



SY-6VBA 133 Motherboard

Pentium® III, Pentium® II & Celeron™

Processor supported

Apollo Pro133 AGP/PCI Motherboard

66/100/133 MHz Front Side Bus supported

ATX Form Factor

User's Manual

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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>".

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6VBA 133 SERIAL

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

100% POST CONSUMER
RECYCLED PAPER

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Chapter 1

MOTHERBOARD DESCRIPTION

1-1 INTRODUCTION

The **SY-6VBA 133** AGP/PCI Motherboard is a high-performance Slot 1 supported ATX form-factor system board. **SY-6VBA 133** uses the VIA Chipset technology and supports Slot 1 class processors. This Motherboard is fully compatible with industry standards and adds many technical enhancements.

1-2 KEY FEATURES

➤ CPU SUPPORT

The SY-6VBA 133 supports a wide range of INTEL CPUs:

- Intel Pentium III 450~600 MHz
- Intel Pentium II 233~450 MHz
- Intel Celeron 266~433 MHz

New released Intel Slot 1 CPUs will very likely be supported by the SY-6VBA 133 as well.

➤ CPU SETTINGS

The SY-6VBA 133 provides the user with a very complete and convenient CPU setting environment. The CPU settings are all adjusted through the special SOYO COMBO page in the BIOS, therefore rendering the use of jumpers obsolete.

■ CPU FSB Frequency

The SY-6VBA 133 supports an incredible wide range of CPU FSB frequency settings:

66, 75, 81, 83, 90, 95, 100, 105, 110, 112, 113, 115, 117, 118, 120, 122, 124, 126, 133, 135, 137, 138, 140, 142, 144, 150 and 155 MHz.

This ensures that the SY-6VBA 133 has an overwhelming overclocking potential.

■ CPU Multiplier

The SY-6VBA 133 supports a wide range of multipliers:

2.0x, 2.5x, 3.0x, 3.5x, 4.0x, 4.5x, 5.0x, 5.5x, 6.0x, 6.5x, 7.0x, 7.5x and 8.0x

■ CPU Core Voltage

The CPU Core voltage is set automatically according to CPU needs. The SY-6VBA 133 supports an advanced Core voltage feature; it can be adjusted through the BIOS directly without setting jumper. In normal mode the voltage will be standard, apart from that the user can specify increments of 2.5%, 5%, 7.5% and 10% on top of the standard voltage. This will provide the CPU with the power it needs for overclocking.

➤ EXPANDABILITY

The SY-6VBA 133 provides all the standard expansion slots, and many more additional expansion features:

◆ Expansion slots

- 1 x 32-bit bus mastering AGP slot
- 5 x 32-bit bus mastering PCI slots
- 2 x 16-bit ISA slots

◆ Enhanced IO

- Floppy disk controller
- 2x EIDE controllers with support for up to 4 Ultra DMA 33/66 devices
- Standard/EPP/ECP parallel port
- 2x 16550 compatible serial ports
- IrDA compatible infrared port
- 2x USB (Universal Serial Bus) connectors
- PS/2 mouse connector
- PS/2 keyboard connector

➤ ADVANCED FUNCTIONS

The SY-6VBA 133 supports advanced functions such as:

- Wake-On-LAN

Supports Wake-On-LAN (*Some advanced network cards can wake the system up over the network, the WOL connector is*

provided by the SY-6VBA 133 to support this function).

- Multiple boot

The SY-6VBA 133 supports booting from devices such as CD-ROM.

- Power on by modem or alarm

If the SY-6VBA 133 system is in suspend mode, it can be switched back on through the modem or RTC alarm through this function. This opens a lot of possibilities, such as remote access that switches the system on only after the modem receives a call.

➤ **FAIL SAFE**

The SY-6VBA 133 comes with added functionality to make managing the system easy and safe

◆ **Hardware Monitor**

The integrated Winbond Hardware Monitor IC and Hardware doctor software enables the user the monitor system voltages, temperatures and FAN speeds. This makes sure that the user is full control of the system

◆ **Power Failure Resume Function**

This function can be set in the BIOS, and determines whether the system will automatically turn on again after a power failure. This function is indispensable for server systems that need to always be on line.

◆ **5VSB Indicator**

This green LED gives an indication of the presence of the 5V Standby voltage. This voltage is always fed into the motherboard and is used for functions such as WOL.

➤ **NORTON SOFTWARE PACK**

- Antivirus
- Ghost
- Virtual Drive

➤ **COMPLIANCE**

The SY-6VBA 133 complies with all important industry standards. The following underlines the reliability of the SY-6VBA 133, a motherboard to trust.

- Year 2000 compliant
- PC98 compliant
- FCC/CE complaint

➤ **USER FRIENDLY**

- SOYO Combo Setup
- Jumperless design
- You can set up the following options trough the BIOS setting
 - CPU FSB frequency
 - CPU multiplier
 - CPU Vcore voltage
 - PCI clock
 - AGP Clock
 - SDRAM Clock

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.

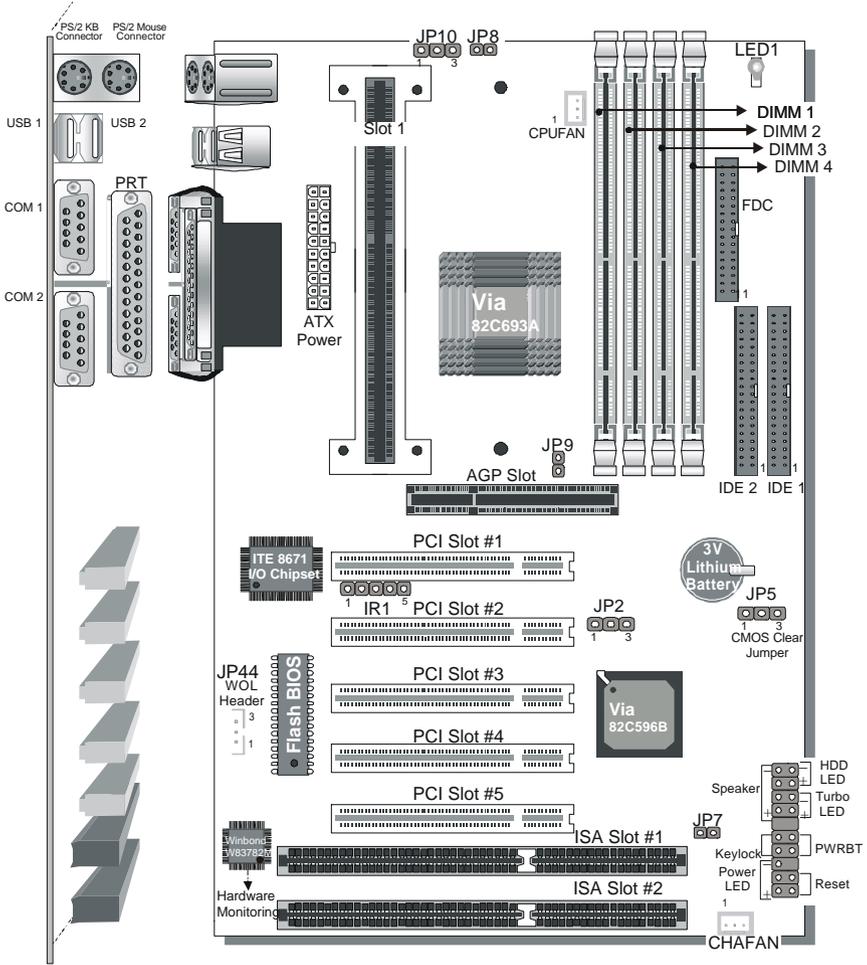
1-4 ELECTROSTATIC DISCHARGE PRECAUTIONS

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 Motherboard 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.

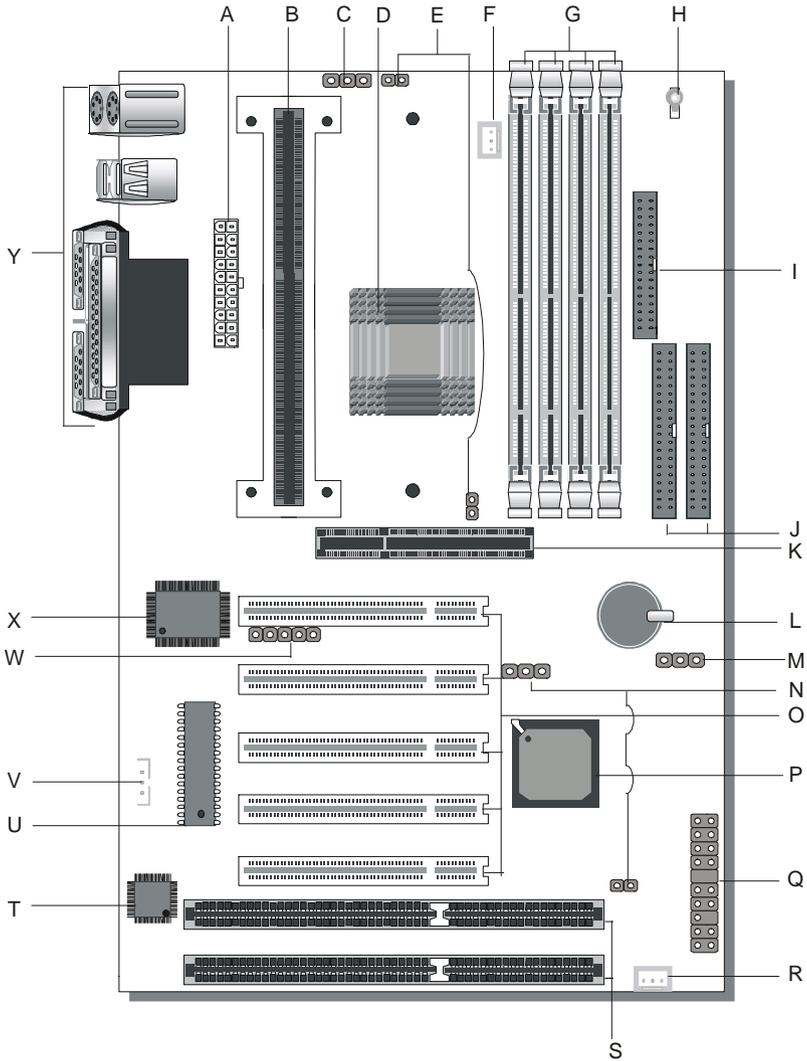
1-5 SY-6VBA 133 MOTHERBOARD LAYOUT



Back Panel

SY-6VBA 133 Platform

1-6 SY-6VBA 133 MOTHERBOARD COMPONENTS



- A** ATX Power Supply Connector
- B** Slot 1 Connector
- C** Power On by Keyboard Jumper
- D** Via 82C693A PCI/AGP North Bridge chip
- E** CPU B21 and A14 setting Jumper
- F** CPU Cooling Fan Connector
- G** DIMM Bank
- H** 5V Stand-by indicator LED
- I** Floppy Disk Drive (FDD) Port
- J** Bus Mastering e-IDE/ATAPI Ports
- K** 32-bit AGP Slot
- L** 3V Lithium Battery
- M** CMOS Clear Jumper
- N** FSB boot up frequency Jumper
- O** 32-bit PCI Mastering Slots
- P** Via 82C596B South Bridge Chip
- Q** Front panel connectors
- R** Chassis Cooling Fan
- S** 16-bit ISA Slot
- T** Winbond W83782M hardware monitoring
- U** Flash BIOS
- V** Wake-On-LAN (WOL) Header
- W** Serial Infrared (IrDA) Device Header
- X** ITE 8671 super I/O Controller
- Y** Back panel Connectors

1-7 MICROPROCESSOR

The motherboard supports a single Slot 1 processor. The processor's VID pins automatically program the voltage regulator on the motherboard to the required processor voltage. In addition, the front side bus speed (66 MHz, 100 MHz and 133 MHz) is automatically selected. The motherboard supports all current Slot 1 processor speeds, voltages, and bus frequencies.

