663AS / 663AS PRO
USER'S MANUAL

M/B For Socket-A Athlon/Duron Processor

** Year 2000 compliant **

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CHAPTER 4 DRIVER & FREE PROGRAM INSTALLATION

USER'S NOTICE

Manual Revision Information

Reversion	Revision History	Date
1.0	Release	Oct 2000

Item Checklist

- ☑ 663AS/663AS PRO
- ☑ Cable for IDE/Floppy
- ☑ CD for motherboard utilities
- ☐ Cable for USB Port 3/4 (Option)
- ☑ Cable for COM2
- ☑ 663AS/663AS PRO User's Manual

AMD-Duron™ Processor Family
Cooling Solutions

As processor technology pushes to faster speeds and higher performance, thermal management becomes increasingly crucial when building computer systems. Maintaining the proper thermal environment is key to reliable, long-term system operation. The overall goal in providing the proper thermal environment is keeping the processor below its specified maximum case temperature. Heatsinks induce improved processor heat dissipation through increased surface area and concentrated airflow from attached fans. In addition, interface materials allow effective transfers of heat from the processor to the heatsink. For optimum heat transfer, AMD recommends the use of thermal grease and mounting clips to attach the heatsink to the processor.

When selecting a thermal solution for your system, please refer to the website below for collection of heatsinks evaluated and recommended by AMD for use with AMD processors. Note, those heatsinks are recommended for maintaining the specified Maximum T case requirement. In addition, this collection is not intended to be a comprehensive listing of all heatsinks that support AMD processors.

For vendor list of heatsink and fan, please visit：
http://www1.amd.com/products/duron/thermals

Chapter 1

Introduction of 663AS/663AS PRO Motherboard

1-1 Feature of motherboard

The 663AS/663AS PRO motherboard is design for use AMD Athlon/Duron CPU, which utilize the Socket-A design and the memory size expandable to 1.5GB.

This motherboard use the newest VIA KT-133 chipset, whose 100MHz front side bus & 133MHz memory interface delivers a clear upgrade path to the future generation of 100MHz processors and PC-133 SDRAM. The 663AS/663AS PRO motherboard offers ULTRA ATA **100** (663AS only supports ATA 66) to provide speedier HDD throughout that boosts overall system performance.

The 663AS/663AS PRO also has an integrated AC'97 2.1 CODEC on board which is fully compatible with Sound Blaster Pro® that gives you the best sound quality and compatibility. For those wanting even greater graphic performance, an AGP 4X slot is included on the board.

With 2 USB control as well as capability of expanding to 4 USB connectors, the 663AS/663AS PRO meet future USB demand also this motherboard has built-in hardware monitor function. This will monitor and protect your computer.

This motherboard supports standard Synchronous DRAM (SDRAM) and Virtual Channel SDRAM (VC SDRAM), in a flexible mix/match manner.

This motherboard provides high performance & meets future specification demand. It is really wise choice for your computer.

1-2 Specification

Spec	Description

Design	* ATX form factor 4 layers PCB size: 30.5x21cm
Chipset	* VIA VT8363/VT 82C686A KT-133 Chipset (For 663AS)
	* VIA VT8363/VT 82C686B KT-133 Chipset (For 663AS PRO)
CPU Socket	* Support AMD Athlon 700~1GHz processor
	* Support AMD Duron 600~750MHz processor
	* Support 100MHz F.S.B.
	* Support 200MHz (Double Data Rate)
	* Reserves support for future AMD Athlon/Duron processors
Memory Socket	* 168-pin DIMM socket x3
	* PC-100/PC-133 SDRAM/Virtual Channel SDRAM (VC SDRAM)
	* Expandable to 1.5GB
	* Support 3.3V SDRAM DIMM
Expansion Slot & Headers	* AGP slot x1 support AGP 2.0 & 4X mode
	* 32-bit PCI slot x5
	* AMR slot x1
	* ISA slot x1
Integrate IDE	* 2 channel of Bus Master IDE port supporting ULTRA DMA 33/66 mode devices (For 663AS)
	* 2 channel of Bus Master IDE port supporting ULTRA DMA 33/66/**100** mode devices (For 663AS PRO)
Audio	* AC'97 Digital Audio controller integrated
	* AC'97 Audio CODEC on board
	* Audio driver and utility included
BIOS	* Award 2MB Flash ROM
Multi I/O	* PS/2 keyboard and PS/2 mouse connectors
	* Floppy disk drive connector x1
	* Parallel port x1
	* Serial port x2
	* USB connector x2
	* USB headers x2 (connecting cable option)
	* Audio connector (Line-in, Line-out & Game Port)

1-3 Performance List

The following performance data list is the testing result of some popular benchmark testing programs. These data are just referred by users, and there is no responsibility for different testing data values gotten by users (the different Hardware & Software configuration will result in different benchmark testing results.)

CPU: AMD K7 900MHz FC-PGA package

DRAM: 128M SDRAM x2 (Hyundai GM 72V66841ET75)

                           128M PC-133 VCM SDRAM x2 (NEC D4565821G5)

VGA Expansion Card: Geforce 256 (1024x768 Hi-color) Driver V3.68

Hard Disk Driver: Quantum Fireball KX20A11

BIOS: Award Optimal default

OS: Win 98SE

A: PC-133 SDRAM

B: VCM SDRAM

Performance Test Report

	PC-133 SDRAM		VCM SDRAM	
	100/100	**100/133**	**100/100**	**100/133**
3D Mark 99	5848	5849	5820	5853
3D Mark 2000	4187	4213	4163	4207
3D Winbench 99 V1.2	899	900	899	900
3D Winbench 2000	79.2	80.1	78.7	80.2
Final Reality	6.32	6.30	6.27	6.52
Winstone 99 V1.3	32.7	32	32	32.1
Winstone 2000	37.6	37.3	36.7	37.2
Winbench 99 :				
CPU Mark 99	82	82.5	80.2	82
FPU Winmark 99	4920	4920	4920	4920
Busniess Disk Winmark99	4860	4820	4810	4940
Hi-end Disk Winmark99	17000	16900	16900	17000
Business Graphic Winmark	419	420	416	420
Hi-end Graphic Winmark	1230	1240	1220	1250
SYS Mark 2000 : SISMark 2000 Rating (Internet Content Creation / Office Productivity)				
Suites	184	183	179	184
Offical	182	182		
SISOFT Sandra 2000 :				
CPU MIPS	2830	2814	2826	2821
FPU MFLOPS	1213	1257	1213	1213
CPU / Memory MB/S	391	417	413	470
FPU / Memory MB/S	422	500	460	565
QUAKE3 :				
DEMO1 FPS	103.5	105.0	99.7	104.6
DEMO2 FPS	100.7	102.5	97.0	102.1
	BY SPD	BY SPD	BY SPD	BY SPD

1-4 Layout & Jumper Setting
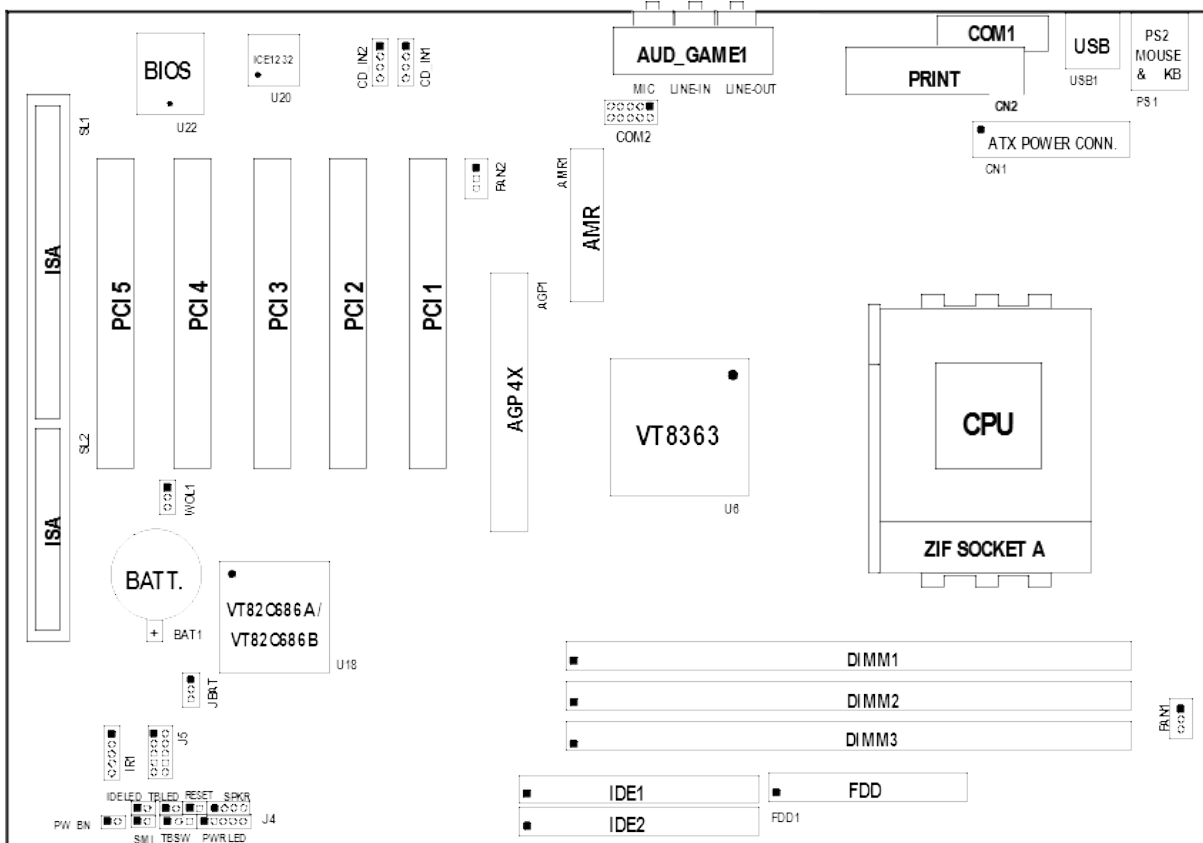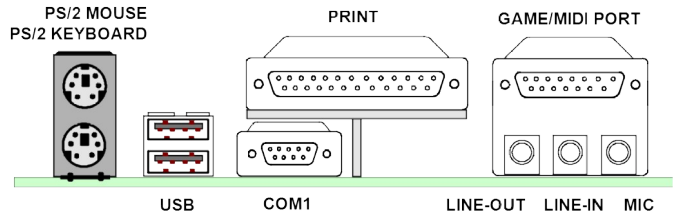
Jumpers

Jumper	Name	Description	Page

JBAT	CMOS RAM Clear	3-pin Block	p.8

Connectors

Connector	Name	Description	Page
CN1	ATX Power Connector	20-pin Block	p.13
PS1	PS/2 Mouse & PS/2 Keyboard Connector	6-pin Female	p.13
USB1	USB Port Connector	4-pin Connector	p.13
CN2	Parallel Port Connector	25-pin Female	p.13
AUD_GAME1	Audio/Game Connector	3 phone jack + 15-pin Connector	p.13
COM1	Serial Port COM1 Connector	9-pin Connector	p.15
FDD1	Floppy Driver Connector	34-pin Block	p.15
IDE1	Primary IDE Connector	40-pin Block	p.15
IDE2	Secondary IDE Connector	40-pin Block	p.16

Headers

Header	Name	Description	Page
COM2	COM2 Headers	10-pin Block	p.16
J5	USB Port Headers	10-pin Block	p.17
IDELED	IDE activity LED	2-pin Block	p.17
TBLED	Turbo LED switch	2-pin Block	p.17
RESET	Reset switch lead	2-pin Block	p.17
SPKR	Speaker connector	4-pin Block	p.17
PWR LED	Power LED	2-pin Block	p.17
PW BN	Power switch	2-pin Block	p.17
WOL1	Wake On-LAN Headers	3-pin Block	p.18
FAN1,FAN2	FAN Speed Headers	3-pin Block	p.18
IR1	IR infrared module Headers	5-pin Block	p.18
CD_IN1,CD_IN2	CD Audio-In Headers	4-pin Block	p.19

Expansion Sockets

Socket/Slot	Name	Description	Page
ZIF Socket 462	CPU Socket	462-pin PPGA CPU Socket	p.9
DIMM1, DIMM2 DIMM3	DIMM Module Socket	168-pin DIMM SDRAM Module Expansion Socket	p.10
PCI1, PCI2, PCI3, PCI4, PCI5	PCI Slot	32-bit PCI Local Bus Expansion slots	p.12
AGP	AGP 4X Mode Slot	AGP Expansion Slot	p.13
ISA	ISA Slot	16-bit ISA BUS Expansion Slot	p.12

Chapter 2

Hardware installation

2-1 Hardware installation Steps

Before using your computer, you had better complete the following steps:
1. Check motherboard setting
2. Install CPU
3. Install Memory
4. Install Expansion cards
5. Connect Ribbon cables, Panel wires, and power supply
6. Setup BIOS
7. Install software driver & utility

2-2 Checking Motherboard's Jumper Setting

1. CMOS RAM Clear (3-pin) : JBAT
   A battery must be used to retain the motherboard configuration in CMOS RAM short 1-2 pins of JBAT to store the CMOS data.

   Note: You can clear CMOS by shorting 2-3 pin, while the system is off. Then return to 1-2 pin position. Avoid clearing the CMOS while the system is on, it will damage the motherboard always unplug the power cord from the wall socket.

