SY-P4I Fire DRAGON

Motherboard

****

mPGA Socket 478 Processor supported

Intel i845 AGP PRO/PCI

400 MHz Front Side Bus supported

ATX Form Factor

****

User's Manual

SOYO™   SY-P4I Fire DRAGON

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"**.

Edition: December 2001
Version 1.0
P4I Fire DRAGON SERIAL

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

100% POST CONSUMER
RECYCLED PAPER

Table of Contents

Chapter 1

MOTHEBOARD DESCRIPTION

1-1 INTRODUCTION

The **SY-P4I Fire DRAGON** AGP/PCI Motherboard is a high-performance Socket 478 processor supported ATX form-factor system board. **SY-P4I Fire DRAGON** uses the Intel i845 Chipset technology. This Motherboard is fully compatible with industry standards

1-2 UNPACKING THE MOTHERBOARD

When unpacking the Motherboard, check for the following items:

◆   The SY-P4I Fire DRAGON Intel i845 AGP/PCI Motherboard
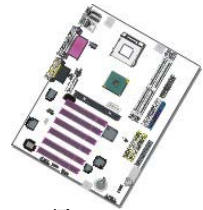
◆   The User Manual

◆   The Installation CD-ROM

◆   SOYO Bonus Pack CD-ROM

◆   Three IDE Device ATA 100 Flat Cable
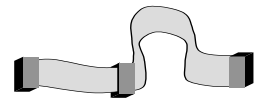
◆   One Floppy Disk Drive Flat Cable
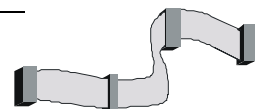
◆   One Heat Sink Compound

◆   Σ Box

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.

1-3 KEY FEATURES

➢ **CPU SUPPORT**

   Supports Intel® mPGA Socket 478 processors

   - FSB 400MHz: Pentium® 4

➢ **CPU SETTINGS**

The SY-P4I Fire DRAGON 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.

➢ **Memory Support**

Supports. PC1600 & PC2100 DDR Memory module

➢ **EXPANDABILITY**

The SY-P4I Fire DRAGON provides all the standard expansion slots, and many more additional expansion features:

◆ **Expansion slots**

■   1 x master AGP Pro slot (1.5V only)

■   6 x 32-bit bus master PCI slots

◆ **Enhanced IO**

- Floppy disk controller
- 2x EIDE controllers with support for up to 4 Ultra DMA 33/66 /100 devices
- Standard/EPP/ECP parallel port
- 2x 16550 compatible serial ports
- IrDA compatible infrared port
- 4x USB (Universal Serial Bus) connectors
- PS/2 mouse connector
- PS/2 keyboard connector

➢ **IDE RAID FUNCTION**

Supports HighPoint PCI-to-IDE UDMA/ATA133 RAID on board

- Up to 4 ATA/ATAPI devices
- RAID function (RAID 0, 1, 0+1)

➢ **TI IEEE 1394 ON-BOARD**

- Supports fully compliant with provisions of IEEE Std 1394-1995 for a high-performance serial bus+ and IEEE 1394a-2000.
- Two IEEE Standard 1394a-2000 fully compliant cable ports at 100M bits/s, 200M bits/s, 400M bits/s.

➢ **SUPPORTS 5 FAN CONNECTOR**

➢ **C-MEDIA HARDWARE AUDIO**

Supports 4/5/5.1 speakers and DLS based wave table music. Also provides professional SPDIF IN/OUT non-distortion digital interface.

➢ **LAN ON-BOARD**

Supports Intel 82562ET IEEE 802.3 10BASE-T/100BASE-TX compliant physical layer interface. IEEE 802.3u Auto-Negotiation Support.

➢ **SMART CARD READER**

Compliant with Personal Computer Smart Card (PC/SC) Working Group standard. Supports Smart Card insertion power-on feature.

➢ **ADVANCED FUNCTIONS**

The SY-P4I Fire DRAGON 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-P4I Fire DRAGON to support this function)*.

■　　Multiple boot

The SY-P4I Fire DRAGON supports booting from devices such as CD-ROM.

■　　Power on by modem or alarm

If the SY-P4I Fire DRAGON 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.

Power on by modem or alarm

■　　Mighty Bolt Security Function

Support Smart Card insertion power-on feature

➢ FAIL SAFE

The SY-P4I Fire DRAGON comes with added functionality to make managing the system easy and safe

◆Hardware Monitor

The integrated Hardware Monitor IC and Hardware doctor software enables the user to 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.

➢ **SOYO Bonus Pack CD-ROM**

➢ **COMPLIANCE**

The SY-P4I Fire DRAGON complies with all important industry standards. The following underlines the reliability of the SY-P4I Fire DRAGON, a motherboard to trust.

■　　PC99, ACPI compliant

➢ **USER FRIENDLY**

■　　SOYO COMBO Setup

■　　Jumperless design

■　　You can set up the following options through the Soyo COMBO setup

— CPU FSB frequency

— CPU multiplier

— CPU Vcore voltage select

— DDR RAM Clock

— DDR RAM voltage select

— AGP voltage select

— On board Devices Enable/Disable

— Pre-defined optimal system Performance

1-4 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.

1-5 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.

1-6   SY-P4I Fire DRAGON MOTHERBOARD LAYOUT
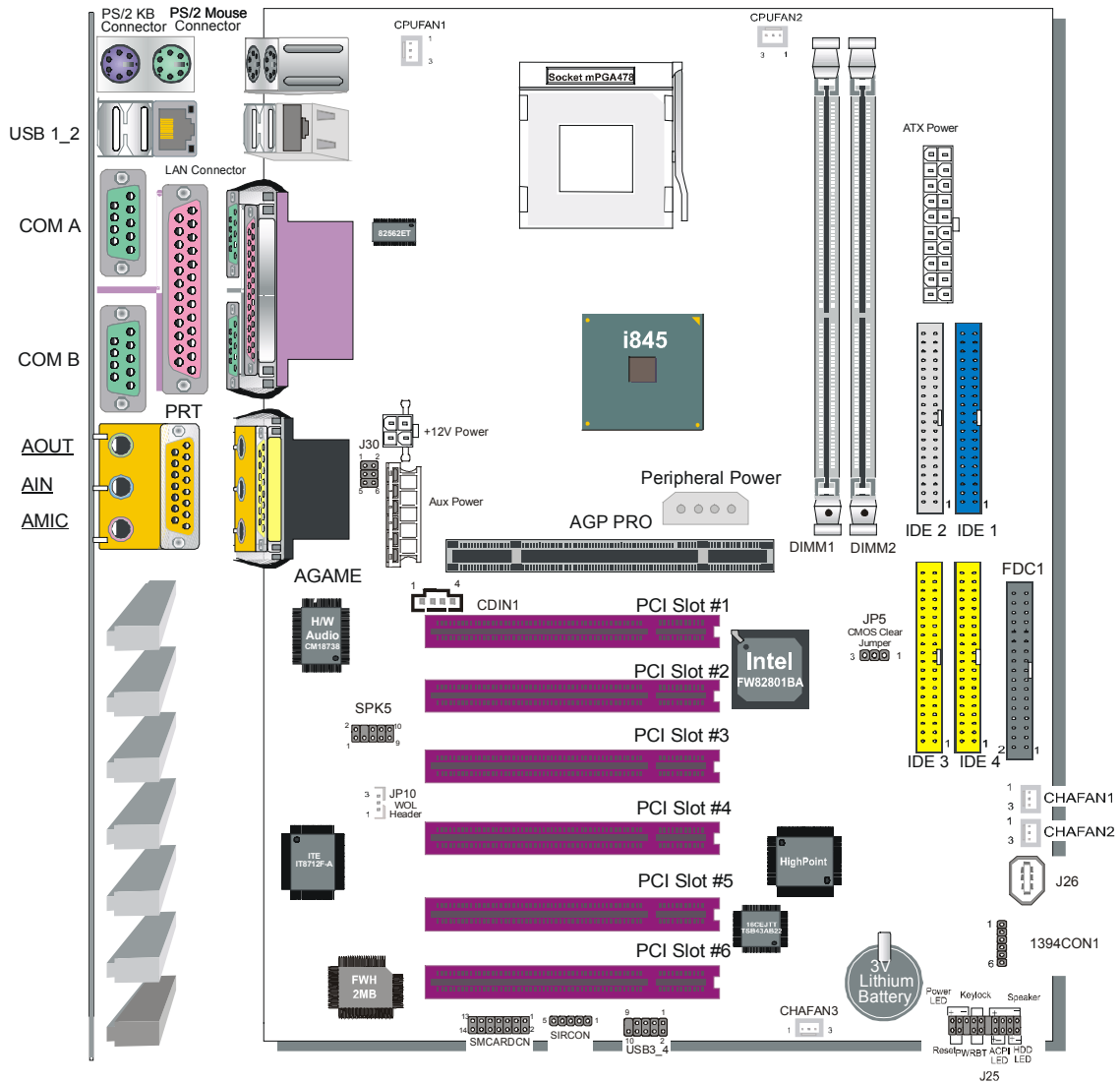
Back Panel   SY-P4I Fire DRAGON Platform

1-7　SY-P4I Fire DRAGON MOTHERBOARD COMPONENTS
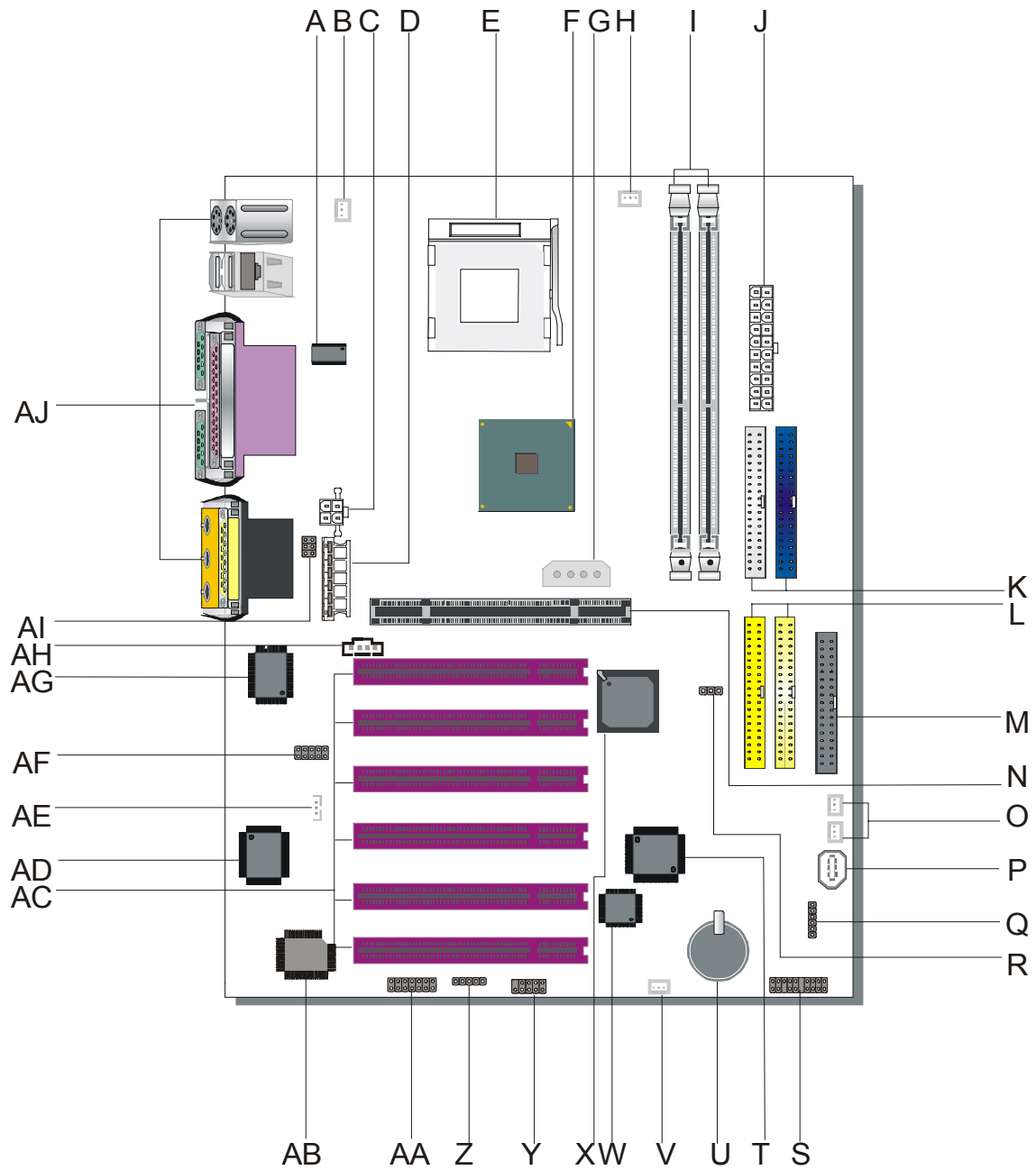
A	**LAN Chip**
B	**CPU Cooling Fan Connector**
C	**+12V Power Connector**
D	**Aux Power Connector**
E	**Socket 478 Connector**
F	**Intel i845 North Bridge Chip**
G	**Peripheral Power Connector**
H	**CPU Cooling Fan2 Connector**
I	**DDR DIMM Bank**
J	**ATX Power Connector**
K	**Bus Mastering E-IDE/ATAPI Ports**
L	**IDE RAID Ports**
M	**Floppy Disk Drive (FDD)**
N	**AGP Pro Slot**
O	**Chassis Cooling Fan1,2 Connector**
P	**1394 Port**
Q	**1394 Connector**
R	**CMOS Clear Jumper**
S	**Front panel Connectors**
T	**High Point RAID Chip**
U	**3V Lithium Battery**
V	**Chassis Cooling Fan3 Connector**
W	**IEEE 1394 Chip**
X	**Intel FW82801BA South Bridge Chip**
Y	**USB Connector**
Z	**Serial Infrared (IrDA) Device Header**
AA	**Smart Card Reader Connector**
AB	**Flash BIOS**
AC	**32-bit PCI Mastering Slots**
AD	**ITE I/O Chip**
AE	**Wake-On-LAN(WOL) Header**
AF	**SPK5 Connector**

AG   H/W Onboard Audio Chip

AH   CD-IN Connectors

AI   Front panel Connectors

AJ   Back panel Connectors

Chapter 2

HARDWARE INSTALLATION

Congratulations on your purchase of **SY-P4I Fire DRAGON** 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.   Socket mPGA478 processor with built-in CPU cooling fan.
2.   DDR SDRAM memory module(s)
3.   Computer case and chassis with adequate power supply unit
4.   Monitor
5.   PS/2 Keyboard
6.   Pointing Device (PS/2 mouse)
7.   Disk Drives: HDD, CD-ROM, Floppy drive…
8.   External Peripherals: Printer, Plotter, and Modem (optional)
9.   Internal Peripherals: Modem and LAN cards (optional)
10.   VGA Card (AGP 1.5V only, PCI)

Note: This M/B can only support AGP 1.5V VGA card only!

2-2 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.

Step 1- Install the Central Processing Unit (CPU)

Step 2- Install memory modules

Step 3- Install expansion cards

Step 4- Connect cables, case wires, and power supply

Step 5- Power on and enter BIOS setup

Step 6- Install supporting software tools. See Chapter 4 for more info.

> *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

Step 1 Install the CPU

To perform the installation of your new **SY-P4I Fire DRAGON** Motherboard, follow the steps below:

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

FSB 400MHz

❑ 1.5GHz (100 x 15.0)	❑ 1.6GHz (100 x 16.0)	❑ 1.7GHz (100 x 17.0)	❑ 1.8GHz (100 x 18.0)
❑ 1.9GHz (100 x 19.0)	❑ 2.0GHz (100 x 20.0)	❑	❑

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

1.   Lift the socket handle up to a vertical position.
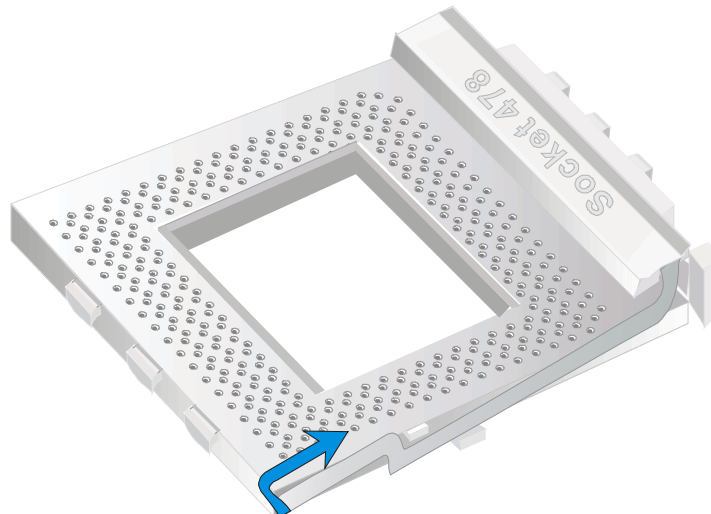
2.   Align the blunt edge of the CPU with the matching pinhole distinctive edge on the socket.
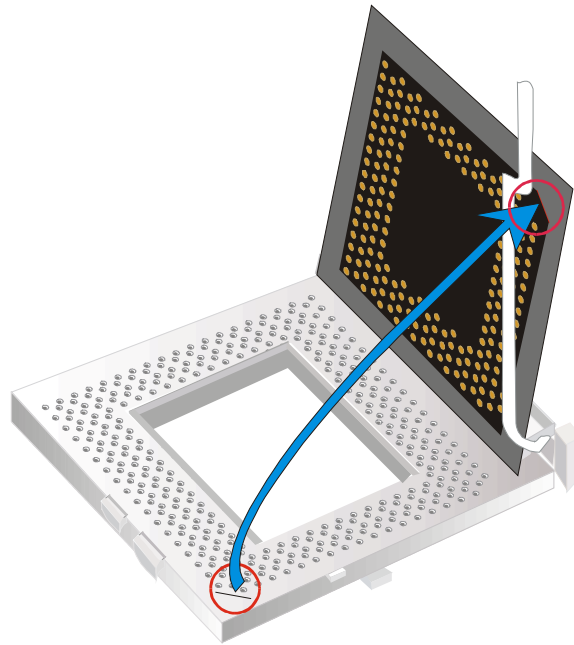
3.   Seat the processor in the socket completely and without forcing.
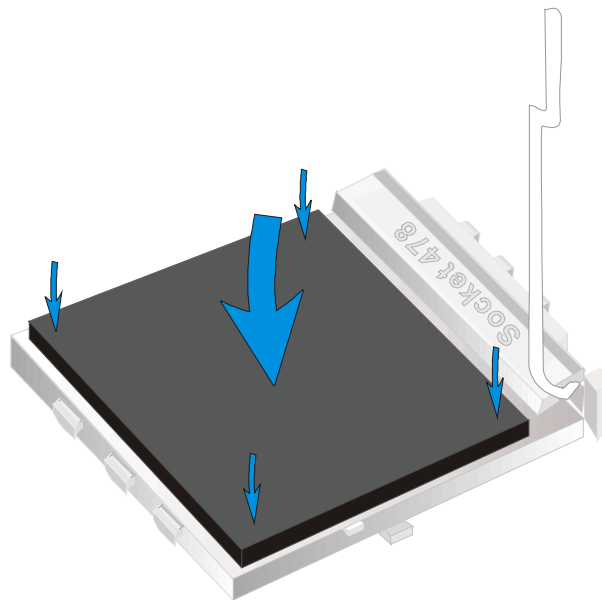
4. Then close the socket handle to secure the CPU in place.
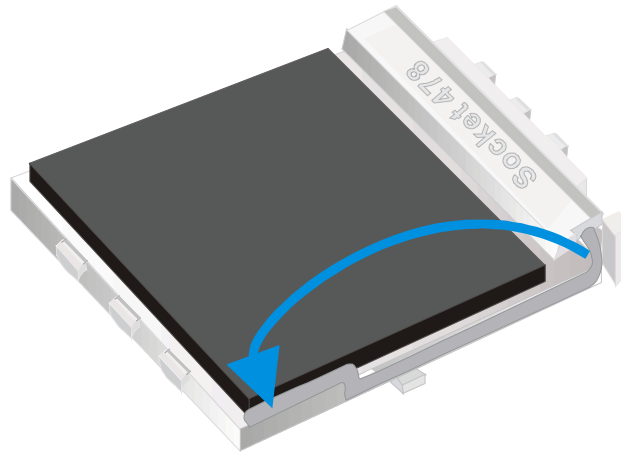
	Remember to connect the CPU Cooling Fan to the appropriate power connector on the Motherboard. *The fan is a key component that will ensure system stability. The fan prevents overheating, therefore prolonging the life of your CPU.*

Step 2 Install Memory Module

DIMM1   DIMM2
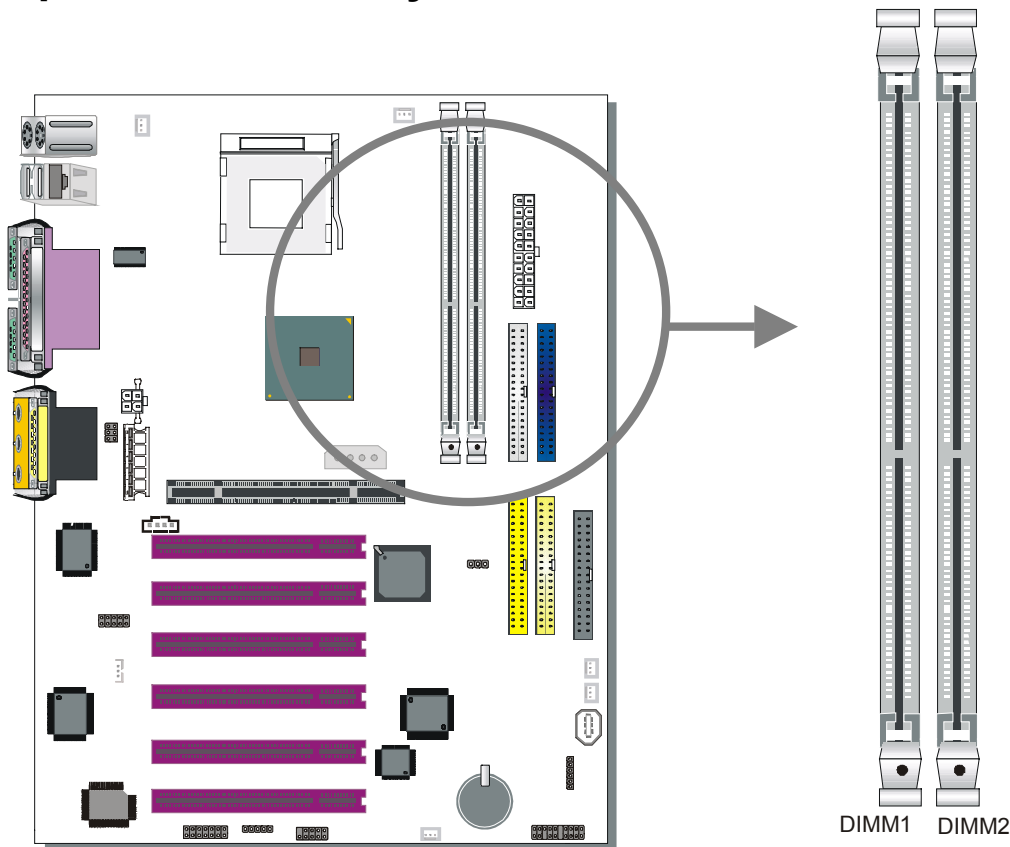
Your board comes with two DIMM sockets, providing support for up to 2GB of main memory using unbuffered DIMM modules from 64MB to 1GB. On this motherboard, DRAM speed can be set independent from the CPU front side bus speed. Depending on the DRAM clock speed setting in the BIOS setup, appropriate memory modules must be used. For 100MHz DRAM speed, use PC1600 memory; for 133MHz DRAM speeds, use PC2100 memory. ECC DRAM is also supported.

1   92

1   92
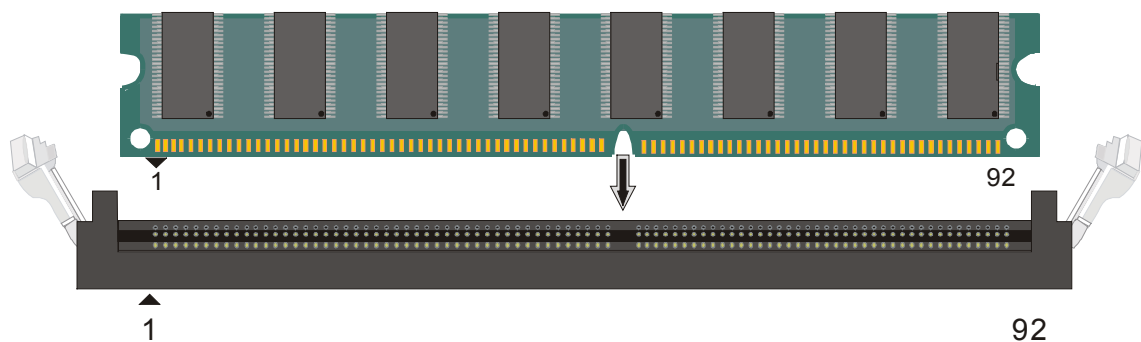
Memory Configuration Table

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

Step 3 Install Expansion Card

The motherboard has 1 AGP slot and 6 PCI slot.

1. Read the related expansion card's instruction document before inserting the expansion card into the computer.
2. Press the expansion card firmly into expansion slot in motherboard.
3. Be sure the metal contacts on the card are indeed seated in the slot.
4. Replace the screw to secure the slot bracket of the expansion card.
5. Install related driver from the operating system.

AGP Slot

This motherboard supports AGP 2x/4x/Pro VGA CARD.

DO NOT remove the safety tab underneath it if you will be using an AGP card without a retention notch. Removing may cause the card to shift and may cause damage to your card, slot, and motherboard. Remove ONLY when you will be using an AGP Pro card. You can use a pen tip to remove the tab from the bay.

Note: **This Motherboard can only support 1.5V VGA Card.**

Step 4 Connect cables, case wire, and power supply
A. IDE Device Installation (HDD, CD-ROM)
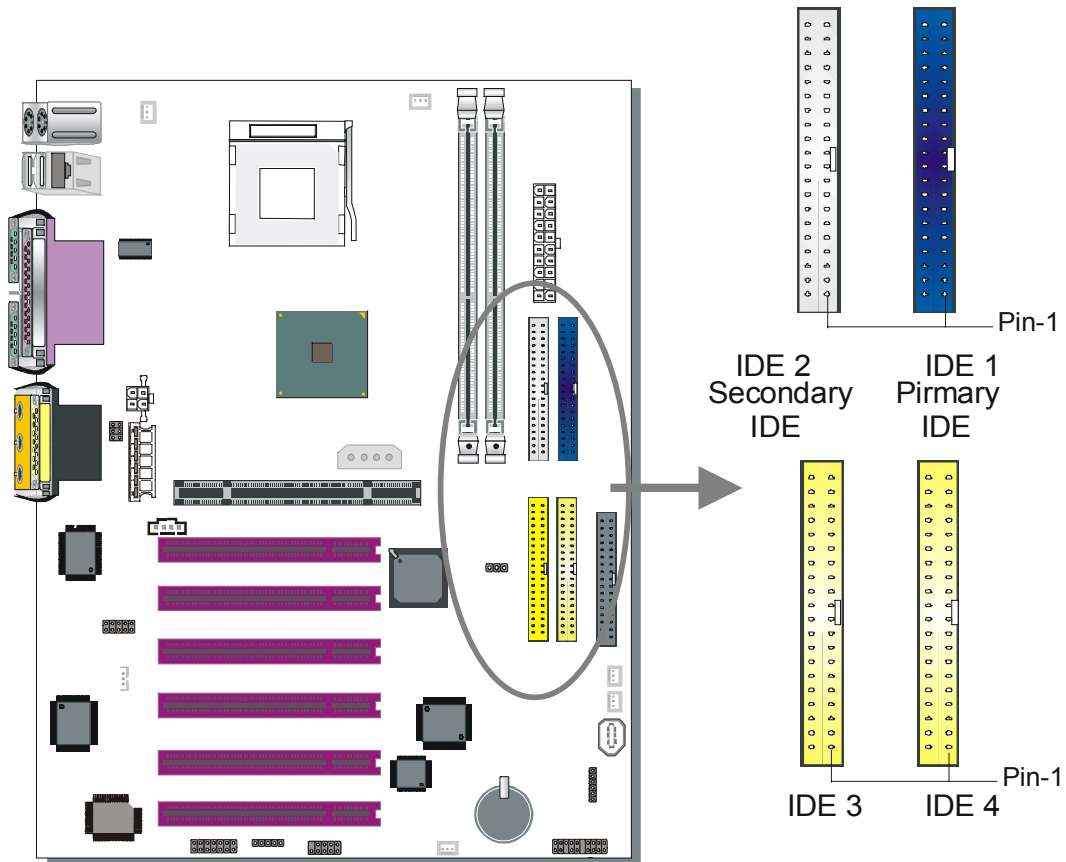
This Motherboard offers two primary and two secondary IDE device connectors (IDE1, IDE2), can support up to four high-speed Ultra DMA 33/66/100HDD or CD-ROM. IDE3, IDE4 can support up to four high speed Ultra DMA 33/66/100/133 HDD or CD-ROM.

Connect one side of the ATA66/100/133 flat cable to the IDE device (HDD or CD-ROM) and plug the other end to the primary (IDE1, IDE3) or secondary (IDE2, IDE4) directionally keyed IDE connector on the Motherboard. The ATA66/100 cable is backward compatible with ATA33 HDDs.

This Motherboard can support up to 8 HDDs.
There are four HDD connectors (IDE1, IDE2, IDE3, IDE4) on motherboard. IDE3 & IDE4 are provided for IDE RAID or standard IDE function. Please refer to Appendix A for more information.

