SY-6ZB Motherboard

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Pentium® III, Pentium® II & Celeron™

Processor supported

82440 ZX AGP/PCI Motherboard

66&100MHz Front Side Bus supported

Baby-AT Form Factor

****

User's Guide

&

Technical Reference

About This Guide

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

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Version 1.0
6ZB SERIAL

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

100% POST CONSUMER RECYCLED PAPER

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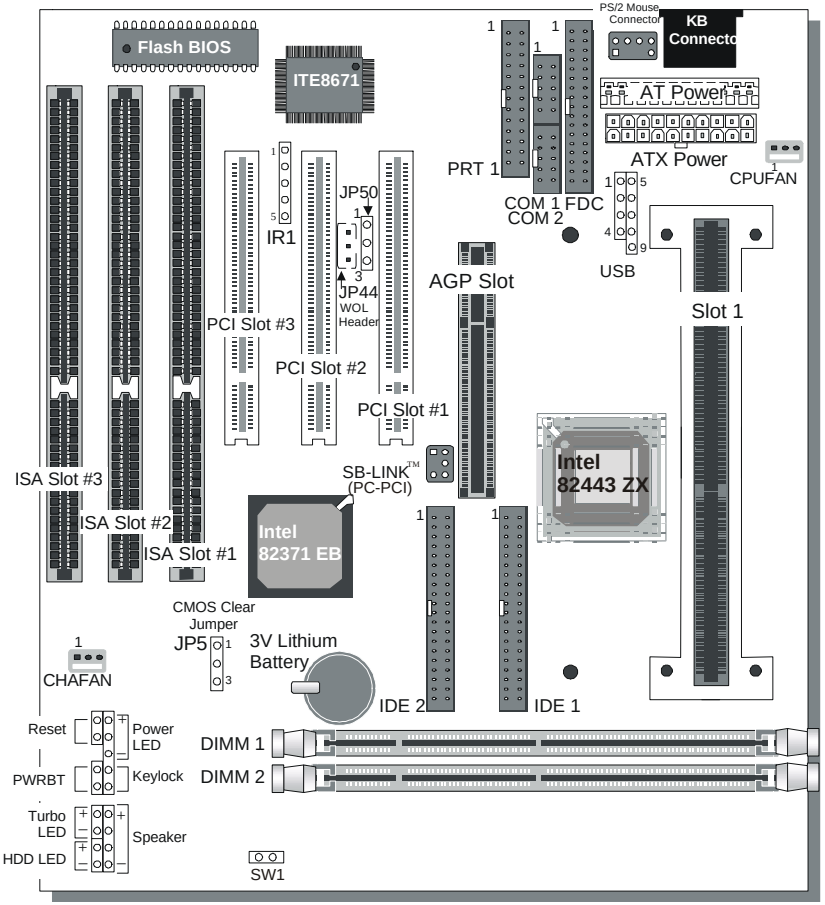


SY-6ZB Platform

Chapter 1

INTRODUCTION

The **SY-6ZB** AGP/PCI Motherboard is a high-performance Slot 1 processor supported Baby-AT form-factor system board. **SY-6ZB** uses the 82440 ZX Chipset technology and supports Slot 1 processors. This Motherboard is fully compatible with industry standards and adds many technical enhancements.

1-1 KEY FEATURES

Supports Intel Pentium® III processor (450-500MHz), Pentium® II processor (233-450MHz) & Celeron™ processor (266-433MHz)
Auto-detect CPU voltage
PC98, ACPI, Ultra DMA/33
Supports system memory up to 256 MBytes
Power-on by modem or alarm
Supports Wake-On-LAN (WOL)
Supports power-on by keyboard
Supports onboard hardware monitoring
and includes Hardware Doctor ™utility
Supports Creative SB-LINK ™(PC-PCI) for PCI audio
1 x 32-bit AGP slot
3 x 32-bit bus mastering PCI slots
3 x 16-bit ISA slots
2 x USB ports onboard
1 x IrDA port
Supports multiple-boot function

SY-6ZB PLATFORM FEATURES

Board Size	4-layer PCB, 22x25cm(8.7"x 9.8"), Baby-AT Form Factor
Slot1	Slot 1 for Pentium® III, Pentium® II & Celeron™ Processor ➢ Supports the following processors ◆ **100MHz FSB** Pentium® II 350/400/450 MHz Pentium® III 450/500 MHz ◆ **66MHz FSB** Pentium® II 233/266/300/333 MHz Celeron™ 300A/333/366/400/433 MHz Celeron™ 266/300 MHz ➢ Supports both boxed and non-boxed type of CPUs ➢ Includes a CPU mount kit with retention clip ➢ Features Auto-detection of CPU voltage
Chipset	82440 ZX AGP Set
ATX Power	20-pin Male Connector
CPUFAN	3-pin CPU Cooling Fan Connector
Memory	DIMM Bank (DIMM1~2) ➢ Four strips of 168-pin Unbuffered SDRAM DIMM ➢ Supports 8/16/32/64/128MB DIMM modules in each bank ➢ Provides up to 256 Mbytes of main memory
BIOS	System BIOS built-in, Award BIOS ➢ APM, ACPI and "Plug-and-Play" function ➢ Supports multiple-boot function ➢ Onboard FLASH memory for easy upgrade ➢ Y2K Compliant
Bus Controller	Compliant with version 2.1 PCI specifications
PCI Slots	3 x 32-bit Bus Mastering Slots
AGP Slot	1 x 32-bit AGP Slot
ISA Slots	3 x 16-bit ISA Slots
IDE1, IDE2	2 x 40-pin Bus Mastering E-IDE/ATAPI Ports

	➢ IDE1: Primary IDE Device Connector ➢ IDE2: Secondary IDE Device Connector ➢ Supports Ultra DMA/33
FDC	1 Floppy Disk Drive (FDD) Port (Supports 1.2MB/1.44MB/2.88MB and LS120/3-mode FDD)
IR1	5-pin Serial Infrared Device Header
Keylock	5-pin KeyLock Header
Reset	2-pin Reset Switch Header
Speaker	4-pin PC Speaker Header
TB_LED	2-pin Turbo LED Header
HDD_LED	2-pin IDE Device LED Header
PWRBT	ATX Power On/Off Switch 2-pin Header
JP5	CMOS Clear Jumper
JP44	WOL (Wake-On-LAN) 3-pin Header
JP50	Power On by Keyboard Jumper
SW1	AGP operating speed Select Jumper
SBLINK ™	PCI Audio Card Header (PC-PCI)
PRT	25-pin Female external Parallel connector ➢ ECP/EPP/SPP multi-mode parallel printer port
COM1, COM2	10-pin Serial Port Connector ➢ Feature 2 x high-speed UARTs (with 16550 FIFO)
AT Keyboard	5-pin female AT Keyboard connector
PS/2 Mouse	6-pin male PS/2 mouse connector
USB1,USB2	Dual-row 9-pin header

1-2 HANDLING THE MOTHERBOARD

To avoid damage to your Motherboard, follow these simple rules while unpacking:

- Before handling the Motherboard, ground yourself by grasping an unpainted portion of the system's metal chassis.
- Remove the Motherboard from its anti-static packaging. Hold the Motherboard by the edges and avoid touching its components.
- Check the Motherboard for damage. If any chip appears loose, press carefully to seat it firmly in its socket.

Warning: Do not apply power if the Motherboard appears damaged. If there is damage to the board, contact your dealer immediately.

1-3 ELECTROSTATIC DISCHARGE PRECAUTIONS

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

To protect your equipment from electrostatic discharge, take the following precautions:

- Do not remove the anti-static packaging until you are ready to install.
- 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 Motherboard by its edges and avoid touching its components.

Chapter 2

HARDWARE SETUP

Congratulations on your purchase of **SY-6ZB** Motherboard. You are about to install and connect your new Motherboard.

Note: Do not unpack the Motherboard from its protective anti-static packaging until you have made the following preparations.

2-1 PREPARATIONS

Gather and prepare all the following hardware equipment to complete the installation successfully:

1. Slot 1 processor with built-in CPU cooling fan (boxed type).

Note: This Motherboard supports non-boxed type CPUs. The heavier CPU cooling fan requires the installation of a CPU support stand.

2. DIMM memory module
3. Computer case and chassis with adequate power supply unit
4. Monitor
5. PS/2 Keyboard
6. Pointing Device (PS/2 mouse)
7. Speaker(s) (optional)
8. Disk Drives: HDD, CD-ROM, Floppy drive …
9. External Peripherals: Printer, Plotter, and Modem (optional)
10. Internal Peripherals: Modem and LAN cards (optional)

2-2 UNPACKING THE MOTHERBOARD

When unpacking the Motherboard, check for the following items:

- The SY-6ZB 440 ZX AGP/PCI Motherboard
- This Quick Start Guide *
- The Installation CD-ROM *
- One IDE Device Flat Cable
- One Floppy Disk Drive Flat Cable
- One bracket with one 9-pin serial connector, attached with 9-pin falt cable, and one 6-pin PS/2 mouse connector, attached with 6-pin cable.
- One bracket with one 25-pin connector parallel connector attached with 25-pin flat cable and one 9-pin serial connector attached with 9-pin flat cable.

* If your board comes with a driver disc and a paper manual, the Quick Start Guide and the CD-ROM are not included in the package.

Warning: Do not unpack the Motherboard from its anti-static packaging until you are ready to install it.

Like most electronic equipment, your Motherboard may be damaged by electrostatic discharge. To avoid permanent damage to components ground yourself while working by using a grounding strap. Otherwise, ground yourself frequently by touching the unpainted portion of the computer chassis to drain the static charges.

Handle the Motherboard carefully, holding it by the edges.

You are now ready to start the installation.

2-3 INSTALLATION GUIDE

We will now begin the installation of the Motherboard. Please follow the step-by-step procedure designed to lead you to a complete and correct installation.

Warning: Turn off the power to the Motherboard, system chassis, and peripheral devices before performing any work on the Motherboard or system.

