SY-6BB
Mainboard

****

Pentium® II processor (66&100MHz) supported

82440 BX AGP Set Mainboard

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 mainboard. Information in this guide has been carefully checked for reliability; however, no guarantee is given as to the correctness of the contents. The information in this document is subject to change without notice.

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6BB SERIAL

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

100% POST CONSUMER RECYCLED PAPER

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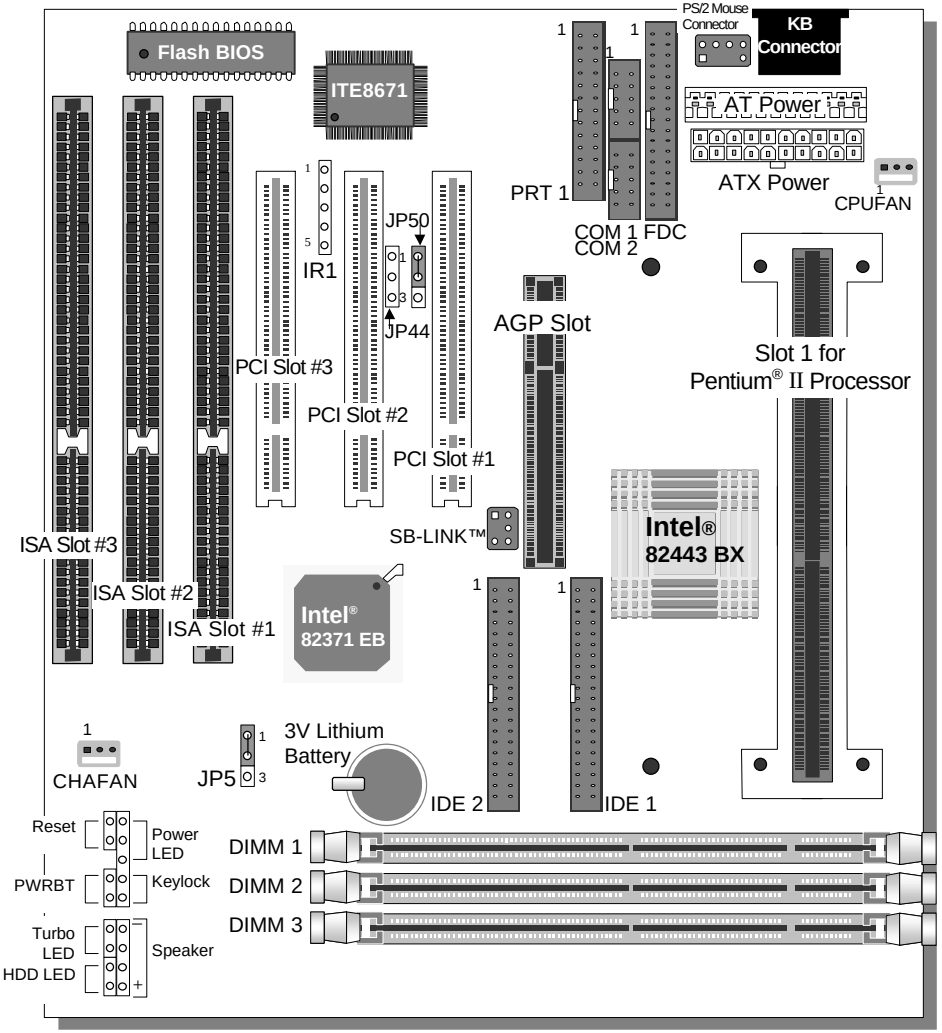
SY-6BB MOTHERBOARD LAYOUT



Layout with Default Settings

MOTHERBOARD FEATURES

Board Size	4-layer PCB, 22.x25. cm, AT Form Factor
Slot 1	Slot 1 for Pentium® II Processor; supports: ➢ Pentium® II Processors up to 100 MHz host bus frequency (233-550MHz) ➢ Auto detection of CPU voltage
Chipset	82440 BX AGP Set
AT Power	12-pin Male Connector
ATX Power	20-pin Male Connector
Memory	DIMM Bank 1~3 ➢ 168-pin Unbuffered SDRAM DIMM Module ➢ Support 8~128MB DIMM in each Bank ➢ Supports ECC configuration
BIOS	System BIOS built-in, Award BIOS ➢ "Plug-and-Play" function
PCI Slots (3x)	3 x 32-bit Bus Mastering Slots
AGP Slot (1x)	1 x 32-bit AGP Slot
ISA Slots (3x)	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
FDC	1 Floppy Disk Drive (FDD) Port (Supports 1.2MB/1.44MB/2.88MB and LS120/3-mode FDD)
IR1	5-pin Infrared Device Connector
PRT1	1 x 26-pin Female Parallel Printer Port
COM1, COM2	2 x RS-232 Serial Ports
KB	1 x PS/2 Keyboard Connector

MOTHERBOARD FEATURES (CONTINUED)

PS/2 Mouse	1 x PS/2 Mouse Connector
USB1, USB2	2 x USB (Universal Serial Bus) Connectors
Keylock	5-pin KeyLock Connector
Reset	2-pin Reset Switch Connector
Speaker	4-pin PC Speaker Connector
TB_LED	2-pin Turbo LED Connector
HDD_LED	2-pin IDE Device LED Connector
JP5	CMOS Clear Jumper
JP44	WOL (Wake-On-LAN) 3-pin Connector
JP50	Power-On by Keyboard Function Jumper
SBLINK	PCI Audio Card Connector

DEFAULT SETTINGS

CPU	Pentium® II 233/350 MHz Processor
CPU Voltage	Auto Detect CPU Voltage
2 IDE Ports	PCI E-IDE Ports
1 Parallel Port	LPT1: EPP/ECP Printer Port
	➢ LPT1: I/O Address 378H, IRQ 7, Status ECP+EPP
2 Serial Ports	COM1 & COM2: 2 x RS-232 high-speed UARTs (w/ 16550 FIFO)
	➢ COM1: I/O Address 3F8H, IRQ 4
	➢ COM2: I/O Address 2F8H, IRQ 3
2 USB Ports	2 Onboard USB (Universal Serial Bus) Ports

PS/2 Mouse

Dual AT or ATX Power Supply

QUICK INSTALLATION GUIDE

Congratulations on your purchase of SY-6BB Motherboard. You are about to install and connect your motherboard.

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

PREPARATIONS

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

1. Pentium® II 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 included in this motherboard package.

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

UNPACKING THE MOTHERBOARD

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.

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.

