

SY-P4VSA Motherboard

Quick Start Guide

Introduction

**Hardware
Installation**

**Quick BIOS
Setup**

The SOYO CD

SY-P4VSA Motherboard

mPGA Socket 478 processors
VIA P4X266 AGP/PCI Motherboard
400 MHz Front Side Bus supported
ATX Form Factor

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About This Guide:

This Quick Start Guide can help system manufacturers and end users in setting up and installing the Motherboard. Information in this guide has been carefully checked for reliability; however, to the correctness of the contents there is no guarantee given. The information in this document is subject to amend without notice.

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

P4VSA Serial - Version 1.2 - Edition: December 2001

* These specifications are subject to amend without notice

1 Introduction

Congratulations on your purchase of the **SY-P4VSA** Motherboard. This *Quick Start Guide* illustrates the steps for installing and setting up your new Motherboard.

This guide provides all users with the basic steps of Motherboard setting and operation. For further information, please refer to the *SY-P4VSA Motherboard User's Manual* that came with your Motherboard.

Unpacking

When unpacking the Motherboard, check for the following items:

◆ The SY-P4VSA VIA P4X266 AGP/PCI Motherboard



◆ This Quick Start Guide



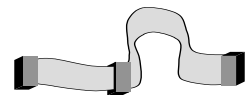
◆ The Installation CD-ROM



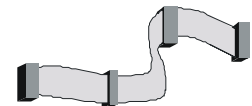
◆ SOYO Bonus Pack CD-ROM



◆ One IDE Device ATA 100 Flat Cable



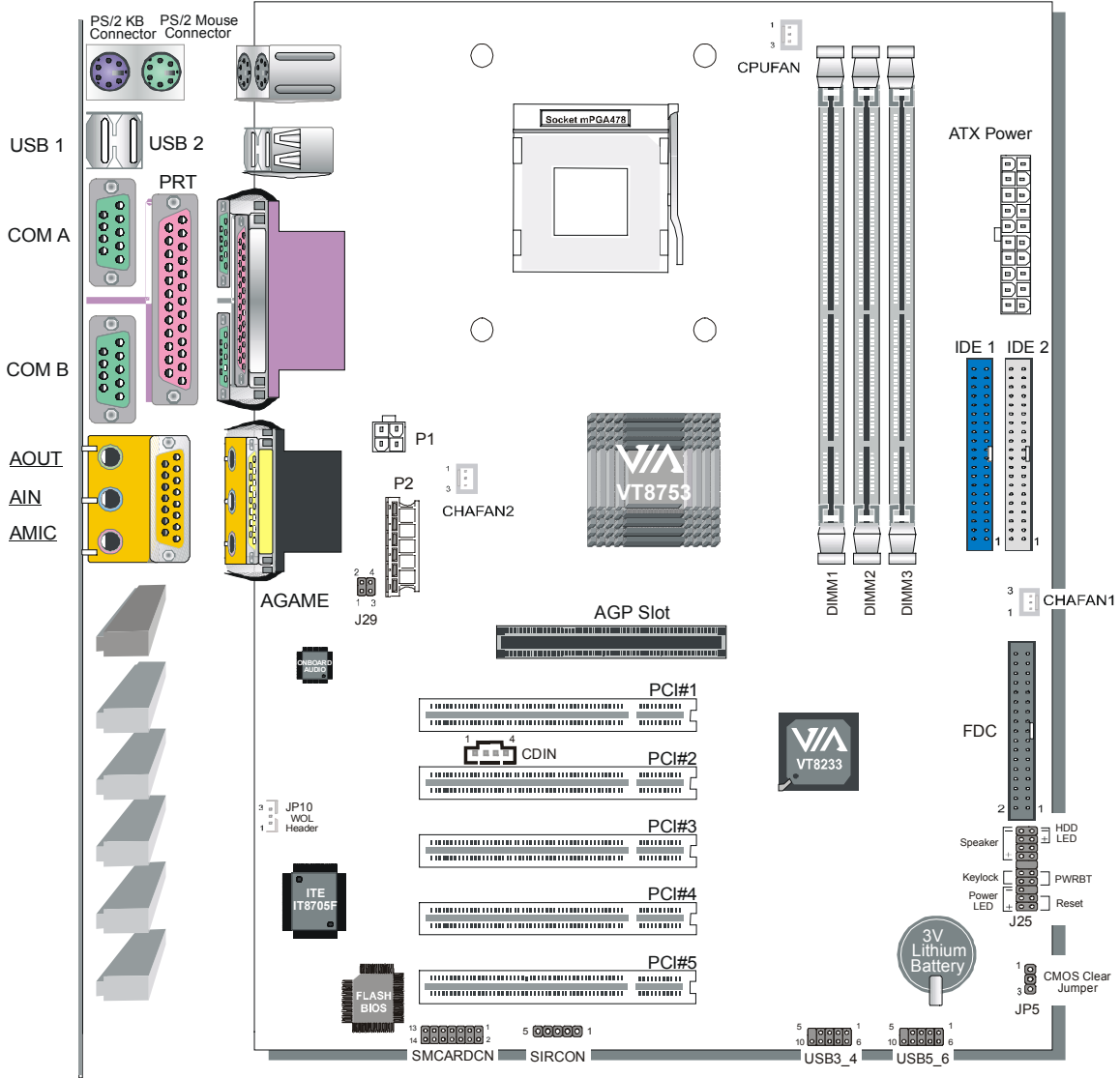
◆ One Floppy Disk Drive Flat Cable



◆ One Heat Sink Compound



SY-P4VSA Motherboard Layout



Key Features

- Supports Intel® mPGA Socket 478 processors
 - Pentium® 4
- Supports 400 MHz Front Side Bus Frequency
- PC99, ACPI
- Ultra 33/66/100 (ATA 33/66/100)
- Supports Wake-On-LAN (WOL)
- Supports PC-133 SDRAM
- Supports ACPI Suspend Indicator
- Power-on by modem, alarm and PS/2 Keyboard
