SY-5EMA+

Super 7 ™ Mainboard

Quick Start Guide

SY-5EMA+ Super7™ Mainboard

Pentium® Class CPU supported
ETEQ82C663 PCI/AGP Mainboard
ATX Form Factor

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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".**

* These specifications are subject to change without notice.

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1 *Introduction*

Congratulations on your purchase of the **SY-5EMA+** PCI/AGP 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-5EMA+ Mainboard User's Guide and Technical Reference* online manual included on the CD-ROM packed with your Mainboard.

Unpacking

When unpacking the Mainboard, check for the following items:

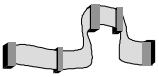
- The SY-5EMA+ Mainboard

- This Quick Start Guide

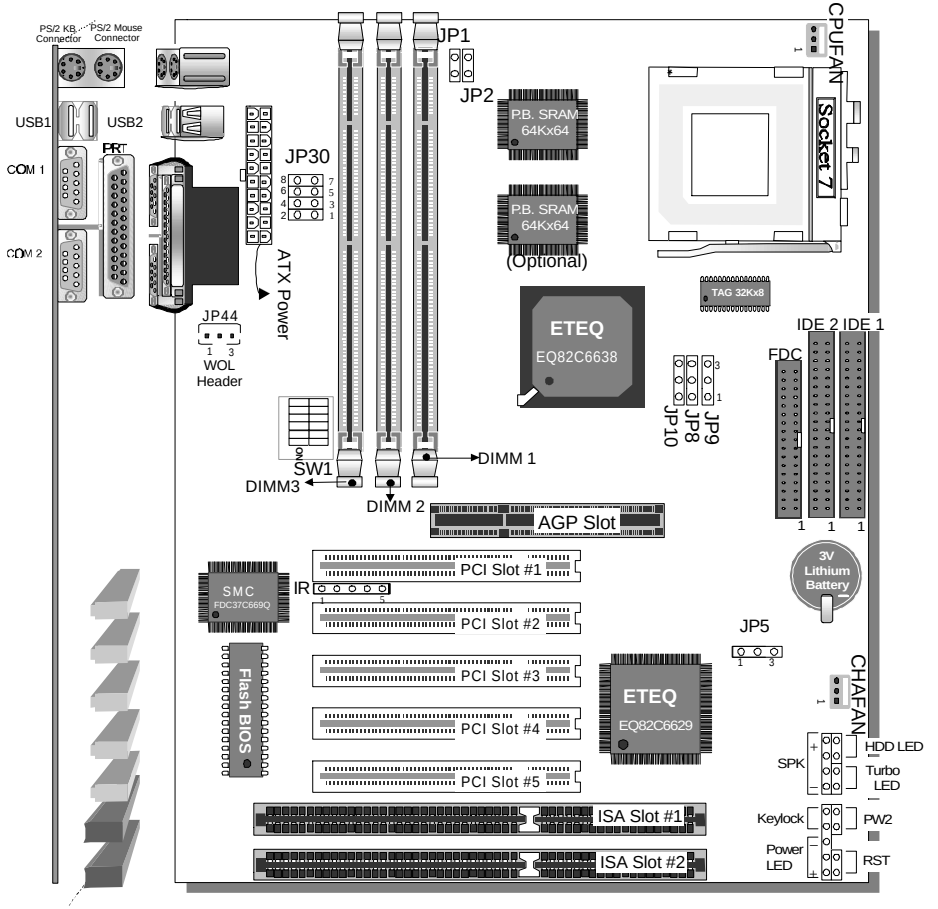
- The Installation CD-ROM

- One IDE Device Flat Cable

- One Floppy Disk Drive Flat Cable



SY-5EMA+ Mainboard Layout



Key Features

- Super 7 [TM] Platform
- 512KByte/1MByte L2 cache
- Supports CPU voltage from 2.0v to 3.5v in 0.1v increments
- PC97, ACPI, Ultra DMA/33MHz
- Power-on by modem or RTC alarm
- Supports Wake On LAN (WOL)
- Fan-off in Suspend mode
- 5x32-bit bus mastering PCI slots
- 2xUSB ports, 1xIrDA port
- Supports multiple-boot function
- DMI utility