Step 1. CPU Installation

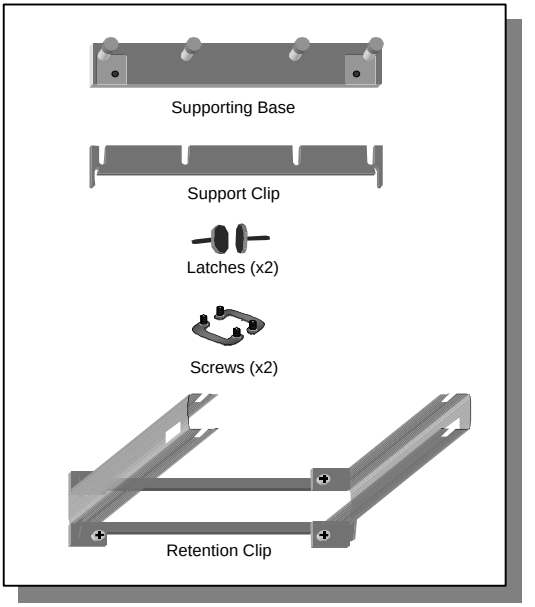
Your SY-6BB motherboard comes with a CPU retention set kit. The retention set is used to hold the Pentium® II processor attached to the Slot 1 CPU connector on the motherboard.

Follow these instructions to install your Pentium® II processor correctly.

1. Unpack the Retention Set Kit

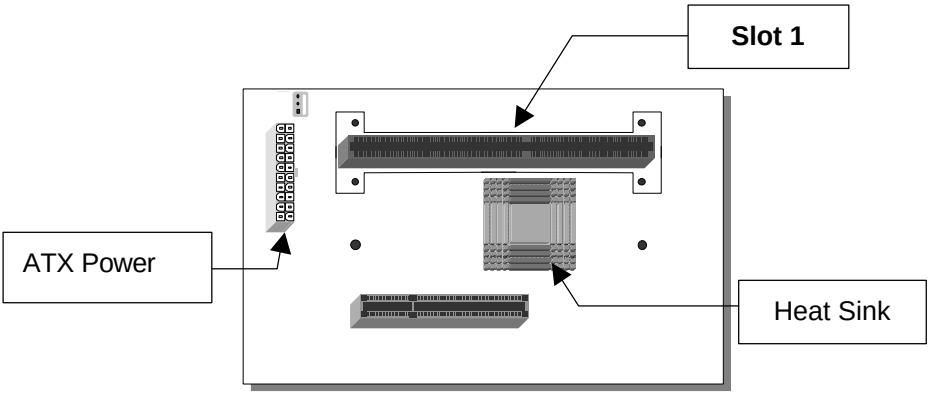
Gather the following items included in the retention set kit, as shown in the following figure:

- Supporting Base
- Support Clip
- Latches (x2)
- Screws (x2) used to set the retention clip
- Retention Clip



2. Position the Motherboard

Locate **Slot 1** on the motherboard and position the board in the direction as shown in the following figure:



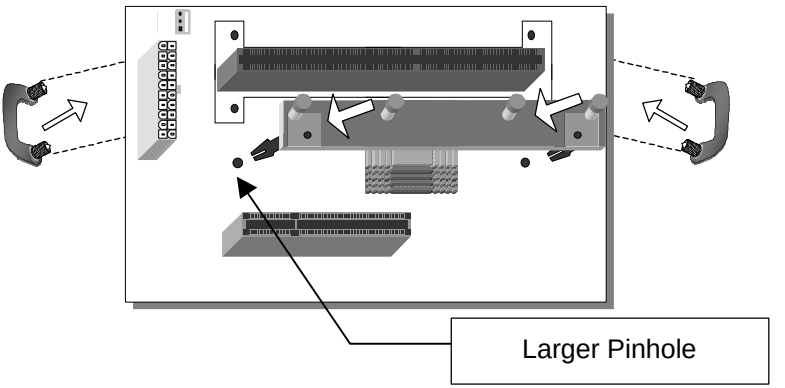
3. Insert the Screws

Install the two pairs of screws used to set the retention clip in the two pairs of holes at both ends of Slot 1. Insert the screws from below the motherboard upward, as shown in the figure below.

4. Install the Supporting Base

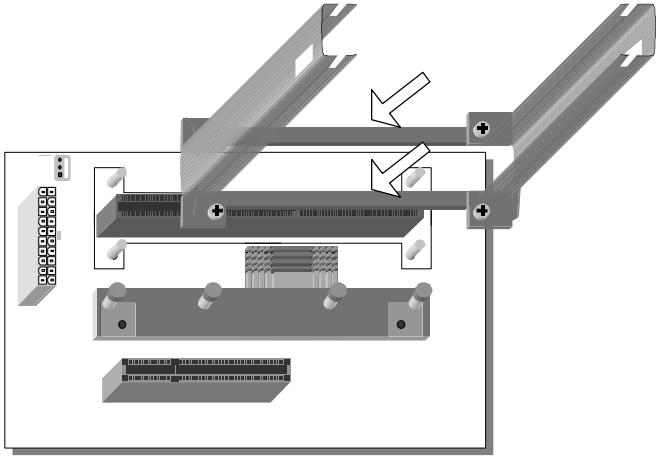
Insert the supporting base into the two holes adjacent to the two sets of screws previously installed.

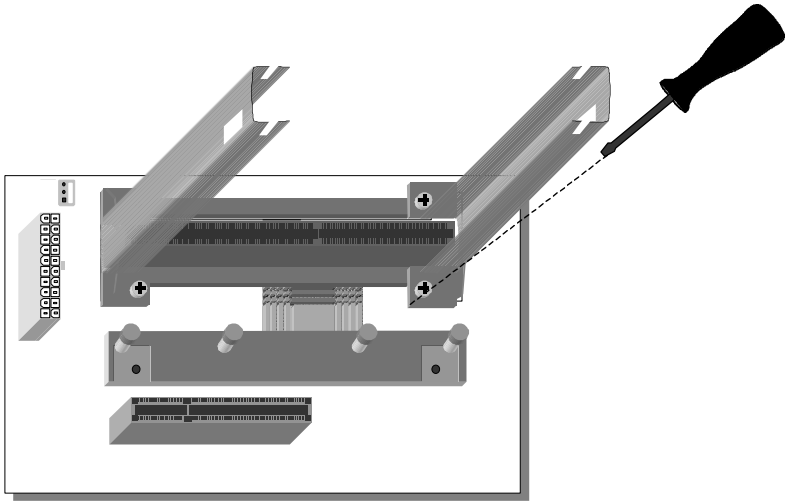
Pay special attention to the directionality provided by the larger pinhole on the AGP port side. Do not apply excessive force when inserting the supporting base. If the supporting base does not go in, check the orientation with the following figure and position the supporting base so as to match the larger pinhole.