1-7.1 Microprocessor Packaging

The processor is packaged in a Single Edge Contact Cartridge (S.E.C.C) or Single Edge Processor Package (S.E.P.P). The cartridge includes the processor core, second-level cache subsystem, thermal plate, and back cover.

The processor connects to the motherboard through the Slot1 connector, a 242-pin edge connector. When mounted in Slot1, the processor is secured by a retention mechanism attached to the motherboard. A passive heatsink is stabilized by the heatsink supports.

1-7.2 Second Level Cache

The second-level cache is located on the substrate of the CPU package. The cache includes 0KB/128KB (Celeron) or 512 KB (PII/PIII) of synchronous pipelined burst static RAM. All supported onboard memory can be cached.

1-7.3 Microprocessor Upgrades

The motherboard can be upgraded with Slot 1 processors that run at higher speeds. When upgrading the processor, use the BIOS configuration mode to change the processor speed.

1-8 MEMORY

1-8.1 Main Memory

The motherboard has four DIMM sockets. SDRAM can be installed in one,

two, three, or four sockets. Using the serial presence detect (SPD) data structure, programmed into an E²PROM on the DIMM, the BIOS can determine the SDRAM's size and speed. Minimum DIMM memory size is 8 MB; maximum DIMM memory size is 256/512 MB. Memory size and speed can vary between sockets.

The motherboard supports the following memory features:

- 168-pin DIMMs with gold-plated contacts
- 66/100/133 MHz SDRAM
- Non-ECC (64-bit) and ECC (72-bit) memory
- 3.3V memory only
- Supports 8/16/32/64/128/256/512* MB DIMM Modules
(*512MB DIMM1,2 only)
- Support unbuffered single- or double-sided DIMMs

Note

Slot 1 processors with 100 MHz front-side bus should be paired only with 100 MHz SDRAM. Processors with 66 MHz front side bus can be paired with either 66 MHz or 100 MHz SDRAM.

1-8.2 SDRAM

SDRAM improves memory performance through memory access that is synchronous with the front-side bus clock. Burst transfer rates at x-1-1-1 timing can be achieved using SDRAM, while asynchronous memory subsystem are typically limited at x-2-2-2 transfer rates.

Note

All memory components and DIMMs used with the SY-6VBA133 motherboard must comply with the PC SDRAM specifications. These include: the PC SDRAM Specification (memory component specific), the PC Unbuffered DIMM Specification, and the PC Serial Presence Detect Specification.

1-8.3 ECC Memory

ECC memory detects multiple-bit errors and corrects single-bit errors. When ECC memory is installed, the BIOS supports both ECC and non-ECC mode. ECC mode is enabled in the Setup program. The BIOS automatically detects if ECC memory is installed and provides the Setup option for selecting ECC mode. If any non-ECC memory is installed, the Setup option for ECC configuration does not appear and ECC operation is not available.

1-9 CHIPSET

The Apollo Pro 133 is a high performance, cost-effective and energy efficient chip set for the implementation of AGP/PCI/ISA desktop personal computer systems from 66MHz, 100MHz and 133MHz based on 64-bit Slot 1 super-scalar processors.

The Apollo Pro133 chip set consists of the VT82C693A system controller (492 pin BGA) and the VT82C596B PCI to ISA bridge (324 pin BGA). The system controller provides superior performance between the CPU, DRAM, AGP bus, and PCI bus with pipelined, burst, and concurrent operation.

The VT82C693A supports eight banks of DRAMs up to 1.5GB. The DRAM controller supports standard Fast Page Mode (FPM) DRAM, EDO-DRAM, Synchronous DRAM (SDRAM) and Virtual Channel SDRAM (VC SDRAM), in a flexible mix / match manner. The Synchronous DRAM interface allows zero wait state bursting between the DRAM and the data buffers at 66/100/133 MHz. The eight banks of DRAM can be composed of an arbitrary mixture of 1M/2M/4M/8M/16M/32MxN DRAMs. The DRAM controller also supports optional ECC (single-bit error correction and multi-bit detection) or EC (error checking) capability separately selectable on a bank-by-bank basis. The DRAM controller can run at either the host CPU bus frequency (66/100/133 MHz) or at the AGP bus frequency (66 MHz) with built-in PLL timing control.

The VT82C6893A system controller also supports full AGP v1.0 capability for maximum bus utilization including 2x mode transfers, SBA (Side Band Addressing), Flush/Fence commands, and pipelined grants. An eight level request queue plus a four level post-write request queue with thirty-two and sixteen quad words of read and write data FIFO's respectively are included for deep pipelined and split AGP transactions. A single-level GART TLB with 16 full associative entries and flexible CPU/AGP/PCI remapping control is also provided for operation under protected mode operating environments. Both Window 95 VxD and Windows 98 /NT5.0 mini port drivers are supported for interoperability with major AGP-based 3D and DVD- capable multimedia accelerators. The VT82C693A supports two 32-bit 3.3/5V system buses (one AGP and one PCI) that are synchronous/ pseudo-synchronous to the CPU bus. The chip also contains a built-in bus-to-bus bridge to allow simultaneous concurrent operations on each bus. Five levels (double words) of post write buffers are included to allow for concurrent CPU and PCI operation. For PCI master operation, forty-eight levels (double words) of post write buffers and sixteen levels (double words) of prefetch buffers are included for concurrent PCI bus and DRAM/cache accesses. The chip also supports enhanced PCI bus commands such as Memory-Read-Line, Memory-Read-Multiple and Memory-Write-Invalid commands to minimize snoop overhead. In addition, advanced features are supported such as snoop ahead, snoop filtering, L1 write-back forward to PCI master, and L1 write-back merged with PCI post write buffers to minimize PCI master read latency and DRAM utilization. Delay transaction and read caching mechanisms are also implemented for further improvement of over all system performance.

The 324-pinm ball Grid Array VT82C596B PCI to ISA bridge supports four levels (double words) of line buffers, type F DMA transfers and delay transaction to allow efficient PCI bus utilization and (PCI-2.1 compliant) The VT82C596B also includes an integrated keyboard controller with PS/2 mouse support, integrated DS12885 style real time clock with

extended 256 byte CMOS RAM, integrated master mode enhanced IDE controller with full scatter/ gather capability and extension to UltraDMA-33/66 for 33/66 MB/sec transfer rate, integrated USB interface with root Hub and two function ports with built-in physical layer transceivers, Distributed DMA supports, and On Now/ ACPI compliant advanced configuration and power management interface.

For sophisticated power management, the Apollo Pro133 provides independent clock stop control for the CPU/SDRAM, PCI, and AGP buses and Dynamic CKE control for powering down of the SDRAM. A separate suspend-well plane is implemented for the SDRAM control signals for Suspend-to-DRAM operation. Coupled with the VT82C596B south bridge chip, a complete power conscious PC motherboard can be implemented with no external TTLs.

The Apollo Pro133 chipset is ideal for high performance, high quality, high energy efficient and high integration desktop and notebook AGP / PCI / ISA computer systems.

1-10 I/O INTERFACE CONTROLLER

The motherboard uses the ITE 8671 super I/O controller which features:

- Single diskette drive interface
- ISA Plug-and-Play compatible register set
- Two serial ports
- FIFO supports on both serial and diskette interfaces
- One parallel port with Extended Capabilities Port (ECP) and Enhanced Parallel Port (EPP) support
- PS/2 style mouse and keyboard interfaces
- PCI PME interface
- Vialigent auto power management, including:
 - Shadowed write-only registers for ACPI compliance
 - Programmable wake-up event interface

The Setup program provides configuration option for the I/O controller.

1-10.1 Serial Ports

The motherboard has two 9-pin D-Sub serial port connectors located on the back panel. The NS16C5450-compatible UARTs support data transfers at speeds up to 115.2 Kbits/sec with BIOS support.

1-10.2 Parallel Port

The connector for the multimode bi-directional parallel port is a 25-pin D-Sub connector located on the back panel of the motherboard. In the Setup program, there are four options for parallel port operation:

- Compatible (standard mode)
- Bi-directional (PS/2 compatible)
- Bi-directional EPP. A driver from the peripheral manufacturer is required for operation.
- Bi-directional high-speed ECP

1-10.3 Diskette Drive Controller

The I/O controller is software compatible with the 82077 diskette drive controller and supports both PC-AT and PS/2 modes. In the Setup program, the diskette drive interface can be configured for the following diskette drive capacities and sizes.

- 360 KB, 5.25-inch
- 1.2 MB, 5.25-inch
- 720 KB, 3.5-inch
- 1.2 MB, 3.5-inch (driver required)
- 1.25-1.44 MB, 3.5-inch
- 2.88 MB, 3.5-inch

1-10.4 PS/2 Keyboard and Mouse Interface

PS/2 keyboard and mouse connectors are located on the back panel of the motherboard. The +5 V lines to these connectors are protected with a PolySwitch circuit that, like a self-healing fuse, reestablishes the connection after an over-current condition is removed.

Note

The mouse and keyboard can be plugged into either PS/2 connector. Power to the computer should be turned off before a keyboard or mouse is connected or disconnected.

The keyboard controller contains code, which provides the traditional keyboard and mouse control functions, and also supports Power On/Reset password protection. Power On/Reset password can be specified in the BIOS Setup program.

The keyboard controller also supports the hot-key sequence <Ctrl><Alt>, software reset. This key sequence resets the computer's software by jumping to the beginning of the BIOS code and running the Power On Self Test (POST).

1-10.5 Infrared Support

On the front panel I/O connector, there are six pins that support Hewlett Packard HSDL-1000 compatible infrared (IR) transmitters and receivers. In the Setup program, Serial Port B can be direct4d to a connected IR device. (In this case, the Serial Port B connector on the back panel cannot be used.) The IR connection can be used to transfer files to or from portable devices like laptops, PDAs, and printers. The Infrared Data Association (IrDA) specification supports data transfers of 115Kbits/sec at a distance of 1 meter.

1-11 HARDWARE MONITOR

The optional hardware monitor subsystem provides low-cost instrumentation capabilities. The features of the hardware monitor subsystem include:

- An integrated ambient temperature sensor
- Fan speed sensors, which monitor the fan 1 and fan 2 connector.
- Power supply voltage monitoring to detect levels above or below acceptable values

When suggested ratings for temperature, fan speed, or voltage are exceeded, an interrupt is activated. The hardware monitor component connects to the SMBus.

1-12 WAKE ON LAN TECHNOLOGY

Wake on LAN technology enables remote wakeup of the computer through a network. Wake on LAN technology requires a PCI add-in network interface card (NIC) with remote wakeup capabilities. The remote wakeup connector on the NIC must be connected to the onboard Wake on LAN technology connector. The NIC monitors network traffic at the MII interface; upon detecting a Magic Packet, the NIC asserts a wakeup signal that powers up the computer. To access this feature uses the Wake on LAN technology connector.

⚠ CAUTION

For Wake on LAN, the 5-V standby line for the power supply must be capable of delivering +5V \pm 5 % at 720 mA. Failure to provide adequate standby current when implementing Wake on LAN can damage the power

Chapter 2

HARDWARE INSTALLATION

Congratulations on your purchase of **SY-6VBA 133** Motherboard. You are about to install and connect your new Motherboard.