ATA 66/100 Flat Cable

80-Conductor

40-pin

1

39

1

39
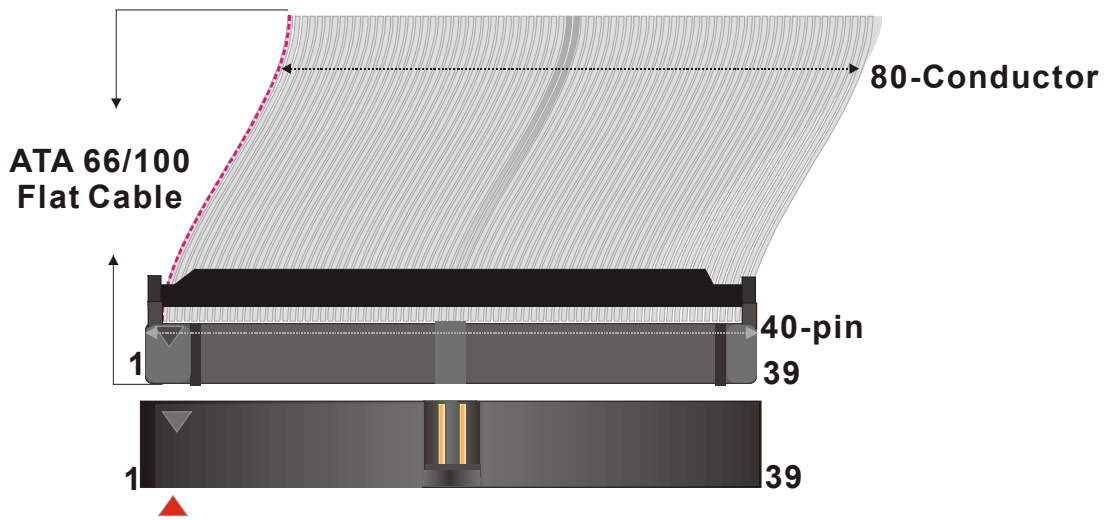
B. Floppy Drive Installation

Pin -1
FDC
Floppy Drive Connector
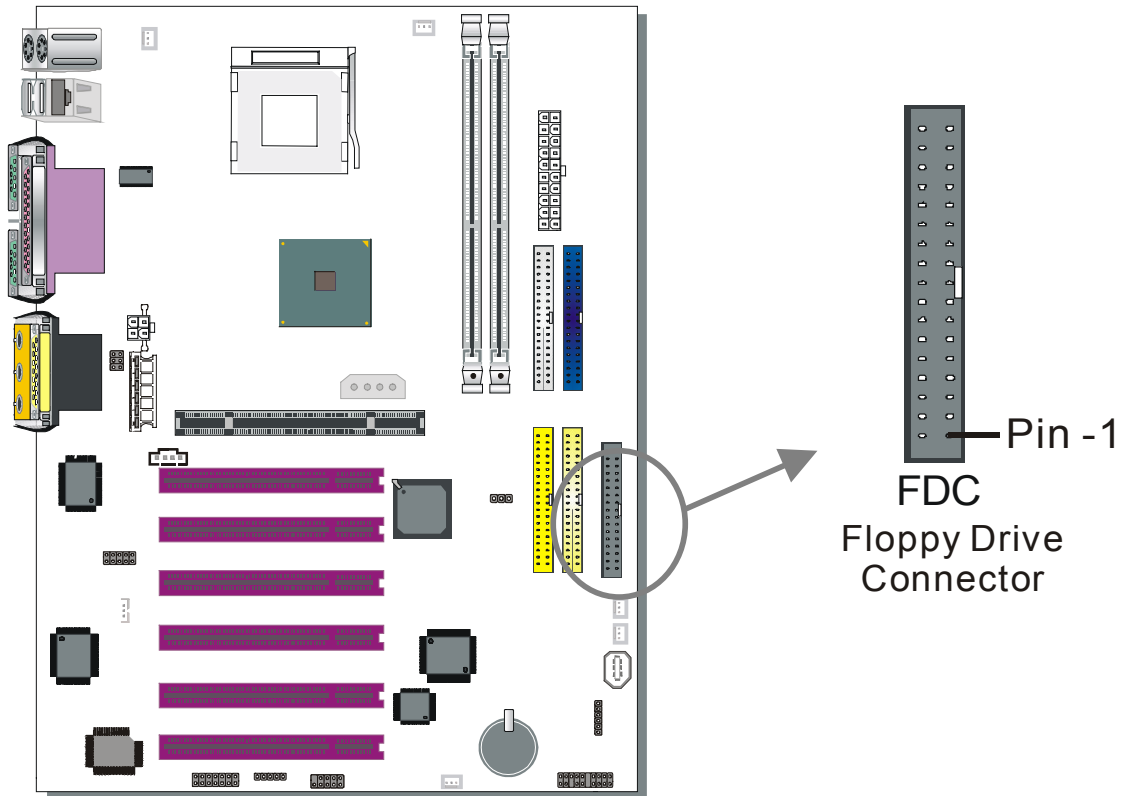
The system supports 5 possible floppy drive types: 720 KB, 1.2 MB, 1.44 MB, 2.88 MB, and LS-120. In addition, this Motherboard supports a 3-mode (720KB/1.2MB/1.44MB) floppy commonly used in Japan. Connect one side of the 34-pin flat cable to the floppy drive and plug the other end to the floppy drive connector on the Motherboard.

This Motherboard can support up to 2 floppy drives.

1   33

1   33
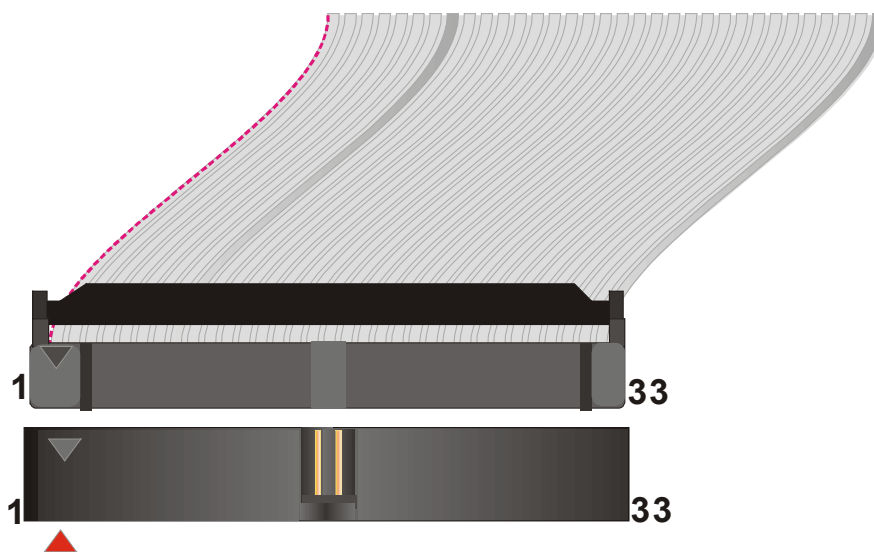
C. Front Panel Connections
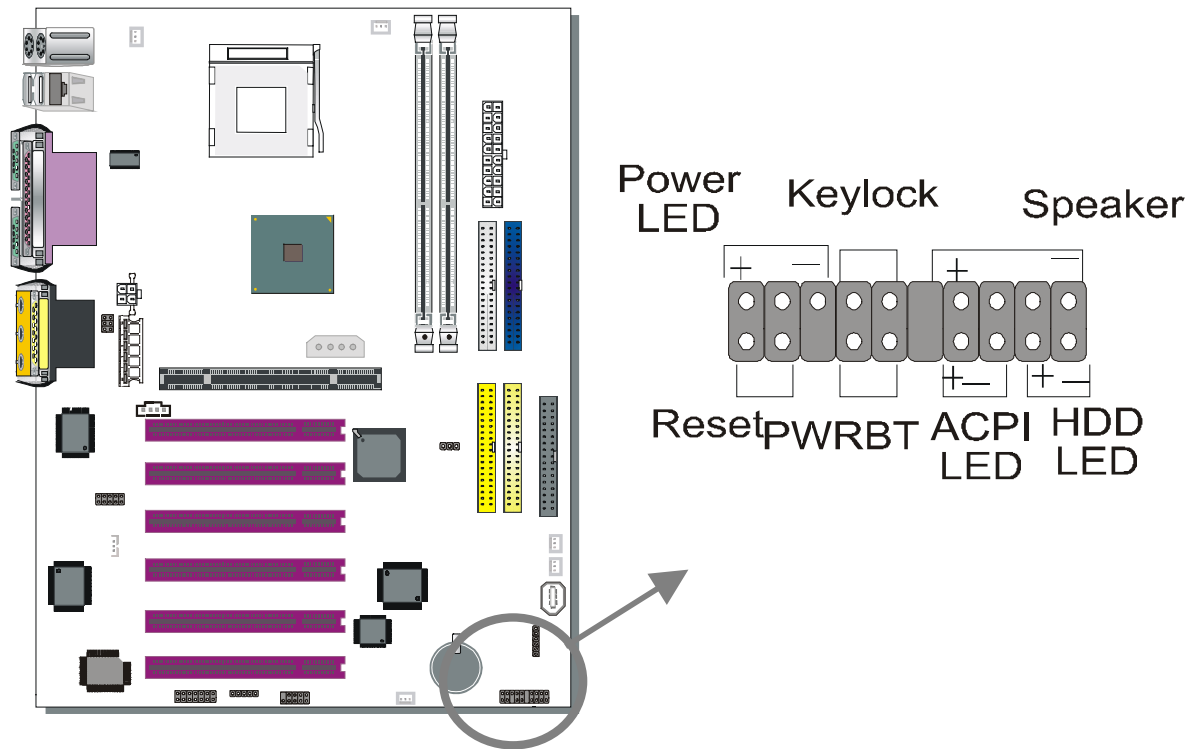
Plug the computer case's front panel devices to the corresponding headers on the Motherboard.

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.
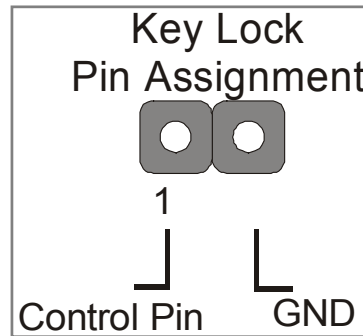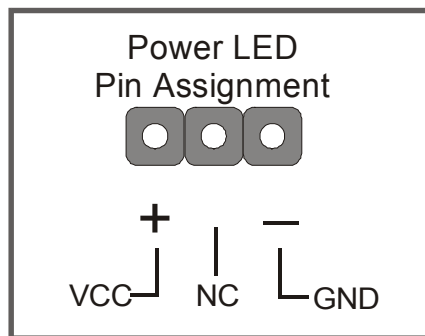
2. Reset

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.

Reset Pin Assignment

1

Power Good   GND
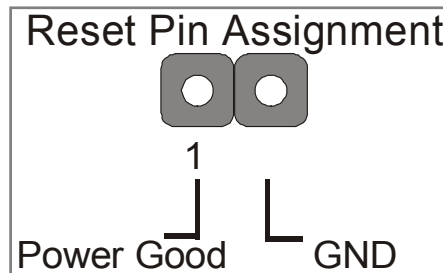
3. Speaker

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

Speaker Pin Assignment

VCC   NC NC   Speaker out
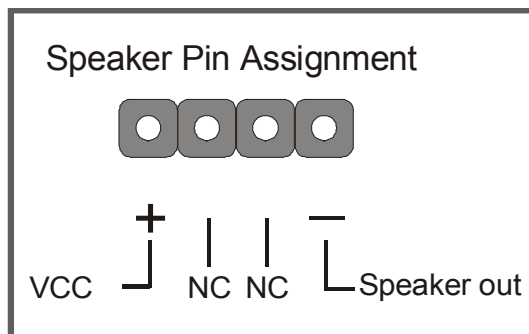
4. ACPI LED

Connecting the 2-pin ACPI LED cable to the corresponding ACPI LED header will cause the LED to light whenever the system is in ACPI mode. The manufacturer has permanently set this Motherboard in ACPI mode due to most hardware and software compliance to ACPI mode.

ACPI LED Pin Assignment

VCC3MEM   Control Pin
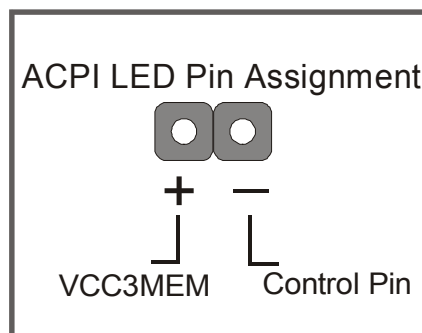
5. IDE LED

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.

HDD LED Pin Assignment

LED Anode   LED Cathode
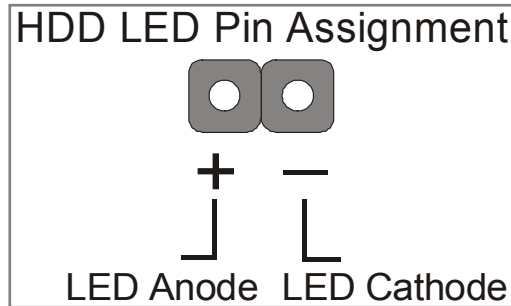
6. ATX 12V Power On/Off Switch

Attach the 2-pin momentary type switch to the PWRBT header for turning On or Off your ATX 12V power supply.

PWRBT Pin Assignment

1

Power On/Off   GND
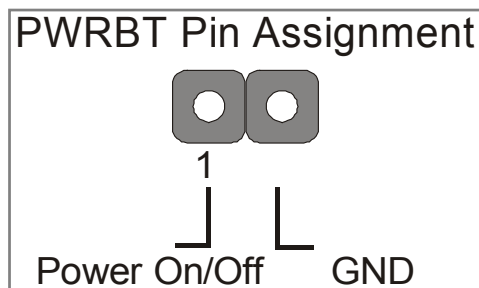
D. Back Panel Connections

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.
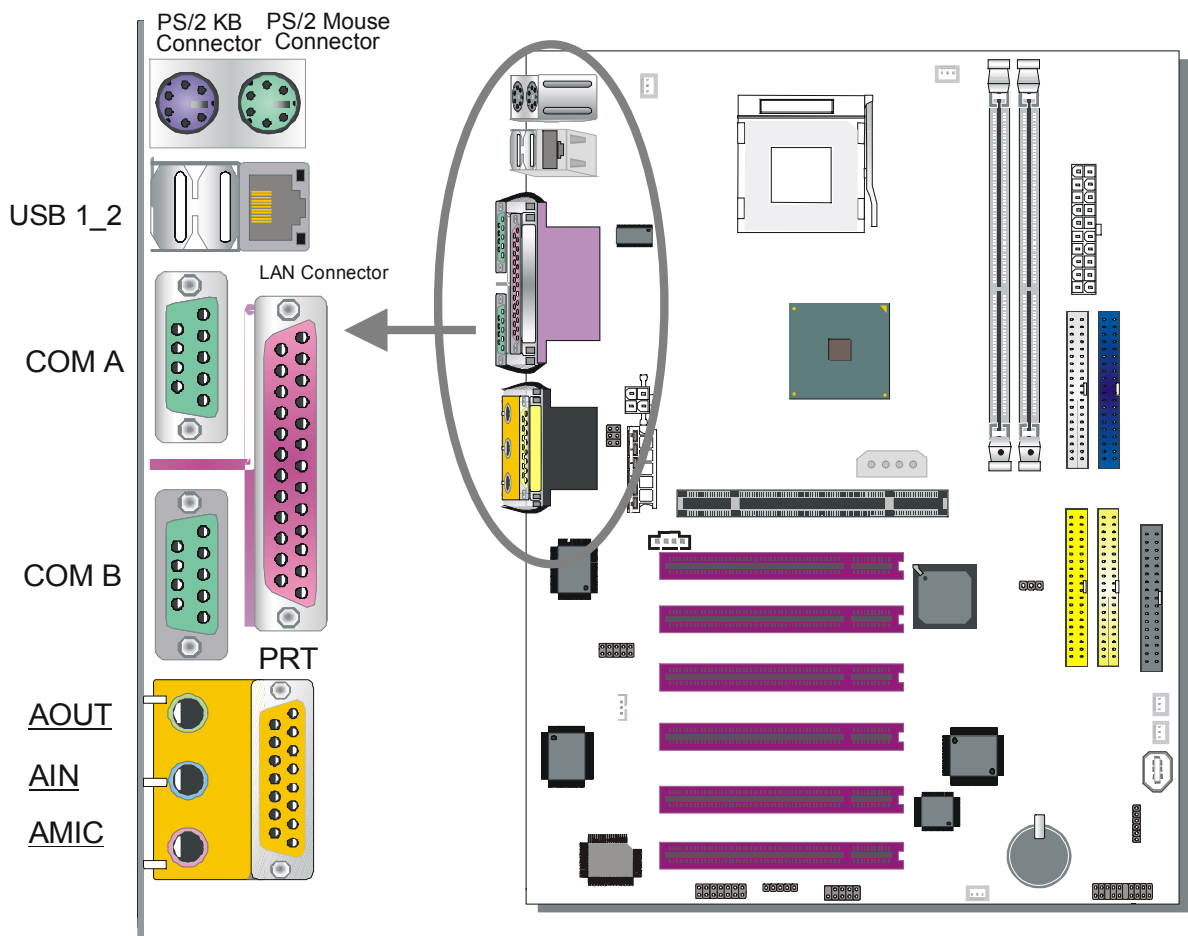
1. Onboard Serial Ports COM1/COM2

External peripherals that use serial transmission scheme include:

- serial mouse,

- and modem.

Plug the serial device cables directly into the COMA/COMB 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.
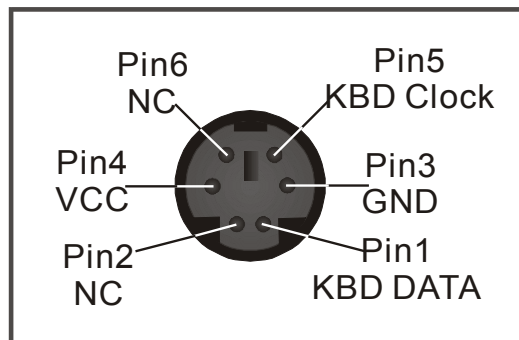
4. PS/2 Mouse

Similarly, plug the mouse jack directly into the 6-pin female PS/2 mouse connector.
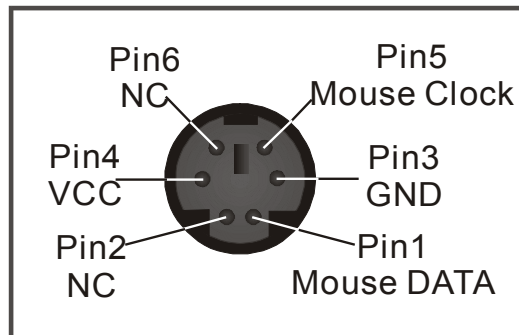
5.   Universal Serial Bus USB1/USB2/(USB3, USB4)

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

-       Standard device drivers come with the Win98 for commonly used USB devices.

-       With Win95, use the flow UHCI specifications. To use USB devices under Win95, usually you have to install the device that driver comes with the USB device you have purchased.

USB3 and 4 are available. To make use of these USB ports, purchase a USB cable from your dealer. The lay-out of USB3 and 4 is as follows:
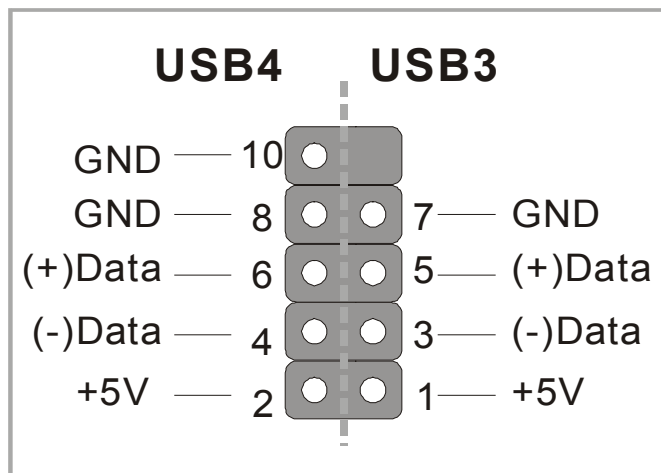
E.   Other Connections

1.   Wake-On-LAN (WOL)

Attach the 3-pin connector from the LAN card which supports the Wake-On-LAN   (WOL) function to the JP10 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:

Wake-On-LAN
JP10 Pin Assignment

MP-Wakeup —— 3

GND —— 2

5VSB —— 1
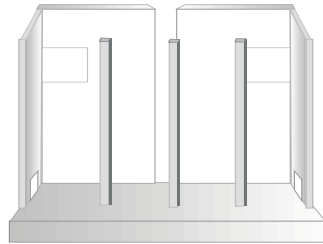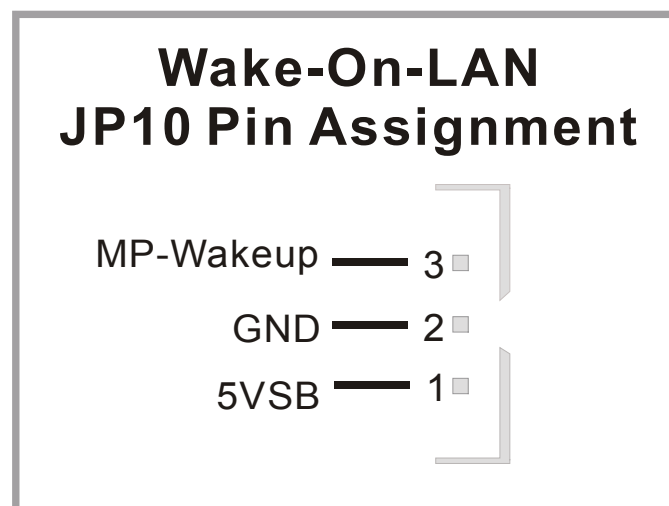
2. Standard Infrared (SIRCON)

Plug the 5-pin infrared device cable to the SIRCON 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:

**Standard Infrared
(SIRCON) Connector
SIRCON Pin Assignment**

1 2 3 4 5

VCC ── IRRX ── GND ── IRTX
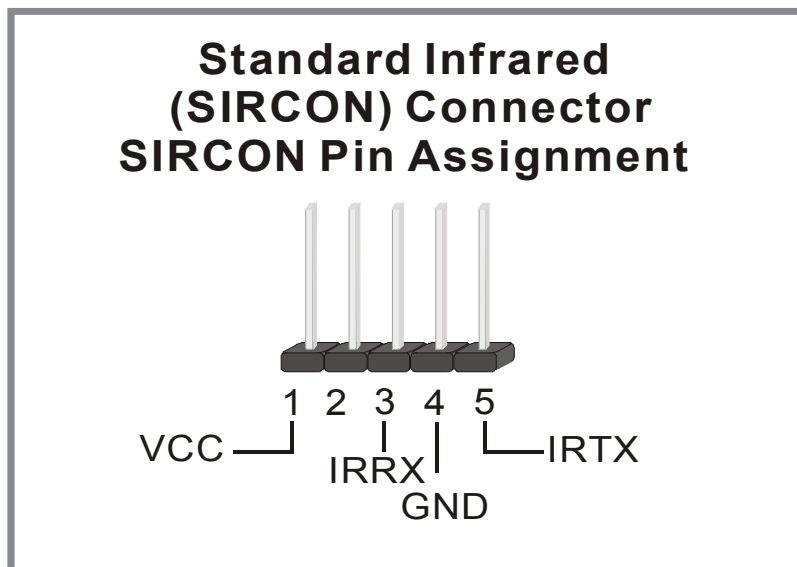
3.   Cooling Fan Installation
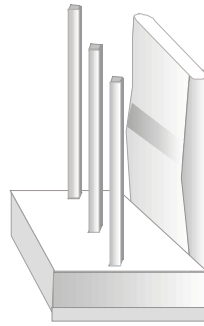
(1) CPU Cooling Fan (CPUFAN1, CPUFAN2)

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, [SOYO COMBO] menu.)

To avoid damage to the system, install according to the following pin assignment:

**CPU Cooling Fan
(CPUFAN1, CPUFAN2)
CPUFAN Pin Assignment**

CPUFAN1

1 — GND
2 — 12V
3 — SENSOR

CPUFAN2

3   2   1
NC   12V   GND
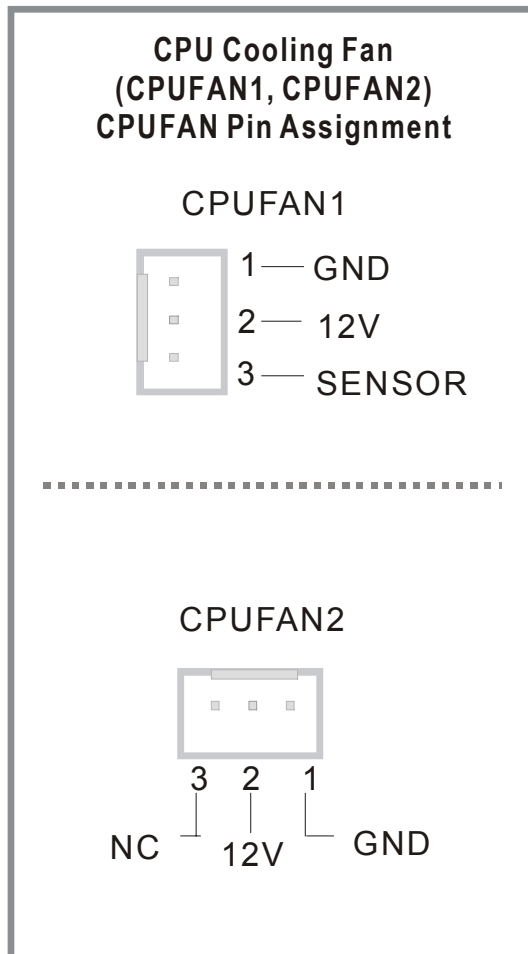
(2) Chassis Cooling Fan (CHAFAN1, CHAFAN2, CHAFAN3)

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:

**Classis Cooling Fan
(CHAFAN1, CHAFAN2, CHAFAN3)
CHAFAN Pin Assignment**

CHAFAN1

1 — GND
2 — 12V
3 — SENSOR

CHAFAN2

1 — GND
2 — 12V
3 — SENSOR

CHAFAN3

1   2   3

GND   12V   NC
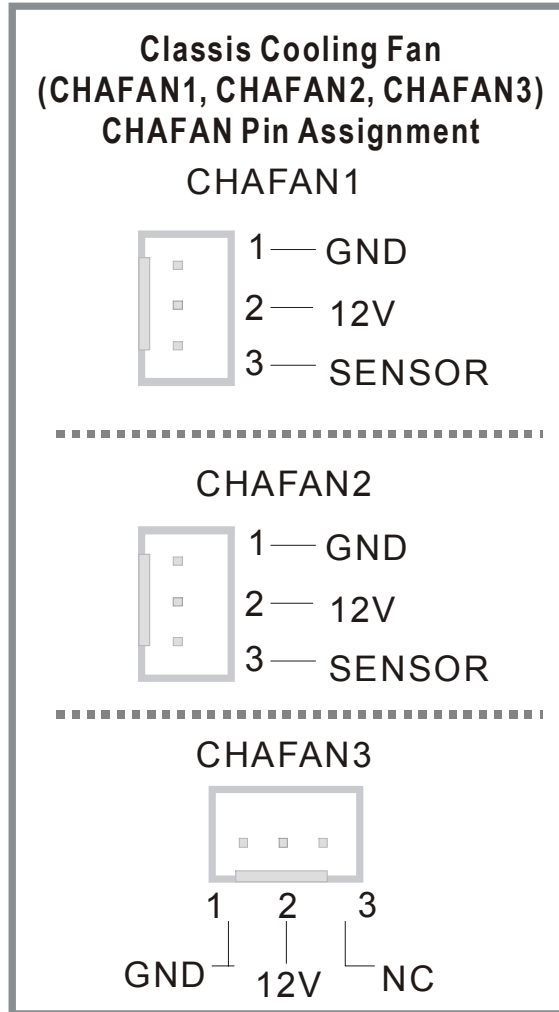
Note: CPU cooling fan must be installed to prevent CPU from overheating and ensure system stability. Chassis cooling fan is optional, depending on whether there is cooling fan in your chassis.

4.   Smart Card Reader

SMCARDCN

NC	14	13	NC
Scrpres	12	11	GND
Scrio	10	9	NC
NC	8	7	CLK
RST	6	5	Scrfet
NC	4	3	NC
NC	2	1	VCC
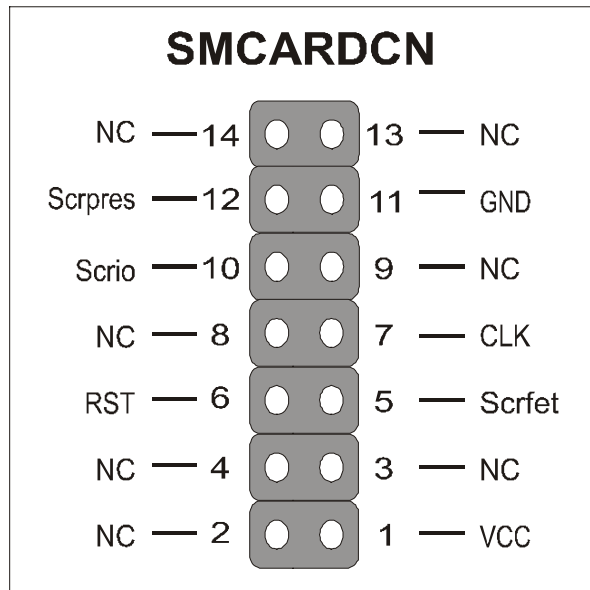
5.   CD Line-in (CDIN1)

This Motherboard provides one CD-Line in connectors. Please connect the 4-pin audio cable from your CD-ROM drive to either CDIN1 or CDIN2. (It fits in only one, depending on the cable that came with your CD-ROM drive)

Please install according to the following pin assignment:

**CDIN1(CD Line-in)
Pin Assigment**

1   2   3   4

Left   GND

    GND   Right
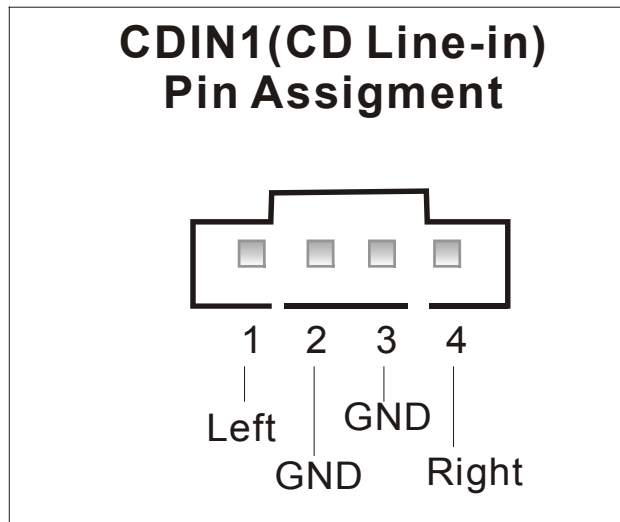
6. SPK5

Please refer to the c-media 6 channel Audio solution Manual for more information on AUDIO function.
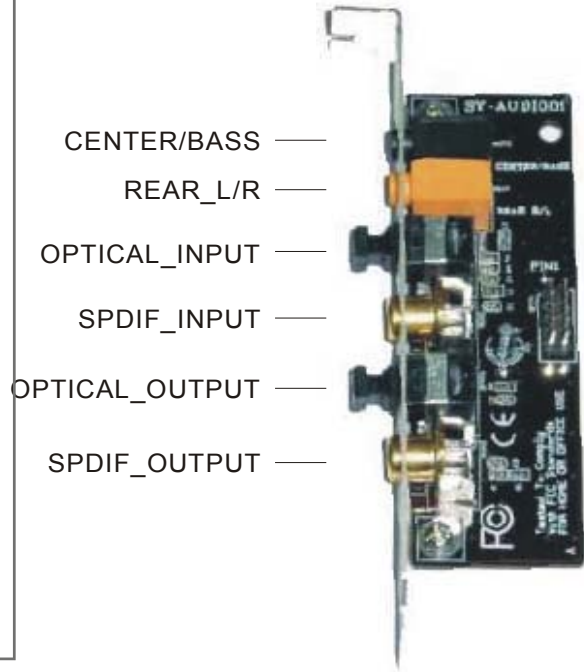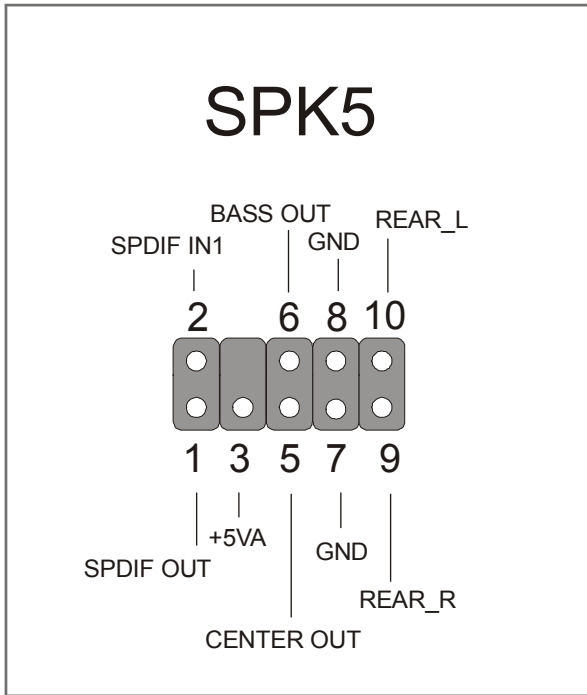
F. ATX12V Power Supply

The ATX12V power supply includes a 20-pin ATX connector that comply with the ATX specification, Version 2.03 for M/B specification, a new 4-pin receptacle/header combination--the +12V power connector--has been defined. The presence of the +12V power connector indicates that a power supply is ATX12V; the absence of the +12V power connector indicates that a supply is ATX. To allow for greater than +3.3V current, the Aux power connector is recommended for ATX and ATX12V power supplies with +3.3V current >18A.