5. Install the Retention Clip

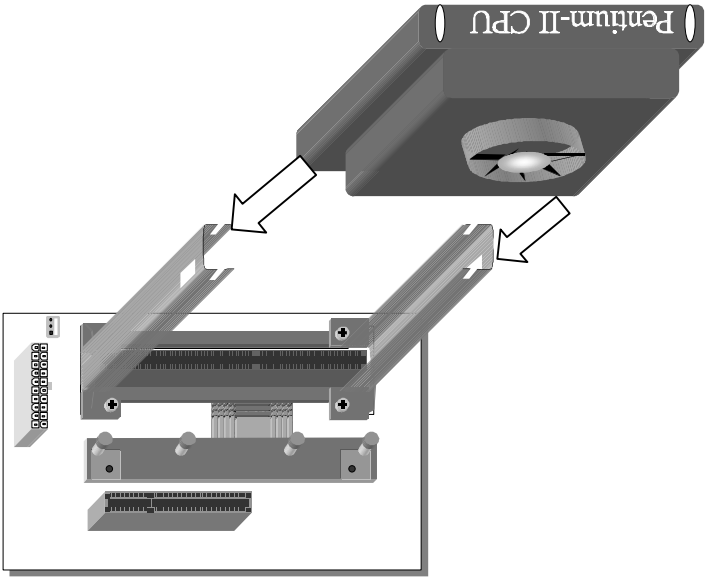
Set the retention clip centered on Slot 1 and right on top of the two sets of screws along side Slot 1, as shown in the following figure. Then tighten the four screws on the retention clip.

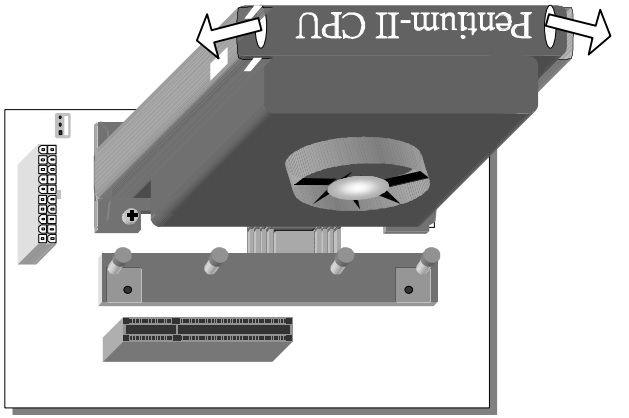




6. Install the CPU

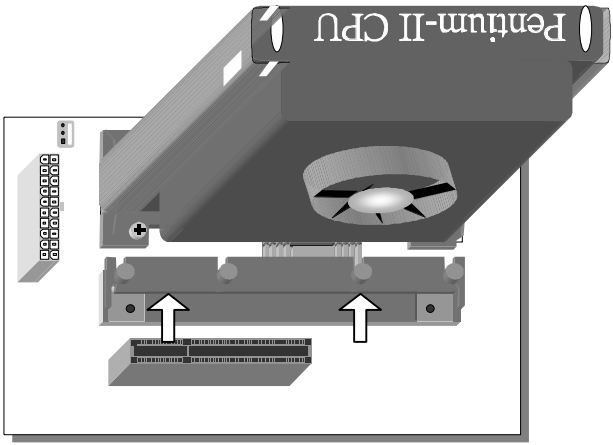
Insert the CPU into the retention clip and lock the two latches on the sides of the CPU to secure the Pentium® II processor in place, as shown in the following figures.





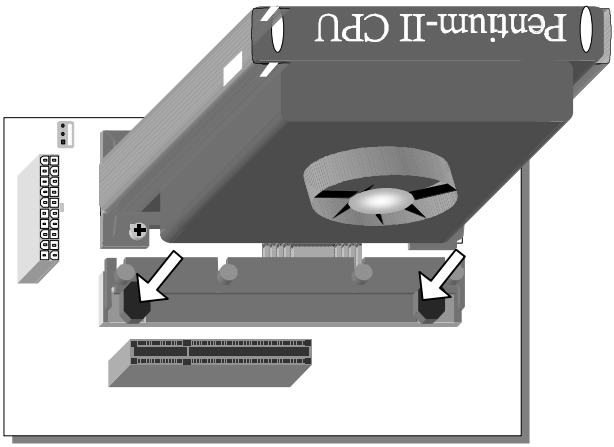
7. Install the Support Clip

Insert the support clip on the supporting base so that the CPU heat sink can seat on top of the supporting base, as shown in the following figure.



8. Insert the Latches

Insert the two latches in the corresponding pinholes on the supporting base and then turn them 90 degrees to secure the CPU, as shown in the following figure.



Step 2. CPU Fan Installation

Your Pentium® II 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. CPU Frequency Setting

This motherboard does not use any jumpers to set the CPU frequency, CPU settings are changed through the BIOS. Refer to *Chapter 2 Hardware Setup* and *Chapter 3 BIOS Setup Utility* for details on how to set the Pentium® II processor frequency.

Step 4. DRAM Module Installation

This motherboard supports DIMM banks from 8 to 128 MB.

Note: Always install the memory module DIMM bank 3 first, then install additional memory modules in DIMM banks of decreasing order (3→2→1). Refer to the memory configuration table in *Chapter 2*.

Refer to *Chapter 2 Hardware Setup* for details on how to install memory modules in DIMM banks.

Step 5. IDE Device Installation (HDD, CD-ROM)

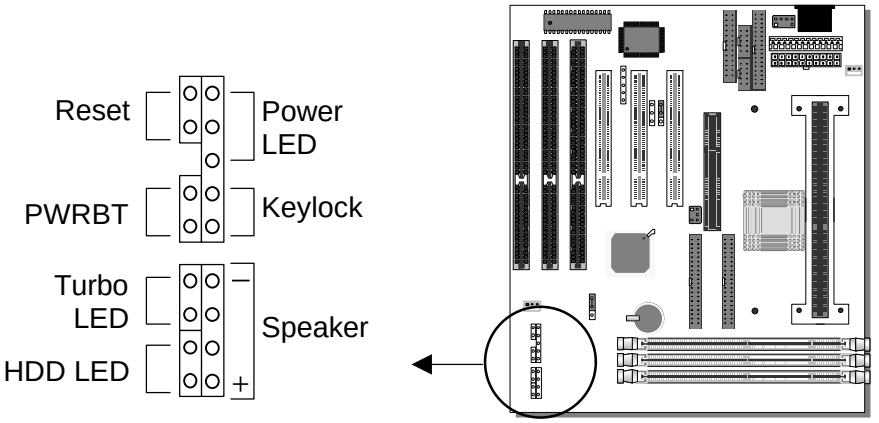
This motherboard offers two primary and secondary IDE device connectors (IDE1, IDE2.) It can support up to four high-speed HDD or CD-ROM.

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 6. Floppy Drive Installation

The system supports 5 possible floppy drive types: 720 KB, 1.25 MB, 1.44 MB, 2.88 MB, and LS-120. In addition, this motherboard supports a 3-mode (720KB/1.25MB/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 labeled [FDC] on the motherboard.
This motherboard can support up to 2 floppy drives.

Step 7. Front Panel Connections



Plug the computer case's front panel devices to the corresponding connectors on the motherboard.

