

SQ573

**Pentium PCI
SQ573 Main Board**

User's Guide

CE

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1 INTRODUCTION

1.1 Overview

This SQ573 mainboard is a full-featured IBM PC/AT™-compatible board that supports the PCI local bus and current and future models of the high-performance CPU, including;

- Intel Pentium P54C/P55C processors
- Cyrix 6x86 and 6x86MX processors
- AMD K5/K6 processors

The board's control logic provides high-speed performance for the most advanced multi-user, multitasking computer applications available today. The board employs 4 to 64MB Single Inline Memory Modules (SIMMs) or 8 to 128 MB SDRAM Memory Modules (DIMMs) for maximum memory up to 256MB.

This mainboard is fully compatible with thousands of applications developed for IBM PC/AT™-compatible personal computers. The Peripheral Component Interconnect (PCI) local bus is a high-performance 32-bit bus that lets you add highly integrated peripheral controller components, peripheral add-on boards, and processor/memory systems.

In addition, the Industry Standard Architecture (ISA) bus slots allow you to choose from 8- or 16-bit industry-standard add-on boards. A floppy disk drive controller, IDE hard disk drive controller, serial ports (16550 UART), and parallel port (with EPP and ECP modes) are included so that peripheral devices can be easily connected without using the expansion slots.

1.2 Features

This SQ573 mainboard offers the following advanced features:

CPU

- Intel P54C/P55C running at 75MHz ~ 233MHz
- Cyrix 6x86/6x86L/6x86M2 P120+ ~ P266+
- AMD K5/K6 PR 75 ~ PR233
- Supports system clock 50/55/60/66/75/83 MHz

Memory

- Provides 2 DIMM and 4 SIMM up to 256MB
- Supports 16MB/32MB/64MB FPM/EDO DRAM
- Supports 16MB/32MB/64MB/128MB SDRAM DIMM
- "Table Free" DRAM configuration
- Supports both 256/512KB Pipelined Burst SRAM

I/O Slots

- Three 16-bit ISA slots
- Four 32-bit Bus Master PCI local bus slots

BIOS

- Licensed Award Flash "Plug & Play" BIOS

Onboard Super I/O

- Onboard peripheral ports:
 - Two onboard serial ports (16550 fast UARTs compatible)
 - Parallel port with bi-directional lines: supports Enhanced Parallel Port (EPP) and Extended Capabilities Port (ECP)
- Onboard Enhanced Intelligent Drive Electronics (IDE) hard disk drive controller; Onboard floppy disk drive controller
- Optional 12V or 5V flash memory BIOS (software upgradable)
- Supports PS/2 mouse, 2 USB ports
- Supports 11.52 bps IrDA IR port; CPU hardware Green function
- Supports DMA/33, ACPI (Advanced configuration Power Management Interface)

1.3 Unpacking the Mainboard

This mainboard comes in a sturdy cardboard shipping carton, which should contain the following items:

- The SQ573 Mainboard
- This User's Guide
- Utility Diskette
- Cable Set

Follow the precautions below while unpacking the mainboard and do remember to leave the mainboard in its original package until you are ready to install it.

1. Before handling the mainboard, ground yourself by touching 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.
4. Do not apply power if the mainboard appears damaged. In this case, contact your dealer immediately.

1.4 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 precautions 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, touch 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.

1.5 Main Board Layout with Default Settings

The following figure shows the default settings for this mainboard: 2.0x CPU speed, 66MHz system clock, Onboard PCI IDE Enabled, Flash ROM, 2.8V/3.3V dual voltage.