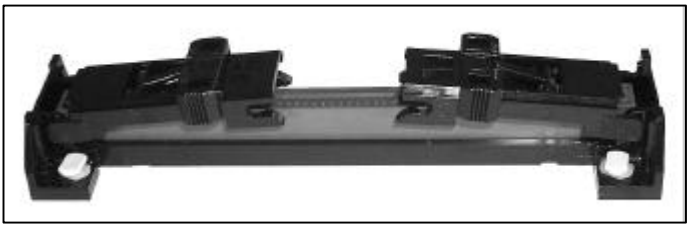
BEGIN THE INSTALLATION

Step 1. CPU Installation

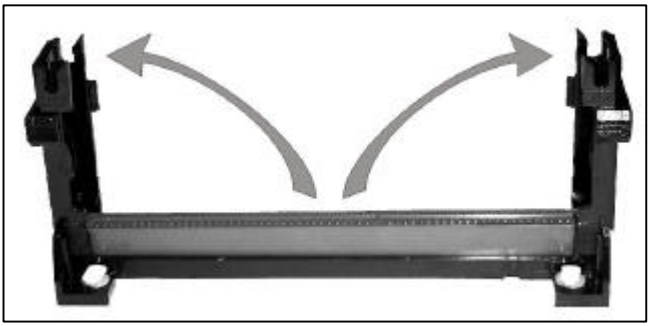
Your SY-6ZB motherboard comes with a CPU retention set kit. The retention set is used to hold the processor attached to the Slot 1 CPU connector on the motherboard.

Follow these instructions to install your Slot 1 processor correctly.

- Retention Module



1. Open the two sides by folding them up.



2. Push the locks on top of the CPU inward.

3. Insert the CPU into the retention module. The CPU fits in the CPU slot in only ONE way, do not try to force it in.

4. After completely inserting the CPU, push the two locks on top of the CPU outward. Now your CPU is ready for use.

To remove the CPU, press the two notches on top of the CPU inward. Now press the two slides on the retention module down and remove the CPU.

Note: Installing a heat sink and cooling fan on top of your CPU is necessary for proper heat dissipation. Failing to install these items may result in overheating and possible burn-out of your CPU.

Step 2. CPU Fan Installation

Your Slot 1 processor kit comes with a cooling fan. Mount the fan on the processor according to the instructions provided by the manufacturer. The fan is a key component that will ensure system stability. The fan prevents overheating, therefore prolonging the life of your CPU.

Note: Remember to connect the fan to the appropriate power source.

Step 3. SDRAM Memory Module Installation

This Motherboard features 2 x DIMM Banks for 168-pin 3.3V unbuffered two DIMM modules. Your board comes with two DIMM sockets, providing support for up to 256MB of main memory using DIMM modules from 8MB to 128MB. For 66MHz front side bus CPUs use 12ns or faster memory; for 100MHz front side bus CPUs use 8ns (100MHz, PC100 compliant) memory.

Number of Memory Modules	DIMM 1	DIMM 2
1	1st	
2	1st	2nd
RAM Type	SDRAM	
Memory Module Size (MB)	8/16/32/64/128 Mbytes	

Important: It is of prime importance that you install DIMM modules as outlined in the table above in order to preserve signal integrity on 100MHz front side bus systems.

Step 4. IDE Device Installation (HDD, CD-ROM)

This Motherboard offers two primary and secondary IDE device connectors (IDE1, IDE2.) It can support up to four high-speed HDD or CD-ROM.

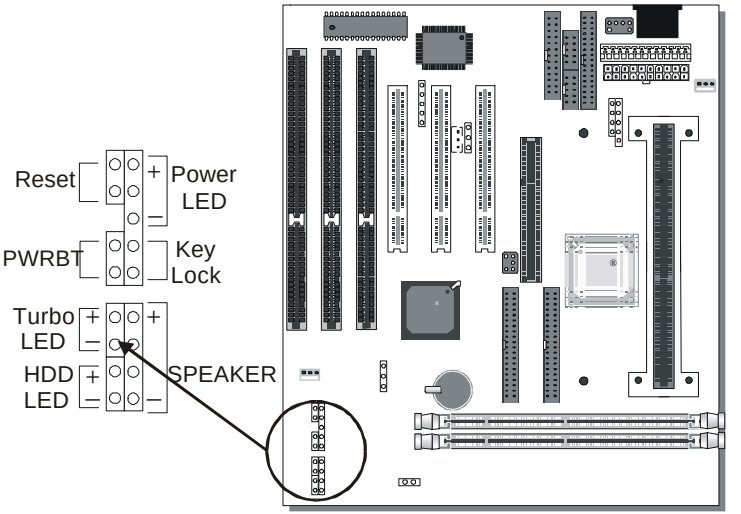
Connect one side of the 40-pin flat cable to the IDE device (HDD or CD-ROM) and plug the other end to the primary (IDE1) or secondary (IDE2) directionally keyed IDE connector on the Motherboard. This Motherboard can support up to four HDDs.

Step 5. Floppy Drive Installation

The system supports 5 possible floppy drive types: 720 KB, 1.2 MB, 1.44 MB, 2.88 MB, and LS-120. In addition, this Motherboard supports a 3-mode (720KB/1.2MB/1.44MB) floppy commonly used in Japan.

Connect one side of the 34-pin flat cable to the floppy drive and plug the other end to the floppy drive connector on the Motherboard. This Motherboard can support up to 2 floppy drives.

Step 6. Front Panel Connections



Plug the computer case's front panel devices to the corresponding headers on the Motherboard.

1. Power LED & KeyLock

Plug the Power LED cable into the 5-pin Keylock header.
Some systems may feature a KeyLock function with a front panel switch for enabling or disabling the keyboard. Connect the KeyLock switch to the 5-pin Keylock header on the Motherboard.
Please install according to the following pin assignment: pin 1,3 are for Power LED and pin 4,5 are for Keylock.

2. Reset

Plug the Reset push-button cable into the 2-pin Reset header on the Motherboard. Pushing the Reset button on the front panel will cause the system to restart the boot-up sequence.

3. Speaker

Attach the 4-pin PC speaker cable from the case to the Speaker header on the Motherboard.

4. Turbo LED

Connecting the 2-pin Turbo LED cable to the corresponding Turbo LED header will cause the LED to light whenever the system is in Turbo mode.
The manufacturer has permanently set this Motherboard in Turbo mode due to most hardware and software compliance to turbo mode.

5. IDE LED

Attach the 2-pin IDE device LED cable to the corresponding IDE LED header on the Motherboard. This will cause the LED to lighten when an IDE (HDD, CD-ROM) device is active.

6. ATX Power On/Off Switch

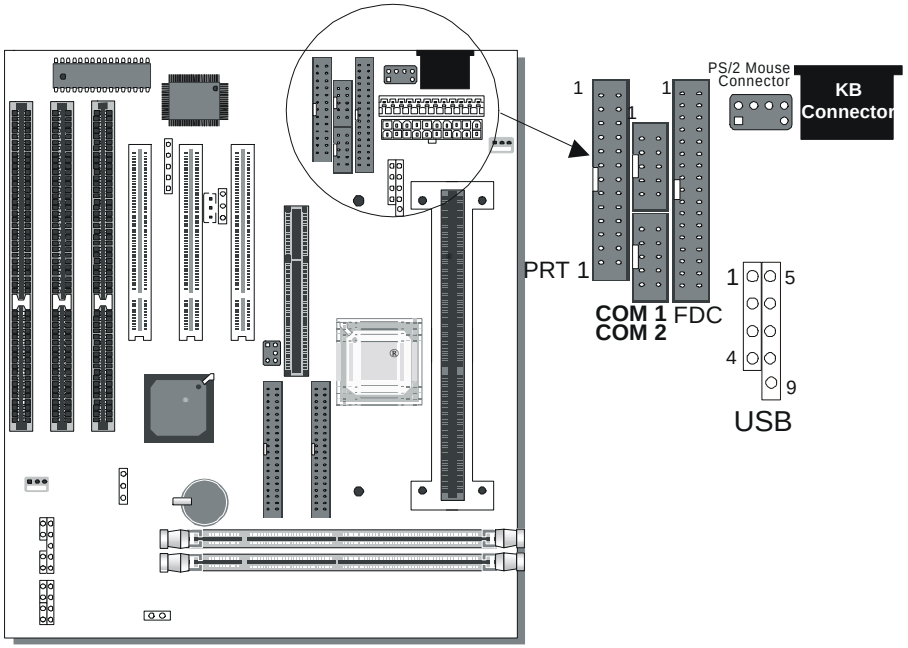
Attach the 2-pin momentary type switch to the PWRBT header for turning On or Off your ATX power supply.

Step 7. External Peripherals Connections

External devices such as the keyboard, printer, PS/2 mouse, modem, USB can be connected to the Motherboard. Normally, you can not plug your devices directly onto the Motherboard, except for the keyboard that plugs directly into the back panel KB connector. For other parallel (PRT1) and serial devices (COM1, COM2), first install the external connectors that come with your Motherboard on the computer case, then plug the other end of the flat cable to their respective connectors.

Only after you have fixed and locked the Motherboard and external connectors to the computer case can you start connecting the external peripheral devices.

When connecting an external device, use the following figure to locate and identify which back panel connector to plug the device or flat cable to.



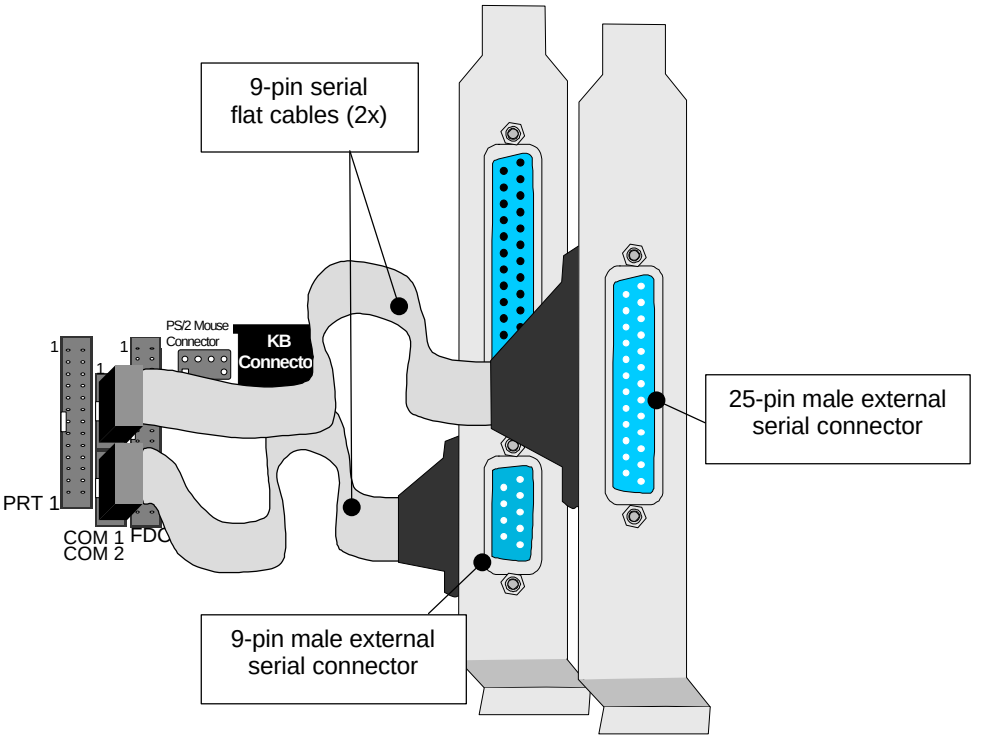
1. Serial Ports COM1/COM2

External peripherals that use serial transmission scheme include serial mouse and modem.

