



SY-712M Motherboard

Quick Start Guide

Introduction

Hardware
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Quick BIOS
Setup

The SOYO CD

SY-7IZM Motherboard

Socket 370 for Intel Celeron™ processors
Intel 440ZX AGP/PCI Motherboard
66&100MHz Front Side Bus supported
Micro-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 Motherboard. Information in this guide has been carefully checked for reliability; however, no guarantee is given as to the correctness of the contents. The information in this document is subject to change without notice.

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

7IZM Serial - Version 2.0 - Edition: April 1999

* These specifications are subject to change without notice

1 Introduction

Congratulations on your purchase of the **SY-71ZM** Motherboard. This *Quick Start Guide* describes the steps for installing and setting up your new Motherboard.

This guide is designed for all users to provide the basic steps of Motherboard setting and operation. For further information, please refer to *SY-71ZM Motherboard User's Guide and Technical Reference* online manual included on the CD-ROM packed with your Motherboard.

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 Motherboard, check for the following items:

◆ The SY-71ZM 440 ZX AGP/PCI Motherboard



◆ This Quick Start Guide



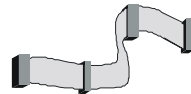
◆ The Installation CD-ROM



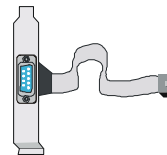
◆ One IDE Device Flat Cable



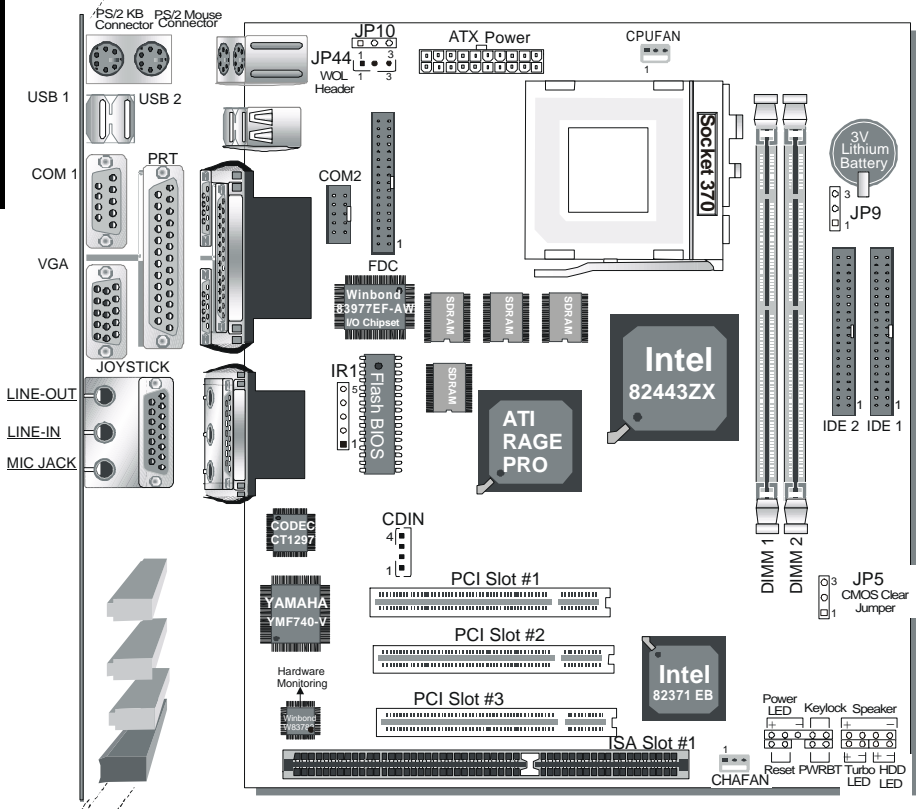
◆ One Floppy Disk Drive Flat Cable



◆ Serial port flat cable with a 9-pin connector bracket



SY-71ZM Motherboard Layout



Key Features

- Supports Intel Celeron™ processors (300A-500MHz)
- Easy CPU settings in BIOS with the “SOYO COMBO Setup”.
- 3D YAMAHA YMF740 Audio
- ATI Rage Pro Graphics/Video with 8MB Video memory on board
- Auto-detect CPU voltage
- PC98, ACPI, Ultra DMA/33
- Supports Wake-On-LAN (WOL)
- Supports onboard hardware monitoring and includes Hardware Doctor™ utility
- Power-on by moden or alarm
- Fan speed control
- 3 x 32-bit bus mastering PCI slots
- 1 x 16-bit ISA slot
- 2 x USB ports onboard
- 1 x IrDaa port
- Supports multiple-boot function
- Power failure resume
- Supports Hardware Suspend (APM mode only)
- ATX power connector

2 Installation



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

- 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 it 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.