1. Power LED & KeyLock

Plug the Power LED cable into the 5-pin Keylock connector.
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 connector 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 connector 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 connector on the motherboard.

4. Turbo LED

Connecting the 2-pin Turbo LED cable to the corresponding Turbo LED connector 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 connector 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

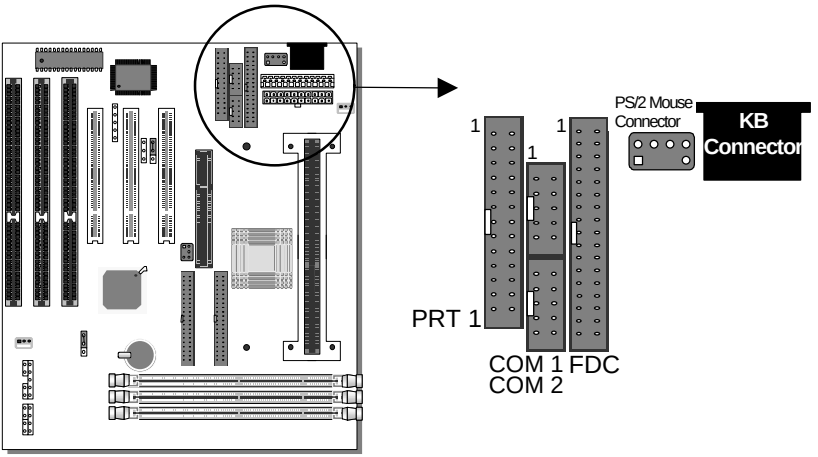
Attach the 2-pin momentary type switch to the PWRBT connector for turning On or Off your ATX power supply.

Step 8. 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 serial (PRT1) and parallel 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.



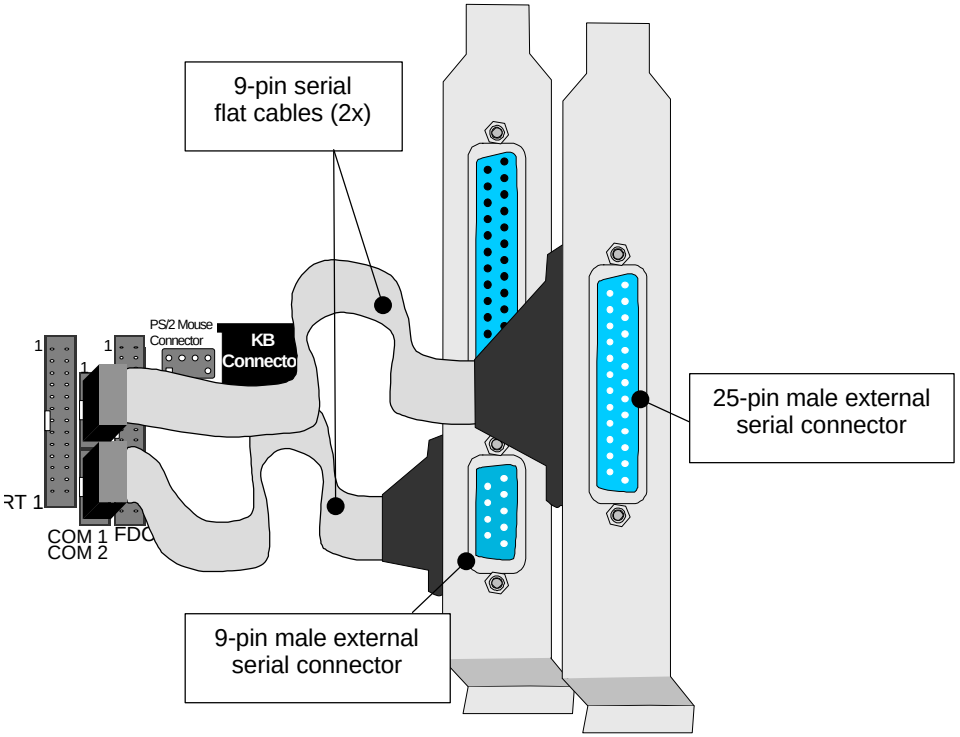
1. Serial Ports COM1/COM2

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.

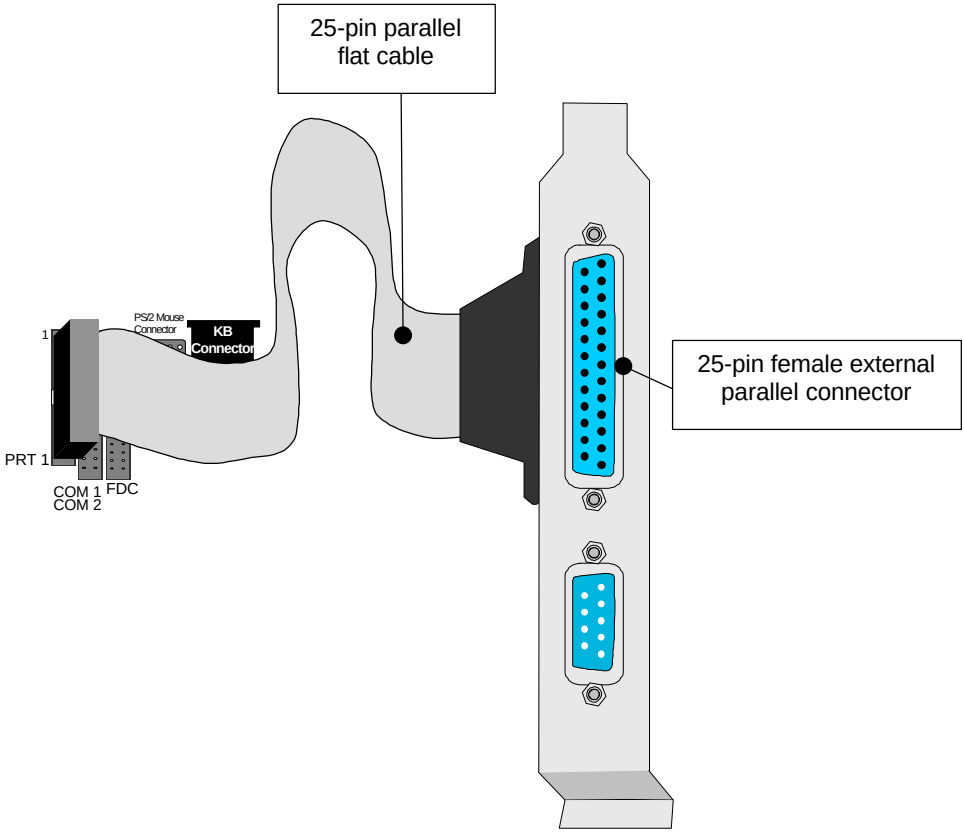


2. Parallel Port PRT1

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

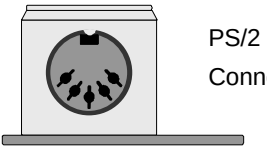
Your motherboard comes with one 25-pin female external parallel connector with 25-pin flat cable.

