Mother Board

PM800BMS/PM800BM

User's Manual

Intel Socket 775 Processor Motherboard

VIA PM800 + VIA 8237

NO. G03-PM800BMS

Revision 2.0

Table of Content

Manual Revision History

Revision	Manual Revision History	Date of Release
Rev 2.0	Second edition copy of Mother Boards adopts VIA Chipsets: VIA PM800 and VIA VT8237	2005/06/22

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****The ranking above is by the sequence of alphabets.****

Safety Instructions

1. Please read these safety instructions carefully.
2. Please keep this User's Manual for later reference.
3. Please place the equipment on a reliable flat surface before installation.
4. Make sure the voltage of the power source when you try to connect the equipment to the power outlet.
5. All cautions and warnings on the equipment should be noted.
6. Disconnect this equipment from connecter before inserting add-on interfaces   or modules.
7. Never pour any liquid into the opening, this could cause fire or electrical shock.
8. Explosion may occur if the battery is replaced incorrectly. Replace only with the type recommended by the manufacturer.
9. If one of the following situations arises, get the equipment checked by a service personnel:
    a. Liquid has penetrated into the equipment.
    b. The equipment has been exposed to moisture.
    c. The equipment has not work well or you can not get it work according to user's manual.
    d. The equipment has dropped and damaged.
    e. If the equipment has obvious sign of breakage.
10. Do not leave the equipment in an humidity or unconditional environment, storage temperature above 60°C(140°C), it may damage the equipment.

Precaution: It may void the warranty if any label on the equipment been removed.

Packing Item Checklist

- ☑ Motherboard
- ☑ Cable for IDE/Floppy
- ☑ Cable for Serial ATA IDE Port
- ☑ CD for motherboard utilities
- ☐ Cable for USB Port 3/4 (Option)
- ☑ User's Manual

Intel Pentium 4 Socket 775 Processor Thermal 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, Intel 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 Intel for use with Intel 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 Intel processors.

For vendor list of heatsink and fan, please visit:

http://developer.intel.com/design/Pentium4/components/index

Chapter 1

Introduction of PM800BMS /PM800BM Motherboard

Thank you for purchasing the PM800 series which provide extremely performance and meet future specification demand.

PM800 series motherboards are adopted with advanced technologies to deliver the extremely performance for Intel Pentium 4 LGA775 processors. PM800 series motherboards also feature AGP 8X, Serial ATA RAID0, 1, USB 2.0 as well as 6-channel audio which are based on the advanced VIA PM800 chipset with FSB 800MHz and DDR 400 MHz support. Now we could know more details by reading the features of motherboards below.

1-1 Feature of motherboard

PM800 series motherboards are designed for Intel Pentium 4 LGA775 533MHz/800MHz Front Side Bus Frequency CPUs and the memory size expandable to 2.0GB.

By using VIA PM800 chipset which provides 800/533MHz Front Side Bus frequency and DDR266/333/400 SDRAM support as a obvious further step to the next generation of 533/800MHz processors. PM800 series motherboards also offer ULTRA ATA **133** and **Serial ATA RAID 0, 1** functions to provide speedier HDD throughout that boosts overall system performance.

Integrated AC'97 CODEC audio on system supports 6 channel speaker for 3D Surround Effect which is fully compatible with Sound Blaster Pro® that gives you the best sound quality and compatibility. AGP 8X slot enables more complex models and detailed textures with AGP 8X graphic accelerators which creates richer and more lifelike virtual environments. VIA VT6103 LAN PHY supports 10/100Mbps data transfer rate full duplex, half duplex operation(Option). USB control as well as capability of expanding to 8 USB function ports support USB2.0/1.1 Devices.

Built-in hardware monitor function will monitor and protect your computer which is the special design in hardware for protecting Pentium 4 CPU from burned, and will shutdown power supply automatically when CPU is overheated or the CPU cooling fan is not working.

Minor adjustable DDR memory 2.5V Voltage, AGP 1.5V Voltage, and other *s*pecial functions allows user to increase CPU Host clock step by step by setting up BIOS to approach over clocking and increasing stability of the system.