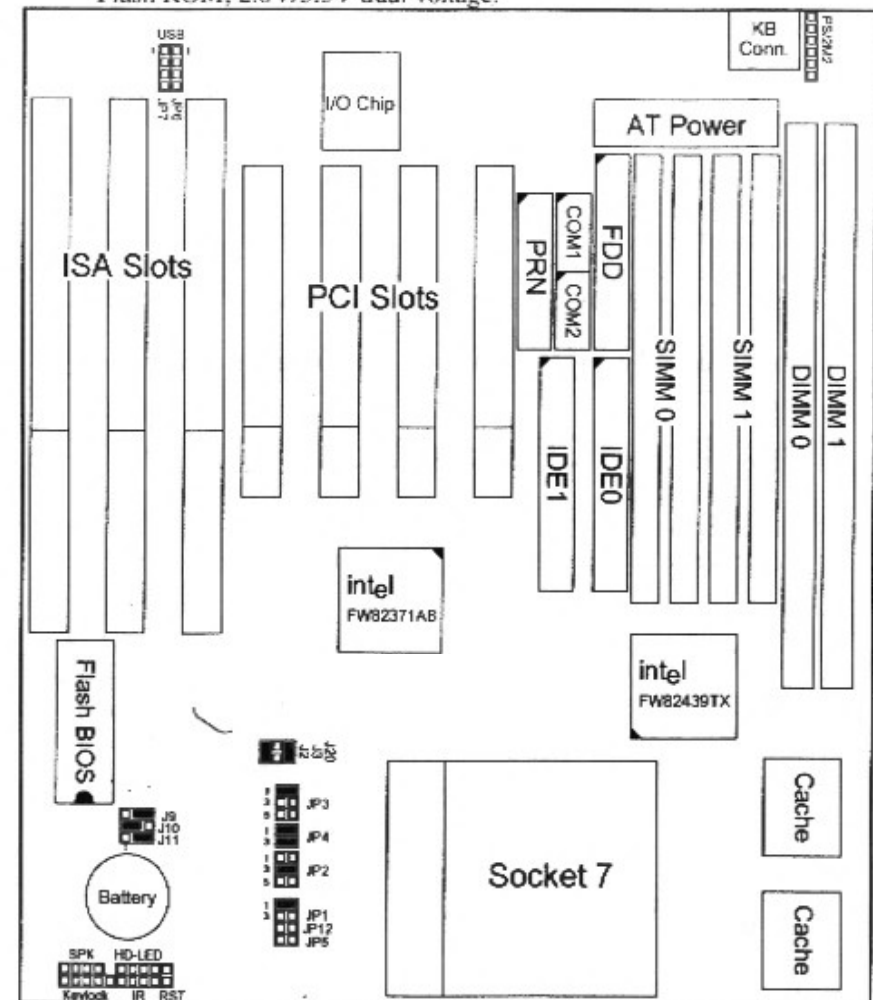


Figure 1-1. Mainboard Default Settings

2 HARDWARE SETUP

This part of the manual shows you how to do the hardware setup of this mainboard. Besides the proper procedures listed below, this section also discusses how to choose the CPU voltage, install the DRAM and SRAM memory, and set the jumper switch settings and connectors on the board.

- Step 1: Installing a CPU into the ZIF Socket 7
- Step 2: CPU Type Configuration
- Step 3: Memory Installation
- Step 4: Setting up the jumper switches
- Step 5: Making connections through connectors

Go to Chapter 3 for BIOS setup after completing the above procedures.

2.1 Installing a CPU Into the ZIF Socket 7

If there is already a CPU in the ZIF socket, remove it by pulling the ZIF socket lever out to the side and then raising it. Then lift out the CPU.

Caution: *Static electricity can cause serious damage to integrated circuit chips. Avoid building up a static electricity charge in your body by touching a grounded object before you touch the chips, and at frequent intervals as you handle the chips.*

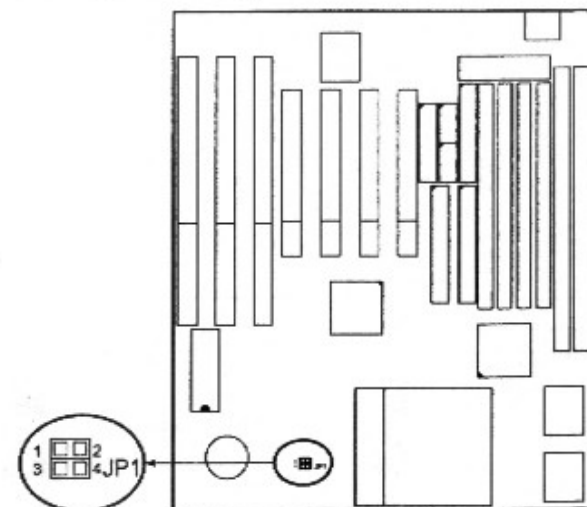
To install a CPU in the ZIF socket:

1. Turn off the system.
2. Find the ZIF socket. Refer to Figure 1-1, "The Main Board Layout," for the location of ZIF socket on the board.
3. Raise the ZIF socket lever by pulling it out to the side and then raising it.
4. Align the pin 1 corner of the CPU and the ZIF socket and place the CPU in the socket.
5. Press the ZIF socket lever down. The socket plate will slide forward. When the CPU is installed fully, the ZIF socket lever should snap into place.

2.2 CPU Type Configuration

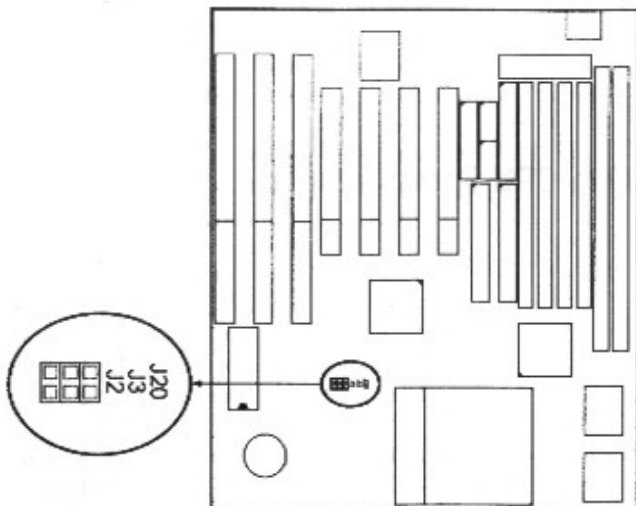
This section shows you how to configure your CPU, but be aware that you need to know your CPU voltage before configuration.