ATX Power

+12V Power Connector

Aux Power Connector
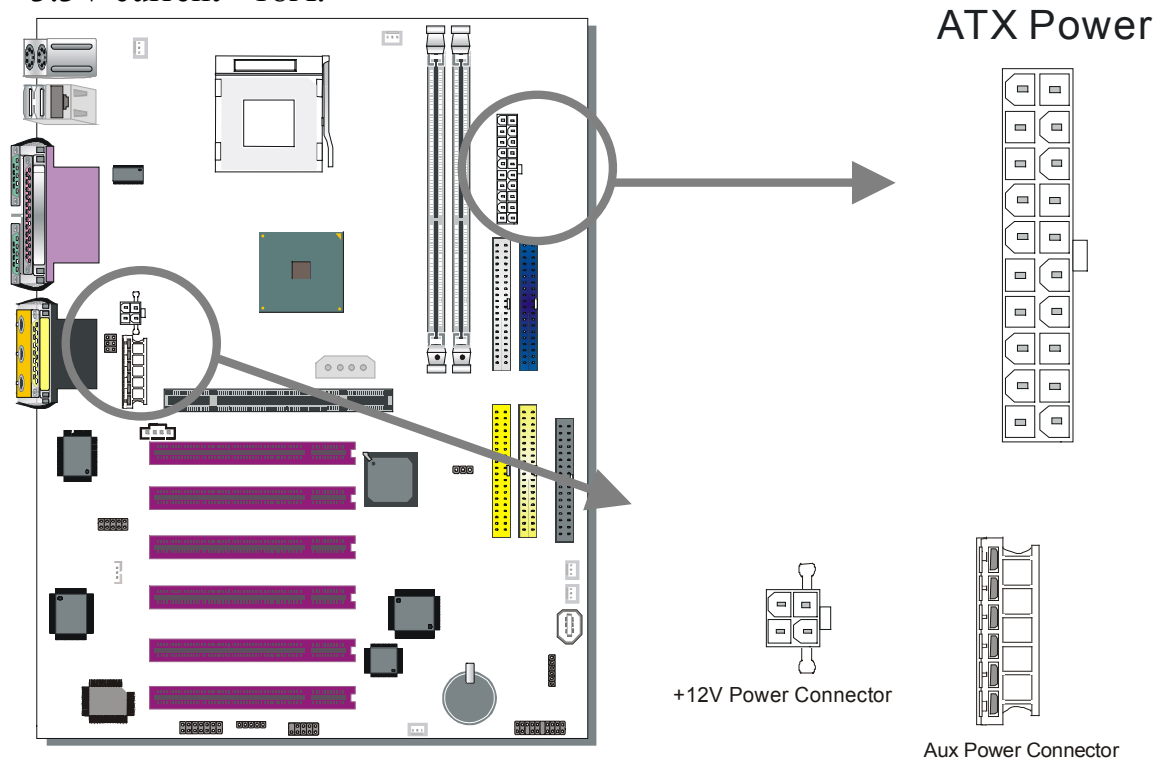
🛑 *Warning:* Follow these precautions to preserve your Motherboard from any remnant currents when connecting to ATX power supply:

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 250 Watts and a "power good" signal. Make sure the ATX power supply can take at 1.5 A max current * 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

12V	5V
5VSB	5V
PW-OK	-5V
GND	GND
5V	GND
GND	GND
5V	PS-ON
GND	GND
3.3V	-12V
3.3V	3.3V
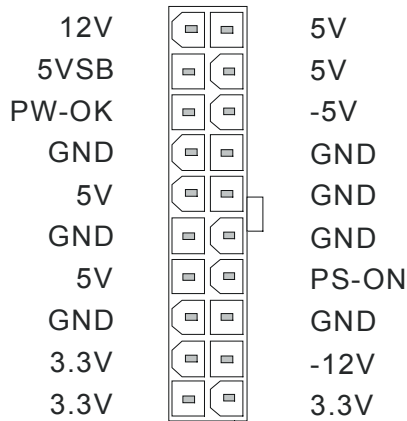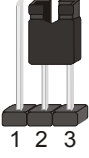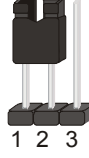
➢ **Pay special care to the directionality.**

Pin1   Pin3

COM	+12VDC
COM	+12VDC

+12V Power Connector

Pin1   COM
              COM
              COM
              +3.3VDC
              +3.3VDC
Pin6   +5VDC

Aux Power Connector
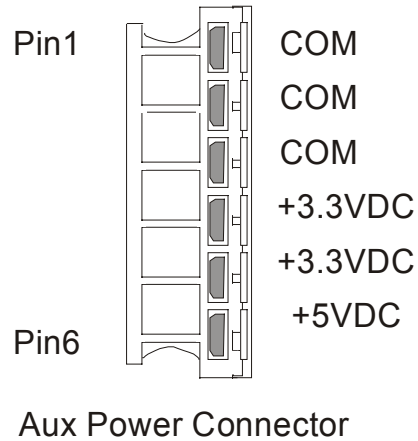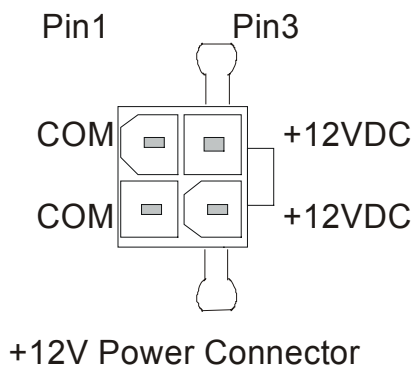
G. CMOS Clear (JP5)

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

1. Clear the CMOS memory by momentarily shorting pin 2-3 on jumper JP5. This jumper can be easily identified by its white colored cap.

2. Then put the jumper back to 1-2 to allow writing of new data into the CMOS memory.

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

Step 5 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 <DEL> 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 <DEL> 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:

CMOS Setup Utility – Copyright (C) 1984-2001 Award Software	
▶ SOYO COMBO Feature	▶ PC Health Status
▶ Standard CMOS Features	Load Fail - Safe Defaults
▶ Advanced BIOS Features	Load Optimized Defaults
▶ Advanced Chipset Features	Set Supervisor Password
▶ Integrated Peripherals	Set User Password
▶ Power Management Setup	Save & Exit Setup
▶ PnP/PCI Configurations	Exit Without Saving
Esc : Quit	↑↓→ : Select Item
F10 : Save & Exit Setup	
Change CPU's Clock & Voltage	

2-3 QUICK BIOS SETUP

This Motherboard does not use any hardware jumpers to set the CPU frequency. Instead, CPU settings are software configurable with the BIOS **[SOYO COMBO SETUP].** The [SOYO COMBO SETUP] 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 **<DEL>** key during the system diagnostic checks to enter the Award BIOS Setup program. The CMOS SETUP UTILITY will be shown on the screen. Then, follow these steps to configure the CPU settings.

Step 1.   **Select [STANDARD CMOS SETUP]**
Set [Date/Time] and [Floppy drive type], then set [Hard Disk Type] to "Auto".

Step 2.   **Select [LOAD OPTIMIZED DEFAULTS]**

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

Step 3. Select [SOYO COMBO FEATURE]

Do this step if you want to change or overclock the CPU FSB.

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

Step 4. Select [SAVE & EXIT SETUP]

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

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 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.

```
        CMOS Setup Utility – Copyright ( C ) 1984-2001 Award Software

     ▶ SOYO COMBO Feature           ▶ PC Health Status

     ▶ Standard CMOS Features          Load Fail - Safe Defaults

     ▶ Advanced BIOS Features          Load Optimized Defaults

     ▶ Advanced Chipset Features       Set Supervisor Password

     ▶ Integrated Peripherals          Set User Password

     ▶ Power Management Setup          Save & Exit Setup

     ▶ PnP/PCI Configurations          Exit Without Saving

     Esc : Quit                    ↑↓→   :   Select Item
     F10 : Save & Exit Setup

                   Change CPU's Clock & Voltage
```

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	General Help	Gives the list of options available for each item.
F5	Previous Values	Restore the old values. These are the values that the user started the current session with.
F6	Load Fail-Safe Defaults	Loads all items with the most conservative values.
F7	Load Optimized Defaults	Loads all options with the optimize values.
F10	Save	Saves your changes and reboots the system.
[Esc]	Exit	Returns at anytime and from any location to the Main Menu.
[Enter]	Select	Will display a overlapping window with all options for the current item.
[+/–/PU/PD]	Value	Using the +, –, Page Up and Page Down keys the user can toggle the value of the current item.

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.

```
                    R O M   P C I/I S A   B I O S
                    C M O S   S E T U P   U T I L I T Y
                    A W A R D   S O F T W A R E , I N C .
 S T A N D             C M O S   S E T U P              I N T E G R A T E D   P E R I P H E R A L S
 B I O S  F E
 C H I P S E
 P O W E R              SAVE to CMOS and EXIT
 P N P / P C
 L O A D  S
 L O A D   B I O S   D E F A U L T S

 E s c    : Q u i t                          ↑ ↓ → ←      : S e l e c t  I t e m
 F 1 0   : S a v e  &  E x i t S e t u p     ( S h i f t )  F 2    : C h a n g e  C o l o r
                    T i m e , D a t e , H a r d  D i s k  T y p e …
```
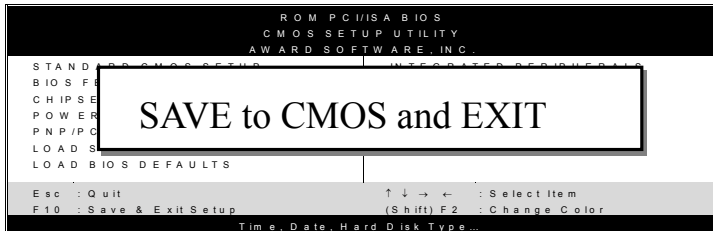
Type [Y] to save the changes and exit or [N] to return to the Main Menu and keep current values.

EXIT WITHOUT SAVING

Selecting the [EXIT WITHOUT SAVING] option allows you to abandon all data and exit setup, therefore ignoring all your changes.

```
                    R O M   P C I/I S A   B I O S
                    C M O S   S E T U P   U T I L I T Y
                    A W A R D   S O F T W A R E , I N C .
 S T A N D A R D   C M O S   S E T U P              I N T E G R A T E D   P E R I P H E R A L S
 B I O
 C H                 Quit Without Saving (Y/N)?  _
 P O
 P N
 L O
 L O

 E s c    : Q u i t                          ↑ ↓ → ←      : S e l e c t  I t e m
 F 1 0   : S a v e  &  E x i t S e t u p     ( S h i f t )  F 2    : C h a n g e  C o l o r
                    T i m e , D a t e , H a r d  D i s k  T y p e …
```
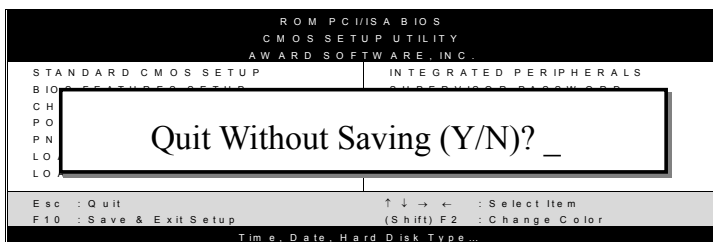
Type [Y] to abandon changes and exit or [N] to return to the Main Menu and keep current values.

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 <DEL> 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.

CMOS Setup Utility – Copyright (C) 1984-2001 Award Software
SOYO COMBO Feature

System Performance	Normal	Item Help
CPU Frequency Select	Auto	
x Frequency 1MHz Stepping	100MHz	Menu Level ▶
SOYO Mighty Bolt	Disabled	
CPU Clock Ratio	10 X	
Auto Detect PCI Clk	Enabled	
Spread Spectrum	Disabled	
CPU Vcore Select	Default	
DDR(2.5V) Vcore Select	Default	
AGP(1.5V) Vcore Select	Default	
▶ Advanced Tune-UP Settings	Press Enter	
Quick Power On Self Test	Enabled	
First Boot Device	Floppy	
Second Boot Device	HDD-0	
Boot Other Device	Enabled	
Third Boot Device	LS-120	
RAID/ATA & SCSI Boot Order	RAID/ATA, SCSI	
Onboard LAN	Enabled	
Onboard 6CH H/W Audio	Enabled	
Onboard IEEE1394	Enabled	
Onboard IDE RAID	Enabled	
C.I.H 4-WAY Protection	Enabled	

↑↓→ Move	Enter : Select	+ / - / PU / PD : Value F10 : Save	ESC : Exit F1: General Help
F5 : Previous Values		F6 : Fail – Safe Defaults	F7 : Optimized Defaults

```
CMOS Setup Utility – Copyright ( C ) 1984-2001 Award Software
                  Advanced Tune-UP Settings

     Memory Frequency For       Auto
     DRAM Timing Selectable      By SPD                        Item Help
  x CAS Latency Time            2.5
  x Active to Precharge Delay   7
  x DRAM RAS# to CAS# Delay     3                     Menu Level      ▶
  x DRAM RAS # Precharge        3
     DRAM Data Integrity Mode   Non-ECC
     AGP Aperture Size (MB)     64




↑↓→ Move      Enter : Select    + / - / PU / PD : Value   F10 : Save   ESC : Exit   F1: General Help
      F5 : Previous Values          F6 : Fail – Safe Defaults        F7 : Optimized 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 System Performance

	Setting	Description	Note
System Performance	Normal	Adjust your computer performance.	Default
	Maxium		
CPU Frequency Select	Auto	Set the **[CPU Frequency Select]** field to "Manual", to be able to change the CPU frequency 1 MHz stepping.	Default
	Manual		
Frequency 1MHz Stepping	Min=100 ~ Max=255	Press "Page Up"/"Page Down" key to Over Clock the CPU Front Side Bus in 1MHz increment or Press "Enter" key, then type the desired CPU Front Side Bus.	
SOYO Mighty Bolt	Disabled	Enabled SOYO Mighty Bolt security function, Check manual for more info on this function.	Default
	Enabled		

	Setting	Description	Note
CPU Clock Ratio	x 8, x 10, x 11, x 12, x 13, x 14, x 15, x 16 , x 17, x 18, x 19, x 20, x 21, x 22, x 23, x 24	The available CPU ratio you can select will depends on your CPU ID.	
Auto Detect PCI Clk	Disabled	For EMI test purpose.	
	Enabled		Default
Spread Spectrum	Disabled	This item allows you to enable/disable the spread spectrum modulate.	Default
	Enabled		

3-1.2 CPU Vcore Select

	Setting	Description	Note
CPU Vcore Select	Default	This function adjust the CPU voltage.	Default
	1.100V, 1.125V, 1.150V, 1.175V, 1.200V, 1.225V, 1.250V, 1.275V, 1.300V, 1.325V, 1.350V, 1.375V, 1.400V, 1.425V, 1.450V, 1.475V, 1.500V, 1.525V, 1.550V, 1.575V, 1.600V, 1.625V, 1.650V, 1.675V, 1.700V, 1.725V, 1.750V, 1.775V, 1.800V, 1.825V, 1.850V		
DDR(2.5V) Vcore Select	Default	This function adjust the DDR Vcore.	Default
	2.52V, 2.56V, 2.59V, 2.61V, 2.65V, 2.68V		
AGP(1.5V) Vcore Select	Default	This function adjust the AGP Vcore.	Default
	1.53V, 1.56V, 1.59V, 1.62V, 1.65V, 1.68V		

3-1.3 Advanced Tune-UP Settings

	Setting	Description	Note
Memory frequency for	Auto	This item allows you to control the DRAM speed.	Default
	DDR266		
	DDR200		
DRAM Timing Selectable	By SPD	If enable the DRAM will auto detect the DRAM timing.	Default
	Manual		
CAS Latency Time	1.5	This item allows you to control the DRAM CAS Latency time.	
	2		
	2.5		Default
	3		
Active to Percharge Delay	5	This item allows you to control the DRAM Percharge Delay time.	
	6		
	7		Default
DRAM RAS# to CAS# Delay	2	This item allows you to control DRAM RAS to CAS delay time.	
	3		Default
DRAM RAS# Percharge	2	This item allow you to control DRAM RAS percharge time.	
	3		Default
DRAM Data Integrity Mode		Auto-Detect is DDR is ECC or not.	
AGP Aperture Size (MB)	32	Select the size of Accelerated Graphics Port (AGP) aperture. The aperture is a portion of the PCI memory address range dedicated for graphics memory address space. Host cycles that hit the aperture range are forwarded to the AGP without any translation.	
	64		Default
	128		
	256		

3-1.4 Quick Power On Self Test

	Setting	Description	Note
Quick Power On Self Test	Disabled		
	Enabled	Provides a fast POST at boot-up.	Default

3-1.5 System Boot Control Settings

	Setting	Description	Note
First/Second /Third Boot Device	Floppy	Select Your Boot Device Priority.	
	LS/ZIP		
	HDD-0		
	SCSI		
	CDROM		
	HDD-1		
	HDD-2		
	HDD-3		
	LAN		
	Disabled		
Boot Other Device	Disabled	Select Your Boot Device Priority.	
	Enabled		Default
RAID/ATA & SCSI Boot Order	RAID/ATA, SCSI	Select Your Boot Device Priority.	Default
	SCSI, RAID/ATA		

3-1.6 Onboard LAN Settings

	Setting	Description	Note
Onboard LAN	Enabled	This item allow you to control Onboard LAN chipset.	Default
	Disabled		
Onboard 6CH H/W Audio	Enabled	This item allow you to control Onboard 6CH H/W Audio.	Default
	Disabled		
Onboard IEEE1394	Enabled	This item allow you to control Onboard IEEE1394.	Default
	Disabled		
Onboard IDE RAID	Enabled	This item allow you to control Onboard IDE RAID.	Default
	Disabled		
C.I.H 4-WAY Protection	Enabled	When set to enabled, the BIOS can only be programmed through AWDFLASH, making sure that any virus is unable to program the system BIOS. Set to disable the BIOS can be programmed the traditional way.	Default
	Disabled		

3-2 STANDARD CMOS SETUP

Select the [STANDARD CMOS SETUP] option from the Main Menu and press [Enter] key.

```
        CMOS Setup Utility – Copyright ( C ) 1984-2001 Award Software
                            Standard CMOS Features

    Date (mm:dd:yy)          Mon, May 7 2001                Item Help
    Time (hh:mm:ss)          2 : 30 : 20
                                                        Menu Level    ▶
  ▶ IDE Primary Master       None
  ▶ IDE Primary Slave        None                     Change the day, month, year
  ▶ IDE Secondary Master     None                     and century.
  ▶ IDE Secondary Slave      None

    Drive A                  1.44M, 3.5 in.
    Drive B                  None
    Floppy 3 Mode Support    Disabled

    Video                    EGA/VGA
    Halt On                  All Errors

    Base Memory                  640K
    Extended Memory           326656K
    Total Memory              327680K

 ↑↓→ Move      Enter : Select    + / - / PU / PD : Value   F10 : Save  ESC : Exit  F1: General Help
     F5 : Previous Values          F6 : Fail - Safe Defaults         F7 : Optimized Defaults
```

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
IDE HDD Auto-Detection	Press Enter	To auto-detect the HDD's size, head… on this channel	
IDE Primary Slave (User Type)	Auto	BIOS detects hard disk type automatically.	Default
	User	User defines the type of hard disk.	
	None		
Access Mode	Auto	BIOS detects hard disk mode automatically.	Default
	CHS	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 Others Optional

	Setting	Description	Note
Video	EGA/VGA	Select the video mode.	Default
	CGA 40		
	CGA 80		
	MONO (Monochrome)		
Halt On	ALL Errors	When the BIOS detects system errors, this function will stop the system. Select which type of error will cause the system halt.	Default
	No Errors		
	All, But Keyboard		
	All, But Diskette		
	All, But Disk/Key		

3-3 ADVANCED BIOS FEATURES

Select the [Advanced BIOS Features] option from the Main Menu and press [Enter] key.

CMOS Setup Utility – Copyright (C) 1984-2001 Award Software Advanced BIOS Features		
Virus Warning	Disabled	Item Help
CPU L1 & L2 Cache	Enabled	
Swap Floppy Drive	Disabled	Menu Level ▶
Boot Up Floppy Seek	Enabled	
Boot Up NumLock Status	On	Allows you to choose the
Gate A20 Option	Fast	VIRUS warning feature for
Typematic Rate Setting	Disabled	IDE Hard Disk boot sector
x Typematic Rate (Chars/Sec)	6	protection. If this function is
x Typematic Delay (Msec)	250	enabled and someone attempt
Security Option	Setup	to write data into this area,
APIC Mode	Enabled	BIOS will show a warning
MPS Version Control For OS	1.4	message on screen and alarm
OS Select For DRAM > 64MB	Non-OS2	beep.
Report No FDD For WIN 95	No	
EPA LOGO SELECT	LOGO-0	
Small Logo (EPA) Show	Enabled	

↑↓→ Move	Enter : Select	+ / - / PU / PD : Value	F10 : Save	ESC : Exit	F1: General Help
F5 : Previous Values		F6 : Fail - Safe Defaults		F7 : Optimized 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 Virus Warning

	Setting	Description	Note
Virus Warning	Disabled	Allows you to choose the VIRUS warning feature for IDE Hard Disk boot sector protection. If this function is enabled and someone attempt to write data into this area, BIOS will show a warning message on screen and alarm beep.	Default
	Enabled		

3-3.2 Cache Memory Options

	Setting	Description	Note
CPU L1 & L2 Cache	Disabled		
	Enabled	Enables the CPU's L1 & L2 cache.	Default

3-3.3 Floppy Driver Settings

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

3-3.4 Boot Up Floppy Seek

	Setting	Description	Note
Boot Up Floppy Seek	Disabled	Seeks disk drives during boot up. Disabling speeds boot up.	
	Enabled		Default

3-3.5 Boot Up NumLock Status

	Setting	Description	Note
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 Gate A20 Options

	Setting	Description	Note
Gate A20 Options	Normal	A pin in the keyboard controller controls GateA20.	
	Fast	Lets chipset control GateA20.	Default

3-3.7 Typematic Settings

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

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
ACPI Mode			
	Disabled	Enabled the Advanced Programmable	
	Enabled	Interrupt Controller (APIC) mode.	Default
MPS Version Control for OS	1.1	Allows you to choose the Multi Processor Specification (MPS) version.	
	1.4		Default

Other Control Options

Other Control Options	Setting	Description	Note
OS Select for DRAM>64MB	OS2	When using an OS2 operating system.	
	Non-OS2	When using another, non-OS2 operating system.	Default
Report No FDD For WIN 95	Yes	Windows will release IRQ line 6 (normally used by the Floppy Disk Drive) after you disable your on-board FDD and set this field to [Yes].	
	No	Windows will reserve INT 6 for your FDD, whether it is disabled or not.	Default

Small Logo(EPA) Show

	Setting	Description	Note
EPA LOGO SELECT	LOG0	Allows user to display SOYO logo or own logo. Logo-0 shows SOYO logo, Logo-1 shows user logo.	Default
	LOG1		
Small Logo(EPA) Show	Disabled	Set Enabled to Show Logo(EPA).	
	Enabled		Default

3-4 ADVANCED CHIPSET FEATURES

STOP | *Caution:* Change these settings only if you are already familiar with the Chipset.

The [Advanced Chipset Features] option changes the values of the chipset registers. These registers control the system options in the computer.

CMOS Setup Utility – Copyright (C) 1984-2001 Award Software		
Advanced Chipset Features		
System BIOS Cacheable	Disabled	Item Help
Video BIOS Cacheable	Disabled	Menu Level ▶
Video RAM Cacheable	Disabled	
Delay Prior to Thermal	16 Min	
↑↓→ Move Enter : Select + / - / PU / PD : Value F10 : Save ESC : Exit F1: General Help		
F5 : Previous Values F6 : Fail - Safe Defaults F7 : Optimized 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 Advanced Chipset Features Menu and how to configure each parameter.

3-4.1 CHIPSET FEATURES SETUP

CHIPSET FEATURES	Setting	Description	Note
System BIOS Cacheable	Disabled		Default
	Enabled	The ROM area F0000H-FFFFFH is cacheable.	
Video BIOS Cacheable	Disabled		Default
	Enabled	The video BIOS C0000H-C7FFFH is cacheable.	
Video RAM Cacheable	Disabled	Allows user enabled Video RAM Cacheable.	Default
	Enabled		

CHIPSET FEATURES SETUP(Continued)

CHIPSET FEATURES	Setting	Description	Note
Delay Prior to Thermal	4Min	Set the time for the system to decrease performance to avoid reaching maximum thermal temp. Ex. If you set it to 16 minutes the system will start decreasing the performance 16 minutes before reaching max thermal temp.	
	8Min		
	16Min		Default
	32Min		

3-5 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.

```
CMOS Setup Utility – Copyright ( C ) 1984-2001 Award Software
                    Integrated Peripherals

   On-Chip Primary      PCI IDE    Enabled              Item Help
   IDE Primary Master PIO          Auto
   IDE Primary Slave PIO           Auto
   IDE Primary Master UDMA         Auto          Menu Level    ▶
   IDE Primary Slave UDMA          Auto
   On-Chip Secondary PCI IDE       Enabled
   IDE Secondary Master PIO        Auto
   IDE Secondary Slave PIO         Auto
   IDE Secondary Master UDMA       Auto
   IDE Secondary Slave UDMA        Auto
   USB Controller                  Enabled
   USB Keyboard Support            Disabled
   Init Display First              AGP
   IDE HDD BlockMode               Enabled
   POWER ON Function               BUTTON ONLY
 x KB Power ON Password            Enter
 x Hot Key Power ON               Ctrl-F1
   Onboard FDC Controller          Enabled
   Onboard Serial Port 1           3F8/IRQ4
   Onboard Serial Port 2           2F8/IRQ3
   UART Mode Select                Normal
 x UR2 Duplex Mode                Half
   Onboard Parallel Port           378/IRQ7
   Parallel Port Mode              SPP
 x ECP Mode Use DMA               3
   PWRON After PWR-Fail            OFF
   Game Port Address               201
   Midi Port Address               330
   Midi Port IRQ                   10

↑↓→ Move    Enter : Select   + / - / PU / PD : Value   F10 : Save   ESC : Exit   F1: General Help
      F5 : Previous Values        F6 : Fail - Safe Defaults        F7 : Optimized 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.

3-5.1 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 ➢ **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** ➢**Secondary Master UDMA** ➢**Secondary Slave UDMA**	Disabled		
	Auto	Select Auto to enable Ultra DMA Mode support.	Default

3-5.2 Keyboard Controls

Keyboard Controls	Setting	Description	Note
USB Controller	Disabled		
	Enabled	Select *Enabled* if your system contains a Universal Serial Bus (USB) controller and you have USB peripherals.	Default
USB Keyboard Support	Disabled	Turn off the on-board IDE	Default
	Enabled	Use a USB keyboard	
Init Display First	PCI Slot	Choose which card – AGP	
	AGP	Display card or PCI VGA card – to initialize first.	Default

3-5.3 IDE HDD Block Mode

	Setting	Description	Note
IDE HDD Block Mode	Disabled		
	Enabled	Invokes multi-sector transfer instead of one sector per transfer. Not all HDDs support this function.	Default

3-5.4 Others Optional

	Setting	Description	Note
POWER ON Function	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).	
	Mouse Left	Enables waking up the system by pressing either the right or left mouse button.	
	Mouse Right		
	BUTTON-ONLY	Disables the Wake-Up by Keyboard function.	Default
	Keyboard 98		
If [POWER ON Function] is set to [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]	

3-5.5 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

3-5.6 Onboard Serial Ports

Onboard Serial Ports	Setting	Description	Note
Onboard Serial Port 1 / 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		
UART Mode Select	Normal	The second serial port offers these InfraRed interface modes.	Default
	IrDA		
	ASKIR		
	SCR		
If [UART Mode Select] is set to [IrDA]/[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
	Full		

3-5.7 Onboard Parallel Ports

Onboard Parallel Ports	Setting	Description	Note
Onboard Parallel Port	Disabled	Choose the printer I/O address.	
	378/IRQ7		Default
	3BC/IRQ7		
	278/IRQ5		
Parallel Port Mode	SPP	The mode depends on your external device that connects to this port.	Default
	EPP		
	ECP		
	ECP+EPP		
If [Parallel Port Mode] is set to [ECP] mode			
ECP Mode use DMA	3	Choose DMA3	Default
	1	Choose DMA1	

3-5.8 Others Optional

	Setting	Description	Note
PWRON After PWR-Fail	On	The system will switch on when power comes back after a power failure.	
	Off	The system will remain off when power comes back after a power failure.	Default
	Former-Sts	The system will return to the state it was in before the power failure when power returns. (i.e: If the system was on, it will switch on again, if it was off, it will remain off)	
Game Port Address	Disabled	Set the I/O base address for the ON board game port under this item.	
	201		Default
	209		
Midi Port Address	Disabled	Set the I/O address for the on board Midi port here.	
	330		Default
	300		
If [Midi Port Address] is set to [330]/[300] mode			
Midi Port IRQ	5	Select the IRQ that the Midi port uses under this them.	
	10		Default

3-6 POWER MANAGEMENT SETUP

The [POWER MANAGEMENT SETUP] sets the system's power saving functions.

CMOS Setup Utility – Copyright (C) 1984-2001 Award Software Power Management Setup		
ACPI Suspend Type	S1(POS)	Item Help
Power Management	User Define	
Video Off Method	DPMS	Menu Level ▶
Video Off In Suspend	Yes	
Suspend Type	Stop Grant	
MODEM Use IRQ	3	
Suspend Mode	Disabled	
HDD Power Down	Disabled	
Soft-Off by PWR-BTTN	Instant-Off	
Wake-Up by PCI card	Disabled	
Power On by Ring	Disabled	
USB KB WakeUp From S3	Disabled	
Resume by Alarm	Disabled	
x Date (of Month) Alarm	0	
x Time (hh:mm:ss) Alarm	0 : 0 : 0	
** Reload Global Timer Events **		
Primary IDE 0	Disabled	
Primary IDE 1	Disabled	
Secondary IDE 0	Disabled	
Secondary IDE1	Disabled	
FDD,COM, LPT Port	Disabled	
PCI PIRQ[A-D]#	Disabled	
↑↓→ Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help		
F5:Previous Values F6:Fail-Safe Defaults F7: Optimized Defaults		

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

3-6.1 Power Management Controls

Power Management Controls	Setting	Description			Note
ACPI Suspend Type	S1(POS)	The system will enter the S1 state during suspend. (Low latency wake up)			Default
	S3(STR)				
	S1 & S3				
Power Management	User Define	Lets you define the HDD and system power down times.			Default
		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
Video Off Method	V/H Sync+Blank	Selects the method by which the monitor is blanked.			
	Blank screen				
	DPMS				Default
Video Off In Suspend	Yes	This determines the manner in which the monitor is blanked.			Default
	No				
Suspend Type	Stop Grant	The system can wake up through external events.			Default
	PwrOn Suspend	The system can only wake up through the Power-Button.			
MODEM Use IRQ	3	Assigns an IRQ# to the modem device.			Default
	3-11, NA				
Standby Mode	Disabled				Default
	1Min-1Hour	When the set time has elapsed, BIOS sends a command to the system to enter Standby Mode.			

