430TX

ATX

SYSTEM BOARD

(VER. 1.x)

OPERATION MANUAL

TABLE OF CONTENTS

TRADEMARDKS

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NOTE

The “LOAD SETUP DEFAULTS” function loads the default settings directly from BIOS default table, these default settings are the best-case values that will optimize the system performance and increase the system stability. This strongly recommended when you first receive this system board, or the system CMOS data is corrupted.

Move the selection bar to “LOAD SETUP DEFAULTS” and then press the “ENTER” key and then the SETUP default values will be loaded into the system. (Please refers to the Chapter 4 AWARD BIOS SETUP procedures in this manual.)

NOTICE

Information presented in this manual has been carefully checked for reliability; however, no responsibility is assumed for inaccuracies. The information contained in this manual is subject to change without prior notice.

1. INTRODUCTION

1.1 SYSTEM OVERVIEW

This mainboard is an ATX form-factor PCI Local Bus Pentium system mainboard it uses the 82430TX PCIset system chipsets and Winbond I/O chipset, build-in two channel PIO and Bus Master Enhanced PCI IDE ports, one Floppy Disk control port, two high speed Serial ports (UARTs), one multi-mode Parallel port, one PS/2 keyboard port, one PS/2 mouse port, one IR port, two USB ports, and support PC97 specification. This mainboard is designed for the high performance Pentium or other equivalent processors for high-end application and it is a true GREEN-PC computer system.

This system board supports the Peripheral Component Interconnect (PCI) Local Bus standard (PCI Specification Rev. 2.1 compliant). It not only breaks through the I/O bottlenecks if the traditional ISA mainboard, but also provides the ultra high performance for networking and multi-user environments.

2. SPECIFICATIONS

? **Chipset**
Intel 82439TX(MTXC), 82371AB(PIIX4) and Winbond W83977TF(ATF).

? **CPU**
Intel : Pentium processor and OverDrive processor (P54C / P54CS / P54CTB / P55C) 90 / 100 / 120 / 133 / 150 / 166 / 200 / 233 MHz.
Cyrix : 6x86 / 6x86L - P150+ / P166+ / P200+.
6x86MX - PR166 / PR200 / PR233 / PR266.
AMD : K6 / PR2-166 / PR2-200 / PR2-233 / PR2-266.
IDT : C6 - DS180 / DS200

? **CPU VCC (switching regulator support)**
(1). CPU I/O voltage : "+3.3V DC" and "+3.5V DC".
(2). CPU CORE voltage : "+2.0V,+2.5V,+2.8V,+2.9V,+3.2V,+3.3V,+3.5V DC".

? **System Clock**
50 / 55 / 60 / 66.6 / 75MHz adjustable.

? **Memory**
DRAM : Three banks, each bank could be single or double sided, 4MB up to 256MB. Supports fast page mode (FPM) , Extended Data Out (EDO) and SDRAM memory (Using 72-pin SIMM module x 4, and 168-pin DIMM module x 3). DIMMs' operating voltage supports +3.3V DC.
SRAM : 256KB or 512KB pipelined burst SRAM on board.

? **BIOS**
AWARD System BIOS. 128KBx8 Flash ROM (for Plug & Play BIOS).

? **ACPI**
1.System shut-down (soft-off) by OS.
2.Auto Full-On from Soft-Off mode or suspend state when signaled by an incoming call to the modem.
3.Auto Fan Off at Suspend State.
4.Protects the CPU by slowing down the CPU during the CPU overheat.

? **Expansion Slots**
PCI Slots : 32-bit x 4 (All Master/Slave, PCI 2.1 Compliant).
ISA Slots : 16-bit x 4 (One slot PCI/ISA shared).

? **IDE Ports**
Two channel PIO and "Ultra DMA/33" Synchronous mode PCI IDE ports, maximum could be connected to 4 IDE Hard Disk and ATAPI CD-ROM device. PIO Mode 4 transfer rate up to 14 Mbytes/s transfer rates and supports Ultra DMA 33 mode transfers up to 33MBytes/sec.

? **Super I/O Ports**
1. Two high speed NS16C550 compatible serial ports (UARTs).
2. One SPP/EPP/ECP mode Bi-directional parallel port.
3. One Floppy Disk Control port.

? **IR Port**
One HPSIR and ASKIR or Faster IR (optional) compatible Infrared port, One Consumer IR port (optional).
NOTE : Winbond W83977TF support HPSIR and ASKIR, W83977ATF support Faster IR and Consumer IR.

? **Mouse and Keyboard**
Supports PS/2 Mouse connector, PS/2 Keyboard connector.

? **USB Ports**
Two Universal Serial Bus (USB) ports.

? **Software Compatibility**
MS-DOS, WindowsNT, OS2, XENIX, UNIX, NOVELL, CAD / CAM, compatibility Windows, Windows 95....etc.