CMOS RAM Clear Setting
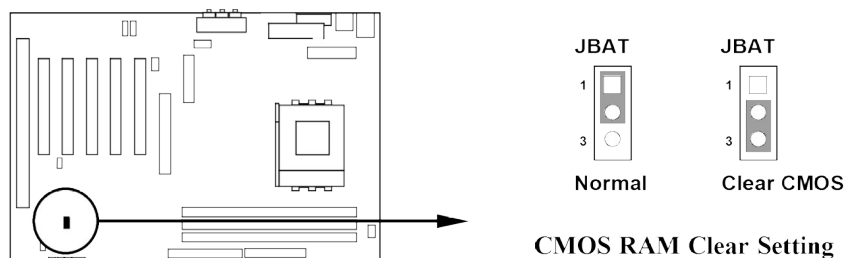
2-3 Install CPU

2-3-1 Glossary

Chipset (or core logic) - two or more integrated circuits which control the interfaces between the system processor, RAM, I/O devises, and adapter cards.

Processor slot/socket - the slot or socket used to mount the system processor on the motherboard.

Slot (AGP, PCI, ISA, RAM) - the slots used to mount adapter cards and system RAM.

AGP - **A**ccelerated **G**raphics **P**ort - a high speed interface for video cards; runs at 1X (66MHz), 2X (133MHz), or 4X (266MHz).

PCI - **P**eripheral **C**omponent **I**nterconnect - a high speed interface for video cards, sound cards, network interface cards, and modems; runs at 33MHz.

ISA - **I**ndustry **S**tandard **A**rchitecture - a relatively low speed interface primarily used for sound cards and modems; runs at approx. 8MHz.

Serial Port - a low speed interface typically used for mouse and external modems.

Parallel Port - a low speed interface typically used for printers.

PS/2 - a low speed interface used for mouse and keyboards.

USB - **U**niversal **S**erial **B**us - a medium speed interface typically used for mouse, keyboards, scanners, scanners, and some digital cameras.

Sound (interface) - the interface between the sound card or integrated sound connectors and speakers, mic, game controllers, and MIDI sound devices.

LAN (interface) - **L**ocal **A**rea **N**etwork - the interface to your local area network.

BIOS (**B**asic **I**nput/**O**utput **S**ystem) - the program logic used to boot up a computer and establish the relationship between the various components.

Driver - software, which defines the characteristics of a device for use by another device or other software.

Processor - the "central processing unit" (CPU); the principal integrated circuit used for doing the "computing" in "personal computer"

Front Side Bus Frequency
The working frequency of the motherboard, which is generated by the clock generator for CPU, DRAM and PCI BUS.

CPU L2 Cache
The flash memory inside the CPU, normally Athlon CPU has 256K or above, while Duron will have 64K.

2-3-2 About AMD Athlon & Duron 462-pin CPU

This motherboard supports Socket-A (Socket-462) AMD Athlon/Duron processors.

This motherboard Provides a ZIF Socket-A. The CPU that comes with the motherboard should have a cooling FAN attached to prevent overheating. If this is not the case, then purchase a correct cooling FAN before you turn on your system.

WARNING!	Be sure that there is sufficient air circulation across the processor's heatsink and CPU cooling FAN is working correctly, otherwise it may cause the processor and motherboard overheat and damage, you may install an auxiliary cooling FAN, if necessary.

WARNING!	Due to this motherboard provides new function of protecting CPU ; you must connect the CPU FAN connector on FAN1 location in order to obtain

To install a CPU, first turn off your system and remove its cover. Locate the ZIF socket and open it by first pulling the level sideways away from the socket then upward to a 90-degree angle. Insert the CPU with the correct orientation as shown below. The notched corner should point toward the end of the level. Because the CPU has a corner pin for two of the four corners, the CPU will only fit in the orientation as shown.

Colden Arrow

AMD®

Socket-A
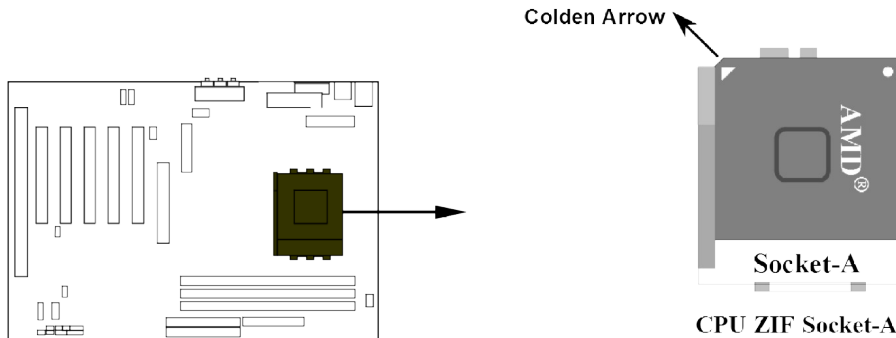
CPU ZIF Socket-A

When you put the CPU into the ZIF socket. No force require to insert of the CPU, then press the level to Locate position sightly without any extra force.

2-4 Install Memory

This motherboard provides three 168-pin DUAL INLINE MEMORY MODULES (DIMM) sites for memory expansion available from minimum memory size of 32MB to maximum memory size of 1.5GB SDRAM.

Valid Memory Configurations

Bank	168-Pin DIMM		Total Memory
Bank 0, 1 (DIMM1)	SDRAM 32, 64, 128, 256, 512MB	X1	32MB~512MB
Bank 2, 3 (DIMM2)	SDRAM 32, 64, 128, 256, 512MB	X1	32MB~512MB
Bank 4, 5 (DIMM3)	SDRAM 32, 64, 128, 256, 512MB	X1	32MB~512MB
Total	System Memory (Max. 1.5GB)		32MB~1.5GB

NOTE! Make sure the total installed memory does not exceeds 1.5GB, otherwise the system may hang during startup.

Generally, installing SDRAM modules to your motherboard is very easy, you can refer to figure 2-4 to see what a 168-Pin PC100 & PC133 SDRAM module looks like.
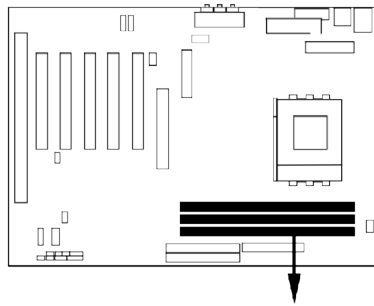
| DIMM1 (BANK0+ BANK1) |
| DIMM2 (BANK2+ BANK3) |
| DIMM3 (BANK4+ BANK5) |
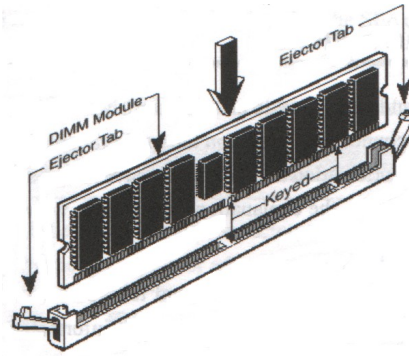
Figure 2-4

NOTE! When you install DIMM module fully into the DIMM socket the eject tab should be locked into the DIMM module very fimly and fit into its indention on both sides.

WARNING! For the SDRAM CLOCK is set at 133MHz, use only PC133-compliant DIMMs. When this motherboard operate at 133Mhz, most system will not even boot if non-compliant modules are used because of the strick timing issues, if your DIMM are not PC133-compliant, set the SDRAM clock to 100MHz to ensure system stability.

2-5 Expansion Cards

WARNING! Turn off your power when adding or removing expansion cards or other system components. Failure to do so may cause severe damage to both your motherboard and expansion cards.

2-5-1 Procedure For Expansion Card Installation

1. Read the documentation for your expansion card and make any necessary hardware or software setting for your expansion card such as jumpers.
2. Remove your computer's cover and the bracket plate on the slot you intend to use.
3. Align the card's connectors and press firmly.
4. Secure the card on the slot with the screen you remove above.
5. Replace the computer system's cover.
6. Set up the BIOS if necessary.
7. Install the necessary software driver for your expansion card.

2-5-2 Assigning IRQs For Expansion Card

Some expansion cards need an IRQ to operate. Generally, an IRQ must exclusively assign to one use. In a standard design, there are 16 IRQs available but most of them are already in use.

Standard Interrupt Assignments

IRQ	Priority	Standard function
0	N/A	System Timer
1	N/A	Keyboard Controller
2	N/A	Programmable Interrupt
3 *	8	Communications Port (COM2)
4 *	9	Communications Port (COM1)
5 *	6	Sound Card (sometimes LPT2)
6 *	11	Floppy Disk Controller
7 *	7	Printer Port (LPT1)
8	N/A	System CMOS/Real Time Clock
9 *	10	ACPI Mode when enabled
10 *	3	IRQ Holder for PCI Steering
11 *	2	IRQ Holder for PCI Steering
12 *	4	PS/2 Compatible Mouse Port
13	N/A	Numeric Data Processor
14 *	5	Primary IDE Channel
15 *	1	Secondary IDE Channel

* These IRQs are usually available for ISA or PCI devices.

2-5-3 Interrupt Request Table For This Motherboard

Interrupt request are shared as shown the table below:

	INT A	INT B	INT C	INT D
PCI slot 1	Shared	—	—	—
PCI slot 2	—	Shared	—	—
PCI slot 3	—	—	Not Shared	—
PCI slot 4	—	—	—	Shared
PCI slot 5	Shared	—	—	—
AGP slot	Shared	—	—	—
AC97/MC97	—	—	Shared	—
Onboard USB 0	—	—	—	Shared
Onboard USB 1	—	—	—	Shared

IMPORTANT! If using PCI cards on shared slots, make sure that the drivers support "Shared IRQ" or that the cards don't need IRQ assignments. Conflicts will

2-5-4 AGP Slot

This motherboard provides an AGP Slot, support the 1X/2X/4X AGP VGA card.
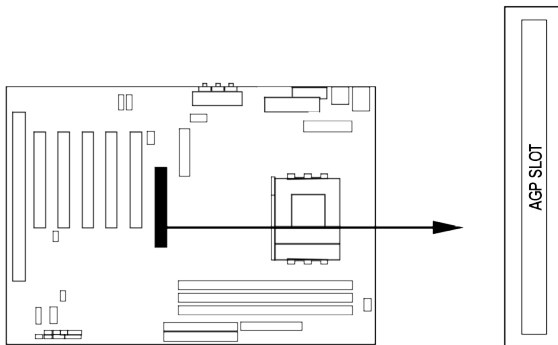
2-6 Connectors, Headers

2-6-1 Connectors

(1) Power Connector (20-pin block) : CN1

ATX Power Supply connector. This is a new defined 20-pins connector that usually comes with ATX case. The ATX Power Supply allows to use soft power on momentary switch that connect from the front panel switch to 2-pins Power On jumper pole on the motherboard. When the power switch on the back of the ATX power supply turned on, the full power will not come into the system board until the front panel switch is momentarily pressed. Press this switch again will turn off the power to the system board.

PIN	ROW2	ROW1
1	3.3V	3.3V
2	-12V	3.3V
3	GND	GND
4	Soft Power On	5V
5	GND	GND
6	GND	5V
7	GND	GND
8	-5V	Power OK
9	+5V	+5V (for Soft Logic)
10	+5V	+12V
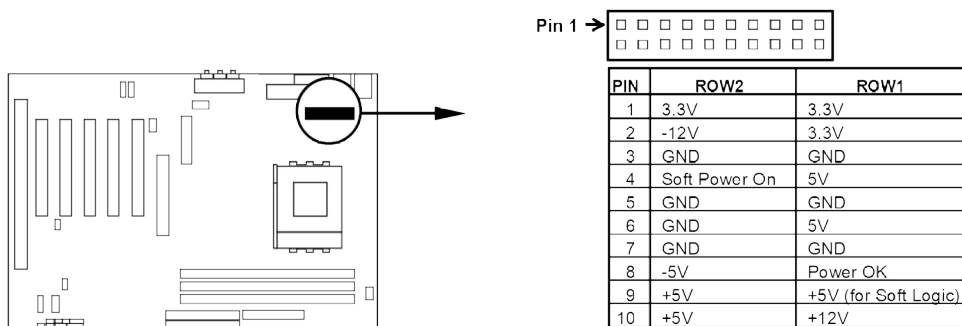
(2) PS/2 Mouse & PS/2 Keyboard Connector: PS1

The connectors for PS/2 keyboard and PS/2 Mouse.

PS/2 Mouse

PS/2 Keyboard
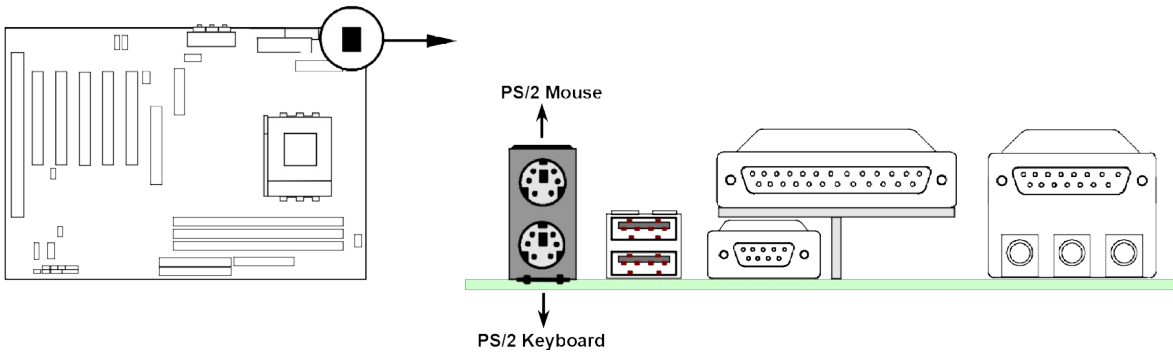
(3)   USB Port connector: USB1

The connectors are 4-pin connector that connect USB devices to the system board.