Power Management Controls (Continued)

Power Management Controls	Setting	Description	Note
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.
Soft-Off by PWR-BTTN	Instant-off		Default
	Delay 4 Sec.	Turns off the system power 4 seconds after pushing the power button.	
Wake-Up by PCI card	Disabled	If enabled any PCI interrupt will wake up the system.	Default
	Enabled		
Power On by Ring	Disabled		Default
	Enabled	The system will self-power on me when the modem is ringing.	
USB KB Wake Up From S3	Disabled	When Enabled, this feature allows the USB KB to (S3) suspend to RAM.	Default
	Enabled		
Resume by Alarm	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.	

3-6.2 Reload Global Timer Events

Power Down & Resume Events	Setting	Description	Note
IDE0, IDE1 ➢ **Primary** ➢ **Secondary**	Disabled		Default
	Enabled	In effect, the system remains alert for anything which occurs to a device which is configured as *Enabled*.	
FDD, COM, LPT Port	Disabled		Default
	Enabled	In effect, the system remains alert for anything which occurs to a device which is configured as *Enabled*.	
PCI PIRQ [A-D]#	Disabled		Default
	Enabled	The system monitors these elements for activity. The system will resume if [IRQ activity] is detected.	

3-7 PNP/PCI CONFIGURATION SETUP

This option sets the Motherboard's PCI Slots.

CMOS Setup Utility – Copyright (C) 1984-2001 Award Software PnP/PCI Configurations		
Reset Configuration Data	Disabled	Item Help
Resources Controlled By	Auto (ESCD)	Menu Level ▶
x IRQ Resources	Press Enter	
		Default is Disabled. Select Enabled to reset Extended System Configuration Data (ESCD) when you exit Setup if you have installed a new add-on and the system reconfiguration has caused such a serious conflict that the OS cannot boot.
PCI/VGA Palette Snoop	Disabled	
Assign IRQ For VGA	Enabled	
Assign IRQ For USB	Enabled	
INT Pin 1 Assignment	Auto	
INT Pin 2 Assignment	Auto	
INT Pin 3 Assignment	Auto	
INT Pin 4 Assignment	Auto	
↑↓→ Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help		
F5:Previous Values F6:Fail-Safe Defaults F7: Optimized Defaults		

Note: Starred (*) items will disappear when the [Resources Controlled By] option is set to [Auto].

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.

3-7.1 PNP/PCI Configuration Controls

PNP/PCI Controls	Setting	Description	Note
Reset Configuration Data	Disabled	Retain PnP configuration data in BIOS.	Default
	Enabled	Reset PnP configuration data in BIOS.	
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 (ESCO)	The Plug-and-Play BIOS auto manages PCI/ISA PnP card IRQ assignment automatically.	Default
If [Resources Controlled By] is set to [Manual]			
IRQ-# assigned to:	PCI device	Choose IRQ# assigned to PCI/ISA PnP card.	Default
	Reserved	Reserved IRQ	
Under this item the user can assign an IRQ to a PCI slot. However, there under some conditions the IRQ will not be assigned as selected under this item: 1. IRQs 0, 1, 2, 6, 8, 13 can NOT be assigned, because they are fixed. 2. IRQs 5, 9, 10, 11 are available 3. IRQs 3,4,7,12,14 and 15 will only be assigned if they are free. See the table below on how to free them:			

PNP/PCI Configuration Setup (Continued)

PNP/PCI Setup	Setting	Description	Note
Interrupt Line	How to set the BIOS to release the IRQ to the PnP Interrupt pool:		
	PnP / PCI configuration	Integrated Peripherals	
IRQ 15	IRQ 15: **PCI / ISA PnP**	On-Chip Secondary PCI IDE: **disabled**	
IRQ 14	IRQ 14: **PCI / ISA PnP**	On-Chip Primary PCI IDE: **disabled**	
IRQ 12	IRQ 12: **PCI / ISA PnP**	*Interrupt 12 will be released by the PnP BIOS automatically if the PS/2 Mouse Port is not used.*	
IRQ 7	IRQ 7: **PCI / ISA PnP**	Onboard parallel port: **disabled**	
IRQ 4	IRQ 4: **PCI / ISA PnP**	Onboard Serial port 1: **disabled**	
IRQ 3	IRQ 3: **PCI / ISA PnP**	Onboard Serial port 2: **disabled**	
4. Your OS may reassign another interrupt to a PCI slot after BIOS passes control to the OS, especially if you use Windows 95, 98 or NT.			
Assign IRQ For VGA/USB	Disabled	BIOS will assgin IRQ for USB port.	
	Enabled	BIOS won't assign IRQ for USB port.	Default
5. Your OS may reassign another interrupt to a PCI slot after BIOS passes control to the OS, especially if you use Windows 95, 98 or NT.			
INT Pin 1/2/3/4 Assignment	Auto	Set to Auto the BIOS will using IRQs Automatically.	Default

3-7.2 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)

3-8 PC HEALTH STATUS

This option sets the Motherboard's PC Health Status.

```
         CMOS Setup Utility – Copyright ( C ) 1984-2001 Award Software
                              PC Health Status

     Shutdown Temperature        Disabled              Item Help
     Vcore                        1.66 V
     VCC 1.8V                     1.79 V          Menu Level     ▶
     3.3V                         3.21 V
     +5V                          5.02 V
     +12V                        11.77 V


     CPU Temperature              45°C
     System Temperature           34°C


     CPUFAN1 Speed             4891 RPM
     CHAFAN1Speed                 0 RPM
     SYSFAN2 Speed                0 RPM




  ↑↓→ Move       Enter:Select    +/-/PU/PD:Value  F10:Save   ESC:Exit    F1:General Help
      F5:Previous Values             F6:Fail-Safe Defaults        F7: Optimized Defaults
```

Note: Starred (*) items will disappear when the [Resources Controlled By] option is set to [Auto].

3-8.1 CPU Device Monitoring

CPU Device Monitoring	Setting	Description	Note
Shutdown Temperature	Disabled	This item allows you to set up the CPU shutdown Temperature. This item only effective under Windows 98 ACPI mode.	Default
	45°C/113°F, 50°C/122°F, 55°C/131°F, 60°C/140°F, 65°C/149°F, 75°C/167°F		
Vcore, VCC 1.8V, 3.3V, +5V, +12V	V	Show the current voltage status.	
CPU Temperature	°C/°F	Show the current status of CPU temperature.	
System CPU Temperature	°C/°F	Show the current status of the system temperature.	
CPUFAN1 Speed	RPM	Show you the current CPUFAN operating speed.	
CHAFAN1 Speed	RPM	Show you the current CHAFAN operating speed.	
SYSFAN2 Speed	RPM	Show you the current SYSFAN operating speed.	

3-9 LOAD FAIL-SAFE DEFAULTS

Select the [Load Fail-Safe 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.

```
          CMOS Setup Utility – Copyright ( C ) 1984-2001 Award Software

   ▶ SOYO COMBO Feature              ▶ PC Health Status

   ▶ Standard CMOS Features             Load Fail - Safe Defaults

   ▶ Advanced BIOS Features             Load Optimized Defaults

   ▶ Advanced Chipset Features          Set Supervisor Password

   ▶ Integrated P┌──────────────────────────────────────┐d
                 │                                      │
   ▶ Power Mana  │  Load Fail - Safe Defaults (Y/N)? Y  │
                 │                                      │
   ▶ PnP/PCI Co  └──────────────────────────────────────┘ng

    Esc : Quit                      ↑↓→    :   Select Item
    F10 : Save & Exit Setup

                      Change CPU's Clock & Voltage
```
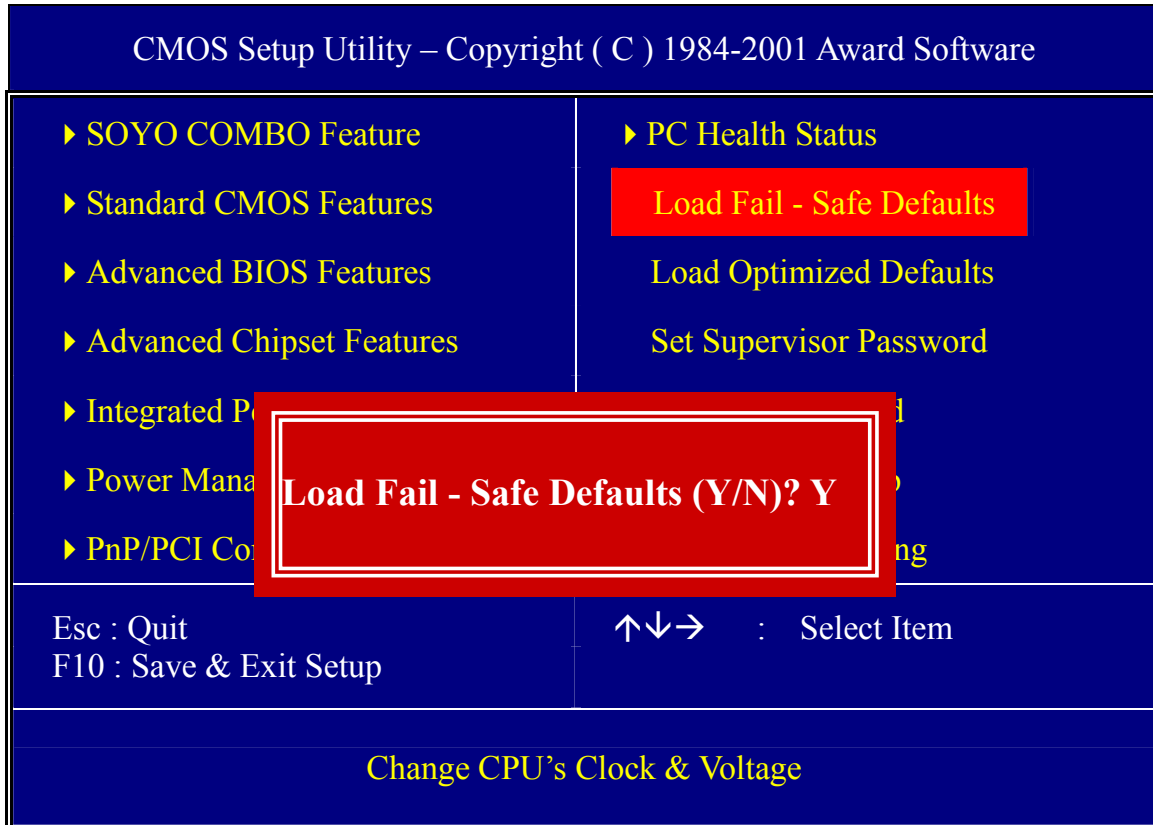
Type [Y] to use the Setup Defaults followed by [Enter] or otherwise [N] to return to the Main Menu and keep current values.

> 🛑 ***Warning:*** If you run into any problem after changing the BIOS configuration, please load the SETUP DEFAULTS for stable performance.

3-10 LOAD OPTIMIZED DEFAULTS

Select the [Load Optimized 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.

CMOS Setup Utility – Copyright (C) 1984-2001 Award Software

▶ SOYO COMBO Feature   ▶ PC Health Status

▶ Standard CMOS Features   Load Fail - Safe Defaults

▶ Advanced BIOS Features   Load Optimized Defaults

▶ Advanced Chipset Features   Set Supervisor Password

▶ Integrated P...

▶ Power Mana...

Load Optimized Defaults (Y/N)? Y

▶ PnP/PCI Co... ng

Esc : Quit   ↑↓→ : Select Item
F10 : Save & Exit Setup

Change CPU's Clock & Voltage
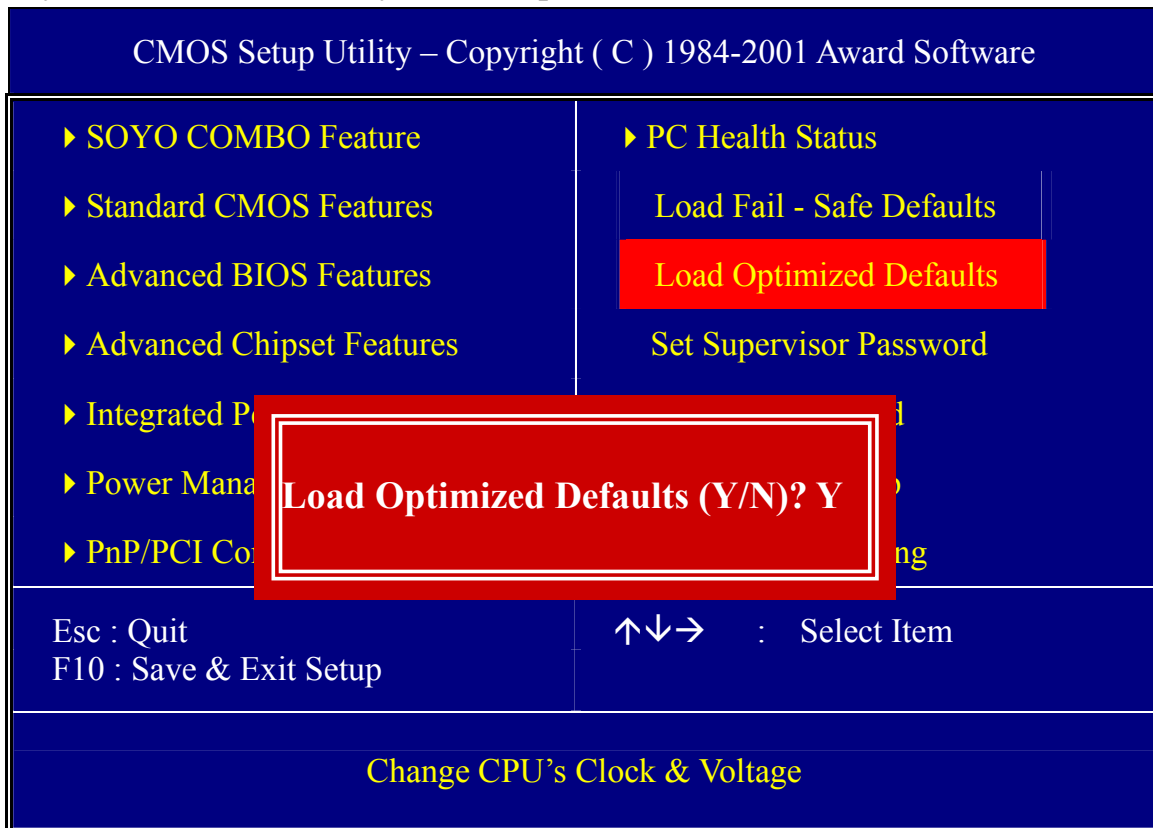
Type [Y] to use the Setup Defaults followed by [Enter] or otherwise [N] to return to the Main Menu and keep current values.

Warning: If you run into any problem after changing the BIOS configuration, please load the SETUP DEFAULTS for stable performance.

3-11 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:

Type the Password and Press: <Enter>

ROM PCI/ISA BIO

CMOS SETUP UTIL

AWARD SOFTWARE,

Press <Enter> without entering the password

Enter Password:

BIOS FEATURES S

PASSWORD

Enter Password: *****

Password Disabled!!

Confirm Password: *****

SAVE & EXIT SETUP

EXIT WITHOUT SAVING

Esc : Quit

F10 : Save & E

After you confirm the password, press <Esc> to exit

Time, Date, Hard Disk Type...
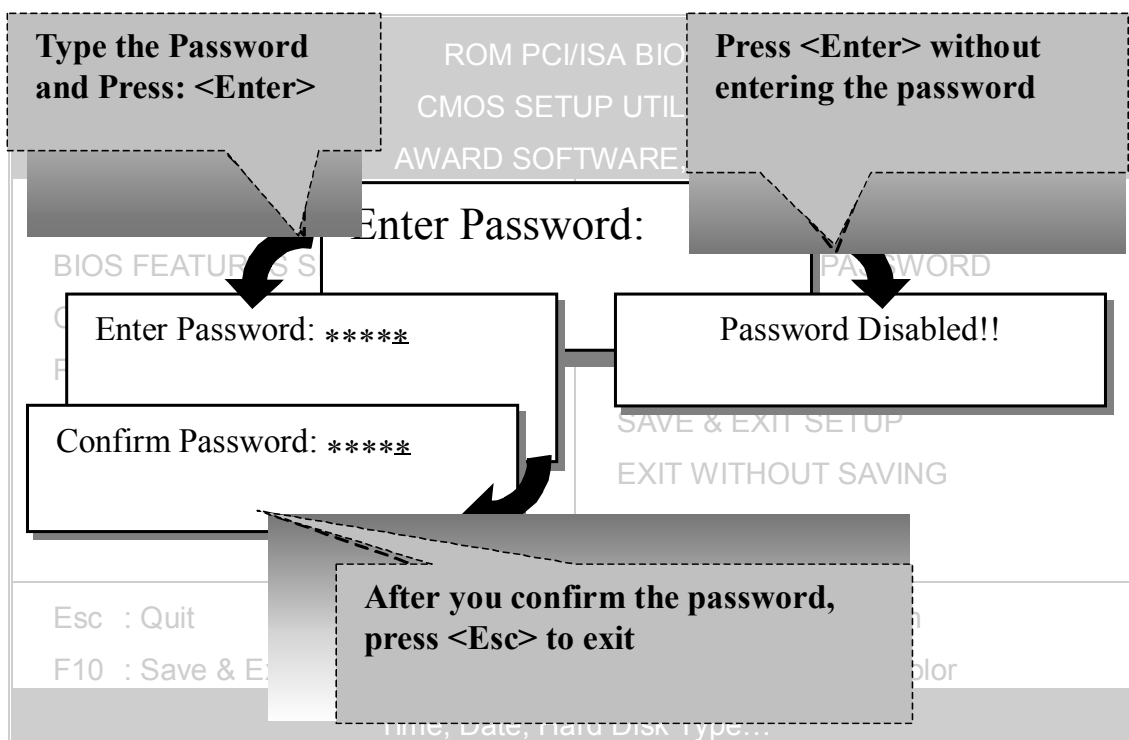
3-12 USER PASSWORD

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).

Boot Menu

Boot Menu enables user to boot-up on different boot device without going into the BIOS setup.

To enable boot Menu, press **"ESC"** *after memory initialization, user will see a device menu, in which user can choose on which device they wish to boot from.*

```
                    Boot Menu

        == Select a Boot First device ==
                      Floppy
                      Ls120
                      HDD-0
                      SCSI
                      CDROM
                      HDD-1
                      HDD-2
                      HDD-3
                      ZIP100
                      LAN



        ↑↓:Move ENTER:Accept F4:Exit
```
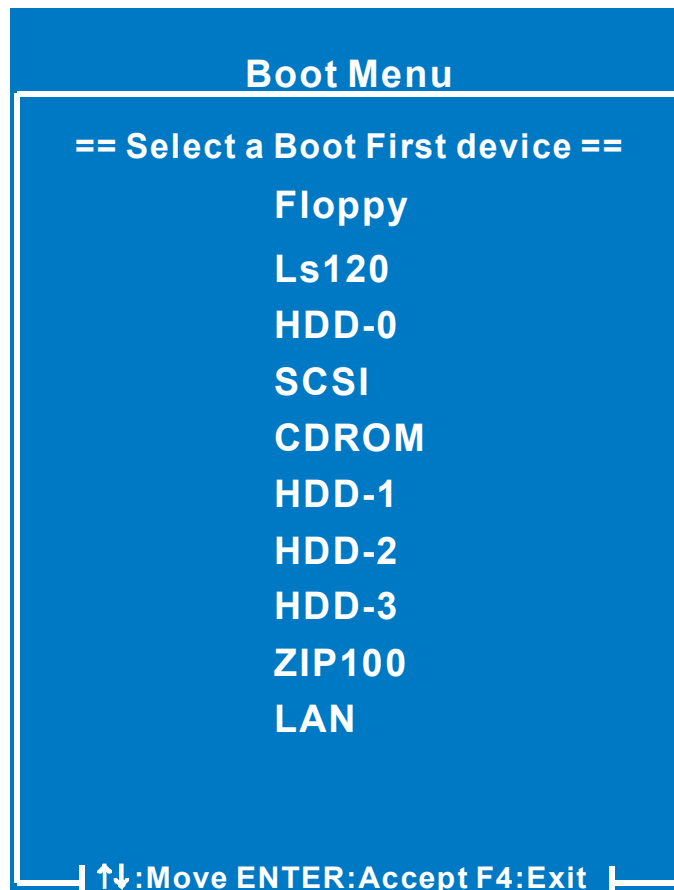
Chapter 4

DRIVERS INSTALLATION

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

Your SY-P4I Fire DRAGON Motherboard comes with a CD-ROM labeled "SOYO CD." The SOYO CD contains (1) the user's manual file for your new Motherboard, (2) the drivers software available for installation, and (3) a database in HTML format with information on SOYO Motherboards and other products.

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

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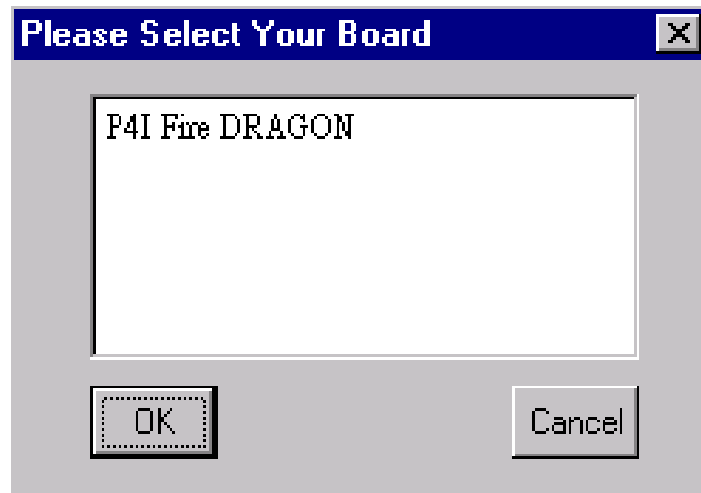
(SOYO CD Start Up Program Menu)

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

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

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

Step 2. **Install Drivers and Utilities**

Drivers that are needed to install for the system to operate properly

1. Intel Chipset Software Installation Utility for Win 98/98SE/ME/NT/XP

2. C-Media 8738 audio driver

3. On-board LAN. See chapter 5

4. Highpoint HPT372 driver. See page 105 or appendix A.

5. HighPoint Utility for the on-board RAID function

The rest of the available driver is optional.

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

driver	revision:
Intel Chipset Software Installation Utility for Win 98/98SE/ME/NT/XP	
Intel Application Accelerator for Win 98/98SE/ME/NT/XP	
HighPoint Utility for Win 9x/ME/2000/NT/XP	
C-MEDIA 6-Channel onboard audio Driver/Application for Win 9x/ME/2000/NT/XP	
P4I Fire DRAGON ITE hardware doctor for Win 9x/ME/2000/NT/XP	
ITE SIM card reader driver for Win 9x/ME/2000/NT/XP(english)	
ITE SIM card reader driver for Win 9x/ME/2000/NT/XP(chinese)	

Cancel	OK
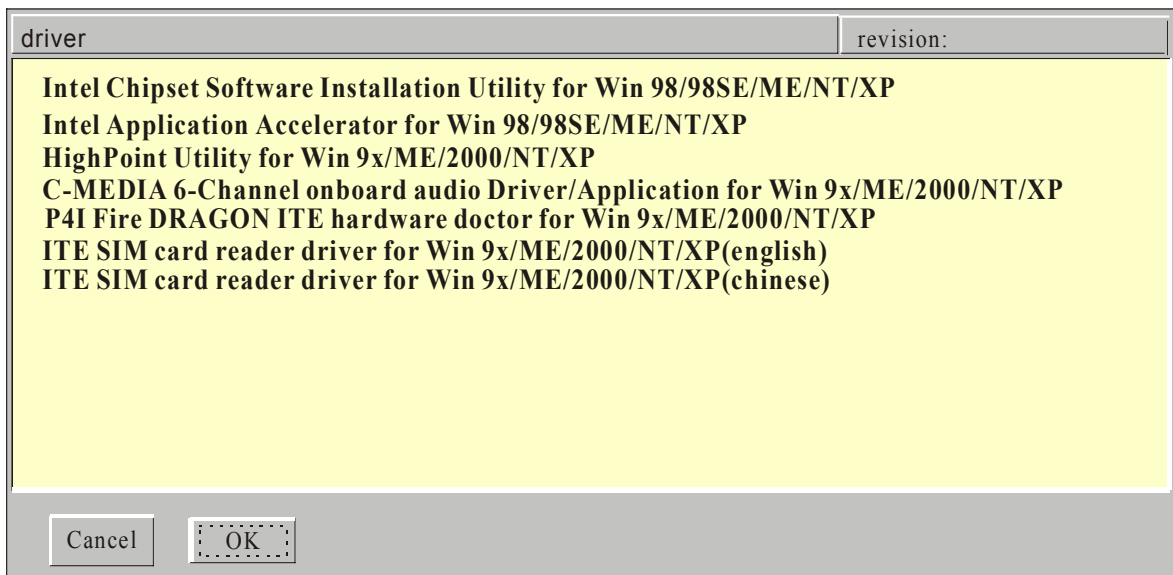
(Driver Installation Menu)

A short description of all available drivers follows:

➢   **Intel Chipset Software Installation Utility for Win 98/98SE/ME/NT/XP**

Windows operating system will not recognize the new INTEL i845 chipset properly. To update the necessary .inf files that will help Windows recognize

the i845 chipset, please run this utility.

➢   **Intel Application Accelerator for Win 98/98SE/ME/NT/XP**

The Intel(R) Application Accelerator is designed to improve performance of the storage sub-system and overall system performance. This software delivers improved performance through several ingredient technologies(components). Certain components will be available only on Pentium(R) 4 processor-based systems running Microsoft* Windows* 2000 Professional. Software installation is flexible and fully automated for Microsoft* Windows* 98, Windows 98 Second Edition(SE),Windows* 98 Millennium Edition(Me), Windows* NT4.0, and Windows 2000 operating systems.

➢   **HighPoint Utility for Win 9x/ME/2000/NT/XP**

The RAID Administrator utility is used to monitor or perform maintenance on a RAID Administrator Mirror (RAID 1), Stripe (RAID 0), Span or Mirror plus Stripe (RAID 0+1). Visual messages are available to warn of possible problems with the disk array or controller.

➢   **C-MEDIA 6-Channel onboard audio Driver/Application for Win 9x/ME/2000/NT/XP**

1. The driver supports 2/4/6 speakers 3D positional audio.

2. The application is include *CD Player/MIDI Player/MP3/Wave Player/Mixer* with the control over your PC's audio functions.

➢   **P4I Fire DRAGON ITE hardware doctor for Win 9x/ME/2000/NT/XP**

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

➢   **ITE SIM card reader driver for Win 9x/ME/2000/NT/XP(English)**

If you have reader card, it must be installed.

➢   **ITE SIM card reader driver for Win 9x/ME/2000/NT/XP(Chinese)**

If you have reader card, it must be installed.

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

Note : Once you have selected a driver, the system will automatically exit the SOYO CD to begin the driver installation program. When the installation is complete, most drivers require to restart your system before they can become active.

Step 3. **Check the Latest Releases**

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

Chapter 5

Intel Pro/100 LAN driver installation

Intel PRO/100 LAN Driver for Win98SE/ Win ME

1. Click My computer-->Control Panel→ system → device manager.
2. click on "? Other Device" and then double click "! PCI Ethernet Controller".
3. Click Next in the popup window to continue.".
4. Click Re-install device
5. Click next
6. choose "Search for a better driver than your device is using now. (recommended)"
7. Put the driver CD on the CD-ROM
8. Choose the "specify a location" and type "d:\lan\intel\"
9. Win 98 will find look for a file "8255xdel.exe", type the path "d:\intel\lan" and then click next
10. click finish and reboot.

Intel PRO/100 LAN Driver for Win ME

1. After entering Windows 98/ME, double click "My Computer".
2. Double click "Control Panel".
3. Double click "System".
4. Click the "Device Manager" tab.
5. Open "Other Devices" (with a yellow "?" icon).
6. Select "PCI Ethernet Controller" then click "Remove" button to remove it.
7. Click Refresh and a "Add New Hardware Wizard" appears identifying the card as a "PCI Ethernet Controller".
8. select "Search for the best driver for your device [Recommended]".
9. The Intel LAN Driver for Win 98se path is in SOYO CD:\Lan\Intel.
10. Click Next then enable the "Specify a location" check box; specify the correct path in which Intel® PRO/100 VE Network Connection driver for

Win 98 resides.

11. Click Next then Windows 98 identifies the card as "Intel® PRO/100 VE Network Connection".

12. Click Finish to let Windows 98 finishes the driver installation.

Intel PRO/100 LAN Driver for NT4.0

1. Double click the Network icon in the Control Panel.

2. Select "Wired to the Network" and click "Next…".

3. Click "Select from list".

4. Select Have Disk. Insert the "Intel® PRO/100 Ethernet Adapter Drivers Disk" in your CD driver and specify the correct path.

5. The LAN Driver For NT4.0 Path is in SOYO CD:\Lan\Intel.

6. Select one of the following models:

   "Intel® PRO Adapter" then click OK.

7. In the dialog box that appears, select the Media Type and enter the Network address for the adapter if necessary (You can click Help for more detailed information about these settings). Click OK to complete this dialog box (or Cancel to terminate the configuration without completing it).

8. Exit the Network control panel Windows. Windows NT asks if you wish to reboot. You must reboot before the adapter will function properly.

Intel PRO/100 LAN Driver for Windows 2000

1. Move Mouse Cursor the My Computer icon.

2. Press Mouse right button then click properties.

3. Click Hardware then click Device Manager.

4. Open "Other Devices" (with a yellow "?" icon).

5. Select "Ethernet Controller" then double click it.

6. Click Driver then click update Driver.

7. Click next and next.

8. Select "Search for a suitable driver for my device (recommended)

9. put the CD driver on the CD-ROM

10. remove the check on "Floppy disk drive" and click next

11. Win 2K will the LAN driver, click next

12.   click finish

Intel PRO/100 LAN Driver for Windows XP

(Because Windows XP can detect LAN Driver automatic, so this installation is for update)

1. Move Mouse Cursor to My Computer icon.

2. Press Mouse right button then click properties.

3. Click Hardware then click Device Manager.

4. Double Click Network adapters icon.

5. Double Click Intel® PRO/100 VE Network Connection.

6. Click Driver then click update Driver.

7. Select install from a list or specific location (Advanced) then click next.

8. The Intel® LAN Driver for XP path is in SOYO CD:\Lan\Intel.

Chapter 6

HIGHPOINT HPT 372 DRIVER INSTALLATION

See page 109 or Appendix A for Driver Installation procedure.