- Power failure resume
- Supports Suspend to RAM
- Supports onboard hardware monitoring and includes Hardware Doctor™ utility
- Supports AC97 Codec
- Easy CPU settings in BIOS with the “SOYO COMBO Setup”
 - CPU voltage adjust
 - CPU ratio adjust
 - CPU FSB adjust
- Supports multiple-boot function
- AGP 2.0 Compliant; AGP Connector supports:
 - 1X/2X/4X data transfer
- Smart Card Reader
 - Compliant with Personal Computer Smart Card (PC/SC) Working Group standard
 - Compliant with smart card (ISO 7816) protocols
 - Supports card present detect
 - Supports Smart Card insertion power-on feature
- 3 x DIMM slots for SDRAM memory
- 1 x 32-bit AGP slot
- 5 x 32-bit bus master PCI slots
- 6 x USB ports onboard
- 1 x IrDA port
- ATX 12V power connector

2 Installation



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

- Before handling the Motherboard, ground yourself by touching on to 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 to be loose, press carefully to seat it firmly in its socket.

Follow the directions in this section which is designed to guide you through a quick and correct method to install your new **SY-P4VSA** Motherboard. For detailed information, please refer to the *SY-P4VSA Motherboard User's Manual and Technical Reference* online manual on the CD-ROM that came with your Motherboard.

Gather and prepare all necessary components to complete the installation successfully:

- ◆ Socket mPGA 478 processor with built-in CPU cooling fan (boxed type)
- ◆ SDRAM module (s)
- ◆ Computer case with adequate power supply unit
- ◆ Monitor
- ◆ PS/2 Keyboard
- ◆ Pointing Device (PS/2 Mouse)
- ◆ Speaker(s) (optional)
- ◆ Disk Drives: HDD, CD-ROM, Floppy drive...
- ◆ External Peripherals: Printer, Plotter, and Modem (optional)
- ◆ Internal Peripherals: Modem and LAN cards (optional)
- ◆ VGA Card (AGP, PCI)

Install the Motherboard

Follow the steps below in order to perform the installation of your new SY-P4VSA Motherboard.