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. PS/2 Keyboard

Plug the keyboard jack directly into the 6-pin female PS/2 keyboard connector located at the rear panel of the motherboard.

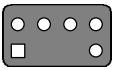


PS/2 Keyboard Connector

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.

PS/2 Mouse Connector



5. Universal Serial Bus USB1/USB2

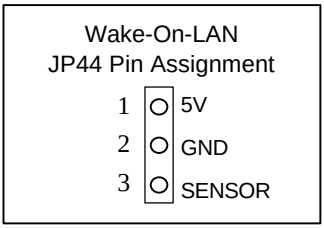
This motherboard provides two USB ports for your additional devices. Attach the 5-pin end of the USB device cable to the available USB connector USB1 or USB2 on the motherboard.

Step 9. 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 connector on the motherboard. This WOL function lets users wake up the connected computer through the LAN card.

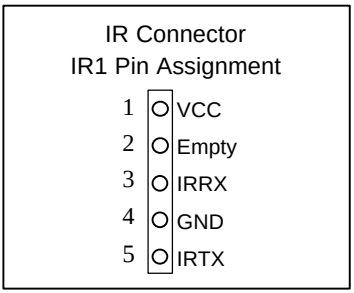
Please install according to the following pin assignment:



2. Infrared (IR)

Plug the 5-pin infrared device cable to the IR connector. This will enable the infrared transfer function. This motherboard meets both the ASKIR and HPSIR specifications.

Please install according to the following pin assignment:

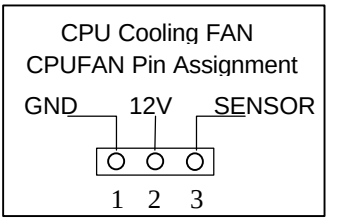


Step 10. Cooling Fan Installation

1. CPU Cooling Fan

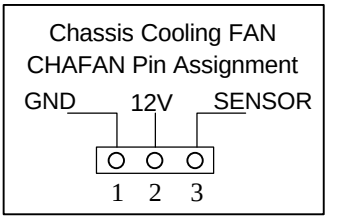
After you have seated the CPU properly on the processor, attach the 3-pin fan cable to the CPUFAN connector on the motherboard. The fan will stop when the system enters into Suspend Mode. (Suspend mode can be enabled from the BIOS Setup Utility.)

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:



The chassis fan will stop when the system enters into Suspend Mode. (Suspend mode can be enabled from the BIOS Setup Utility.)

Step 11. 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.

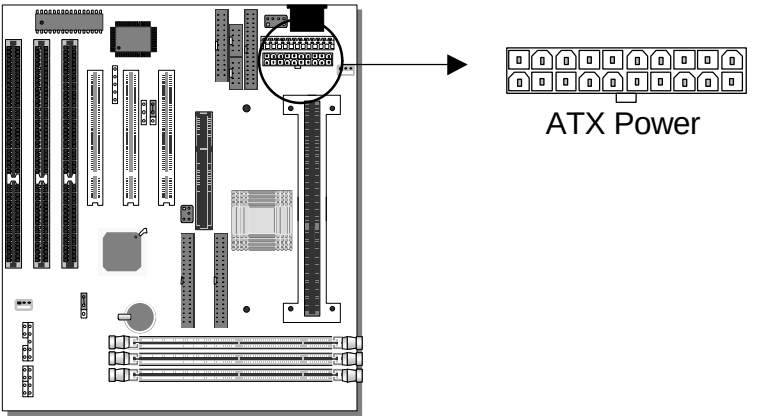
Other Display Cards: Insert other types of VGA cards into the PCI or ISA expansion slots according to card specifications.

Step 12. PCI Audio Card

Some soundcards require a DMA channel. Attach the 5-pin cable from the PCI Audio card to the SB-LINK ™connector on the motherboard. The SB-LINK ™will forward requests for legacy DMA channel to the PCI Bus.

Step 13. ATX Power Supply

If you are using ATX power, plug the connector from the power source directly into the 20-pin male ATX PW connector on the motherboard, as shown in the following figure.



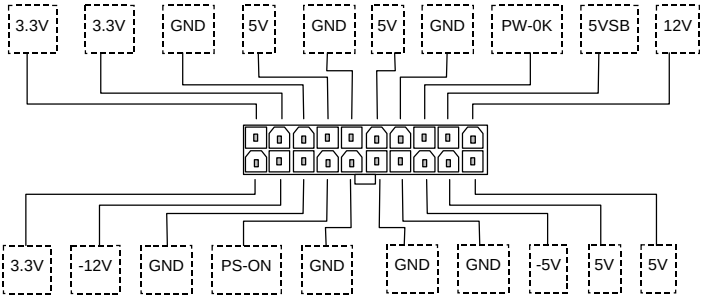
Warning: Follow these precautions to preserve your motherboard from any remnant currents when connecting to ATX power supply:

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

This 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 10mAmp load on the 5V Standby lead (5VSB) to meet the standard ATX specification.

Note on KB Wake-Up Function Power Requirements: If you are using the KB Wake-Up Function with 5VSB, make sure your power supply can provide 100mAmp or higher current.

Install the ATX power according to the following pin assignment:



ATX Power

- **Pay special care to the directionality.**
- **Make sure pin 1 is in its position.**

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 15. 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.
Reset your computer now.

Step 16. Power-On by Keyboard Function (JP50)

This function allows users to wake up the computer through the keyboard. To enable the Power-On by Keyboard Function, set JP50 to the 2-3 jumper setting. Shorting pin 1-2 on jumper JP50 will disable the Power-On by Keyboard Function.

Step 17. Power On

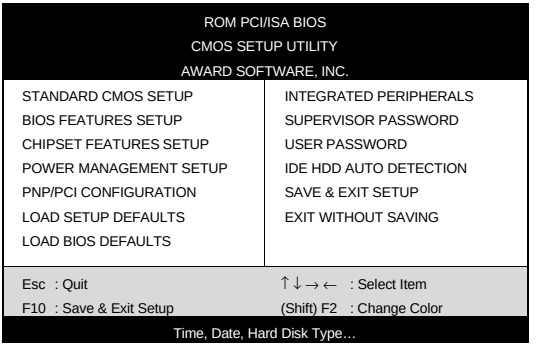
You have now completed the hardware installation of your motherboard successfully.

1. Turn the power on
2. When the system is performing the diagnostic checks, press the DEL key to enter the BIOS Setup Utility.

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 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:



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

Or continue to Chapter1: **INTRODUCTION** and Chapter2: **HARDWARE SETUP** for more information about your SY-6BB Motherboard.