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

2-1 PREPARATIONS

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

1. Slot 1 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.

2. DIMM memory module
3. Computer case and chassis with adequate power supply unit
4. Monitor
5. PS/2 Keyboard
6. Pointing Device (PS/2 mouse)
7. Speaker(s) (optional)
8. Disk Drives: HDD, CD-ROM, Floppy drive ...
9. External Peripherals: Printer, Plotter, and Modem (optional)
10. Internal Peripherals: Modem and LAN cards (optional)

2-2 UNPACKING THE MOTHERBOARD

When unpacking the Motherboard, check for the following items:

-
- ◆ The SY-6VBA 133 Apollo Pro133 AGP/PCI Motherboard
-



-
- ◆ The Quick Start Guide
-



-
- ◆ The Installation CD-ROM
-



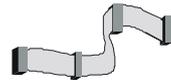
-
- ◆ SOYO 3-in-1 Bonus Pack CD-ROM (Norton AntiVirus, Ghost and Virtual Drive)
-



-
- ◆ The CPU Retention Set
-



-
- ◆ One IDE Device ATA 66 Flat Cable
-



-
- ◆ One Floppy Disk Drive Flat Cable
-



Warning: Do not unpack the Motherboard from its anti-static packaging until you are ready to install it.

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.

2-3 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.



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

BEGIN THE INSTALLATION

2-3.1 CPU Installation

Your SY-6VBA 133 motherboard comes with a CPU retention set kit. The retention set is used to hold the processor attached to the Slot 1 CPU connector on the motherboard.

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

FSB 66MHz

<input type="checkbox"/> 266MHz (66 x 4.0)	<input type="checkbox"/> 333MHz (66 x 5.0)	<input type="checkbox"/> 400MHz (66 x 6.0)	<input type="checkbox"/>
<input type="checkbox"/> 300MHz (66 x 4.5)	<input type="checkbox"/> 366MHz (66 x 5.5)	<input type="checkbox"/> 433MHz (66 x 6.5)	

FSB 100MHz

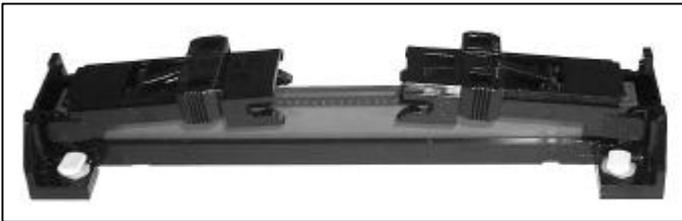
<input type="checkbox"/> 350MHz (100 x 3.5)	<input type="checkbox"/> 450MHz (100 x 4.5)	<input type="checkbox"/> 550MHz (100 x 5.5)	<input type="checkbox"/>
<input type="checkbox"/> 400MHz (100 x 4.0)	<input type="checkbox"/> 500MHz (100 x 5.0)	<input type="checkbox"/> 600MHz (100 x 6.0)	

FSB 133MHz

<input type="checkbox"/> 400MHz (133 x 3.0)	<input type="checkbox"/> 533MHz (133 x 4.0)	<input type="checkbox"/> 666MHz (133 x 5.0)	<input type="checkbox"/>
<input type="checkbox"/> 466MHz (133 x 3.5)	<input type="checkbox"/> 600MHz (133 x 4.5)	<input type="checkbox"/> 733MHz (133 x 5.5)	

Follow these instructions to install your Slot 1 processor correctly.

➤ Retention Module



1. Open the two sides by folding them up.



2. Push the locks on top of the CPU inward.



3. Insert the CPU into the retention module. The CPU fits in the CPU slot in only ONE way, do not try to force it in.



4. After completely inserting the CPU, push the two locks on top of the CPU outward. Now your CPU is ready for use.



To remove the CPU, press the two notches on top of the CPU inward. Now press the two slides on the retention module down and remove the CPU.



Note: *Installing a heat sink and cooling fan on top of your CPU is necessary for proper heat dissipation. Failing to install these items may result in overheating and possible burn-out of your CPU.*

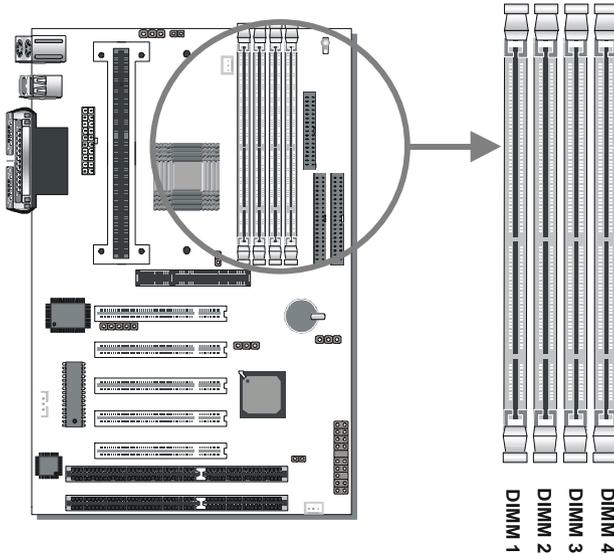
2-3.1.1 CPU Fan Installation

Your Slot 1 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.

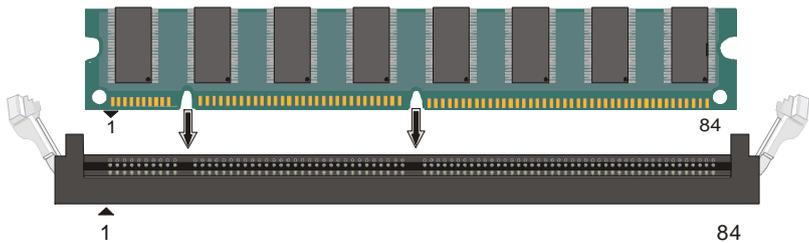


Note: Remember to connect the fan to the appropriate power source.

2-3.2 SDRAM Memory Module Installation



Your board comes with four DIMM sockets, providing support for up to 1.5GB of main memory using unbuffered and registered DIMM modules from 8MB to 256/512MB. 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 (Chapter 3), appropriate memory modules must be used. For 66MHz DRAM speed, use PC66 memory; for 100MHz DRAM speed, use PC100 memory; for 133MHz DRAM speed, use PC133 memory.

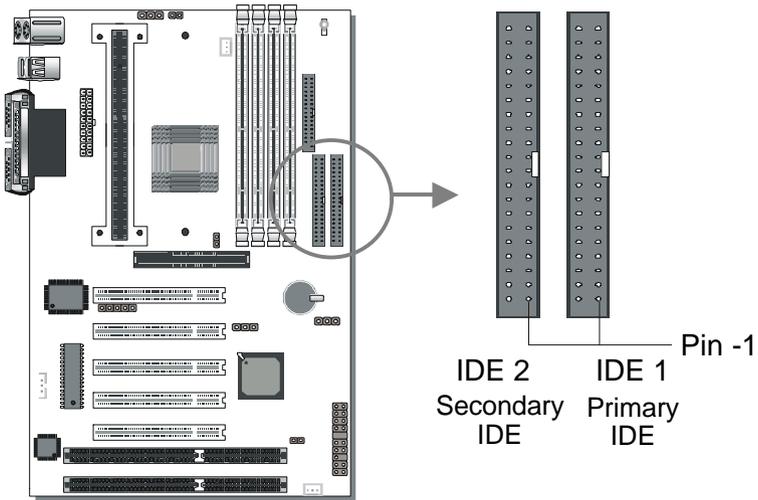


Memory Configuration Table

Number of Memory Modules	DIMM 1	DIMM 2	DIMM 3	DIMM 4
1				1 st
2			2 nd	1 st
3		3 rd	2 nd	1 st
4	4 th	3 rd	2 nd	1 st
RAM Type	SDRAM			
Memory Module Size (MB)	8/16/32/64/128/256/512 MB (For DIMM1 & DIMM2)		8/16/32/64/128/256 MB (For DIMM3 & DIMM4)	
Note: Always install memory modules in the order prescribed in this table.				

2-3.3 Motherboard Connector

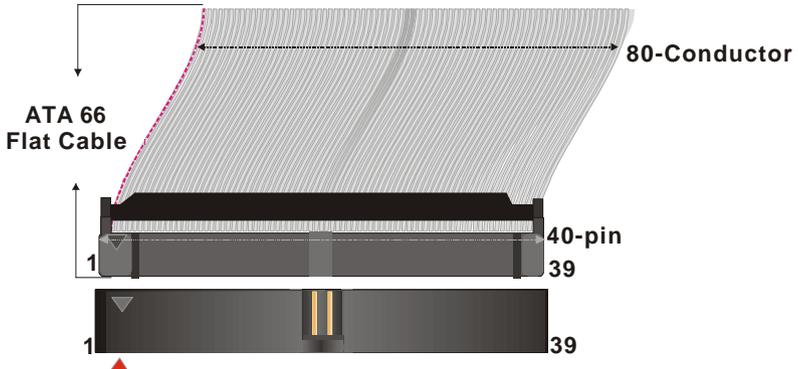
2-3.3.1 IDE Device Installation (HDD, CD-ROM)



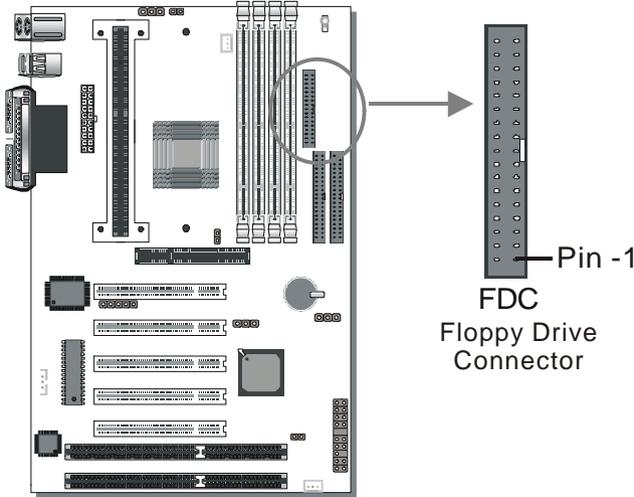
This Motherboard offers two primary and secondary IDE device connectors (IDE1, IDE2). It can support up to four high-speed Ultra DMA 33HDD or CD-ROM.

Connect one side of the ATA66 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. ATA66 cable can be used backward compatible with ATA33 HDD.

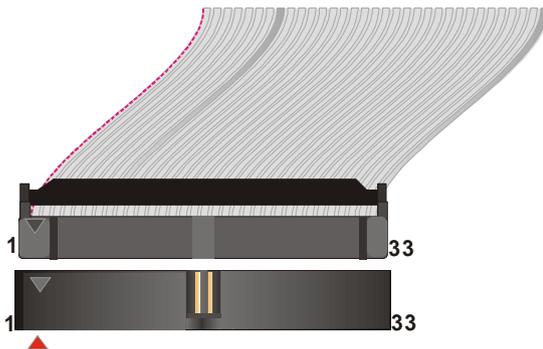
This Motherboard can support up to four HDDs.



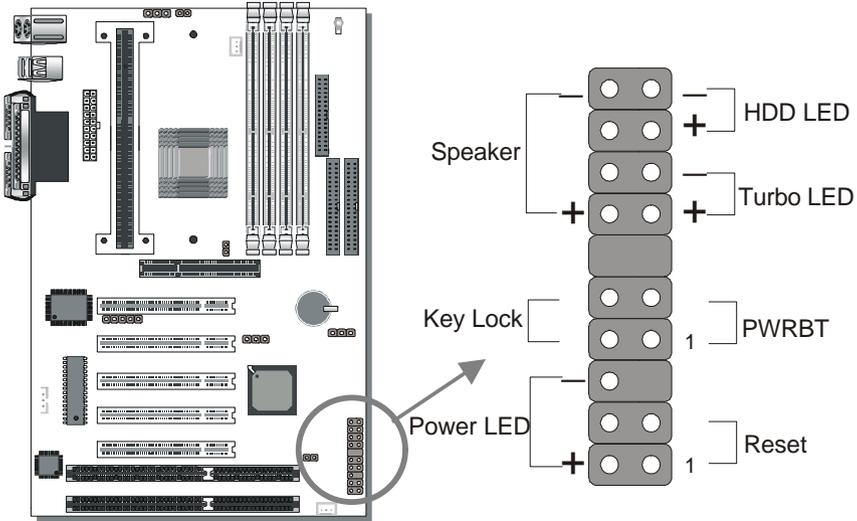
2-3.3.2 Floppy Drive Installation



The system supports 5 possible floppy drive types: 720 KB, 1.2 MB, 1.44 MB, 2.88 MB, and LS-120. In addition, this Motherboard supports a 3-mode (720KB/1.2MB/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 on the Motherboard. This Motherboard can support up to 2 floppy drives.