HighPoint HPT 372

Introduction

HPT372 is UDMA/ATA133 RAID controller. You can either use HPT372 (IDE3, IDE4) as a RAID on controller or as an IDE controller.

RAID Administrator is a Windows-based RAID management utility for HPT372 RAID Controller. With graphical user interface, RAID Administrator enable users easily configure and manage disk and disk arrays connected to HPT372 RAID controller.

Main Features & Benefits

- Below are the main features and benefits of RAID Administrator.
- Support RAID 0, 1, 0+1 & SPAN
- Allowed maximum 4 disks connection to every controller(Does not support ATAPI devices)
- Hot-swapping failed hard disk in mirror array
- Support independent use of hard disk
- Support hot spare disk
- Support Operating Systems: DOS/Windows 3.x, Windows98/Me, Windows NT4.0, Windows 2000, Windows XP and Linux.
- Windows-based software for RAID management(compatible with BIOS)
- Disk error alarm mechanism
- Event log for easy trouble shooting
- Plug-and-play

Getting Started

This section is designed to get you started on the setup/installation of your HighPoint HPT372 RAID controller. in your system To use the HPT372 chip as a raid controller, you need to setup the HDD in the HPT372 bios menu (ctrl-H) or use the RAID administrator. If not,

the HDD on IDE 3 and IDE 4 will act as another IDE HDD.

To be able to use the RAID function, please do the following:

1. Create a Disk Array.
2. Install RAID driver

You can disable the HPT372 controller in the BIOS setup.

Note:

To boot from the HPT372 controller, (IDE 3 or IDE 4) go to the BIOS setup and set the First Boot device to SCSI.

Create a Disk Array

You can create a disk array using:

1. HPT372 BIOS Utility Configuration
2. RAID Administrator (software)

HPT372 BIOS Utility Configuration

Enter into BIOS Configuration Utility

When the following information is displayed on screen during the system starting, press **ctrl+H** key to enter into BIOS configuration utility.

The main interface of BIOS configuration utility is as below:

Menu:

It displays all items of the operating command.

Help:

It displays the illustrating information of the current selection and the available operation prompts.

Channel Status:

It displays the status information of all devices in connection. When it is active, users can select the device to be operated.

I. Create RAID

The following steps shall be taken to create RAID in BIOS.

1. Use the arrow key to select **1. Create RAID**.
2. Press **Enter** to confirm and go to next.
3. Select **1. Array Mode** in the popup sub-interface and press **Enter**.
4. Select the intended RAID level in the popup selection box and press **Enter**.
5. Select **2. Select Disk Drives** in the previous sub-interface and press **Enter**.
6. Select the disks to be used for creating the disk array and press **Enter** to confirm in the channel status zone.
7. Select **3. Start Creation Process**.
8. Pay attention to the warning message, and press **Y** to finish creation.

Note:

1. If you have selected **Striping (RAID 0) for Performance** in the popup sub-interface after the operation of **1. Array Mode**, you should directly go to **3. Strip Size 64K** and then select **4. Start Creation Process**. The default strip size is **64K**.
2. If user is creating RAID 0+1, then user must select four

single disks. All data on these disks will be destroyed after creation of RAID 0+1.

3. Different warning messages appear according to different RAID levels.

II. Delete RAID

The following steps shall be taken to delete RAID.

1. In the menu zone, select **2. Delete RAID**, press **Enter** to confirm this operation and go to next.

2. In the validated channel status zone, use the arrow key to select the disk array to be deleted and press **Enter** to confirm.

3. Press **Y** when warned **Are you sure you want to remove the disk array?**

III. Rebuild Mirror Array

The following steps shall be taken to rebuild the mirror array.

1. In the menu zone, select **3. Rebuild Mirror Array**, press **Enter** to confirm this operation and go to next.

2. In the menu zone of the popup sub-interface, select **1. Select Source Disk: None** and press **Enter** to confirm.

3. In the validated channel status zone, select the source disk of the mirror array and then press **Enter**.

4. In the menu zone of the popup sub-interface, select **2. Select Target Disk: None** and press **Enter** to confirm.

5. In the validated channel status zone, select the target disk of the mirror array and then press **Enter**.

6. In the menu zone of the popup sub-interface, select **3. Start Duplication Process** and press **Enter** to confirm.

7. Press **Y** when asked **The last time rebuild not completed. Continue?**

Note:

When there is no RAID 1 array, system will prompt user **No enough**

disks at the second step, and rebuild can not continue.

IV. Add Spare Disk

The following steps shall be taken to add the spare disk.

1. In the menu zone, select **4. Add Spare Disk** and press **Enter** to confirm.

2. In menu zone of the popup sub-interface, select **1. Select Mirror Array: None** and press **Enter** to confirm.

3. In the validated channel status zone, select the mirror array and press **Enter** to confirm.

4. In the menu zone of the popup sub-interface, select **2. Select Spare Drive: None** and press **Enter** to confirm.

5. In the validated channel status zone, select the spare disk to be added and press **Enter** to confirm.

V. Remove Spare Disk

The following steps shall be taken to remove the spare disk.

1. In the menu zone, select **5. Remove Spare Disk** and press **Enter** to confirm.

2. The **1. Select Mirror Array: None** item appears in the menu zone of the popup sub-interface.

3. In the validated channel status zone, select the spare disk to be removed and press **Enter** to confirm.

VI. Set Disk Mode

The following steps shall be taken to set the disk mode.

1. Select **6. Set Disk Mode** in the menu zone and press **Enter** to confirm.

2. Select the disk mode to be set in the popup selection box and press **Enter** to confirm.

VII. Set Boot Disk.

The following steps shall be taken to set the boot disk:

1. In the menu zone, select **7. Set Boot Disk** item, press

Enter to confirm this operation and go to next.

2. In the validated channel status zone , use the arrow key to select the boot device and press **Enter** to confirm.
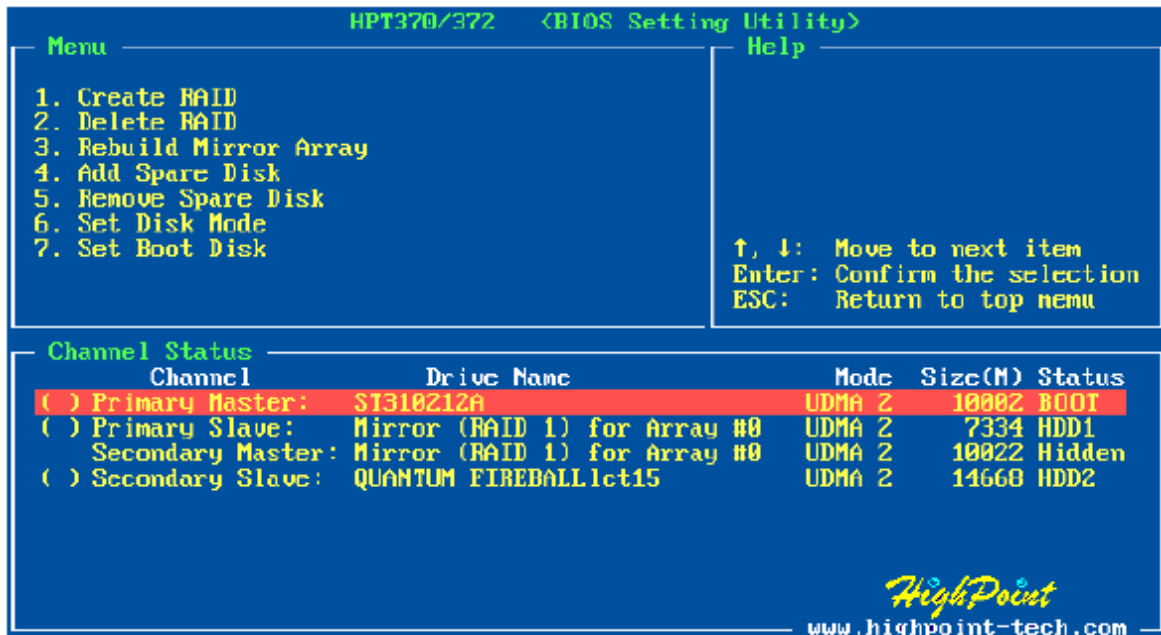
Note:

1. The **Set Boot Disk** item appears on condition that no hard disk is connected to IDE on motherboard.

2. After the boot disk is set, its status will become **Boot**.

RAID Administrator

Install RAID Administrator

Please take the following steps to install RAID Administrator:

Double click on the setup program: **setup.exe**, then follow the program promptto finish the installation.

After the installation is complete, restart the computer. With the implicit option, the setup program will create program group: **Start**--> **Program**-->**RAID Administrator**. This program group contains the following contents:

- RAID Administrator
- RAID Help
- Uninstall RAID

I. Run RAID Administrator

The following steps should be taken to run RAID Administrator:

1. Click **Start**-->**Program**-->**RAID Administrator**-->**RAID Administrator**, the below welcome interface will come up.
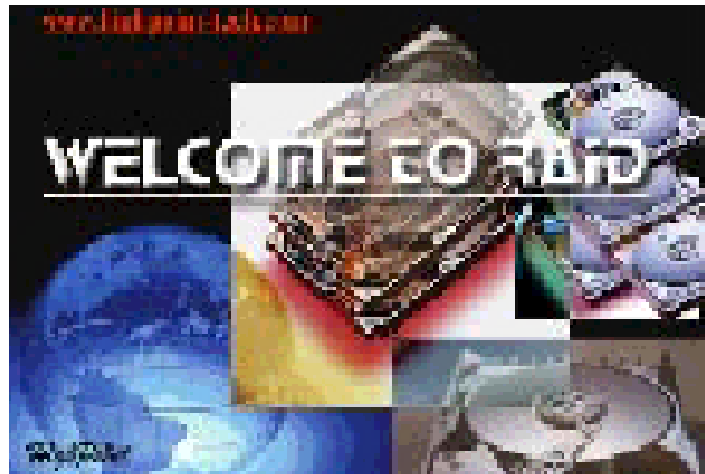
2. The above interface stays only for a while. Coming up is the main interface of RAID Administrator (see below).
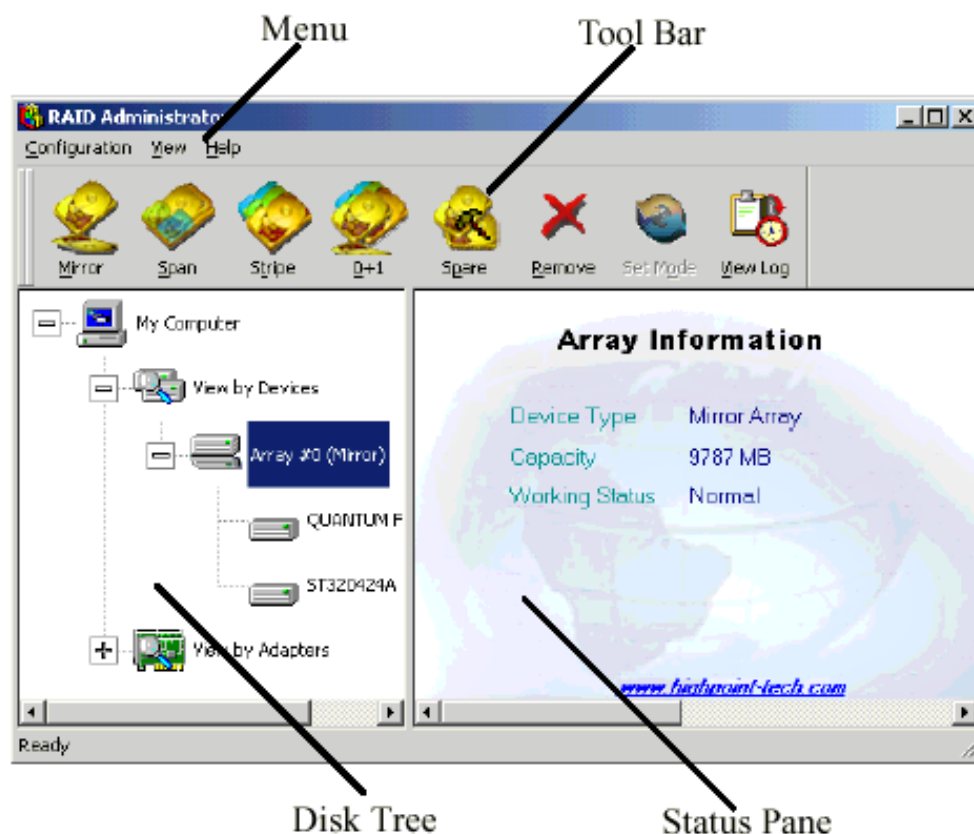
Tool Bar:

It provides shortcut way to execute the common commands. Commands shown by **Tool Bar** can also be found under **Configuration** menu.

Disk Tree:

It shows the connecting information of all hard disks in two ways: **View by Device** and **View by Adapter**.

Status Pane:

It lists the information and working status of selected hard disks or disk arrays.

II. Create Stripe Array

The following steps shall be taken to create the stripe array.

1. Click **Stripe** icon on the tool bar.
2. Select the strip size in the follow-on window, and then click **Next** button.
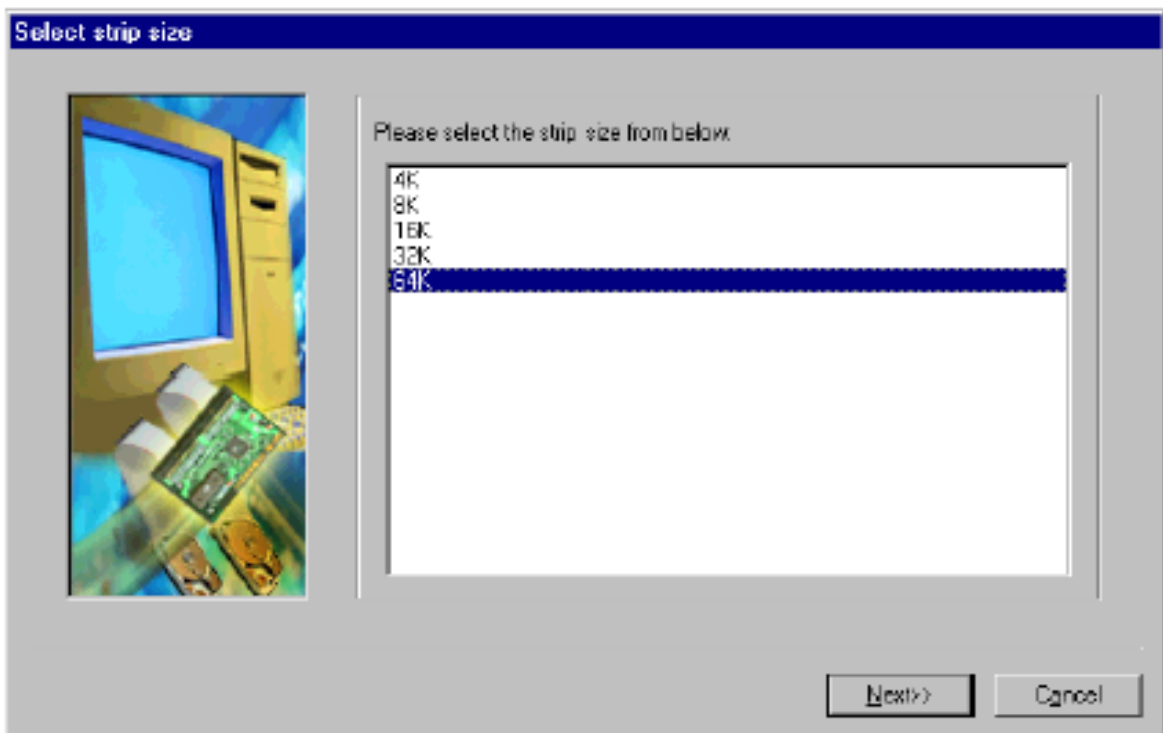
In the follow-on dialog box, select hard disk from **Available Disks** column. Add them into **Stripe Array Member Disks** column by clicking the corresponding arrow button. Then click **Next** button.

1. In the follow-on dialog box, click **Create** button to create stripe array, or click **Cancel** button to cancel this creation. If the cancel operation has been selected, the system will remain unchanged.
2. After the completion of creating stripe array, shut down all other programs. Then click **Yes** to restart the computer, or select **No** to restart the computer later.

Note:
1. At least two hard disks are needed to create the stripe array. Disks can be connected at any cable and settled as either master or slave device.
2. The capacity of the stripe array is equal to the product of the number of total hard disks and the smallest HD capacity.

Suggestion:
1. When selecting the strip size , if the user does not know which one is suitable, please select the default size **64**K.
2. In order to avoid the capacity waste , try to use hard disks with the identical capacity to create stripe array .

For the consideration of performance, if two hard disks are used, please connect them to different IDE channels respectively.

Warning:
The data on all disks will be destroyed after the creation of the stripe array.

III. Create Mirror Array
The following steps shall be taken to create the mirror array:
1. Click **Mirror** icon on the tool bar.
2. In the follow-on dialog box, select hard disks from **Available Disks** column, add them into **Source Disk** column or **Mirror Disk** column respectively by clicking the corresponding arrow button.

3. If the user wants to use a spare disk, please select **Use Spare Disk** item. Then select hard disks from **Available Disks** column, and add it into **Use Spare Disk** column.
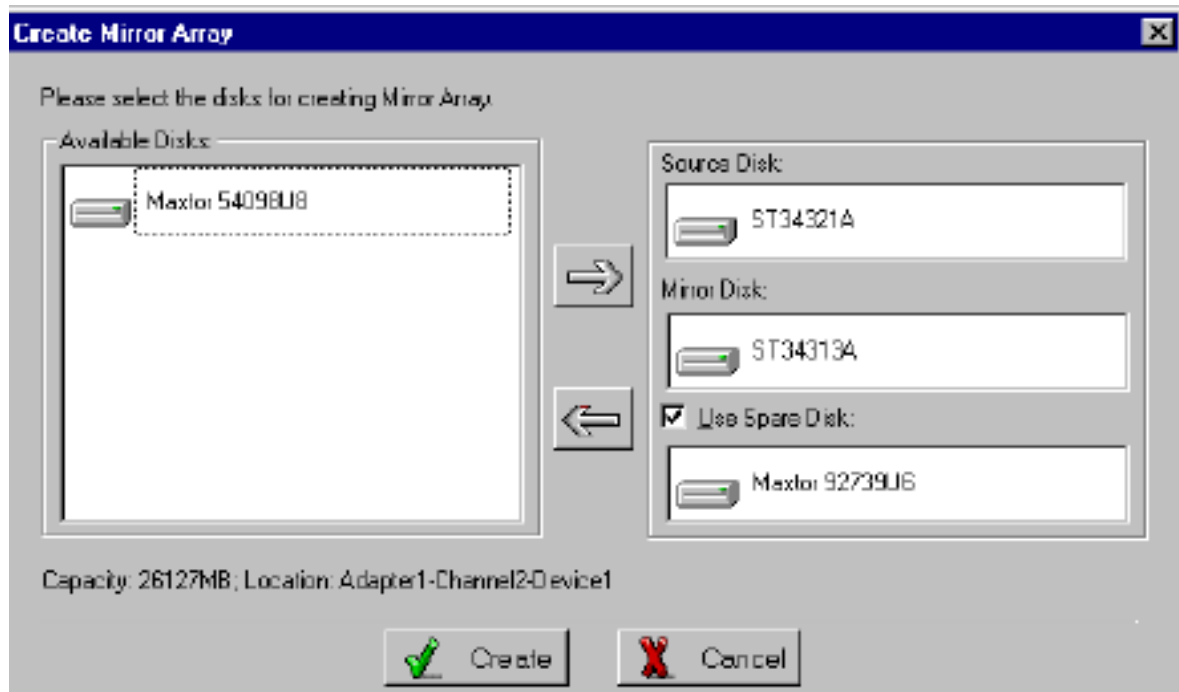
4. Click **Create** to begin the creation or **Cancel** to exit. If you select the cancel operation, the system will remain unchanged.
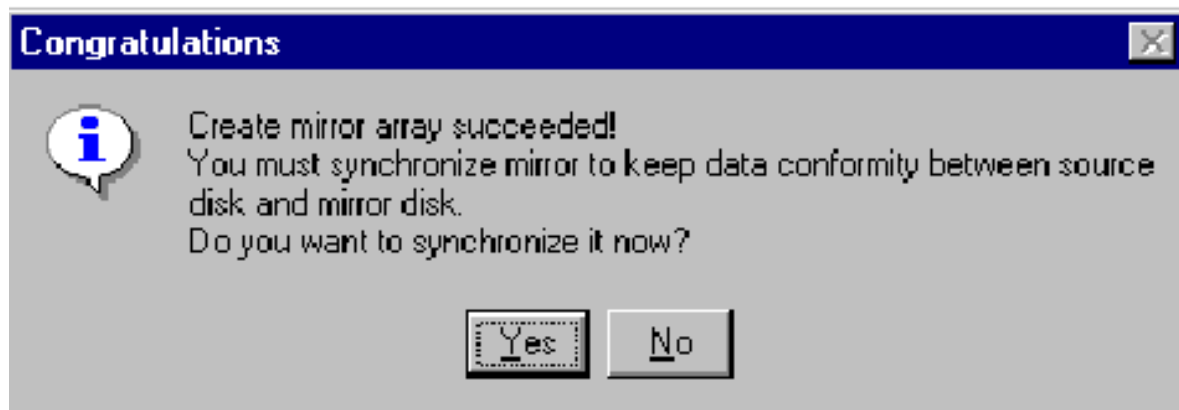
5. After the creation is complete, the program will prompt you to synchronize mirror, select **Yes** to begin or **No** to cancel.

6. After your selection of either, the program will prompt you to restart your computer.

If the user has set a spare disk, when the read/write failure of either the source disk or the mirror disk, the program will automatically use the left normal disk and the spare disk to rebuild the mirror array, thereby providing dual security for data.

Note:

1. At least the source disk and the mirror disk are needed in the creation of the mirror array. The spare disk is optional. Disks can be connected at any cable and settled as either master or slave device.

2. The capacity of either the mirror disk or the spare disk shall be no less than that of the source disk.

3. The capacity of the mirror array is equal to that of the source disk.

Suggestion:

In order to avoid the capacity waste, please use hard disks with the identical capacity to create mirror array.

Warning:

The creation of the mirror array will make only the data on the source disk be preserved while the data on both the mirror disk and the spare disk destroyed.

IV. Add/Remove Spare Disk

If the user does not want to set a spare disk during the creation of mirror, he can add the spare disk into the mirror array later. The user can also remove the spare disk that has been set. The steps to add/remove the spare disk are as follows:

1. Select the mirror array to be add/remove the spare disk.

2. Click **Spare** icon on the tool bar.

3. In the popup dialog box, select **Add** or **Remove** operation, then click **Next** button.

4. If the user is to add the spare disk, select the hard disk to be used in the follow-on dialog box, and then click **Finish** button.

5. If the user is to remove the spare disk, click **Finish** button in the follow-on dialog box.

V. Synchronize/Validate/Verify Mirror Array
Synchronize Mirror

After the completion of creating mirror array, the data on the source disk has not been copied to the mirror disk. The data on the source disk and the mirror disk do not keep identical yet. The user should synchronize mirror, by which the data on the source disk will be fully copied to the mirror disk. Thus the data on the disks in the mirror array become identical. Once the creation of the mirror array is finished, the user will be asked whether to synchronize mirror at once or not. Select **Yes** to begin the synchronize operation or **No** to skip.
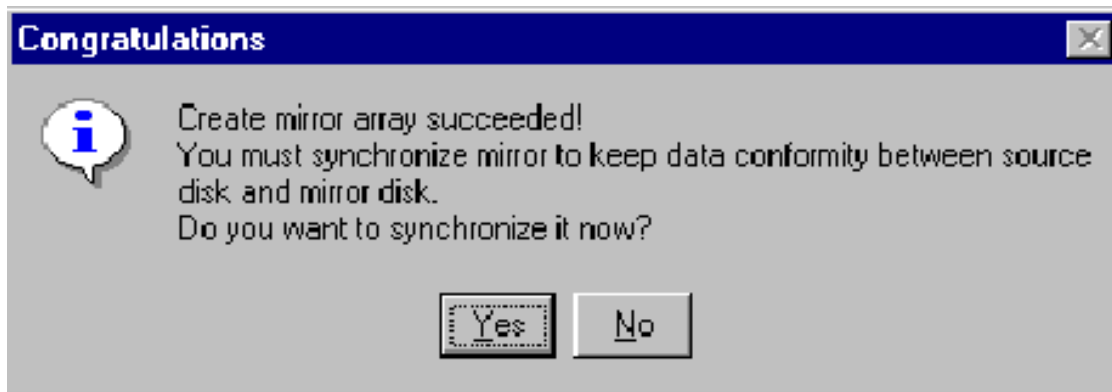
The status of the mirror array will remain locked if **No** selected to skip the synchronize operation. The user may at any time synchronize mirror which is in either locked status or normal status. The detailed steps to synchronize mirror are as follows:

1. Right-click the mirror array to be synchronized.
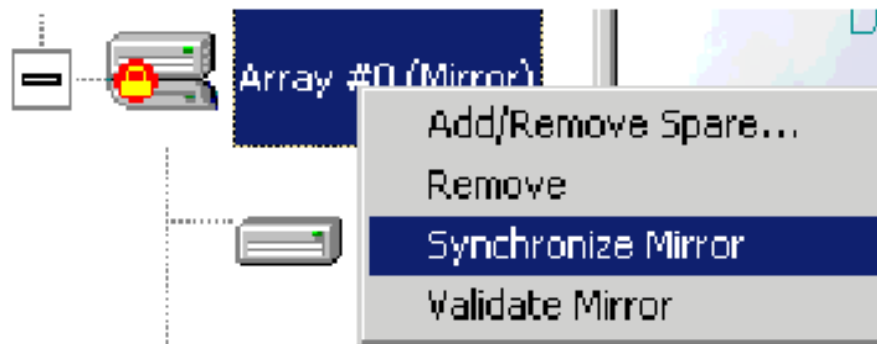
2. Select Synchronize Mirror item from the popup menu.

The mirror array being synchronized is labeled at locked status. By selecting this disk array, the user can see the progress of synchronizing mirror.
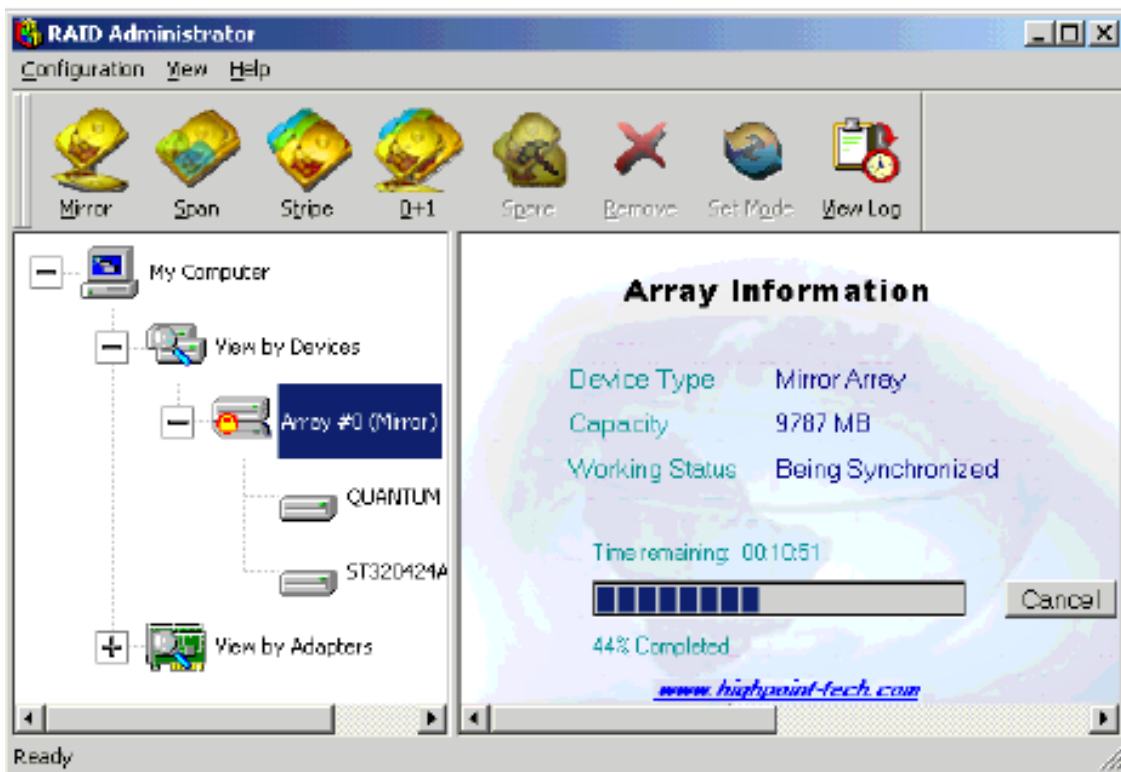
Validate Mirror

The user can validate the locked mirror array through the following steps:

1. Right-click the locked mirror array.

2. In the popup menu, select **Validate Mirror** item.

Once the mirror disk is validated, it will be implicit by the program that the data on the mirror disk is the same with that on the source disk. And the program will no longer ask the user to synchronize mirror. If the user wants to copy the data from the source disk to the mirror disk, he has to synchronize mirror manually.

Verify Mirror

The operation of the verify mirror will compare the data on the source disk and that on the mirror disk. If any discrepancy is found between them, the program will ask the user to synchronize mirror to keep the data in the mirror array identical. The detailed steps to verify mirror are as follows:

1. Right-click the mirror array to be verified.

2. In the popup menu, select **Verify Mirror** item.

By selecting this disk array, the user can check the verification progress at the status pane.

Suggestion:

After the creation of the mirror array, if the user wants to keep the source disk data preserved, he shall select **Yes** when the program asks him whether to synchronize mirror or not.

VI. Create Span Array

Please follow the steps below to create the span array:

1. Click **Span** icon on the tool bar.

2. In the popup window, select hard disks from **Available Disks** colume. Add them into **Span Array Member Disks** colume by clicking the corresponding arrow. Then click **Next** to continue.