Chapter 1

INTRODUCTION

The SY-6BB AGP Set motherboard is a high-performance Pentium® II processor supported AT form-factor system board. SY-6BB uses the 82440 BX Chipset technology and supports Pentium® II series processors. This motherboard is fully compatible with industry standards and adds many technical enhancements.

1-1 KEY FEATURES

- **CPU**
  - Supports Intel Pentium® II processors featuring speeds of 233-550 MHz
  - Features Slot 1 for Pentium® II processor support
  - Supports both boxed and non-boxed type of CPUs.
  - Includes a CPU mount kit with retention clip
  - Also includes a CPU Fan support stand used for heavier non-boxed type CPUs
- **DRAM Controller**
  - Supports 3 strips of 168-pin SDRAM unbeffured DIMM. 3 x 168-pin DIMM banks support 8/16/32/64/128 MB unbuffered DIMM modules
  - Memory configuration:
    - System memory: 8MB to 384MB
    - Maximum of 384MB with SDRAM

- **BUS Controller**
  - Compliant with v2.1 PCI specifications
  - Features 3 x 32-bit PCI slots:
    - 3 x Bus Mastering PCI Slots
  - Features 3 x 16-bit ISA slots
  - Features 1 x 32-bit AGP slot
  - Provides on-board USB (Universal Serial Bus) port
- **Peripheral Controller**
  - System BIOS with Plug-and-Play function
  - Onboard features:
    - PCI Bus Mastering IDE controller
    - Floppy controller
  - Onboard supports:
    - 2 x high-speed UARTs (with 16550 FIFO) serial ports
    - 1 x ECP/EPP/SPP multi-mode parallel printer port
    - 1 x PS/2 mouse port
  - Onboard FLASH Memory for BIOS easy upgrade
  - Onboard IR function

1-2 UNPACKING THE MOTHERBOARD

When unpacking the motherboard, check for the following items:

- The **SY-6BB** 82440 BX AGP Set Motherboard
- This *Quick Start Guide*
- The Installation CD-ROM
- The CPU Retention Set
- One IDE Device Flat Cable
- One Floppy Disk Drive Flat Cable
- One 25-pin external serial connector with 9-pin flat cable
- One dual 25-pin parallel with 25-pin flat cable and 9-pin serial with 9-pin flat cable external connector

*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.

1-3 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.

1-4 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 mainboard 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

In addition to the Installation Guide, this section is designed to help you configure the motherboard hardware and to provide complementary knowledge of the hardware. (This chapter is designed for Normal edition motherboard use only.)

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

After you install the motherboard:

1. Set the CMOS clear jumper
2. Install memory
3. Make case connections

Refer to this chapter whenever you upgrade or reconfigure your system.

2-1 CMOS Clear Jumper JP5

Clear the CMOS memory by momentarily shorting pin 2-3 on jumper JP5, and then by shorting pin 1-2 to retain new settings. This jumper can be easily identified by its white color cap.

CMOS Clearing	Step 1	Step 2
	Clear CMOS Data	Retain CMOS Data (Default)
JP5 Setting	Momentarily short pin 2-3 to clear the CMOS 	Short pin 1-2 to retain new settings 

2-2 Power-On by Keyboard Function Jumper JP50

Enable the Wake-Up by Keyboard function by Shorting pin 2-3 on jumper JP50, otherwise, short pin 1-2 to disable this function. Jumper JP50 can be easily identified by its red color cap.

Support Wake-Up by Keyboard	Enable	Disable
JP50 Setting	5VSB supports Wake-up by Keyboard 	VCC does not support Wake-up by Keyboard 

2-3 Auto Detect CPU Voltage

Note: You do not need to set any jumpers since this motherboard auto detects the Pentium® II processor voltage.

This motherboard is designed to automatically detect the CPU voltage. Therefore, it is not necessary to set any jumpers on the motherboard.

2-4 CPU Type Configuration

This motherboard does not use any jumpers to set the CPU frequency, CPU settings are changed through the BIOS Setup Utility.

Enter the BIOS Setup Utility [CHIPSET FEATURES SETUP] section and configure the CPU frequency settings to match the working frequency of your Pentium® II processor. Follow these steps to configure the CPU settings:

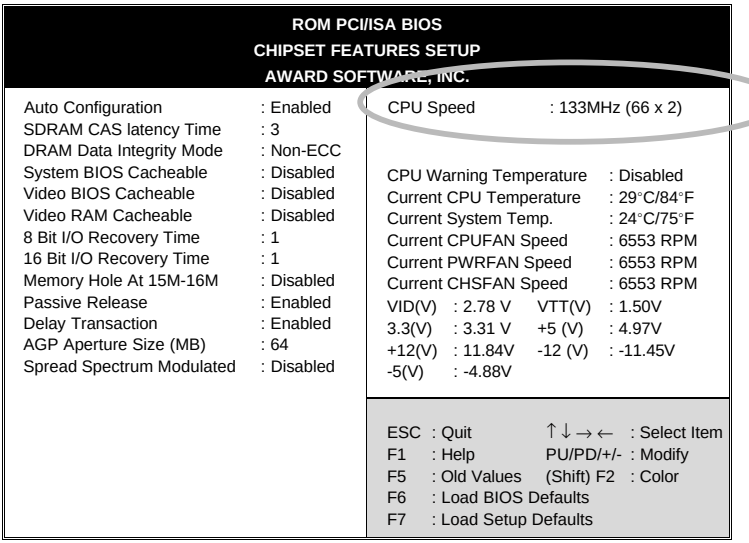
Step 1. Press the [Delete] key during boot up. In BIOS select the [CHIPSET FEATURES SETUP] menu.

Step 2. Note the working frequency of your Pentium® II processor that should be clearly marked on the CPU cover.

Step 3. In [CHIPSET FEATURES SETUP], move the cursor to the **CPU Speed** field.

Step 4. Configure the **CPU Speed** field in BIOS by selecting the CPU frequency that matches the working frequency your processor, as shown in the following figure.

CPU Settings in BIOS



The 133/200MHz setting is used as default so whenever the BIOS settings are erased or reset the board will be able to boot up. However, there is no Pentium® II processor of that frequency.

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.

2-5 MEMORY CONFIGURATION

This motherboard features 3 x DIMM Banks for 168-pin 3.3V unbuffered DIMM modules

Your board comes with four DIMM sockets, providing support for up to 384MB of main memory using DIMM modules from 8MB to 128MB. For 66MHz host bus CPUs use 12ns or faster DIMM modules; for 100MHz host bus CPUs use 8ns modules.

Memory configuration Table

Number of Memory Modules	DIMM 1	DIMM 2	DIMM 3
1			1rst
2		2nd	1rst
3	3rd	2nd	1rst

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

2-6 MULTI I/O ADDRESSES

Default settings for multi-I/O addresses are as follows:

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

Warning: If a default I/O address conflicts with other I/O cards such as sound card, you must change one of the I/O addresses to remedy to this address conflict. (I/O addresses can be adjusted from the BIOS Setup Utility)

Sound Card Installation Notice

Some sound cards have a default IRQ setting for IRQ7. This may conflict with LPT1 printing functions. If this occurs, avoid using the sound card at the same time you print.