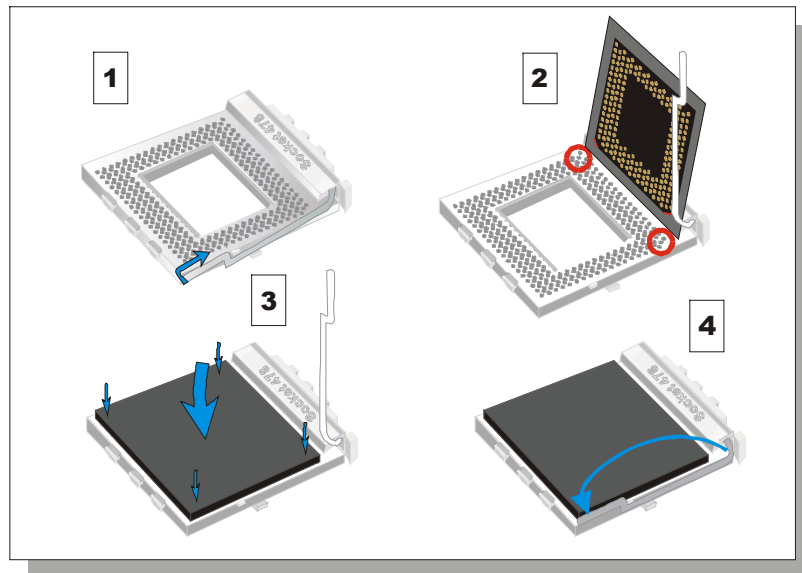
Step 1. Install the CPU

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

FSB 400MHz

<input type="checkbox"/> 1.5GHz(100x 15.0)	<input type="checkbox"/> 1.6GHz(100x 16.0)	<input type="checkbox"/> 1.7GHz(100x 17.0)	<input type="checkbox"/> 1.8GHz(100x 18.0)
<input type="checkbox"/> 1.9GHz(100x 19.0)	<input type="checkbox"/> 2.0GHz(100x 20.0)	<input type="checkbox"/> 2.2GHz(100x 22.0)	<input type="checkbox"/>

CPU Mount Procedure: To mount the Pentium® 4 Socket mPGA478 processor that you have purchased separately, follow these instructions.



1. Lift the socket handle up to a vertical position.
2. Align the blunt edge of the CPU with the matching pinhole 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 Motherboard. *The fan is a key component that stabilizes the system. It prevents the equipment from overheating and prolongs the life of your CPU.*

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Step 2. Connections to the Motherboard

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

The internal peripherals consist of IDE devices (HDD, CD-ROM), Floppy Disk Drive, Chassis Fan, Front Panel Devices (ACPI 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 connecting internal and external peripherals to your new SY-P4VSA Motherboard, please refer to *SY-P4VSA Motherboard User's Manual and Technical Reference* online manual on the CD-ROM.