USB PORT 1

USB PORT 2
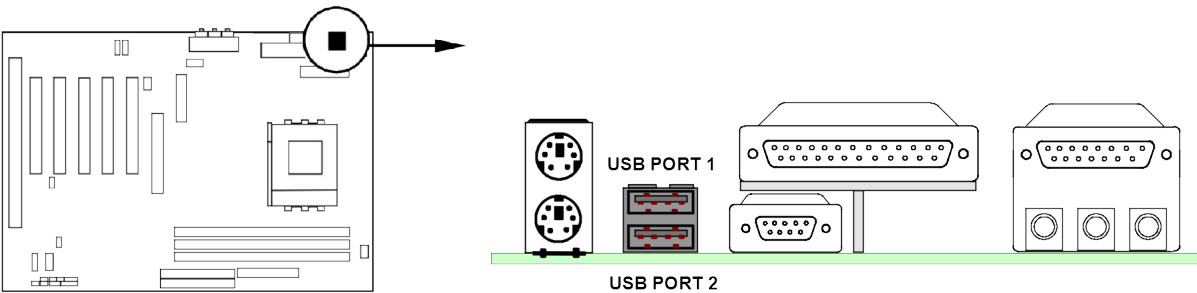
(4)   Parallel Port Connector (25-pin female): CN2

Parallel Port connector is a 25-pin D-Subminiature Receptacle connector.   The On-board Parallel Port can be disabled through the BIOS SETUP. Please refer to Chapter 3 "INTEGRATED PERIPHERALS SETUP" section for more detail information.

Parallel Port
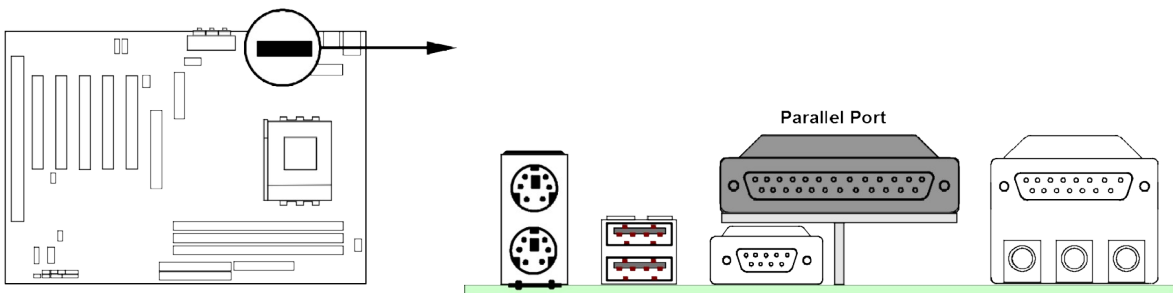
(5)   Audio and Game Connector : AUD_GAME

This Connector are 3 phone Jack for LINE-OUT, LINE-IN, MIC and a 15-pin

D-Subminiature Receptacle Connector for joystick/MIDI Device.

Line-out :   Audio output to speaker

Line-in :   Audio input to sound chip

MIC :   Microphone Connector

Game/MIDI :   For joystick or MIDI Device
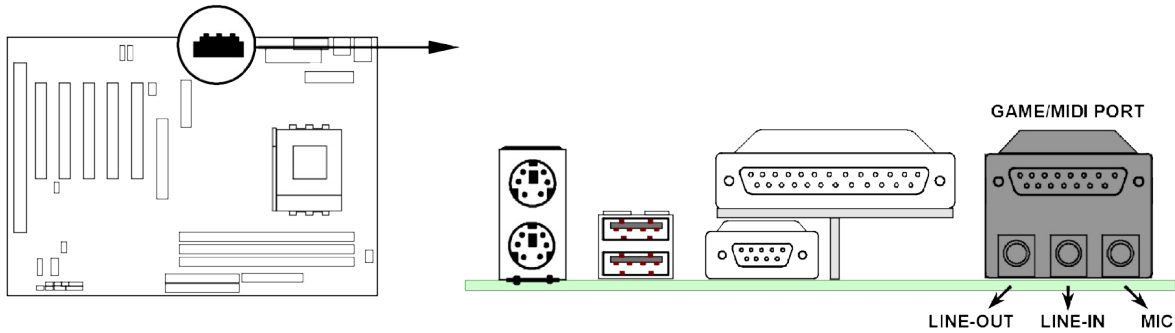
(6)   Serial Port COM1: COM1

COM1 is the 9-pin D-Subminiature mail connector. The On-board serial port can be disabled through BIOS SETUP. Please refer to Chapter 3 "INTEGRATED PERIPHERALS SETUP" section for more detail information.
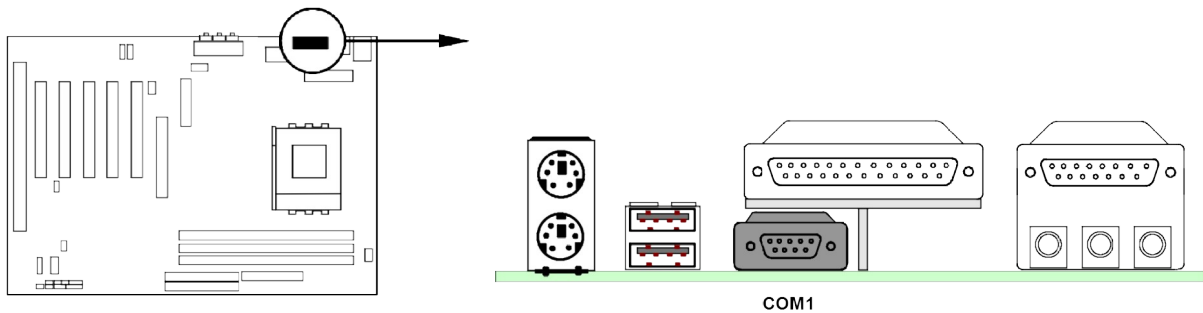
(7)   Floppy drive Connector (34-pin block): FDD1

This connector supports the provided floppy drive ribbon cable. After connecting the single plug end to motherboard, connect the two plugs at other end to the floppy drives.

Pin 1

Floppy Drive Connector
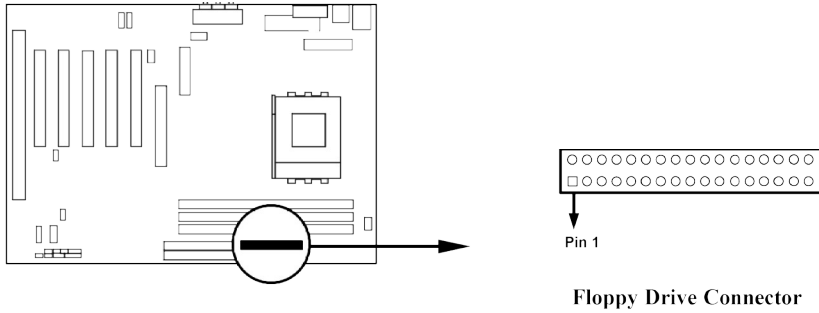
(8) Primary IDE Connector (40-pin block): IDE1

This connector supports the provided IDE hard disk ribbon cable. After connecting the single plug end to motherboard, connect the two plugs at other end to your hard disk(s). If you install two hard disks, you must configure the second drive to Slave mode by setting its jumpers accordingly. Please refer to the documentation of your hard disk for the jumper settings.

Primary IDE Connector

Pin 1
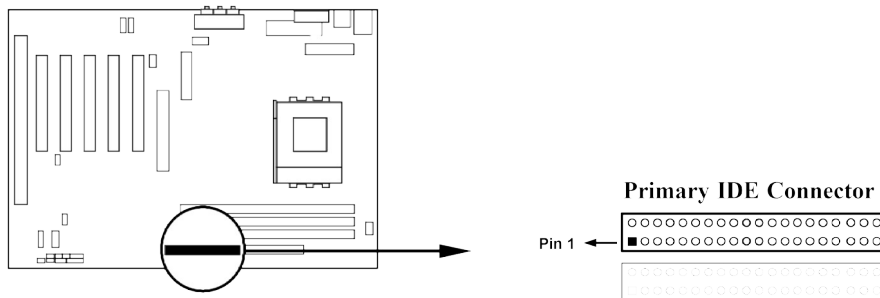
(9) Secondary IDE Connector (40-pin block): IDE2

This connector connects to the next set of Master and Slave hard disks. Follow the same procedure described for the primary IDE connector. You may also configure two hard disks to be both Masters using one ribbon cable on the primary IDE connector and another ribbon cable on the secondary IDE connector.

Pin 1

Secondary IDE Connector
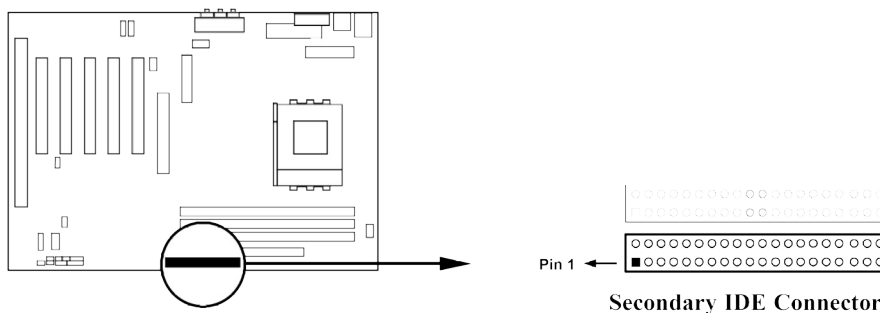
- Two hard disks can be connected to each connector. The first HDD is referred to as the "Master" and the second HDD is referred to as the "Slave".
- For performance issues, we strongly suggest you don't install a CD-ROM or DVD-ROM drive on the same IDE channel as a hard disk. Otherwise, the system performance on this channel may drop.

2-6-2 Headers

(1) **COM2 Headers (10-pin) : COM2**

This board has another serial port COM2, it come with cable providing serial port COM2.

Pin 1

Note: Orient the read marking on the COM2 ribbon cable to pin 1

COM2
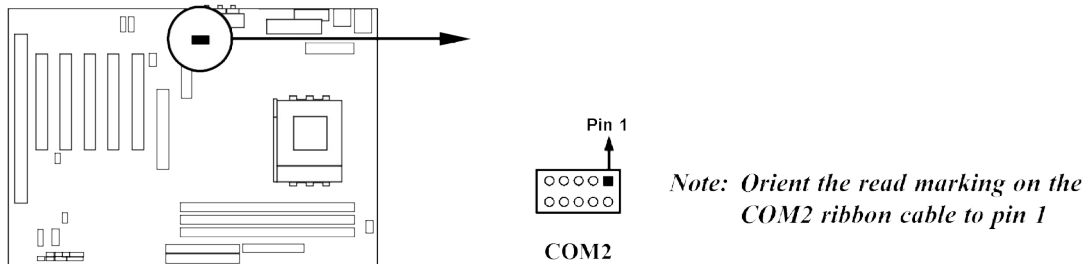
(2) **USB Port Headers (10-pin) : J5**

These headers are used for connecting the additional USB port plug. By attaching an option USB cable, your can be provided with two additional USB plugs affixed to the back panel.

J5   Pin 1

VCC		VCC
−DATA		−DATA
+ DATA		+ DATA
GND		GND
NC		NC

USB Port Headers
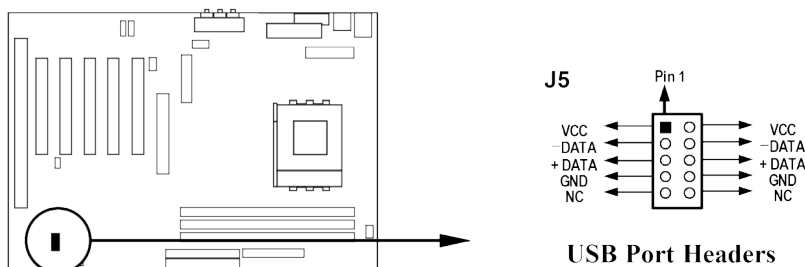
(3) **IDE Activity LED: IDELED**

This connector connects to the hard disk activity indicator light on the case.

(4) **Turbo LED switch: TBLED**

Since the motherboard's turbo function is always on. The turbo LED will remain constantly on while the system power is on. You may wish to connect the Power LED from the system case to this lead. See the figure below.

(5) **Reset switch lead: RESET**

This 2-pin connector connects to the case-mounted reset switch for rebooting your computer without having to turn off your power switch. This is a preferred method of rebooting in order to prolong the lift of the system's power supply. See the figure below.

(6) **Speaker connector: SPKR**

This 4-pin connector connects to the case-mounted speaker. See the figure below.

(7) **Power LED: PWR LED**

The Power LED is light on while the system power is on. Connect the Power LED from the system case to this pin.

(8) **Power switch: PW BN**

This 2-pin connector connects to the case-mounted power switch to power ON/OFF the system.

