Pentium

82430 TX P54C/P55C PCI Mainboard User's Guide & Technical Reference *5TT5*



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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1 Introduction

The 82430 TX PCI mainboard is a high-performance **ATX form-factor** system board that supports P54C/P55C family CPUs and 512K external cache memory on the mainboard. The mainboard is fully compatible with industry standards, and adds many technical enhancements.

Key Features

- CPU
 - Supports P54C/P55C family CPUs running at 90~233 MHz speeds; Cyrix 6x86/6x86L CPUs running at PR133⁺/PR150⁺/PR166⁺ speeds; and AMD K5/K6 CPUs running at PR90 ~ PR266
 - Supports SOCKET 7 for upgrade
 - Supports P54C/P55C series SMM Mode and CPU Stop Clock
- L2 Cache Controller
 - Write Back Cache Modes and Direct Mapped Organization
 - On-board 512K Pipeline Burst SRAMs Cache
- DRAM Controller
 - Supports Fast-Page Mode, EDO, and SDRAM (both symmetrical and asymmetrical addressing)
 - Supports 2 strips of 8MB/16MB/32MB/64MB Unbuffered DIMMs
 - On-board memory configurations from 4 to 256 Mbytes
 - Supports "Table-Free" DRAM configuration in any SIMM bank
- BUS Controller
 - Compliant to PCI specifications v2.1
 - Four 32-bit PCI slots (Masters) and three ISA slots, 4-layer PCB
 - Supports Universal Serial Bus USB
- Peripheral Controller
 - System BIOS built-in NCR810 SCSI Card BIOS, SY-S8115 SCSI Card BIOS, SY-V325-2M VGA Card BIOS, and "Plug and Play" function
 - On-board built-in PCI Master IDE controller and floppy controller
 - On-board supports for two high speed UARTS (w/i 16550 FIFO), one ECP/EPP/SPP compatible parallel port, and one PS/2 mouse port
 - On-board supports FLASH Memory for easy upgrade BIOS
 - Easy installation of Triones EIDE/ATAPI CD-ROM Bus Master Drivers

Unpacking the Mainboard

The mainboard package contains:

- The 82430TX Mainboard
- This User's Guide
- One IDE Bus Master driver diskette

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

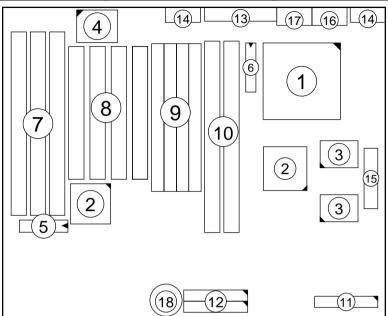


Figure 1–1. Mainboard Layout

- 1. ZIF socket 7 (for P54C/P55C)
- 2. 82430 TX Chipset
- 3. Pipelined Burst SRAM
- 4. Ultra I/O Chip
- 5. PnP FLASH BIOS
- 6. TAG SRAM
- 7. ISA Slots
- 8. PCI Slots
- 9. SIMM Bank

- 10. Unbuffered DIMM Bank
- 11. Floppy Connector
- 12. IDE1/IDE2 Connector
- 13. Parallel Port Connector
- 14. COM1/COM2 Connector
- 15. ATX Power Connector
- 16. PS/2 Mouse Connector
- 17. PS/2 KB Connector
- Lithium battery (for CMOS memory, 3V)

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), and 5V DRAM/3.3V DIMM.

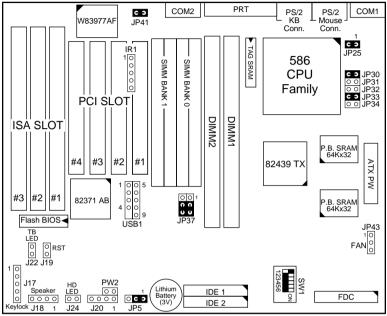


Figure 1–2. Mainboard Default Setting

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)	
Clear CMOS data	

JP25: Reserved

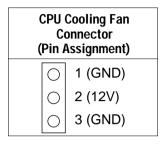
This jumper is reserved for some older types of non-Intel CPUs. Do not use this jumper unless you have trouble using these non-Intel CPUs. Ask your dealer for more information.

JP41: 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.



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.

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.

