

# **SY-6BB V1.0 Mainboard**

## **Quick Start Guide**

Introduction

Hardware  
Installation

Quick BIOS  
Setup

The SOYO CD

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

**100%** POST CONSUMER  
RECYCLED PAPER

# SY-6BB V1.0 Mainboard

Pentium® II processor & Celeron™ processor  
82440 BX AGP/PCI Mainboard  
66&100MHz Front Side Bus supported  
AT/ATX Power Connectors

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## **About This Guide:**

This Quick Start 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.

If you need any further information, please visit our **Web Site** on the Internet. The address is "<http://www.soyo.com.tw>".

**6BB QSG Version 2.0 - Edition: September 1998**

\* These specifications are subject to change without notice

# 1 Introduction

Congratulations on your purchase of the **SY-6BB V1.0** Mainboard. This *Quick Start Guide* describes the steps for installing and setting up your new mainboard.

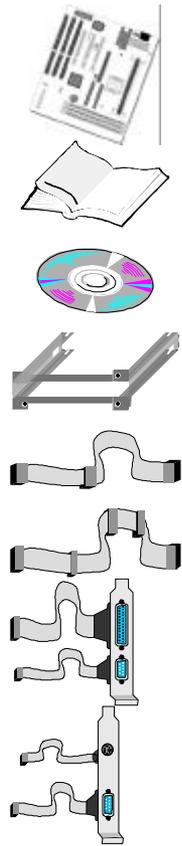
This guide is designed for all users to provide the basic steps of mainboard setting and operation. For further information, please refer to *SY-6BB V1.0 Mainboard User's Guide and Technical Reference* online manual included on the CD-ROM packed with your mainboard.

## Unpacking

\* 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.

When unpacking the mainboard, check for the following items:

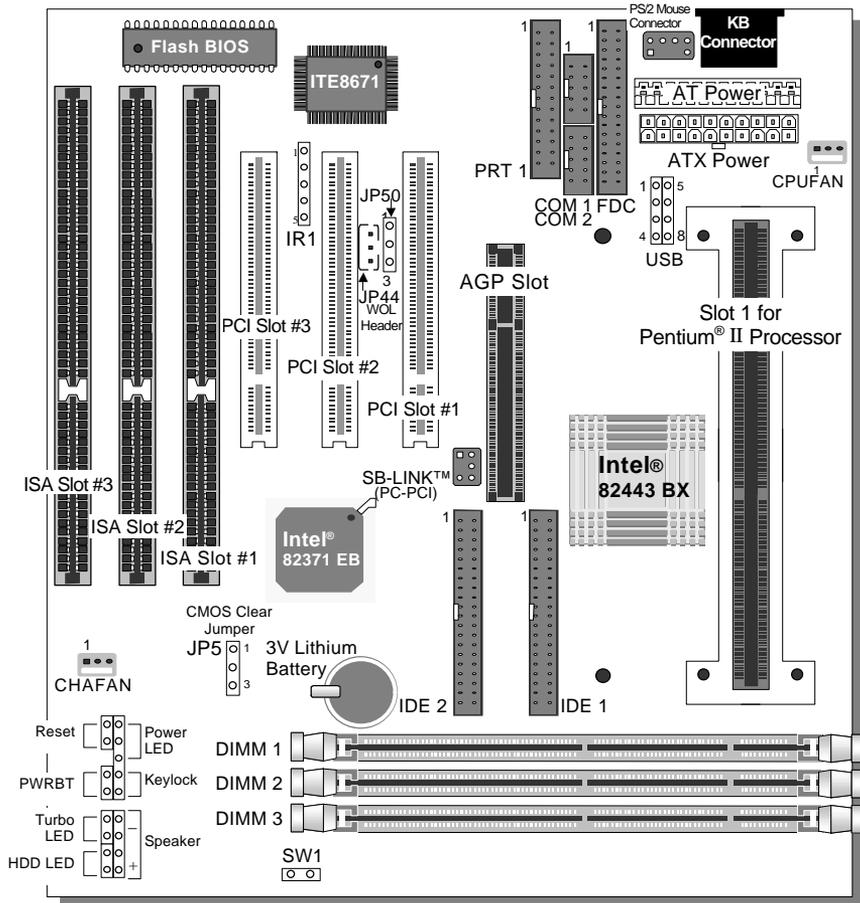
- ◆ The SY-6BB V1.0 82440 BX AGP/PCI Mainboard
- ◆ This Quick Start Guide
- ◆ The Installation CD-ROM
- ◆ The CPU Retention Set
- ◆ One IDE Device Flat Cable
- ◆ One Floppy Disk Drive Flat Cable
- ◆ One dual 25-pin parallel with 25-pin flat cable and 9-pin serial with 9-pin flat cable external connector
- ◆ One dual 6-pin PS/2 mouse connector with 6-pin flat cable and 9-pin serial connector with 9-pin flat cable