2-3.3.3 Front Panel Connections



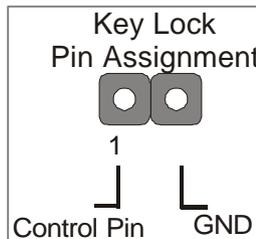
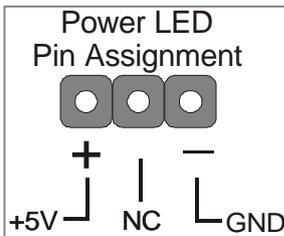
Plug the computer case's front panel devices to the corresponding headers on the Motherboard.

1. Power LED & KeyLock

Plug the Power LED cable into the 5-pin keylock header.

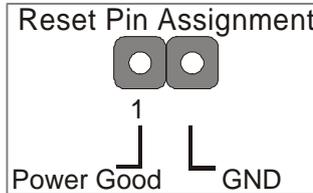
Some systems may feature a KeyLock function with a front panel switch for enabling or disabling the keyboard. Connect the KeyLock switch to the 5-pin keylock header on the Motherboard.

Please install according to the following pin assignment: pin 1,3 are for Power LED and pin 4,5 are for Keylock.



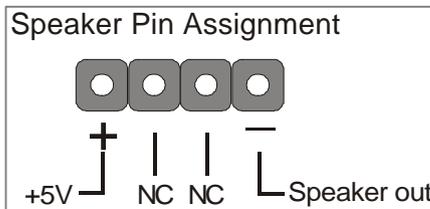
2. Reset

Plug the Reset push-button cable into the 2-pin Reset header on the Motherboard. Pushing the Reset button on the front panel will cause the system to restart the boot-up sequence.



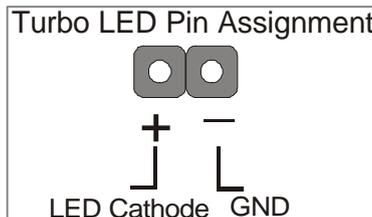
3. Speaker

Attach the 4-pin PC speaker cable from the case to the Speaker header on the Motherboard.



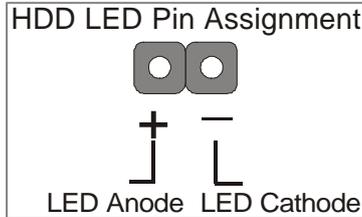
4. Turbo LED

Connecting the 2-pin Turbo LED cable to the corresponding Turbo LED header 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.



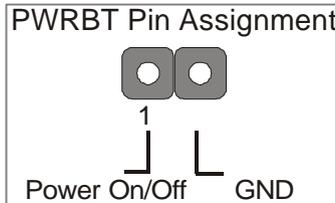
5. IDE LED

Attach the 2-pin IDE device LED cable to the corresponding IDE LED header 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 header for turning On or Off your ATX power supply.

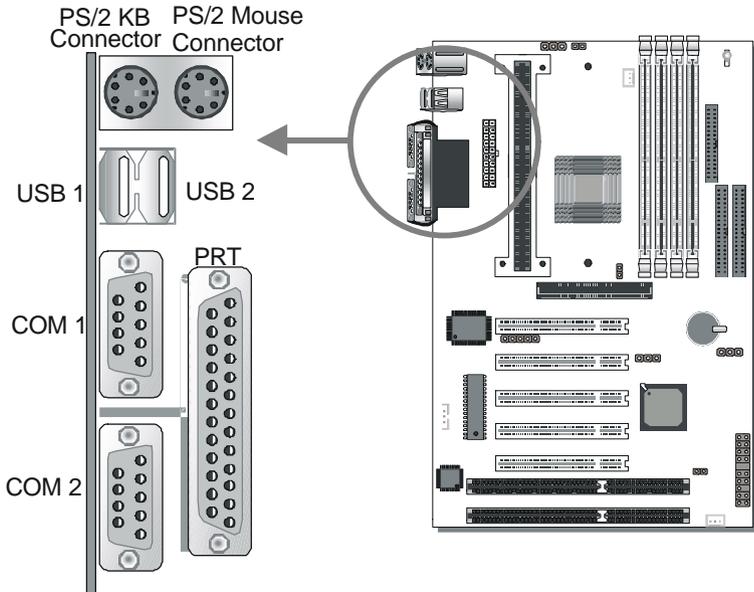


2-3.3.4 Back Panel Connections

All external devices such as the PS/2 keyboard, PS/2 mouse, printer, modem, USB can be plugged directly onto the Motherboard back panel.

Only after you have fixed and locked the Motherboard 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 to.



1. Onboard Serial Ports COM1/COM2

External peripherals that use serial transmission scheme include:

- serial mouse,
- and modem.

Plug the serial device cables directly into the COM1/COM2 9-pin male connectors located at the rear panel of the Motherboard.

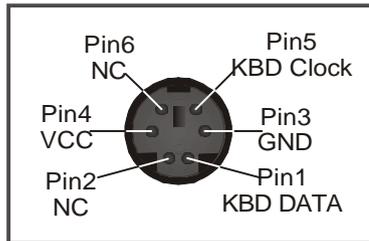
2. Parallel Port PRT

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

Plug the parallel device cable into the 25-pin female connector located at the rear panel of the Motherboard.

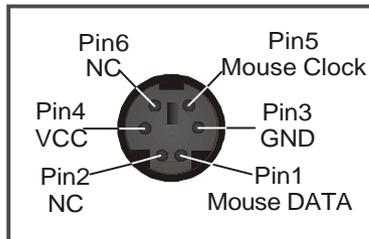
3. PS/2 Keyboard

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



4. PS/2 Mouse

Similarly, plug the mouse jack directly into the 6-pin female PS/2 mouse connector.



5. Universal Serial Bus USB1/USB2

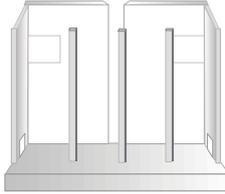
This Motherboard provides two USB ports for your additional devices. Plug the USB device jack into the available USB connector USB1 or USB2.

- USB devices under Win98 are allowed.
- With Win95, use the UHCI specifications.

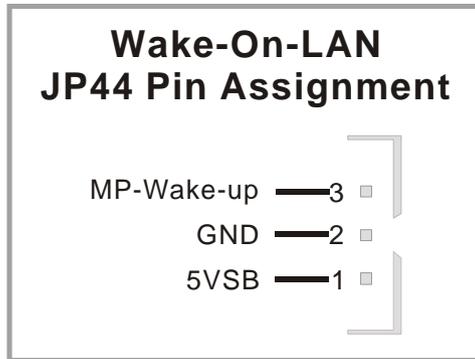
2-3.3.5 Other Connections

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 header on the Motherboard. This WOL function lets users wake up the connected computer through the LAN card.

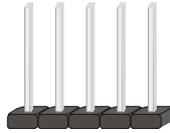


Please install according to the following pin assignment:



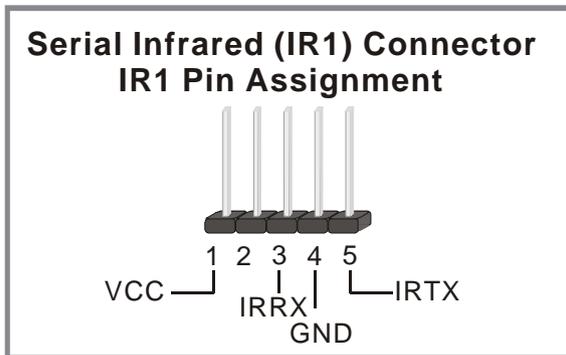
2. Infrared (IR1)

Plug the 5-pin infrared device cable to the IR1 header. This will enable the



infrared transfer function. This Motherboard meets both the ASKIR and HPSIR specifications.

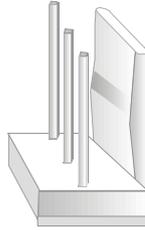
Please install according to the following pin assignment:



3. Other Display Cards

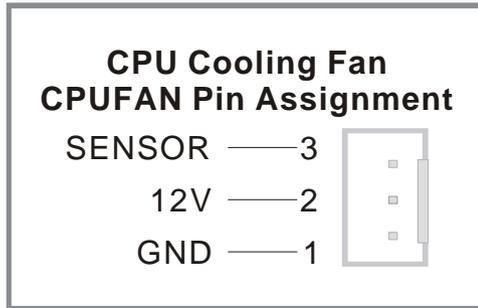
Insert other types of VGA cards into the PCI or ISA expansion slots according to card specifications.

4. Cooling Fan Installation



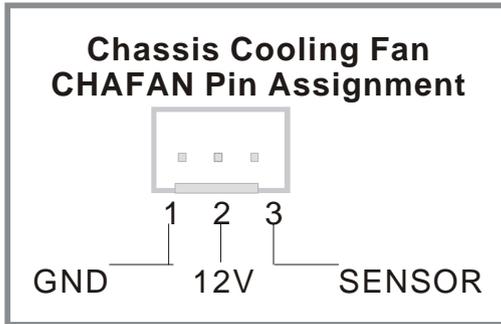
(1) CPU Cooling Fan

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, [POWER MANAGEMENT] menu.) 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:



Note: CPUFAN must be installed for this Motherboard, CHAFAN is optional.

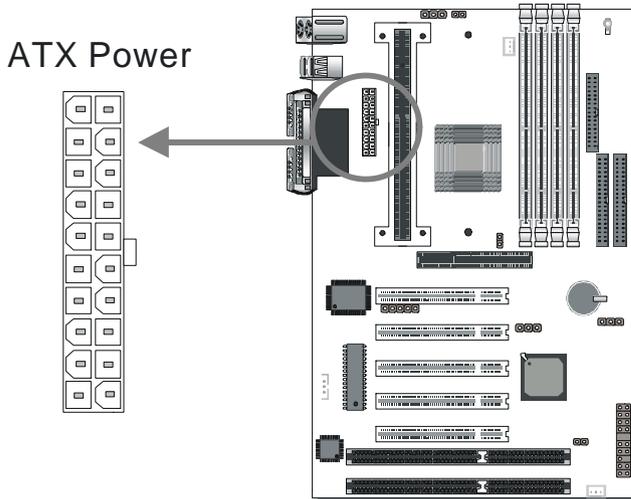
2-3.3.6 AGP VGA Card

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.

2-3.3.7 ATX Power Supply

Plug the connector from the power 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:

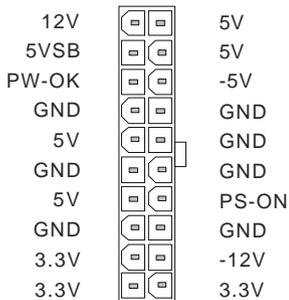
Turn off the power supply and unplug the power cord of the ATX power supply before connecting to ATX PW connector.

The 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 720 mA * load on the 5V Standby lead (5VSB) to meet the standard ATX specification.

* **Note:** If you use the Wake-On-LAN (WOL) function, make sure the ATX power supply can support at least 720 mA on the 5V Standby lead (5VSB).