3. In the follow-on confirmation dialog box, please click **Create** button to start the creation or click **Cancel** button to cancel the creation. If the user selects **Cancel**, the system will

remain unchanged.
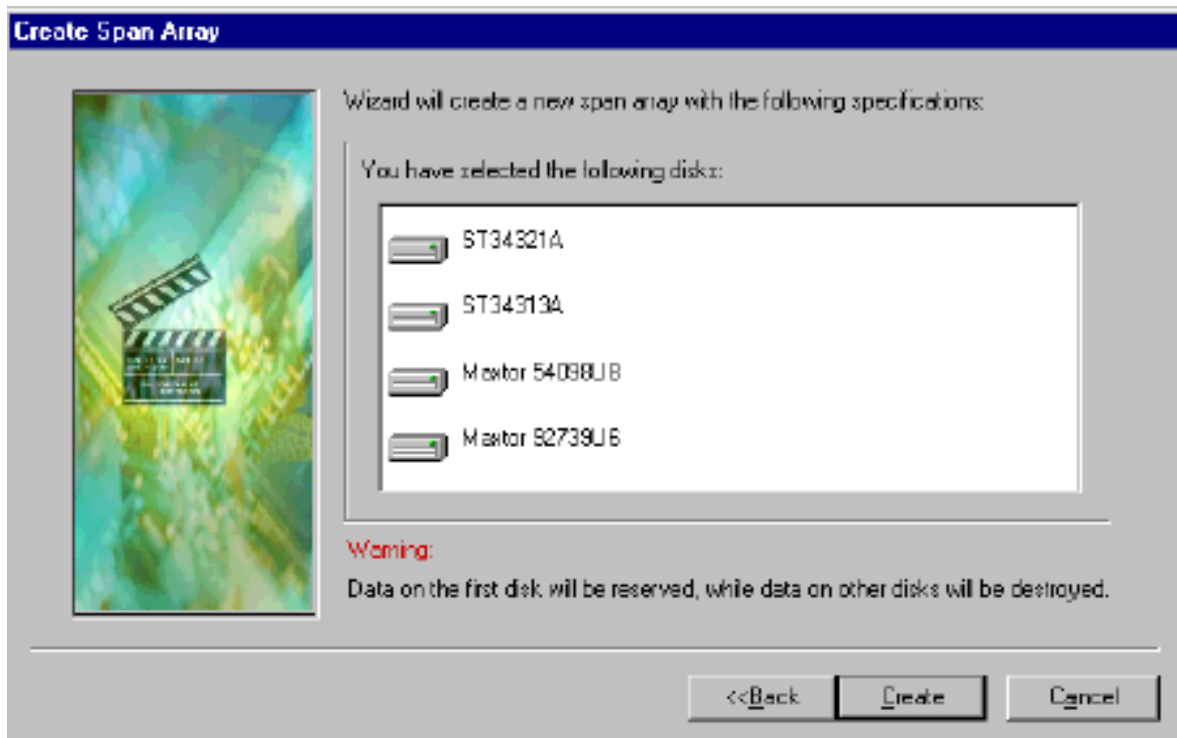
4. After the create operation is complete, please shut down all other programs. And then click **Yes** to restart the computer. The user may also select **No** to restart the computer later.

Warning:

In the creation of the span array, only the data on the first member disk will be preserved while the data on others will be completely destroyed.

Note:

At least two hard disks are needed in the creation of the span array. Disks can be connected at any cable and settled as either master or slave device.

VII Create 0+1 Array

The following steps shall be taken to create the 0+1 array.

1. Click **0+1** icon on the tool bar.

2. Select the strip size.

3. In the popup dialog box, select the hard disks to be used, and add them into **Source Disks** column or **Mirror Disks** column.
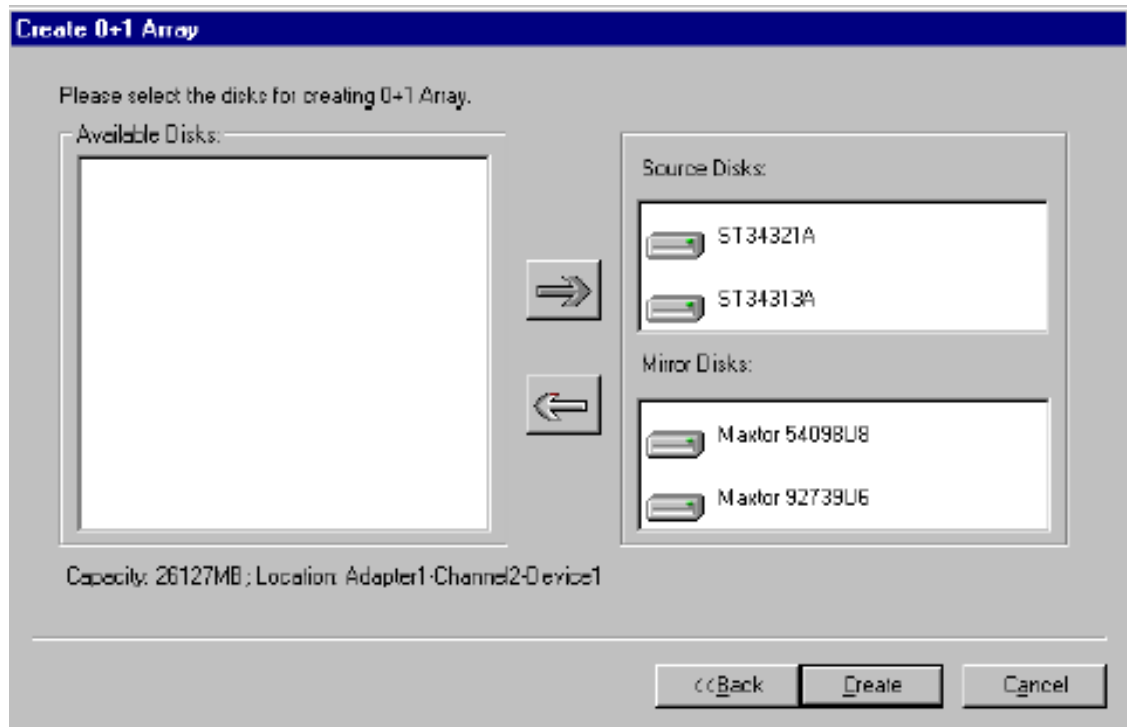
4. Click **Create** button to create or **Cancel** button to cancel the creation. If the user selects **Cancel**, the system will remain unchanged.
5. When the creation is complete, the program will ask the user to restart the computer.

Note:
1. Four hard disks are needed in the creation of the 0+1 array.
2. In the creation of the 0+1 array, the source disk will actually be the first stripe array composed of two hard disks, the mirror disk will actually be the second stripe array composed of two hard disks.
3. The capacity of the stripe array as the source disk shall be not larger than that of the stripe array as the mirror disk.
4. The capacity of the 0+1 array is equal to that of the stripe array as the source disk.

Suggestion:

In order to avoid the capacity waste, please use hard disks with the identical capacity to create the 0+1 array.

Warning:

The data on all member disks will be destroyed after creating the 0+1 array.

VIII. Remove Disk Array

The following steps shall be taken to remove disk array.

1. Select the disk array to be deleted in the disk tree.
2. Click **Remove** icon on the tool bar.
3. In the popup dialog box, select **Yes** to confirm the remove operation, select **No** to cancel the remove operation.
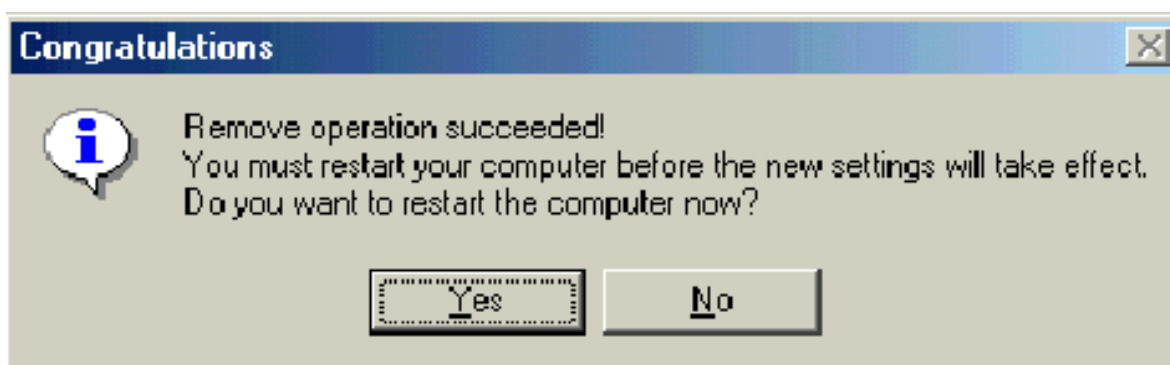
4. After the remove operation is complete, shut down all other programs. Then click **Yes** to restart the computer, or select **No** to restart the computer later.

Note:

1. Remove mirror array operation will generate two physical disks with the identical data on each.
2. Remove 0+1 array operation will generate two stripe arrays with the identical data on each.

Warning:

1. Remove stripe array operation will lead to the data on the striping disks all destroyed.
2. Remove span array operation will lead to the data on the

first disk reserved while the data on other disks will be all destroyed.

IX. Set Transfer Mode

The following steps shall be taken to set transfer mode of hard disk:

1. Select the hard disk in the disk tree.".
2. Click **Mode** icon on the tool bar.
3. In the popup **Set Transfer Mode** window select the mode to be set.
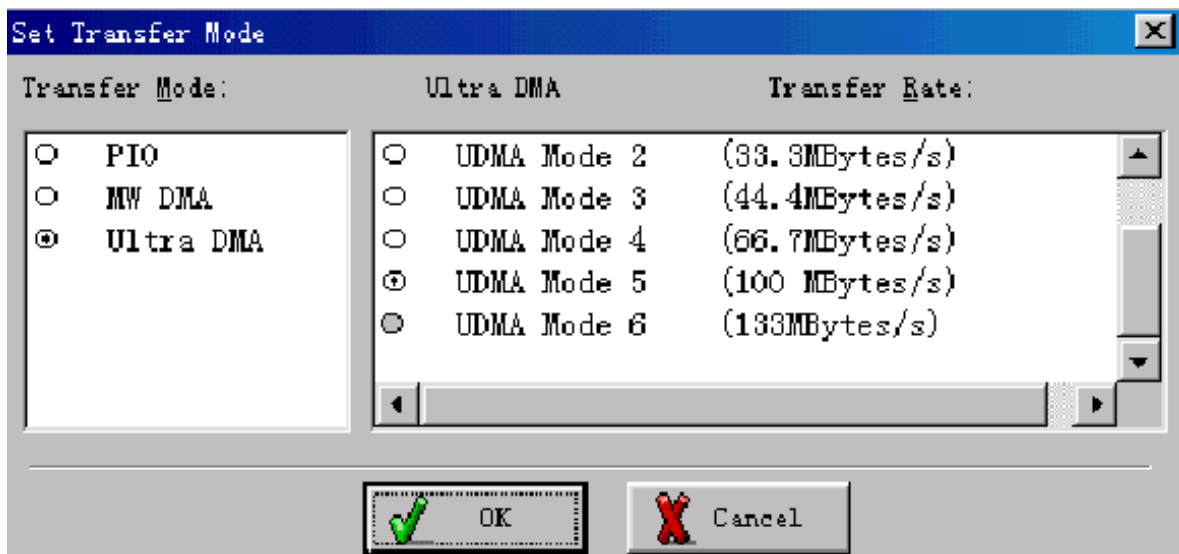
4. Click **OK** button to finish or click **Cancel** button to cancel .If **Cancel** button is clicked, the system will remain unchanged.
5. The setting will take effect only after the restart of computer.

Suggestion:

1. BIOS and driver of RAID Adapter can automatically detect the optimum transfer mode supported by the corresponding hard disk. Usually no need to change the transfer mode.
2. If the option box of transfer mode is gray, it means such mode is not supported by this hard disk and can not be set.

X. Device Status

Raid Administrator detects the status of each device and shows their status information with different icons to prompt users (see

below).

 Device is with error.

 Device is normal.

 Device is not operatable and needs rebooting.
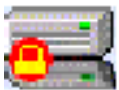
 Mirror Array needs to be synchronized.

Note:

When reading data from the mirror array, the source disk is always to be read first, and the mirror disk will not be accessed if the data is successfully read out from the source disk and so the mirror disk's failure can not be detected. But when writing data to the mirror array, both of the member disks will be accessed, so failure on either of them can be detected.

Suggestion:

When a failure occurs on a member disk of the mirror array, this array will be labeled in error status. At this time, the mirror array can continue work normally with the other normal disk. In order to avoid data loss due to the failure of the left disk, the user shall settle the fault first and rebuild mirror with this left normal disk.

Warning:

1. When the member disk of either the stripe array or the span array failed ,the corresponding disk array will be labeled in error status, and it will not be able to work.
2. If both the source disk and the mirror disk failed, the mirror array will not be able to work. The user shall settle the fault quickly.

XI. Hot-swapping Hard Disks of Mirror Array

During the working process of the mirror array, if there is failure of either the source disk or the mirror disk and the spare disk has not been set, the user can remove the failed hard disk while the computer is still on and hot-plug in a new one. The program will automatically detect the plug-in of the new hard disk and prompt the user whether to add the newly plugged hard disk into the failed mirror array(see below).
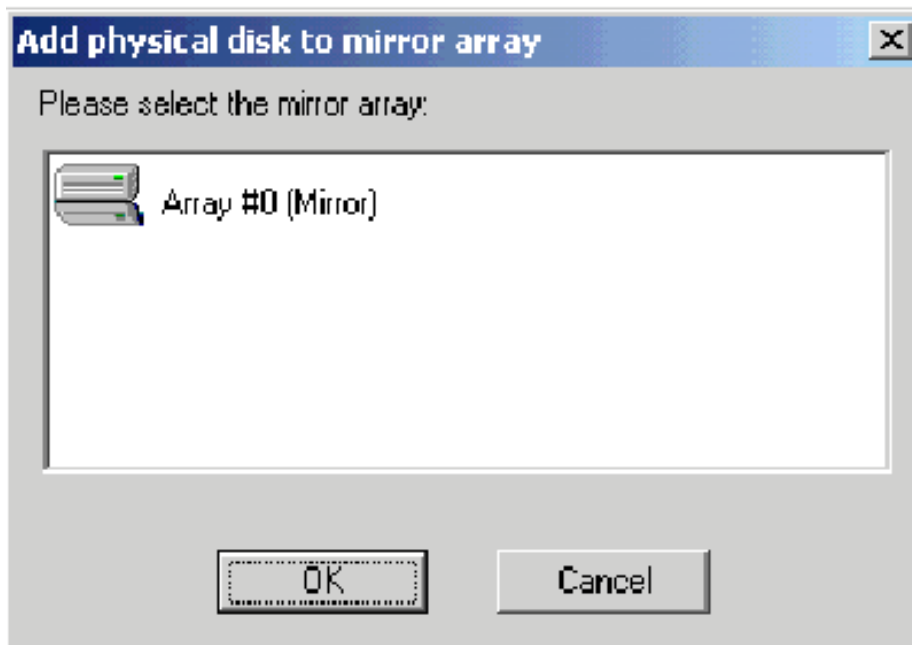
Select **OK** to add it into the failed mirror array, the newly plugged hard disk and the left normal member disk will generate a new mirror array that will be automatically synchronized to keep the data on its member disks identical. Hot-swapping hard disks of mirror array can quick recover the failed mirror array without a shut-down of the computer or a break-off of the work, thereby providing users with the maximum data security and the easiest operation.

Note:

The hard disk used to be a substitute for the failed one must keep the same connection to IDE and setting of jumper to that of the failed one.

For example, if the failed hard disk is connected to IDE2 and set as master, its substitute must be connected to IDE2 and set as master.

Warning:

In order to avoid any possible damage to both the system and the device by the manual hot-swap of power and cable. Please operate hot-swapping hard disks of mirror array with the special hard disk swapping box.

XII. Event Log

Event Log window will be opened by clicking **View Log** icon on the tool bar.
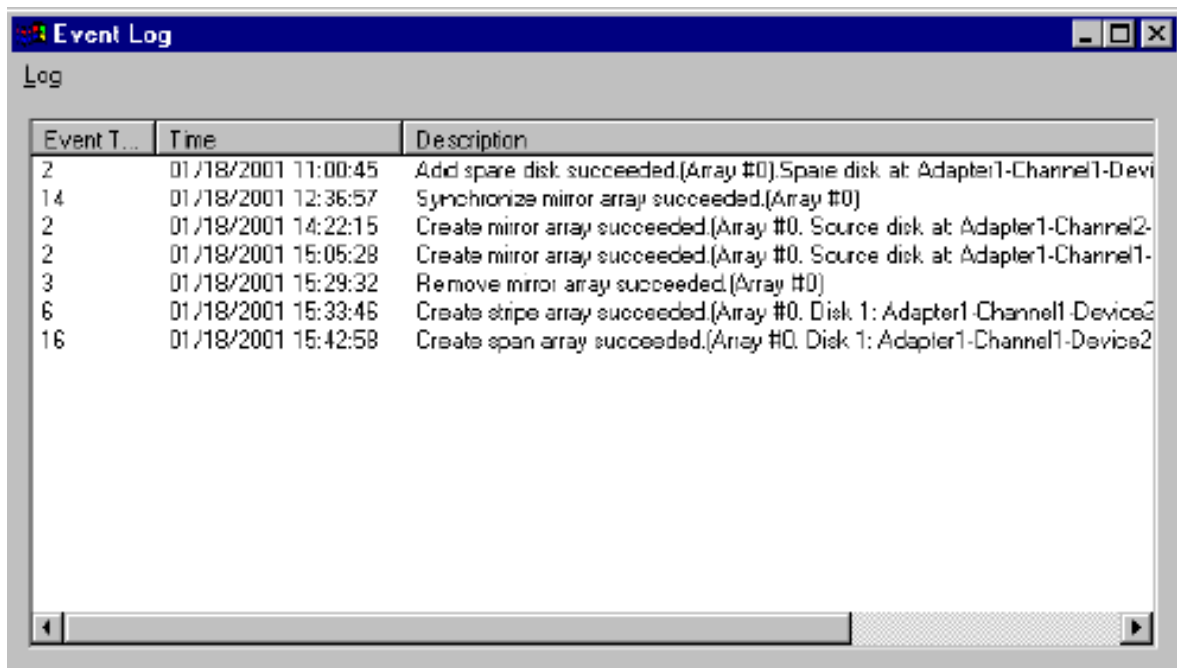
Event log window lists all the historical operation information including event, time & description, thereby providing reference for solving the problems in the operation of RAID Administrator.

Event log menu provides users with functions as follows:

Set Log File: Set the log file for recording the events.

Clear Log: Clear all the current records in the file.

Print Log: Print the log.

Exit: shut the event log window.

Driver Installation

Two ways you can install your HPT372 RAID controller driver:

1. installing driver on an existing system
2. installing driver during OS installation

Installing Driver on an Existing System

Windows 98SE

Manual Installation

If Windows can not find new hardware, the driver can be installed through the following steps:

1. Click **My computer**-->**Control Panel**→ system → device manager.
2. click on "? Other Device" and then double click "! PCI Raid Controller".
3. Click **Next** in the popup window to continue.".
4. Click Re-install device
5. Click next
6. choose "Search for a better driver than your device is using now. (recommended)"
7. Put the driver CD on the CD-ROM
8. Choose the "specify a location" and type "d:\raid\hpt372\win9x"
9. click finish and reboot.

Windows Me

Manual Installation

If Windows can not find new hardware, the driver can be installed through the following steps:

1. Click **My computer**-->**Control Panel**→ system → device

manager.

2. click on "? Other Device" and then double click "! PCI Raid Controller".

3. click **Next** in the popup window to continue.".

4. Click Re-install device

5. choose "automatic search for a better driver (recommended)"

6. Put the driver CD on the CD-ROM

7. Win 98/ME will automatically search for the driver and then install it on the system

8. click finish and reboot.

Windows NT 4.0

1. Click **Start**-->**Setup**-->**Control Panel**, then double-click **SCSI Adapter** icon.

2. In the follow-on window, select **Driver** item, then click **Add** button.

3. In the follow-on window, select **Have Disk..**..

4. Insert the floppy disk of driver, input the path of driver **A:\WinNT**, then click **OK.**

5. In the follow-on window, select **HPT370/HPT372 UDMA/ATA RAID Controller** item, then click **OK.**

6. Follow the system prompt to install the driver. When finished, re-start the computer.

Windows 2000

1. Click **My computer**-->**Control Panel**→ system → hardware → device manager.

2. You will see a "! RAID Controller" under unknown device

3. Double click "! RAID controller"

4. Re-install driver

5. Choose "search for a suitable driver…."

6. Insert Soyo Driver CD, click next

7. remove the check on the "Floppy Disk Drive" and click next

8. Win 2K will find RAID driver, click next

9. Windows will prompt you a "Digital signature not found window", click yes

10. Win 2K will prompt you to insert the RAID driver CD, click ok.

11. type the path "D:\raid\hpt372\winxp":

12. Follow the system prompt to finish the installation, and restart the computer.

13. After restart, Win 2k will detect "HPT RCM device"

14. Choose "search for a suitable driver….", click next

15. Follow the system prompt to finish the installation.

Note: Win 2k & Win XP HPT driver are the same. Win 2k system will detect and install the driver from the Win XP directory.

Windows XP

1. Click **My computer**-->**Control Panel**→ system → hardware → device manager.

1. You will see a "! RAID Controller" under unknown device

2. Double click "! RAID controller"

3. Re-install driver

4. put the Soyo driver CD on the CD-ROM

5. Choose "Install the software automatically (recommended)" and then click next

6. Choose the driver with the location "d:\raid\hpt372\winxp\hpt3xx.inf"

7. During installation, Win XP will prompt you that this driver have not passed the Windows Logo testing, click "contiue anyway"

8. Win XP will prompt you to insert the RAID driver diskette, click ok

9. Browse to the directory that contains the missing file (D:\raid\hpt372\winxp). If you click yes without browsing, Win XP will not find the .inf file

10. Follow the system prompt to finish the installation, and restart the computer.

Installing Driver During OS Installation

Install driver during Windows NT4.0 installation

1. **Go to "d:\raid\hpt372\" directory, (assuming that your CD-ROM is drive d) copy all the files and directory to a floppy disk.**

2. Press **F6** key when the system prompts **Setup is inspecting your computer's hardware configuration.**

3. Press **F6** key, the installation will continue. Later, installation program will remind user to press **S** key to specify other devices. Please press **S** key.

4. In the follow-up **Device Type** window, select **Other** item, then press **Enter** to confirm.

5. The installation program will prompt users to insert the floppy disk of driver. Please insert it and then press **Enter** to confirm.

6. In the follow-on window, select **HPT370/HPT372 UDMA/ATA RAID Controller**, then press **Enter** to confirm.

7. The follow-on interface will list the devices to be installed, in which **HPT370/ HPT372 UDMA/ATA RAID Controller** item should be included. (If users want to install other devices, please operate at this time. If all devices have been successfully installed, please go to next.)

8. Press **Enter** to continue the installation of Windows NT4.0.

Install driver during Windows 2000 installation

1. **Go to "d:\raid\hpt372\" directory, (assuming that your CD-ROM is drive d) copy all the files and directory to a floppy disk**

2. If Windows 2000 is installed from the floppy drive, please let the installing program run automatically. If Windows 2000 is installed from the CD-ROM drive, please **F6** key when the message **Press F6 if you need to install third party SCSI or RAID driver** appears.

3. Press **S** key to specify additional devices when the **Windows 2000 Setup** window appears.

4. Insert the floppy disk of driver, then press **Enter** to continue.

5. The system will ask whether to install driver under **WinNT** or under **Windows 2000**, please select to install driver under **Windows 2000.**

6. In the follow-on window of device type, please select **Other** and press **Enter** to continue.

7. The follow-on interface will list the devices to be installed, in which **HPT370/HPT372 UDMA/ATA RAID Controller** item should be included.(If users want to install other devices, please operate at this time. If all devices have been successfully installed, please go to next.)

Install driver during Windows XP installation

1. **Go to "d:\raid\\hpt372\" directory, (assuming that your CD-ROM is drive d) copy all the files and directory to a floppy disk.**

2. Booting from CD-ROM, when the **Windows XP Setup** blue screen appear and prompt user to press F6 key to install third party SCSI or RAID driver, please press F6 Key.

3. Press **S** key to specify additional devices when the **Windows XP Setup** window appears.

4. The system will ask whether to install driver under **WinNT**

or under **Windows XP**, please select to install driver under **Windows XP.**

5. Insert the floppy disk of driver, then press **Enter** to continue.

6. In the follow-on window of device type, please select **HPT370/HPT372 UDMA/ATA RAID Controller for Windows XP** to continue.

7. Win XP will prompt you that a message that the driver is newer than the default driver, press S to continue.

8. The follow-on interface will list the devices to be installed, in which **HPT370/ HPT372 UDMA/ATA RAID Controller** item should be included. (If users want to install other devices, please operate at this time. If all devices have been successfully installed, please go to next.)

9. Press ENTER to continue Windows XP setup.

How to Verify if the HPT372 RAID Controller Setup is Successful

Verify Installation on Windows 98/98SE/ME

When the driver has been successfully installed and the computer restarted:

1. Right-click **My Computer** icon on desktop, and then select **Property** item from the popup menu.

2. Select **Device Manager** item from the popup window.

If there is an HPT370/HPT372 item under **SCSI Controllers**, it indicates that the driver has been installed properly.
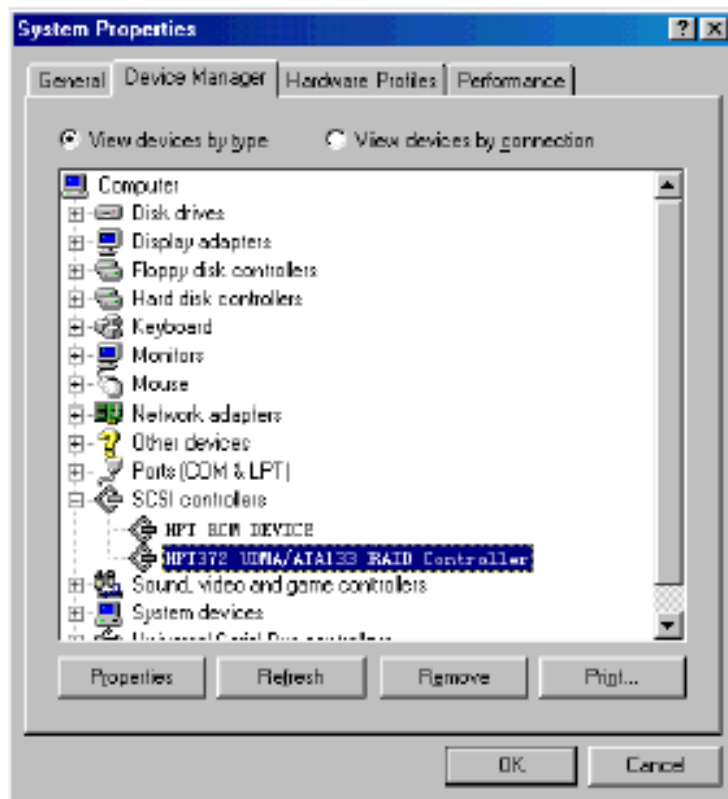
If you cannot find these two above-mentioned device items, or there are **?** or **!** on device icon, it indicates that the driver has not been correctly installed and needs reinstallation.

Verify Installation on Windows NT 4.0

When the driver has been successfully installed and the computer restarted:

1. Click **Start**-->**Setup**-->**Control Panel**, and then double-click **SCSI Adapter** item.

2. If there is **HPT370/HPT372 UDMA/ATA RAID Controller** item in the popup window, it indicates that the driver has been successfully installed. Otherwise, users need to reinstall the driver.
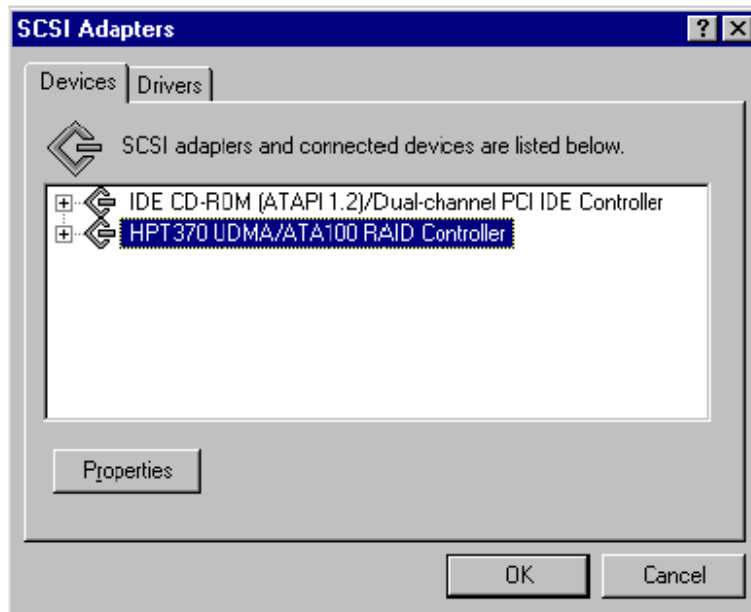
Verify Installation on Windows 2000

When the driver has been successfully installed and the computer restarted:

1. Right-click **My Computer** icon, select **Property** item in the popup menu.

2. In the popup window, select **Hardware** item and then click **Device Manager** button.

If there is **HPT370/HPT372 UDMA/ATA RAID Controller** item in the popup **Device Manager** window, it indicates that the driver has been successfully installed. Otherwise, please reinstall the driver.
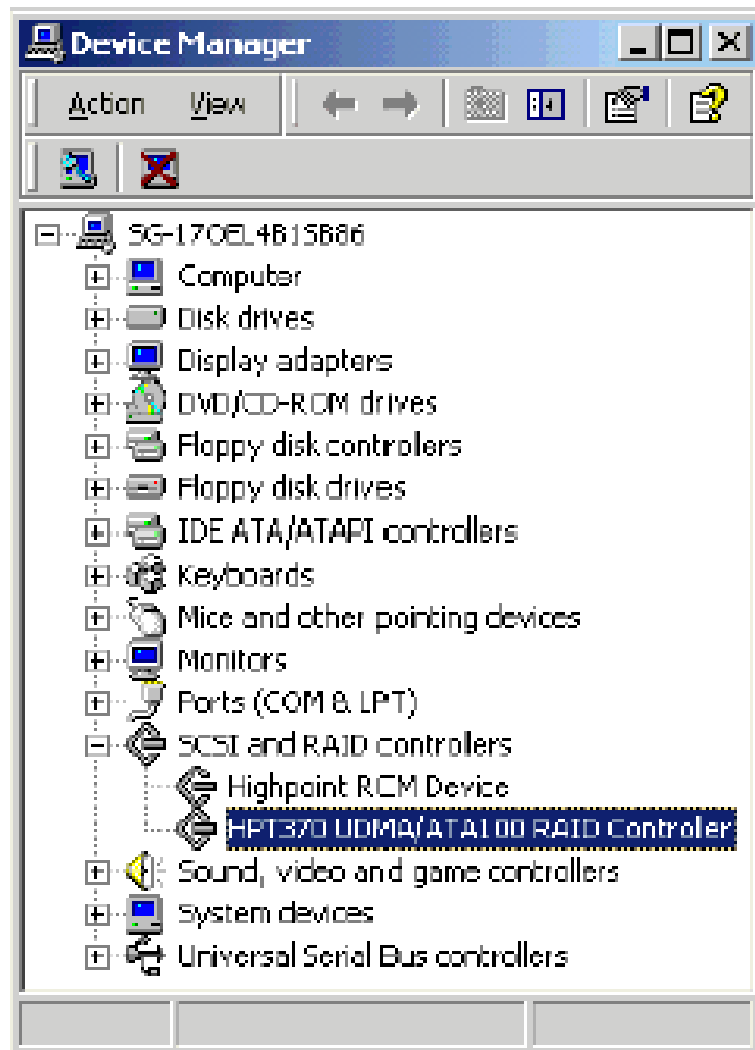
Verify Installation on Windows XP

After the driver has been installed and the computer restarted:

1. Right-click **My Computer** icon, then select **Property** item from the popup menu

2. In the popup window, select **Hardware** tab and then click **Device Manager** button.
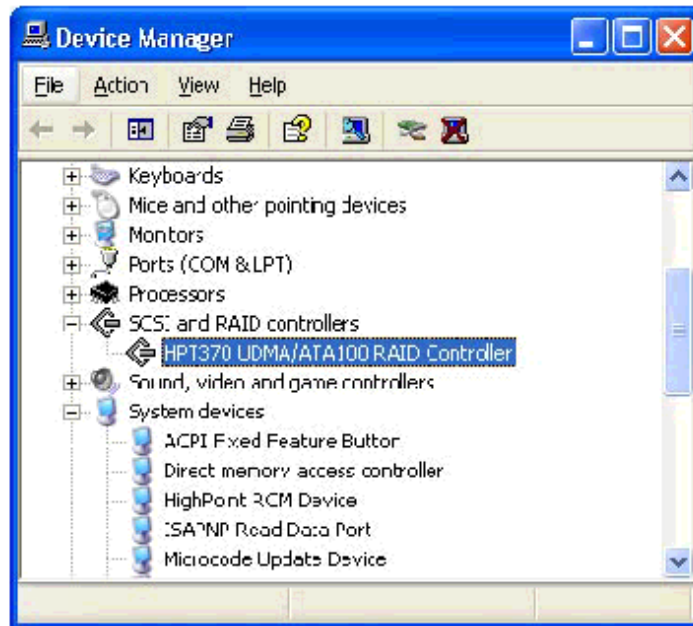
If **an HPT370/HPT372 UDMA/ATA RAID Controller and HighPoint RCM Device item exists** in the popup **Device Manager** window (see above), it indicates that the driver has been successfully installed.