Introduction

*SY-6BB V1.0 Mainboard Layout*

Introduction



**Key Features**

- Supports Intel Pentium® II processor (233-550MHz) Celeron™ processors (266-366MHz)
- Auto-detect CPU voltage
- PC97, ACPI, Ultra DMA/33MHz
- 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 card
- 1 x 32-bit AGP slot
- 3 x 32-bit bus mastering PCI slots
- 1 x IrDA port
- Supports multiple-boot function
- DMI utility
- AT/ATX power connectors

## 2 Installation



To avoid damage to your mainboard, follow these simple rules while handling this equipment:

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

Follow the directions in this section designed to guide you through a quick and correct installation of your new **SY-6BB V1.0** Mainboard. For detailed information, please refer to *SY-6BB V1.0 Mainboard User's guide and Technical Reference* online manual included on the CD-ROM packed with your mainboard.

### PREPARATIONS

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

- ◆ Pentium® II processor with built-in CPU cooling fan (boxed type)
- ◆ SDRAM module
- ◆ Computer case and chassis with adequate power supply unit
- ◆ Monitor
- ◆ PS/2 Keyboard
- ◆ Pointing Device
- ◆ VGA Card
- ◆ Sound Card (optional)
- ◆ Speaker(s) (optional)
- ◆ Disk Drives: HDD, CD-ROM, Floppy drive ...
- ◆ External Peripherals: Printer, Plotter, and Modem- (optional)
- ◆ Internal Peripherals: Modem and LAN cards (optional)

## SY-6BB V1.0 Quick Start Guide

### Install the Mainboard

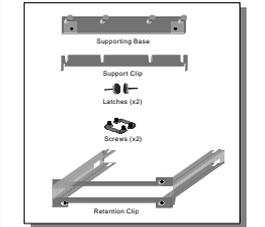
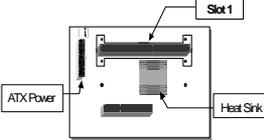
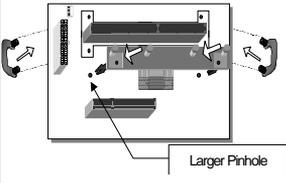
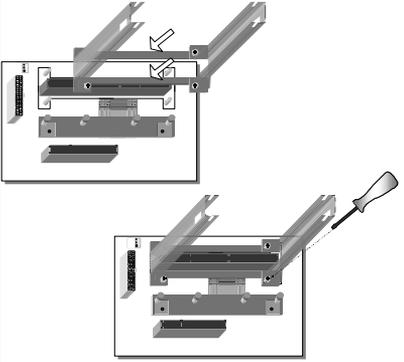
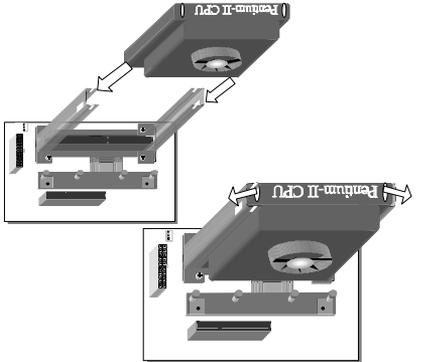
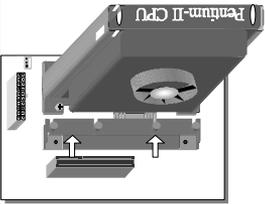
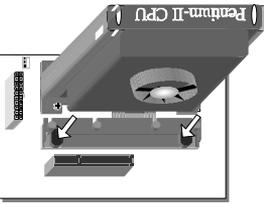
Follow the steps below in order to perform the installation of your new **SY-6BB V1.0** Mainboard.