Step 1: Frequency Setting

Pentium – 90/100 CPU Settings (1.5 x clock) AMD K5 – PR90/PR100/PR120/PR133 (1.5 x clock)

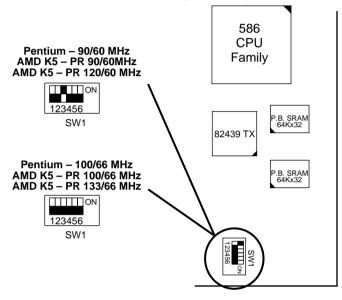


Figure 2–1–1. CPU Jumper Settings

- *Note: 1. You must equip the CPU with a fan and heat sink for system stability.*
 - 2. $AMD \ K5-90 = AMD \ 5_k 86(SSA5) P90.$

Pentium – 120/133 CPU Settings (2.0 x clock) Cyrix 6x86/6x86L – P133^{+/}P150⁺/P166⁺ CPU Settings (2.0 x clock) AMD K5/K6 – PR150 CPU Setting

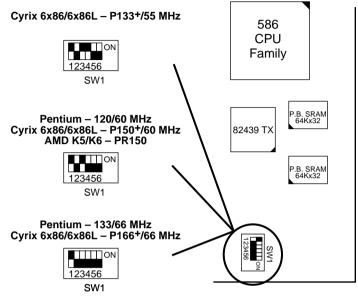


Figure 2–1–2. CPU Jumper Settings

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

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

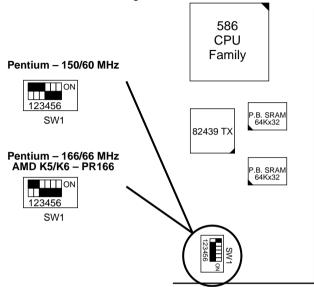


Figure 2–1–3. CPU Jumper Settings

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

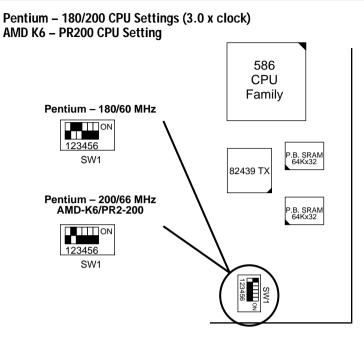


Figure 2–1–4. CPU Jumper Settings

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

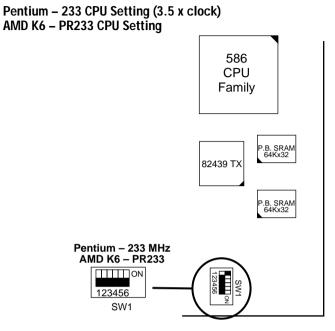


Figure 2–1–5. CPU Jumper Settings

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

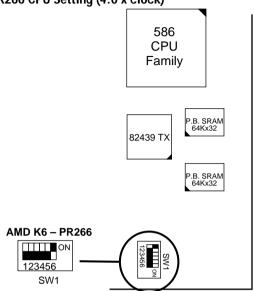


Figure 2–1–6. CPU Jumper Settings

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

AMD K6 – PR266 CPU Setting (4.0 x clock)

□ Step 2: CPU Single/Dual Voltage Setting

There are two kinds of CPU input voltages due to various designs of CPUs—single voltage and dual voltage. Set your CPU according to the type that you have.

Single Voltage CPU Setting

Signal voltage CPUs use the same voltage for VIO and VCore and has been used traditionally. The CPUs which fall into this category are Intel P54CX, AMD-K5-PRxxxBx, AMD-K5-PRxxxCx, AMD-K5-PRxxxFx, and Cyrix 6x86. Refer to the following figures to set these CPUs' voltage:

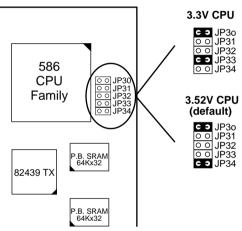


Figure 2–2–1. Single Voltage CPU

Note: Please ask your CPU dealer for the exact CPU voltage before you install it.