Your motherboard comes with two types of serial connectors with flat cables:

- one 9-pin male external connector with 9-pin flat cable
- one 25-pin male external connector with 9-pin flat cable

Plug the 9-pin end of the flat cable into the COM1 or COM2 serial connector on the motherboard, as shown in the figure below, then fix the external 9-pin or 25-pin connector to the rear panel of the computer case. Then plug your serial device cable directly into the 9-pin or 25-pin male connector located at the back of your computer.

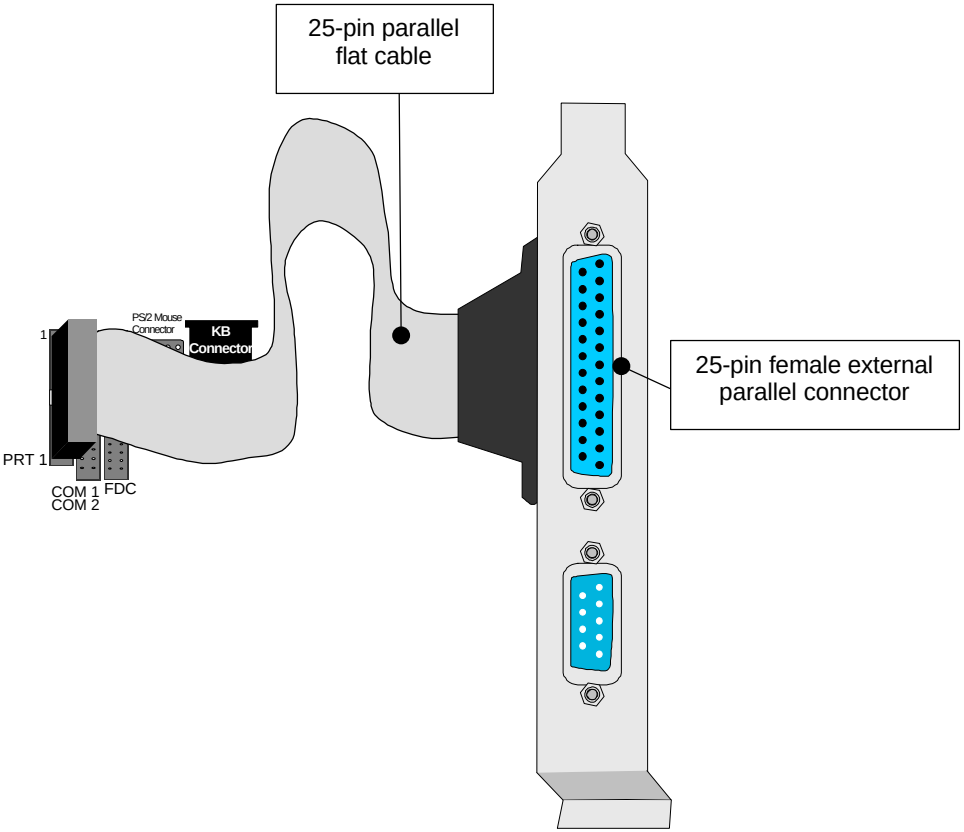


2. Parallel Port PRT1

This parallel port is used to connect the printer or other parallel devices.

Your motherboard comes with one 25-pin female external parallel connector with 25-pin flat cable.

Plug the 25-pin end of the flat cable into the PRT1 parallel connector on the motherboard, as shown in the figure below, then fix the external 25-pin connector to the rear panel of the computer case. Then plug your parallel device cable directly into the 25-pin female connector located at the back of your computer.



3. AT Keyboard

Plug the keyboard jack directly into the 5-pin female AT keyboard connector located at the rear panel of the Motherboard.

AT Keyboard Connector

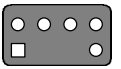
4. PS/2 Mouse

Attach the mouse cable to the 6-pin male PS/2 mouse connector on the motherboard to enable PS/2 mouse function.

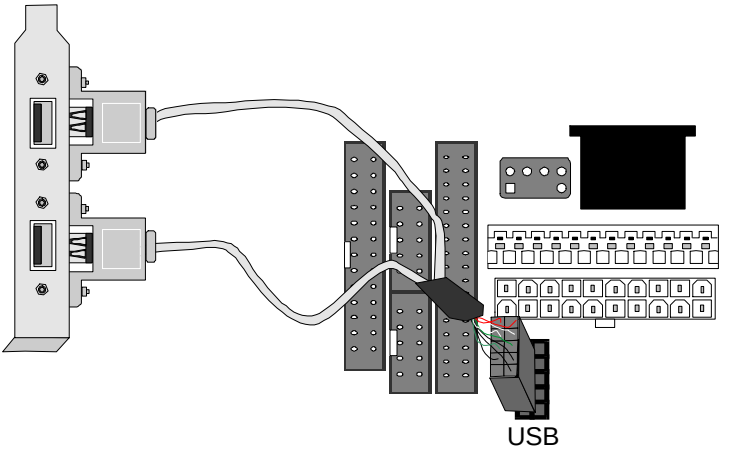
5. Universal Serial Bus (USB)

This mainboard provides a dual-row 10-pin header (one pin is empty) to support two USB ports for your additional devices. Attach the

PS/2 Mouse Connector



USB cable (**Optional**) to this header as shown in the diagram below. The USB cable has two USB ports mounted on a bracket.

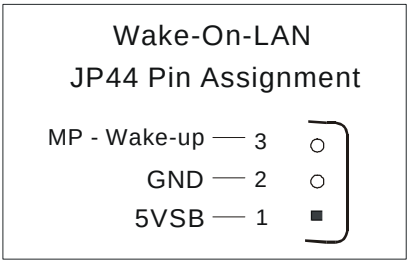


Step 8. Other Connections

1. Wake-On-LAN (WOL)

Attach the 3-pin connector from the LAN card which supports the Wake-On-LAN (WOL) function to the JP44 header on the Motherboard. This WOL function lets users wake up the connected computer through the LAN card.

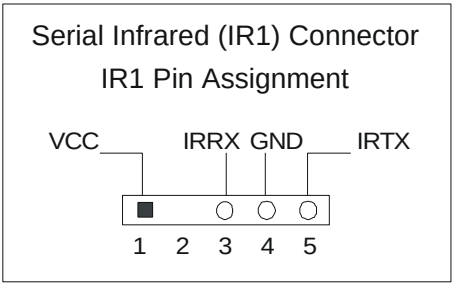
Please install according to the following pin assignment:



2. Infrared (IR1)

Plug the 5-pin infrared device cable to the IR1 header. This will enable the infrared transfer function. This Motherboard meets both the ASKIR and HPSIR specifications.

Please install according to the following pin assignment:



3. Other Display Cards

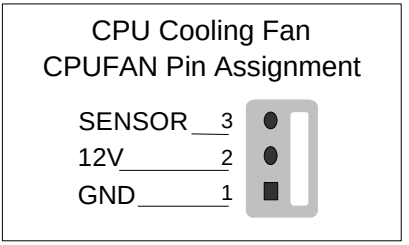
Insert other types of VGA cards into the PCI or ISA expansion slots according to card specifications.

Step 9. Cooling Fan Installation

1. CPU Cooling Fan

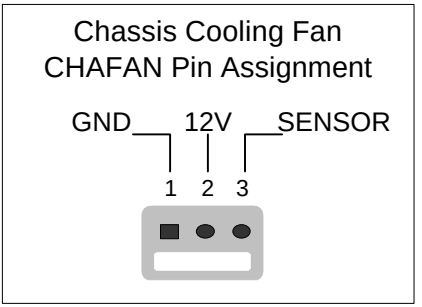
After you have seated the CPU properly on the processor, attach the 3-pin fan cable to the CPUFAN connector on the Motherboard. The fan will stop when the system enters into Suspend Mode. (Suspend mode can be enabled from the BIOS Setup Utility, [POWER MANAGEMENT] menu.)

To avoid damage to the system, install according to the following pin assignment:



2. Chassis Cooling Fan

Some chassis also feature a cooling fan. This Motherboard features a CHAFAN connector to provide 12V power to the chassis fan. Connect the cable from the chassis fan to the CHAFAN 3-pin connector. Install according to the following pin assignment:



Note: CPUFAN must be installed for this Motherboard, CHAFAN and PWRFAN are optional.

Step 10. AGP VGA Card

Insert the AGP VGA card into the AGP slot. Then connect the monitor information cable to the AGP card back plane external connector.

Follow the manufacturer's instructions to perform the AGP VGA drivers installation.

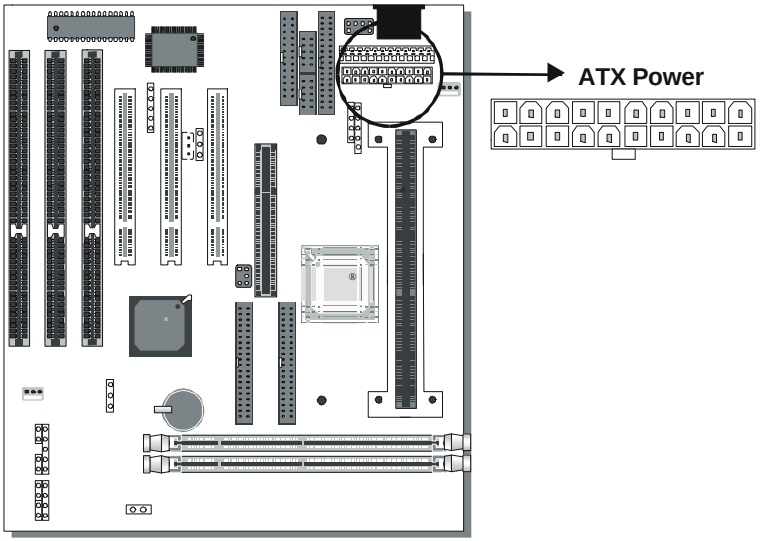
Other Display Cards: Insert other types of VGA cards into the PCI or ISA expansion slots according to card specifications.