? **DIMENSION**

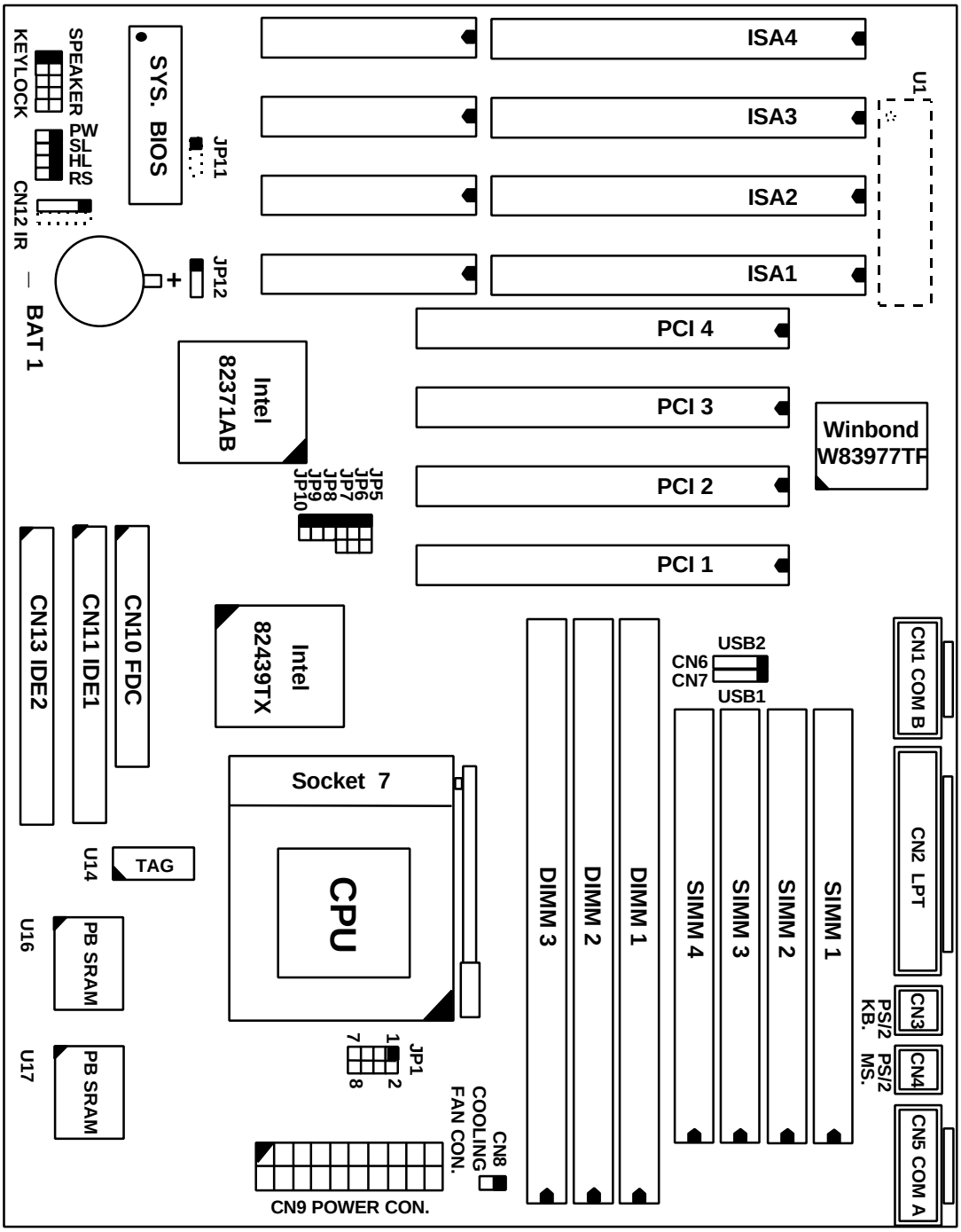
Width & Length	: 305 mm x 212 mm.
Height	: 3/4 inches with components mounted.
PCB Thickness	: 4-layers, 0.05 inches normal.
Weight	: 20 ounces.

? **ENVIRONMENT**

Operating Temperature	: 10. to 40.. (50. to 104.)
Require Airflow	: 50 linear feet per minute across CPU.
Storage Temperature	: -40. to 70.. (-40. to 158.)
Humidity	: 0 to 90. noncondensing.
Altitude	: 0 to 10,000 feet.

3. SYSTEM BOARD LAYOUT

Explanation : All connectors, jumpers and components which marks by a black point on the corner means the pin-1 side of the connector, jumper and component.



4. HARDWARE SETUP

4.1 UNPACKING

The system board package should contain the following parts :

. 1. This main board.
. 2. Operation manual.
. 3. Cable set for IDE and I/O device.

4.2 HARDWARE CONFIGURATION

Before the system board is ready to operate, the hardware must be configured to allow for various functions within the system. To configure the system board is a simple task, only a few jumpers, connectors, cables and sockets needs to be selected and installed. (For the detailed locations of each component please refer to the "system board layout figure" which appears in page 3-1.)

4.2.1 DRAM INSTALLATION

This system board supports three banks main memory (bank0 - 2) on board, (using four 72-Pin SIMM socket, SIMM 1 - 4 and three 168-pin DIMM socket, DIMM 1 - 3) each bank could be single-sided or double-sided, 4MB up to 256 MB of local memory can be attained. Supports standard fast page mode (FPM), Extended Data Out (EDO) and synchronous (SDRAM) memory.

The usable DRAM modules :

(1)	FPM and EDO memory	:	512Kbx32	**(2MB)**,	1Mbx32	**(4MB)**,
			2Mbx32	**(8MB)**,	4Mbx32	**(16MB)**,
			8Mbx32	**(32MB),**	16Mbx32	**(64MB)**
(2)	SDRAM memory	:	1Mbx64	**(8MB)**,	2Mbx64	**(16MB)**,
			4Mbx64	**(32MB),**	8Mbx64	**(64MB)**
			16Mbx64	**(128MB).**		

The speed of FPM DRAMs must be used 70ns or faster than 70ns, the speed of EDO DRAMs and SDRAMs must be used 60ns or faster than 60ns.
SIMMs' and DIMM's operating voltage :
(1) SIMM1 - SIMM4 : + 5V DC

(2) DIMM1 - DIMM3 : +3.3V DC.

DRAM Bank can be populated in any order (bank 0 does not have to be populated before bank 2).Within any given bank, the SIMMs must be the same size. Among the three banks, SIMM (DIMM) densities can be mixed in any order. EDO, FPM and SDRAMs can be mixed between SIMMs (DIMM), a given SIMM (DIMM) must contain only one type of DRAM. When DRAM types are mixed each SIMM (DIMM) runs optimized for that particular type of DRAM.
There is no jumper needed for DRAM configuration, DRAMs' type and size will be detected by system BIOS automatically.
The following table provides the possible combinations for DRAM memory installation.

Bank 0		Bank 1		Bank 2	
SIMM1 - 2	DIMM1	SIMM3 - 4	DIMM2		DIMM3
Single-sided	Empty	Single-sided	Empty		Empty
Double-sided	Empty	Double-sided	Empty		Empty
Empty	Single-sided	Empty	Single-sided		Single-sided
Empty	Double-sided	Empty	Double-sided		Double-sided

Note : We strongly recommend, Don't install 5V SIMM module and 3.3V DIMM modules at the same time.