Follow the directions in this section designed to guide you through a quick and correct installation of your new **SY-71ZM** Motherboard. For detailed information, please refer to *SY-71ZM Motherboard User's guide and Technical Reference* online manual included on the CD-ROM packed with your Motherboard.

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

- ◆ Celeron™ 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 (PS/2 Mouse)
- ◆ VGA Card
- ◆ Speaker(s) (optional)
- ◆ Disk Drives: HDD, CD-ROM, Floppy drive ...
- ◆ External Peripherals: Printer, Plotter, and Modem (optional)
- ◆ Internal Peripherals: Modem and LAN cards (optional)

Notice 1: This Motherboard features one built-in VGA port and three built-in audio-stereo ports. Therefore you do not need to install neither a VGA card nor a sound card.

Notice 2: If you want to use an external speaker connected to "Line-out" port, please make sure to use an "amplified speaker" that can generate proper output sound volume.

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Install the Motherboard

Follow the steps below in order to perform the installation of your new **SY-71ZM** Motherboard.

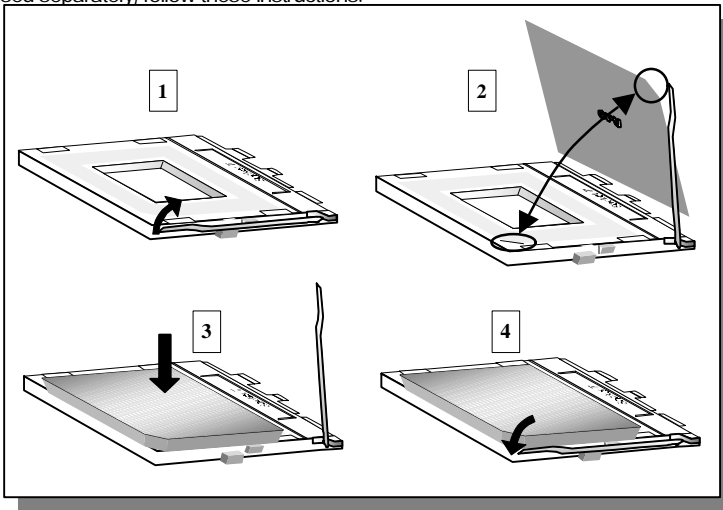
Step 1. Install the CPU

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

<input type="checkbox"/> 300MHz (66x4.5)	<input type="checkbox"/> 333MHz (66x5.0)	<input type="checkbox"/> 366MHz (66x5.5)	<input type="checkbox"/> 400MHz (66x6.0)
<input type="checkbox"/> 433MHz (66x6.5)	<input type="checkbox"/> 466MHz (66x7.0)	<input type="checkbox"/> 500MHz (66x7.5)	<input type="checkbox"/>

This Motherboard is designed to be able to support processors with 100MHz FSB. However, Socket 370 processors with 100MHz FSB are not available yet at this moment for testing.

CPU Mount Procedure: To mount the Celeron™ 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 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 Motherboard. *The fan is a key component that will ensure system stability. The fan prevents overheating, therefore prolonging the life of your CPU.*

Step 2. Make Connections to the Motherboard

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

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-71ZM Motherboard, please refer to *SY-71ZM Motherboard User's Guide and Technical Reference* online manual on CD-ROM.

Connectors and Plug-ins

IRDA (Infrared Device Header): IR1					Wake-On-LAN Header: JP44			
Pin1	Pin2	Pin3	Pin4	Pin5	Pin1	Pin2	Pin3	
VCC	None	IRRX	GND	IRTX	5VSB	GND	MP-Wakeup	
CPU Cooling Fan: CPUFAN				Chassis Fan: CHAFAN				
Pin1	Pin2	Pin3		Pin1	Pin2	Pin3		
GND	12V	SENSOR		GND	12V	SENSOR		
CD Line-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			Keylock	
				Pin1	Pin2	Pin3	Pin1	Pin2
				5V	NC	GND	Control Pin	GND
				Speaker				
				Pin1	Pin2	Pin3	Pin4	
				5V	NC	NC	Speaker out	
HDD LED		Turbo LED		PWRBT		RESET		
Pin1	Pin2	Pin1	Pin2	Pin1	Pin2	Pin1	Pin2	
LED Anode	LED Cathode	LED Cathode	GND	Power On/Off	GND	Power Good	GND	
ATX Power On/Off: PWRBT								
Connect your power switch to this header (momentary switch type).								
To turn off the system, please press this switch and hold down for longer than 4 seconds.								
ATX Power Supply: ATX PW								
Attach the ATX Power cable to this connector. If you use ATX power supply.								
When using the Power-On by PS2 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 specifications.								