Step 11. PCI Audio Card

Some PCI soundcards require a PC-PCI DMA channel. Attach the 5-pin cable from your PCI audio card to the SB-LINK ™header on the Motherboard. The SB-LINK ™will forward requests for legacy DMA channel to the PCI Bus.

Step 12. ATX Power Supply

Plug the connector from the power directly into the 20-pin male ATX PW connector on the Motherboard, as shown in the following figure.



Warning: Follow these precautions to preserve your Motherboard from any remnant currents when connecting to ATX power supply:

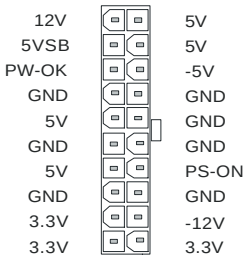
Turn off the power supply and unplug the power cord of the ATX power supply before connecting to ATX PW connector.

The Motherboard requires a power supply with at least 200 Watts and a "power good" signal. Make sure the ATX power supply can take at least 720 mA * load on the 5V Standby lead (5VSB) to meet the standard ATX specification.

**** Note:*** If you use the Wake-On-LAN (WOL) function, make sure the ATX power supply can support at least 720 mAmp on the 5V Standby lead (5VSB).

Please install the ATX power according to the following pin assignment:

ATX Power



➢ **Pay special care to the directionality.**

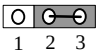
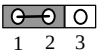
Step 13. Step 14. AT Power Supply

If you are using AT power, plug the dual 6-pin headers from the power directly into the 12-pin male AT Power connector on the motherboard. Make sure the black leads of the 6-pin AT power headers are in the center.

Step 14. CMOS Clearing (JP5)

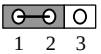
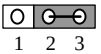
After you have turned off your computer, clear the CMOS memory by momentarily shorting pins 2-3 on jumper JP5, for a few seconds. Then restore JP5 to the initial 1-2 jumper setting in order to recover and retain the default settings.

Jumper JP5 can be easily identified by its white colored cap.

CMOS Clearing	Clear CMOS Data	Retain CMOS Data
JP5 Setting	Short pin 2-3 for ***at least 5 seconds*** to clear the CMOS 	Short pin 1-2 to retain new settings 
Note: You must unplug the ATX power cable from the ATX power connector when performing the CMOS Clear operation.		

Step 15. Power-On by Keyboard Jumper (JP50)

You can choose to enable the Power-On by Keyboard function by shorting pin 1-2 on jumper JP50, otherwise, short pin 2-3 to disable this function.

Power-On by Keyboard	Enable	Disable
JP50 Setting	Short pin 1-2 to enable the Power-On by Keyboard function. 	Short pin 2-3 and the Power-On by Keyboard function is disabled. 

Note: When using the Power-On by Keyboard function, please make sure the ATX power supply can take at least 720mA load on the 5V Standby lead (5VSB) to meet the standard ATX specification.

Step 16. Set SW1 for power up FSB clock and AGP bus clock.

SW1 is used to adjust AGP bus clock frequency depending on the value of the front side bus (FSB) clock, also the setting of the SW1 determines the power up FSB clock which will remain effective until the BIOS set the FSB clock to the CMOS setting.

SW1 Setting	Power up FSB Clock	AGP Clock
	66MHz	AGP Clock = FSB Clock ÷ 1
	100MHz	AGP Clock = FSB Clock ÷ 1.5

Note: The specification of maximum AGP bus Clock frequency is 66.6MHz.

* Set SW1 to open when you use a FSB 100MHz CPU.
* Set SW1 to close when you use a FSB 66MHz CPU.
* Set SW1 to open when you use a FSB 66MHz CPU but want to over clock the FSB clock to 100MHz via the BIOS setting.

Step 17. Power On

You have now completed the hardware installation of your Motherboard successfully.

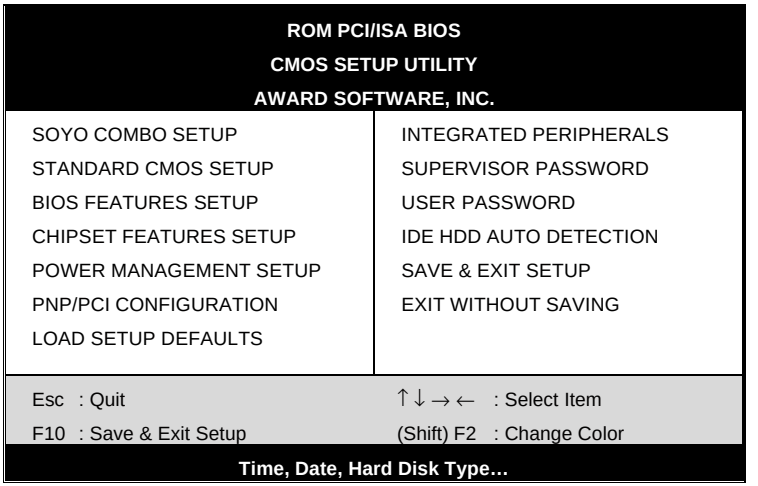
1. Turn the power on

2. To enter the BIOS Setup Utility, press the <DEL> key while the system is performing the diagnostic checks,

Note: If you have failed to enter the BIOS, wait until the boot up sequence is completed. Then push the RESET button and press <DEL> key again at the beginning of boot-up, during diagnostic checks.

Repeat this operation until you get the following screen.

3. The BIOS Setup screen appears:



Step 18. Quick BIOS Setup

This Motherboard does not use any hardware jumpers to set the CPU frequency. Instead, CPU settings are software configurable with the BIOS **[SOYO COMBO SETUP]**. The [SOYO COMBO SETUP] menu combines the main parameters that you need to configure, all in one menu, for a quick setup in BIOS.

After the hardware installation is complete, turn the power switch on, then press the <DEL> key during the system diagnostic checks to enter the Award BIOS Setup program. The CMOS SETUP UTILITY will display on screen. Follow these steps to configure the CPU settings.

1. Select [LOAD SETUP DEFAULT]

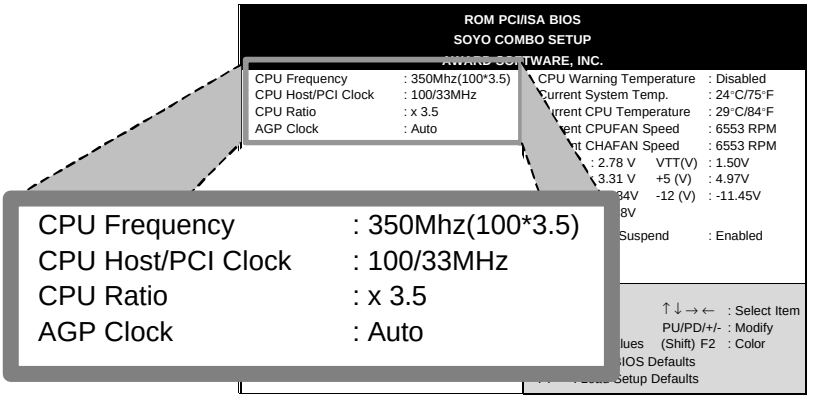
Select the "LOAD SETUP DEFAULT" menu and type "Y" at the prompt to load the BIOS optimal setup.

2. Select [STANDARD CMOS SETUP]

Set [Date/Time] and [Floppy drive type], then set [Hard Disk Type] to "Auto".

3. Select [CHIPSET FEATURES SETUP]

Move the cursor to the [CPU Frequency] field to set the CPU frequency, as shown in the following display.



Available [CPU Frequency] settings on your SY-6ZB Motherboard are detailed in the following table. If you set this field to [Manual], you are then required to fill in the next two consecutive fields: (1) the CPU Host/PCI Clock, and (2) the CPU Ratio.

CPU Frequency		Select the working frequency of your Pentium® III, Pentium® II, Celeron™ processor among these preset values. ***Note:*** ☑ Mark the checkbox that corresponds to the working frequency of your Pentium® III, Pentium® II, Celeron™ processor in case the CMOS configuration should be lost.
☐ 233MHz (66 x 3.5)	☐ 350MHz (100 x 3.5)	
☐ 266MHz (66 x 4.0)	☐ 400MHz (100 x 4.0)	
☐ 300MHz (66 x 4.5)	☐ 450MHz (100 x 4.5)	
☐ 333MHz (66 x 5.0)	☐ 500MHz (100 x 5.0)	
☐ 366MHz (66 x 5.5)	☐ 550MHz (100 x 5.5)	
☐ 400MHz (66 x 6.0)	☐ 600MHz (100 x 6.0)	
☐ 433MHz (66 x 6.5)	☐	

Note: if you use Bus Frequencies of 75 MHz, make sure that your PCI cards can cope with the higher PCI clock.

4. Select [SAVE & EXIT SETUP]

Press **<Enter>** to save the new configuration to the CMOS memory,

and continue the boot sequence.

Troubleshooting at First Start

- ***What should I do if the Motherboard refuses to start?***

The 350MHz setting is used as default so whenever the BIOS settings are erased or reset, the board will be able to boot up.
If the CPU frequency was set too high and the Motherboard refuses to start up, you can always load the default values by pressing the [Ins] key during boot up.

Step 19. Power Off

There are two possible ways to turn off the system:

1. Use the **Shutdown** command in the **Start Menu** of Windows 95/98 to turn off your computer.
2. Press the mechanical power-button and **hold down for over 4 seconds,** to shutdown the computer. If you press the power-button for less than 4 seconds, then your system will enter into **Suspend Mode.**

You are now ready to configure your system with the BIOS setup program. Go to ***Chapter 3: BIOS SETUP***

Chapter 3

BIOS SETUP UTILITY

This motherboard's BIOS setup program uses the ROM PCI/ISA BIOS program from Award Software Inc.

To enter the Award BIOS program's Main Menu:

1. Turn on or reboot the system.
2. After the diagnostic checks, press the [Del] key to enter the Award BIOS Setup Utility.