System Case Connections
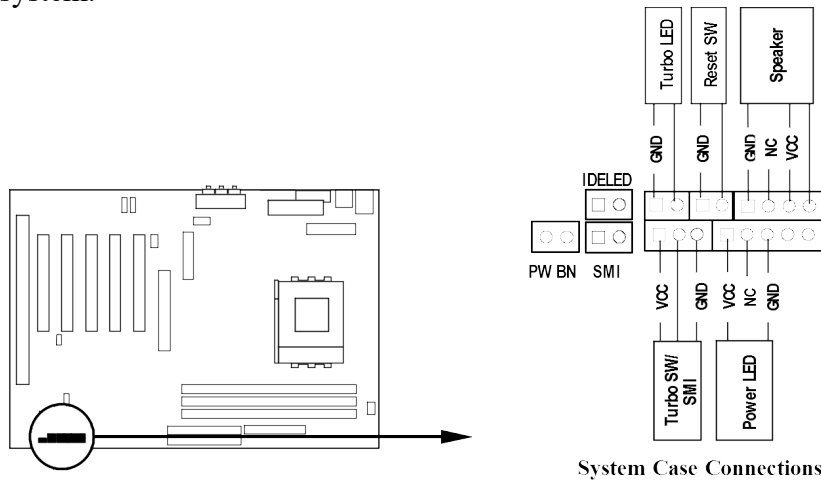
(9) Wake On-LAN Headers (3-pin) : WOL1

This connector connects to a LAN card with a WAKE ON-LAN output. This connector power up the system when a wake up signal is received through the LAN card.

NOTE: This feature requires that Wake On LAN or Ring In Wake up is enabled.

Wake-On-LAN Headers
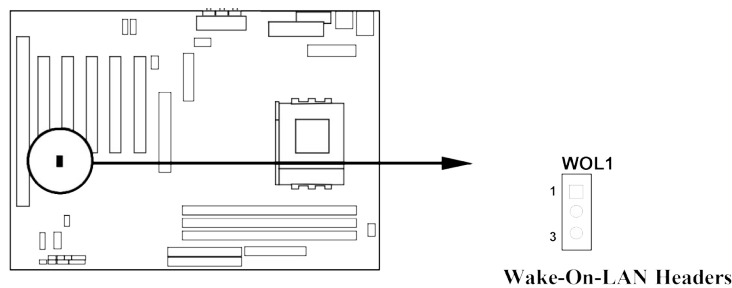
(10) FAN Speed Headers (3-pin) : FAN1, FAN2

These connectors cupport cooling fans of 350mA (4.2 Watts) or less, depending on the fan manufacturer, the wire and plug may be different. The red wire should be positive, while the black should be ground. Connect the fan's plug to the board taking into consideration the polarity of connector.
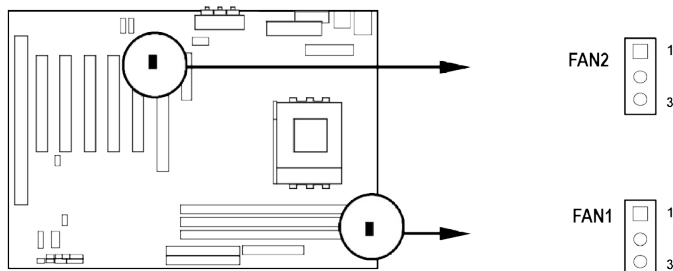
(11) IR infrared module Headers (5-pin) : IR1

  This connector supports the optional wireless transmitting and receiving infrared module. You must configure the setting through the BIOS setup to use the IR function.

IR1 → VCC, N.C, IRRX, GND, IRTX

Infrared Module Headers
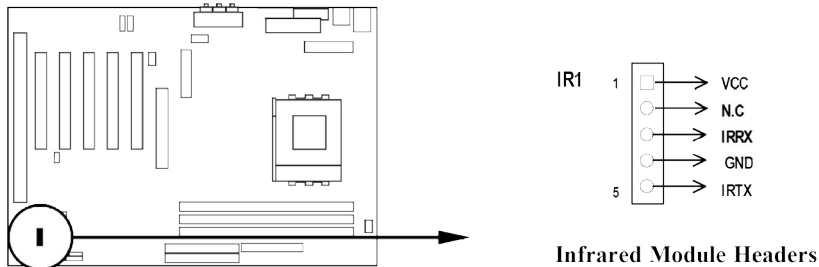
(12) CD Audio-In Headers (4-pin) : CD_IN1, CD_IN2

  CD_IN1 and CD_IN2 are the connectors for CD-Audio Input signal. Please connect it to CD-ROM CD-Audio output connector.

CD Audio-In Headers
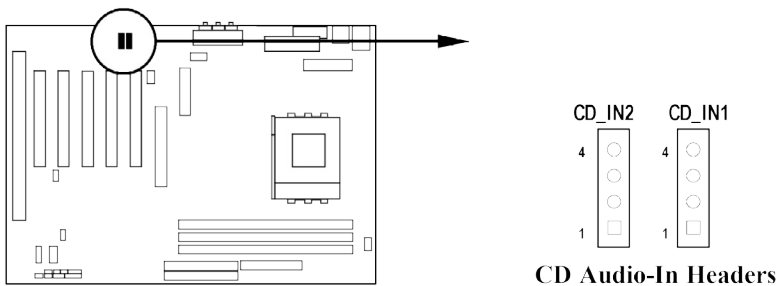
2-7 Starting Up Your Computer

1. After all connection are made, close your computer case cover.

2. Be sure all the switch are off, and check that the power supply input voltage is set to proper position, usually in-put voltage is 220V~240V or 110V~120V depending on your country's voltage used.

3. Connect the power supply cord into the power supply located on the back of your system case according to your system user's manual.

4. Turn on your peripheral as following order:

  a. Your monitor.
  b. Other external peripheral (Printer, Scanner, External Modem etc…)

c. Your system power. For ATX power supplies, you need to turn on the power supply and press the ATX power switch on the front side of the case.

5. The power LED on the front panel of the system case will light. The LED on the monitor may light up or switch between orange and green after the system is on. If it compolies with green standards or if it is has a power standby feature. The system will then run power-on test. While the test are running, the BIOS will alarm beeps or additional message will appear on the screen.

If you do not see any thing within 30 seconds from the time you turn on the power. The system may have failed on power-on test. Recheck your jumper settings and connections or call your retailer for assistance.

Beep	Meaning
One short beep when displaying logo	No error during POST
Long beeps in an endless loop	No DRAM install or detected
One long beep followed by three short beeps	Video card not found or video card memory bad
High frequency beeps when system is working	CPU overheated System running at a lower frequency

6. During power-on, press <Delete> key to enter BIOS setup. Follow the instructions in BIOS SETUP.

7. **Power off your computer:** You must first exit or shut down your operating system before switch off the power switch. For ATX power supply, you can press ATX power switching after exiting or shutting down your operating system. If you use Windows 9X, click **"Start"** button, click **"Shut down"** and then click **"Shut down the computer?"** The power supply should turn off after windows shut down.

Chapter 3

Introducing BIOS

The BIOS is a program located on a Flash Memory on the motherboard. This program is a bridge between motherboard and operating system. When you start the computer, the BIOS program gain control. The BIOS first operates an auto-diagnostic test called POST (power on self test) for all the necessary hardware, it detects the entire hardware device and configures the parameters of the hardware synchronization. Only when these tasks are completed done it gives up control of the computer to operating system (OS). Since the BIOS is the only channel for hardware and software to communicate, it is the key factor for system stability, and in ensuring that your system performance as its best.

In the BIOS Setup main menu of Figure 3-1, you can see several options. We will explain these options step by step in the following pages of this chapter, but let us first see a short description of the function keys you may use here:

- Press <Esc> to quit the BIOS Setup.
- Press ↑↓←→ (up, down, left, right) to choose, in the main menu, the option you want to confirm or to modify.
- Press <F10> when you have completed the setup of BIOS parameters to save these parameters and to exit the BIOS Setup menu.
- Press Page Up/Page Down or +/− keys when you want to modify the BIOS parameters for the active option.

3-1 Entering Setup

Power on the computer and by pressing <Del> immediately allows you to enter Setup.
If the message disappears before your respond and you still wish to enter Setup, restart the system to try again by turning it OFF then ON or pressing the "RESET" button on the system case. You may also restart by simultaneously pressing <Ctrl>, <Alt> and <Delete> keys. If you do not press the keys at the correct time and the system does not boot, an error message will be displayed and you will again be asked to

Press <F1> to continue, <Ctrl-Alt-Esc> or <Del> to enter Setup

3-2 Getting Help

Main Menu
The on-line description of the highlighted setup function is displayed at the bottom of the screen.

Status Page Setup Menu/Option Page Setup Menu
Press F1 to pop up a small help window that describes the appropriate keys to use and the possible selections for the highlighted item. To exit the Help Window, press <Esc>.

3-3 The Main Menu

Once you enter Award   BIOS CMOS Setup Utility, the Main Menu (Figure 3-1) will appear on the screen. The Main Menu allows you to select from fourteen setup functions and two exit choices. Use arrow keys to select among the items and press <Enter> to accept or enter the sub-menu.

```
          CMOS Setup Utility – Copyright(C) 1984-2000 Award Software
 ┌───────────────────────────────────────────────────────────────────┐
 │   Standard CMOS Features        Frequency/Voltage Control          │
 │                                                                     │
 │   Advanced BIOS Features         Load optimized Defaults            │
 │                                                                     │
 │   Advanced Chipset Features      Load Standard Defaults             │
 │                                                                     │
 │   Integrated Peripherals         Set Supervisor Password            │
 │                                                                     │
 │   Power Management Setup          Set User Password                 │
 │                                                                     │
 │   PnP/PCI Configurations          Save & Exit Setup                 │
 │                                                                     │
 │   PC Health Status                Exit Without Saving               │
 ├───────────────────────────────────────────────────────────────────┤
 │   Esc : Quit                      ↑ ↓ → ←    : Select Item          │
 └───────────────────────────────────────────────────────────────────┘
```

```
F10 : Save & Exit Setup

                  Time, Date, Hard Disk Type...
```
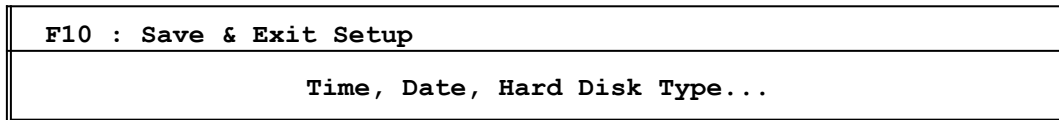
Figure 3-1

Standard CMOS Features

Use this Menu for basic system configurations.

Advanced BIOS Features

Use this menu to set the Advanced Features available on your system.

Advanced Chipset Features

Use this menu to change the values in the chipset registers and optimize your system's performance.

Integrated Peripherals

Use this menu to specify your settings for integrated peripherals.

Power Management Setup

Use this menu to specify your settings for power management.

PnP/PCI configurations

This entry appears if your system supports PnP/PCI.

PC Health Status

This entry shows your PC health status.

Frequency/Voltage Control

Use this menu to specify your settings for frequency/voltage control.

Load Optimized Defaults

Use this menu to load the BIOS default values that are factory settings for optimal performances system operations.

Load Standard Defaults

Use this menu to load the BIOS default values for the minimal/stable performance system operation.

Set Supervisor/User Password

Use this menu to set User and Supervisor Passwords.

Save & Exit Setup

Save CMOS value changes to CMOS and exit setup.

Exit Without Saving
Abandon all CMOS value changes and exit setup.

3-4 Standard CMOS Features

The items in Standard CMOS Setup Menu are divided into several categories. Each category includes no, one or more than one setup items. Use the arrow keys to highlight the item and then use the <PgUp> or <PgDn> keys to select the value you want in each item.

```
         CMOS Setup Utility – Copyright(C) 1984-2000 Award Software
                            Standard CMOS Features
┌──────────────────────────────────────────────────┬──────────────────────┐
│    Date (mm:dd:yy)          Wed, Jul, 26 2000      │      Item Help       │
│    Time (hh:mm:ss)          17 : 35 : 22           │                      │
│                                                    ├──────────────────────┤
│  > IDE Primary Master       Press Enter None       │                      │
│  > IDE Primary Slave        Press Enter None       │  Menu Level >        │
│  > IDE Secondary Master     Press Enter None       │                      │
│  > IDE Secondary Slave      Press Enter None       │  Change the day, month,│
│                                                    │  year and century    │
│    Drive A                  1.44M, 3.25 in.        │                      │
│    Drive B                  None                   │                      │
│                                                    │                      │
│    Video                    EGA/VGA                │                      │
│    Halt On                  All,But Keyboard       │                      │
│                                                    │                      │
│    Base Memory                  640K               │                      │
│    Extended Memory            56320K               │                      │
│    Total Memory               57344K               │                      │
├──────────────────────────────────────────────────┴──────────────────────┤
│ ↑↓→← Move Enter:Select Item +/-/PU/PD:Value F10:Save ESC:Exit  F1:General Help│
│       F5:Previous Values   F6:Optimized Defaults   F7:Standard Defaults   │
└──────────────────────────────────────────────────────────────────────────┘
```

Date
The date format is <day><month><date><year>.
   Day   Day of the week, from Sun to Sat, determined by BIOS. Read-only.
   Month The month from Jan. through Dec.
   Date   The date from 1 to 31 can be keyed by numeric function keys.
   Year   The year depends on the year of the BIOS.

Time
The time format is <hour><minute><second>.

Primary Master/Primary Slave
Secondary Master/Secondary Slave
Press PgUp/<+> or PgDn/<−> to select Manual, None, Auto type. Note that the specifications of your drive must match with the drive table. The hard disk will not work properly if you enter improper information for this category. If your hard disk drive type is not matched or listed, you can use Manual to define your own drive type manually.

If you select Manual, related information is asked to be entered to the following items. Enter the information directly from the keyboard. This information should be provided in the documentation from your hard disk vendor or the system manufacturer.

If the controller of HDD interface is SCSI, the selection shall be "None".

If the controller of HDD interface is CD-ROM, the selection shall be "None"

Access Mode   The settings are Auto Normal, Large, and LBA.