4.2.2 L2 CACHE MEMORY INSTALLATION

This system board supports 256KB or 512KB cache memory on board, using synchronous pipeline-burst SRAMs. Both Write Back and Write Through cache update policy are supported.

The following table lists the detailed combination about cache memory installation.

Cache Size	Data SRAMs(U16 or U17)	Tag SRAMs(U14)
256 KB	32KB x 64	8KB or 16KB or 32KB x 8
512 KB	64KB x 64	16KB or 32KB x 8

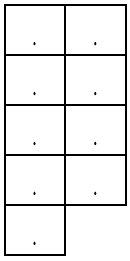
4.2.3 CONNECTORS

A connector is two or more pins that are used make connections to the system standard accessories (such as power, mouse, printer,...etc.) The following is a list of connectors on board, as well as descriptions of each individual connector.

(A) BAT1 Non-Rechargeable battery (Using 3 Volts Lithium battery : CR2032)

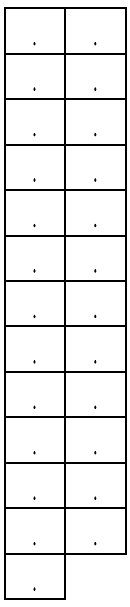
Pin #	Assignment
.	Battery Positive
.	Ground

(B) CN1 COM B (Serial Port 2) connector



Pin #	Assignment	Pin #	Assignment
1	DCD (Data Carrier Detect)	6	DSR (Data Set Ready)
2	RD (Received Data)	7	RTS (Request To Send)
3	TD (Transmit Data)	8	CTS (Clear To Send)
4	DTR (Data Terminal Ready)	9	RI (Ring Indicator)
5	Ground		

(C) CN2 Parallel Port connector
(Supports SPP/EPP/ECP mode, selected by BIOS setup,using IRQ7 or IRQ5,ECP using DMA channel 3 or 1)



Pin #	Assignment	Pin #	Assignment
1	STROBE.	14	AUTO FEED.
2	Data Bit 0	15	ERROR.
3	Data Bit 1	16	INIT.
4	Data Bit 2	17	SLCT IN.
5	Data Bit 3	18	Ground
6	Data Bit 4	19	Ground
7	Data Bit 5	20	Ground
8	Data Bit 6	21	Ground
9	Data Bit 7	22	Ground
10	ACK.	23	Ground
11	BUSY	24	Ground
12	PE	25	Ground
13	SLCT		

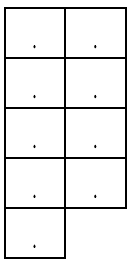
(D) CN3 PS/2 Keyboard connector

Pin #	Assignment	Pin #	Assignment	Pin #	Assignment
1	Keyboard Data	3	Ground	5	Keyboard Clock
2	No Connection	4	+5V DC	6	No Connection

(E) CN4 PS/2 Mouse connector

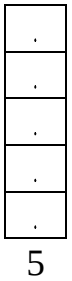
Pin #	Assignment	Pin #	Assignment	Pin #	Assignment
1	Mouse Data	3	Ground	5	Mouse Clock
2	No Connection	4	+ 5VSB DC	6	No Connection

(F) CN5 COM A (Serial Port 1) connector



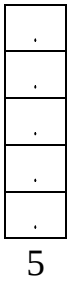
Pin #	Assignment	Pin #	Assignment
1	DCD (Data Carrier Detect)	6	DSR (Data Set Ready)
2	RD (Received Data)	7	RTS (Request To Send)
3	TD (Transmit Data)	8	CTS (Clear To Send)
4	DTR (Data Terminal Ready)	9	RI (Ring Indicator)
5	Ground		

(G) CN6 USB 2 (Universal Serial Bus port 2) connector



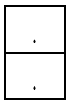
Pin #	Assignment
1	+ 5V DC
2	DATA .
3	DATA .
4	Ground
5	Ground

(H) CN7 USB 1 (Universal Serial Bus port 1) connector



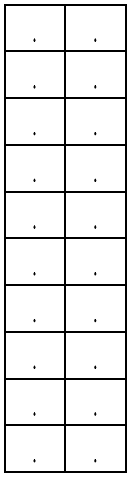
Pin #	Assignment
1	+ 5V DC
2	DATA .
3	DATA .
4	Ground
5	Ground

(I) CN8 Cooling Fan Power Connector



Pin #	Assignment
1	+ 12V DC
2	Ground

(J) CN9 Power connector

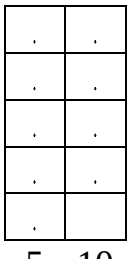


Pin #	Assignment	Pin #	Assignment
11	+ 3.3V DC	1	+ 3.3V DC
12	− 12V DC	2	+ 3.3V DC
13	Ground	3	Ground
14	PS-ON	4	+ 5V DC
15	Ground	5	Ground
16	Ground	6	+ 5V DC
17	Ground	7	Ground
18	− 5V DC	8	PW-OK
19	+ 5V DC	9	+ 5V SB
20	+ 5V DC	10	+ 12V DC

(K) CN10 Floppy Disk Control Port connector (Using IRQ6, DMA channel 2)

(L) CN11 IDE 1 connector (Primary IDE Port, I/O address is 1F0H, using IRQ14)

(M) CN12 IR (Infrared Rays) connector



Pin #	Assignment	Pin #	Assignment
1	+ 5V DC	6	No Connection
2	Faster IR Receive	7	Consumer IR Receive
3	IR Receive	8	+ 5V DC
4	Ground	9	No Connection
5	IR Transmit	10	No Connection

(N) CN13 IDE 2 connector (Secondary IDE Port, I/O address is 170H, using IRQ15)

(O) RS Reset Button connector

Pin #	Assignment	Pin1&2	Function
1	Ground	Open	No action
2	Reset Control	Short	System Reset