ROM PCI/ISA BIOS CMOS SETUP UTILITY AWARD SOFTWARE, 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	↑ ↓ → ← : Select Item
F10 : Save & Exit Setup	(Shift) F2 : Change Color
Time, Date, Hard Disk Type …	

Selecting items

- Use the arrow keys to move between items and select fields.
- From the Main Menu press arrow keys to enter the selected submenu.

Modifying selected items

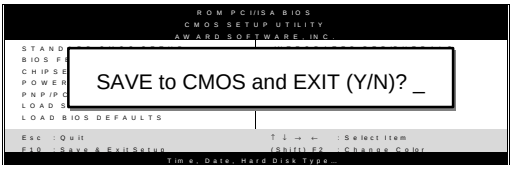
- Use the [Up]/[Down] keys to modify values within the selected fields. Some fields let you enter values directly.

Hot Keys: Function keys give you access to a group of commands throughout the BIOS utility.

Function	Command	Description
F1	Help	Gives the list of options available for each item.
Shift F2	Color	Change the color of the display window.
F5	Old values	Restore the old values. These are the values that the user started the current session with.
F6	Load BIOS Defaults	Loads all options with the BIOS Setup default values.
F7	Load Setup Defaults	Loads all options with the Power-On default values.
F10	Save & Exit Setup	Saves your changes and reboots the system.
[Esc]	Quit	Lets you return at anytime and from any location to the Main Menu.

SAVE AND EXIT SETUP

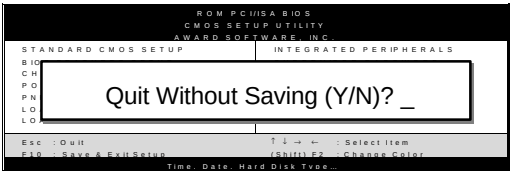
Select the [SAVE & EXIT SETUP] option from the Main Menu to save data to CMOS and exit the setup utility. This option saves all your changes and causes the system to reboot.



Type [Y] to save the changes and exit or [N] to return to the Main Menu and keep current values.

EXIT WITHOUT SAVING

Selecting the [EXIT WITHOUT SAVING] option allows you to abandon all data and exit setup, therefore ignoring all your changes.



Type [Y] to abandon changes and exit or [N] to return to the Main Menu and keep current values.

3-1 STANDARD CMOS SETUP

Select the [STANDARD CMOS SETUP] option from the Main Menu and press [Enter] key.

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

Date (mm:dd:yy) : Fri, Feb 1 1995
Time (hh:mm:ss) : 7 : 30 : 33

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

Drive A : 1.44M, 3.5 in.
Drive B : None
Floppy 3 Mode Support : Disabled

Video : EGA/VGA
Halt On : All Errors

Base Memory:	640K
Extended Memory:	3328K
Other Memory:	128K
Total Memory:	4096K

Esc : Quit ↑↓→← : Select Item PU/PD/+/- : Modify
F1 : Help (Shift) F2 : Change Color F3 : Toggle Calendar

This screen allows you to modify the basic CMOS settings.
After you have completed the changes, press [Esc] key to return to the Main Menu.

3-1.1 Date & Time

	Display	Setting	Please Note
Date	mm/dd/yy	Type the current date	
Time	hh:mm:ss	Type the current time	24-hour clock format 3:15 PM is displayed as 15:15:00

3-1.2 Hard Disks Type & Mode

Choose the type and mode for the hard disks that you have already installed.

Primary (Secondary) Master & Slave	Setting	Description	Note
Type	Auto	BIOS detects hard disk type automatically.	Default
	1-45	Selects standard hard disk type.	
	User	User defines the type of hard disk.	
Mode	Auto	BIOS detects hard disk mode automatically.	Default
	Normal	Normal IDE hard disk	<528MB
	LBA	Enhanced IDE hard disk	>528MB
	Large	Large IDE hard disk (for certain hard disk)	

Note: If you have any questions on your hard disk type or mode, ask your hard disk provider or previous user for details.

3-1.3 Floppy Drives

Floppy Drives	Setting	Description	Note
Drives A & B	360KB, 5 1/4 in.		
	1.2MB, 5 1/4 in.		
	720KB, 3 1/2 in.		
	1.44MB, 3 1/2 in.		Default
	2.88MB, 3 1/2 in.		
	None	Not installed	
Floppy 3-Mode Support	Disabled		Default
	Enabled	Supports 3-mode floppy diskette: 740KB/1.25MB/1.44MB	Special disk drive commonly used in Japan

3-1.4 Video

Select the video mode: EGA/VGA (Default), CGA 40×25, CGA 80×25, Mono (Monochrome).

3-1.5 Halt On

When the BIOS detects system errors, this function will stop the system. Select which type of error will cause the system halt: All Errors (Default), No Errors, All But Diskette, All But Keyboard, All But Disk/Key.

3-2 BIOS FEATURES SETUP

Select the [BIOS FEATURES SETUP] option from the Main Menu and press [Enter] key.

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
CPU L2 Cache ECC Checking	: Enabled	D0000-D3FFF Shadow	: Disabled
Quick Power On Self Test	: Enabled	D4000-D7FFF Shadow	: Disabled
Boot Sequence	: A, C, SCSI	D8000-DBFFF Shadow	: Disabled
Swap Floppy Drive	: Disabled	DC000-DFFFF Shadow	: Disabled
Boot Up NumLock Status	: On		
Typematic Rate Setting	: Disabled		
Typematic Rate (Chars/Sec)	: 6	ESC : Quit	↑↓→← : Select Item
Typematic Delay (Msec)	: 250	F1 : Help	PU/PD/+/- : Modify
Security Option	: Setup	F5 : Old Values	(Shift) F2 : Color
PCI/VGA Palette Snoop	: Disabled	F6 : Load BIOS Defaults	
Assign IRQ For VGA	: Disabled	F7 : Load Setup Defaults	
OS Select for DRAM >64MB	: Non-OS2		
HDD S.M.A.R.T. capability	: Disabled		
Report No FDD For WIN 95	: No		

After you have completed the changes, press [Esc] key and follow the instructions on your screen to save your settings or exit without saving.

3-2.1 Virus Warning

	Setting	Description	Note
Virus Warning	Disabled		Default
	Enabled	Enable this option to protect the boot sectors and partition tables of your hard disk. Any attempt to write to them will the system to halt and display a warning message.	

3-2.2 Cache Memory Options

	Setting	Description	Note
CPU Internal Cache	Disabled		
	Enabled	Enables the CPU's internal cache.	Default
External Cache	Disabled		
	Enabled	Enables the external memory.	Default
CPU L2 Cache ECC Checking	Disabled		
	Enabled	This option activates the CPU L2 cache ECC checking function.	Default

3-2.3 System Boot Control Settings

System Boot Control Settings	Setting	Description	Note
Quick Power On Self Test	Disabled		
	Enabled	Provides a fast POTS at boot-up.	Default
Boot Sequence	A, C, SCSI	Choose the boot sequence adapted to your needs, for example: ● [A, C, SCSI] means the BIOS will look for an operating system first in drive A, then in drive C, and eventually in SCSI device.	
	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		
	LS/ZIP, C		
Swap Floppy Drive	Disabled		Default
	Enabled	Changes the sequence of A and B drives.	
Boot Up NumLock Status	On	Puts numeric keypad in NumLock mode at boot-up.	Default
	Off	Puts numeric keypad in arrow key mode at boot-up.	

3-2.4 Typematic Settings

Typematic Settings	Setting	Description	Note
Typematic Rate Setting	Disabled		Default
	Enabled	Enable to adjust the keystroke repeat rate.	
Typematic Rate	Char / sec	Choose the rate a character keeps repeating.	
Typematic Delay	Msec	Choose how long after you press a key down the character begins repeating.	

3-2.5 Security Option

Use this feature to prevent unauthorized system boot-up or use of BIOS Setup. The following table describes the security settings.

	Setting	Description
Security Option	System	Each time the system is booted, the password prompt appears.
	Setup	If a password is set, the password prompt only appears when you attempt to enter the BIOS Setup program.

3-2.6 Other Control Options

Other Control Options	Setting	Description	Note
PCI/VGA Palette Snoop	Disabled		Default
	Enabled	The color of the monitor may be altered when using an MPEG card. Enable this option to restore the monitor's normal color.	

Other Control Options (continued)

Other Control Options	Setting	Description	Note
Assign IRQ For VGA	Disabled		Default
	Enabled	When using a video card that requies an IRQ.	
OS Select for DRAM>64MB	OS2	When using an OS2 operating system.	
	Non-OS2	When using another, non-OS2 operating system.	Default
HDD S.M.A.R.T. capability	Disabled		Default
	Enabled	Enable this field when your HDD supports the S.M.A.R.T. function. Consult your HDD provider for details.	
Report No FDD For WIN 95	Yes	Windows will release IRQ line 6 (normally used by the Floppy Disk Drive) after you disable your on-board FDD and set this field to [Yes].	
	No	Windows will reserve INT 6 for your FDD, whether it is disabled or not.	Default
Video or Adapter BIOS Shadow	Disabled		
	Enabled		Default
	The BIOS is shadowed in a 16K segment if it is enabled and if it has BIOS present. These 16 segments can be shadowed from ROM to RAM. BIOS shadow copies BIOS code from slower ROM to faster RAM. BIOS can then execute from RAM.		

3-3 CHIPSET FEATURES SETUP

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

The [CHIPSET FEATURES SETUP] option changes the values of the chipset registers. These registers control the system options in the computer.

ROM PCI/ISA BIOS
CHIPSET FEATURES SETUP
AWARD SOFTWARE, INC.