Cylinder   number of cylinders

Head   number of heads

Precomp   write precomp

Landing Zone   landing zone

Sector   number of sectors

3-5 Advanced BIOS Features

```
              CMOS Setup Utility – Copyright(C) 1984-2000 Award Software
                              Advanced BIOS Features
┌──────────────────────────────────────────────┬──────────────────────────┐
│   Anti-Virus Protection        Enabled        │       Item Help          │
│   PhoneixNet Support           Disabled        ├──────────────────────────┤
│   CPU Internal Cache           Enabled         │                          │
│   External Cache               Enabled         │  Menu Level  >           │
│   CPU L2 Cache ECC Checking     Enabled         │                          │
│   Quick Power On Self Test     Enabled         │  Allows you to choose    │
│   First Boot Device            Floppy          │  The VIRUS warning       │
│   Second Boot Device           HDD-0           │  Feature for IDE Hard    │
│   Third Boot Device            LS120           │  Disk boot sector        │
│   Boot other Device            Enabled         │  Protection. If this     │
│   Swap Floppy Drive            Disabled        │  Function is enabled     │
│   Boot Up Floppy Seek          Enabled         │  And someone attempt to  │
│   Boot Up NumLock Status       On              │  Write data into this    │
│   Gate A20 Option              Normal          │  Area, BIOS will show a  │
│   Typematic Rate Setting       Disabled        │  warning message on      │
│ x Typematic Rate (Chars/Sec)   6               │  Screen and alarm beep   │
│ x Typematic Delay (Msec)       250             │                          │
│   Security Option              Setup           │                          │
│   OS Select For DRAM > 64MB    Non-OS2         │                          │
│   HDD S.M.A.R.T. Capability    Disabled        │                          │
│   Video BIOS Shadow            Enabled         │                          │
│   C8000-CBFFF Shadow           Disabled        │                          │
│   CC000-CFFFF Shadow           Disabled        │                          │
│   D0000-D3FFF Shadow           Disabled        │                          │
│   D4000-D7FFF Shadow           Disabled        │                          │
│   D8000-DBFFF Shadow           Disabled        │                          │
│   DC000-DFFFF Shadow           Disabled        │                          │
│                                                │                          │
├──────────────────────────────────────────────┴──────────────────────────┤
│ ↑↓→← Move Enter:Select Item +/-/PU/PD:Value F10:Save ESC:Exit  F1:General Help │
│        F5:Previous Values  F6:Optimized Defaults  F7:Standard Defaults    │
└──────────────────────────────────────────────────────────────────────────┘
```

Anti-Virus Protection

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.

Disabled (default)   No warning message to appear when anything attempts to access the boot sector or hard disk partition table.

Enabled   Activates automatically when the system boots up causing a warning message to appear when anything attempts to access the boot sector of hard disk partition table.

CPU Internal Cache

The default value is Enabled.

    Enabled (default)   Enable cache
    Disabled   Disable cache

*Note: **The internal cache is built in the processor.***

External Cache

Choose Enabled or Disabled. This option enables the Level 2 cache memory.

CPU L2 Cache ECC Checking

Choose Enabled or Disabled. This option enables the Level 2 cache memory ECC (error check correction).

Processor Number Feature

This option is for Pentium® III processor. During Enabled, this will check the CPU Serial number. Disabled this option if you don't want the system to know the Serial number.

Quick Powr On Self-Test

This category speeds up Power On Self Test (POST) after you power on the computer. If this is set to Enabled. BIOS will shorten or skip some check items during POST.

    Enabled (default)   Enable quick POST
    Disabled   Normal POST

First/Second/Third/Fourth Boot Device

The BIOS attempts to load the operating system from the devices in the sequence selected in these items. The settings are Floppy, LS/ZIP, HDD-0/HDD-1/HDD-3, SCSI, CDROM, LAD and Disabled.

Swap Floppy Drive

Switches the floppy disk drives between being designated as A and B. Default is Disabled.

Boot Up Floppy Seek

During POST, BIOS will determine if the floppy disk drive installed is 40 or 80 tracks. 360K type is 40 tracks while 760K, 1.2M and 1.44M are all 80 tracks.

Boot Up NumLock Status

The default value is On.

On (default)   Keypad is numeric keys.
Off   Keypad is arrow keys.

Gate A20 Option
   Normal   The A20 signal is controlled by keyboard controller or chipset hardware.
   Fast (default) The A20 signal is controlled by port 92 or chipset specific method.

Typematic Rate Setting
Keystrokes repeat at a rate determined by the keyboard controller. When enabled, the typematic rate and typematic delay can be selected. The settings are: Enabled/Disabled.

Typematic Rate (Chars/Sec)
Sets the number of times a second to repeat a keystroke when you hold the key down. The settings are: 6, 8, 10, 12, 15, 20, 24, and 30.

Typematic Delay (Msec)
Sets the delay time after the key is held down before is begins to repeat the keystroke. The settings are 250, 500, 750, and 1000.

Security Option
This category allows you to limit access to the system and Setup, or just to Setup.
   System   The system will not boot and access to Setup will be denied if the
                   correct password is not entered at athe prompt.
   Setup (default) The system will boot, but access to Setup will be denied if the correct
                   password is not entered prompt.

OS Select For DRAM > 64MB
Allows OS2® to be used with >64MB or DRAM. Settings are Non-OS/2 (default) and OS2. Set to OS/2 if using more than 64MB and running OS/2®.

Report No FDD For Win 95
Whether report no FDD for Win 95 or not. The settings are: Yes, No.

3-6 Advanced Chipset Features

The Advanced Chipset Features Setup option is used to change the values of the chipset registers. These registers control most of the system options in the computer.

```
CMOS Setup Utility – Copyright(C) 1984-2000 Award Software
                  Advanced Chipset Features
```

```
   > Advanced DRAM Control        Press Enter            Item Help
   > Advanced AGP Control         Press Enter
     DRAM Clock                   PC100 SDRAM
     Memory Hole                  Disabled          Menu Level >
     System BIOS Cacheable        Enabled
     Video RAM Cacheable          Enabled
     K7 CLK_CTL Select            Default
     Memory Parity/ECC Check      Disabled



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

Advanced DRAM Control

Please refer to section 3-6-1

Advanced AGP Control

Please refer to section 3-6-2

DRAM Clock

This field displays the capability of the memory modules that you can use
The choice is either PC100 or PC133.

Memory Hole

You can reserve this area of system memory for ISA adapter ROM. When this area is
reserved, it cannot be cached. The user information of peripherals that need to use this area of
system memory usually discusses their memory requirements. The settings are: Enabled and
Disabled.

System BIOS Cacheable

Selecting Enabled allows caching of the system BIOS ROM at F0000h-FFFFFh, resulting in
better system performance. However, if any program writes to this memory area, a system
error may result. The settings are: Enabled and Disabled.

Video RAM Cacheable

Select Enabled allows caching of the video BIOS, resulting in better system performance.
However, if any program writes to this memory area, a system error may result. The settings
are: Enabled and Disabled.

K7 CLK_CTL Select

This register contains values that tell the processor how to ramp up the processor ramp up the
processor clock during low power modes.
The choice is either Default or Optimal.

Memory Parity

This function provides parity check of memory.

The choice is either Disabled or Enabled.

3-6-1 Advanced DRAM Control

```
           CMOS Setup Utility – Copyright(C) 1984-2000 Award Software
                            Advanced DRAM Control
┌──────────────────────────────────────────────┬──────────────────────────┐
│      Auto Configuration       Optimized       │                          │
│      Precharge Command         3T              │        Item Help         │
│      Active Command            5T              │                          │
│      Active to CMD Command     2T              ├──────────────────────────┤
│      Write Recovery Time       2T              │   Menu Level >>          │
│      SDRAM Cycle Length        By SPD          │                          │
│      Bank Interleave           By SPD          │                          │
│      DRAM Drive Strength       Auto            │                          │
│    x DRAM Drive Value          21              │                          │
│      PCI Master Pipeline Req   Disabled        │                          │
│      P2C/C2P Concurrency       Disabled        │                          │
│      Fast R-W Turn Around      Disabled        │                          │
│      CPU to PCI Post Write     Enabled         │                          │
│      PCI Dynamic Bursting      Disabled        │                          │
│      PCI Master 0 WS Write     Disabled        │                          │
│      PCI Delay Transaction     Enabled         │                          │
│      PCI#2 Access #1 Retry     Disabled        │                          │
│                                                │                          │
├──────────────────────────────────────────────┴──────────────────────────┤
│  ↑ ↓ →← Move Enter:Select Item +/-/PU/PD:Value F10:Save ESC:Exit  F1:General Help │
│         F5:Previous Values   F6:Optimized Defaults   F7:Standard Defaults │
└──────────────────────────────────────────────────────────────────────────┘
```

Precharge Command

If an insufficient number of cycles is allowed for the RAS to accumulate its charge before DRAM refresh, the refresh may be incomplete and the DRAM may fail to retain date. *Fast* gives faster performance; and *Slow* gives more stable performance. This field applies only when synchronous DRAM is installed in the system. The settings are: 2 and 3.

Active Command

This field let's you insert a timing delay between the CAS and RAS strobe signals, used when DRAM is written to, read from, or refreshed. *Fast* gives faster performance; and *Slow* gives more stable performance. This field applies only when synchronous DRAM is installed in the system. The settings are: 2 and 3.

Active to CMD Command

Select the number of SCLKs for an access cycle. The settings are: 5/7 and 6/8.

SDRAM Cycle Length
When synchronous DRAM is installed, the number of clock cycles of CAS latency depends on the DRAM timing. The settings are: 2 and 3.

PCI Delay Transaction
The chipset has an embedded 32-bit posted write buffer to support delay transactions cycles. Select Enabled to support compliance with PCI specification version 2.1. The settings are: Enabled and Disabled.

3-6-2 Advanced AGP Control

```
            CMOS Setup Utility – Copyright(C) 1984-2000 Award Software
                             Advanced AGP Control
 ┌──────────────────────────────────────────────┬──────────────────────────┐
 │    AGP Fast Write          Enabled            │                          │
 │    AGP Master 1 WS Write   Enabled            │        Item Help         │
 │    AGP Master 1 WS Read    Enabled            ├──────────────────────────┤
 │    AGP Aperture Size       64M                │                          │
 │    AGP Rate Mode           Auto               │    Menu Level >>         │
 │    AGP Driving Control     Auto               │                          │
 │  x AGP Driving Value       DA                 │                          │
 │                                               │                          │
 │                                               │                          │
 │                                               │                          │
 ├──────────────────────────────────────────────┴──────────────────────────┤
 │ ↑↓→← Move Enter:Select Item +/-/PU/PD:Value F10:Save ESC:Exit  F1:General Help │
 │       F5:Previous Values  F6:Optimized Defaults  F7:Standard Defaults     │
 └──────────────────────────────────────────────────────────────────────────┘
```

Note: Change these settings only if you are familiar with the chipset.

3-7 Integrated Peripherals

```
            CMOS Setup Utility – Copyright(C) 1984-2000 Award Software
                             Integrated Peripherals
 ┌──────────────────────────────────────────────┬──────────────────────────┐
 │  > OnChip IDE Function      Press Enter       │                          │
 │  > OnChip DEVICE Function   Press Enter       │        Item Help         │
 │  > OnChip SUPERIO Function  Press Enter       ├──────────────────────────┤
 │    Init Display First       PCI Slot          │                          │
 │                                               │    Menu Level >          │
 │                                               │                          │
 │                                               │                          │
 │                                               │                          │
 │                                               │                          │
 │                                               │                          │
 │                                               │                          │
 └──────────────────────────────────────────────┴──────────────────────────┘
```

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

OnChip IDE Function
Please refer to section 3-7-1

OnChip DEVICE Function
Please refer to section 3-7-2
OnChip SUPERIO Function
Please refer to section 3-7-3

Init Display First
This item allows you to decide to activate whether PCI Slot or AGP VGA first. The settings are: PCI Slot, AGP Slot.

3-7-1 OnChip IDE Function

```
            CMOS Setup Utility – Copyright(C) 1984-2000 Award Software
                              OnChip IDE Function

    OnChip IDE Channel0           Enabled              Item Help
    OnChip IDE Channel1           Enabled
    IDE 32bit Transfer Mode       Enabled
    Primary Master   PIO          Auto              Menu Level >>
    Primary Slave    PIO          Auto
    Secondary Master PIO          Auto
    Secondary Slave  PIO          Auto
    Primary Master   UDMA         Auto
    Primary Slave    UDMA         Auto
    Secondary Master UDMA         Auto
    Secondary Slave  UDMA         Auto
    IDE HDD Block Mode            Enabled
    IDE Prefetch Mode             Enabled


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

OnChip IDE Channal0/Channel1
The integrated peripheral controller contains an IDE interface with support for two IDE channels. Select *Enabled* to activate each channel separately. The settings are: Enabled and Disabled.

Primary/Secondary Master/Slave PIO
The four IDE PIO (Programmed Input/Output) fields let you set a PIO mode (0-4) for each of the four IDE devices that the onboard IDE interface supports. Modes 0 through 4 provide

successively increased performance. In Auto mode, the system automatically determines the best mode for each device. The settings are: Auto, Mode 0, Mode 1, Mode 2, Mode 3, Mode 4.

Primary/Secondary Master/Slave UDMA
Ultra DMA/33 implementation is possible only if your IDE hard drive supports it and the operating environment includes a DMA driver (Windows 95 OSR2 or a third-party IDE bus master driver). If your hard drive and your system software both support Ultra DMA/33 and Ultra DMA/66, select Auto to enable BIOS support. The settings are: Auto, Disabled.