#### Step 1. Install the CPU

**☑ Mark your CPU Frequency:** Record the working frequency of your CPU that should be clearly marked on the CPU cover.

<input type="checkbox"/> 233MHz (66 x 3.5)	<input type="checkbox"/> 333MHz (66 x 5.0)	<input type="checkbox"/> 450MHz (100 x 4.5)
<input type="checkbox"/> 266MHz (66 x 4.0)	<input type="checkbox"/> 350MHz (100 x 3.5)	<input type="checkbox"/> 500MHz (100 x 5.0)
<input type="checkbox"/> 300MHz (66 x 4.5)	<input type="checkbox"/> 400MHz (100 x 4.0)	<input type="checkbox"/> 550MHz (100 x 5.5)

**CPU Mount Procedure:** To mount the Pentium® II processor that you have purchased separately, follow these instructions.

<p><b>1</b>   <b>Unpack the Retention Kit</b></p> 	<p><b>2</b>   <b>Position the Mainboard</b></p> 	<p><b>3</b>   <b>Insert the Screws</b></p> <p><b>4</b>   <b>Install the Supporting Base</b></p> 
<p><b>5</b>   <b>Install the Retention Clip</b></p> 		<p><b>6</b>   <b>Install the CPU</b></p> 
<p><b>7</b>   <b>Install the Support Clip</b></p> 	<p><b>8</b>   <b>Insert the Latches</b></p> 	<p><b>9</b></p>  <p><b>Remember to connect the CPU Cooling Fan to the CPUFAN power connector on the mainboard.</b></p>

### Step 2. Make Connections to the Mainboard

This section tells how to connect internal peripherals and power supply to the mainboard.

Internal peripherals include IDE devices (HDD, CD-ROM), Floppy Disk Drive, Chassis Fan, Front Panel Devices (Turbo LED, Internal Speaker, Reset Button, IDE LED, and KeyLock Switch.), Wake-On-LAN card, VGA card, Sound Card, and other devices.

For more details on how to connect internal and external peripherals to your new SY-6BB V1.0 Mainboard, please refer to *SY-6BB V1.0 Mainboard User's Guide and Technical Reference* online manual on CD-ROM.

### Connectors and Plug-ins

<b>PCI Audio Card Header: SB-Link™(PC-PCI)</b>		<b>Wake-On-LAN Header: JP44</b>
Connect the SB-Link™(PC-PCI) cable from your PCI audio card to this header.		Connect the WOL cable from your LAN card to JP44.
<b>CPU Cooling Fan: CPUFAN</b>		
Connect the CPU cooling fan cable to the CPUFAN power connector.		
<b>Chassis Fan: CHAFAN</b>		
Connect the case cooling fan cable to the CHAFAN power connector.		
<b>USB</b>	<b>TB LED</b>	<b>SPK</b>
Plug your USB devices to this header.	Connect your Turbo LED cable to this header.	Connect the speaker cable to this header.
<b>RESET</b>	<b>IDE LED</b>	<b>KB-LOCK</b>
Connect the reset button to this header.	Connect the IDE device LED to this header.	Connect the Power LED and the KB Lock switch to this header.
<b>IrDA (Infrared Device Header): IR</b>		<b>AT Power Cable</b>
Connect the cable from your IrDA device to this header.		Connect the AT Power cable to this connector. If you use AT power supply.
<b>ATX Power On/Off: PWRBT</b>		<b>ATX Power Supply: ATX PW</b>
Connect your power switch to this header (momentary switch type).  <b><i>To turn off the system, please press this switch and hold down for longer than 4 seconds.</i></b>		Attach the ATX Power cable to this connector. If you use ATX power supply.  <b><i>When using the Keyboard Wake-Up 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 specifications.</i></b>

