press the <ESC> key and follow the screen instructions to save or disregard your settings.

Supervisor Password

Based on the setting you made in the “Security Option” of the “BIOS FEATURES SETUP”, this Main Menu item lets you configure the system so that a password is required every time the system boots or an attempt is made to enter the Setup program. Change the password as follows:

1. Choose “SUPERVISOR PASSWORD” in the Main Menu and press <Enter>. The following message appears:

“Enter Password:”

2. Enter a password and press <Enter>. (If you do not wish to use the password function, you can just press <Enter> and a “Password disabled” message appears.)
3. After you enter your password, the following message appears prompting you to confirm the new password:

“Confirm Password:”

4. Re-enter your password and then Press <ESC> to exit to the Main Menu.

Important: If you forget or lose the password, the only way to access the system is to set jumper JP5 to clear the CMOS RAM. All setup information is lost and you must run the BIOS setup program again.

User Password

Based on the setting you made in the “Security Option” of the “BIOS FEATURES SETUP”, this Main Menu item lets you configure the system so that a password is required every time the system boots or an attempt is made to enter the Setup program. Change the password as follows:

1. Choose “USER PASSWORD” in the Main Menu and press <Enter>. The following message appears:

“Enter Password:”

2. Enter a password and press <Enter>. (If you do not wish to use the password function, you can just press <Enter> and a “Password disabled” message appears.)
3. After you enter your password, the following message appears prompting you to confirm the new password:

“Confirm Password:”

4. Re-enter your password and then Press <ESC> to exit to the Main Menu.
5. You are not allowed to change any setting in “CMOS SETUP UTILITY” except change user’s password.

Important: If you forget or lose the password, the only way to access the system is to set jumper JP5 to clear the CMOS RAM. All setup information is lost and you must run the BIOS setup program again.

IDE HDD Auto Detection

This Main Menu item automatically detects the hard disk type and configures the STANDARD CMOS SETUP accordingly.

Note: This function is only valid for IDE hard disks.

```
ROM PCI/ISA BIOS
CMOS SETUP UTILITY
AWARD SOFTWARE, INC.
```

HARD DISKS	TYPE	SIZE	CYLS	HEAD	PRECOMP	LANDZ	SECTOR	MODE
Primary Master	: None	0	0	0	0	0	0	----
Primary Slave	: None	0	0	0	0	0	0	----
Secondary Master	: None	0	0	0	0	0	0	----
Secondary Slave	: None	0	0	0	0	0	0	----

Do you accept this drive C (Y/N)? N

ESC : Skip

Appendix A: CPU Setting List

SETTINGS	SW1: CPU Frequency							
	Processor	Bus Clock	Multiplier	1-1	1-2	1-3	1-4	1-5
AMD K5 PR75	50Mhz	1.5X	off	off	on	on	on	on
AMD K5 PR90	60Mhz	1.5X	off	off	on	off	off	off
AMD K5 PR100	66Mhz	1.5X	off	off	off	off	off	off
AMD k5 PR120	60Mhz	1.5X	off	off	on	off	off	off
AMD K5 PR133	66Mhz	1.5X	off	off	off	off	off	off
AMD K5 PR150	60Mhz	2.0X	on	off	on	off	off	off
AMD K5 PR166	66Mh	2.5X	on	on	off	off	off	off
AMD K6 PR166	66Mhz	2.5X	on	on	off	off	off	off
AMD K6 PR200	66Mhz	3.0X	off	on	off	off	off	off
AMD K6 PR233	66Mhz	3.5X	off	off	off	off	off	off
*AMD K6 PR266	66Mhz	4.0X	on	off	off	off	off	off
Cyrix 6x86 P150 ⁺	60Mhz	2.0X	on	off	on	off	off	off
Cyrix 6x86 P166 ⁺	66Mhz	2.0X	on	off	off	off	off	off
Cyrix 6x86 P200 ⁺	75Mhz	2.0X	on	off	off	on	off	off
Cyrix MX P166	60Mhz	2.5X	on	on	on	off	off	off
Cyrix MX P200	66Mhz	2.5X	on	on	off	off	off	off

CPU Setting List Continued

SETTINGS	SW1: CPU Frequency						
	Processor	Bus Clock	Multiplier	1-1	1-2	1-3	1-4
Cyrix MX P233	75Mhz	2.5X	on	on	off	on	off
Cyrix MX P233	66Mhz	3X	off	on	off	off	off
Cyrix MX P266	75Mhz	3X	off	on	off	on	off
Cyrix MX P266	66Mhz	3.5X	off	off	off	off	off
P54C P75	50Mhz	1.5X	off	off	on	on	on
P54C P90	60Mhz	1.5X	off	off	on	off	off
P54C P100	66Mhz	1.5X	off	off	off	off	off
P54C P100	50Mhz	2.0X	on	off	on	on	on
P54C P120	60Mhz	2.0X	on	off	on	off	off
P54C P133	66Mhz	2.0X	on	off	off	off	off
P54C/P55C P150	60Mhz	2.5X	on	on	on	off	off
P54C/P55C P166	66Mhz	2.5X	on	on	off	off	off
P54C/P55C P180	60Mhz	3X	off	on	on	off	off
P54C/P55C P200	66Mhz	3X	off	on	off	off	off
P55C P233	66Mhz	3.5X	off	off	off	off	off

*: AMD K6-PR266 CPU need to close jumper BF2

Voltage Setting Table (JP30)						
Voltage	1-2	3-4	5-6	7-8	9-10	11-12
Single 3.52V	off	on	off	off	off	on
Single 3.3V	off	on	off	off	on	off
Dual 3.2V	off	off	off	on	off	on
Dual 2.9V	off	off	on	off	off	on
Dual 2.8V	off	on	off	off	off	on
Dual 2.1V	on	off	off	off	off	on

Appendix B: Frequently Asked Questions

Q1: What exactly is the “Smart Detect CPU Voltage” function for?

A: If you use a P54C/P55C CPU, then you do not have to set any CPU voltage jumper. The “Smart Detect CPU Voltage” function will automatically detect whether the CPU voltage is single or dual then set it to the correct voltage automatically.

Q2: What is the disk that came with my motherboard for?

A: There are several important files on this disk:

1. The IDE Bus Master Device Drivers will accelerate your system by reducing the I/O load on the CPU.
2. Also included on the disk are update files for the TX chipset. To windows 95 the TX chipset that your board comes with is a new “device”, and therefore you will see two question marks on “USB Device” and “PCI bridge” when you open “Device Manager” under the Windows “System” icon. In order to correct this, the disk contains update files for windows 95. If your disk is of version 3.6B, then you’ll find the files “machine.inf” and “mshdc.inf”. First read the “Txreadme.txt” before updating your windows files. If your disk is of version 3.6D, then you will find “Winp2x4.exe” and the information file “Readme-1.txt”, read it before you run Win2x4.exe.