IDE HDD Block Mode
Block mode is also called block transfer, multiple commands, or multiple sector read/write. If your IDE hard drive supports block mode (most new drives do), select Enabled for automatic detection of the optimal number of block read/writes per sector the drive can support. The settings are: Enabled, Disabled.

3-7-2 OnChip DEVICE Function

```
          CMOS Setup Utility – Copyright(C) 1984-2000 Award Software
                          OnChip DEVICE Function
╔══════════════════════════════════════════════════════════════════════════╗
║  OnChip USB                    Enabled                                      ║
║  USB Keyboard Support          Disabled         Item Help                   ║
║  OnChip AUDIO Function         Press Enter                                  ║
║  AMR Modem DEVICE              Auto                                         ║
║                                                 Menu Level >>               ║
║                                                                            ║
║                                                                            ║
║                                                                            ║
║                                                                            ║
║                                                                            ║
║                                                                            ║
╠════════════════════════════════════════════════════════════════════════════╣
║ ↑↓→← Move Enter:Select Item +/-/PU/PD:Value F10:Save ESC:Exit  F1:General Help║
║        F5:Previous Values  F6:Optimized Defaults  F7:Standard Defaults        ║
╚════════════════════════════════════════════════════════════════════════════╝
```

OnChip USB
Select *Enabled* if your system contains a Universal Serial Bus (USB) controller and you have a USB peripherals. The settings are: Enabled, Disabled.

USB Keyboard Support
Select *Enabled* if your system contains a Universal Serial Bus (USB) controller and you have a USB keyboard. The settings are: Enabled, Disabled.

OnChip AUDIO Function

Please refer to section 3-7-2.1

AMR Modem DEVICE

This item allows you to decide to enable/disable the KT-133 chipset family to support AC97 Modem. The settings are: Auto, Disabled.

3-7-2.1 OnChip AUDIO Function

```
              CMOS Setup Utility – Copyright(C) 1984-2000 Award Software
                             OnChip AUDIO Function
┌──────────────────────────────────────────────┬──────────────────────────────┐
│  AC97 Sound Device          Enabled           │                              │
│  Sound Blaster              Disabled          │          Item Help           │
│  SB I/O Base Address        220H              │                              │
│  SB IRQ Select              IRQ 5             ├──────────────────────────────┤
│  SB DMA Select              DMA 1             │       Menu Level >>>         │
│  MPU-401                    Disabled          │                              │
│  MPU-401 I/O Address        330-333H          │                              │
│  Game Port (200-207H)       Enabled           │                              │
│                                               │                              │
│                                               │                              │
│                                               │                              │
│                                               │                              │
│                                               │                              │
├──────────────────────────────────────────────┴──────────────────────────────┤
│ ↑↓→← Move Enter:Select Item +/-/PU/PD:Value F10:Save ESC:Exit  F1:General Help│
│       F5:Previous Values  F6:Optimized Defaults  F7:Standard Defaults         │
└──────────────────────────────────────────────────────────────────────────────┘
```

AC97 Sound Device

This item allows you to decide to enable/disable the KT-133 chipset family to support AC97 Audio. The settings are: Enabled, Disabled.

Game Port Address/Midi Port Address

This will determine which Address the Game Port/Midi Port will use.

3-7-3 OnChip SUPERIO Function

```
              CMOS Setup Utility – Copyright(C) 1984-2000 Award Software
                            OnChip SUPERIO Function
┌──────────────────────────────────────────────┬──────────────────────────────┐
│  Onboard FDD Controller       Enabled         │                              │
│  Onboard Serial Port 1        Auto            │          Item Help           │
```

```
   Onboard Serial Port 2        Auto
   UART 2 Mode                  Standard          Menu Level >>
 x IR Function Duplex           Half
 x TX,RX inverting enable       No, Yes
   Onboard Parallel Port        378/IRQ7
   Onboard Parallel Mode        Normal
   ECP Mode Use DMA             3
   Parallel Port EPP Type       EPP1.9


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

Onboard FDD Controller
Select Enabled if your system has a floppy disk controller (FDD) installed on the system board and you wish to use it. If you install add-on FDC or the system has no floppy drive, select Disabled in this field. The settings are: Enabled and Disabled.

Onboard Serial Port 1/Port 2
Select an address and corresponding interrupt for the first and the second serial ports. The settings are: 3F8/IRQ4, 2E8/IRQ3, 3E8/IRQ4, 2F8/IRQ3, Disabled, Auto.

UART 2 Mode
This item allows you to determine which InfraRed(IR) function of the onboard I/O chip, this functions uses.

Onboard Parallel Port
There is a built-in parallel port on the on-board Super I/O chipset that Provides Standard, ECP, and EPP features. It has the following option:

> **Disabled**
> **(3BCH/IRQ7)/**   Line Printer port 0
> **(278H/IRQ5)/**   Line Printer port 2
> **(378H/IRQ7)**   Line Printer port 1

Onboard Parallel Mode
> SPP   : Standard Parallel Port
> EPP   : Enhanced Parallel Port
> ECP   : Extended Capability Port
>
> **SPP/EPP/ECP/ECP+EPP**
> To operate the onboard parallel port as Standard Parallel Port only, choose "SPP." To operate the onboard parallel port in the EPP modes simultaneously, choose "EPP." By choosing "ECP", the onboard parallel port will operate in ECP mode only. Choosing "ECP+EPP" will allow the onboard parallel port to support both the ECP and EPP modes simultaneously. The ECP mode has to use the DMA channel, so choose the onboard parallel port with the ECP feature. After selecting it, the following message will appear:

"ECP Mode Use DMA" at this time, the user can choose between DMA channels 3 to 1. The onboard parallel port is EPP Spec. compliant, so after the user chooses the onboard parallel port with the EPP function, the following message will be displayed on the screen: "EPP Mode Select." At this time either EPP 1.7 spec. or EPP 1.9 spec. can be chosen.

3-8 Power Management Setup

The Power Management Setup allows you to configure your system to most effectively save energy saving while operating in a manner consistent with your own style of computer use.

```
             CMOS Setup Utility – Copyright(C) 1984-2000 Award Software
                            Power Management Setup
┌───────────────────────────────────────────────┬─────────────────────────┐
│   ACPI  Function              Enabled          │        Item Help        │
│ > Power Management            Press Enter       │                         │
│   PM Control by APM           Yes              ├─────────────────────────┤
│   Video Off Option            Suspend -> off    │                         │
│   Video off Method            V/H SYNC+Blank     │    Menu Level >         │
│   MODEM Use IRQ               3                 │                         │
│   Soft-off by PWRBTN          Instant-off       │                         │
│   State After Power Failure   Auto             │                         │
│ > Wake-Up Events              Press Enter       │                         │
│                                                 │                         │
│                                                 │                         │
│                                                 │                         │
├───────────────────────────────────────────────┴─────────────────────────┤
│ ↑↓→← Move Enter:Select Item +/-/PU/PD:Value F10:Save ESC:Exit  F1:General Help│
│       F5:Previous Values  F6:Optimized Defaults F7:Standard Defaults       │
└──────────────────────────────────────────────────────────────────────────┘
```

ACPI Function
This item allows you to Enabled/Disabled the Advanced Configuration and Power Management (ACPI). The settings are Enabled and Disabled.

Power Management
Please refer to section 3-8-1

Video Off Option
This determines the manner in which the monitor is blanked. The choice are Suspend → off, All Modes → Off, and Always On.

Video Off Method

This determines the manner in which the monitor is blanked.

> **DPMS** (default)   Initial display power management signaling.
>
> **Blank Screen**   This option only writes blanks to the video buffer.
>
> **V/H SYNC+Blank**   This selection will cause the system to turn off the vertical and horizontal synchronization ports and write blanks to the video buffer.

Modem Use IRQ

This determines the IRQ in which the MODEM can use.

The settings are: 3, 4, 5, 7, 9, 10, 11, NA.

Soft-off by PWRBTN

Pressing the power button for more than 4 seconds forces the system to enter the Soft-Off state. The settings are: Delay 4 Sec, Instant-Off.

Wake-Up Events

Please refer to section 3-8-2

3-8-1 Power Management

```
           CMOS Setup Utility - Copyright(C) 1984-2000 Award Software
                                 Power Management

      Power Management            User Define          Item Help
      HDD Power Down              Disable
      Doze Mode                   Disable
      Suspend Mode                Disable          Menu Level >>




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

Power Management

This category allows you to select the type (or degree) of power saving which is directly related to the following modes:

> **User Define**(default) Allows you to set each mode individually. When not disabled, each of the ranges is from 1 min. to 1hr. except for HDD Power Down that ranges from 1 min. to 15 min. and disable.
>
> **Min Saving**   Minimum power management. Doze Mode 1H, Suspend Mode=1 hr., Power Down=15 min.

Max Saving	Maximum power management. Doze Mode 1H, Suspend Mode=1 min., Power Down=1 min.

HDD Power Down

When enabled and after setting time of system inactivity, the hard disk drive will be powered down while all the other devices remain active.

The settings are: 1/2/3/4/5/6/7/8/9/10/11/12/13/14/15 Min and Disabled.

Suspend Mode

When enabled and after the set time of system inactivity, all devices except the CPU will be shut off.

The settings are: l/2/4/8/12/20/30/40 Min, 1 Hour, and Disabled.

3-8-2 Wake up Events

```
              CMOS Setup Utility – Copyright(C) 1984-2000 Award Software
                               Wake Up Events
 ╔══════════════════════════════════════════════╤═══════════════════════╗
 ║   VGA                         OFF             │                       ║
 ║   LPT & COM                   LPT/COM         │      Item Help         ║
 ║   HDD & FDD                   ON              │                       ║
 ║   PCI Master                  OFF             │                       ║
 ║   PowerOn by PCI Card         Disabled        │   Menu Level  >>       ║
 ║   Wake Up On LAN/Ring         Disabled        │                       ║
 ║   RTC Alarm Resume            Disabled        │                       ║
 ║ x Date (of Month)             0               │                       ║
 ║ x Resume Time (hh:mm:ss)      0 : 0 : 0       │                       ║
 ║   Primary INTR                ON              │                       ║
 ║ > IRQs Activity Monitoring    Press Enter     │                       ║
 ║                                               │                       ║
 ║                                               │                       ║
 ║                                               │                       ║
 ╠═══════════════════════════════════════════════╧═══════════════════════╣
 ║ ↑↓→← Move Enter:Select Item +/-/PU/PD:Value F10:Save ESC:Exit  F1:General Help ║
 ║        F5:Previous Values  F6:Optimized Defaults F7:Standard Defaults  ║
 ╚════════════════════════════════════════════════════════════════════════╝
```

PowerOn by PCI card

This will enable the system to wake up to PCI Lan Card.

The settings are: Enabled and Disabled.

Wake Up On LAN/Ring

During Disabled, the system will ignore any incoming call from the modem. During Enabled, the system will boot up if there's an incoming call from the modem.

RTC Alarm Resume

This function is for setting date and time for your computer to boot up. During Disabled, you cannot use this function. During Enabled, choose the Date and Time Alarm:

Date(of month) Alarm

You can choose which month the system will boot up. Set to 0, to boot every day.

Time(hh:mm:ss) Alarm

You can choose what hour, minute and second the system will boot up.

Note: If you have change the setting, you must let the system boot up until it goes to the operating system, before this function will work.

IRQs Activity Monitoring

Please refer to section 3-8-2.1

3-8-2.1 IRQs Activity Monitoring

```
            CMOS Setup Utility – Copyright(C) 1984-2000 Award Software
                            IRQs Activity Monitoring
   ┌─────────────────────────────────────────────┬───────────────────────┐
   │   IRQ3    (COM 2)          Enabled           │                       │
   │   IRQ4    (COM 1)          Enabled           │      Item Help        │
   │   IRQ5    (LPT 2)          Enabled           ├───────────────────────┤
   │   IRQ6    (Floppy Disk)    Enabled           │                       │
   │   IRQ7    (LPT 1)          Enabled           │   Menu Level >>>      │
   │   IRQ8    (RTC Alarm)      Disabled          │                       │
   │   IRQ9    (IRQ2 Redir)     Disabled          │                       │
   │   IRQ10   (Reserved)       Disabled          │                       │
   │   IRQ11   (Reserved)       Disabled          │                       │
   │   IRQ12   (PS/2 Mouse)     Enabled           │                       │
   │   IRQ13   (Coprocessor)    Disabled          │                       │
   │   IRQ14   (Hard Disk)      Enabled           │                       │
   │   IRQ15   (Reserved)       Disabled          │                       │
   │                                              │                       │
   │                                              │                       │
   ├──────────────────────────────────────────────────────────────────────┤
   │ ↑↓→← Move Enter:Select Item +/-/PU/PD:Value F10:Save ESC:Exit  F1:General Help │
   │        F5:Previous Values  F6:Optimized Defaults F7:Standard Defaults │
   └──────────────────────────────────────────────────────────────────────┘
```

3-9 PnP/PCI Configuration Setup

This section describes configuring the PCI bus system. PCI, or **P**ersonal **C**omputer **I**nterconnect, is a system which allows I/O devices to operate at speeds nearing the speed the CPU itself uses when communicating with its own special components. This section covers some very technical items and it is strongly recommended that only experienced users should make any changes to the default settings.

```
            CMOS Setup Utility – Copyright(C) 1984-2000 Award Software
                            PnP/PCI Configurations
   ┌─────────────────────────────────────────────┬───────────────────────┐
   │  PnP OS Installed          No                │      Item Help        │
   │  Reset Configuration Data  Disabled          │                       │
```

```
   Resources Controlled By        Auto(ESCD)         Menu Level >
 x IRQ Resources                  Press Enter
 x DMA Resources                  Press Enter         Select Yes if you are
                                                      Using a Plug and Play
   PCI/VGA Palette Snoop          Disabled            Capable operating
   Assign IRQ For VGA             Enabled             System Select No if
   Assign IRQ For USB             Enabled             You need the BIOS to
                                                      Configure non-boot
                                                      devices

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

Reset Configuration Data

Normally, you leave this field 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 operating system can not boot. The settings are: Enabled and Disabled.

Resource Controlled By

The Award Plug and Play BIOS has the capacity to automatically configure all of the boot and Plug and Play compatible devices. However, this capability means absolutely nothing unless you are using a Plug and Play operating system such as Windows®95/98. If you set this field to "manual" choose specific resources by going into each of the sub menu that follows this field (a sub menu is preceded by a ">").

The settings are: Auto(ESCD), Manual.

IRQ Resources

When resources are controlled manually, assign each system interrupt a type, depending on the type of device using the interrupt.

DMA Resources

This sub menu can let you control the DMA resource.

PCI/VGA Palette Snoop

Leave this field at *Disabled.* The settings are Enabled, Disabled.

3-10 PC Health Status

This section shows the Status of you CPU, Fan, Warning for overall system status. This is only available if there is Hardware Monitor onboard.