(P) HL IDE HDD LED connector

Pin #	Assignment	Pin #	Assignment
1	Pullup (+5V DC)	2	Signal Pin

(Q) SL Sleep LED connector

Pin #	Assignment	Pin #	Assignment
1	Signal Pin	2	Ground

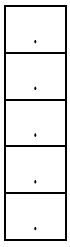
(R) PW / SS Front Panel Power Switch connector & External SMI button connector (selected by BIOS setup : Soft-off by PWR-BTTN)

1. Instant-Off 2. Delay 4 Sec.

Once pressed	: Power On	Once pressed	: Power On
Next pressed	: Power Off	Next pressed	: Suspend mode

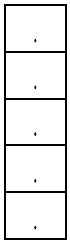
Pressed and hold for more than 4 second :Power Off

(S) SPEAKER Speaker connector



Pin #	Assignment
1	+ 5V DC
2	No Connection
3	No Connection
4	Speaker Data Signal
5	No Connection

(T) KEY LOCK Front Panel Power LED & Key-Lock connector



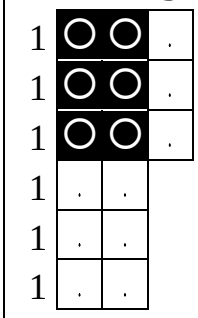
Pin #	Assignment
1	Pullup (+ 5V DC for Power LED)
2	No Connection
3	Ground
4	Keyboard Lock
5	Ground

4.2.4 JUMPERS

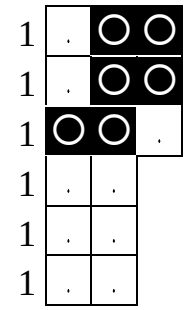
A jumper is two, three or more pins which may or may not be covered by a plastic connector plug (mini-jumper). A jumper is used to select different system options. ***Please make sure all jumpers at correct position before this system board used.***

(A) JP5, JP6, JP7, JP8, JP9,JP10 CPU type selection

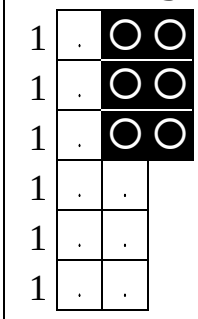
(1) 50Mhz x 1.5 (Cyrix : 50Mhz x 3)

JUMPERS	CPU TYPE
	Intel 80502-75 AMD K5-PR75 Cyrix 6x86 / 6x86L - P200+

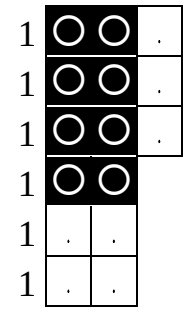
(2) 60Mhz x 1.5

JUMPERS	CPU TYPE
	Intel 80502-90 AMD K5-PR90 K5-PR120

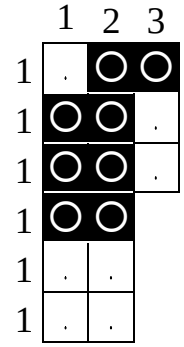
(3) 66Mhz x 1.5 / 66Mhz x 3.5

JUMPERS	CPU TYPE
	Intel 80502-100 80503-233 AMD K5-PR100 K5-PR133 K6-PR233 Cyrix 6x86 MX - PR266

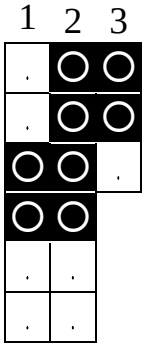
(4) 50Mhz x 2

JUMPERS	CPU TYPE
	 Cyrix 6x86 / 6x86L - P120+

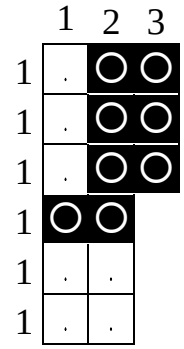
(5) 55Mhz x 2

JUMPERS	CPU TYPE
	

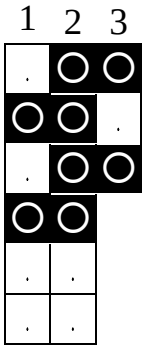
(6) 60Mhz x 2

JUMPERS	CPU TYPE
	Intel 80502-120 Cyrix 6x86 / 6x86L - P150+

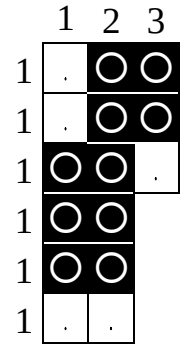
(7) 66Mhz x 2

JUMPERS	CPU TYPE
	Intel 80502-133 Cyrix 6x86 / 6x86L - P166+

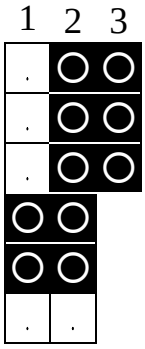
(8) 75Mhz x 2

JUMPERS	CPU TYPE
	Cyrix 6x86 / 6x86L - P200+

(9) 60Mhz x 2.5

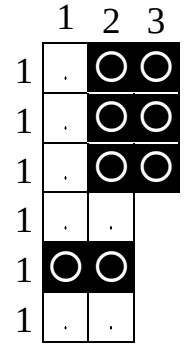
JUMPERS	CPU TYPE
	Intel 80502-150 AMD K5-PR150 Cyrix 6x86MX - PR166

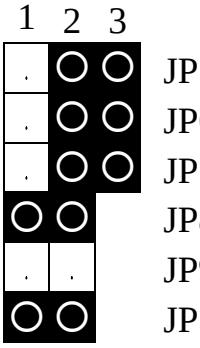
(10) 66Mhz x 2.5

JUMPERS	CPU TYPE
	Intel 80502-166 80503-166 AMD K5-PR166 K6-PR166 Cyrix 6x86MX - PR200

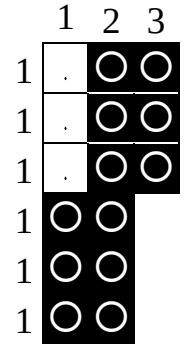
(11) 66Mhz x 3

(12) 66Mhz x 4

JUMPERS	CPU TYPE
	Intel 80502-200 80503-200 AMD K6-PR200 Cyrix 6x86MX - PR233

JUMPERS	CPU TYPE
	

(13) 66Mhz x 4.5

JUMPERS	CPU TYPE
	

NOTE : Cyrix 6x86 / 6x86L - P200+
: 75Mhz x 2, Better performance, but more peripheral compatible problem.
: 50Mhz x 3, (Maker suggest this jumple setting).