JP1: CPU Speed Jumper



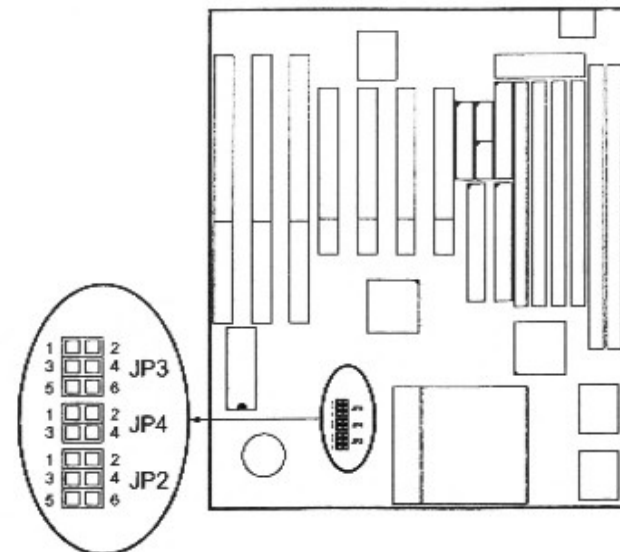
Speed Rate	JP1	Speed Rate	JP1
1.5X 3.5X	JP1 1 [] [] 3 [] []	2.5X	JP1 1 [■] [■] 3 [■] [■]
2.0X	JP1 1 [■] [■] 3 [] []	3.0X	JP1 1 [] [] 3 [■] [■]

J20, J3, J2: CPU External Clock Speed Jumpers



External Clock	J20, J3, J2	External Clock	J20, J3, J2
50MHz	J20: [1,2,3] all black J3: [1,2,3] all black J2: [1,2,3] all black	66MHz	J20: [1,2,3] all black J3: [1,2,3] all white J2: [1,2,3] all black
55MHz	J20: [1,2,3] [1,2] white, [3] black J3: [1,2,3] all black J2: [1,2,3] all black	75MHz	J20: [1,2,3] [1,2] white, [3] black J3: [1,2,3] all black J2: [1,2,3] [1,2] white, [3] black
60MHz	J20: [1,2,3] [1,2] black, [3] white J3: [1,2,3] all black J2: [1,2,3] [1,2] white, [3] black	83MHz	J20: [1,2,3] all black J3: [1,2,3] all white J2: [1,2,3] all white

JP2, JP3, JP4: CPU Power Voltage Jumpers



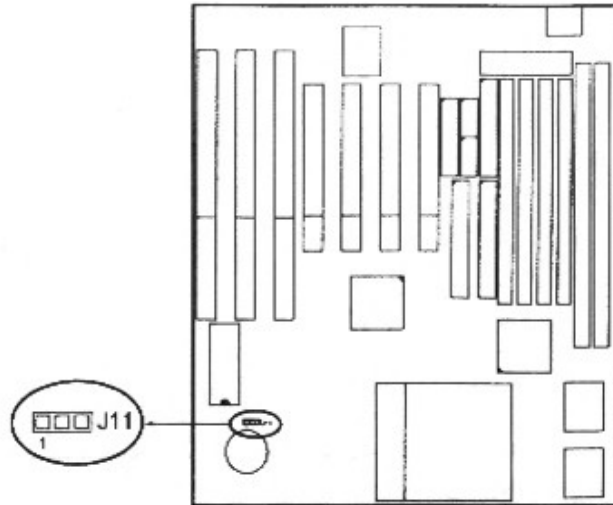
Single Voltage Select

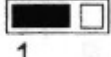
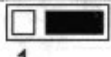
JP2	JP3	JP4
JP2: [1,2,3,4,5] [1,2] white, [3,4,5] black	JP3: [1,2,3,4,5] [1,2] black, [3,4,5] white	JP4: [1,2,3] [1,2] black, [3] white

Dual Voltage Select

Vcore	JP2	JP3	JP4
2.8V		JP3: [1,2,3,4,5] [1] black, [2,3,4,5] white	
3.0V	JP2: [1,2,3,4,5] [1,2] white, [3] black, [4,5] white	JP3: [1,2,3,4,5] [1,2] white, [3] black, [4,5] white	JP4: [1,2,3] [1,2] black, [3] white
3.2V		JP3: [1,2,3,4,5] [1,2,3] white, [4] black, [5] white	

J11 – Flash ROM Voltage Select



J11	Flash ROM Voltage
 1	5V
 1	12V

2.3 Memory Configuration

This SQ573 mainboard supports 72-pin SIMMs (Single Inline Memory modules) of 4MB/8MB/16MB/32MB/64MB to form a memory size between 8MB to 256MB. SIMM must be installed in pairs so that each bank contains two of the same size memory modules. And also, this mainboard supports 168-pin 3.3V unbuffered type DIMMs (Dual Inline Memory modules) of 8MB/16MB/32MB/64MB/128MB. The maximum memory between SIMMs and DIMMs is 256MB.

2.4 Jumper Settings

This section describes some of the connectors on the mainboard.

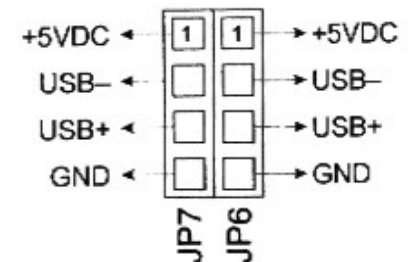
2.5 Connectors

This section describes some of the connectors on the mainboard. Refer to Figure 1-1 and 1-2 for the location of these connectors.

Note: Before making any connections to the board, make sure that the power to the system is turned off.

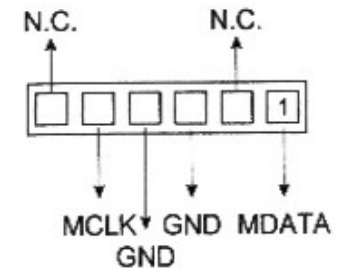
JP6/JP7 – USB Connector

Attach the USB cable to provide connection to USB devices.