Connectors and Plug-ins

CPU Cooling Fan: CPUFAN			Chassis Fan: CHAFAN1			Chassis Fan: CHAFAN2			Front Panel Audio :J29				
Pin1	Pin2	Pin3	Pin1	Pin2	Pin3	Pin1	Pin2	Pin3	Pin1	Pin2	Pin3	Pin4	
GND	12V	SENSOR	GND	12V	SENSOR	GND	12V	None	Aout-L	Aout-R	Mic in	GND	
Standard IrDA (Infrared Device Header): SIRCON					Wake-On-LAN Header: JP10								
Pin1	Pin2	Pin3	Pin4	Pin5	Pin1	Pin2	Pin3						
VCC	NC	IRRX	GND	IRTX	5VSB	GND	MP-Wakeup						
USB 3					USB 4								
Pin1	Pin2	Pin3	Pin4	Pin5	Pin6	Pin7	Pin8	Pin9	Pin10				
5VSB	Data(-)	Data(+)	GND	NC	5VSB	Data(-)	Data(+)	GND	GND				
USB 5					USB 6								
Pin1	Pin2	Pin3	Pin4	Pin5	Pin6	Pin7	Pin8	Pin9	Pin10				
5VSB	Data(-)	Data(+)	GND	NC	5VSB	Data(-)	Data(+)	GND	GND				
SMCARDCN													
Pin1	Pin2	Pin3	Pin4	Pin5	Pin6	Pin7	Pin8	Pin9	Pin10	Pin11	Pin12	Pin13	Pin14
VCC	NC	NC	NC	Scrfet	RST	CLK	NC	NC	Scrio	GND	Scrpres	NC	NC
CD-IN: CDIN									Pin1	Pin2	Pin3	Pin4	
Connect the CD Line-in cord from the CR-ROM device to the matching connector CDIN									L	G	G	R	
								Power LED			Key Lock		
								Pin1	Pin2	Pin3	Pin1	Pin2	
								VCC	NC	GND	Control Pin	GND	
								Speaker					
								Pin1	Pin2	Pin3	Pin4		
								VCC	NC	NC	Speaker out		
HDD LED		PWRBT		RESET									
Pin1	Pin2	Pin1	Pin2	Pin1	Pin2								
LED Anode	LED Cathode	Power On/Off	GND	Power Good	GND								
Power On/Off: PWRBT													
Connect your power switch to this header (momentary switch type).													
To turn off the system, press this switch and hold down for longer than 4 seconds.													

ATX 12V Power Supply: ATX PW
<p>Attach the ATX 12V Power cable to three connector. (This motherboard requires an ATX 12V power supply, an AT and ATX power supply can NOT be used.)</p> <p>When using the Power-On by PS/2 Keyboard function, please make sure the ATX power supply is able to provide at least 720mA on the 5V Standby lead (5VSB).</p> <p>It is recommended that an Intel Pentium 4 processor-based PC be powered by at least a 250 watt ATX 12V power supply.</p>

PS. Power supply must be use ATX 12V specification.

A new superset of the original ATX power supply is now defined. Named “ATX 12V,” this new power supply is comprised of a standard ATX unit plus the following enhancements:

- Increased +12 VDC output capability. Mother board components with unique voltage requirements are increasingly expected to be powered via DC/DC converters off the +12 VDC power supply output. This trend is due primarily to the higher power conversion and transmission efficiencies of +12 VDC relative to +5 VDC or +3.3 VDC. ATX12V power supplies should be designed to accommodate these increased +12 VDC current requirements and to address associated issues such as cross-regulation, capacitive loading, transient surge tolerance, cable voltage drop, and cooling.
- New +12 V power connector. To enable the delivery of more +12 VDC current to the motherboard, a new 4-pin receptacle/header combination—the + 12 V power connector—has been defined. **The presence of the +12 V power connector indicates that a power supply is ATX12V; the absence of the +12 V power connector indicates that a supply is ATX.**

Step 3. Configure Memory

Directly supports one SDR SDRAM channel, 64b wide, providing support max of 3 Double-Sided DIMMs with unbuffered PC133. **The largest memory capacity possible is 3GB.** On this motherboard, DRAM speed can be set independent from the CPU front side bus speed. Depending on the DRAM clock speed setting in the BIOS setup.

Memory Configuration Table


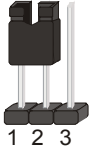
Number of Memory Modules	DIMM 1	DIMM 2	DIMM 3
RAM Type	SDRAM		
Memory Module Size (MB)	32/64/128/256/512 MB/ 1 GB		

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CMOS Clear (JP5)

In some cases the CMOS memory may contain wrong data, follow the steps below to clear the CMOS memory.

1. Clear the CMOS memory by momentarily shorting pin 2-3 on jumper JP5. This jumper can be easily identified by its white colored cap.
2. Then put the jumper back to 1-2 to allow writing of new data into the CMOS memory.