Otherwise, if user cannot find these four device items, or there is **?** or **!** markings on device icon, it indicates that the driver has not been correctly installed and user needs to delete the devices and reinstall the drivers.

APPENDIX B

Overview and Acknowledgments

C-Media 6 Channel Audio offers a new generation in audio solution: it utilizes the state-of-the-art CRL® 3D Audio technology (HRTF 3D positional audio), and supports Microsoft® DirectSound ® 3D and Aureal®'s A3D® interfaces. Better yet, it supports 2/4/6 speakers and DLS based (DownLoadable Sound) wave table music synthesizer which supports the DirectMusic®. Besides being legacy audio SB pro® compatible and providing professional SPDIF IN/OUT non-distortion digital interface, it also supports MPU-401 interface, dual game ports, etc.   What we provide at the side card are line-in/rear speaker jack, microphone jack, audio output jack, SPDIF/OUT jack, and 15pin D-SUB multiplexed joystick/MIDI connector.

• **SPECIAL FEATURES**

1. Full-duplex playback and recording. Built-in 16-bit CODEC.

2.   HRTF 3D positional audio, supporting both DirectSound 3D® & A3D® interfaces. Also supports earphones, 2/4/6 channel speakers mode.

3. Support Windows 98 /Windows 2000 and Windows NT 4.0.

4. Built-in 32 OHM Earphone buffer.

5. MPU-401 Game/Midi port and legacy audio SB Pro support.

6.   Downloadable Wave Table Synthesizer, supporting Direct Music®.

Digital Audio (SPDIF IN/OUT)

1.   Up to 24-bit stereo 44KHz sampling rate; voice playback/ recording.

2.   Full-duplex playback and recording. 120dB audio quality measured.

3. Auto detectable SPDIF/IN signal level from 0.5V to 5V.
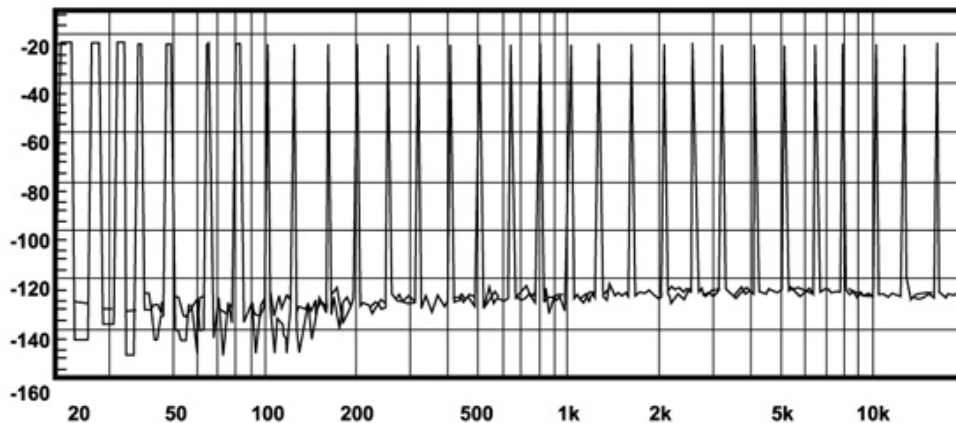
120dB audio quality in playback, recording, and bypass modes.

- **Stereo Mixer**

1. Stereo analog mixing from CD-Audio and Line-in

2. Stereo digital mixing from Voice, FM/Wave-table, and Digital CD-Audio

3. Mono mixing from MIC. Software adjustable volume.

- **Game and MIDI Interface**

1. Fully compatible with MPU-401 Midi UART and Sound Blaster Midi mode/Standard IBM PC joystick/game port (dual channels)

Windows Applications

AUDIO RACK (FOR WDM DRIVER)

By means of a user-friendly interface(as easy as operating your

home stereo system), this PCI audio rack provides you with control

over your PC's audio functions, including the advantage of 4/6

speakers mode enable/disable, and perfect digital sound(SPDIF)

input input /output control.
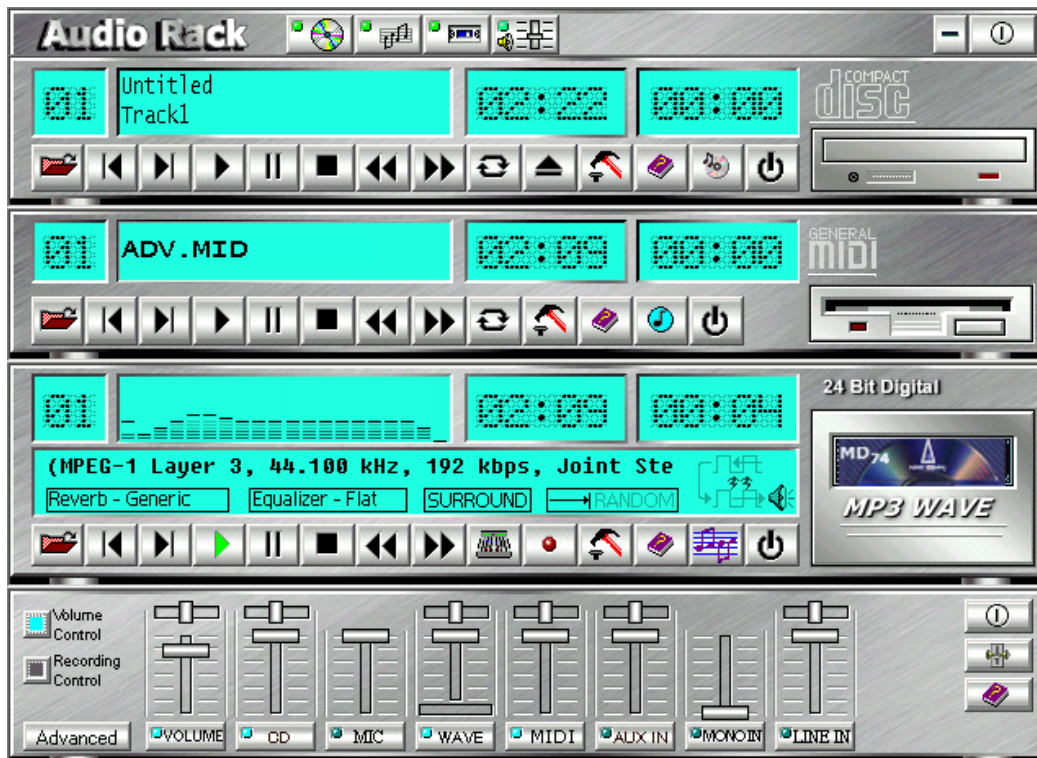
Control Center

This Audio Rack consists of several major components:

Control Center: Controls the display of the PCI Audio Rack components.

CD Player can play standard audio CDs, and allow you to create your own playlist.

MIDI Player can play MIDI files, *.mid/*.rmi, and allow you to create your own playlist.

MP3/Wave Player can play mp3, wave, and MPEG-1 files. It provides EAX and equalizer to improve the sound effects when you playback the audio files. If you want to sing a song, MP3/Wave Player also provides a Karaoke function. MP3/Wave Player canrecord input signals and save it in a wave file as well.

Mixer controls the volume level of your audio inputs and outputs.

Showing or Hiding Audio Rack Components

To show or hide a component from the display, click the component button(s) listed on the top.

CD Player

CD Player: Plays standard audio CDs, and allows you to create your own playlist.

Current Track field shows the number of the currently selected CD track.

CD title and track name field shows CD title and track name. You can modify CD title and track name in [Playlist] function.

Total length field displays the total length of the selected track in minutes and seconds.

Playback time field displays the current playback time.

Button Function

 Playlist: You can select or move tracks of audio CD from and into the playlist. The title of CD and the name of tracks can be modified as well. Playlist dialog will save and show them automatically when you want to play the same CD.

record input signals and save it in a wave file as well.

Mixer controls the volume level of your audio inputs and outputs.

Showing or Hiding Audio Rack Components

To show or hide a component from the display, click the component button(s) listed on the top.
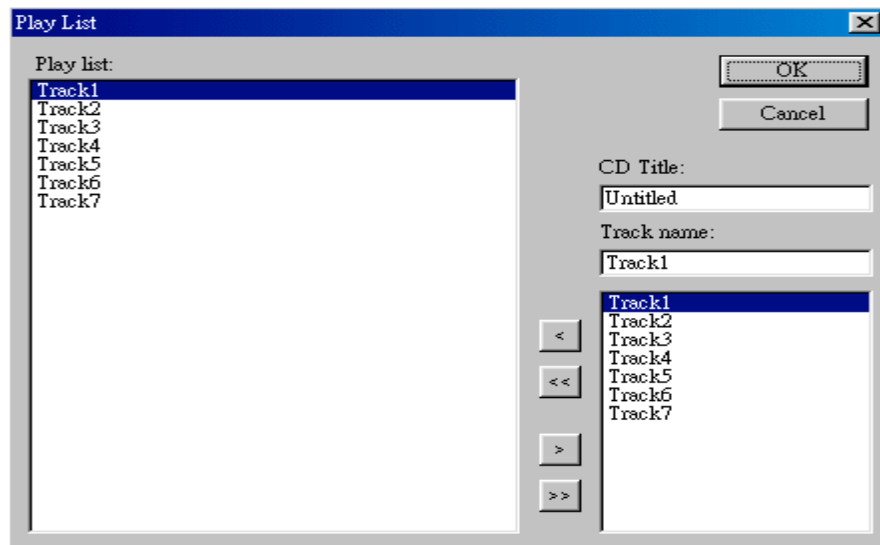
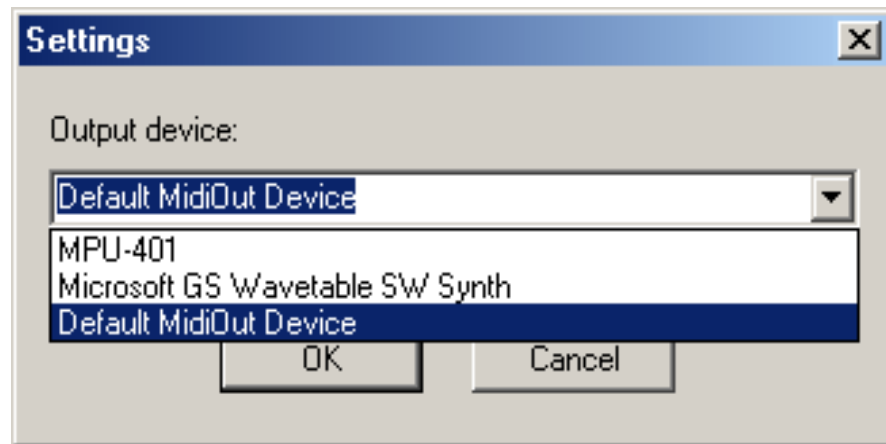| Button	Description
◀◀	**Previous song**: Loads the previous track of playlist. If current track is the first track, the last track will become the current track.
▶▶	**Next song**: Loads the next track of playlist. If current track is the last track, the first track will become the current track.
▶	**Playback**: Starts to playback the current track.
❚❚	**Pause/Restart**: Pauses or restarts the current playback action.
■	**Stop**: Stops playback.
◀◀	**Playback backward for 10 seconds:** Playback the current to 10 seconds before.
▶▶	**Playback forward for 10 seconds:** Playback the current to 10 seconds after.
⟳	**Loop**: Playbacks the tracks over and over again.
⏏	**Eject***: Opens the CD-ROM drive to change the audio CD.*

Setting: Selects the CD-ROM drive which analog output is connected to the Analog-CD in of your sound card. If your CD-ROM does not connect to the analog CD input wire, please use device manager to change the property of your CD-ROM.

Settings

Which drive that you want to play Audio CD? e:

OK   Cancel

Help: Shows the help screen for detailed button function descriptions.

About: Shows software version and copyright information.

**Exit**: Stops and leaves the CD player.

MIDI Player

MIDI Player can play MIDI files, *.mid/*.rmi, and allow you to create your own playlist.

01 CANYON.MID   02:01   00:00   GENERAL MIDI

Current file field shows the number of the currently selected MIDI files.

File name field shows the file name.

Total length field displays the total length of the selected file in minutes and seconds.

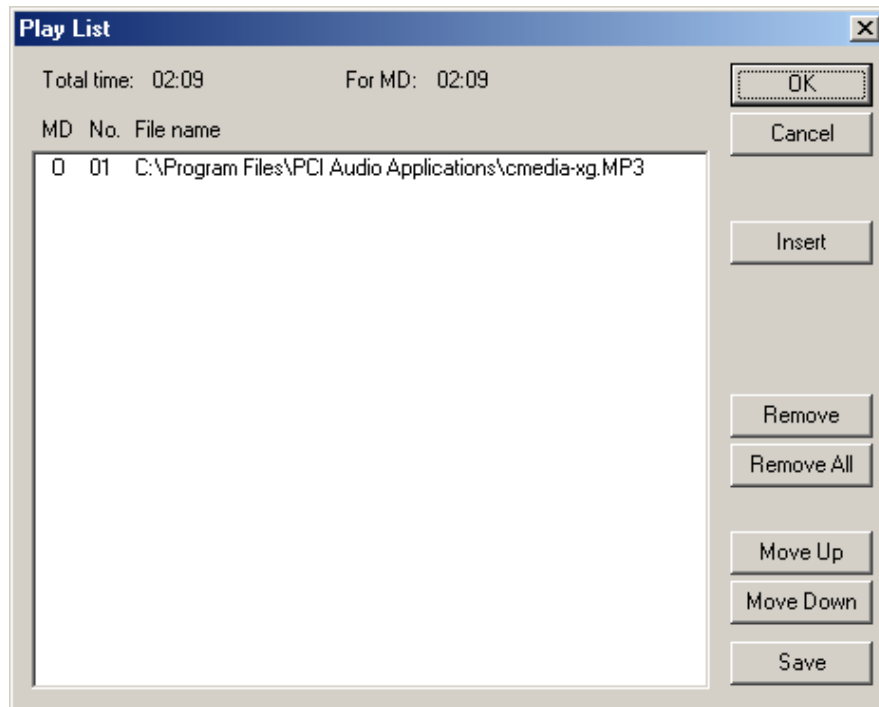**Playback time field** displays the current playback time.

Button Function

Playlist: allows you to insert, remove, and record the MIDI files into and from the playlist. You can save the playlist into a file as well.
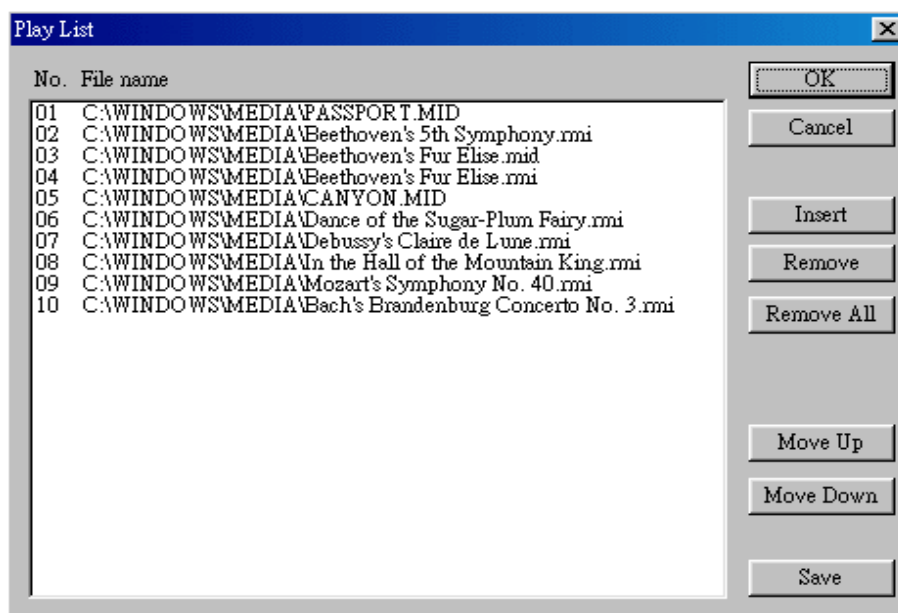
Previous song: Loads the previous MIDI file of playlist. If current file is the first MIDI file, the last one will become the current selection.

Next song: Loads the next MIDI file of playlist. If current file is the last one, the first file will become the current selection.

Playback: Starts to playback the current MIDI file.

Pause/Restart: Pauses or restarts the current playback action.
Stop: Stops playback.

Playback Backward for 10 seconds: Playback the current to 10 seconds before.

Playback Forward 10 seconds: Playback the current to 10 seconds after.

Loop: Playbacks the MIDI files of the playlist over and over again.

Setting: Selects the output device you want to use to playback the MIDI files.

Help: Shows the help screen for detailed button function descriptions.

About: Shows software version and copyright information.

Exit: Stops and leaves the MIDI Player.

MP3/Wave Player

MP3/Wave Player can play mp3, wave, and MPEG-1 files. It provides EAX and equalizer to improve the sound effects when you playback the audio files. MP3/ Wave Player can record input signals and save it into a wave file as well.
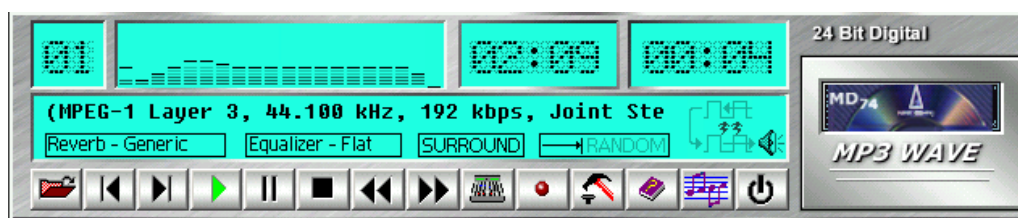
Current file field shows the number of the currently selected audio files in the playlist.

Frequency display field shows the frequency distribution.

Total length field displays the total length of the currently selected file in minutes and seconds.

Playback time field displays the current playback time.

File name and status field displays the file name, audio format, sound effects selection, playback mode, Karaoke mode, and SPDIF status.

Button Function

 Playlist: Playlist allows you to insert, remove, and record the audio files into and from the playlist. The audio files include wave, MP3, and MPEG-1 encoding files.

Play List

Total time: 02:09   For MD: 02:09

MD No. File name

```
0   01   C:\Program Files\PCI Audio Applications\cmedia-xg.MP3
```

[OK]
[Cancel]
[Insert]
[Remove]
[Remove All]
[Move Up]
[Move Down]
[Save]

Previous song: Loads the previous audio file of playlist. If current file is the first file, the last one will become the current selection.

Next song: Loads the next audio file of playlist. If current file is the last one, the first file will become the current selection.

Playback: Starts to playback the current audio file.

Pause/Restart: Pauses or restarts the current playback action.

Stop: Stops playback.

Playback backward for 10 seconds: Playback the current to 10 seconds before.

Playback forward for 10 seconds: *Playback the current to 10 seconds after.*

Sound effector: You can use this function to modify the special effect of the song being played. Currently, these effectors can only be used for 44.1 KHz, 16-bit format.
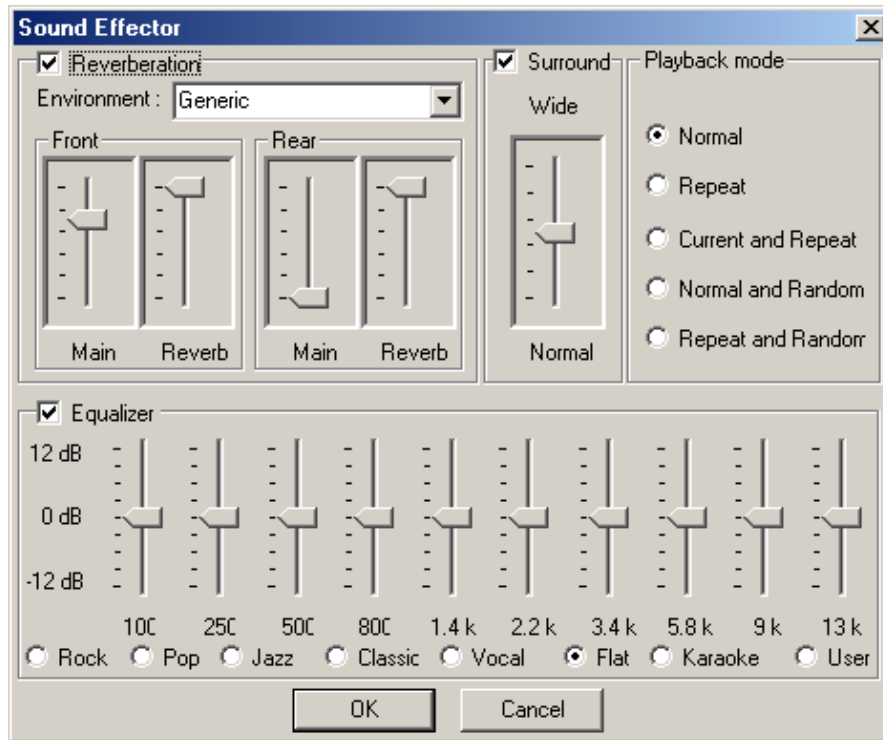
Setting: You can use this dialog to set the playback parameters and the status of SPDIF IN/OUT. For more information of SPDIF, please refer to the
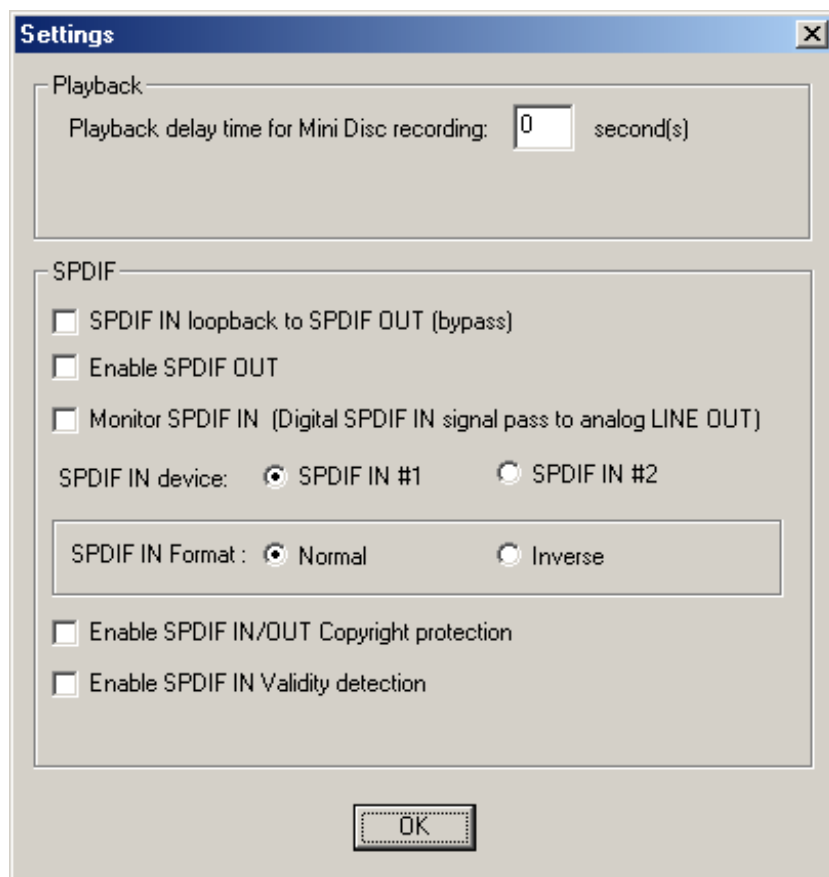
Appendixes C and D.

 Recording: You can use this function to record a wave file from any recording channel.
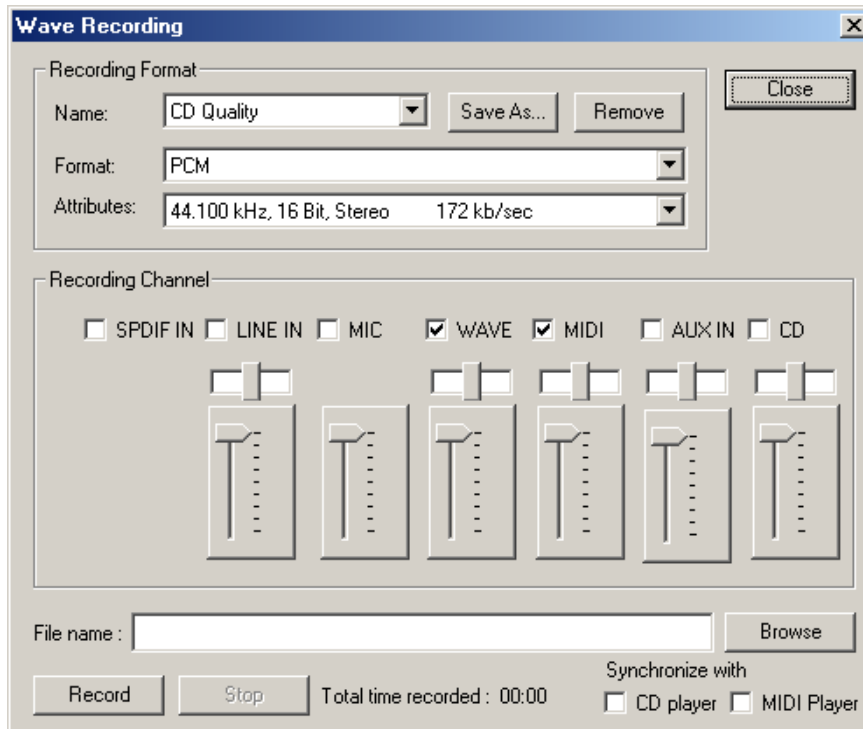
 Help: Shows the help screen for detailed button function descriptions.

 About: Shows software version and copyright information.

 Exit: Stops and leaves the MP3/Wave Player.

Mixer

Volume Control

For each output signal, the control slider regulates the loudness whereas a horizontal slider the balance between the two speakers. The mute button can temporarily stop the output without changing slider positions. A button with a lit LED means the output is available, and vice versa. Several output signals

can usually be enabled at once.

Volume: This is the master control over all outputs. The power of an outputRe signal is determined by both of the volume slider and the slider for the individual output. To modify all the outputs, adjust the volume slider. To change individual output(s), adjust its(their) slider(s).

CD: Regulates the CD drive audio input level.

MIC: Regulates the input level of microphone.

WAVE: Regulates wave (voice) playback levels.

MIDI: Regulates the MIDI music play level.

AUX IN: Regulates the Auxiliary input play level.

MONO IN: Regulates the Mono input level.

LINE IN: Regulates the Line-In levels.

Advanced: Regulates the advanced settings.

Recording Control

For each input signal, a control slider regulates the loudness whereas a horizontal slider the balance between the two channels. The select button can temporarily select input signal without changing slider positions. A button with a lit LED means it is available, and vice versa.

CD: Regulates the CD drive audio input level.

MIC: Regulates the input level of microphone.

WAVE: Regulates wave (voice) playback level.

FM: Regulates the FM music play level.
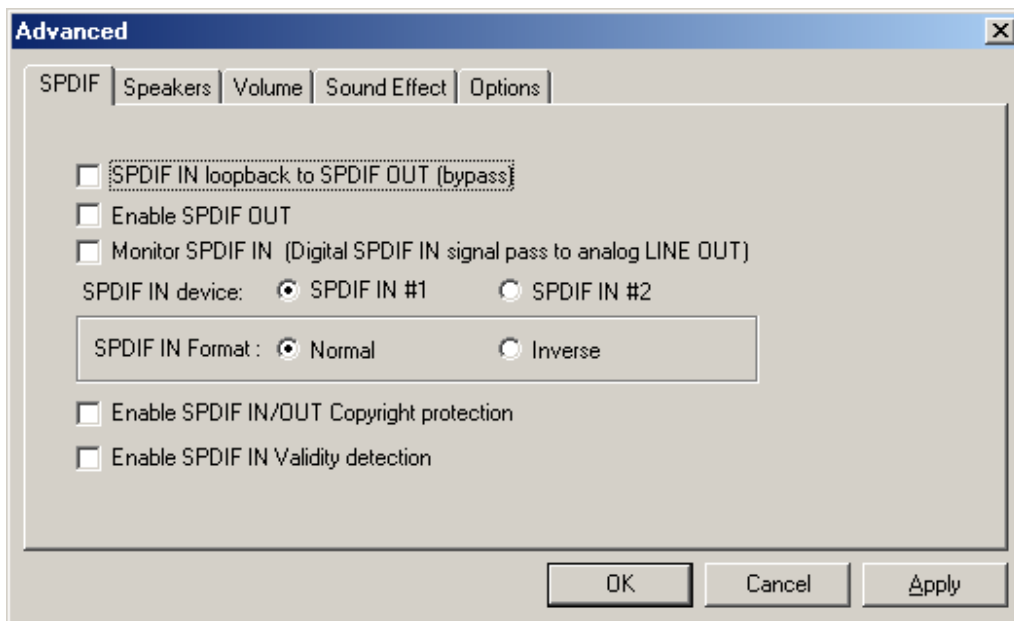
AUX IN: Regulates the Auxiliary input play level.

LINE IN: Regulates the Line-In level.

SPDIF IN: Enables the recording from SPDIF in. SPDIF-in is mutually exclusive with other input signals.

*Advanced:* Regulates the advanced settings.

Advanced - SPDIF

SPDIF dialog provides a full control over SPDIF IN/OUT functions. You can use these settings to connect your computer to other pieces of audio device, such as: Mini Disc players, amplifiers…etc. For more information of SPDIF, please refer to the Appendixes C and D.