## SY-6BB V1.0 Quick Start Guide

### Step 3. Configure Memory

Your board comes with three DIMM sockets, providing support for up to 768MB of main memory using DIMM modules from 8MB to 256MB. For 66MHz front side bus CPUs use 12ns or faster memory; for 100MHz front side bus CPUs use 8ns (100MHz, PC100 compliant) memory.

#### Memory Configuration Table

Number of Memory Modules	DIMM 1	DIMM 2	DIMM 3
1			3 <sup>rd</sup>
2		2 <sup>nd</sup>	3 <sup>rd</sup>
3	1 <sup>st</sup>	2 <sup>nd</sup>	3 <sup>rd</sup>
RAM Type	SDRAM		
Memory Module Size (MB)	8/16/32/64/128/256 Mbytes		
<b>Note:</b> (1) 256 MB memory modules available on PC registered DIMM only. (2) Always install memory modules in the order prescribed in this table. (3) Do not install unbuffered and registered memory modules together.			

**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. 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 such as 350MHz, 400MHz, 450MHz, or 500MHz.
- \* Set SW1 to close when you use a FSB 66MHz CPU such as 233MHz, 266MHz, 300MHz, 333MHz, or 366MHz only for Celeron.
- \* Set SW1 to open when you use a FSB 66MHz but want to over clock the FSB clock to 100MHz via the BIOS setting.

### Step 5. Set the CPU Frequency

You do not need to set any jumper for the CPU frequency. Instead, CPU setting are changed through the BIOS [CHIPSET FEATURES SETUP]. Please refer to *Chapter 3 - Quick BIOS Setup* for details on how to set the Pentium® II processor frequency.

### Step 6. Enable/Disable Power-On by Keyboard (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
<b>JP50 Setting</b>	Short pin 2-3 to enable the Power-On by Keyboard function. 	Short pin 1-2 to disable the Power-On by Keyboard function. 
<p><b>Important:</b> 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.</p>		

### Step 7. Clear CMOS Data (JP5)

Clear the CMOS memory by momentarily shorting pin 2-3 on jumper JP5 for at least 5 seconds, and then by shorting pin 1-2 to retain new settings. This jumper can be easily identified by its white colored cap.

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



### ***Note on Over-clocking Capability***

The SY-6BB V1.0 mainboard provides over-clocking capability. Due to the over-clocking setting your system may fail to boot up or hang during run time. If this occurs, please perform the following steps to recover your system from the abnormal situation:

1. Turn off system power (If you use a ATX power supply, sometimes you have to press the power button for more then 4 seconds to shut down the system)
2. Set the SW1 to short if you use a FSB 66MHz CPU
3. Press and hold down the <Insert> key while turning on the system power. Keep holding down the <Insert> key until you see the message of the CPU type and frequency (133MHz or 200MHz) appear on screen
4. Press the <Del> key during the system diagnostic checks to enter the Award BIOS Setup program
5. From the BIOS main menu, select [CHIPSET FEATURES SETUP] and move the cursor to the [CPU Frequency] field to set the proper working frequency
6. Select [Save & Exit SETUP] and press <Enter> to save the configuration to the CMOS memory, and continue the boot sequence

**Note: SOYO does not guarantee system stability if the user over clocks the system. Any malfunctions due to over-clocking are not covered by the warranty.**

## 3 Quick BIOS Setup

This mainboard does not use any hardware jumpers to set the CPU frequency. Instead, CPU settings are software configurable with the BIOS **[CHIPSET FEATURES SETUP]**.