2-7 MAKING CONNECTIONS

For making case connections, attach the motherboard to case devices by plugging flat cables and device cables to the connectors on the motherboard.

Connect the motherboard to external peripheral devices such as PS/2 keyboard, parallel printer, PS/2 mouse …via the external connectors that come with your motherboard.

(Refer to the **"Quick Installation Guide"** for directions on how to make connections to the motherboard.)

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

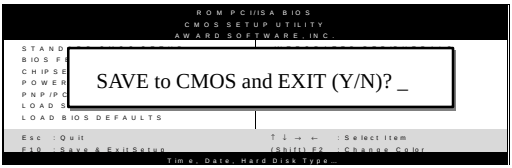
- Use the [Up]/[Down] keys to modify values within the selected fields. Some fields let you enter values directly.

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

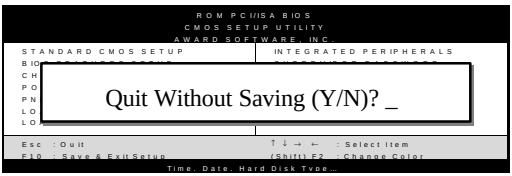
Select the [SAVE & EXIT SETUP] option from the Main Menu to save data to CMOS and exit the setup utility. This option saves all your changes and causes the system to reboot.



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	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.	Default

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 68 MHz 75 MHz 83 MHz 100 MHz 103 MHz 112 MHz	Select the host clock of your Pentium® II processor among these values. Note: For the BX 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.	
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	ESC : Quit	↑ ↓ → ← : Select Item
Soft-Off by PWR-BTTN	: Instant-Off	F1 : Help	PU/PD/+/- : Modify
CPUFAN Off In Suspend	: Enabled	F5 : Old Values	(Shift) F2 : Color
Resume by Ring	: Disabled	F6 : Load BIOS Defaults	
Resume by Alarm	: Disabled	F7 : Load Setup Defaults	
IRQ 8 Break Suspend	: Disabled		

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*		
DMA-1	assigned to : PCI/ISA PnP*		
DMA-3	assigned to : PCI/ISA PnP*		
DMA-5	assigned to : PCI/ISA PnP*		
DMA-6	assigned to : PCI/ISA PnP*		
DMA-7	assigned to : PCI/ISA PnP*		

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

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

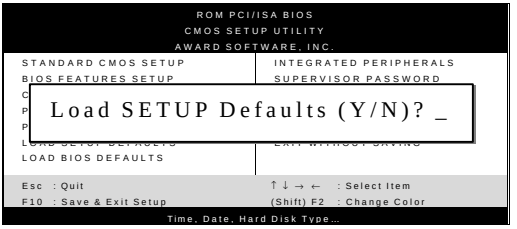
PNP/PCI Controls	Setting	Description	Note
PnP OS Installed	Yes	Set this field to [Yes] if you are running Windows 95, which is PnP compatible.	
	No	If the OS you are running does not support PnP configuration.	Default (If there is any doubt, set this field to [No])
Resources Controlled By	Manual	BIOS 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

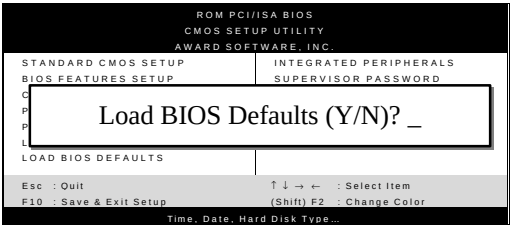
Select the [LOAD SETUP DEFAULTS] option from the Main Menu to load the system values you have previously saved. This option is recommended if you need to reset the system setup and to retrieve the old values.



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 Parallel Port	: 378/IRQ7
IDE Primary Master PIO	: Auto	Parallel Port Mode	: ECP+EPP
IDE Primary Slave PIO	: Auto	ECP Mode Use DMA	: 3
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		
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		
Onboard PDC Controller	: Enabled	ESC : Quit	↑↓→← : Select Item
Onboard Serial Port 1	: 3F8/IRQ4	F1 : Help	PU/PD/+/- : Modify
Onboard Serial Port 2	: 2F8/IRQ3	F5 : Old Values	(Shift) F2 : Color
UR2 Mode	: Normal	F6 : Load BIOS Defaults	
UR2 Duplex Mode	: Half	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:

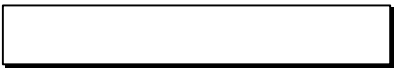
```
Enter Password:
```

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:

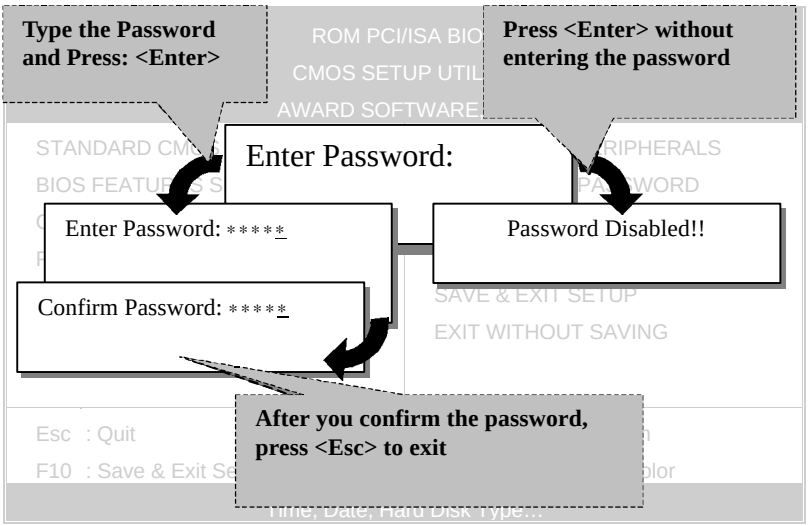
```
Password Disabled!!
```

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	:	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	- - - -

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

ESC : Skip

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

APPENDIX

QUICK START GUIDE

This guide is designed for those users who have prior knowledge of motherboard operations and are already familiar with basic motherboard settings. For further information, please refer to *SY-6BB Motherboard User's Guide and Technical Reference* online manual included on the CD-ROM packed with your motherboard.