```
        CMOS Setup Utility – Copyright(C) 1984-2000 Award Software
                            PC Health Status
```

```
Show PC Health in Post          Enabled          Item Help
Current CPU Temp.               50°C
Current System Temp.            25°C
Current CPUFAN1 Speed           5000 rpm
Current CPUFAN2 Speed           5000 rpm
Vcore                            1.81V           Menu Level >
Vdd                              3.45V
 3.3V                            3.35V
   5V                            5.10V
  12V                           12.40V
CPU protect for CPUFan off      Enabled


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

Show PC Health in Post

During Enabled, it displays information list below. The choice is either Enabled or Disabled

Current CPU Temperature/Current System Temp/Current FAN1, FAN2 Speed/Vcore/ Vdd/3.3V/+5V/+12V (V)

This will show the CPU/FAN/System voltage chart and FAN Speed.

CPU protect for CPUFan off

During Enabled, system will warn the user if CPU Fan is not functioning.

3-11 Frequency/Voltage Control

This section is for setting CPU Frequency Control.

```
           CMOS Setup Utility – Copyright(C) 1984-2000 Award Software
                          Frequency/Voltage Control

Auto Detect DIMM/PCI Clk        Enabled          Item Help
CPU Host/PCI Spread Spec.        Default
CPU Vcore Select                Default
                                                 Menu Level >




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

Auto Detect DIMM/PCI Clk

This item allows you to enable/disable auto detect DIMM/PCI Clock.
The settings are: Enabled, Disabled.

CPU Host/PCI Spread Spec.

This item allows you to set the CPU Host/PCI clock and Spread Spectrum.
The choice are: Default, 100/33Mhz/-0.5%, 100/33Mhz/±0.25%, 100/33Mhz/±0.5%
                   102/34Mhz/Off, 104/35Mhz/Off, 106/35Mhz/Off, 107/36Mhz/Off
                   108/36Mhz/Off, 109/36Mhz/Off, 110/37Mhz/Off, 111/37Mhz/Off
                   112/37Mhz/Off, 133/33Mhz/-0.5%, 133/33Mhz/±0.25%,
                   133/33Mhz/±0.5%

CPU Vcore Select

This item allows you to select Vcore of the CPU. The choice are: Default, -0.025V, +0.025V, +0.05V, +0.075V, +0.1V, +0.125V, +0.15V. Max. Vcore is 1.9V.

3-12 Load Standard/Optimized Defaults

Load Standard Defaults

When you press <Enter> on this item, you get confirmation dialog box with a message similar to:

    Load Standard Defaults (Y/N)? N

Pressing <Y> loads the BIOS default values for the most stable, minimal-performance system operations.

Load Optimized Defaults

When you press <Enter> on this item, you get a confirmation dialog box with a message similar to:

    Load Optimized Defaults (Y/N)? N

Pressing <Y> loads the default values that are factory settings for optimal performance system operations.

3-13 Set Supervisor/User Password

You can set either supervisor or user password, or both of them. The differences are:

Supervisor password: Can enter and change the options of the setup menus.
User password: Can only enter but do not have the right to change the options of the
                            setup menus. When you select this function, the following message

will appear at the center of the screen to assist you in creating a password.

ENTER PASSWORD:

Type the password, up to eight characters in length, and press <Enter>. The password typed now will clear any previously entered password from CMOS memory. You will be asked to confirm the password. Type the password again and press <Enter>. You may also press <Esc> to abort the selection and not enter a password.

To disable a password, just press <Enter> when you are prompted to enter the password. A message will confirm that the password will be disabled. Once the password is disabled, the system will boot and you can enter Setup freely.

PASSWORD DISABLED.

When a password has been enabled, you will be prompted to enter it every time you try to enter Setup. This prevents an unauthorized person from changing any part of your system configuration.

Additionally, when a password is enabled, you can also require the BIOS to request a password every time your system is rebooted. This would prevent unauthorized use of your computer.

You determine when the password is required within the BIOS Features Setup Menu and its Security option. If the Security option is set to "System", the password will be required both at boot and at entry to Setup. If set to "Setup", prompting only occurs when trying to enter Setup.

Chapter 4
DRIVER & FREE PROGRAM INSTALLATION

Check your package and there is A MAGIC INSTALL CD included. This CD consists of all DRIVERS you need and some free application programs and utility programs. In addition, this CD also includ an auto detect software which can tell you which hardware is installed, and which DRIVERS needed so that your system can function properly. We call this auto detect software MAGIC INSTALL.