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-5EMA+** Super 7 ™ Mainboard. For detailed information, please refer to *SY-5EMA+ 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® class processor with cooling fan
- DRAM memory modules
- Computer case and chassis with adequate power supply unit
- Monitor
- Keyboard
- Pointing Device (PS/2 mouse)
- VGA Card
- Sound Card (optional)
- Speaker(s) (optional)
- Disk Drives: HDD, CD-ROM, Floppy drive ...
- External Peripherals: Printer, Plotter, and Modem- (optional)

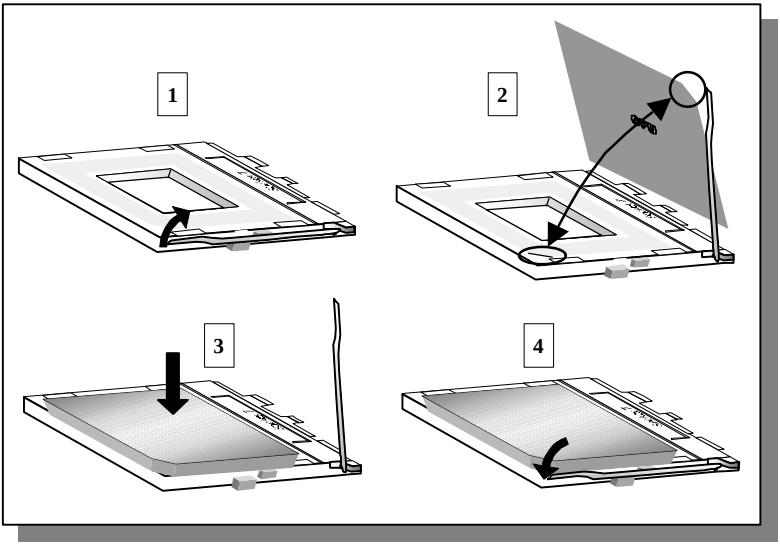
Install the Mainboard

Follow the steps below in order to perform the installation of your new **SY-5EMA+** Super 7 ™ Mainboard.

Step 1. Install the CPU

To mount the Pentium® class processor that you have purchased separately, follow these instructions.

CPU Mount Procedure



1. Lift the socket handle up to a vertical position.
2. Align the blunt edge of the CPU with the matching pinhole distinctive edge on the socket.
3. Seat the processor in the socket completely and without forcing.
4. Then close the socket handle to secure the CPU in place.

Remember to connect the CPU Cooling Fan to the appropriate power connector on the Mainboard. *The fan is a key component that will ensure system stability. The fan prevents overheating, therefore prolonging the life of your CPU.*

Step 2. Set JP30 ,JP1 and JP2 for CPU Voltage

JP30 is used to set the CPU core voltage, JP1 and JP2 are used to select the CPU voltage type single voltage or dual voltage.

Please verify the correct voltage settings with your dealer before installation. Use the following table to set JP30, JP1 and JP2 to the proper voltage value according to the specifications marked on your CPU:

Processor	Voltage	Voltage Setting: JP30				JP1	JP2
		1-2	3-4	5-6	7-8		
AMD K5 PR100 AMD K5 PR133 AMD K5 PR166	3.5 V	**close**	**close**	**close**	**close**	**close**	open
	The AMD K5 and K6 come in several versions with different voltages. Please verify the correct voltage settings with your dealer before installation. The most common K5 runs on 3.52V.						
AMD K6 166 AMD K6 200	2.9 V	**close**	open	open	**close**	open	**close**
AMD K6 233	3.2 V	open	open	**close**	**close**	open	**close**
AMD K6 266 AMD K6 300 AMD K6-2 266 AMD K6-2 300 AMD K6-2 333 AMD K6-2 350	2.2 V	open	**close**	open	open	open	**close**
Cyrix 6x86(L) PR166+ Cyrix 6x86(L) PR200+	The Cyrix 6X86(L) and M¢ ℃ome in several versions with different voltages. Please ask your dealer for the correct voltage.						
Cyrix 6x86MX PR166 Cyrix 6x86MX PR200 Cyrix 6x86MX PR233 Cyrix 6x86MX PR266 Cyrix MII 300 Cyrix MII 333 Cyrix MII 350	2.9 V	**close**	open	open	**close**	open	**close**
Intel P54C P100 Intel P54C P133 Intel P54C P166 Intel P54C P200	3.3 V	**close**	open	**close**	**close**	**close**	open
	The P54C (standard Pentium®) comes in several versions with different voltages. Please ask your dealer for the correct voltage. The most common P54C runs on 3.3V.						
Intel P55C P166 Intel P55C P200 Intel P55C P233	2.8 V	open	open	open	**close**	open	**close**
	The P55C (MMX) processors have the same voltage setting.						

Step 3. Set SW1 for CPU Frequency

The DIP switch SW1 enable you to assign the Multiplier and Bus Clock, as shown in the following table:

Processor	Multiplier	CPU Bus Clock	JP10	JP8	JP9	Frequency Setting: SW1					
						1	2	3	4	5	6
AMD K5 PR100	1.5x	66MHz	1-2	2-3	2-3	off	off	off	off	off	off
AMD K5 PR133	2.0x	66MHz	1-2	2-3	2-3	**on**	off	off	off	off	off
AMD K5 PR166	2.5x	66MHz	1-2	2-3	2-3	**on**	**on**	off	off	off	off
AMD K6 166	2.5x	66MHz	1-2	2-3	2-3	**on**	**on**	off	off	off	off
AMD K6 200	3x	66MHz	1-2	2-3	2-3	off	**on**	off	off	off	off
AMD K6 233	3.5x	66MHz	1-2	2-3	2-3	off	off	off	off	off	off
AMD K6 266	4.0x	66MHz	1-2	2-3	2-3	**on**	off	**on**	off	off	off
AMD K6 300	4.5x	66MHz	1-2	2-3	2-3	**on**	**on**	**on**	off	off	off
AMD K6-2 266	4.0x	66MHz	1-2	2-3	2-3	**on**	off	**on**	off	off	off
AMD K6-2 300	3x	100MHz	1-2	1-2	2-3	off	**on**	off	off	off	**on**
AMD K6-2 333	3.5x	95MHz	1-2	1-2	2-3	off	off	off	**on**	off	**on**
AMD K6-2 350	3.5x	100MHz	1-2	1-2	2-3	off	off	off	off	off	**on**
Cyrix 6x86 MX PR 166+	2.0x	66MHz	1-2	2-3	2-3	**on**	off	off	off	off	off
Cyrix 6x86 PR MX 200+	2.0x	75MHz	1-2	2-3	2-3	**on**	off	off	off	**on**	off
Cyrix 6x86 MX PR 166	2.0x	66MHz	1-2	2-3	2-3	**on**	off	off	off	off	off
Cyrix 6x86 MX PR 200	2.5x	66MHz	1-2	2-3	2-3	**on**	**on**	off	off	off	off
	2.0x	75MHz	1-2	2-3	2-3	**on**	off	off	off	**on**	off
Cyrix 6x86 MX PR 233	2.5x	75MHz	1-2	2-3	2-3	**on**	**on**	off	off	**on**	off
Cyrix 6x86 MX PR 266	2.5x	83MHz	1-2	1-2	2-3	**on**	**on**	off	**on**	**on**	off
Cyrix MII 300	3.5x	66MHz	1-2	2-3	2-3	off	off	off	off	off	off
	3x	75MHz	1-2	2-3	2-3	off	**on**	off	off	**on**	off
Cyrix MII 333	4.0x	66MHz	1-2	2-3	2-3	**on**	off	**on**	off	off	off
	3.5x	75MHz	1-2	2-3	2-3	off	off	off	off	**on**	off
	3x	83MHz	1-2	1-2	2-3	off	**on**	off	**on**	**on**	off
	2.5x	100MHz	1-2	1-2	2-3	**on**	**on**	off	off	off	**on**
Cyrix MII 350	3x	100MHz	1-2	1-2	2-3	off	**on**	off	off	off	**on**
P54C P100	1.5x	66MHz	1-2	2-3	2-3	off	off	off	off	off	off
P54C P133	2.0x	66MHz	1-2	2-3	2-3	**on**	off	off	off	off	off
P54C/P55C P166	2.5x	66MHz	1-2	2-3	2-3	**on**	**on**	off	off	off	off
P54C/P55C P200	3x	66MHz	1-2	2-3	2-3	off	**on**	off	off	off	off
P55C P233	3.5x	66MHz	1-2	2-3	2-3	off	off	off	off	off	off