(B) JP1 CPU CORE voltage selection (optional)

Note : **1. When JP1 is absent, BIOS will handle the setting automatically. (Support "+2.0V, +2.8V, +2.9V, +3.2V +3.3V +3.5V DC")**

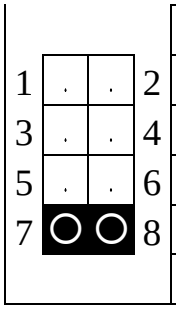
2. When there is the JP1 on board,Please refer to the following table for configuration. (Support "+2.5V, +2.8V, +2.9V, +3.2V +3.3V +3.5V DC")

JP 1	CORE Voltage	IO Voltage	CPU TYPE
	3.5V	3.5V	AMD K5
1 ● ● 2	3.5V	3.5V	Cyrix 6x86
3 . . 4			
5 . . 6	3.2V	3.3V	AMD K6-233
7 . . 8			

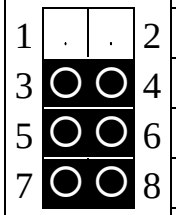
JP 1	CORE Voltage	IO Voltage	CPU TYPE
	3.3V	3.3V	Intel P54C
1 . . 2			
3 ● ● 4			
5 . . 6			
7 . . 8			

JP 1	CORE Voltage	IO Voltage	CPU TYPE
	2.9V	3.3V	AMD K6-166
1 . . 2	2.9V	3.3V	AMD K6-200
3 . . 4	2.9V	3.3V	Cyrix 6x86MX
5 ● ● 6			
7 . . 8			

JP 1	CORE Voltage	IO Voltage	CPU TYPE



	2.8V	3.3V	Intel P55C
1-2	2.8V	3.3V	Cyrix 6x86L
3-4			
5-6			
7-8			



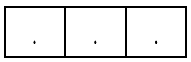
JP 1	CORE Voltage	IO Voltage	CPU TYPE
	2.5V	3.3V	
1-2			
3-4			
5-6			
7-8			

NOTE :

P54C : pentium CPU (80502)

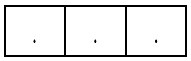
P55C : pentium MMX CPU (80503)

(C) JP11 ROM BIOS selection (optional)



Pin #	Function
1-2	for +5V FLASH ROM
2-3	for +12V FLASH ROM

(D) JP12 Clear CMOS button



Pin #	Function
1-2	Normal operation
2-3	Clear CMOS

(*Note : Don't forget to turn this jumper return 1-2 within 3 to 5 seconds*)

5. AWARD BIOS SETUP

5.1 GETTING STARTED

When the system is first powered on or reset, the BIOS will enter the Power-On Self Test routines (POST : Display a copyright message on the screen followed by a diagnostics and initialization procedure.) (If an EGA or VGA card is installed in the system, the copyright message of the video card maybe displayed on the screen first.) The BIOS will indicate any error or malfunction by a series of beeps or display the error message on screen.

Basically, the simulated figure 5-1 will display on the screen when the system is powered on.