Please install the ATX power according to the following pin assignment:

ATX Power



➤ **Pay special care to the directionality.**

2-3.4 Jumper Setting

Step 1. 5V Stand-by indicator LED (LED 1)

This LED is lit whenever the 5V Standby voltage coming from the ATX power supply is available. If you have connected your ATX power supply to the motherboard, LED 1 should be lit.

Step 2. External Suspend Button (JP1)

Some cases come with a suspend button, insert the plug into JP1. In addition to this button, the system can also enter the suspend mode through your OS.



Note: Suspend mode only functions if your Power Management mode is APM. Make sure that the BIOS setting for Power Management is APM. Windows 98 can be installed with ACPI Power Management (default is APM), in this case suspend mode will not function either.

Step 3. FSB boot-up frequency and AGP divider: JP2 and JP7

The settings of JP2 and JP7 determine the FSB frequency at boot-up, and more important, they determine the AGP divider and the group of FSB frequencies that can be selected in the BIOS. Refer to the following table:

JP7	JP2	Boot-up FSB	BIOS FSB group	AGP divider
Short 	Short Pin 1-2 	66	66~83	1
Open 	Short pin 1-2 	100	90~122	1.5
Open 	Short pin 2-3 	133	124~155	2.0

As example, if JP7 is set to open and JP2 to (1-2), the boot-up FSB frequency will be 100MHz. When the BIOS takes control, it will write the BIOS FSB setting to the clock generator. This happens shortly after power-up, and the FSB frequency will then be in accordance to the BIOS setting. The group from which the FSB Frequency can be selected in the BIOS is 90~122MHz and AGP Clock will be 60~81MHz. Note that all FSB Frequencies are available in the BIOS, but that only those in the group as determined by JP2 and JP7 will have effect when selected.

Step 4. CPU B21 and A14 Settings: JP8 and JP9

For certain Intel CPUs, the multiplier is not locked such that setting a multiplier higher than specified on the CPU is possible. For technical details read the following:

Your PII /III 100/66 MHz FSB CPU has an input pin B21 (100/66# signal) to tell it what FSB frequency it is running at; The PIII 133 MHz FSB CPU has two pins B21 and A14 (133/100# signal). JP8 and JP9 are connected to the B21 and A14 input respectively and are used to tell CPU its FSB speed.

The actual FSB Frequency is however set through the BIOS and it may therefore differ from the Frequency specified to the CPU through JP8 & JP9.

Because some INTEL CPUs have their multipliers limited at a FSB Frequency of 100MHz and higher, telling the CPU that it is running at 66MHz through JP8 & JP9 while setting a different (higher) FSB Frequency in the BIOS may allow the user to set a higher multiplier value. Doing so will however force your CPU to operate out of its specifications, and therefore SOYO can not guarantee the proper functioning of your system.

Refer to the following table:

JP9	JP8	tell CPU its FSB Speed	PII, Celeron	PII,PIII	PIII
			66MHz FSB	100MHz FSB	133MHz FSB
Short 	Short 	FSB = 66MHz	Normal setting	*Possible higher multiplier setting	
Short 	Open 	FSB = 100MHz		Normal setting	
Open 	Short 	FSB = 133MHz			Normal setting



* This setting will tell CPU that it is running on 66MHz; this will release more multiplier settings on some Intel CPUs, but it will make the system operate out of its specifications if the actual FSB frequency is 100MHz higher.

Step 5. Power-On by Keyboard Jumper (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 and the Power-On by Keyboard function is disabled. 

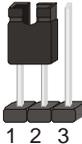


Note: When using the Power-On by Keyboard function, please make sure the ATX power supply can take at least 720mA load on the 5V Standby lead (5VSB) to meet the standard ATX specification.

2-3.5 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.

Jumper JP5 can be easily identified by its white colored cap.

CMOS Clearing	Clear CMOS Data	Retain CMOS Data
JP5 Setting	Short pin 2-3 for <i>at least 5 seconds</i> 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.

2-3.6 Power On

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

1. Turn the power on
2. To enter the BIOS Setup Utility, press the key while the system is performing the diagnostic checks,



Note: If you have failed to enter the BIOS, wait until the boot up sequence is completed. Then push the RESET button and press key 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:

ROM PCI/ISA BIOS CMOS SETUP UTILITY AWARD SOFTWARE, INC.	
SOYO COMBO SETUP	INTEGRATED PERIPHERALS
STANDARD CMOS SETUP	SUPERVISOR PASSWORD
BIOS FEATURES SETUP	USER PASSWORD
CHIPSET FEATURES SETUP	IDE HDD AUTO DETECTION
POWER MANAGEMENT SETUP	SAVE & EXIT SETUP
PNP/PCI CONFIGURATION	EXIT WITHOUT SAVING
LOAD SETUP DEFAULTS	
Esc : Quit	↑ ↓ → ← : Select Item
F10 : Save & Exit Setup	(Shift) F2 : Change Color
Time, Date, Hard Disk Type...	

2-3.7 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. Follow these steps to configure the CPU settings. 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.

(1) CPU Name & CPU ID

The BIOS will read the CPU name string and CPU ID code From the CPU and it will display it here. This item provides information only and can not be change.

(2) CPU Frequency

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

Available [CPU Frequency] settings on your SY-6VBA 133 Motherboard are detailed in the following table.

CPU Frequency (MHz)	<input type="checkbox"/> 500MHz(66 x 7.5)	<input type="checkbox"/> 750MHz (100 x 7.5)
<input type="checkbox"/> Manual	<input type="checkbox"/> 533MHz (66 x 8.0)	<input type="checkbox"/> 800MHz (100 x 8.0)
<input type="checkbox"/> 200MHz (66 x 3.0)	<input type="checkbox"/> 300MHz (100 x 3.0)	<input type="checkbox"/> 400MHz (133 x 3.0)
<input type="checkbox"/> 233MHz (66 x 3.5)	<input type="checkbox"/> 350MHz (100 x 3.5)	<input type="checkbox"/> 466MHz (133 x 3.5)
<input type="checkbox"/> 266MHz (66 x 4.0)	<input type="checkbox"/> 400MHz (100 x 4.0)	<input type="checkbox"/> 533MHz (133 x 4.0)
<input type="checkbox"/> 300MHz (66 x 4.5)	<input type="checkbox"/> 450MHz (100 x 4.5)	<input type="checkbox"/> 600MHz (133 x 4.5)
<input type="checkbox"/> 333MHz (66 x 5.0)	<input type="checkbox"/> 500MHz (100 x 5.0)	<input type="checkbox"/> 666MHz (133 x 5.0)
<input type="checkbox"/> 366MHz (66 x 5.5)	<input type="checkbox"/> 550MHz (100 x 5.5)	<input type="checkbox"/> 733MHz (133 x 5.5)
<input type="checkbox"/> 400MHz (66 x 6.0)	<input type="checkbox"/> 600MHz (100 x 6.0)	<input type="checkbox"/> 800MHz (133 x 6.0)
<input type="checkbox"/> 433MHz (66 x 6.5)	<input type="checkbox"/> 650MHz (100 x 6.5)	<input type="checkbox"/> 866MHz (133 x 6.5)
<input type="checkbox"/> 466MHz (66 x 7.0)	<input type="checkbox"/> 700MHz(100 x 7.0)	<input type="checkbox"/> 933MHz (133 x 7.0)
<p>Select the working frequency of your Pentium® III, Pentium® II, Celeron™ processor among these preset values.</p> <p>Note: <input checked="" type="checkbox"/> Mark the checkbox that corresponds to the working frequency of your Pentium® III, Pentium® II, Celeron™ processor in case the CMOS configuration should be lost.</p>		

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.

(1) CPU Host/PCI Clock

CPU Host / PCI Clock					Under this item you find the frequencies your PCI slots run at.
<input type="checkbox"/> 66/33	<input type="checkbox"/> 95/31	<input type="checkbox"/> 115/38	<input type="checkbox"/> 124/41	<input type="checkbox"/> 140/35	
<input type="checkbox"/> 75/37	<input type="checkbox"/> 100/33	<input type="checkbox"/> 117/39	<input type="checkbox"/> 126/31	<input type="checkbox"/> 142/35	
<input type="checkbox"/> 78/39	<input type="checkbox"/> 105/35	<input type="checkbox"/> 118/39	<input type="checkbox"/> 133/33	<input type="checkbox"/> 144/36	
<input type="checkbox"/> 81/40	<input type="checkbox"/> 110/36	<input type="checkbox"/> 120/40	<input type="checkbox"/> 135/33	<input type="checkbox"/> 150/37	
<input type="checkbox"/> 83/41	<input type="checkbox"/> 112/37	<input type="checkbox"/> 122/37	<input type="checkbox"/> 137/34	<input type="checkbox"/> 155/38	
<input type="checkbox"/> 90/30	<input type="checkbox"/> 113/37	<input type="checkbox"/> 124/31	<input type="checkbox"/> 138/34		

(2) CPU Ratio

After you have selected the CPU Host/ PCI Clock, choose the right multiplier for the CPU. CPU Ratio options are:

<input type="checkbox"/> x 2	<input type="checkbox"/> x 2.5	<input type="checkbox"/> x 3	<input type="checkbox"/> x 3.5	<input type="checkbox"/> x 4
<input type="checkbox"/> x 4.5	<input type="checkbox"/> x 5	<input type="checkbox"/> x 5.5	<input type="checkbox"/> x 6	<input type="checkbox"/> x 6.5
<input type="checkbox"/> x 7	<input type="checkbox"/> x 7.5	<input type="checkbox"/> x 8		

The CPU frequency is then defined as [host clock freq.] x [multiplier], and should equal the working frequency of your CPU.

(3) DRAM Clock

(3) DRAM Clock

Now select the DRAM clock source. It is derived form the CPU FSB clock and it can, depending on the BIOS setting, be:

- Equal to the CPU FSB clock
- CPU FSB clock – PCI clock
- CPU FSB clock + PCI clock

As an example: If the user sets the CPU Host/PCI clock to 105/35 MHz, the options will be:

- **Equal to the CPU FSB clock = 105 MHz**
- **CPU FSB clock – PCI clock = 70 MHz**
- **CPU FSB clock + PCI clock = 140 MHz**

Depending on the DRAM speeds, the user can select one of these speeds through the BIOS.

(4) AGP Clock

The AGP clock is derived from the CPU FSB frequency. It is divided by 1.0, 1.5 or 2.0 depending on the setting of JP2 and JP7:

Please refer to page 40 for the JP2 and JP7 settings.

(5) Vcore Voltage Adjust

The CPU notifies the board of what core voltage it requires by its VID outputs. The on-board voltage regulator uses the VID code to set the core voltage. If the **Vcore Voltage Adjust** is set to normal, the Vcore will be exactly what the VID code specifies. If an adjustment percentage is selected the Vcore will be that percentage higher than the VID code specifies. For instance the CPU VID code specifies 2.0V and the Vcore Voltage adjust is set to +10.0% the actual CPU Voltage will be 2.2V. This function should only be used if the CPU is running on FSB Frequencies beyond the CPU specifications, note that SOYO does not guarantee system stability if this item is not set to normal.

<input type="checkbox"/> Normal	<input type="checkbox"/> + 2.5 %	<input type="checkbox"/> + 5.0 %	<input type="checkbox"/> + 7.5%	<input type="checkbox"/> +10.0 %
---------------------------------	----------------------------------	----------------------------------	---------------------------------	----------------------------------

Step 4. Select [SAVE & EXIT SETUP]

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

2-3.8 Troubleshooting at First Start

- **What should I do if the Motherboard refuses to start?**
- 1. First check whether all Add-on cards have been inserted properly. Re-insert the Add-on cards to make sure that they make proper contact with the slots. Try removing all Add-on cards one by one to see whether or not one of them is causing problems. (Switch the system off before removing any of the cards.)
- 2. Verify that speed settings are not exceeding specifications. This applies to the PCI bus, that is specified to run at 33 MHz. Also check the speed setting for the memory, make sure conservative setting. If the CPU is overclocked the system may not start up, read the section below.
- 3. Make sure that the Harddisk IDE cables are attached properly, if not the system will not boot. In case of doubt try reversing the IDE connector on one end of the cable.
- 4. Verify that the 110/220V switch on the back of the power supply is set correctly.
- 5. Go through the jumper setting section again to make sure that all jumpers are set correctly.