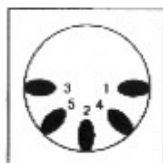
JP10 – PS/2MS Mouse Connector

Attach PS/2 mouse cable to this 6-pin connector adjacent to the keyboard connector.



JP11 – Keyboard Connector

A 5-pin female DIN keyboard connector is located at the upper right corner of the mainboard. Plug the keyboard jack directly into this connector.



AT Power – Power Supply Connector

This power supply connector has two sets of six-wire connectors. Plug the dual connectors onto the board and make sure that the black leads are in the center.

1	POWER GOOD	Orange
2	+5V	Red
3	+12V	Yellow
4	-12V	Blue
5	GROUND	Black
6	GROUND	Black

1	GROUND	Black
2	GROUND	Black
3	-5V	White
4	+5V	Red
5	+5V	Red
6	+5V	Red

Note: Before connecting the power supply, make sure it is not connected to the power source.

HD_LED (JP9) – Hard Disk Activity LED

This connector connects to the hard disk activity indicator light on the case.

RST (J17) – Reset Switch

The system board has a 2-pin connector for rebooting the computer without having to turn off the power switch. Rebooting this way prolongs the life of the system power supply.

KeyLock (KLK1) – Keylock & Power LED Connector

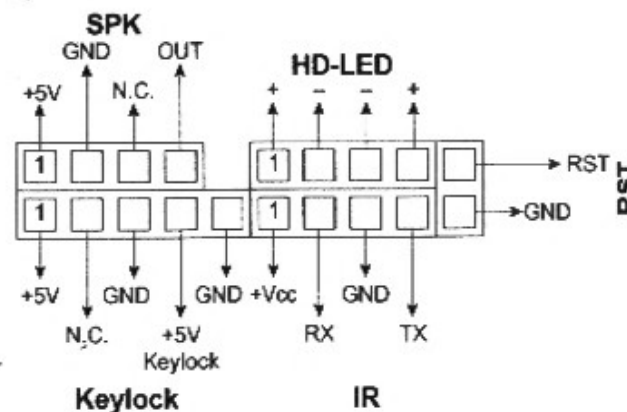
This 2-pin connector enables or disables the keyboard and the Power LED on the case.

SPK (JP8) – Speaker Connector

The speaker connector is a 4-pin connector for connecting the system and the speaker.

IR (IR1) – IR Connector

Attach a 4-pin infrared device cable to this connector for enabling the infrared transfer function. This mainboard meets the specification of ASK1AR and HPSIR.



PRN – Parallel Port

This mainboard provides a 2 x 13-pin parallel port connector.

COM1/COM2 – Serial Port Connectors

This mainboard provides two 2 x 5-pin serial port connectors, COM1 and COM2.

FDD – Floppy Drive Connector

This mainboard has a 2 x 17-pin floppy drive connector.

IDE0/IDE1 – Primary/Secondary IDE Connectors

This mainboard has a 32-bit Enhanced PCI IDE Controller that provides two connectors, IDE0 (primary) and IDE1 (secondary).

Jumper Settings Quick Reference

CPU Settings

CPU-Type	CPU Power Voltage				System Clock			CPU Speed	
	Vcore	JP2	JP3	JP4	MHz	J20, J3, J2	Rate	JP1	
Intel	P54C-75				50		1.5X		
	P54C-90				60		1.5X		
	P54C-120				60		2X		
	P54C-150				60		2.5X		
	P54C-180	Single				60		3X	
	P54C-100				66		1.5X		
	P54C-133				66		2X		
	P54C-166				66		2.5X		
	P54C-200				66		3X		
	P55C-166				66		2.5X		
	P55C-200	2.8V				66		3X	
	P55C-233				66		3.5X		

CPU Settings (Continued)

CPU-Type	CPU Power Voltage				System Clock			CPU Speed	
	Vcore	JP2	JP3	JP4	MHz	J20, J3, J2	Rate	JP1	
Cyrrix	Single				50		2X		
					6x86-P120 ⁺	55			2X
					6x86-P133 ⁺	60			2X
					6x86-P150 ⁺	66			2X
					6x86-P166 ⁺	75			2X
					6x86-P200 ⁺	75			2X
					6x86L-P200	66			2X
					6x86MX-P166 ⁺	66			2.5X
					6x86MX-P200 ⁺	75			2.5X
					6x86MX-P233 ⁺	66			3.0X

CPU Settings (Continued)

CPU-Type	CPU Power Voltage				System Clock			CPU Speed	
	Vcore	JP2	JP3	JP4	MHz	J20, J3, J2	Rate	JP1	
AMD	Single				50		1.5X		
					K5-PR75	60			1.5X
					K5-PR90	66			1.5X
					K5-PR100	60			2X
					K5-PR120	66			2X
					K5-PR133	66			2.5X
					K5-PR166	66			2.5X
					K6-PR166	66			3X
					K6-PR200	66			3.5X
					K6-PR233	66			3.5X

Jumpers and Connectors

The jumper switches and their functions of this mainboard are listed in the table below.