Advanced - Speakers

Speakers dialog provides an interface allowing you to set your speakers configurations. First, You should make sure what model type your speakers are, and what the correct configurations are. And this dialog also shows the current status and functions of the phone jacks of your audio device. You can always refer to this to make sure whether or not the connections of your speakers and microphone are correct.
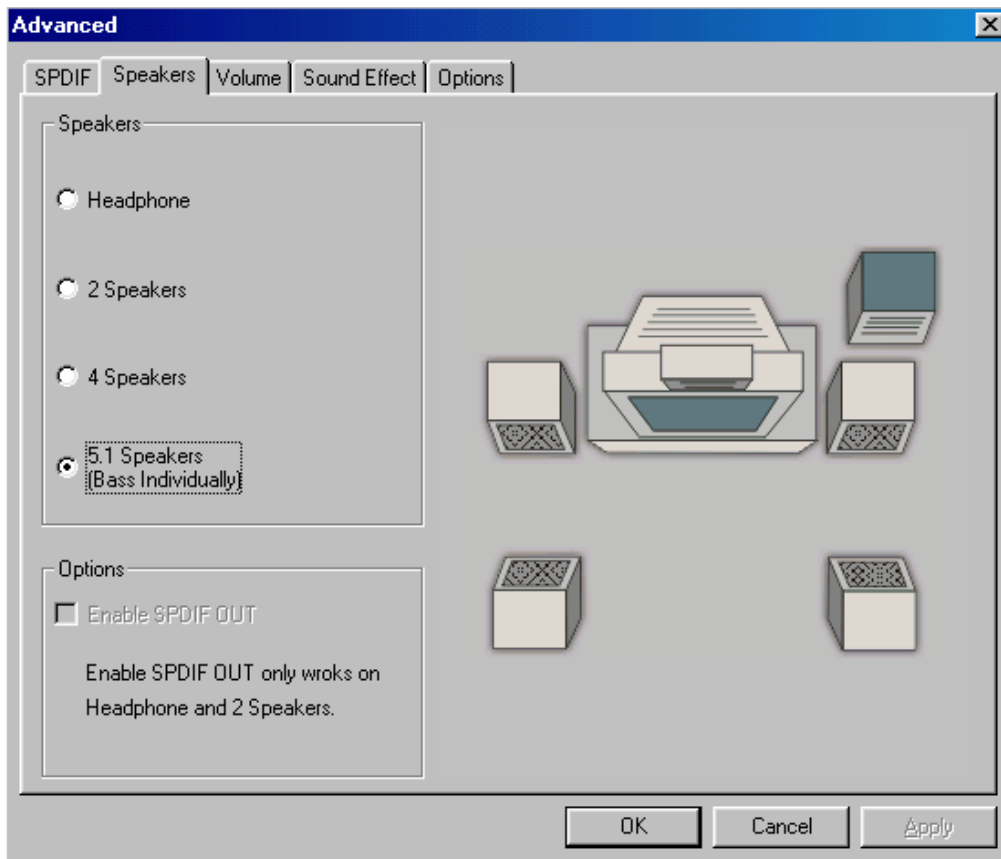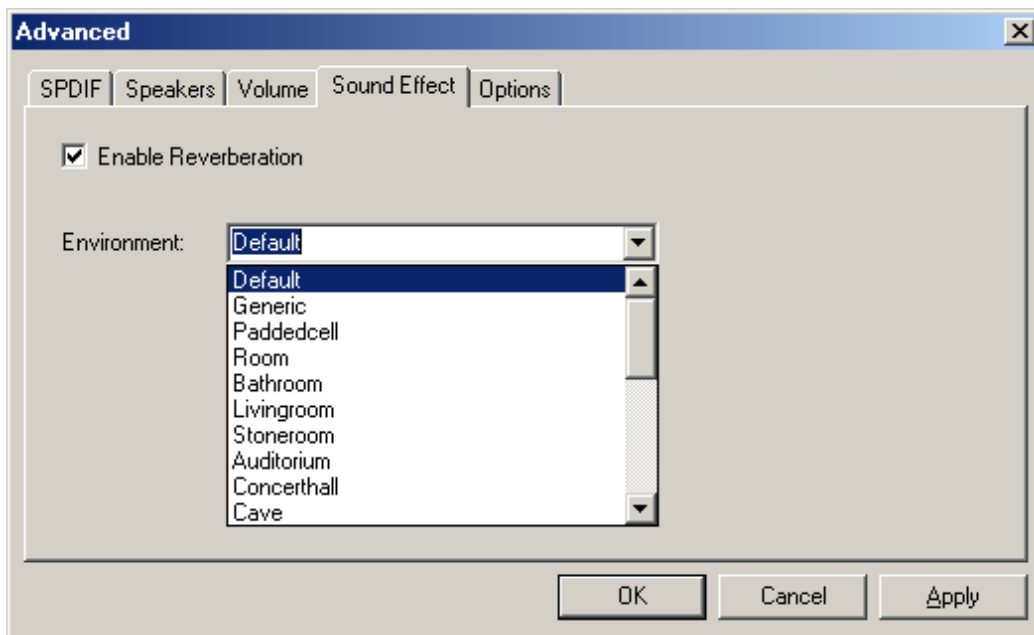
Advanced - Volume

Volume dialog provides a full control over the volume of the six channels digital output. You can adjust the volume of your speakers in this dialog. Please note that the volume of analog path is not controlled by this function.
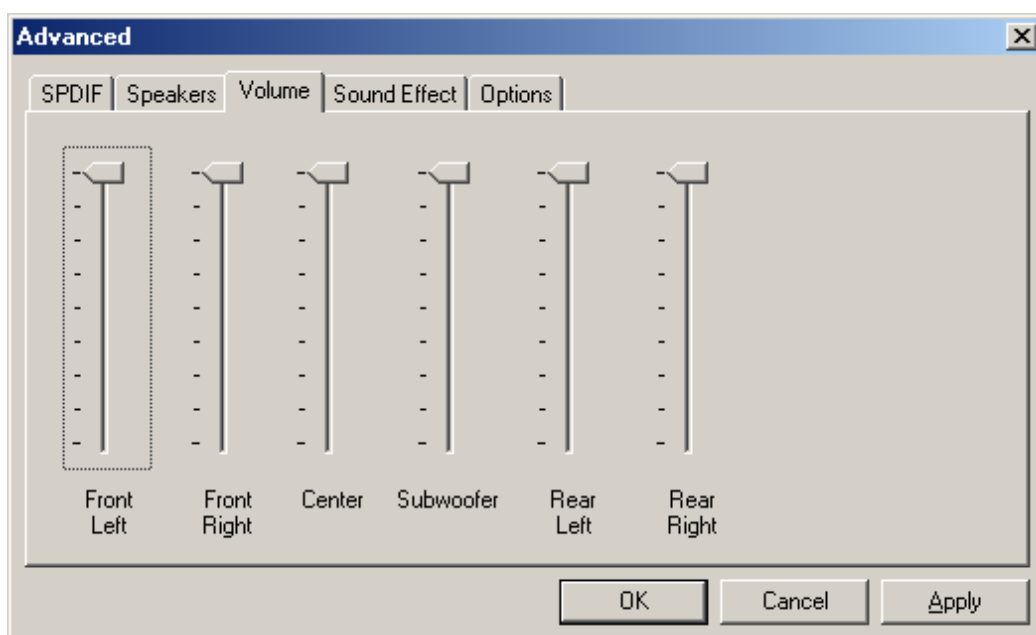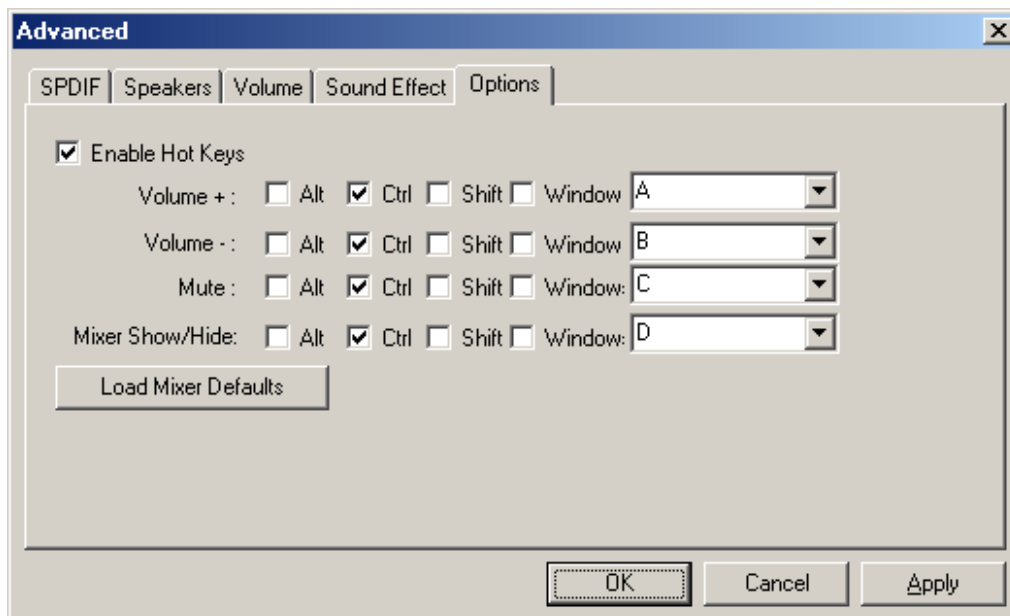
Advanced - Sound effects

Sound effects dialog allows you to modify the special effects of the song and game being played. Currently, these effectors can only be used for the player or the game which utilizes DirectSound 2D and 3D to playback their music.

Advanced - Options

Options dialog provides a hot key setting to control the Mixer in an easy way. Please note that other applications might be affected by this if you use the same hot key setting.

Please use 'Load Mixer Defaults' to change all settings to default values.

MULTI-CHANNEL AUDIO DEMO

CMI8738 PCI-Based C3DX Audio Chip provides many advanced functions, such as:

* HRTF-based CRL$^®$ 3D extensional/positional audio; API compatible with Microsoft$^®$ DirectSound$^®$ 3D and Aureal$^®$ A3D API. Supports rear side speakers; C3DX positional audio in 4/6CH speakers mode. (5.1 CH, DVD AC-3$^®$ home theater available).

* Compatible with EAX^{TM} (Environment Audio eXtention).

* KARAOKE ascending/descending keys, Echo.

* Supports Center/Subwoofer side speakers. (for chip model 039 and the following models).

To let everyone avail himself/herself of the above functions, a user-friendly interface(Multi-Channel Audio Demo) was designed with the following functions:

1. 4 CH speakers mode, including Demo1 and Demo2.

2. EAX^{TM} (Environment Audio eXtention) support.

3. HRTF-based CRL$^®$ 3D extensional/positional audio.

4. KARAOKE ascending/descending keys, Echo, and microphone ascending/descending keys.

5. 6 CH speakers mode, including Demo1 and Demo2. (for chip models 039 and the following models).

Speakers and Microphone Connection

Before running this demo program, you have to connect the speakers to the correct phone jacks.

CENTER/BASS ——

REAR_L/R ——

OPTICAL_INPUT ——

SPDIF_INPUT ——

OPTICAL_OUTPUT ——

SPDIF_OUTPUT ——
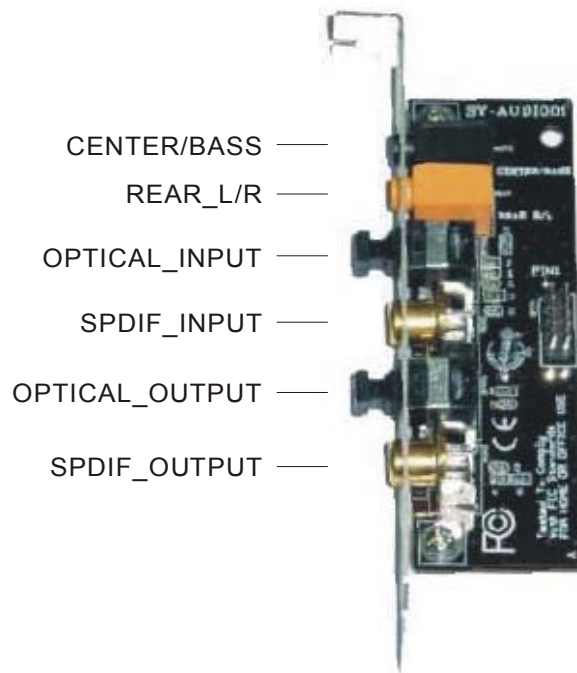
How to Enable 4/ 5/ 5.1 Speakers

You have to activate the "Mixer" program and enable the "4-Speaker", "5 Speakers", or "5.1 Speakers" mode to let the audio driver recognize your rear or center/subwoofer speakers, and have the front/rear/center/subwoofer speakers work. The audio driver will activate the audio chip to output different sounds from the front/rear/center/subwoofer speakers based on different playback formats. For more information, please refer to the 5.1.5 Mixer Advanced-Speakers dialog.

How to Adjust the Microphone Volume

You have to use the microphone when availing yourself of the "Echo" function. If the microphone is on and is very close to the speakers, it will cause feedback between the two. Also, unusual high frequencies or buzzing sounds might be heard from the speakers. To avoid this, you have to adjust the microphone volume in both recording and playback. Sometimes you might have to adjust the main and Wave volume as well. Please left-click the mouse to adjust the microphone(MIC) in both Volume and Recording Control.
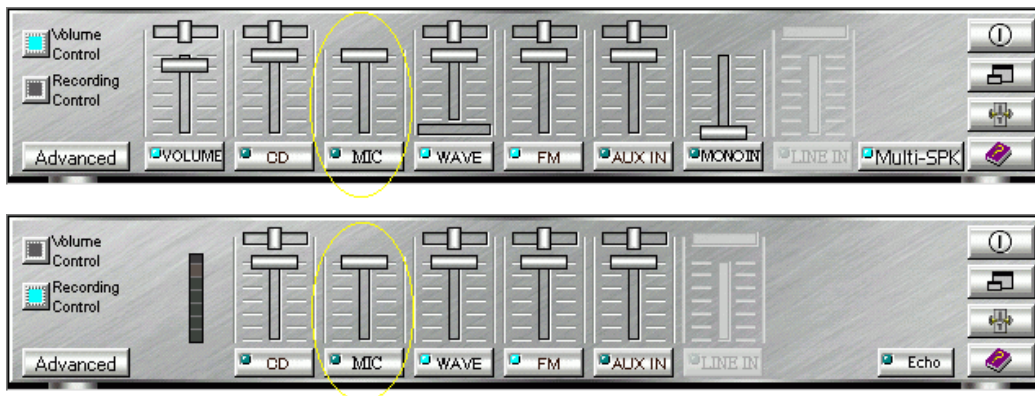
Test Your Speakers Connection

To make sure that the front and the rear speakers are correctly connected, you can use the following program to testify individual speaker output. Move cursor to whichever speaker you want to test and left-click the mouse. If the setup is correct, you can hear music coming from that speaker alone. Each music output is different for distinction.

The Center and Subwoofer speakers are only supported by chip model 039 and the following models.

Demonstrations

Demo1 and Demo 2 are specially design for 4-speaker system demonstration. Select Demo 1 and/or Demo 2 by left-clicking the mouse. Sit back and relax, and let the music take control.

How was it like? Isn't it fantastic??? If you don't have 4-speaker system, hurry up and buy yourself one right away!

EAX

Monotonous footsteps generate distinctive sound effects in different environments. In this Demo, you can hear a lady wearing high heels walk in different surroundings: generic environment, bathroom, sewer pipe, and underwater. Left-click the mouse to activate this Demo and feel the differences.


HRTF

HRTF stands for Head Related Transfer Functions, and it is a set of audio filters varying locations of sound effects(spatial hearing cues) in three-dimension measured from the listener's eardrum.

This technology and special digital signal processing are used to recreate spatial hearing cues, making our ears hear realistic and three-dimensional sounds coming from a pairs of loud speakers or headphones.

When you activate this Demo, you can hear a helicopter fly around you clockwise for three times.
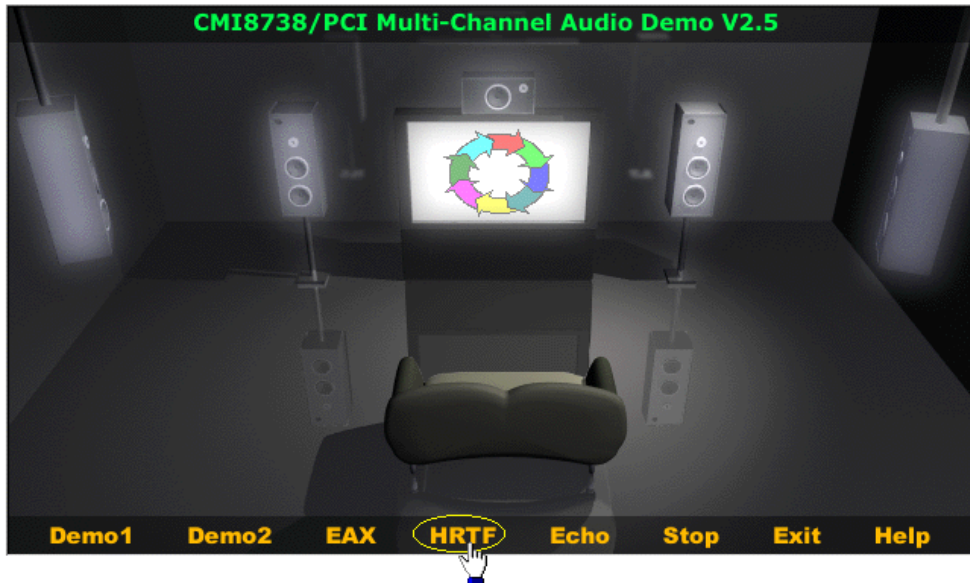
Echo

Like to sing along with Karaoke? It might occur to you to use your PC for this. However, when you turn on the microphone, play the song, and ready to sing, you see that the effect is not as good as expected. Why? Echo is the answer. To help you solve this problem, this demo is designed to include the Echo function. Please left-click the upper right of the demo screen as shown below, and choose your own music file to play. Please note the file type has to be MP3 file.
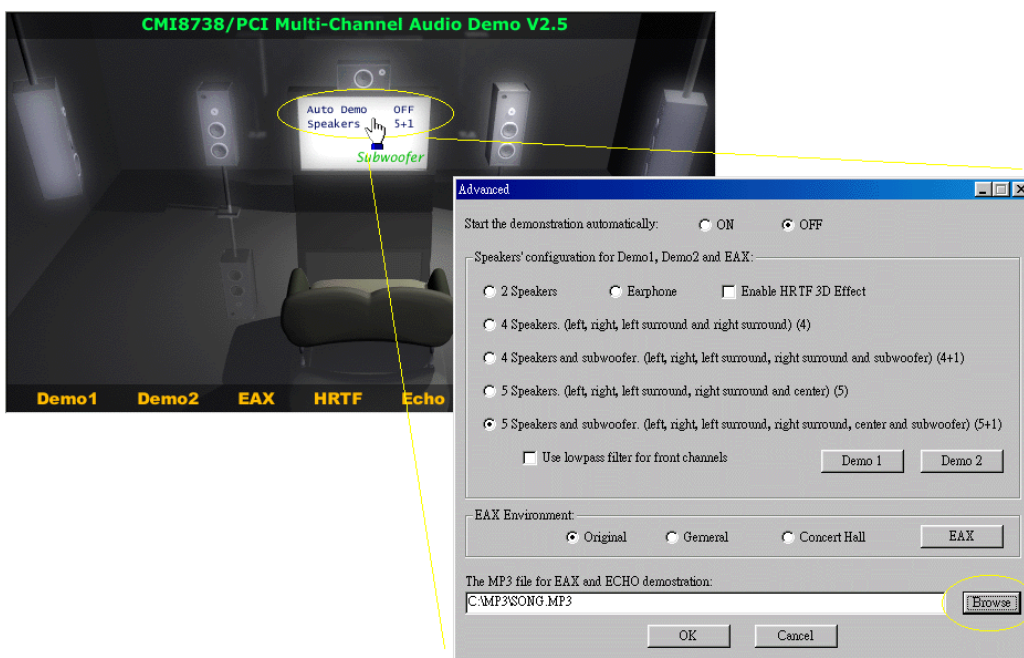
Please left-click "Echo" to activate the function. For pitch adjustment, please use ↑ and ↓ keys on the keyboard. For microphone pitch adjustment, please use "+" and "-" keys on the numeric keyboard. To resume the original, please use ← and → keys.

Using MP3/Wave Player to Work With Mini Disc Recording

MP3/Wave Player is an easy and powerful tool for Mini Disc recording. Besides allowing you to create your own playlist, it also provides a control interface of SPDIF IN/OUT of C-Media's sound card. The following 4 steps can help you create your album into Mini Disc easily.

STEP 1. Using optical fiber to connect the sound card and the MD player. MD player will start to do the recording and turning on the SYNC mode. (See above 1. Output A. PC to MD player)

STEP 2. To execute MP3/Wave Player and modify the play list. You should select those files whose format can be recognized by the MD Player. You can also change the sound effects if you like. (See also 5.1.4.)

STEP 3. In 'Setting' dialog, check 'Enable SPDIF-OUT', input the playback delay time, and select 5 Vp-p (Optical). Please note that in playback, if there is no lapse longer than three seconds between each track, the MD player can not recognize the tracks and will record all of them into one. It is recommended that you set the lapse time to 3~5 seconds to meet all type of MD player requirements.
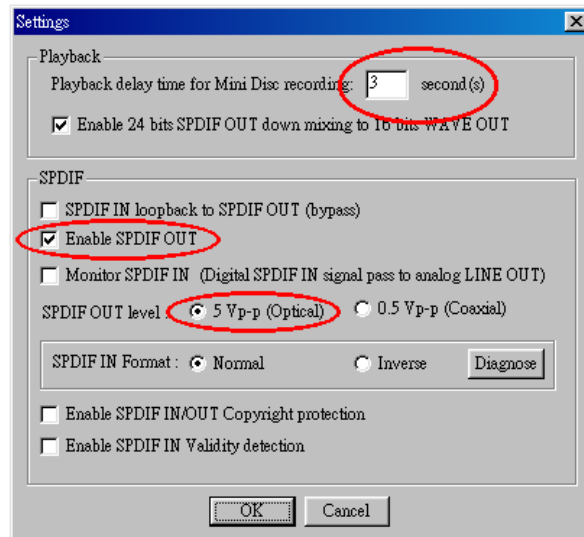
STEP 4. Start to play the songs. You will see that the MD player starts to do the recording as well.

Recording from SPDIF-IN

The optical module can be connected to SPDIF-IN device, such as the portable CD-ROM player, the CD-ROM drive, the MD Player, to name a few. The Windows application and the MP3/Wave player can be used to do the recording of the signal from SPDIF-IN. The recording steps are as follows:

STEP 1. Use optical fiber or coaxial to connect the sound card and SPDIF-IN device. (See also Appendix C 2. Input)

STEP 2. Execute MP3/Wave Player. In 'Setting' dialog, select 5 Vp-p (Optical) or 0.5 Vp-p (Coaxial).

STEP 3. In 'Wave Recording' dialog, you should select the recording format and SPDIF-IN recording channel. Then input the file name. Before recording, please turn on your SPDIF-IN device and start to playback. Finally, press 'Record' to start the recording process.
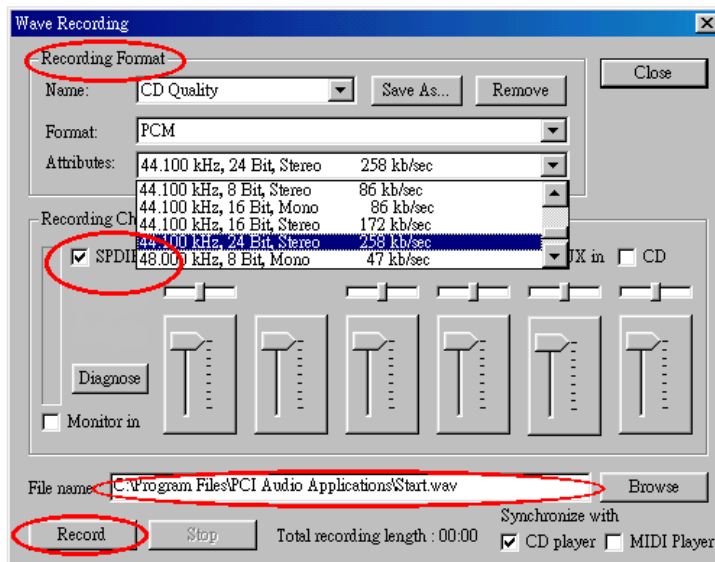
APPENDIX C

Troubleshooting at First Start

Boot-up Issues

The system do not power-up, no beeping sound heard and the CPU fan does not turn on.

1. check if the power cord is plug to the power source.
2. check if the power is connected to the M/B.
3. check if the cable of the case power button is connected to the M/B power button connector (see connectors and plug-ins in the manual for more info)
4. make sure the power supply is not defective. Change the power supply. The minimum should be 250 watts.
5. remove the M/B from the case and test the system. The M/B might be shorted to the case.

The system power-up, no video, no beeping sound heard, but the CPU fan is turning.

1. clear CMOS battery. (JP5 connector, see Quick start guide for more info on how to clear the CMOS)
2. check all the jumper settings on the M/B. (if the M/B have any)
3. check if the CPU is ok by using another CPU (check the Quick start guide for CPU supported on this M/B)
4. check if the power supply is ok. The minimum should be 250 watts.
5. make sure the CPU fan is connected to CPUFAN1 connector.
6. remove the M/B from the case and test the system. The M/B might be shorted to the case.

The system power-up, no video, beeping heard.

1. clear CMOS battery. (JP5 connector, see Quick start guide for more info on how to clear the CMOS)
2. check all the jumper settings on the M/B. (if the M/B have any)

3. check the memory module and the VGA card if inserted properly on the M/B.

4. if yes, change the memory module, it might be defective. Make sure the memory specification is supported by the M/B. (for more info on this, check our FAQ website)

5. change the VGA card.

The system turns on for some seconds then   shutdown by itself.

1. check if the CPU fan is connected to the CPUFAN1 connector.

2. the CPU might be overheating. Check the CPU FAN if it is defective or see if the CPU fan is in contact with the CPU.

3. clear CMOS battery. (JP5 connector, see Quick start guide for more info on how to clear the CMOS)

4. make sure the power supply you have on your system support the M/B specification. Example. If you have a P4 M/B, you need to use a P4 power supply.

5. if you already checked the power supply specification, change the power supply it might be defective. The minimum is 250 watts.

6. remove the M/B from the case and test the system. The M/B might be shorted to the case.

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

1. clear CMOS battery. (JP5 connector, see Quick start guide for more info on how to clear the CMOS)

2. if still has the problem, remove all other add-on cards except video card and floppy drive see if it can boot from floppy. Then put peripherals in one by one to identify which one cause the lockup.

3. change the CPU.

During Boot-up, my computer says CMOS memory Checksum error. What is the problem?

1. clear CMOS memory.
2. re-flash BIOS. Check on how to flash bios on the later part of this book.
3. change the CMOS battery, the battery might be drained.
4. the BIOS chip might be failing.

Stability Issue

My system intermittently locks up, very unstable.

1. check the CPU temp. it might be overheating. Change the CPU FAN.
2. do not over clock your CPU.
3. check the specification of the memory module, maybe the M/B do not support it.
4. go to BIOS setup and load fail safe settings. Please check if the system performance in the BIOS setup is set to Turbo/Maximum.
5. check website for latest bios update.
6. check website for FAQ's regarding instability issue.
7. change the memory module or CPU.
8. the power supply might not have enough wattage to support all the peripherals. if your system has other peripherals connected, like CD-RW, extra HDD, etc. disconnect them.
9. Install the Intel chipset software installation utility.

My system intermittently locks up, during Windows installation

1. go to BIOS and load "load optimized default".
2. check website for any BIOS update.
3. if still has the problem, remove all other add-on cards except CPU/Memory/Video card/Hard disk. See if you can finish Windows installation. Then put peripherals in one by one to identify which one cause the lockup.

BIOS Issue

Where can I find the BIOS revision of my mainboard?

It will be displayed on the up-left corner on the screen during boot-up. It will show as your board type followed by the revision number, such as kvxa_2BA1 (meaning BIOS revision 2BA1 for the SY-K7V Dragon plus board) or 6BA+ IV_2AA2 which means SY-6BA+ IV motherboard with 2AA2 bios.

Where can I find the latest BIOS of my motherboard?

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

How can I flash the BIOS?

1. download the BIOS on our support website.
2. Make a bootable floppy disk with out any memory manager loaded. (i.e. himem, emm386, etc..)
3. copy the BIOS file and awdflash utility to the diskette.
4. type "awdflash biosname.bin /sn /py".
5. then reboot.

After flashing the BIOS, my system will not boot-up

1. try clearing the CMOS.
2. the BIOS chip is defected due to unsuccessful flash, contact your nearest Soyo branch for re-flashing.

Is there a way to reprogram my BIOS after an unsuccessful flash?

No other way, you need to send back the BIOS ROM to your nearest Soyo branch for re-flashing.

VGA Issue

I cannot set my VGA to go higher than 16 color (640x 480)

1. make sure that you have installed the Intel chipset software installation utility.
2. install/ re-install the VGA driver.

After wake-up from Suspend to RAM or Standby mode, the screen has

no display but I can hear the hard disk operating

1. install the Intel chipset software installation utility.
2. Check the VGA card manufacturer for driver update. Or make sure the VGA card support Suspend to Ram function.

Audio Issue

How can I disable the on-board Audio?

Go to the SOYO Combo Feature in the BIOS setup, then set the "onboard 6CH H/W audio" to disable.

I cannot get the sound working on my system.

1. check if the speaker wire is connected to the line out connector in the M/B.
2. check if the speaker power is powered on.
3. install the audio driver supplied on our driver disc.
4. Check BIOS setup if "onboard 6CH H/W audio" is enabled.
5. if sound already installed, check our website for audio driver update.

I cannot get the sound working on the 5.1 channel speaker.

1. install the audio driver and application. Check driver installation for more info.
2. check if the settings in the 5.1 speaker control box are correct, like if you have a SPDIF connector but the setup in the speaker box is set to analog.
3. check if the speaker connection to the M/B is correct.
4. make sure the software setup is correct. check manual for more info.

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

This is because the 3-wire audio cable from the CD-ROM to the on-board CDIN1 connector in the M/B is not connected. See manual for location of CDIN1.

The sound from my sound card is distorted when Windows start.

What is wrong?

1. if you are using an ISA sound card, please make sure the IRQ needed for the sound card is set to 'Legacy ISA' in the bios. In other word, if your ISA sound card takes IRQ5, then set IRQ5 to 'Legacy ISA'.

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

1. Please go to sound properties and check if the recorder and microphone in the are enabled.
2. check if Microphone is ok.

Hard disk/FDD/ CD-ROM issue

My Western digital HDD is not detected during boot-up

Change the jumper settings to cable select or single.

Sometimes the system finds my CD-ROM, sometimes not

1. check CD-ROM if it is working properly.
2. the power supply might not have enough wattage to support all the peripherals. if your system has other peripherals connected, like CD-RW, extra HDD, etc. disconnect them.

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

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

RAID issue

Windows do not detect the on-board RAID

Enable the on-board RAID function in the BIOS.

Can I use my CD-ROM on IDE 3 & 4?

Yes, you can use the CD-ROM on IDE 3 & 4.

Can I use IDE 3 & 4 to boot from CD-ROM?

No.

Can I use IDE 3 & 4 as a normal IDE channel?

Yes, just connect your HDD on IDE 3 or IDE 4. No need to change any settings in the BIOS.

I cannot get the HDD to boot from IDE 3 or IDE 4, why?

Make sure that the 1st boot device in the BIOS is set to SCSI.

USB Issues

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

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

I cannot get my USB working, help!

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

LAN Issues

During LAN driver installation, the system hangs on 75%, why?

Enable the onboard LAN in the BIOS setup..

APPENDIX D
How to contact us:
- If you are interested in our products, please contact the SOYO sales department in the region you live.
- If you require Technical Assistance, please contact our Technical Support in the region you live.

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

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