This main board supports various CPU multiplier and host bus frequency settings. Please select the proper frequency setting based on specifications of the CPU you have purchased. System stability or components damage, in case of over-specification setting, is not guaranteed.

JP8 is used to indicate the frequency of the CPU bus clock to the ETEQ chipset.
JP9 and JP10 are used to determine that the SDRAM is running at the frequency of the CPU bus clock or the AGP clock.

CPU BUS Clock	AGP BUS Clock	PCI Clock	JP10	JP8	JP9	SDRAM Clock
66MHz	66MHz	33MHz	1-2	2-3	2-3	66MHz
75MHz	75MHz	37.5MHz	1-2	2-3	2-3	75MHz
83MHz	55MHz	27.5MHz	2-3	1-2	1-2	55MHz
			1-2	1-2	2-3	83MHz
95MHz	63.4MHz	31.7MHz	2-3	1-2	1-2	63.4MHz
			1-2	1-2	2-3	95MHz
100MHz	66MHz	33MHz	2-3	1-2	1-2	66MHz
			1-2	1-2	2-3	100MHz
112MHz	75MHz	37.5MHz	2-3	1-2	1-2	75MHz
			1-2	1-2	2-3	112MHz
124MHz	82.6MHz	41.3MHz	2-3	1-2	1-2	82.6MHz
			1-2	1-2	2-3	124MHz

Note: Use 8ns or faster SDRAM modules (for PC100) when SDRAM is set to run at the frequency of 95/100MHz.

Step 4. 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 host bus CPUs use 12ns or faster DIMM modules; for 83MHz host bus CPUs use 8ns modules.

Memory Configuration Table

MEMORY CONFIGURATION	DIMM Banks		
	DIMM 1	DIMM 2	DIMM 3
RAM Type	FPM/EDO/SDRAM	FPM/EDO/SDRAM	FPM/EDO/SDRAM
Single RAM Module Size (MB)	8/16/32/64/128/256	8/16/32/64/128/256	8/16/32/64/128/256
Note: Do not use FPM or EDO type of SIMM/DIMM if you already use SDRAM.			

Step 5. Attach Connectors

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-5EMA+ Super 7 ™ Mainboard, please refer to *SY-5EMA+ Mainboard User's Guide and Technical Reference* online manual on CD-ROM.

Connectors and Plug-ins

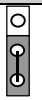
Wake-On-LAN Jumper: JP44	**CPU Cooling Fan : CPUFAN** **Chassis Cooling Fan : CHAFAN**
Connect the WOL cable from your LAN card to JP44.	Connect you cooling Fan cable to this connector

TB LED	**SPK**	**RESET**	**IDE LED**	**KB-LOCK**
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 this jumper

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

CMOS Clear

Clear the CMOS memory by 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 colored cap.

CMOS Clearing	**Clear CMOS Data**	**Retain CMOS Data (Default)**
JP5 Setting	short pin 2-3 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.		