Jumper	Function	Page
JP1	CPU Speed	7
JP2, JP3, JP4	CPU Voltage Select	9
JP6	USB0 Connector	11
JP7	USB1 Connector	11
JP8	Speaker Connector	13
JP9	HD_LED	13
JP10	PS2MS Mouse Connector	11
JP11	Keyboard Connector	12
J20, J3, J2	CPU Clock	8
J11	FLASH ROM Voltage Select	10
J17	Reset Switch	13
IR1	IR Connector	13
KLK1	Keylock Switch	13
AT Power	Power Supply Connector	12
PRN	Parallel Connector	14
COM1/COM2	Serial Port Connectors	14
FDD	Floppy Disk Connector	14
IDE0/IDE1	Primary/Secondary IDE Connectors	14

3 AWARD BIOS SETUP

The ROM chips of your mainboard are configured with a customized Basic Input/Output System (BIOS) from Award Software Inc. The BIOS is a set of permanently recorded program routines that give the system its fundamental operational characteristics. It also tests the computer and determines how the computer reacts to specific instructions that are part of programs.

The BIOS is made up of codes and programs that provide the device level control for the major I/O devices in the system. It contains a set of routines (called POST, for Power-On Self Test) that check out the system when you turn it on. The BIOS also includes CMOS Setup programs, so no disk-based setup program is required. CMOS RAM stores information for:

- the date and time
- the memory capacity of the mainboard
- the type of display adapter installed
- the number and type of disk drives installed.

The CMOS memory is maintained by a battery installed on the mainboard. By using the battery, all memory in CMOS can be retained when the system power switch is turned off.

Use the CMOS Setup program to modify the system parameters to reflect the options installed in your system and to customize your system as desired. For example, you should run the Setup program after you:

- replace the battery
- install another disk drive
- receive an error code at startup
- use your system after not having used it for a long time

- find the original setup missing.

Run the CMOS Setup program after you turn on the system. On-screen instructions explain how to use the program.

3.1 Entering the CMOS Setup Program

1. Turn on or reboot the system. After a series of diagnostic checks, the following message will appear:

PRESS TO ENTER SETUP

2. Press the key and the main program screen appears as in figure 3-1.

ROM PCI/ISA BIOS (Rose) CMOS SETUP UTILITY AWARD SOFTWARE, INC.	
STANDARD CMOS SETUP	INTEGRATED PERIPHERALS
BIOS FEATURES SETUP	PASSWORD SETTING
CHIPSET FEATURES SETUP	IDE HDD AUTO DETECTION
POWER MANAGEMENT SETUP	SAVE & EXIT SETUP
PNP/PCI CONFIGURATION	EXIT WITHOUT SAVING
LOAD SETUP DEFAULTS	
Esc : Quit	↑ ↓ → ← : Select Item
F10 : Save & Exit Setup	(Shift) F2 : Change Color
Time, Date, Hard Disk Type...	

Figure 3-1. Main Program Screen

3. Use one of the arrows on the keyboard to select an option and press <Enter>. Modify the system parameters to reflect the options installed in the system.
4. Return to the Main Menu anytime by press <ESC>.
5. In the Main Menu, "SAVE AND EXIT SETUP" saves the changes and reboots the system, and "EXIT WITHOUT SAVING" ignores the changes and exits the program.

Standard CMOS Setup

Standard CMOS Setup records some basic system hardware configuration and sets the system clock and error handling. Use this option to change configuration values when changing the system hardware setup or when the data stored in the CMOS memory gets lost or damaged.

Run the Standard CMOS Setup as follows:

1. Choose "STANDARD CMOS SETUP" from the Main Menu and a screen depicted in Figure 3-2 appears.

ROM PCI/ISA BIOS (Rose) STANDARD CMOS SETUP AWARD SOFTWARE, INC.									
Date (mm:dd:yy) : Tue, Jul 22 1997									
Time (hh:mm:ss) : 15:45:13									
HARD DISKS	TYPE	SIZE	CYLS	HEAD	PRECOMP	LANDZ	SECTOR	MODE	
Primary Master	: Auto	0	0	0	0	0	0	0	AUTO
Primary Slave	: None	0	0	0	0	0	0	0	----
Secondary Master	: None	0	0	0	0	0	0	0	----
Secondary Slave	: None	0	0	0	0	0	0	0	----
Drive A : 1.44M, 3.5 in.							Base Memory: 640K		
Drive B : None							Extended Memory: 64512K		
Video : EGA/VGA							Other Memory: 384K		
Halt On : All Errors							Total Memory: 65536K		
Esc : Quit			↑ ↓ → ← : Select Item			PU/PD/+/- : Modify			
F11 : Help			(Shift) F2 : Change Color						

Figure 3-2. Standard CMOS Setup Screen

2. Use one of the arrow keys to move between options and modify the selected options by using PgUp/PgDn/+/- keys.

A short description of screen options (Figure 3-2) follows:

Date (mm:dd:yy)	Set the current date.
Time (hh:mm:ss)	Set the current time.
Primary/Secondary Master/Slave	This field records the specifications for all non-SCSI hard disk drives installed in the system. Refer to the respective documentation on how to install the drivers.