MAGIC INSTALL supports WINDOWS 95/98/98SE/NT4.0/2000

Insert CD into your CD-ROM drive and the MAGIC INSTALL Menu should appear as below. If the menu does not appear, double-click MY COMPUTER / double-click CD-ROM drive or click START / click RUN / type X:\SETUP.EXE (assuming X is your CD-ROM drive).
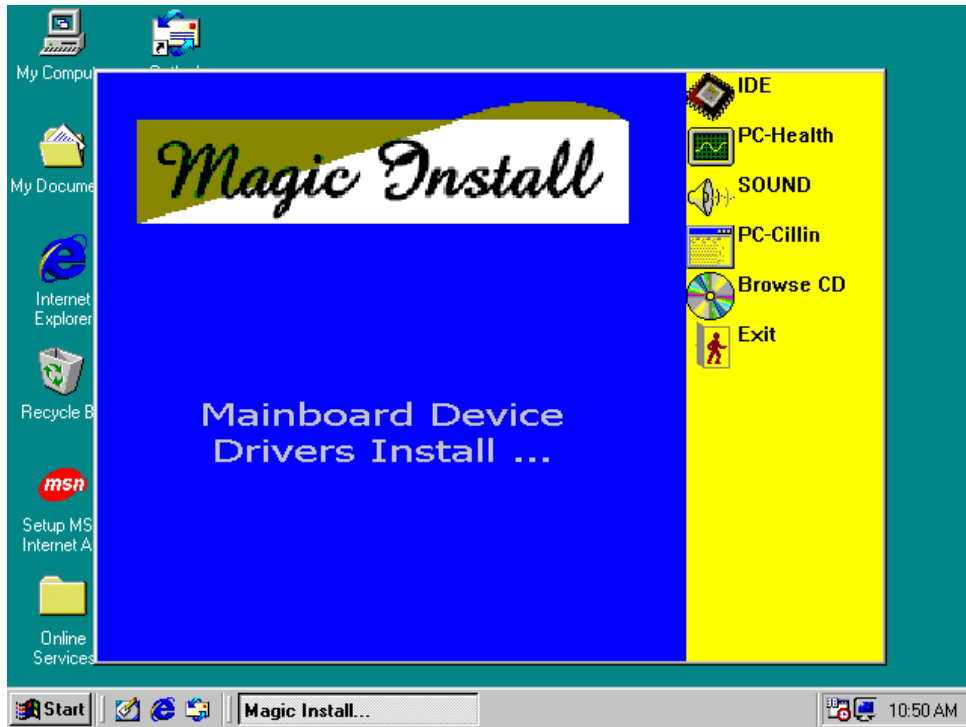
From MAGIC INSTALL MENU you may make 6 selections:
1. IDE   install VIA Service Pack 4 IN 1 driver
2. PC-HEALTH   install VIA PC-HEALTH hardware monitor driver
3. SOUND   install AC97 Audio Codec Installing driver
4. PC-CILLIN   install PC-CILLIN98 anti-virus program
5. BROWSE CD   to browse the contents of the CD
6. EXIT   to exit from MAGIC INSTALL menu

4-1 IDE   Install VIA Service Pack 4 IN 1 Driver

IDE :   VIA ATAPI VENDOR SUPPORT DRIVER IS USED TO FIXED COMPATIBILITY
                   ISSUE FOR IDE DEVICES

AGPVXD :   VIA AGPVXD DRIVER IS TO BE INSTALLED, IF YOU ARE USING AN
                   AGP VGA CARD, VIAGART.VXD WILL PROVIDE SERVICE ROUTINES
                   TO YOUR VGA DRIVER AND INTERFACE DIRECTLY TO HARDWARE,
                   PROVIDING FAST GRAPHIC ACCESS

IRQ ROUTING : VIA PCI IRQ MINIPORT DRIVER IS TO BE INSTALLED UNDER WIN98 ONLY, IT WILL FIX PCI IRQ ROUTING SEQUENCE

INF : VIA REGISTRY DRIVER IS TO BE INSTALLED UNDER WINDOWS THE DRIVER WILL ENABLE VIA POWER MANAGERMENT CONTROLLER
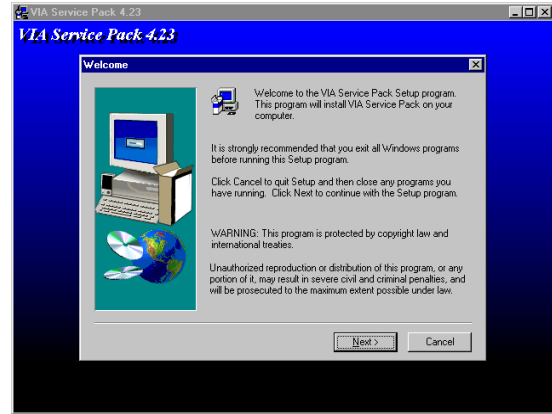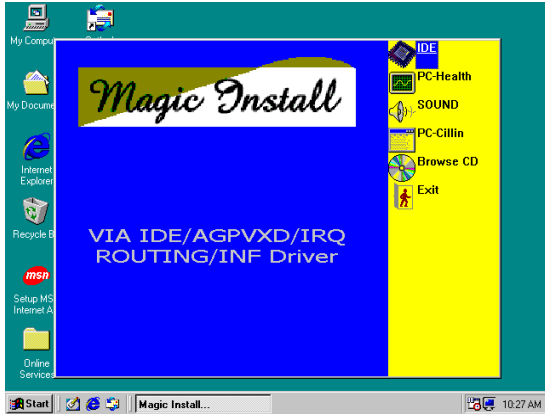
1. Click IDE when MAGIC INSTALL MENU appears

2. Click NEXT when VIA Service Pack Wizard appears
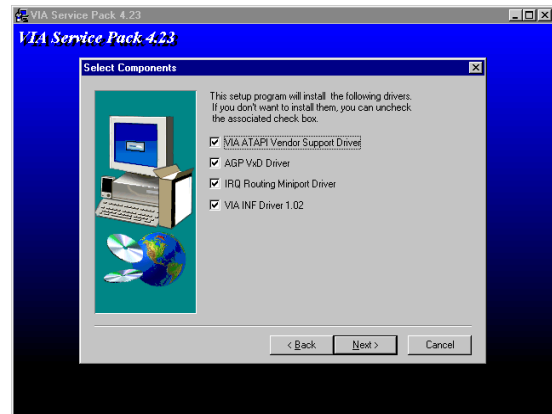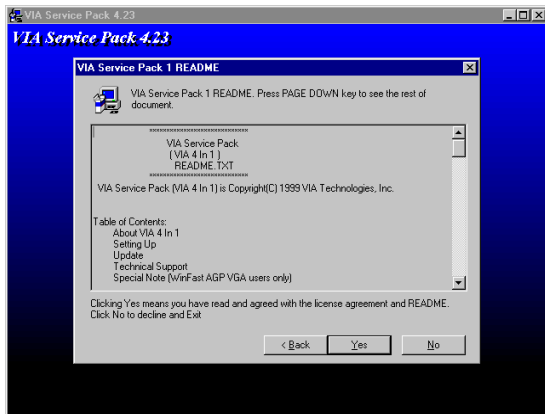
3. This is to announce the Copy Write, click NEXT

4. Click NEXT to choose all driver
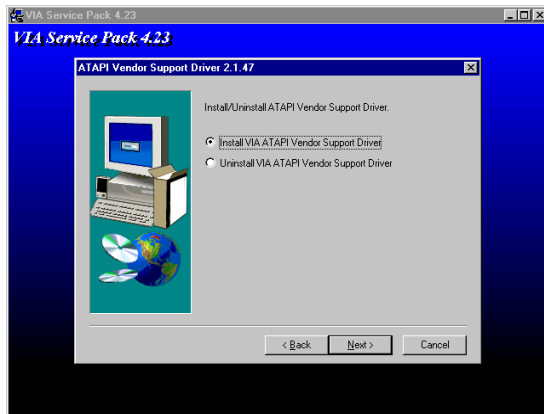
5. Click NEXT to Install ATAPI Vender Support Driver
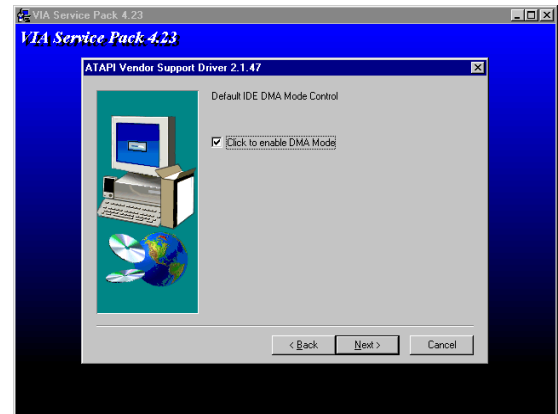
6. Click NEXT to choose enabled DMA Mode
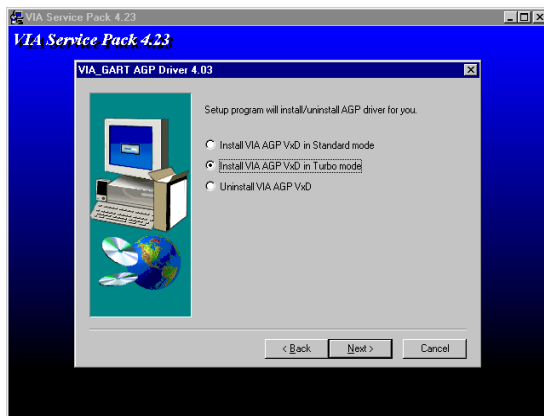
7. Click NEXT to Install VIA AGP VXD Driver
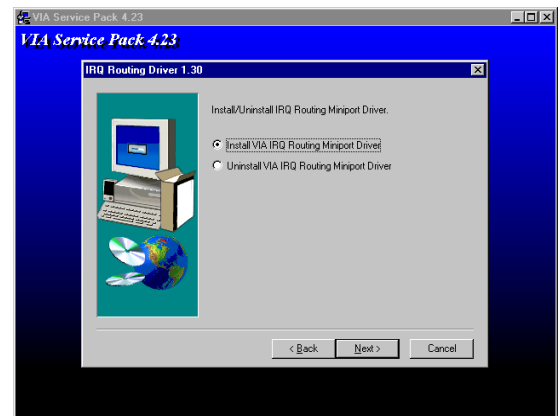
8. Click NEXT to Install VIA IRQ Routing Mini port Driver
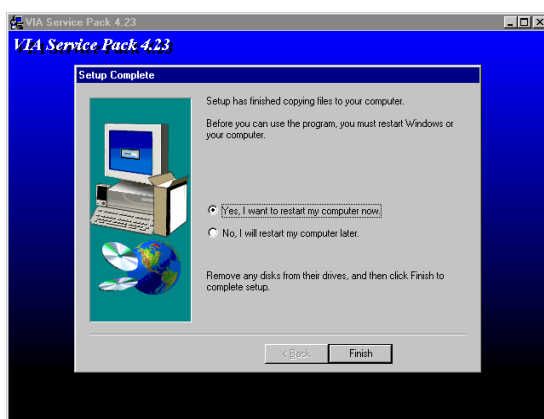
9. Click Finish to restart computer

4-2 PC-HEALTH   Install VIA Hardware Monitor Driver
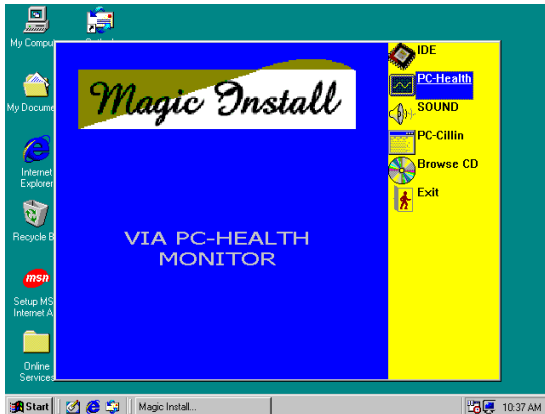
1.   Click PC-HEALTH when Magic Install MENU appears

2.   Click NEXT when VIA Hardware Monitor Wizard appears

3.   Click Next to install Driver in C:\VIAHM

4.   Click Next to use default Program Folders name

4-2-1   How To Use VIA Hardware Monitor Application Software
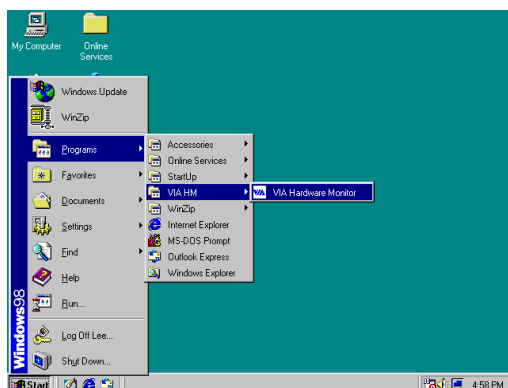
1.   Click Programs, VIA HM and will show next screen
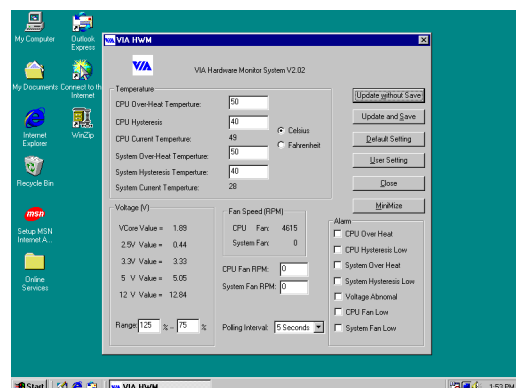
4-3 Sound VIA AC97 Audio Codec Installing Driver

1. Click SOUND when Magic Install MENU appears

2. Click Next when VIA Audio Driver Wizard appears

3. Click Next to Install VIA Audio Driver

4. After Copy files please click finish to finish Installing
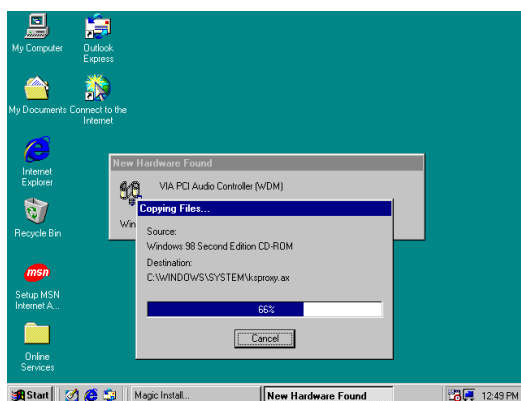

5. System will Auto detect and find the device to copy driver
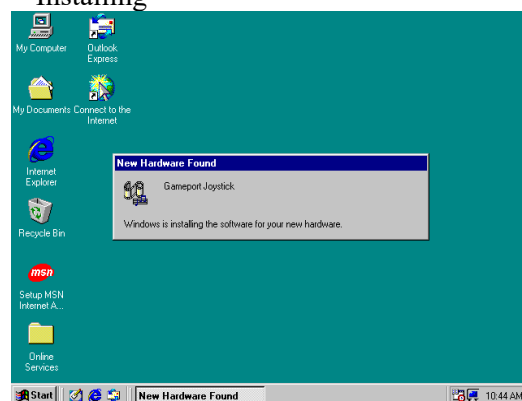
6. Wait about 10~20 sec system will auto Install Game port Joystick driver

4-4 PC-CILLIN install PC-CILLIN98 anti-virus program
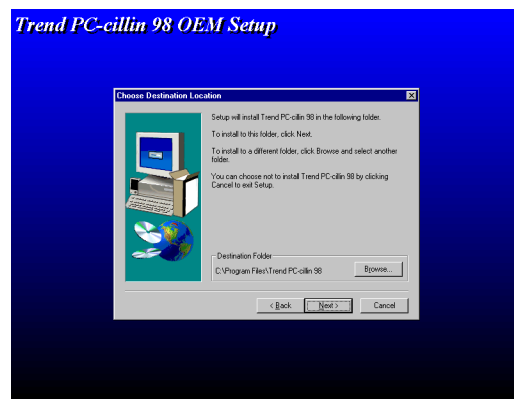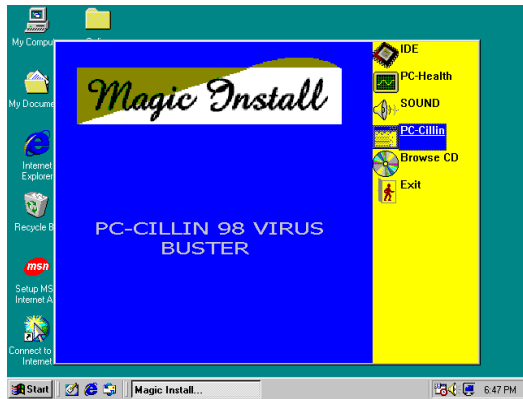
1. Click PC-CILLIN when MAGIC INSTALL MENU Appears

2. Click NEXT when PC-CILIN 98 OEM SETUP APPEARS. Then click YES when the announcement of copywrite appears. Software is starting to detect HD for virus
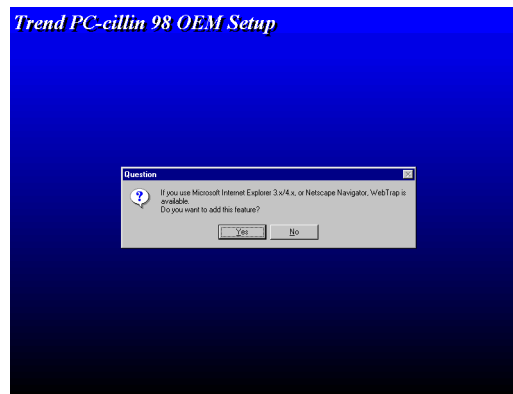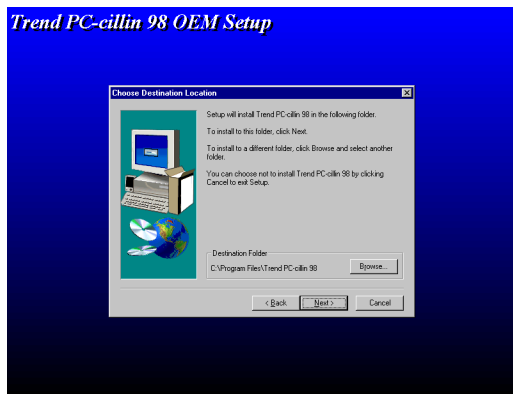
3. Click NEXT or choose BROWSE to change the path For the file to be stored

4. Start to install the software, choose YES or NO when asked if you want PC-CILLIN To be added in ACTIVE CHANNEL or in Your internet browser
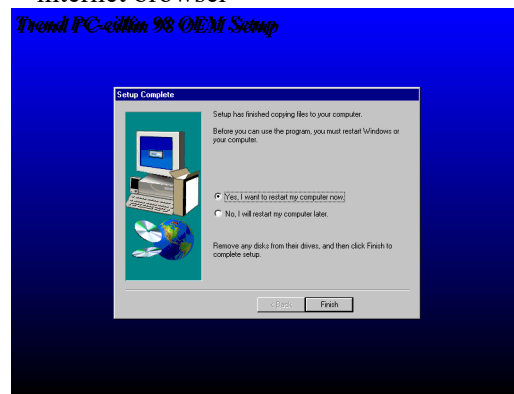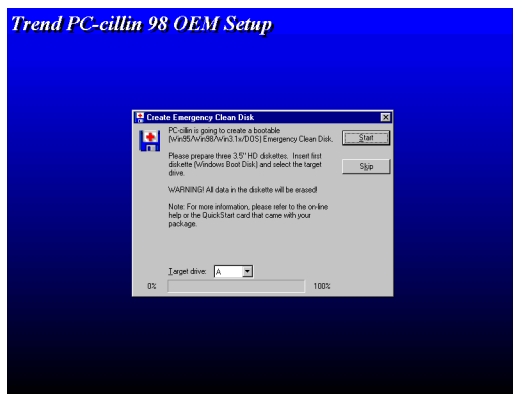
5. If you want to make a rescue disc, insert a 1.44 MB disk

6. Choose if you want to re-start and click Finish

4-5   HOW TO DISABLE ON-BOARD SOUND

Enter BIOS SETUP choose INTEGRATE PERIPHERALS choose ON-CHIP DEVICE FUNCTION choose AC97 SOUND DEVICE
Disable on-board sound function by press PAGE DOWN KEY to Disable

4-6 HOW TO UPDATE BIOS

STEP 1. Prepare a boot disc. (you may make one by click START click RUN type SYS A: click OK)

STEP 2. Copy utility program to your boot disc. You may copy from DRIVER CD X:\ FLASH\AWDFLASH.EXE or download from our web site.

STEP 3. Copy latest BIOS for 663AS/663AS PRO from our web site to your boot disc.

STEP 4. Insert your boot disc into A:,
start the computer, type "Awdflash A:\663ASxxx.BIN/SN/PY/CC/R"
663ASxxx.BIN is the file name of latest BIOS it can be 663ASA03.BIN or 663ASB02.BIN
SN   means   don't save existing BIOS data
PY   means   renew existing BIOS data
CC   means   clear existing CMOS data
R   means   restart computer

STEP 5. Push ENTER and the BIOS will be updated, computer will be restarted automatically