CMOS Clearing	Clear CMOS Data	Retain CMOS Data
JP5 Setting	Short pin 2-3 for at least 5 seconds to clear the CMOS 	Short pin 1-2 to retain new settings 
<i>Note: You must unplug the ATX 12V power cable from the ATX 12V power connector when performing the CMOS Clear operation.</i>		

3 Quick BIOS Setup

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

After the hardware installation is complete, turn the power switch on, then press the **** key during the system diagnostic checks to enter the Award BIOS Setup program. The CMOS SETUP UTILITY will be shown on the screen. Then, follow these steps to configure the CPU settings.

Step 1. Select [STANDARD CMOS SETUP]

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

Step 2. Select [LOAD OPTIMIZED DEFAULTS]

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

Step 3. Select [SOYO COMBO FEATURE]

Move the cursor to the **[CPU Frequency Select]**, **[CPU Ratio]** field to set CPU Clock/Ratio.

Note: Set the **[CPU Frequency Select]** field to "Manual", to be able to change the CPU frequency 1 MHz stepping.

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

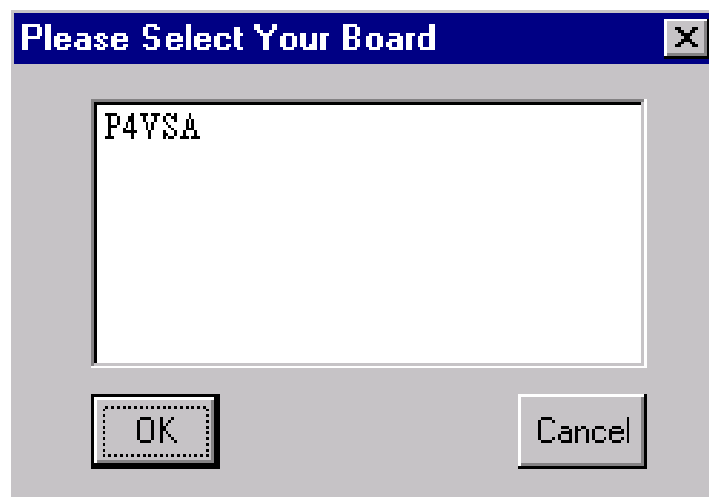


The SOYO-CD will NOT autorun if you use it on an Operating System other than Windows 95/98/98SE/ME.

Your SY-P4VSA Motherboard comes with a CD-ROM labeled "SOYO CD." The SOYO CD contains (1) the user's manual file for your new Motherboard, (2) the drivers software available for installation, and (3) a database in HTML format with information on SOYO Motherboards and other products.

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

If you use Windows 2000, NT or XP, the SOYO-CD will not detect your motherboard type. In that case the following dialog will pop up, please choose your motherboard and press OK. Now the SOYO-CD Start Up Menu will be shown.



(SOYO CD Start Up Program Menu)

If you use Windows 95/98/98SE/ME, the SOYO CD Start Up Program automatically detects which SOYO Motherboard you own and displays the corresponding model name.



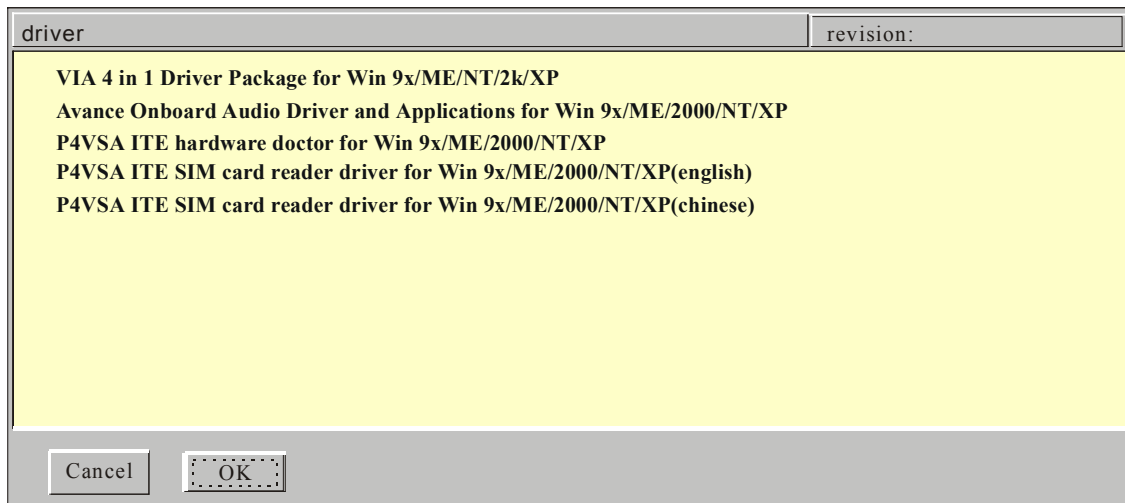
The user's manual files included on the SOYO CD are in PDF (Postscript Document) format. In order to read a PDF file, the appropriate Acrobat Reader software must be installed in your system.