Drive A/B	Set this field to the types of floppy disk drives installed in the systems. The choices are: 360KB, 5.25 in.; 72KB, 3.5 in.; 1.44MB, 3.5 in.; (default) 2.88MB, 3.5 in.; or None.
Video	Set this field to the type of video display card installed in the system. The choices are: Monochrome; CGA 40; VGA/EGA (default); or CGA 80.
Halt On	Set this field to the type of errors that will cause the system to halt. The choices are: All Errors (default); No Errors; All, But Keyboard; All, But Diskette; or All, But Disk/Key.

- Press <ESC> to return to the Main Menu when you finish setting up in the "STANDARD CMOS SETUP".

BIOS Features Setup

BIOS Features Setup allows you to fine tune the system to improve performance or to record the system feature preferences.

Run the BIOS Features Setup as follows:

- Choose "BIOS FEATURES SETUP" from the Main Menu, and a screen depicted in Figure 3-3 will appear.

ROM PCI/ISA BIOS 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	: C,A,SCSI	D4000-D7FFF Shadow	: Disabled
Swap Floppy Drive	: Disabled	D8000-DBFFF Shadow	: Disabled
Boot Up Floppy Seek	: Disabled	DC000-DFFFF Shadow	: Disabled
Boot Up NumLock Status	: On		
Boot Up System Speed	: High		
Typeomatic Rate Setting	: Disabled		
Typeomatic Rate (Chars/Sec)	: 6		
Typeomatic 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	
Assign IRQ for VGA	: Disabled	F7 : Load Setup Defaults	
OS Select For DRAM > 64MB			

Figure 3-3. BIOS Features Setup Screen

- Use one of the arrow keys to move between options and modify the selected options by using PgUp/PgDn/+/- keys. An explanation of the <F> keys follows:

<F1>:	"Help" gives options available for each item.
Shift <F2>:	Changes color.
<F5>:	Resets the previous values. These values are the values with which the user started the current session.
<F6>:	Loads all options with the BIOS default values.
<F7>:	Loads all options with the Setup default values.

A short description of screen options (Figure 3-3) follows:

Virus Warning	Choose Enabled or Disabled (default).
CPU Internal Cache	Choose Enabled (default) or Disabled. This option allows the enabling or disabling of the CPU internal cache.
External Cache	Choose Enabled (default) or Disabled. This option allows the enabling or disabling of the external cache memory.
Quick Power On Self Test	Choose Enabled (default) or Disabled. This option speeds up the Power On Self Test routine.

Boot Sequence	Choose "C: A, SCSI" (default), or others. This option determines which drive to engage first for the operating system.
Swap Floppy Drive	Choose Enabled or Disabled (default). This option swaps floppy drive assignments when enabled.
Boot Up Floppy Seek	Choose Disabled (default) or Enabled.
Boot Up NumLock Status	Choose On (default) or Off. This option activates the NumLock function at boot-up time.
Boot Up System Speed	Choose High (default) or Low.
Typematic Rate Setting	Choose Enabled or Disabled (default). Enable this option to adjust the keystroke repeat rate.
Typematic Delay (Chars/Sec)	Range between 6 (default) and 30 characters per second. This option controls the speed of repeating keystrokes.
Typematic Delay (Msec)	Choose 250 (default), 500, 750, or 1000. This option sets the time interval for displaying the first and the second characters.
Security Option	Choose System or Setup (default). This option is used to prevent unauthorized system boot-up or use of BIOS Setup.
Assign IRQ for VGA	Choose Enabled or Disabled (default).
Video BIOS Shadow	Enabled (default): maps the VGA BIOS to system RAM for greater performance. Disabled: No mapping of the VGA BIOS to system RAM.
C8000-CBFFF to DC000-DFFF Shadow	These options are used to shadow other expansion cards' ROM.

- Press <ESC> and follow the screen instructions to save or disregard the changes.

Chipset Features Setup

Chipset Features Setup changes the values of the chipset registers. These registers control the system options. Modification other than the default value should first have chipset knowledge.

Run the Chipset Features Setup as follows:

- Choose "CHIPSET FEATURES SETUP" from the Main Menu and a screen depicted in Figure 3-4 appears.

ROM PCI/ISA BIOS (Rose) CHIPSET FEATURES SETUP AWARD SOFTWARE, INC.	
Auto Configuration	: Enabled
DRAM Timing	: 70 ns
DRAM R/W Leadoff Timing	: 10/6/4
DRAM Read Burst (EDO/FP)	: x333/x444
DRAM Write Bursts Timing	: x333
Fast EDO Lead Off	: Disabled
Refresh RAS# Assertion	: 5 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	: Enabled
Video BIOS Cacheable	: Enabled
8 Bit I/O Recovery Time	: 1
16 Bit I/O Recovery Time	: 2
Memory Hole At 15M-16M	: Disabled
PCI 2.1 Compliance	: Disabled
ESC	: Quit
F1	: Help
F5	: Old Values (Shift)F2 : Color
F7	: Load Setup Defaults
↑ ↓ → ←	: Select Item
FU/PD/+/-	: Modify

Figure 3-4. Chipset Features Setup Screen

- Use one of the arrow keys to move between options and modify the selected options by using PgUp/PgDn/+/- keys.

A short description of screen options (Figure 3-4) follows:

DRAM Timing	Default is 70ns.
System BIOS Cacheable	Default is Enabled.
Video BIOS Cacheable	Default is Enabled.
8 Bit I/O Recovery Time	Default is 1.
16 Bit I/O Recovery Time	Default is 2.