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. Then, follow these steps to configure the CPU settings.

### Step 1. Select [LOAD SETUP DEFAULT]

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

### Step 2. Select [STANDARD CMOS SETUP]

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

### Step 3. Select [CHIPSET FEATURES SETUP]

Move the cursor to the **[CPU Speed]** field to set the CPU frequency.

Available [CPU Speed] settings on your SY-6BB V1.0 Mainboard 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 Clock], and (2) the [CPU Ratio].

CPU Speed		Select the working frequency of your Pentium® II processor among these preset values.  <b>Note:</b> <input checked="" type="checkbox"/> Mark the checkbox that corresponds to the working frequency of your Pentium® II processor in case the CMOS configuration should be lost.
<input type="checkbox"/> 233MHz (66 x 3.5)	<input type="checkbox"/> 400MHz (100 x 4.0)	
<input type="checkbox"/> 266MHz (66 x 4.0)	<input type="checkbox"/> 450MHz (100 x 4.5)	
<input type="checkbox"/> 300MHz (66 x 4.5)	<input type="checkbox"/> 500MHz (100 x 5.0)	
<input type="checkbox"/> 333MHz (66 x 5.0)	<input type="checkbox"/> 550MHz (100 x 5.5)	
<input type="checkbox"/> 350MHz (100 x 3.5)	<input type="checkbox"/>	

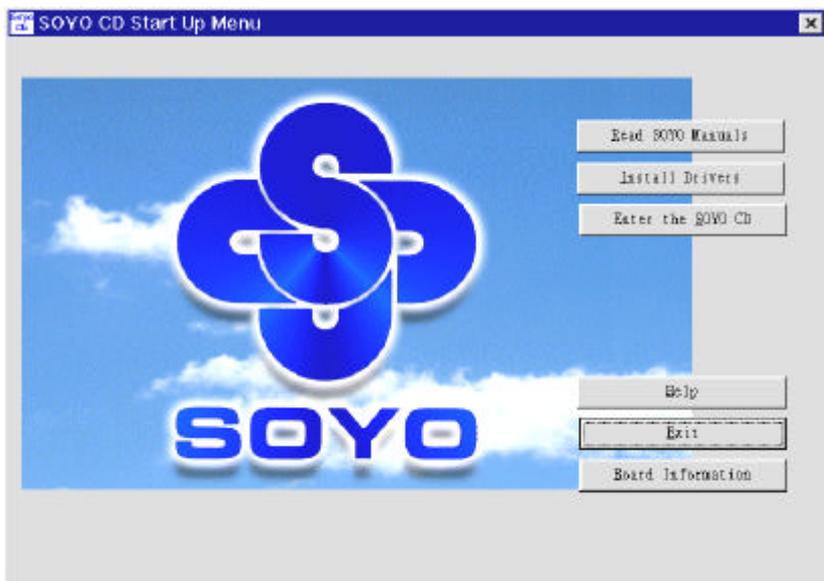
### Step 4. Select [SAVE & EXIT SETUP]

Press **<Enter>** to save the new configuration to the CMOS memory, and continue the boot sequence.

## 4 The SOYO CD

Your SY-6BB V1.0 Mainboard comes with a CD-ROM labeled "SOYO CD." The SOYO CD contains the user's manual file for your new mainboard, the drivers software available for installation, and a database in HTML format with information on SOYO mainboards and other products.