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Step 3. Configure Memory



Your board comes with two DIMM sockets, providing support for up to 256MB of main memory using DIMM modules from 8MB to 128MB with no restriction on memory configuration. Therefore, you can install memory modules in any combination.

Memory Configuration

MEMORY CONFIGURATION	DIMM Banks	
	DIMM 1	DIMM 2
RAM Type	SDRAM	SDRAM
RAM Module Size (MB)	8/16/32/64/128	8/16/32/64/128

Step 4. Set JP9 for power up FSB clock and AGP bus clock.

JP9 is used to adjust AGP bus clock frequency depending on the value of the front side bus (FSB) clock, also the setting of the JP9 determines the power up FSB clock which will remain effective until the BIOS set the FSB clock to the CMOS setting.

JP9 Setting	 3 2 1	 3 2 1
Power up FSB Clock	100MHz	66MHz
AGP Clock	AGP Clock = FSB Clock \div 1.5	AGP Clock = FSB Clock \div 1

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



- * Set JP9 to pin 2-3 short when you use a FSB 100MHz CPU.
- * Set JP9 to pin 1-2 short when you use a FSB 66MHz CPU.
- * Set JP9 to pin 2-3 short when you use a FSB 66MHz CPU but want to over clock the FSB clock to 100MHz via the BIOS setting.

Step 5. Set the CPU Frequency

This Motherboard does not use any jumpers to set the CPU frequency; CPU setting are changed through the BIOS [SOYO COMBO SETUP]. Refer to Chapter 3 "Quick BIOS Setup" for details on how to set the Celeron™ processor frequency.



Step 6. Enable/Disable Power-On by Keyboard (JP10)

You can choose to enable the Power-On by Keyboard function by shorting pin 1-2 on jumper JP10; otherwise, short pin 2-3 to disable this function.

Power-On by Keyboard	Enable	Disable
JP10 Setting	Short pin 1-2 to enable the Power-On by Keyboard function. 	Short pin 2-3 to disable the Power-On by Keyboard function. 
Important: When using the Power-On by Keyboard function, please make sure the ATX power supply can take at least 720mA load on the 5V Standby lead (5VSB) to meet the standard ATX specification.		

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

Hardware Installation



Note on Over-clocking Capability

The SY-71ZM Motherboard 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 an ATX power supply, and depending on your system, you may have to press the power button for more than 4 seconds to shut down the system.)
2. Set JP9 to pin 1-2 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 your CPU frequency (66MHz x CPU Multiplier) appear on screen.
4. Press the key during the system diagnostic checks to enter the Award BIOS Setup program.
5. From the BIOS main menu, select [SOYO COMBO 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 Motherboard does not use any hardware jumpers to set the CPU frequency. Instead, CPU settings are software configurable with the BIOS **[SOYO COMBO SETUP]**. The **[SOYO COMBO SETUP]** menu combines the main parameters that you need to configure, all in one menu, for a quick setup in BIOS.

After the hardware installation is complete, turn the power switch on, then press the **** 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 [STANDARD CMOS SETUP]

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

Step 2. Select [LOAD SETUP DEFAULT]

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

Step 3. Select [SOYO COMBO SETUP]

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

Available [CPU Frequency] settings on your SY-71ZM Motherboard are detailed in the following table. If you set this field to [Manual], you are then required to fill in the next two consecutive fields: (1) the CPU Host/PCI Clock, and (2) the CPU Ratio.