- Press <ESC> and follow the screen instructions to save or disregard your settings.

Power Management Setup

Power Management Setup sets the system instructions power saving functions.

1. Choose "POWER MANAGEMENT SETUP" from the Main Menu and a screen depicted in Figure 3-5 will appear.

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

Power Management	: Disabled	** Reload Global Timer Events **	
PM Control by APM	: Yes	IRQ (3-7, 9-15), NMI	: Disabled
Video Off Method	: Blank Screen	Primary IDE0	: Disabled
Modem Use IRQ	: 3	Primary IDE1	: Disabled
Doze Mode	: Disabled	Secondary IDE0	: Disabled
Standby Mode	: Disabled	Secondary IDE1	: Disabled
Suspend Mode	: Disabled	Floppy Disk	: Disabled
HDD Power Down	: Disabled	Serial Port	: Disabled
Throttle Duty Cycle	: Disabled	Parallel Port	: Disabled
ZZ Active in Suspend	: Disabled		
VGA Active Monitor	: Disabled		
CPUFAN Off In Suspend	: Disabled		
Resume by Ring	: Disabled		
** Break Event From Suspend **		ESC : Quit	↑ ↓ → ← : Select Item
IRQ8 Clock Event	: ON	F1 : Help	Pu/PD/+/- : Modify
		F5 : Old Values (Shift)F2 : Color	
		F7 : Load Setup Defaults	

Figure 3-5. Power Management Setup Screen

2. Use one of the arrow keys to move between options and modify the selected options by using PgUp/PgDn/+/- keys.

A short description of screen options (Figure 3-5) follows:

Power Management	Choose Max, Saving, User Define, Disabled (default), or Min. Saving.
PM Control by APM	Choose Yes (default) or No. Choose Yes if the operating system has APM functions, choose No otherwise.
Video Off Method	Choose Blank Screen (default), DPMS, or V/H Sync+Blank. You can choose either DPMS or V/H Sync+Blank when the monitor has the Green function. Choose Blank when the monitor has no Green function.
Doze Mode	This option sets the CPU speed down to 33 MHz to conserve power.

Standby Mode	Standby Mode turns off the VGA monitor, choose a mode for the different timers.
Suspend Mode	Suspend Mode turns off the CPU, thus saving the energy of the systems.
HDD Power Down	When the set time has elapsed, the BIOS sends a command to the HDD to power down.
Wake-Up Event	Set these IRQs individually. Activity detected from any enabled IRQ channel (ON) will wake up the system.

3. Press <ESC> and follow the screen instructions to save or disregard your settings.

PnP/PCI Configuration Setup

PnP/PCI Configuration Setup configures the PCI bus slots. Run the PnP/PCI Configuration Setup as follows:

1. Choose "PNP/PCI CONFIGURATION SETUP" from the Main Menu and a screen depicted in Figure 3-6 will appear.

ROM PCI/ISA BIOS (Rose)
PNP/PCI CONFIGURATION SETUP
AWARD SOFTWARE, INC.

PnP OS Installed	: No	PCI IDE IRQ Map To	: ISA
Resources Controlled By	: Auto		
Reset Configuration Data	: Disabled		
		ESC : Quit	↑ ↓ → ← : Select Item
		F1 : Help	Pu/PD/+/- : Modify
		F5 : Old Values (Shift)F2 : Color	
		F7 : Load Setup Defaults	

Figure 3-6. PnP/PCI Configuration Setup Screen

2. Use one of the arrow keys to move between options and modify the selected options by using PgUp/PgDn/+/- keys.

A short description of screen options (Figure 3-6) follows:

Resources Controlled By	Choose Auto (default) or Manual.
--------------------------------	----------------------------------

Reset Configuration Data	Choose Enabled or Disabled (default).
PCI IRQ Activated By	Choose Level or Edge (default).
PCI IDE IRQ Map To	Choose ISA (default), PCI-Auto, PCI-SLOT1 through PCI-SLOT4.
Primary/Secondary IDE INT#	These options are available when selecting PCI-Auto or PCI-SLOT1~4 in "PCI IDE IRQ Map to". Choose INT#A through D.

- Press <ESC> and follow the screen instructions to save or disregard your settings.

Load Setup Defaults

Load Setup Defaults option loads the default system values to the system configuration fields. If the CMOS is corrupted, the defaults are loaded automatically. Choose this option, and the following message will appear:

```
Load Setup Defaults (Y/N)? N
```

To use the Setup defaults, change the prompt to "Y" and press <Enter>.

Integrated Peripherals Setup

- Choose "INTEGRATED PERIPHERALS SETUP" from the Main Menu, and a screen depicted in Figure 3-7 will appear.

```

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

```

IDE HDD Block Mode : Enabled	Onboard Parallel Port : 378/IRQ7
IDE Primary Master PIO : Auto	Parallel port Mode : SPP
IDE Primary Slave PIO : Auto	
IDE Secondary Master PIO : Auto	
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	
PCI Slot IDE 2nd Channel : Enabled	
Onboard FDD Controller : Enabled	
Onboard Serial Port 1 : 3F8/IRQ4	
UR1 Mode : Normal	
Onboard Serial Port 2 : 2F8/IRQ3	
UR2 Mode : Normal	

```

ESC : Quit      ↑ ↓ → ← : Select Item
F1  : Help      F0/PD/+/- : Modify
F5  : Old Values (Shift)F2 : Color
F7  : Load Setup Defaults

```

Figure 3-7. Power Management Setup Screen

- Use one of the arrow keys to move between options and modify the selected options by using PgUp/PgDn/+/- keys.