Dual Voltage CPU Setting

Dual voltage CPUs are designed to use different voltage for VIO and VCore and they include Intel P55C series, Cyrix 6x86L, and AMD K6. Refer to the following figures to set these CPUs' voltage:

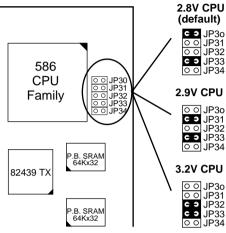


Figure 2–2–2. Dual Voltage CPU

Note: Due to various design, please ask your CPU dealer for the exact VIO and VCORE voltage before you install it.

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

	SIMN	l Bank	DIMM Bank		
	Bank 0	Bank 1	DIMM 1	DIMM 2	
RAM Type	FPM/EDO (DRAM)	FPM/EDO (DRAM)	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	Cache RAM	TAG RAM	Cacheable Range
512KB	64K x 32, 2pcs on U5, U6	16K x 8 on U9	64 MB

Cache Size and RAM Locations

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

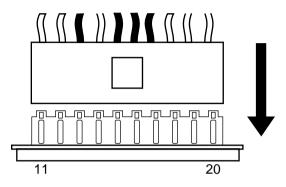
Attach COM1/COM2 device cable to these connectors.

FDC Connector

Attach floppy cable to this connector.

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.

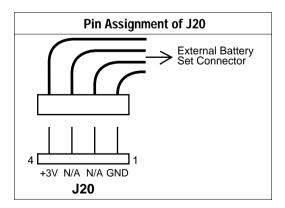


J19 – Hardware Reset Control

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

J20 – External Battery Connector

Internal/External battery is designed for saving the CMOS memory. When the internal battery is running out of power, you can either replace it with a Lithium 3Volt. battery, or, purchase an external battery set and then connect the new battery set to J20 to replace the internal battery set (refer back to page 3, item 18).



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.)

CN2 – PS/2 Keyboard Connector

A PS/2 keyboard connector is located at the rear of the board. Plug a 6pin male PS/2 keyboard connector to this connector.

CN1 – PS/2 Mouse Connector

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

PRT – Parallel Port Connector

Attach parallel port cable to this connector.

J18 — Speaker Connector

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

J22 – Turbo LED Connector

Attach the turbo LED to J22. The LED lights when the system is in Turbo mode.

USB1 – Universal Serial Bus Connectors

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

3 BIOS Setup

The mainboard's BIOS setup program is the ROM PCI/ISA BIOS from Award Software Inc. Enter the Award BIOS program's Main Menu as follows:

- 1. Turn on or reboot the system. After a series of diagnostic checks, you are asked to press DEL to enter Setup.
- 2. Press the key to enter the Award BIOS program and the main screen appears:

CMOS SET	/ISA BIOS UP UTILITY TWARE, INC.	
STANDARD CMOS SETUP	INTEGRATED PERIPHERALS	
BIOS FEATURES SETUP	SUPERVISOR PASSWORD	
CHIPSET FEATURES SETUP	USER PASSWORD	
POWER MANAGEMENT SETUP	IDE HDD AUTO DETECTION	
PNP/PCI CONFIGURATION	SAVE & EXIT SETUP	
LOAD SETUP DEFAULTS	EXIT WITHOUT SAVING	
LOAD BIOS DEFAULTS		
Esc : Quit F10 : Save & Exit Setup	$ \begin{array}{c} \uparrow \downarrow \rightarrow \leftarrow & : \text{ Select Item} \\ (\text{Shift}) \text{ F2} & : \text{ Change Color} \end{array} $	
Time, Date, Hard Disk Type		

- 3. Choose an option and press <Enter>. Modify the system parameters to reflect the options installed in the system. (See the following sections.)
- 4. Press <ESC> at anytime to return to the Main Menu.
- 5. In the Main Menu, choose "SAVE AND EXIT SETUP" to save your changes and reboot the system. Choosing "EXIT WITHOUT SAVING" ignores your changes and exits the program.

The Main Menu options of the Award BIOS are described in the sections that follow.