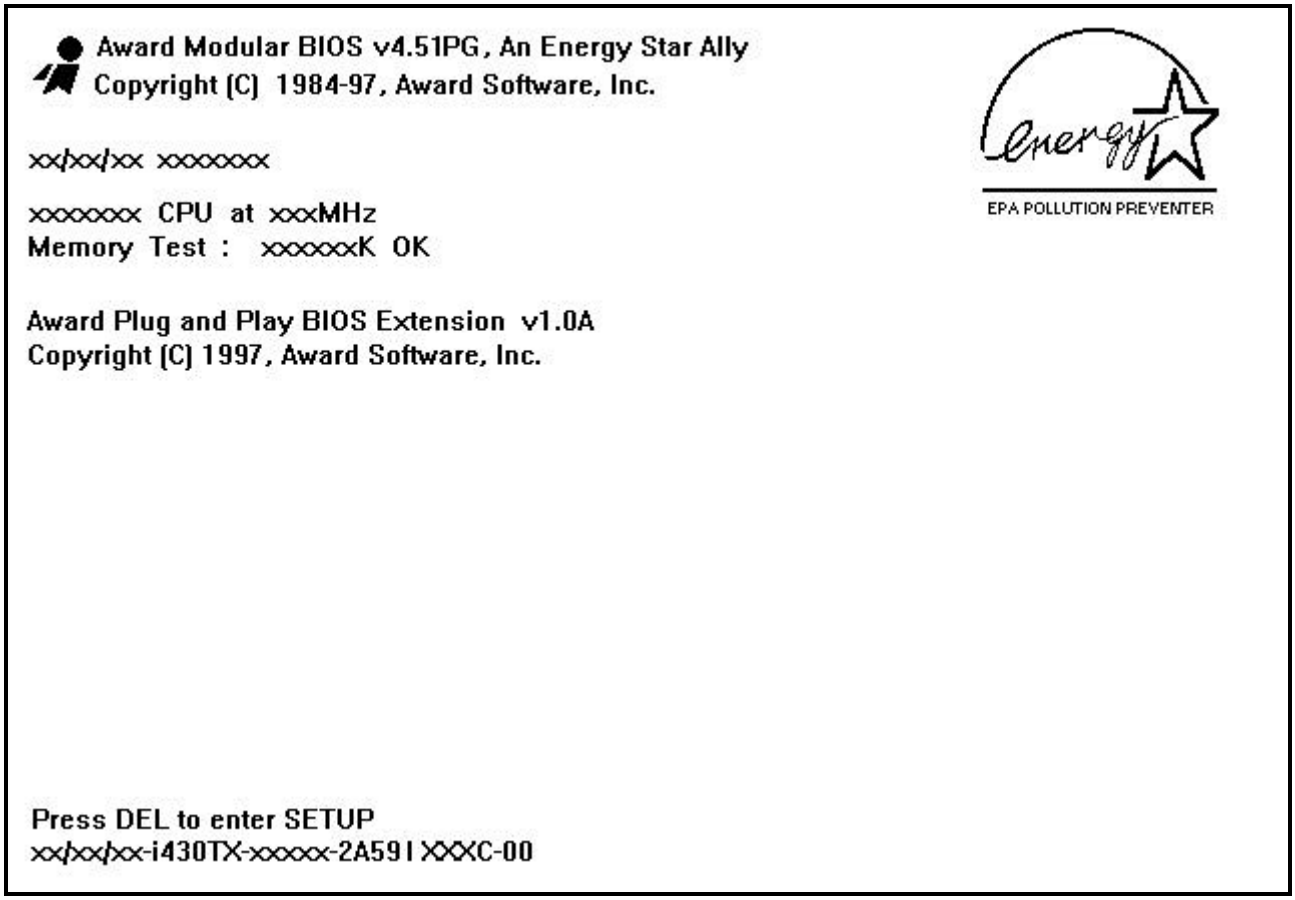


Fig. 5-1 Initial Power-On screen.

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

" Press **DEL** to enter SETUP "

To execute the Award BIOS Setup program, press **DEL** key. The simulate screen in figure 5-2 MAIN MENU will be displayed at this time.

5.2 MAIN MENU

ROM PCI / ISA BIOS (2A59IXXX)
CMOS SETUP UTILITY
AWARD SOFTWARE, INC.

STANDARD CMOS SETUP	SUPERVISOR PASSWORD
BIOS FEATURES SETUP	USER PASSWORD
CHIPSET FEATURES SETUP	IDE HDD AUTO DETECTION
POWER MANAGEMENT SETUP	HDD LOW LEVEL FORMAT
PNP/PCI CONFIGURATION	SAVE & EXIT SETUP
INTEGRATED PERIPHERALS	EXIT WITHOUT SAVING
LOAD SETUP DEFAULTS	
ESC : Quit	.... : Select Item
F10 : Save & Exit Setup	(Shift)F2 : Change Color
Time, Date, Hard Disk Type ...	

Fig. 5-2 CMOS SETUP MAIN MENU screen.

5.3 CONTROL KEYS

Listed below is an explanation of the keys displayed at the bottom of the screens accessed through the BIOS SETUP program :

Arrow Keys **:** Use the arrow keys to move the cursor to the desired item.
Enter **:** To Select the desired item.
F1 **:** Display the help screen for the selected feature.
(Shift)F2 **:** To change the screen color, total 16 colors.

ESC **:** Exit to the previous screen.

PgUp(-)/PgDn(+) **:** To modify the default value of the options for the highlighted feature.

F5 **:** Retrieves the previous CMOS values from CMOS, only for the current option page setup menu.

F7 **:** Loads the SETUP default values from BIOS default table, only for the current option page setup menu.

F10 **:** Save all changes made to CMOS RAM, only for the MAIN MENU.

The following pages will show the simulate screens of CMOS SETUP, each figure contains the setup items and the default settings of them. Below each figure may or may not be contained a lists of function description for commonly used settings. For the other settings' function description you needed, please feel free to contact with your supplier.

5.4 STANDARD CMOS SETUP

ROM PCI / ISA BIOS (2A59IXXX)
STANDARD CMOS SETUP
AWARD SOFTWARE, INC.

Date (mm : dd : yy) : Mon, Jul 14 1997
Time (hh : mm : ss) : 11 : 33 : 55

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	Auto	0	0	0	0	0	0	Auto
Secondary Slave	None	0	0	0	0	0	0	------

Drive A : 1.44M, 3.5 in.
Drive B : None

Video : EGA/VGA
Halt On : All Errors

Base Memory : 640 K
Extended Memory : xxxxxx K
Other Memory : xxxxxx K
Total Memory : xxxxxx K

ESC : Quit .... : Select Item PU/PD/+/- : Modify
F1 : Help (Shift)F2 : Change Color

Fig. 5-3 STANDARD CMOS SETUP screen.

MODE :
For IDE hard disks, this BIOS provides three modes to support both normal size IDE hard disks and also disks size larger the 528MB:

.NORMAL : For IDE hard disks size smaller then 528MB.
.LBA : For IDE hard disks size larger then 528MB and up to 8.4GB (Giga Bytes) that use Logic Block Addressing (LBA) mode.

.Large : For IDE hard disks size larger then 528MB that do not use LBA mode. Large mode is a new specifition which may not be fully supported by all operation systems. Now it can only be used with the MS-DOS and is uncommon.

Note : Some OSes (like SCO-UNIX) must use "NORMAL" for installation.

5.5 BIOS FEATURES SETUP

ROM PCI / ISA BIOS (2A59IXXX)
BIOS FEATURES SETUP
AWARD SOFTWARE, INC.

Virus Warning	: Disabled	Video BIOS Shadow	: Enabled
CPU Internal Cache	: Enabled	C8000-CBFFF Shadow	: Disabled
External Cache	: Enabled	CC000-CFFFF Shadow	: Disabled
Quick Power On Self Test	: Enabled	D0000-D3FFF Shadow	: Disabled
Boot Sequence	: A,C,SCSI	D4000-D7FFF Shadow	: Disabled
Swap Floppy Drive	: Disabled	D8000-DBFFF Shadow	: Disabled
Boot Up Floppy Seek	: Enabled	DC000-DFFFF Shadow	: Disabled
Boot Up NumLock Status	: On		
Boot Up System Speed	: High		
Typematic Rate Setting	: Disabled		
Typematic Rate (Chars/Sec)	: 6		
Typematic Delay (Msec)	: 250		
Security Option	: Setup		
PCI/VGA Palette Snoop	: Disabled		
OS Select For DRAM > 64MB	: Non-OS2		
PS/2 mouse function control	: Enabled	ESC : Quit .... : Select Item F1 : Help PU/PD/+/- : Modify F5 : Old Values (Shift)F2 : Color F7 : Load Setup Defaults	

Fig. 5-4 BIOS FEATURES SETUP screen.