Note on Over-clocking Capability

The SY-6VBA 133 provides over-clocking capability. Due to the over-clocking setting your system may fail to boot up or hang during run time. 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 the JP8 and JP9 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 shown on the screen.

4. Press the key during the system diagnostic checks to enter the Award BIOS Setup program.
5. 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 new 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.

2-3.9 Power Off

There are two possible ways to turn off the system:

1. Use the **Shutdown** command in the **Start Menu** of Windows 95/98 to turn off your computer.
2. Press the mechanical power-button and **hold down for over 4 seconds**, to shutdown the computer. If you press the power-button for less than 4 seconds, then your system will enter into **Suspend Mode**.

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

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.	
SOYO COMBO SETUP STANDARD CMOS SETUP BIOS FEATURES SETUP CHIPSET FEATURES SETUP POWER MANAGEMENT SETUP PNP/PCI CONFIGURATION LOAD SETUP DEFAULTS	INTEGRATED PERIPHERALS SUPERVISOR PASSWORD USER PASSWORD IDE HDD AUTO DETECTION SAVE & EXIT SETUP EXIT WITHOUT SAVING
Esc : Quit F10 : Save & Exit Setup	- - ® - : Select Item (Shift) F2 : Change Color
Time, Date, Hard Disk Type . . .	

3. 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

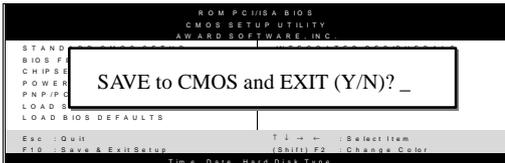
- Use the [Up]/[Down] keys to modify values within the selected fields. Some fields let you enter values directly.

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.
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

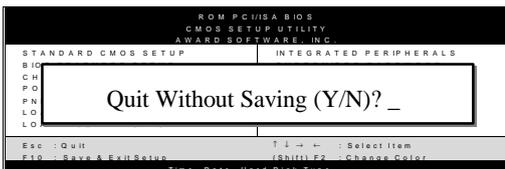
Select the [SAVE & EXIT SETUP] option from the Main Menu to save data to CMOS and exit the setup utility. This option saves all your changes and causes the system to reboot.



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 SOYO COMBO 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].

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, select the [SOYO COMBO SETUP] option from the main menu and press the <Enter> key.

ROM PCI/ISA BIOS			
SOYO COMBO SETUP			
AWARD SOFTWARE, INC.			
CPU TYPE :	CPU ID :	CPU Warning Temperature :	Disabled
CPU Frequency (MHz) :	Manual	Current System Temp. :	26 ½ C / 78 ½ F
CPU Host/PCI Clock :	100/33 MHz	Current CPU Temperature :	28 ½ C / 82 ½ F
CPU Ratio :	X 5 = 500 Mhz	Current CPUFAN Speed :	5433 RPM
DRAM Clock :	100 MHz	Current CHAFAN Speed :	0 RPM
AGP Clock :	66 MHz	INO(V) :	2.01 V
CAS Latency :	3	IN1(V) :	1.5 V
Vcore Voltage Adjust :	Normal	IN2(V) :	3.52 V
Boot Sequence :	A,C,SCSI	+5 V :	4.91 V
Quick Power On Self Test :	Enabled	+12 V :	12.09 V
RTC Y2K H/W Rollover :	Disabled	VBAT(V) :	3.02 V
POWER ON Function :	BUTTON ONLY	5VSB(V) :	4.89 V
Hot Key Power ON :	Ctrl-F1		
Modem Ring Resume :	Disabled		
RTC Alarm Resume :	Disabled		
Date (of Month) :			
Timer (hh:mm:ss) :			
PWRON After PWR-Fail :	Off		
		ESC : Quit ↑ ↓ → ← : Select Item:	
		F1 : Help PU / PD / + / - : Modify	
		F5 : Old Values (Shift) F2 : Color	
		F7 : Load Setup Defaults	

The [SOYO COMBO SETUP] menu combines the main parameters that you need to configure, all in one menu, for a quick setup in BIOS.

3-1.1 Quick CPU Frequency Setup

Quick CPU Frequency Setup	Setting	Description	Note
CPU Name & CPU ID	The BIOS will read the CPU name string and CPU ID code From the CPU and it will display it here. This item provides information only and can not be change.		
CPU Frequency	Manual	500MHz (100 x 5)	Select the working frequency of your Slot 1 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/PCI Clock, and (2) the CPU Ratio.
	200MHz (66 x 3)	550MHz (100 x 5.5)	
	233MHz (66 x 3.5)	600MHz (100 x 6)	
	266MHz (66 x 4)	650MHz (100 x 6.5)	
	300MHz (66 x 4.5)	700MHz(100 x 7)	
	333MHz (66 x 5)	750MHz (100 x 7.5)	
	366MHz (66 x 5.5)	800MHz (100 x 8)	
	400MHz (66 x 6)	400MHz (133 x 3)	
	433MHz (66 x 6.5)	466MHz (133 x 3.5)	
	466MHz (66 x 7)	533MHz (133 x 4)	
	500MHz(66 x 7.5)	600MHz (133 x 4.5)	
	533MHz (66 x 8)	666MHz (133 x 5)	
	300MHz (100 x 3.5)	733MHz (133 x 5.5)	
	350MHz (100 x 3.5)	800MHz (133 x 6)	
400MHz (100 x 4)	866MHz (133 x 6.5)		
450MHz (100 x 4.5)	933MHz (133 x 7)		
If [CPU Frequency] field is set to [Manual]			
CPU Host/PCI Clock	66/33 MHz	120/40 MHz	Select the host clock of your Slot 1 processor among these values. Note: For the ZX 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.
	75/37 MHz	122/37 MHz	
	78/39 MHz	124/31 MHz	
	81/40 MHz	124/41 MHz	
	83/41 MHz	126/31 MHz	
	90/30 MHz	133/33 MHz	
	95/31 MHz	135/33 MHz	
	100/33 MHz	137/34 MHz	
	105/35 MHz	138/34 MHz	
	110/36 MHz	140/35 MHz	
	112/37 MHz	142/35 MHz	
	113/37 MHz	144/36 MHz	
	115/38 MHz	150/37 MHz	
	117/39 MHz	155/38 MHz	
118/39 MHz			

Quick CPU Frequency Setup (Continued)

Quick CPU Frequency Setup				Setting				Description				Note		
If [CPU Frequency] field 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, 5.5,6,6.5,7.0,7.5,8.0]. The CPU frequency is then defined as [host clock freq.]x[multiplier], and should be the working frequency of your Pentium® III, Pentium® II & Celeron™ processor.										
				DRAM Clock				Select the DRAM clock source it can, depending on the host clock frequency, be equal to CPU-PCI, CPU or CPU+PCI. The table below lists all possible combinations.						
				66~83			90~122				124~155			
CPU-PCI					66	70	74	75	83	93	95	100		
					76	77	78	79	102	103	104	105		
					80	85			107	108	113	117		
CPU		66	75	78	90	95	100	105	124	126	133	135		
					110	112			137	138				
		81	83		113	115	117	118	140	142	144	150		
					120	122			145					
CPU+PCI		100	112	117	120	126	133	140						
					146	150	152	156						
		121	124		160	157								
AGP Clock				The AGP clock is derived from the host clock. It is divided by 1.0, 1.5 or 2.0 depending on the host clock frequency. See the table below: 66~83 AGP = CPU Host ÷ 1.0 90~122 AGP = CPU Host ÷ 1.5 124~155 AGP = CPU Host ÷ 2.0										
CAS Latency				3		This item sets the speed with which the motherboard reads the memory.								

Quick CPU Frequency Setup (Continued)

Quick CPU Frequency Setup	Setting	Description	Note
Vcore voltage Adjust	Normal		Default
	+2.5 %	The CPU notifies the board of what core voltage it requires by its VID outputs. The on-board voltage regulator uses the VID code to set the core voltage. If the Vcore Voltage Adjust is set to normal, the Vcore will be exactly what the VID code specifies. If an adjustment percentage is selected the Vcore will be that percentage higher than the VID code specifies. For instance the CPU VID code specifies 2.0V and the Vcore Voltage adjust is set to +10.0% the actual CPU Voltage will be 2.2V. This function should only be used if the CPU is running on FSB Frequencies beyond the CPU specifications, note that SOYO does not guarantee system stability if this item is not set to normal.	
	+5.0%		
	+7.5 %		
	+10.0%		

3-1.2 System Boot Control Settings

System Boot Control Settings	Setting	Description	Note
Boot Sequence	A, C, SCSI	Choose the boot sequence adapted to your needs, for example: <ul style="list-style-type: none"> ● [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, CDROM, A		
	CDROM, C, A		
	D, A, SCSI		
	E, A, SCSI		
	F, A, SCSI		
	SCSI, A, C		
	SCSI, C, A		
	C only		
LS/ZIP, C			
Quick Power On Self Test	Disabled		
	Enabled	Provides a fast POTS at boot-up.	Default

3-1.3 Power Management

PM Events	Setting	Description	Note
RTC Y2K H/W Rollover	Disabled		Default
	Enabled	Setting this item to enable will help the system pass some Y2K test programs that test H/W rollover. For normal use, disable this item, because other test programs may fail if this item is set to enable.	
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]			
Hot Key Power On	Ctrl-F1~F12	Choose the key combination that will wake-up the system. [Ctrl-F1 to Ctrl-F12]	
Modem Ring Resume	Disabled	An input signal on the serial Ring Indicator (RI) line (in other words, an incoming call on the modem) awakens the system from a soft off state.	Default
	Enabled		
RTC Alarm Resume	Disabled	The system ignores the alarm.	Default
	Enabled	Set alarm to power on the system by the date (1-31) or time (hh:mm:ss). If the date is set to [0], the system will self-power on by alarm everyday at the set time.	

3-1.4 CPU Device Monitoring

CPU Device Monitoring	Setting	Description	Note
CPU Warning Temperature	Disabled		Default
	Enabled	Set CPU temperature from 50°C to 120°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.	
Current CPUFAN Speed	°C/°F	Show the current status of CPU Fan	
Current CHAFAN Speed	°C/°F	Show the current status of the chassis Fan	
IN0, IN1, IN2, +5, +12, VBAT, 5VSB	V	Show the current voltage status.	

3-2 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) : Thu, Jan 1 1998	
Time (hh:mm:ss) : 1 : 9 :25	
HARD DISKS	
TYPE	SIZE CYLS HEAD PRECOMP LANDZ SECTOR MODE
Primary Master : Auto	0 0 0 0 0 0 AUTO
Primary Slave : Auto	0 0 0 0 0 0 AUTO
Secondary Master : Auto	0 0 0 0 0 0 AUTO
Secondary Slave : Auto	0 0 0 0 0 0 AUTO
Drive A : 1.44M, 3.5 in.	
Drive B : None	
Floppy 3 Mode Support : Disabled	
Video : EGA/VGA	
Halt On : All, But Keyboard	
	Base Memory: 640K Extended Memory: 31744K Other Memory: 384K <hr style="width: 50%; margin: 5px auto;"/> Total Memory: 32768K
ESC : Quit	← → Ⓜ → : Select Item
F1 : Help	(Shift) F2 : Change Color
	PU / PD / + / - : Modify

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.