1-2 Specification

Spec	Description
Design	∗ MICRO-ATX form factor 4 layers PCB size: 24.4x24.4cm
Chipset	∗ VIA PM800 North Bridge Chipset ∗ VIA VT8237 South Bridge
CPU Socket	∗ Support Intel Pentium 4 LGA775 package utilizes Flip-Chip Pin Grid Array (FC-PGA4) package processor ∗ Support up to 3.6G LGA775 Pentium 4 processor ∗ Reserves support for future Intel Pentium 4 processors
Memory Socket	∗ 184-pin DDR module socket x2 ∗ Support 2 pcs DDR266/DDR333/DDR400 DDR Modules Expandable to 2.0GB
Expansion Slot & Headers	∗ AGP slot x1 support AGP 2.0 & 3.0 for 4X/8X mode ∗ 32-bit PCI slot x3
Integrate IDE and Serial ATA RAID	∗ Two PCI IDE controllers support PCI Bus Mastering, ATA PIO/DMA and the ULTRA DMA 33/66/100/133 functions that deliver the data transfer rate up to 133 MB/s; Two Serial ATA ports provide 150 MB/sec data transfer rate for two Serial ATA Devices and offer RAID 0, 1 functions
On board LAN (for PM800BMS)	∗ VIA VT6103 LAN PHY support 10/100Mbps full duplex, half duplex operation ∗ Support Boot On LAN function
Integrate VGA	∗ VGA memory share 16∼64MB from system memory ∗ 24-bit true-color RAMDAC up to 300MHz pixel rate ∗ Resolution up to 1920x1440
Audio	∗ AC'97 Digital Audio controller integrated ∗ AC'97 Audio CODEC on board ∗ Audio driver and utility included ∗ Support 6 channel Speaker for 3D surround effect
BIOS	∗ Award 2MBit Flash ROM
Multi I/O	∗ PS/2 keyboard and PS/2 mouse connectors ∗ Floppy disk drive connector x1 ∗ Parallel port x1 ∗ Serial port x1 ∗ USB2.0 connector x4 ∗ USB2.0 headers x4 (connecting cable option) ∗ Audio connector (Line-in, Line-out, MIC)

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.)

Performance Test Report

CPU: Intel Pentium 4 3GHz (FSB 800) Hyper-Threading Support

DRAM: KINGSTON D328DW 512M DDR400 X 2 PCS Total 1Gbyte Memory

VGA Expansion Card: ON BOARD VGA (1024X768X32BIT Color)

Hard Disk Driver: IBM IC35L040AVVN07-0 (ATA-100 7200RPM)

BIOS: Award Optimal default

OS: Windows XP Professional (SERVICE PACK 1)

		PM800	
3D Mark 2001SE		2065	
3D Mark 2003		122	
3D Winbench 2000 (32/32bit)		47.6	
PC Mark 2002 CPU/Memory/HDD		7294 / 5915 / 845	
PCMark2004			
System/CPU/Memory/Graph/HDD		3469/4362/3323/605/3269	
Content Creation Winstone 2002		44.6	
Content Creation Winstone 2003		48.5	
Business Winstone 2002		31.9	
Content Creation Winstone 2004		26.1	
Business Winstone 2004		21.6	
Winbench 99 V1.2:			
Business/Hi-end Disk Winmark99		9190 / 32800	
Business/Hi-end Graphic Winmark		366 / 1000	
SYS Mark 2001/2002 : SISMark 2001/2002 Rating (Internet Content Creation / Office Productivity)			
SISMark 2001		265 (307 / 229)	
SISMark 2002		301 (413 / 200)	
SISOFT Sandra 2003 :			
Dhrystone ALU	MIPS	8860	
Whetstone FPU	MFLOPS	2588 / 5793	
RAM Int Buffered iSSE2	MB/S	2829	
RAM Float Buffered iSSE2	MB/S	2826	
Integer SSE2	IT/S	13813	
Floating- Point SSE2	IT/S	22051	
QUAKE3 DEMO1/DEMO2	FPS	69.0 / 65.2	
Return to Castle Wolfenstein	FPS	61.6	
Super Pi (1M)	Second	54s	
WCPUID System/CPU Clock		200.04 / 3000.54	