A short description of screen options (Figure 3-7) follows:

IDE HDD Block Mode	Choose Enabled (default) or Disabled. If the hard disk size is larger than 540MB, choose Enabled.
IDE Primary Master/Slave PIO; IDE Secondary Master/Slave PIO	Choose Auto (default) or Mode 0-4. The BIOS detects the HDD Mode type automatically when select Auto. Set to a lower mode other than Auto when the hard disk becomes unstable.
On-Chip Primary/Secondary PCI IDE	Enabled (default): Turns on the on-board IDE function. Disabled: Turns off the on-board IDE function.
PCI Slot IDE 2nd Channel	Enabled (default): Reserved IRQ15 for secondary IDE device. Disabled: Releases IRQ15 for other devices.
Onboard FDD Controller	Choose Enabled (default) or Disabled. Choose Disabled when you use an ISA card with FDD function, or, choose Enabled to use the onboard FDD connector.
Onboard Serial Port1	Choose COM1/3F8 (default), COM2/2F8, COM3/3E8, COM4/2E8, or Disabled. Do not set COM port 1 & 2 to the same value except Disabled.
Onboard Serial Port2	Choose COM1/3F8, COM2/2F8 (default), COM3/3E8, COM4/2E8, or Disabled.
Onboard Parallel Port	Choose the printer I/O address: 378H (default), 3BCH, 278H, Disabled.
Parallel Port Mode	Choose ECP/EPP (default), SPP, EPP, or ECP mode. The mode depends on the external device that connects to this port.

ECP Mode Use DMA	Choose 3 (for DMA3 as default) or 1 (for DMA1). Most sound cards use DMA1. Make sure the sound card configuration does not conflict with this function.
-------------------------	---

- Press <ESC> and follow the screen instructions to save or disregard your settings.

Password Setting

This option allows the user to set the system password. To set the password:

- Choose "Password Setting" in the Main Menu and press <Enter>. The following message appears:

"Enter Password:"
- When running this option for the first time, enter the password (up to 8 characters) and press <Enter>. For security, the screen will not display the entered characters.
- After entering the password, the following message appears prompting for the confirmation of the password:

"Confirm Password:"
- Enter the same password again to confirm the password and press <Enter>.
- Move the cursor to Save & Exit to save the password.
- To delete the password entered before, choose the "Password Setting" and press <Enter>. This will delete the old password.
- Move the cursor to Save & Exit to save the option, otherwise the old password will still be stored when you turn on the machine the next time.
- Press <ESC> to exit to the Main Menu.

Note: If you forget or lose the password, the only way to access the system is to clear the CMOS RAM by shorting J7 across pin2

and 3. All setup information will be lost and you will need to run the BIOS setup program again.

IDE HDD Auto Detection

IDE HDD Auto Detection detects the parameters of an IDE hard disk drive and automatically enters them to the Standard CMOS Setup Screen.

After selecting this option, the screen prompts for a selection of a specific hard disk for Primary Master after you select this option. Enter "Y" to confirm the acceptance of the hard disk detected by the BIOS. Press <Enter> to check next hard disk. This function checks up to four hard disks. User can press the <ESC> after the <Enter> to skip this function to return to the Main Menu.

Save & Exit Setup

Save & Exit Setup saves all modifications specified into the CMOS memory. Highlight this option on the Main Menu and the following message will appear:

SAVE to CMOS and EXIT (Y/N)? Y

Press <Enter> key to save the configuration changes.

Exit Without Saving

Exit Without Saving exits the Setup utility without saving the modifications specified. Highlight this option on the Main Menu and the following message will appear:

Quit Without Saving (Y/N)? N

To quit without saving, change the prompt to "Y" and press <Enter> key to exit.

3.2 FLASH ROM Utility

This section shows you how to update your BIOS program.

Step 1: Make sure your operating environment is DOS (not windows DOS session) and remove every configured driver by renaming the config.sys and autoexec.bat, then reboot.

Step 2: Use the command in c prompt, such as:

```
flash <path>0701.bin
```

or

```
flash
```

then type file name later.

The following screen will appear:

```

FLASH MEMORY WRITER v5.2B
Copyright (C) 1993, Award Software, Inc.

For i430TX-03181997C      Date: 05/23/97
Flash Type-
File Name to Program: 0701.bin

Error Message:

```

Step 3: Select Y or N when the utility asks to save the older version of BIOS or not. Go to Step 4 if select Y, otherwise enter the file name to save, then go to Step 4.

```

FLASH MEMORY WRITER v5.2B
Copyright (C) 1993, Award Software, Inc.

For i430TX-03181997C      Date: 05/23/97
Flash Type-
File Name to Program: 0701.bin

Error Message: Do You Want To Save BIOS (Y/N)?

```

Step 4: Make sure that you really need to update your system BIOS, then press Y to go on, otherwise stop it.

```

FLASH MEMORY WRITER v5.2B
Copyright (C) 1993, Award Software, Inc.

For i430TX-03181997C      Date: 05/23/97
Flash Type-
File Name to Program: 0701.bin

Error Message: Are You Sure To Program (Y/N)?

```