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 2. Install Drivers and Utilities

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

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(Driver Installation Menu)

A short description of all available drivers follows:

➤ **VIA 4 in 1 Driver Package for Win 9x/ME/NT/2k/XP**

VIA 4 In 1 driver includes four system drivers to improve the performance and maintain the stability of systems using VIA chipsets. These four drivers are:

VIA Registry (INF) Driver, VIAAGP VxD driver, VIAATAPI Vendor Support Driver and VIA PCI IRQ Miniport Driver. For Windows NT users, the VIA IDE Bus Mastering driver is the only driver to be installed in your system.

A description of 4 drivers followa:

— **Bus Master PCI IDE Driver**

The ATAPI IDE driver enables the performance enhancing bus mastering functions on ATA-capable Hard Disk Drives and ensures IDE device compatibility.

— **AGP VxD Driver**

VIAAGP VxD Driver is to be installed if you are using an AGP VGA device. VIAGART.VXD will provide service routines to your VGA driver and interface directly to hardware, providing fast graphical access.

— **VIA Chipset Functions Registry**

VIA Registry (INF) Driver is to be installed under Windows. The driver will enable the VIA Power Management function.

— **IRQ remapping utility (This driver is installed automatically)**

VIA PCI IRQ Miniport Driver is to be installed under Windows 98 only, it sets the system's PCI IRQ routing sequence.

➤ **Avance Onboard Audio Driver and Applications for Win 9x/ME/2000/NT/XP**

This sound driver with applications is for windows 98, 98SE, ME, NT4.0, 2000 and XP.

The application support file formats including .MP3, .CDA, .MIDI, .WAV & .WMA.

➤ **P4VSA ITE hardware doctor for Win 9x/ME/2000/NT/XP**

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

➤ **P4VSA ITE SIM card reader driver for Win 9x/ME/2000/NT/XP**

If you have reader card, it must be installed.

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 3. Check the Latest Releases

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

Quick Trouble shoot tips

USB Issues

Can I use USB port 3_4 and port 5_6 for keyboard resume function?

This M/B has 6 USB ports, but only the 2 at the back panel can be used for USB keyboard resume function.

I cannot get my USB working, help!

Please check if the system performance setting in the BIOS is set to maximum, if yes, then enable the USB by setting the system performance to normal or manually enable the USB port (on-chip USB controller under Integrated Peripherals).

Video (no display) related issues

I built a new computer system using a Soyo board and nothing happens when turning it on, no video and no beeps from the PC speaker. What is happening and how can it be fixed?

No screen and no beep means that your CPU and motherboard do not work at all. It could be that the CPU is not seated correctly or that a component on the M/B is grounded (shorted) with the case. Also make sure to check the voltage setting switch (110V/220V) on the back of the power supply. To isolate the problem do the following:

1. Press and hold down on the "Ins" (insert) key while turning on the computer until you get video. If you do not get video then,
2. Double-check jumpers setting on your motherboard and remove all add-on cards, unplug all hard-disk and floppy-disk drive cables and see if you can hear some beeps. If you still do not get any beeps, then try putting the motherboard on the table (to isolate it from the case) with the CPU and speaker only, and give it one more try.