CPU Frequency		Select the working frequency of your Celeron™ processor among these preset values. Note: <input checked="" type="checkbox"/> Mark the checkbox that corresponds to the working frequency of your Celeron™ processor in case the CMOS configuration should be lost.
<input type="checkbox"/>	300MHz (66 x 4.5)	
<input type="checkbox"/>	333MHz (66 x 5.0)	
<input type="checkbox"/>	366MHz (66 x 5.5)	
<input type="checkbox"/>	400MHz (66 x 6.0)	
<input type="checkbox"/>	433MHz (66 x 6.5)	
<input type="checkbox"/>	466MHz (66 x 7.0)	
<input type="checkbox"/>	500MHz (66 x 7.5)	
<input type="checkbox"/>		

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

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-71ZM Motherboard comes with a CD-ROM labeled "SOYO CD." The SOYO CD contains the user's manual file for your new Motherboard, the drivers software available for installation, and a database in HTML format with information on SOYO Motherboards and other products.

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.



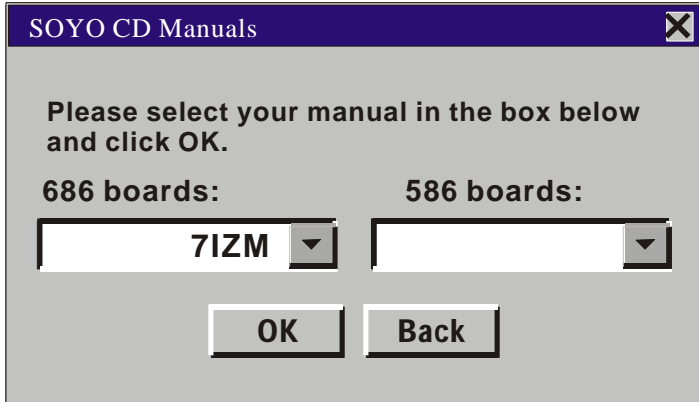
(SOYO CD Start Up Program Menu)

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

Step 2. Read SOYO [71ZM] Manual

Click the **Read Manual** button to open the user's manual file of your Motherboard.

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



(Manual Selection Menu)

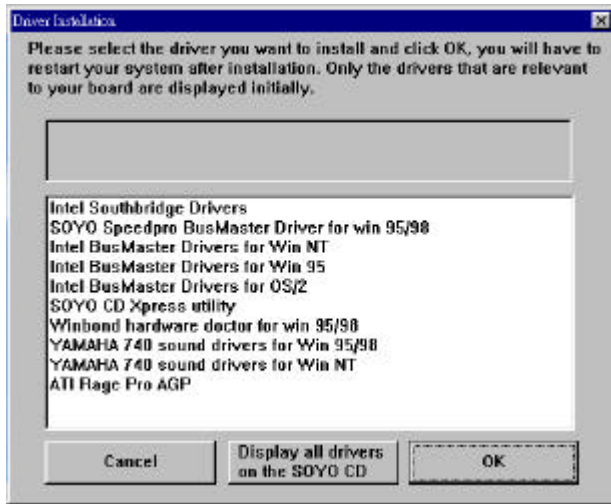
The user's manual files included on the SOYO CD can be read in PDF (Postscript Document) format. In order to read a PDF file, the appropriate Acrobat Reader software must be installed in your system.

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 and Utilities

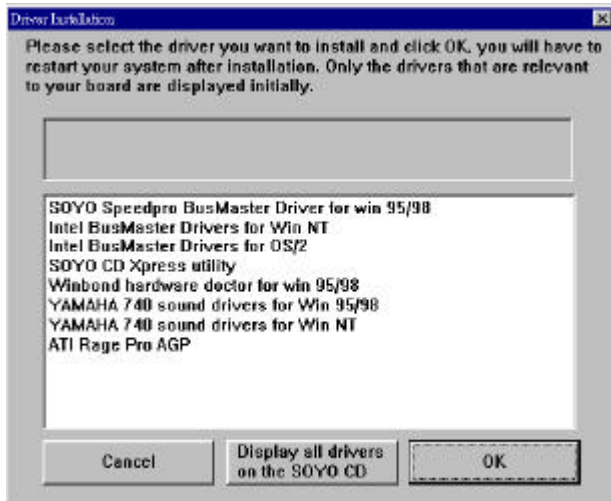
Click the Install Drivers button to display the list of drivers software that can be installed with your Motherboard. The Start Up program displays the drivers available for the particular model of Motherboard you own. We recommend that you only install those drivers.