3 *Quick BIOS 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 complete the quick BIOS setup.

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".

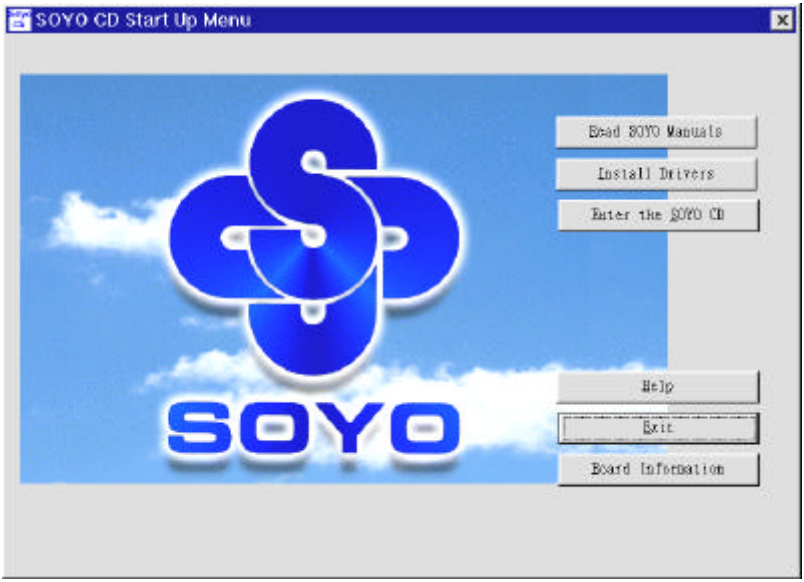
Step 3. Select [SAVE & EXIT SETUP]
Press **<Enter>** to save the new configuration to the CMOS memory, and continue the boot sequence.

4 *The SOYO CD*

Your SY-5EMA+ Super 7 ™ 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.



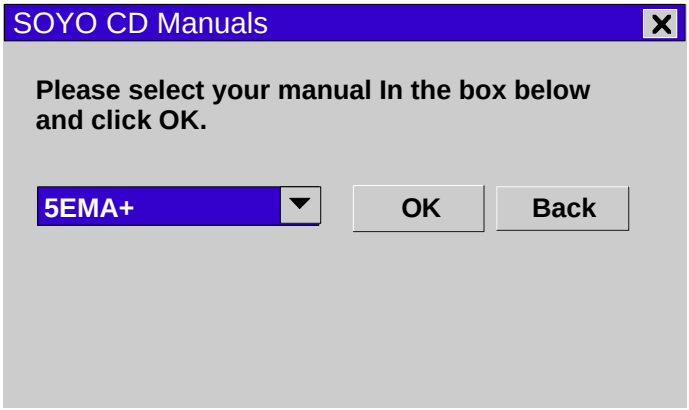
(SOYO CD Start Up Program Menu)

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 are 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. Installation procedure for Windows 95/98

The following describes the best way of installing Windows 95 or Windows 98 on your 5EMA+ mainboard:

- The following BIOS default settings should not be changed:

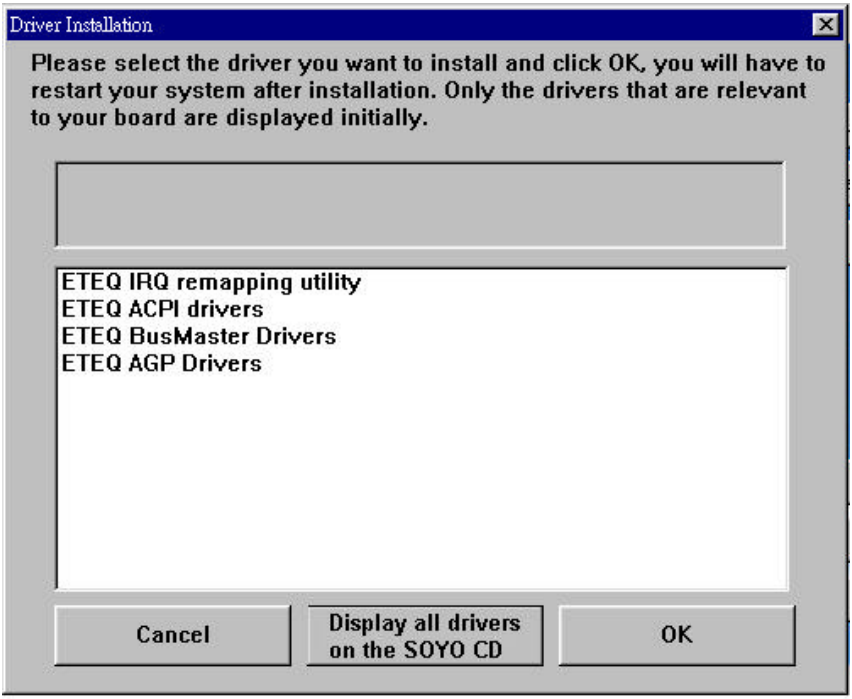
1. The 'USB Controller' item under 'Chipset features' is set to enabled.
2. The 'USB Assigned IRQ' item under 'PnP/PCI Configuration is set to enabled.

You MUST have these two items enabled for Windows 95/98 to run properly on your system.

- Install Windows 95/98
- After installation of windows, you will need to install the ETEQ drivers. Follow the instruction below.

Click the ***Install Drivers*** button to display the list of drivers that can be installed on your mainboard. The start-up program displays the drivers available for the 5EMA+ and the Windows version you use. For Windows 95 four drivers will be listed (see 'Driver Installation Menu ' below), for Windows 98 three drivers will be listed (the ACPI drivers will be left out). We recommend you to install all drivers, and to do so in the right sequence (top to bottom).

If you want to see all the drivers available on the SOYO –CD, click the ***Display all drivers on the SOYO CD*** button. Do NOT install drivers that are not suitable for you board, otherwise your system may crash.



(Driver Installation Menu)

Select which driver you want to install and click ***OK,*** or click ***Cancel*** to return to the main menu. When the installation program of a driver starts running the SOYO-CD will exit. After finishing the installation, restart the SOYO-CD and install the next driver.

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.

(SYO 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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International Headquarters
Soyo Computer Inc., (Taiwan)
Tel: 886-2-2290-3300
Fax: 886-2-2298-3322
Web Site: http://www.soyo.com.tw
E-mail: info@mail.soyo.com.tw

USA Branch Office
Soyo Tek Inc., (USA)
Tel: (408) 452-7696
Fax: (408) 573-7696
Web Site: http://www.soyousa.com
E-mail: sales@soyousa.com

SOYO Europe
Soyo Europe B.V., (Holland)
Tel: 31-79-3637500
Fax: 31-79-3637575
Web Site: http://www.soyo-europe.com
http://www.soyo.nl
E-mail: Sales@soyo.nl

Germany Branch Office
SAAT Technology GmbH, (Germany)
Tel: 49-(0)441-204044
Fax: 49-(0)441-203422
Web Sites:http://www.saat.de
http://www.soyo-saat.de
http://www.soyo-saat.com
Email: sales@saat.de

UK Branch Office
SOYO (U.K.) Ltd.
Tel: 44-(0)181-569 4111
Fax: 44-(0)181-5694134
Web Site: http://www.soyo.nl
E-mail: sales@soyo.nl

Japan Branch Office
SOYO Computer (Japan)
Tel: 81-3-33682188
Fax: 81-3-33682199
Web Site: http://www.soyo.co.jp
E-mail: soyo@po.iijnet.or.jp

Hong Kong Branch Office
Soyo Hong Kong LTD(H.K)
Tel: 852-2710-9810
Fax: 852-2710-9078
Web Site: http://www.soyo.com.hk
E-mail: rshu@hkstar.com