Virus Warning :

This feature flashes on the screen. During and after the system boots up, any attempt to write to the boot sector or partition table of the hard disk drive will halt the system and an error message will appear, in the mean time, you can run anti-virus program to locate the problem. Default values is "Disabled"

Enabled : Activate automatically when the system boots up causing a warning message to appear when anything attempts to access the boot sector or hard disk partition table.

Disabled : No warning message to appear when anything attempts to access the boot sector or hard disk partition table.

CPU Internal Cache :

This option enables CPU's internal (L1) cache memory. If you want to use the internal (L1) cache memory and external (L2) cache memory, this option must be enabled.

External Cache :

This option enables L2 (secondary) external cache memory. If none external cache memory on board you must set this option to "disabled", otherwise, you can select enabled or disabled.

5.6 CHIPSET FEATURES SETUP

ROM PCI / ISA BIOS (2A59IXXX)
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 Burst Timing	: x222		
Fast EDO Lead Off	: Enabled		
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	ESC : Quit	.... : Select Item
8 Bit I/O Recovery Time	: 1	F1 : Help	PU/PD/+/- : Modify
16 Bit I/O Recovery Time	: 2	F5 : Old Values	(Shift)F2 : Color
Memory Hole At 15M-16M	: Disabled	F7 : Load Setup Defaults	
PCI 2.1 Compliance	: Disabled		

Fig. 5-5 CHIPSET FEATURES SETUP screen.

WARNING : *The CHIPSET FEATURES SETUP in this screen are provided so that technical professionals can modify the Chipset to suit their requirement. If you are not a technical engineer, do not use this program !*

Auto Configuration :
When "Enabled", this parameter automatically enters and locks some of the optimum values for the chipset and CPU. Otherwise, this parameter allows the values of these parameters could be changed.

DRAM Timing :
When "Auto Configuration" is "Enabled", this parameter provides two suit of the optimum values for the chipset and CPU, depends on the DRAMs' speed, you can select "70 ns" or "60 ns", but the first value maybe caused your system more stable.

5.7 POWER MANAGEMENT SETUP

ROM PCI / ISA BIOS (2A59IXXX)
POWER MANAGEMENT SETUP
AWARD SOFTWARE, INC.

Power Management	: User Define	** Reload Global Timer Events **	
PM Control by APM	: Yes	IRQ[3-7 , 9-15] , NMI	: Enabled
Video Off Method	: Blank Screen	Primary IDE 0	: Disabled
Video Off After	: Standby	Primary IDE 1	: Disabled
MODEM Use IRQ	: 3	Secondary IDE 0	: Disabled
Doze Mode	: Disable	Secondary IDE 1	: Disabled
Standby Mode	: Disable	Floppy Disk	: Disabled
Suspend Mode	: Disable	Serial Port	: Enabled
HDD Power Down	: Disable	Parallel Port	: Disabled
VGA Active Monitor	: Enabled		
Soft-Off by PWR-BTTN	: Delay 4 Sec.		
Resume by Ring	: Enabled		
IRQ 8 Break Suspend	: Disabled		
		ESC : Quit	.... : Select Item
		F1 : Help	PU/PD/+/- : Modify
		F5 : Old Values	(Shift)F2 : Color
		F7 : Load Setup Defaults	

Fig. 5-6 POWER MANAGEMENT SETUP screen.

WARNING : *The POWER MANAGEMENT SETUP in this screen are provided so that technical professionals can modify the Chipset to suit their requirement. If you are not a technical engineer, do not use this program !*

Power Management :
This setting controls the Power Management functions. "User Define" allows the values of all parameters could be modified. "Min Saving" and "Max Saving" fixed the values of four parameters, including "Doze Mode", "Standby Mode", "Suspend Mode" and "HDD Power Down". "Disable" disabled all Power Management functions. Default is "User Define".

5.8 PNP/PCI CONFIGURATION

ROM PCI / ISA BIOS (2A59IXXX)
PNP/PCI CONFIGURATION
AWARD SOFTWARE, INC.

PNP OS Installed	: No	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*	Used MEM base addr	: N/A
IRQ-4 assigned to	: *Legacy ISA*		
IRQ-5 assigned to	: *PCI/ISA PnP*		
IRQ-7 assigned to	: *Legacy ISA*		
IRQ-9 assigned to	: *PCI/ISA PnP*		
IRQ-10 assigned to	: *PCI/ISA PnP*		
IRQ-11 assigned to	: *PCI/ISA PnP*		
IRQ-12 assigned to	: *Legacy ISA*		
IRQ-14 assigned to	: *Legacy ISA*		
IRQ-15 assigned to	: *Legacy ISA*		
DMA-0 assigned to	: *PCI/ISA PnP*		
DMA-1 assigned to	: *PCI/ISA PnP*	ESC : Quit	.... : Select Item
DMA-3 assigned to	: *PCI/ISA PnP*	F1 : Help	PU/PD/+/- : Modify
DMA-5 assigned to	: *PCI/ISA PnP*	F5 : Old Values	(Shift)F2 : Color
DMA-6 assigned to	: *PCI/ISA PnP*	F7 : Load Setup Defaults	
DMA-7 assigned to	: *PCI/ISA PnP*		

Fig. 5-7 PNP/PCI CONFIGURATION setup screen.

WARNING : *The PNP/PCI CONFIGURATION in this screen are provided so that technical professionals can modify the Resources Configuration to suit their requirement.If you are not a technical engineer, do not use this program !*

Resources Controlled by :

Manual : The system BIOS will not reference the ESCD for IRQ & DMA informations. Instead, it will reference the items in this setup menu for assigning IRQ & DMA, but for I/O and Memory space the system BIOS still refer to the ESCD.