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 TYDE SIZE CYLS HEAD PRECOMP LANDZ SECTOR MODE Primary Master : AUTO Ο Ω Ω Ω Ω Ω 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. 640K Base Memory: Drive B : None Extended Memory: 3328K Other Memory: 128K Video : EGA/VGA Halt On : All Errors Total Memory: 4096K $\uparrow \downarrow \rightarrow \leftarrow$ PU/PD/+/- : Modify Esc : Ouit : Select Item (Shift) F2 : Change Color F11 : Help F3 : Toggle Calendar

- 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 First, choose the type of hard disk that you (Secondary) already installed: Master & Slave Auto – BIOS detects hard disk type automatically (default) Selects standard hard disk type $1 \sim 46 -$ User – User defines the type of hard disk. Next, choose hard disk mode: BIOS detects hard disk mode Auto – 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 h hard disk)	ard disk (for certain
	Note:	disk type or me	v questions on your hard ode, ask your hard disk evious user for details.
Drive A & B	Choose	360KB , 5 1/4 1.2MB , 5 1/4 720KB , 3 1/2 1.44M , 3 1/2 i 2.88 MB, 3 1/2 Not installed	in., in., in.(default),
Video		Monochrome, C GA (default), Co	,
Halt On	Choose halt mode when BIOS detects system errors:All Errors (default)No ErrorsAll, But Diskette 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			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 $\uparrow \downarrow \rightarrow \leftarrow$: 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

 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>:</f1>	"Help" gives options available for each item.
Shift <f2>:</f2>	Change color.
<f5>:</f5>	Get the old values. These values are the values with
	which the user started the current session.
<f6>:</f6>	Load all options with the BIOS Setup default values.
<f7>:</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	to faster R These 16K RAM. BIO	low copies BIOS code from slower ROM AM. BIOS can then execute from RAM. A segments can be shadowed from ROM to DS is shadowed in a 16K segment if it is id 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					
		60 ns					
Sidni 11ming		00 110					
DRAM Leadoff Timing		10/6/2					
DRAM Read Burst (EDO/FP)							
DRAM Write Burts Timing	:	x222					
Fast EDO Lead Off	:	Disabled					
Refresh RAS# Assertion							
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	ESC	:	Quit	$\uparrow \downarrow \rightarrow \leftarrow :$	Select Item
Video BIOS Cacheable	:	Disabled	F1	:	Help	PU/PD/+/-	: Modify
8 Bit I/O Recovery Time			F5	:	Old Values	(Shift)F2	: Color
16 Bit I/O Recovery Time	:	3	F6	:	Load BIOS I	Defaults	
Memory Hole At 15M-16M	:	Disabled	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 def	ault setting.	
DRAM Write Burst Timing	Use the default setting.		
Fast EDO Lead Off	Use the def	ault setting.	
Refresh RAS# Assertion	Use the def	ault setting.	
Fast RAS to CAS Delay	Use the def	ault setting.	
DRAM Page Idle Timer	Use the def	ault setting.	
DRAM Enchanced Paging	Use the defa	ault setting.	
Fast MA to RAS# Delay	Use the def	ault setting.	
SDRAM (CAS Lat/RAS-to-CAS)	Use the defa	ault setting.	
SDRAM Speculative Read	Use the defa	ault setting.	
System BIOS Cacheable Video BIOS Cacheable	Enabled –	The ROM area F0000H- FFFFFH is not cached. The ROM area F0000H- FFFFFH is cacheable if cache controller is enabled. 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 defa	ault setting.	
16Bit I/O Recovery Time	Use the default setting.		

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

3. 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.

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

	ROM PCI/: CMOS SETU POWER MANAGI	PUTILITY
Power Management PM Control by APM Video Off Method Video Off After Doze Mode Standby Mode Suspend Mode HDD Power Down VGA Active Monitor Soft-Off by PMR-BTTN	: Yes V/H SYNC+Blank : Standby : Disabled : Disabled : Disabled : Enabled : Delay 4 Sec.	** Reload global Timer Events ** IRQ [3-7, 9-15],NMI : Enabled Primary IDE 0 : Disabled Primary IDE 1 : Disabled Secondary IDE 0 : Disabled Secondary IDE 1 : Disabled Floppy Disk : Disabled Serial Port : Disabled Parallel Port : Disabled
CPU Fan Off In Suspend Resume by Ring Resume by Alarm ** Break Event From Su IRQ8 Clock Event	: Disabled : Disabled spend **	$\begin{array}{cccc} & \text{ESC} & : \text{Quit} & \uparrow \downarrow \rightarrow \leftarrow : \text{Select Item} \\ \text{F1} & : \text{Help} & \text{PU/PD/+/-} & : \text{Modify} \\ \text{F5} & : \text{Old Values} & (\text{Shift)F2} & : \text{Color} \\ \text{F6} & : \text{Load BIOS Defaults} \\ \text{F7} & : \text{Load Setup Defaults} \end{array}$