1-4 Layout Diagram & Jumper Setting

PRINT   LAN

PS/2 Mouse

PS/2 Keyboard

MIC

LINE-IN

LINE-OUT

COM1   VGA   USB1   USB

ATX 12V Power Connector

PS2 KB/Mouse Port

K/B Power ON Jumper **(JP1)**

PC99 Back Panel

USB Port

USB Power On Jumper **(JP2)**

USB Port/**LAN Connector**

VIA VT6103 LAN PHY chip

Audio Connector

SFAN1

Winbond 83687THF Chip

2MBit Flash ROM BIOS

PCI Slot

AC97' Audio Code

Front Panel Audio

CD Audio

SFAN2

CPU Socket

CPU FAN

DDR DIMM X2

ATX Power Connector

VIA PM800 Chip

ATA 133 IDE Connector

Floppy Connector

AGP 4X/8X Slot

VIA VT8237 Chip

Clear CMOS **(JBAT)**

Serial-ATA Connector **(SATA1, 2)**

Power LED Connector

Speak Connector

Front Panel Connector

Wake On LAN

USB Power On Jumper **(JP5)**

USB Port **(USB2, USB3)**

4

Jumpers

Jumper	Name	Description	Page
JBAT	CMOS RAM Clear	3-pin Block	P.6
JP1	Keyboard Power On Enable/Disabled	3-pin Block	P.7
JP2, JP5	USB Power On Enable/Disabled	3-pin Block	P.7

Connectors

Connector	Name	Description	Page
ATXPWR	ATX Power Connector	24-pin Block	P.19
ATX12V	ATX 12V Power Connector	4-pin Block	P.20
PS2KBMS1	PS/2 Mouse & PS/2 Keyboard Connector	6-pin Female	P.20
USB1, UL1	USB Port Connector	4-pin Connector	P.20
LAN (for PM800BMS)	**LAN Port Connector**	**RJ-45 Connector**	P.20
PARALLEL	Parallel Port Connector	25-pin Connector	P.20
AUDIO	Audio Connector	3 phone jack	P.20
VGA	VGA Display Connector	15-pin Female Connector	P.21
COM1	Serial Port COM1 Connector	9-pin Connector	P.21
FDD	Floppy Driver Connector	34-pin Block	P.21
IDE1/IDE2	Primary/Secondary IDE Connector	40-pin Block	P.21
SATA1, SATA2	Serial ATA Port Connector	7-pin Block	P.22

Headers

Header	Name	Description	Page
AUDIO	Line-Out, MIC Header	9-pin Block	P.22
USB2/USB3	USB Port Headers	9-pin Block	P.23
JW FP (Power LED/Reset/ IDE LED/ Power Button)	Front Panel Header (including Power LED/IDE activity LED/Reset switch / Power On Button lead)	9-pin Block	P.23
SPEAK	PC Speaker Connector	4-pin Block	P.23
PWR LED	Power LED	3-pin Block	P.23
WOL	Wake On-LAN Headers	3-pin Block	P.24
CPUFAN	CPUFAN Power Header	4-pin Block	P.24
SFAN1, SFAN2	FAN Power Headers	3-pin Block	P.24
CDIN	CD Audio-In Headers	4-pin Block	P. 24

Expansion Sockets

Socket/Slot	Name	Description	Page
LGA775 Socket	CPU Socket	LGA775 mPGA CPU Socket	P.8
DIMM1, DIMM2	DDR Module Socket	184-pin DDR Module expansion Socket	P.17
PCI1 ~ PCI3	PCI Slot	32-bit PCI Local Bus Expansion slots	P.18
AGP	AGP 8X Mode Slot	AGP Expansion Slot	P.19

Chapter 2

Hardware installation

2-1 Pre-Hardware installation

Before starting to use the computer with the motherboard installed the components on it, please make sure complete the following steps:
1. To verify the jumper settings of your motherboard
2. To install the CPU and Cooling Kits
3. To install the system memory
4. To install the expansion cards
5. To connect with ribbon cables, panel wires, and power supply
6. To setup BIOS
7. To install software driver & utility

2-2 To verify the jumper settings of the motherboard

(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.