Auto Configuration	: Enabled	CPU Speed	: Manual
SDRAM CAS latency Time	: 3	CPU Host Clock Select	: 66 MHz
DRAM Data Integrity Mode	: Non-ECC	CPU Ratio	:
System BIOS Cacheable	: Disabled	CPU Warning Temperature	: Disabled
Video BIOS Cacheable	: Disabled	Current CPU Temperature	: 29°C/84°F
Video RAM Cacheable	: Disabled	Current System Temp.	: 24°C/75°F
8 Bit I/O Recovery Time	: 1	Current CPUFAN Speed	: 6553 RPM
16 Bit I/O Recovery Time	: 1	Current CHSFAN Speed	: 6553 RPM
Memory Hole At 15M-16M	: Disabled	VID(V) : 2.78 V	VTT(V) : 1.50V
Passive Release	: Enabled	3.3(V) : 3.31 V	+5 (V) : 4.97V
Delay Transaction	: Enabled	+12(V) : 11.84V	-12 (V) : -11.45V
AGP Aperture Size (MB)	: 64	-5(V) : -4.88V	
Spread Spectrum Modulated	: Disabled		

ESC	: Quit	↑ ↓ → ←	: Select Item
F1	: Help	PU/PD/+/-	: Modify
F5	: Old Values	(Shift) F2	: Color
F6	: Load BIOS Defaults		
F7	: Load Setup Defaults		

After you have completed the changes, press [Esc] and follow the instructions on your screen to save your settings or exit without saving.

The following table describes each field in the CHIPSET FEATURES SETUP Menu and how to configure each parameter.

CHIPSET FEATURES SETUP

CHIPSET FEATURES	Setting	Description	Note
Auto Configuration	Enabled	It is strongly recommended to enable this option so that the system automatically sets all options on the left panel of the screen (except for cache update & BIOS cacheable).	Default
SDRAM Cache Latency Time	3	Use the default setting	Default
DRAM Data Integrity Mode	Non-ECC	Choose according to the DRAM type you have.	Default
	ECC		
System BIOS Cacheable	Disabled		Default
	Enabled	The ROM area F0000H-FFFFFH is cacheable.	
Video BIOS Cacheable	Disabled		Default
	Enabled	The video BIOS C0000H-C7FFFH is cacheable.	
Video RAM Cacheable	Disabled		Default
	Enabled	The ROM area A0000-BFFFF is cacheable.	
8 BIT I/O Recovery Time	1	Use the default setting	Default
16 BIT I/O Recovery Time	1	Use the default setting	Default
Memory Hole At 15M-16M	Disabled		Default
	Enabled	Some interface cards will map their ROM address to this area. If this occurs, select [Enabled] in this field.	

CHIPSET FEATURES SETUP (Continued)

CHIPSET FEATURES	Setting	Description	Note
Passive Release	Enabled	Use the default setting	Default
Delayed Transaction	Enabled	Use the default setting	Default
AGP Aperture Size	4MB-256MB	AGP could use the DRAM as its video RAM. Choose the DRAM size that you wish to allocate as video RAM.	
Spread Spectrum Modulated	Disabled		Default
	Enabled	When using Spread Spectrum Modulated 1.5% or 6% for FCC or DOC testing.	
CPU Speed	Manual	Select the working frequency of your Pentium® II processor among these preset values. Note: Setting this field to [Manual] requires you to fill in the next two consecutive fields: (1) the CPU Host Clock Frequency, and (2) the CPU Ratio.	
	133MHz (66 x 2)		
	166MHz (66 x 2.5)		
	200MHz (66 x 3)		
	233MHz (66 x 3.5)		
	266MHz (66 x 4)		
	300MHz (66 x 4.5)		
	333MHz (66 x 5)		
	350MHz (100 x 3.5)		
	400MHz (100 x 4)		
	450MHz (100 x 4.5)		
	500MHz (100 x 5)		
	550MHz (100 x 5.5)		

CHIPSET FEATURES SETUP (Continued)

CHIPSET FEATURES	Setting	Description	Note
If [CPU Speed] is set to [Manual]			
CPU Host Clock Select	66 MHz	Select the host clock of your Pentium® II processor among these values. Note: For the ZX chipset, 66 and 100 MHz host clock frequencies are acceptable. However, the system stability is not guaranteed for other frequencies due to the limitations of this chipset.	
	68 MHz		
	75 MHz		
	83 MHz		
	100 MHz		
	103 MHz		
	112 MHz		
If [CPU Speed] is set to [Manual]			
CPU Ratio	After you have selected the host clock, choose the right multiplier for the CPU. Options are: [2, 2.5, 3., 3.5, 4, 4.5, 5]. The CPU frequency is then defined as [host clock freq.]x[multiplier], and should the working frequency of your Pentium® II processor.		
CPU Warning Temperature	Disabled		Default
	Enabled	Set CPU temperature from 50°C to 70°C. The CPU will slow down when CPU temperature goes beyond the preset value. The CPU will continue to run slow until the temperature returns back within the safe range.	
Current System Temp.	°C/°F	Show the current status of the system temperature.	
Current CPU Temperature	°C/°F	Show the current status of CPU temperature.	

CHIPSET FEATURES SETUP (Continued)

CHIPSET FEATURES	Setting	Description	Note
Current CPUFAN Speed	°C/°F	Show the current status of CPU Fan	
Current CHSFAN Speed	°C/°F	Show the current status of CHS Fan	
VID, VTT, 3.3V, +12V, -5V, +5V, -12V	V	Show the current voltage status.	

3-4 POWER MANAGEMENT SETUP

The [POWER MANAGEMENT SETUP] sets the system's power saving functions.

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

ACPI function	: Disabled	** Reload Global Timer Events **	
Power Management	: User Define	IRQ [3-7,9-15], NMI	: Enabled
PM Control by APM	: Yes	Primary IDE 0	: Disabled
Video Off Method	: V/H SYNC+Blank	Primary IDE 1	: Disabled
Video Off After	: Standby	Secondary IDE 0	: Disabled
MODEM Use IRQ	: 3	Secondary IDE 1	: Disabled
		Floppy Disk	: Disabled
		Serial Port	: Enabled
Doze Mode	: Disabled	Parallel Port	: Disabled
Standby Mode	: Disabled		
Suspend Mode	: Disabled		
HDD Power Down	: Disabled		
VGA Active Monitor	: Enabled		
Soft-Off by PWR-BTTN	: Instant-Off		
CPUFAN Off In Suspend	: Enabled		
Resume by Ring	: Disabled		
Resume by Alarm	: Disabled		
IRQ 8 Break Suspend	: Disabled		

ESC	: Quit	↑↓→←	: Select Item
F1	: Help	PU/PD/+/-	: Modify
F5	: Old Values	(Shift) F2	: Color
F6	: Load BIOS Defaults		
F7	: Load Setup Defaults		

After you have completed the Power Management Setup, press [Esc] to return to the Main Menu.

3-4.1 Power Management Controls

Power Management Controls	Setting	Description			Note
ACPI function	Disabled				Default
	Enabled	ACPI (Advanced Configuration Power Management Interface)			
Power Management	User Define	Lets you define the HDD and system power down times.			Default
	Disabled	Disables the Green PC Features.			
		Doze timer	Standby timer	Suspend timer	HDD power down
	Min Saving	1 Hour	1 Hour	1 Hour	15 Min
	Max Saving	1 Min	1 Min	1 Min	1 Min
PM Control by APM	Yes	To use Advanced Power Management (APM) you must run [power.exe] under DOS V6.0 or later version.			Default
	No				
Video Off Method	V/H Sync+Blank				Default
	Blank screen				
	DPMS				
Video Off After	Standby	Choose the PM mode you want video to go off after the mode is being active.			
	Suspend				
	Doze				
MODEM Use IRQ	3				Default

3-4.2 PM Timers

PM Timers	Setting	Description	Note
Doze Mode	Disabled		Default
	1Min-1Hour	When the set time has elapsed, BIOS sends a command to the system to enter Doze Mode.	System clock drops to 33MHz.
Standby Mode	Disabled		Default
	1Min-1Hour	When the set time has elapsed, BIOS sends a command to the system to enter Standby Mode.	
Suspend Mode	Disabled		Default
	1Min-1Hour	In Suspend mode, the CPU stops completely (no instructions are executed.)	Only an SL-Enhanced (or SMI) CPU can enter this mode.
HDD Power Down	Disabled		Default
	1-15Min	When the set time has elapsed, BIOS sends a command to the HDD to power down. This turns off the HDD motor.	Some older model HDDs may not support this advanced function.

3-4.3 PM Events

PM Events	Setting	Description	Note
VGA Active Monitor	Disabled		
	Enabled	Enables the power management timers when a [no activity] event is detected.	Default
Soft-Off by PWR-BTTN	Instant-off		Default
	Delay 4 Sec.	Turns off the system power 4 seconds after pushing the power button.	

PM Events (continued)

PM Events	Setting	Description	Note
CPUFAN Off In Suspend	Disabled	Disables the PM timer.	
	Enabled	Switches off the CPU Fan when the system enters Suspend Mode.	Default
Resume by Ring	Disabled		Default
	Enabled	The system will resume active when the modem is ringing. (This function only works when the computer is powered on.)	
Resume by Alarm	Disabled	The system ignores the alarm.	Default
	Enabled	Set alarm to wake up the system by the date (1-31) or time (hh:mm:ss). If the date is set to [0], the system will wake up by the alarm everyday.	
IRQ 8 Break Suspend	Disabled		Default
	Enabled	Alarm function is active.	

3-4.4 Reload Global Timer Events

Power Down & Resume Events	Setting	Description	Note
IRQ [3-7,9-15], NMI	Disabled		
	Enabled	The system monitors these elements for activity. The system will resume if [IRQ activity] is detected.	Default
IDE0, IDE1 ➢ **Primary** ➢ **Secondary**	Disabled		Default
	Enabled	Enables the PM timers when [No Activity Event] is detected.	
Floppy Disk **Serial Port** **Parallel Port**	Disabled		Default
	Enabled	Enables the PM timers when [No Activity Event] is detected.	

3-5 PNP/PCI CONFIGURATION SETUP

This option sets the motherboard's PCI Slots.

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

PnP OS Installed		: No	Used MEM base addr	: N/A
Resources Controlled By		: Manual	Assign IRQ For USB	: Enabled
Reset Configuration Data		: Disabled		
IRQ-3	assigned to	: Legacy ISA*		
IRQ-4	assigned to	: Legacy ISA*		
IRQ-5	assigned to	: PCI/ISA PnP*		
IRQ-7	assigned to	: PCI/ISA PnP*		
IRQ-9	assigned to	: PCI/ISA PnP*		
IRQ-10	assigned to	: PCI/ISA PnP*		
IRQ-11	assigned to	: PCI/ISA PnP*		
IRQ-12	assigned to	: PCI/ISA PnP*		
IRQ-14	assigned to	: PCI/ISA PnP*		
IRQ-15	assigned to	: PCI/ISA PnP*		
DMA-0	assigned to	: PCI/ISA PnP*	ESC : Quit	↑↓→← : Select Item
DMA-1	assigned to	: PCI/ISA PnP*	F1 : Help	PU/PD/+/- : Modify
DMA-3	assigned to	: PCI/ISA PnP*	F5 : Old Values	(Shift) F2 : Color
DMA-5	assigned to	: PCI/ISA PnP*	F6 : Load BIOS Defaults	
DMA-6	assigned to	: PCI/ISA PnP*	F7 : Load Setup Defaults	
DMA-7	assigned to	: PCI/ISA PnP*		

Note: Starred (*) items will disappear when the [Resources Controlled By] option is set to [Auto].