2. 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 ar system power down times		
	Disable –	(default). 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.		
	Choose Standby (default), Suspend , Doze , or N/A mode .		
Video Off After		by (default), Suspend, Doze, or	
Video Off After Doze Mode	N/A mode. When the set ti a command to (system clock of	by (default), Suspend, Doze, or me has elapsed, the BIOS sends the system to enter doze mode drops to 33MHz). Time is n 1 Min to 1 Hour.	
	N/A mode. When the set ti a command to (system clock of adjustable from	me has elapsed, the BIOS sends the system to enter doze mode drops to 33MHz). Time is n 1 Min to 1 Hour. Disabled. Time is adjustable	

BIOS Setup

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 Ena Enabled –	abled (default) or Disabled. enables the power management timers when a "no activity" event is detected.
Soft-Off by POR- BTTN	Delay 4 See	tant-off or Delay 4 Sec (default). c turns off the system power 4 er pushing the power button
CPU Fan Off In Suspend	system runs	bled to stop the CPU fan when the s into the suspend mode (refer to agement Setup.)
Resume by Ring	function on powered on Enabled –	abled or Disabled (default). This ly works when the computer is
Resume by Alarm	Enabled –	abled or Disabled (default). 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. The system ignores the alarm.
IRQ8 Clock Event		abled or Disabled (default). Alarm ll be activated when this function is
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 Primary/Secondary IDE 1	abled or Disabled (default). Enables the power management timers when "no activity" event is detected.
Floppy Disk/ Serial Port/ Parallel Port	 abled or Disabled . 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.)

AWARD SOFTWARE, INC.				
Resources Controlled By : Manual Reset Configuration Data : Disabled	PCI IDE IRQ Map To : PCI-AUTO Primary IDE INT# : A Secondary IDE INT# : B			
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-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-14 assigned to : PCI/ISA PnP*	Used MEM Base Addr : N/A			
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*	$\begin{array}{cccc} & \text{ESC} & : & \text{Quit} & \uparrow \downarrow \rightarrow \leftarrow : & \text{Select Item} \\ \text{F1} & : & \text{Help} & & \text{PU/PD/+/-} & : & \text{Modify} \\ \text{F5} & : & \text{Old Values} & (\text{Shift})\text{F2} & : & \text{Color} \\ \text{F6} & : & \text{Load BIOS Defaults} \\ \text{F7} & : & \text{Load Setup Defaults} \\ \end{array}$			

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

- *: 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	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.	
Data	Enabled – Reset PnP configuration data in BIOS.	
IRQX and DMAX assigned to	Choose PCI/ISA PnP or Legacy ISA . If the first item is set to Manual , you could choose IRQX and DMAX 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.	

3. 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.

 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 SOFTW	WARE, INC.
IDE Primarý Slave PIO IDE Secondary Master PIO IDE Secondary Slave PIO IDE Primary Master UDMA IDE Primary Slave UDMA IDE Secondary Master UDMA IDE Secondary Master UDMA On-Chip Primary PCI IDE On-Chip Secondary PCI IDE PCI Slot IDE 2nd Channel	Auto Auto Auto Auto Auto Auto Auto Enabled Enabled	IR Transmission Delay : Enabled IR IRQ Select : IRQ4 (FIR Mode Use DMA : 0) Onboard Parallel Port : 378/IRQ7 Parallel Port Mode : ECP+EPP ECP Mode Use DMA : 3 EPP Mode Select : EPP1.9
Onboard FDC Controller : Onboard Serial Port 1 :		ESC : Quit $\uparrow \downarrow \rightarrow \leftarrow$: Select Item F1 : Help $PU/PD/+/-$: Modify
Onboard Serial Port 2 : Onboard IR Controller : IR Address Select : IR Mode :	Enabled	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:

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 no 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:"

- 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:"

- 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 Primary Slave Secondary Master Secondary Slave	: None : None : None		0 0 0 t this ESC :		0 0 0 0	0 0 0 ? N	0 0 0			

4 Drivers Installation Guide

IDE BUS Master Installation Guide

MS-DOS/WINDOW/WFW

- 1) You should install CD-ROM in secondary channel in Windows (WFW).
- 2) Change the current directory to a: or b:.
- 3) Under DOS command line prompt, run the SETUP directly.