Atuo : The system BIOS will reference the ESCD all legacy informations.

Reset Configuration Data :

Disabled:The system BIOS will do nothing.

Enabled : The system BIOS will clear/reset the ESCD during "POST". After clearing the ESCD, the system BIOS will then change this item's value back to "Disable", otherwise, the ESCD will become useless.

IRQ# / DMA# assigned to :

Legacy ISA : The system BIOS will skip never assign this specified IRQ/DMA resource to PCI or ISA PnP devices.

PCI/ISA PnP : All items set to this value will make the specified IRQ/DMA have a chance to be assigned to PCI or ISA PnP devices.

PCI IDE IRQ Map To : (for off-board PCI ICE cards)

PCI-AUTO : The BIOS will scan for PCI IDE devices and determine the location of the PCI IDE device, then assign IRQ 14 for primary IDE INT#, and assign IRQ 15 for secondary IDE INT#.

ISA : The BIOS will not assign any IRQs even if PCI IDE card is found. Because some IDE cards connect the IRQ 14 and 15 directly from ISA slot through a card. (This card is called Legacy Header)

PCI-SLOT1 to PCI-SLOT4 : For the specified slot, the BIOS will assign IRQ 14 for primary IDE INT#, and assign IRQ 15 for secondary IDE INT#.

Note : No matter the item "Resources Controlled By" is set to "Manual" or "Auto", the system BIOS assign IRQs to PCI devices from high to low. For ISA PnP devices, the sequence is from low to high. IRQ 12 is always the last one available for PCI/PnP due to IRQ 12 is always reserves for the PS/2 mouse.

Explanation for proper nouns :

PnP device :

- Device that has Plug & Play compatibility. That means it can request for DMA,
- IRQ, I/O and Memory from the PnP BIOS and all these requests can be relocatable. In other words, these devices do not utilize any fixed resources.
- All PCI devices and all ISA PnP devices are PnP devices.

Legacy device :

- A legacy device is a device that all its resources are fixed by hardware (or selected by jumpers).
- All ISA Non-PnP devices are legacy device.

Extended System Configuration Data (ESCD) :

- A media between the user and the system BIOS for passing the legacy devices informations. These informations are stored in the onboard NVRAM (flash ROM).

5.9 INTEGRATED PERIPHERALS

ROM PCI / ISA BIOS (2A59IXXX)
INTEGRATED PERIPHERALS
AWARD SOFTWARE, INC.

IDE HDD Block Mode	: Enabled		
IDE Primary Master PIO	: Auto		
IDE Primary Slave PIO	: Auto	Onboard Parallel Port	: 378 / IRQ7
IDE Secondary Master PIO	: Auto	Parallel Port Mode	: SPP
IDE Secondary Slave PIO	: Auto		
IDE Primary Master UDMA	: Auto		
IDE Primary Slave UDMA	: Auto		
IDE Secondary Master UDMA	: Auto		
IDE Secondary Slave UDMA	: Auto		
On-Chip Primary PCI IDE	: Enabled		
On-Chip Secondary PCI IDE	: Enabled		
USB Keyboard Support	: Disabled		
Onboard FDD Controller	: Enabled		
Onboard Serial Port 1	: 3F8 / IRQ4		
Onboard Serial Port 2	: 2F8 / IRQ3	ESC : Quit	.... : Select Item
Onboard IR Controller	: Disabled	F1 : Help	PU/PD/+/- : Modify
		F5 : Old Values	(Shift)F2 : Color
		F7 : Load Setup Defaults	

Fig. 5-8 INTEGRATED PERIPHERALS setup screen.

WARNING : *The INTEGRATED PERIPHERALS in this screen are provided so that technical professionals can modify the Chipset to suit their requirement. If you are not a technical engineer, do not use this program !*

Onboard IR Controller :
This setting determines the IR port (CN 12) function mode. Supports both HPSIR and ASKIR.

Onboard Parallel Mode :
This setting determines the onboard parallel prot (CN 2) transmission mode. Supports either SPP, EPP, ECP or ECP+EPP.

5.10 LOAD SETUP DEFAULTS

This option loads the SETUP default values from BIOS default table. By pressing "Enter" key, while "LOAD SETUP DEFAULTS" is highlighted, then presses "Y" and "Enter" key. the SETUP default values will be loaded. The SETUP default settings are the best-case values that should optimize system performance and increase system stability. If CMOS RAM is corrupted, the SETUP DEFAULTS settings are loaded automatically.

5.11 SUPERVISOR PASSWORD / USER PASSWORD

Type the Password and press "Enter",then repeat. Enters up to eight alphanumeric characters. By pressing "Enter" key twice, without any alphanumeric character enters, the PASSWORD will be disabled.

5.12 IDE HDD AUTO DETECTION

By pressing "Enter" key, while "IDE HDD AUTO DETECTION" is highlighted causes the system to attempt to detect the type of hard disk. If successful, then presses "Y" (or 1, 2, ...) and "Enter" key, it fills in the remaining fields on this menu and the correlated fields in the STANDARD CMOS SETUP menu.

5.13 HDD LOW LEVEL FORMAT

This option provides an utility program for IDE HDD Low Level Format. Performing the Hard Disk Format will destory any data on the Hard Disk. Back up the Hard Disk(s) before actually performing of these routines.
*Note : These routines are not valid for a **SCSI** Disk Drive.*

5.14 SAVE & EXIT SETUP

This option saves all setup values to CMOS RAM & EXIT SETUP routine, by moving the cursor to "SAVE & EXIT SETUP" and pressing "Enter" key, then types "Y" and "Enter" key, the values will be saved, the setup program will be terminated and the system will be reboot.

5.15 EXIT WITHOUT SAVING

This option exites setup routine without saving any changed values to CMOS RAM, by moving the cursor to "EXIT WITHOUT SAVING" and pressing "Enter" key, then types "Y" and "Enter" key, the setup program will be terminated and the system will be reboot.

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