After you have completed the PCI Slot Configuration, press [Esc] and follow the instructions on your screen to save your settings or exit without saving.

3-5.1 PNP/PCI Configuration Controls

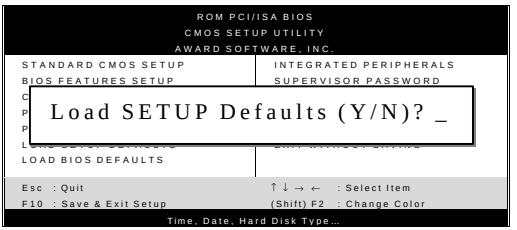
PNP/PCI Controls	Setting	Description	Note
PnP OS Installed	Yes	Set this field to [Yes] if you are running Windows 95, which is PnP compatible.	
	No	If the OS you are running does not support PnP configuration.	Default (If there is any doubt, set this field to [No])
Resources Controlled By	Manual	BIOS does not manage PCI/ISA PnP card IRQ assignment.	
	Requires to assign IRQ-# and DMA-# to PCI or ISA PnP manually. IRQ-3,4,5,7,9,10,11,12,14,15 assigned to: _ DMA-0,1,3,5,6,7 assigned to: _		
	Auto	BIOS auto manages PCI/ISA PnP card IRQ assignment automatically.	**Recommended**
Reset Configuration Data	Disabled	Retain PnP configuration data in BIOS.	Default
	Enabled	Reset PnP configuration data in BIOS.	Default

3-5.2 PNP/PCI Configuration Setup

PNP/PCI Setup	Setting	Description	Note
If [Resources Controlled By] is set to [Manual]			
IRQ-# and DMA-# assigned to:	PCI/ISA PnP	Choose IRQ-# and DMA-# assigned to PCI/ISA PnP card.	IRQ-3,4,5,7,9,10, 11,12,14,15 DMA-0,1,3,5,6,7
	Legacy ISA	Choose IRQ-# and DMA-# assigned to Legacy ISA card.	IRQ-3,4,5,7,9,10, 11,12,14,15 DMA-0,1,3,5,6,7
Used MEM base addr	N/A		Default
	I/O address	C800,CC00,D000,D400,D800,DC00. (Asking card provider for the exactly I/O address of this add-on card.)	Use this function only when problems occur while using some certain add-on cards.
Assign IRQ For USB	Enabled	BIOS will assign IRQ for USB port.	Default
	Disabled	BIOS won't assign IRQ for USB port.	

3-6 LOAD SETUP DEFAULTS

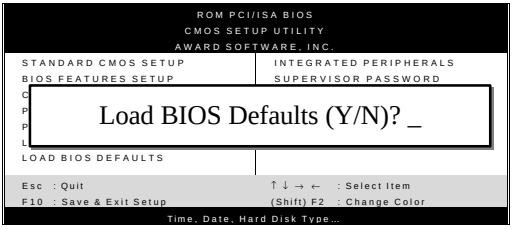
Select the [LOAD SETUP DEFAULTS] option from the Main Menu to load the system values you have previously saved. This option is recommended if you need to reset the system setup and to retrieve the old values.



Type [Y] to use the Setup Defaults followed by [Enter] or otherwise [N] to return to the Main Menu and keep current values.

3-7 LOAD BIOS DEFAULTS

Select the [LOAD BIOS DEFAULTS] option from the Main Menu to load the system default values. BIOS Defaults values are adjusted to yield high performance.



Type [Y] to use the Setup Defaults followed by [Enter] or otherwise [N] to return to the Main Menu and keep current values.

Warning: If you run into any problems after loading BIOS DEFAULTS, please load the SETUP DEFAULTS for stable performance.

3-8 INTEGRATED PERIPHERALS

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

The [INTEGRATED PERIPHERALS] option changes the values of the chipset registers. These registers control the system options in the computer.

The following screen shows default settings.

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

IDE HDD Block Mode	: Enabled	Onboard PDC Controller	: Enabled
IDE Primary Master PIO	: Auto	Onboard Serial Port 1	: 3F8/IRQ4
IDE Primary Slave PIO	: Auto	Onboard Serial Port 2	: 2F8/IRQ3
IDE Secondary Master PIO	: Auto	UR2 Mode	: Normal
IDE Secondary Slave PIO	: Auto	UR2 Duplex Mode	: Half
IDE Primary Master UDMA	: Auto	Onboard Parallel Port	: 378/IRQ7
IDE Primary Slave UDMA	: Auto	Parallel Port Mode	: ECP+EPP
IDE Secondary Master UDMA	: Auto	ECP Mode Use DMA	: 3
IDE Secondary Slave UDMA	: Auto		
On-Chip Primary PCI IDE	: Enabled		
On-Chip Secondary PCI IDE	: Enabled		
USB Keyboard Support	: Disabled		
Init AGP Display First	: Disabled		
POWER ON Function	:		
KB Power ON Password	: Enter		
Hot Key Power ON	: Ctrl-F1		
KBC Input Clock	: 12MHz		

ESC	: Quit	↑↓→←	: Select Item
F1	: Help	PU/PD/+/-	: Modify
F5	: Old Values	(Shift) F2	: Color
F6	: Load BIOS Defaults		
F7	: Load Setup Defaults		

The following tables describe each field in the INTEGRATED PERIPHERALS Menu and provide instructions on how to configure the IDE controls, FDC controls, and the onboard serial and parallel ports.

3-8.1 IDE Device Controls

IDE Controls	Setting	Description	Note
IDE HDD Block Mode	Disabled		
	Enabled	Invokes multi-sector transfer instead of one sector per transfer. Not all HDDs support this function.	Default
IDE ➢ **Primary Master PIO** ➢ **Primary Slave PIO** ➢ **Secondary Master PIO** ➢ **Secondary Slave PIO**	mode 0-4	0 is the slowest speed 4 is the fastest speed	
	Auto	For better performance and stability, we suggest you use the Auto setting to set the HDD control timing.	Default
IDE ➢ **Primary Master UDMA** ➢ **Primary Slave UDMA** ➢ **Secondary Master UDMA** ➢ **Secondary Slave UDMA**	Disabled		
	Auto	When Auto is selected, it supports Ultra DMA Mode.	Default
On-Chip PCI IDE ➢ **Primary** ➢ **Secondary**	Disabled	Turn off the on-board IDE	
	Enabled	Use the on-board IDE	Default

3-8.2 Keyboard Controls

Keyboard Controls	Setting	Description	Note
USB Keyboard Support	Disabled	Turn off the on-board IDE	Default
	Enabled	Use a USB keyboard	
Init AGP Display First	Disabled		Default
	Enabled	If you choose to initialize the AGP Display card first, instead of the PCI VGA card.	
POWER ON Function	BUTTON ONLY	Disables the Wake-Up by Keyboard function.	Default
	KB Power ON Password	Enables you to wake-up the system by entering a password at the keyboard.	
	Hot Key	You can wake-up the system by pressing the key combination of your choice (Ctrl-F1~F12).	
If [POWER ON Function] is set to [KB Power ON Password]			
KB Power ON Password	Enter (your password)	Set the password that will wake-up your system.	
If [POWER ON Function] is set to [Hot Key]			
KB Power ON Password	Ctrl-F1~F12	Choose the key combination that will wake-up the system. [Ctrl-F1 to Ctrl-F12]	
KBC Input Clock	12 MHz	Controls the frequency of the clock signal of the keyboard. Set this value to 8MHz if experience problems with your keyboard.	Default

3-8.3 FDC Controls

FDC Controls	Setting	Description	Note
Onboard FDC controller	Disabled	Turn off the on-board floppy controller	
	Enabled	Use the on-board floppy controller	Default

3-8.4 Onboard Serial Ports

Onboard Serial Ports	Setting	Description	Note
Onboard PORT 1	Disabled		
Onboard PORT 2	3F8/IRQ4	Choose serial port 1 & 2's I/O address. Do not set port 1 & 2 to the same address except for Disabled.	Default
	2F8/IRQ3		Default
	3E8/IRQ4		
	2E8/IRQ3		
UR2 Mode	Standard	Supports a Standard serial infrared IrDA.	Default
	IrDA 1.0		
	ASKIR	Supports a Sharp serial interface format.	
	FIR	Fast Infrared Interface	
If [UR2 Mode] is set to [IrDA 1.0]/[ASKIR]/[FIR]			
UR2 Duplex Mode	Half	Choose [Half] or [Duplex] to set UR2 in half duplex mode or full duplex mode respectively. Refer to your IR device specifications to select the suitable mode.	Default
	Duplex		

3-8.5 Onboard Parallel Ports

Onboard Parallel Ports	Setting	Description	Note
Onboard Parallel Port	Disabled	Choose the printer I/O address.	
	378/IRQ7		Default
	3BC/IRQ7		
	278/IRQ5		
Parallel Port Mode	ECP+EPP	The mode depends on your external device that connects to this port.	Default
	SPP		
	ECP		
	EPP		
If [Parallel Port Mode] is set to [ECP] mode			
ECP Mode use DMA	3	Choose DMA3	Default
	1	Choose DMA1	

3-9 SUPERVISOR PASSWORD

Based on the setting you have made in the [Security Option] of the [BIOS FEATURES SETUP] section, the password prevents access to the system or the setup program by unauthorized users. Follow this procedure to set a new password or disable the password:

1. Choose [BIOS FEATURES SETUP] in the Main Menu and press [Enter]. Select the [Security Options] item and set the field to:
   a. [System]: The password is required every time the system is booted. This means only a person who knows the password can use this computer.
   b. [Setup]: The password is required only when you attempt to enter the BIOS Setup program.

2. Choose [SUPERVISOR PASSWORD] from the Main Menu and press [Enter]. The following prompt appear:

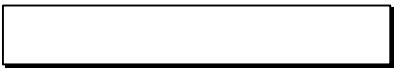
   Enter Password:

Warning: 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.