**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.

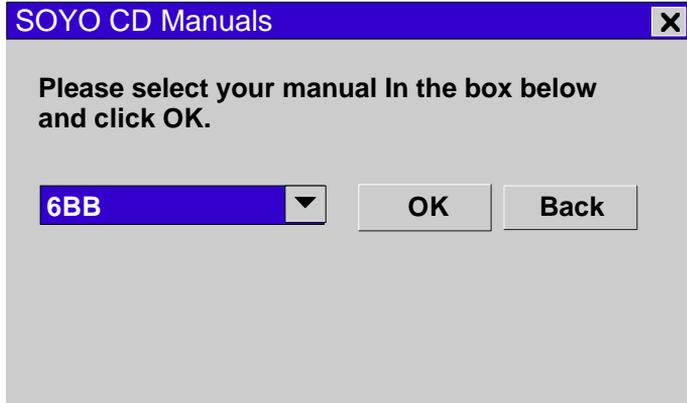


(SOYO CD Start Up Program Menu)

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

**Step 2.** Read SOYO [model name] Manual  
Click the **Read Manual** button to open the user's manual file of your mainboard.

Please note that if the Start Up program was unable to determine which SOYO mainboard you own, the manual selection menu will pop up, as shown below. Then select the user's manual file that corresponds to your mainboard model name and click **OK**.



**(Manual Selection Menu)**

The user's manual files included on the SOYO CD can be read in PDF (Postscript Document) format. In order to read a PDF file, the appropriate Acrobat Reader software must be installed in your system.

**Note:** The Start Up program automatically detects if the Acrobat Reader utility is already present in your system, and otherwise prompts you on whether or not you want to install it. You must install the Acrobat Reader utility to be able to read the user's manual file. Follow the instructions on your screen during installation, then once the installation is completed, restart your system and re-run the SOYO CD.

### **Step 3.** Install Drivers

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

However, to display the list of all drivers software available with SOYO mainboards, 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.

## SY-6BB V1.0 Quick Start Guide

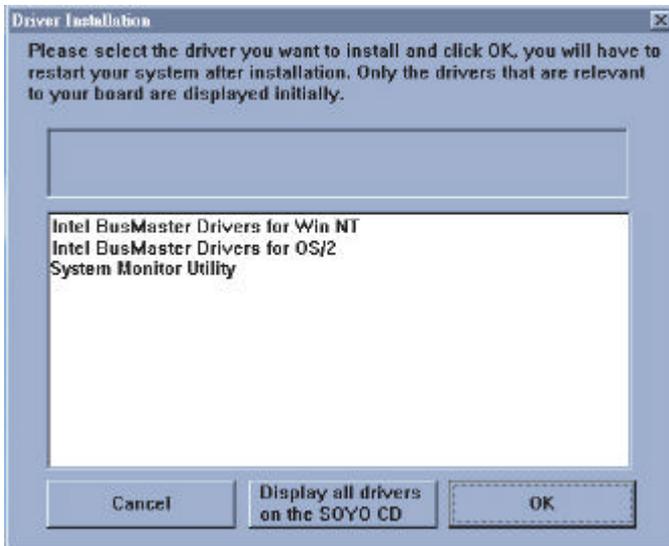
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The following drivers are available for Windows 95



(Driver Installation Menu)

The following drivers are available for Windows 98



(Driver Installation Menu)

Select which driver you want to install and click **OK**, or click **Cancel** to abort the driver installation and return to the main menu.

**Note:** 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.

### Step 4. Enter the SOYO CD

Click the **Enter SOYO CD** button to enter the SOYO HTML database. The Start Up program will activate the default HTML browser installed on your system (for example, Internet Explorer or Netscape) to visualize the contents of the SOYO CD.

The SOYO CD contains useful information about your mainboard and other SOYO products available in as many as eleven different languages. For your convenience, this information is available in HTML format, similar to the format widely used on the Internet.



(SOYO CD HTML Database in English\*)

(\* The list of menu options may vary between languages)

**Note:** If no HTML browser is installed on your system, the Start Up program will prompt you on whether or not you would like to install the Internet Explorer\* browser. Click YES to install the HTML browser. After the installation is complete, please restart your system. Then re-run the SOYO CD and you will be able to browse the SOYO HTML database.

(\* Internet Explorer is a Microsoft Trademark)

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**Version 2.0**  
**6BB V1.0SERIAL**

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