3-2.1 Date & Time

	Display	Setting	Please Note
Date	mm/dd/yyyy	Type the current date	You can also the PUp/PDn keys to toggle
Time	hh:mm:ss	Type the current time	24-hour clock format 3:15 PM is displayed as 15:15:00

3-2.2 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
	User	User defines the type of hard disk.	
	None		
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.

3-2.3 Floppy Drives

Floppy Drives	Setting	Description	Note
Drives A & B	360KB, 5.25 in.		
	1.2MB, 5.25 in.		
	720KB, 3.5 in.		
	1.44MB, 3.5 in.		Default
	2.88MB, 3.5 in.		
	None	Not installed	
Floppy 3-Mode Support	Disabled		Default
	Drive A Drive B Both	Supports 3-mode floppy diskette: 740KB/1.2MB/ 1.44MB on selected disk drive.	Special disk drive commonly used in Japan

3-2.4 Video

Select the video mode: EGA/VGA (Default), CGA 40, CGA 80, Mono (Monochrome).

3-2.5 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.

3-3 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.			
PBVA-Virus Protection	: Disabled	Security Option	: Setup
CPU Internal Cache	: Enabled	PCI/VGA Palette Snoop	: Disabled
External Cache	: Enabled	OS Select For DRAM > 64 MB	: Non-OS2
CPU L2 Cache ECC Checking	: Enabled	HDD S.M.A.R.T. capability	: Disabled
Processor Number Feature	: Enabled	Video BIOS Shadow	: Enabled
Swap Floppy Drive	: Disabled	C8000-CBFFF Shadow	: Disabled
Boot Up Floppy Seek	: Disabled	D0000-D7FFF Shadow	: Disabled
Boot Up NumLock Status	: On	D8000-DFFFF Shadow	: Disabled
IDE HDD Block Mode	: Enabled		
Cate A20 Option	: Fast		
Memory Parity / ECC Check	: Disabled	ESC : Quit	- ^ ® ↵ : Select Item
Typematic Rate Setting	: Disabled	F1 : Help	PU/PD/+/- : Modify
Typematic Rate (Chars/Sec)	: 6	F5 : Old Values	(Shift) F2 : Color
Typematic Delay (Msec)	: 250	F7 : Load Setup Defaults	

After you have completed the changes, press [Esc] key and follow the instructions on your screen to save your settings or exit without saving.

3-3.1 PBVA-Virus Protection

	Setting	Description	Note
PBVA-Virus Protection	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.	

3-3.2 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

3-3.3 L2 Cache Memory

	Setting	Description	Note
CPU L2 Cache ECC Checking	Disabled		
	Enabled	This option activates the CPU L2 cache ECC checking function.	Default

3-3.4 Processor Number Feature

	Setting	Description	Note
Processor Number Feature	Disabled		
	Enabled	If this item is set to enabled, Application programs can read the unique CPU-ID number in your Pentium III CPU . Set to disabled, the CPU-ID number can not be read anymore by any software.	Default

3-3.5 System Boot Control Settings

	Setting	Description	Note
System Boot Control Settings			
Swap Floppy Drive	Disabled		Default
	Enabled	Changes the sequence of A and B drives.	

System Boot Control Settings (Continued)

System Boot Control Settings	Setting	Description	Note
Boot Up Floppy Seek	Disabled		Default
	Enabled	If this item is set to enabled, the system will test the floppy drive by moving it's head from and back to pos 0.	
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.	

3-3.6 Other Control Options

	Setting	Description	Note
IDE HDD Block Mode	Disabled	Invokes multi-sector transfer instead of one sector per transfer. Not all HDDs support this function.	Default
	Enabled		
Gate A20 Option	Normal		
	Fast	Allows RAM access above 1MB using the fast gate A20 line.	Default
Memory Parity/ECC check	Disabled		Default
	Enabled	Enabled option this Memory Parity/ECC check.	

3-3.7 Typematic Settings

Typematic Settings	Setting	Description	Note
Typematic Rate Setting	Disabled		Default
	Enabled	Enables to adjust the keystroke repeat rate.	
The following [Typematic Rate] and [Typematic Delay] fields are active only if [Typematic Rate Setting] is set to [Enabled]			
Typematic Rate	6 (Char/sec)	Choose the rate at which a character is repeated when holding down a key.	Default
	8 (Char/sec)		
	10 (Char/sec)		
	12 (Char/sec)		
	15 (Char/sec)		
	20 (Char/sec)		
	24 (Char/sec)		
30 (Char/sec)			
Typematic Delay	250 (msec)	Choose how long after you press a key down the character begins repeating.	Default
	500 (msec)		
	750 (msec)		
	1000 (msec)		

3-3.8 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	Note
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.	Default

3-3.9 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.	
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		
	Enabled	Enable this field when your HDD supports the S.M.A.R.T. function. Consult your HDD provider for details.	
Video 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

3-4 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 CMOS SETUP UTILITY CHIPSET FEATURES SETUP	
DRAM Timing	: Normal
Memory Hole	: Disabled
Read Around Write	: Disabled
Concurrent PCI/Host	: Disabled
System BIOS Cacheable	: Disabled
Video RAM cacheable	: Disabled
AGP Aperture Size	: 128M
AGP-2X Mode	: Disabled
OnChip USB	: Enabled
USB Keyboard Support	: Disabled
Spread Spectrum Modulated	: Disabled
ESC : Quit - ~ @ ~ : Select Item F1 : Help PU/PD/+/- : Modify F5 : Old Values (Shift) F2 : Color 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
DRAM Timing	SDRAM 10ns	Choose DRAM Timing	Default
	SDRAM 8ns		
	Normal		
	Medium		
	Fast		
	Turbo		
Memory Hole	Disabled		Default
	15M -16M	Some interface cards will map their ROM address to this area. If this occurs, select 15M – 16M in this field.	
Read Around Write	Disabled	DRAM optimization feature: If a memory read is addressed to a location whose latest write is being held in a buffer before being written to memory, the read is satisfied through the buffer contents, and the read is not sent to the DRAM.	Default
	Enabled		
Concurrent PCI/Host	Disabled	When disabled, CPU bus will be occupied during the entire PCI operation period.	Default
	Enabled		
System BIOS Cacheable	Disabled	Selecting <i>Enabled</i> allows caching of the system BIOS ROM at F0000h-FFFFFh, resulting in better system performance. However, if any program writes to this memory area, a system error may result.	Default
	Enabled		
Video RAM Cacheable	Disabled		Default
	Enabled	The ROM area A0000-BFFFF is cacheable.	

CHIPSET FEATURES SETUP (Continued)

CHIPSET FEATURES	Setting	Description	Note
AGP Aperture Size	128 4-128MB	AGP could use the DRAM as its video RAM. Choose the DRAM size that you wish to allocate as video RAM.	Default
AGP – 2X Mode	Disabled		Default
	Enabled	Enable only if your AGP card supports 2x mode (faster)	
OnChip USB	Disabled	Disable if you use a separate USB controller card	
	Enabled		Default
USB Keyboard Support	Disabled		
	Enabled	Enabled if you use an USB Keyboard.	Default
Spread Spectrum Modulated	Disabled		Default
	Enabled	When using Spread Spectrum Modulated 1.5% or 6% for FCC or DOC testing.	

3-5 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	: Enabled	Primary INTR	: OFF
PM Control by APM	: No	IRQ3 (COM 2)	: Primary
Video Off After	: NA	IRQ4 (COM 1)	: Primary
		IRQ5 (LPT 2)	: Primary
Video Off Method	: Blank Screen	IRQ6 (FLOPPY DISK)	: Primary
		IRQ7 (LPT 1)	: Primary
Power Management	: User Define	IRQ8 (RTC Alarm)	: Disabled
		IRQ9 (IRQ2 Redir)	: Secondary
HDD Power Down	: Disable	IRQ10 (Reserved)	: Secondary
Doze Mode	: Disable	IRQ11 (Reserved)	: Secondary
Suspend Mode	: Disable	IRQ12 (PS/2 Mouse)	: Primary
MODEM Use IRQ	: NA	IRQ13 (Coprocessor)	: Primary
		IRQ14 (Hard Disk)	: Primary
		IRQ15 (Reserved)	: Disabled
** PM Events **			
VGA	: OFF	ESC	: Quit - ® - : Select Item
LPT& COM	: LPT/COM	F1	: Help PU/PD/+/- : Modify
HDD & FDD	: ON	F5	: Old Values (Shift) F2 : Color
DMA/master	: OFF	F7	: Load Setup Defaults

After you have completed the Power Management Setup, press [Esc] to return to the Main Menu.

3-5.1 Power Management Controls

Power Management Controls	Setting	Description	Note		
ACPI function	Disabled		Default		
	Enabled	ACPI (Advanced Configuration Power Management Interface)			
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 After	Standby	Choose the PM mode you want video to go off after the mode is being active.			
	Suspend				
	Doze				
Video Off Method	V/H Sync+Blank	Selects the method by which the monitor is blanked.	Default		
	Blank screen				
	DPMS Supported				
	3-11, NA				
Power Management	User Define	Lets you define the HDD and system power down times.	Default		
	Disable	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

3-5.2 PM Timers

PM Timers	Setting	Description	Note
The following [HDD Power Down] field may be configured only if [Power Management] is set to [User Define]			
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.
The following [Doze Mode] field may be configured only if [Power Management] is set to [User Define]			
Doze Mode	Disable		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.
The following [Suspend Mode] field may be configured only if [Power Management] is set to [User Define]			
Suspend Mode	Disable		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.

3-5.3 Power Management Controls

Power Management Controls	Setting	Description	Note
MODEM Use IRQ	NA 3	Assigns an IRQ# to the modem device.	Default
Soft-off by PWRBTN	Delay 4 Sec.	Pressing the power button for more than 4 seconds forces the system to enter the Soft-Off state when the system has "hung."	Default
	Instant-Off		

3-5.4 PM Events

PM Events	Setting	Description	Note
VGA	ON	When Enabled, you can set the LAN awakens the system.	
	OFF		
LPT & COM	NONE	When On of LPT & COM, any activity from one of the listed system peripheral devices or IRQs wakes up the system.	
	LPT COM LPT/COM		
HDD & FDD	ON	When On of HDD & FDD, any activity from one of the listed system peripheral devices wakes up the system.	
	OFF		
DMA/master	ON	When you are On of DMA/ Master, any activity from one of the list system peripheral devices wakes up the system.	
	OFF		
Primary INTR	ON	When set to On, any event occurring at will awaken a system which has been powered down. The following is a list of IRQ's, Interrupt ReQuests, which can be exempted much as the COM ports and LPT ports above can. When an I/O device wants to gain the attention of the operating system, it signals this by causing an IRQ to occur. When the operating system is ready to respond to the request, it interrupts itself and performs the service. When set Off, activity will neither prevent the system from going into a power management mode nor awaken it.	Default
	OFF		

3-6 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	CPU to PCI Write Buffer	:	Disabled	
Resources Controlled By	:	Manual	PCI Dynamic Bursting	:	Disabled	
Reset Configuration Data	:	Disabled	PCI Delay Transaction	:	Disabled	
IRQ - 3	assigned to	:	Legacy ISA	PCI #2 Access #1 Retry	:	Disabled
IRQ - 4	assigned to	:	Legacy ISA	AGP Master 1 WS Write	:	Disabled
IRQ - 5	assigned to	:	PCI/ISA PnP	AGP Master 1 WS Read	:	Disabled
IRQ - 7	assigned to	:	PCI/ISA PnP	Assign IRQ For USB	:	Enabled
IRQ - 9	assigned to	:	PCI/ISA PnP	Assign IRQ For VGA	:	Enabled
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	ESC	:	Quit
DMA - 3	assigned to	:	PCI/ISA PnP	F1	:	Help
DMA - 5	assigned to	:	PCI/ISA PnP	F5	:	Old Values
DMA - 6	assigned to	:	PCI/ISA PnP	(Shift) F2	:	Color
DMA - 7	assigned to	:	PCI/ISA PnP	F7	:	Load Setup Defaults

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.