After entering the setup utility, just follow the instructions of the setup.

WINDOWS NT3.5/4.0

- 1) From the Program Manager, double click on "Windows NT Setup" in the Main group.
- 2) Select "Options/Add/Remove SCSI Adapters...".
- 3) Click on Add.
- 4) The "Select SCSI Adapter Option" dialog will appear; select "Other (Requires a disk from a hardware manufacturer)" from the "Adapter:" list box.
- 5) Next, the "Insert Diskette" dialog box will appear; insert the Triones PIIX3/PIIX4 Bus Master EIDE/ATAPI Driver disk into Drive A: and type in "a:\winnt35" and <Return>.
- 6) Next, the "Select OEM Option" dialog box will appear; select "PIIX/PIIX3 Bus Master EIDE/ATAPI" and click "OK".
- 7) Next, the "Select SCSI Adapter Option" dialog box will appear; click on the "Install" button in the dialog box. If installation is successful, the "SCSI Adapter Setup" dialog box will reappear, and "PIIX/PIIX3 Bus Master EIDE/ATAPI" will be listed. That means the driver is installed.
- 8) Reboot your system to load the driver.

WINDOWS 95

- 1) Close any running applications.
- 2) Insert the floppy disk into drive A:.
- 3) Open "My Computer", double click "Drive A:".
- 4) Double click "Win95".
- 5) Double click the Setup program.
- 6) Then just follow the instruction.

NOVELL 3.X&4.X

- 1) Copy the driver TRIN4X.DSK or TRIN312.DSK to the subdirectory which holds the file SERVER.EXE.
- 2) Boot up the file server.
- 3) On the system console and on the command prompt state, type in: load TRIN4X.DSK <Enter> or load TRIN312.DSK <Enter>

You can also include the above command line into the start up file STARTUP.NCF to load the driver automatically.

SCO UNIX

- 1) Install SCO UNIX 3.2.x or SCO Open Desktop 3.x using the default SCO IDE driver.
- 2) Reboot your SCO UNIX system
- 3) Insert Triones supplied diskette into the 3.5 inch floppy drive of your system. Use doscp command to copy the file TRISCO.TAR to your /tmp directory. for example, if you are using floppy drive A, type: doscp a:/scounix/trisco.tar/tmp/trisco.tar
- 4) From root directory, type the following commands:

mkdir/inst

cd /inst

tar xvf/tmp/trisco.tar.

(Note: there is a period at the end of the last command.)

- 5) Now, insert a blank diskette into the floppy drive A and type: tar cvf/dev/<your floppy drive A device name>. (Note: there is a period at the end of the last command.) Your floppy drive A device name could be:
 - rfd096ds15,5.25 DSHD
 - rfd0135ds18 3.5 DSHD
 - rfd048ds9 5.25 DSDD
 - rfd0135ds9 3.5 DSDD

Now you have already made an installation diskette for the device driver.

Start the installation by typing: custom.

- Select the "Install" operation and then follow the guided steps. When prompted "Do you want to set the device configuration (y/n)", answer "n".
- 7) Reboot your SCO UNIX system.

SCO UNIX 5.0

- 1) Install SCO UNIX 5.0 using the default SCO IDE driver.
- 2) Reboot your SCO UNIX system
- 3) Insert Triones supplied diskette into the 3.5 inch floppy drive of your system. Use doscp command to copy the file TRISCO.TAR to your /tmp directory. for example, if you are using floppy drive A, type: doscp a:/scounix/trisco5.tar/tmp/trisco5.tar
- From root directory, type the following commands: mkdir/inst cd /inst

tar xvf/tmp/trisco.tar.

(Note: there is a period at the end of the last command.)

5) Install the driver by typing:

./install

6) Reboot your SCO UNIX system..

OS/2 2.0 and WARP 3.X

- 1) Copy TRIOS2.ADD from the floppy diskette to your hard disk under the OS2 directory (i.e., C:\OS2).
- 2) Edit C:\CONFIG.SYS to replace **BASEDEV=IBM1S506.ADD** with **BASEDEV=TRIOS2.ADD**
- 3) Reboot the system.
- *Note:* For more information (like parameter settings, driver deinstallation, etc.), please refer to the README.TXT file on the diskette.