The following drivers are available for Windows 95



(Driver Installation Menu)

The following drivers are available for Windows 98



(Driver Installation Menu)

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

A short description of all available drivers follows:

➤ **Intel Southbridge Drivers**

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

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

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

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

➤ **Intel Busmaster Drivers for Windows 95**

➤ **Intel Busmaster Drivers for Win NT**

➤ **Intel Busmaster Drivers for OS/2**

These are the official busmaster drivers as supplied by Intel.



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

➤ **SOYO CD Xpress Utility**

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

➤ **Winbond hardware doctor for Windows xx**

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

This utility comes with a preset monitoring range for the CPU voltage. However, the core voltage of the processor you purchased may fall out of this preset range, so you may need to adjust the pre-set value. Please refer to the SY-7IZM Motherboard's CD manual for the details.

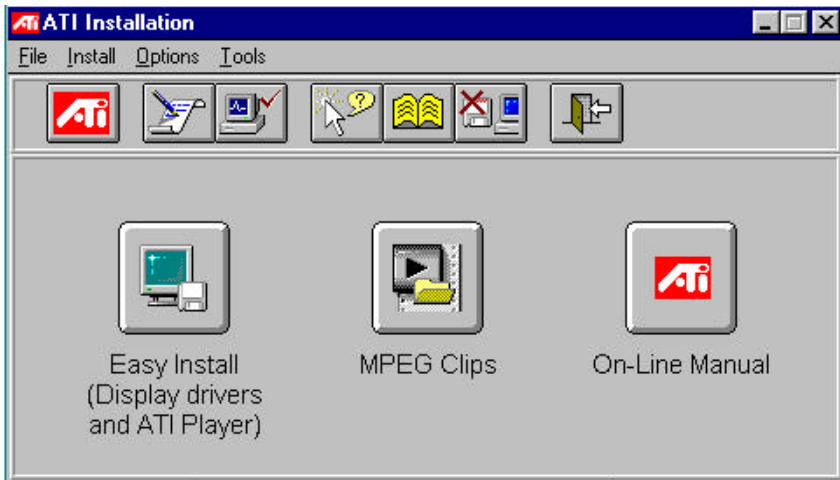
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➤ YAMAHA 740 Sound Drivers for Win95/98 and Win NT

With this application program the user can make use of the on board sound chip. Before installing the YAMAHA 740 Sound Drivers, you MUST first install the YAMAHA 740 drivers for Windows 9x or NT.

➤ ATI Rage Pro AGP

Select this Item and click OK to start up the ATI Rage PRO AGP driver screen. Follow the instructions on the screen to install the drivers and/or application programs you need.



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. 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.



VGA Driver Installation notes

➤ ATI Graphics Driver for Windows NT 4.0

- 1 Run the *Display* program located in the Control Panel, under *Settings* in the *Start* menu. Alternatively, position the cursor on the background of the desktop, click the right mouse button, then select *Properties* from the popup menu.

- 2 Select the *Settings* page.
- 3 Select *Display Type...*
- 4 Select *Change...* from the display options.
- 5 Select *Have Disk...*
- 6 NT 4.0 will prompt you for the correct path. Enter D:**driv-allati-prowinnt** where D: is the drive containing the SOYO CD.
- 7 A list of [ATI] graphics accelerators will be displayed. Select the [ATI RAGE PRO TURBO AGP 2x], then click the *OK* button.
- 8 Windows NT 4.0 will once again prompt for confirmation. All appropriate files are then copied to the hard disk.
- 9 Restart Windows NT 4.0. Windows NT 4.0 will start up using the ATI drivers.
- 10 NT 4.0 will boot into a default mode and start the Display applet allowing for mode selection.

Note: If you select a color depth or resolution not supported by your card, NT 4.0 will substitute 640x480 in 256 colors for the display.

➤ **Uninstalling the Windows NT 4.0 drivers**

◆ **How to uninstall the ATI Windows NT 4.0 Device Driver.**

There are TWO ways to do this without re-installing Windows NT 4.0.

● **first method:**

1. **Use Dos mode to go to the following directory:**
 \winnt\system32\drivers
2. **And Rename the following file:**
 ren ATI.sys ATI.ati

Windows NT 4.0 looks for ATI.SYS drivers at boot time, so if it cannot find it, it cannot use it.

● **second method:**

While running Windows NT 4.0, execute the *Win NT Setup* program. Select a NON-ATI driver (try VGA-compatible).

Edition: April 1999
Version 2.0
SY-7IZM SERIAL

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<http://www.luxmanual.com>

<http://aubethermostatmanual.com>

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