3-6.1 PNP/PCI Configuration Controls

PNP/PCI Controls	Setting	Description	Note
PNP OS Installed	Yes	This item allows you to determine install PnP OS or not.	Default
	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	The Plug-and-Play 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.	

3-6.2 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

3-6.3 PCI Slot Configuration

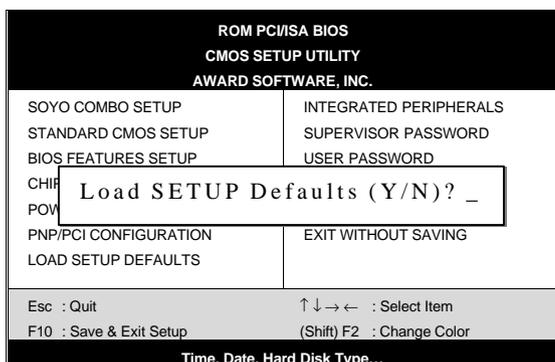
PCI Slot Configuration	Setting	Description	Note
CPU to PCI Write Buffer	Disabled	When this field is <i>Enabled</i> , writes from the CPU to the PCI bus are buffered, to compensate for the speed differences between the CPU and the PCI bus. When <i>Disabled</i> , the writes are not buffered and the CPU must wait until the write is complete before starting another write cycle.	Default
	Enabled		
PCI Dynamic Bursting	Disabled	When <i>Enabled</i> , every write transaction goes to the write buffer. Burstable transactions then burst on the PCI bus and nonburstable transactions don't.	Default
	Enabled		
PCI Delay Transaction	Disabled	The chipset has an embedded 32-bit posted write buffer to support delay transactions cycles. Select <i>Enabled</i> to support compliance with PCI specification version 2.1.	Default
	Enabled		
PCI #2 Access #1 Retry	Disabled	When PCI#2 (AGP bus) access to PCI#1 (PCI bus) has a error occurred.	Default
	Enabled		
AGP Master 1 WS Write	Disabled	When <i>Enabled</i> , writes to the AGP(Accelerated Graphics Port) are executed with one wait states.	Default
	Enabled		
AGP Master 1 WS Read	Disabled	When <i>Enabled</i> , read to the AGP (Accelerated Graphics Port) are executed with one wait states.	Default
	Enabled		
Assign IRQ For USB	Disabled	BIOS will assign IRQ for USB port.	Default
	Enabled	BIOS won't assign IRQ for USB port.	

PCI Slot Configuration (Continued)

PCI Slot Configuration	Setting	Description	Note
Assign IRQ For VGA	Enabled	BIOS will assign IRQ for VGA port.	Default
	Disabled	BIOS won't assign IRQ for VGA port.	

3-7 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.



Warning: If you run into any problem after changing the BIOS configuration, 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 setup default settings.

ROM PCI/ISA BIOS			
INTEGRATED PWEIPHERALS			
AWARD SOFTWARE, INC.			
OnChip IDE Channel0	: Enabled	Onboard Serial Port 1	: 3F8/IRQ4
OnChip IDE Channel1	: Enabled	Onboard Serial Port 2	: 2F8/IRQ3
IDE Prefetch Mode	: Enabled	UR2 Mode	: Standard
Primary Master PIO	: Auto	UR2 Duplex Mode	: Full
Primary Slave PIO	: Auto		
Secondary Master PIO	: Auto	Onboard Parallel Port	: 378/IRQ7
Secondary Slave PIO	: Auto	Parallel Port Mode	: SPP
Primary Master UDMA	: Auto	ECP Mode Use DMA0	: 1
Primary Slave UDMA	: Auto		
Primary Master UNMA	: Auto		
Primary Slave UDMA	: Auto		
Init Display First	: PCI Slot		
Onboard FDC Controller	: Enabled	ESC : Quit	- ~ ® ~ : Select Item
		F1 : Help	PU/PD/+- : Modify
		F5 : Old Values	(Shift) F2 : Color
		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
On-Chip PCI IDE ➤ Primary ➤ Secondary	Disabled	Turn off the on-board IDE	
	Enabled	Use the on-board IDE	Default
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	Disabled		
	Auto	Select Auto to enable Ultra DMA Mode support.	Default

3-8.2 Init Display Controls

Init Display Controls	Setting	Description	Note
Init Display First	PCI Slot AGP	Choose which card – AGP Display card or PCI VGA card – to initialize first.	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 Serial Port 1 Onboard Serial Port 2	Disabled		
	3F8/IRQ4	Choose serial port 1 & 2's I/O address.	Default (port 1)
	2F8/IRQ3	Do not set port 1 & 2 to the same address except for Disabled or Auto.	Default (port 2)
	3E8/IRQ4		
	2E8/IRQ3		
	Auto		
UR2 Mode	Standard	Supports a Standard serial infrared IrDA.	Default
	IrDA 1.0		
	ASKIR	Supports a Sharp serial interface format.	
If [UR2 Mode] is set to [IrDA 1.0]/[ASKIR]			
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	378H/IRQ7	Choose the printer I/O address.	Default
	3BCH/IRQ7		
	278H/IRQ5		
Parallel Port Mode	ECP/EPP	The mode depends on your external device that connects to this port.	Default
	SPP		
	ECP		
	EPP/SPP		
If [Parallel Port Mode] is set to [ECP] mode			
ECP Mode use DMA	3	Choose DMA3	Default
	1	Choose DMA1	

3-8.6 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)

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:

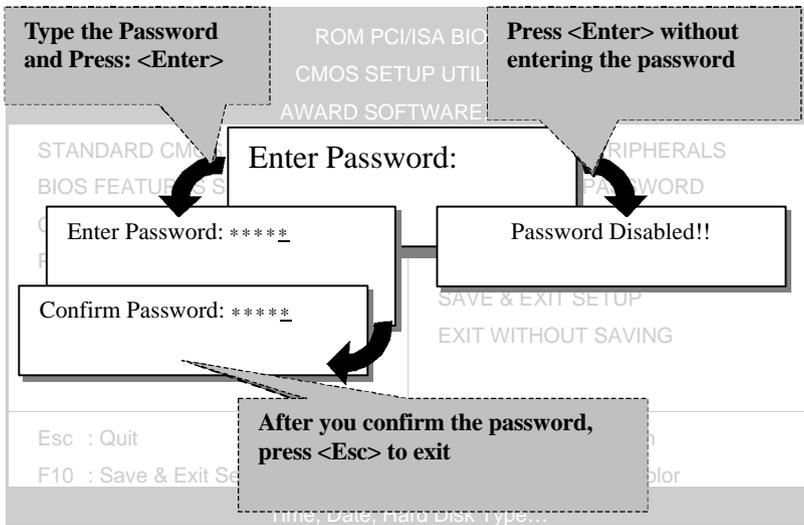
Password Disabled!!

3. Enter your new password and press [Enter]. The following message appears, prompting to confirm the new password:

Confirm 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 :								
Select Primary Master Option (N=Skip) : N								
OPTIONS	SIZE	CYLS	HEAD	PRECOMP	LANDZ	SECTOR	MODE	
2(Y)	1707	827	64	0	3308	63	LBA	
1	1707	3309	16	65535	3308	63	NORMAL	
3	1707	827	64	65535	3308	63	LARGE	

Note: Some Oses(SCO-UNIX Before v5.0) must use "NORMAL" for installation

ESC : Skip



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

Chapter 4

DRIVERS INSTALLATION

Your SY-6VBA 133 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.



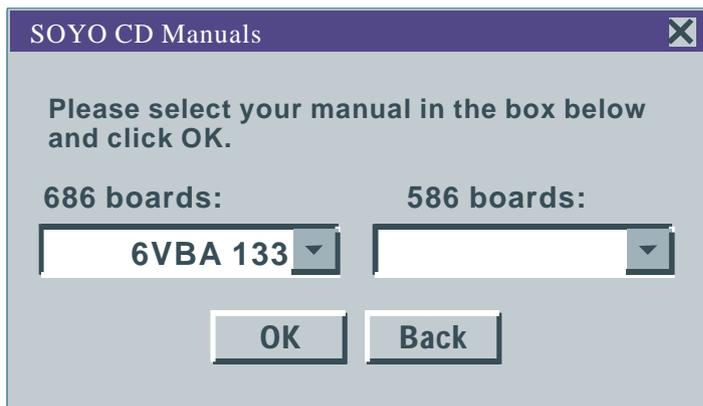
(SOYO CD Start Up Program Menu)

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

Step 2. Read SOYO [6VBA 133] 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.

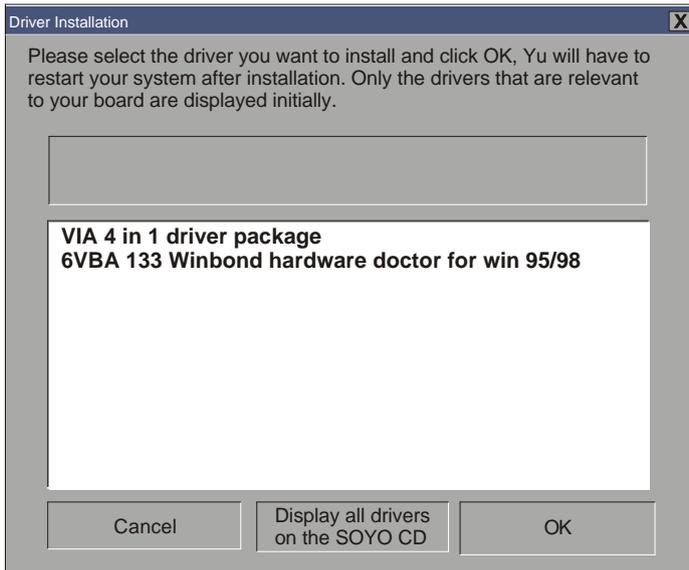
Note: The Start Up program automatically detects if the Acrobat Reader utility is already present in your system, and otherwise prompts you on whether or not you want to install it. You must install the Acrobat Reader utility to be able to read the user's manual file. Follow the instructions on your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

Step 3. Install Drivers

The following describes the best way of installing Windows 95 or Windows 98 on your 6VBA 133 Motherboard:

- The following BIOS default settings should not be changed:
 1. The 'OnChip USB Controller' item under 'Chipset features Setup' 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
 - If you installed Windows 95 you will now need to upgrade your USB driver by running the following program on your Windows CD:
Win95/OSR2/Usbsupp/USBsupp.exe
 - After installation of windows, you will need to install the VIA drivers. Follow the instructions below.

Click the Install drivers button to display the list of drivers that can be installed on your Motherboard. The start-up program displays the drivers available for the 6VBA 133.



(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:

➤ **VIA 4in1 driver package**

The 4 in 1 driver package includes all drivers your motherboard needs. After selecting this driver package, one driver will be installed automatically (the IRQ remapping utility), the other three are installed if selected. By default all three drivers are selected. A description of the 4 drivers follows:

—**Bus Master PCI IDE Driver**

This driver will speed up the data-transfer rate to and from the harddisk.

—**AGP VxD Driver**

This driver must be installed in order to be able to make use of the on-board AGP Video functionality.

—**VIA Chipset Functions Registry**

This driver will make the necessary changes to the Windows registry, in order to make sure that Windows has no problems recognizing your VIA chipset.

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

This utility will remap the IRQ lines to make sure that everything functions properly under Windows.

➤ **Winbond hardware doctor for Windows 9x**

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-6VBA 133 Motherboard's CD manual for the details.

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. 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.

Step 5. Select which driver you want to install and click OK

Notice 1: 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.

Notice 2: You may click **Cancel** to abort the driver installation and return to the main menu.

Notice 3: 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.