1 Unpack the Motherboard

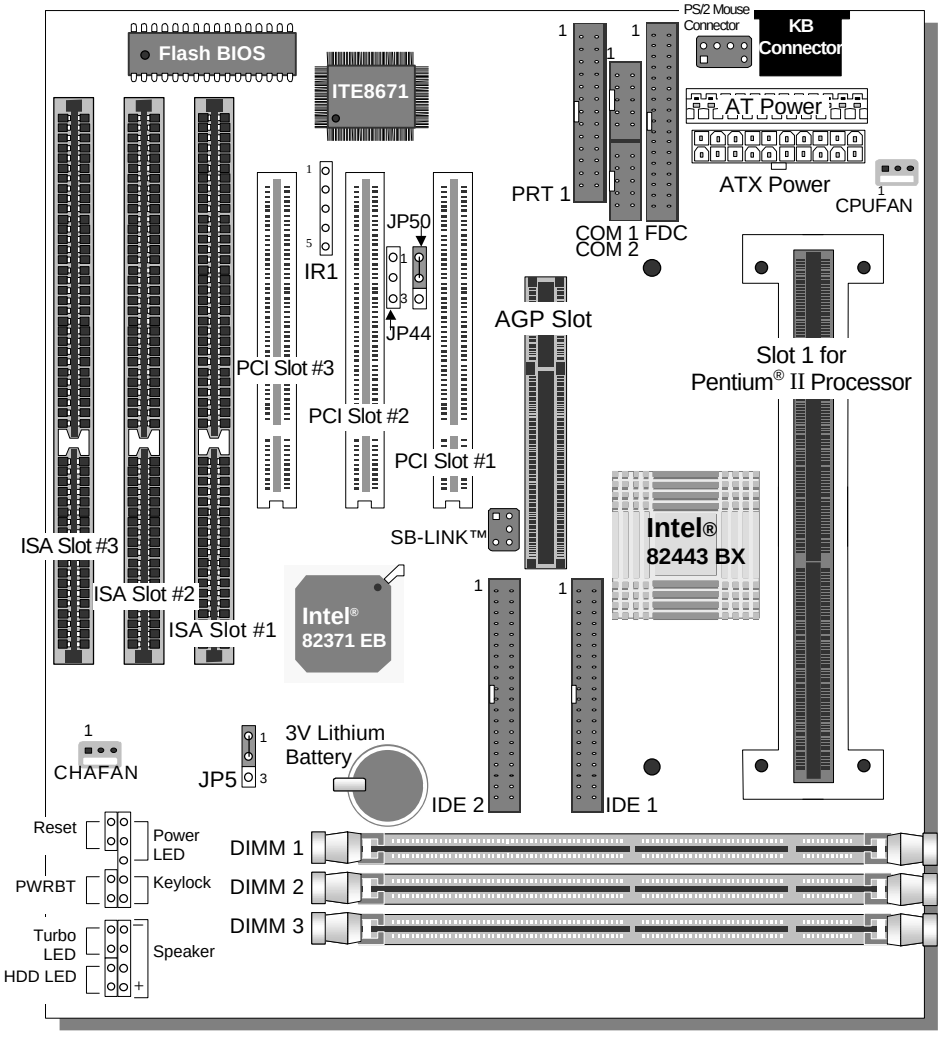
When unpacking the motherboard, check for the following items:

- The **SY-6BB** 82440 BX AGP Set Motherboard
- This *Quick Start Guide*
- The Installation CD-ROM
- The CPU Retention Set
- One IDE Device Flat Cable
- One Floppy Disk Drive Flat Cable
- One 25-pin external serial connector with 9-pin flat cable
- One dual 25-pin parallel with 25-pin flat cable and 9-pin serial with 9-pin flat cable external connector

* 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.

2 Motherboard Layout

Your new SY-6BB Motherboard is a high-performance Pentium® II processor supported system board that features state-of-the-art technology, as shown on the following layout. This layout helps you identify the motherboard elements that you will be dealing with during the installation.



Layout with Default Settings

Default Settings

CPU: Pentium® II processor 233/350 MHz

CPU Voltage: Auto Detect CPU Voltage

2 PCI E-IDE Ports

1 Parallel Port LPT1 EPP/ECP Printer Port

- LPT1: I/O Address 378H, IRQ 7, Status ECP+EPP

2 Serial Ports COM1 & COM2:

- COM1: I/O Address 3F8H, IRQ 4
- COM2: I/O Address 2F8H, IRQ 3

2 Onboard USB Ports

PS/2 Mouse

Dual AT or ATX Power Supply

3 Jumper Settings and Connectors

CMOS Clear: JP5		**Power On by Keyboard: JP50**		**PCI Audio Card Connector: SB-Link ™**	**CPU Cooling Fan: CPUFAN** **Chassis Fan: CHAFAN**			
Retain CMOS data (default)	Pin 1-2	5VSB Support	Pin 2-3	Some PCI audio cards needs a DMA channel. Connect the cable to SB-Link ™.				
Clear CMOS data	Pin 2-3	VCC (disable)	Pin 1-2	**Wake-On-LAN Jumper: JP44**	Pin	1	2	3
				Connect the WOL cable from your LAN card to JP44.	Function	GND	12V	Sensor

USB	**TB LED**	**SPK**	**RESET**	**IDE LED**	**KB-LOCK**
Connect your USB devices to this header	Connect your Turbo LED to this jumper	Connect the speaker cable to this jumper	Connect the reset button to this jumper	Connect the IDE device LED to this jumper	Connect the Power LED and the KB Lock switch to

IrDA (Infrared Device Connector): IR	**AT Power Supply**	**ATX Power On/Off: PWRBT**	**ATX Power Supply: ATX PW**
Connect your IrDA device to this connector	Connect the AT Power Supply header to this connector	Connect your power switch to this jumper (momentary switch type)	Attach the ATX Power Supply to this connector

4 Memory configuration

Your board comes with three DIMM sockets, providing support for up to 384MB of main memory using DIMM modules from 8MB to 128MB. For 66MHz host bus CPUs use 12ns or faster DIMM modules; for 100MHz host bus CPUs use 8ns modules.

Memory configuration Table

Number of Memory Modules	DIMM 1	DIMM 2	DIMM 3
1			1rst
2		2nd	1rst
3	3rd	2nd	1rst

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

5 Default I/O Settings

Default settings for multi-I/O addresses are as follows:

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

Note: If a default I/O address conflicts with other I/O cards such as sound card, you must change one of the I/O addresses to remedy to this address conflict. (I/O addresses can be adjusted from the BIOS Setup Utility under [Integrated Peripherals].)

6 CPU Settings

Enter the BIOS Setup Utility [CHIPSET FEATURES SETUP] section and configure the CPU frequency settings to match the working frequency of your Pentium® II processor. Follow these steps to configure the CPU settings:

Step 1. Press the [Delete] key during boot up. In BIOS select the [CHIPSET FEATURES SETUP] menu.

Step 2. Note the working frequency of your Pentium® II processor that should be clearly marked on the CPU cover.

Step 3. In [CHIPSET FEATURES SETUP], move the cursor to the **CPU Speed** field.

Step 4. Configure the **CPU Speed** field in BIOS by selecting the CPU frequency that matches the working frequency your processor, as shown in the following figure.