Note: If you do not wish to use the password function, press [Enter] directly and the following message appears:

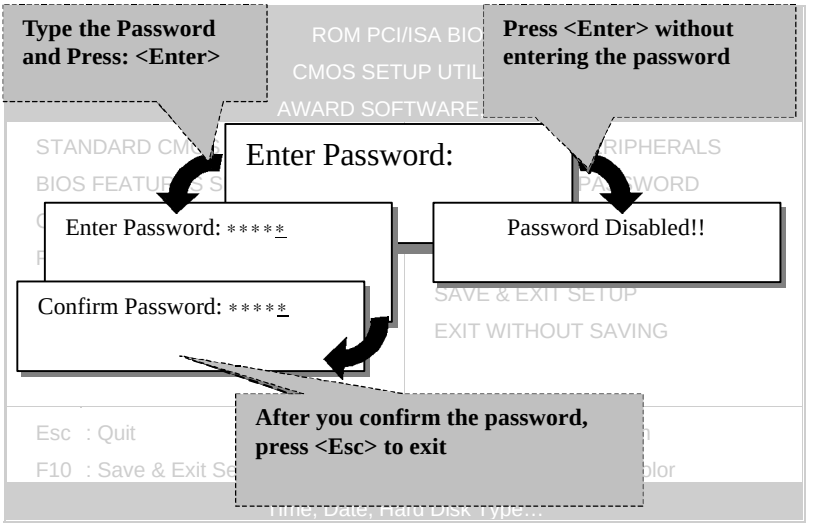
Password Disabled!!

3. Enter your new password and press [Enter]. The following message appears, prompting to confirm the new password:



4. Re-enter your password and then press [Enter] to exit to the Main Menu.

This diagram outlines the password selection procedure:



3-10 USER PASSWORD

When the user password option is on, you are not allowed to change any setting in the [CMOS SETUP UTILITY] except for changing the user's password.

The password setting procedure is similar to that for the [SUPERVISOR PASSWORD] (Refer to section 3-9).

3-11 IDE HDD AUTO DETECTION

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

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

HARD DISKS	TYPE	SIZE	CYLS	HEAD	PRECOMP	LANDZ	SECTOR	MODE
Primary Master	:							

Select Primary Master Option (N=Skip) : N

OPTIONS	SIZE	CYLS	HEAD	PRECOMP	LANDZ	SECTOR	MODE
2(Y)	1707	827	64	0	3308	63	LBA
1	1707	3309	16	65535	3308	63	NORMAL
3	1707	827	64	65535	3308	63	LARGE

Note: Some Oses(SCO-UNIX Before v5.0) must use “NORMAL” for installation

ESC : Skip

Note: This function is only valid for IDE type of hard disk drives.

Chapter 4

DRIVERS INSTALLATION

Your SY-6ZB Motherboard comes with a CD-ROM labeled "SOYO CD." The SOYO CD contains the user's manual file for your new Motherboard, the drivers software available for installation, and a database in HTML format with information on SOYO Motherboards and other products.

The SOYO CD Start Up Program automatically detects which SOYO Motherboard you own and displays the corresponding model name.

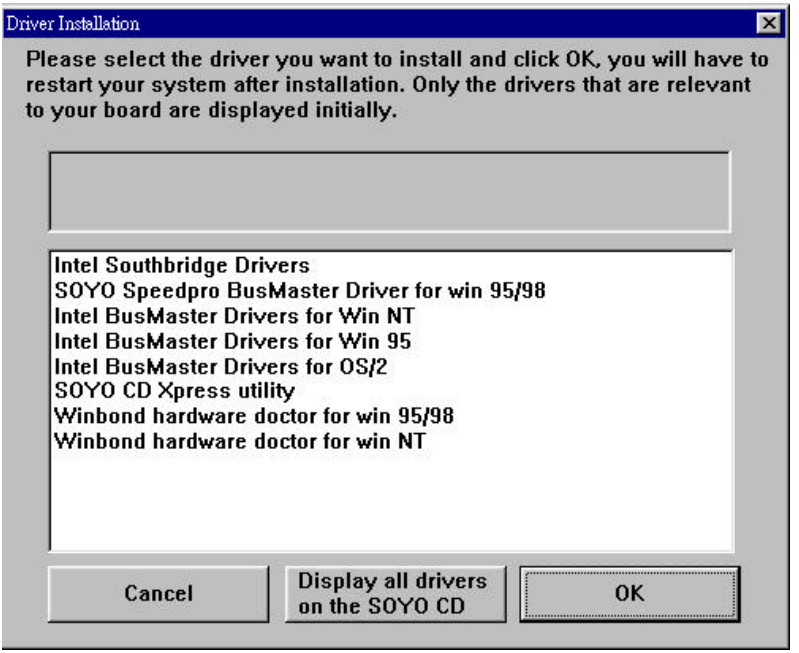
Step 1. Insert the SOYO CD into the CD-ROM drive

The SOYO CD will auto-run, and the SOYO CD Start Up Menu will display as shown below.

Step 2. Install Drivers

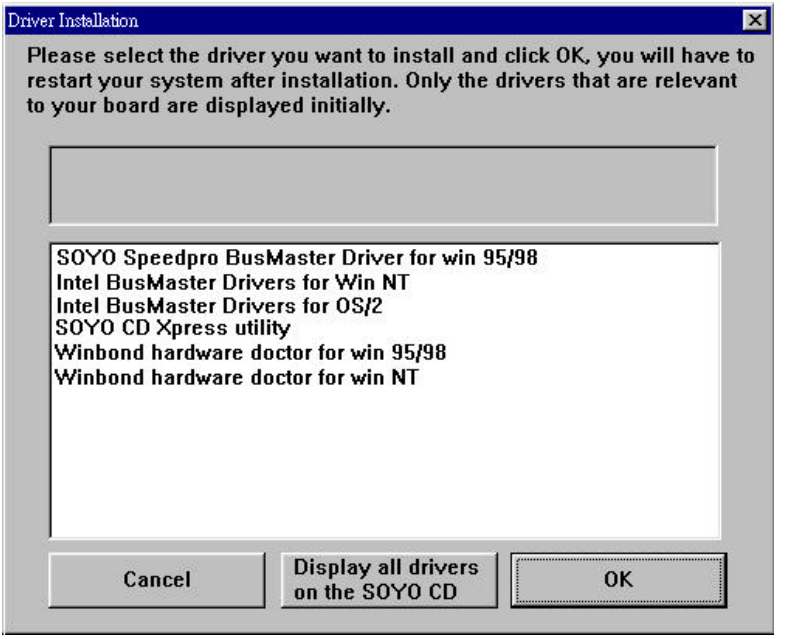
Click the Install Drivers button to display the list of drivers software that can be installed with your Motherboard. The Start Up program displays the drivers available for the particular model of Motherboard you own. We recommend that you only install those drivers.

The following drivers are available for Windows 95



(Driver Installation Menu)

The following drivers are available for Windows 98



(Driver Installation Menu)

A short description of all available drivers follows:

- **Intel Southbridge Drivers**

Because Windows 95 does not recognize the Southbridge of the newer Intel chipsets (TX, BX, ZX etc) this utility has to be run, it will update the necessary Windows files. (Only for Windows 95)

- **SOYO SpeedPro Busmaster Driver for Win 95/98**

Without the busmaster drivers the CPU will need to be involved every time data is read from or written to the Harddisk. The busmaster drivers make use of DMA (Direct Memory Access) to relieve the CPU of this burden, thus speeding up the system.

The SOYO SpeedPro driver makes use of an advanced caching algorithm, which gives it an advantage over other busmaster drivers.

- **Intel Busmaster Drivers for Windows 95**

- **Intel Busmaster Drivers for Win NT**
- **Intel Busmaster Drivers for OS/2**

These are the official busmaster drivers as supplied by Intel.

Note: Do NEVER install two types of busmaster drivers on your system, this will lead to conflicts and system instability. Therefore, if you install the SOYO SpeedPro Busmaster driver you can NOT install the Intel Busmaster drivers. Before installing a new busmaster driver first UNINSTALL the old busmaster driver.

- **SOYO CD Xpress Utility**

This utility will enhance your CD-ROM Drive data-thoughput by using space on the Harddisk as cache. This way application programs can access data faster. This utility is suitable for Windows 95/98.

- **Winbond hardware doctor for Windows xx**

Your motherboard comes with a hardware monitoring IC. By installing this utility Temperature, Fan speed and Voltages can be monitored. It is also possible to set alarms when current system values exceed or fall below pre-set values.

Because the Hardware monitor comes with default monitoring settings that may not be appropriate to the configuration of the actual system, it is possible that the user will have to change some of these settings.

- **Core voltage**

The core voltage differs between generations of Intel CPUs, if the Hardware monitor gives a warning, the settings for the safe range of the core voltage has to be adjusted. This can be done by simply clicking and dragging the upper and lower limit bars.

For example:
Newer Slot 1 CPUs have a core voltage of 2.0V. Therefore, set the

CPU Vcore limits to 1.8V and 2.2V. For 2.8V core voltage CPUs the limits would be 2.6V and 3.0V.

- **Fan speed**

The Hardware monitor can keep track of three fans. If the user does not use all fans, the fans that are not in use should be disabled in the Hardware monitor program, otherwise the Hardware monitor will give an alarm. If this happens, make sure to disable monitoring for that fan.

Note: However, to display the list of all drivers software available with SOYO Motherboards, click the ***Display all drivers on the SOYO CD*** button. Please make sure to install only the drivers adapted to your system, or otherwise this cause system malfunctions.

Step 3. Check the Latest Releases

Click the 'Check the latest Releases' button to go the SOYO Website to automatically find the latest BIOS, manual and driver releases for your motherboard. This button will only work if your computer is connected to the internet through a network or modem connection. Make sure to get your modem connection up before clicking this button.

Step 4. Select which driver you want to install and click OK

Notice 1: Once you have selected a driver, the system will automatically exit the SOYO CD to begin the driver installation program. When the installation is complete, most drivers require to restart your system before they can become active.

Notice 2: You may click ***Cancel*** to abort the driver installation and return to the main menu.

Notice 3: Once you have selected a driver, the system will automatically exit the SOYO CD to begin the driver installation program. When the installation is complete, most drivers require to restart your system before they can become active.


SOYO