I hear a series of beeps and I do not get anything from my monitor. What could be wrong?

The following lists some basic beep codes and their possible meanings:

- One long beep and 3 very short beeps - The video card is not detected by the motherboard. Please re-seat your video card. If you are using an AGP card, please push your AGP card down real hard. You may have to push VERY hard without the AGP card mounting screw. Make sure not to insert the card the other way around.

- Continuous beeps – One or more of the memory modules is not seated correctly in its socket.

My PCI VGA card works fine with my system, but when I put in a new AGP card, it does not give me any video. Is my AGP slot bad?

This is a common problem with AGP video cards. The reason is that your AGP card did not get seated into the AGP slot fully and firmly. Please push your AGP card down into the socket real hard, it should snap twice. You may have to unscrew the AGP card to allow the card to go further down. Do take care not to damage the card by using too much force.

I get distorted video my AGP card right after I save my bios. Why is that?

The cause is likely that your AGP card is not running at the correct bus speed. To fix this, please clear the CMOS via JP5 and if it still does not work, please upgrade your motherboard bios to the latest version.

BIOS Issues

Where can I find the BIOS revision of my mainboard?

It will be displayed on the up-left corner on the screen during boot-up. It will show as your board type followed by the revision number, such as 5EH_2CA1 (meaning revision 2CA1 for the SY-5EH board) or 6BA+ IV_2AA2 which means SY-6BA+ IV motherboard with 2AA2 bios.

Where can I find the latest BIOS of my motherboard?

Please go to the technical support page of one of the SOYO websites (Taiwan: www.soyo.com.tw), and look up your motherboard to find the latest BIOS revision.

Hard disk, floppy drive, CD-ROM etc

When I boot up my new computer I got "floppy boot failure" and the LED on the floppy stays on

Make sure the red wire of floppy ribbon cable goes to Pin1 on the floppy drive side (don't trust the "key lock" or "notch") and use the end-connector of the cable (don't use middle one).

Modem issues

I get an "I/O Conflict" message when I turn on my system and I can not get my modem to work

What you need to do is to disable 'COM2' (or UART2 or serial port 2) in the bios under integrated peripheral setup.

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I have installed my modem drivers several times and I still cannot get my modem to work. Why?

If you are sure that the modem driver has been installed correctly, then you need to install the VIA 4 in 1 driver from the SOYO CD, this is because Windows does not properly recognize relatively new chipsets.

Audio Issues

How can I disable the on-board Audio ?

Set the "AC97 Audio" option in the BIOS to disable this option can be found under SOYO COMBO Feature.

In Device Manager, I keep getting yellow exclamation signs on my sound port even though I have installed my sound driver several times and I could not get my sound card to work. What is wrong?

It is likely that you did not have the correct driver installed. If you are sure that the correct sound driver has been installed, then please install the 'VIA 4 in 1' driver for the motherboard.

The sound is working in my system, but when I play CD music from the CD-ROM, I do not get any sound. What is wrong?

This is because the 3-wire audio cable from the CD-ROM to the sound card is not connected or it is loose.

The sound and everything else works fine except that the recorder and microphone do not work. What is wrong?

This is because the recorder and microphone in the Windows are not enabled. Please go to sound properties and enable them.

Lock up (freeze)

When I boot up my system, everything works fine. It sees my CPU and memory, detects my hard drive, floppy drive and CD-ROM but locks up at "Verify DMI pool data... ", and it won't go any further. What should I do?

Please clear the CMOS via JP5 then choose 'load optimized default' in the bios and save the bios and exit. Next, unplug all other add-on cards except the video card and floppy drive controller, and see if it can boot from floppy. Then put back the peripherals one by one to identify which one causes the lockup.

I can not get my board to run properly.

Please make sure you have the latest bios and driver from the SOYO web site at: <http://www.soyo.com>

How to contact us:

- If you are interested in our products, please contact the SOYO sales department in the region you live.
- If you require Technical Assistance, please contact our Technical Support in the region you live.

SOYO prefers Email as communication medium, remember to *always add to the email the country that you live in.*

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