To clear the CMOS, follow the procedure below:
1. Turn off the system and unplug the AC power
2. Remove ATX power cable from ATX power connector
3. Locate JBAT and short pins 2-3 for a few seconds
4. Return JBAT to its normal setting by shorting pins 1-2
5. Connect ATX power cable back to ATX power connector

Note: When should clear CMOS
1. Troubleshooting
2. Forget password
3. After over clocking system boot fail

JBAT   1-2 closed   Normal (Default)   JBAT   2-3 closed   Clear CMOS

CMOS RAM Clear Setting
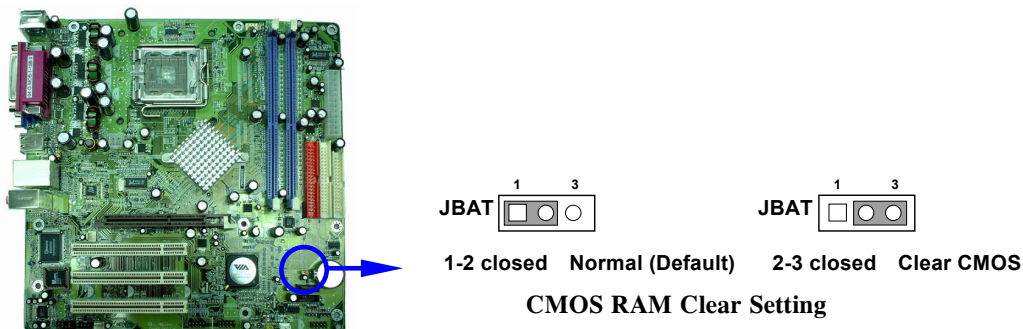
(2)   Keyboard/USB Power On function Enabled/Disabled: JP1/JP2, JP5

When setting Enabled you can using keyboard by key in password/USB to power on system.

JP1		JP1	
1-2 closed (Default)	K/B Power ON Disable	2-3 closed	K/B Power ON Enabled

Keyboard Power On Setting

JP2		JP2	
JP5		JP5	
1-2 closed (Default)	USB Power On Disable	2-3 closed	USB Power On Enabled

USB Power On Setting
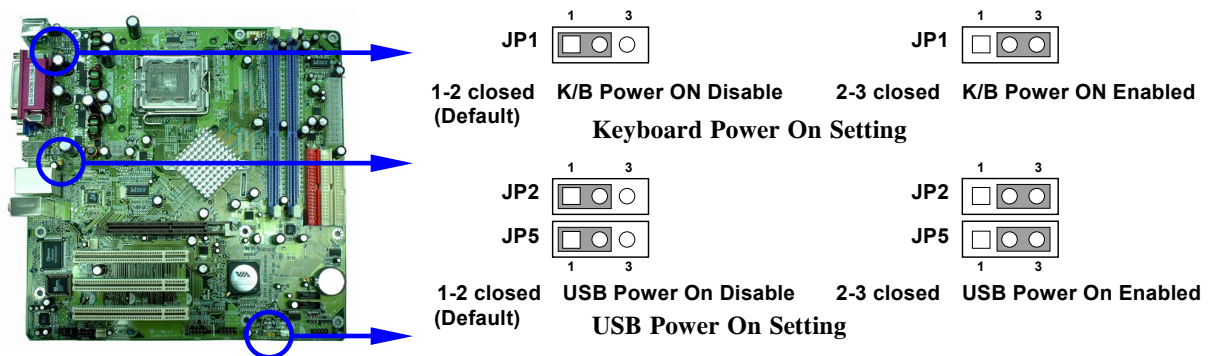
2-3 To install the CPU

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 socket - the socket used to mount the system processor on the motherboard.

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

AGP - **A**ccelerated **G**raphics **P**ort - the high speed interface for video cards which runs at 1X (66MHz), 2X (133MHz), 4X (266MHz), and 8X (533MHz).

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

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

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

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

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

USB - **U**niversal **S**erial **B**us - the medium speed interface typically used for mouse, keyboards, 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 links to 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 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 serial CPU has 256K or above, and Duron has 64K.

2-3-2   LGA 775 CPU Installation Guide

Socket Preparation

1.   Opening the socket:

Note: Apply pressure to the corner with right hand thumb while opening/closing the load lever, otherwise lever can bounce back like a "mouse trap" and WILL cause bent contacts (when loaded)

Socket Load Plate Open

Socket Load Lever Open
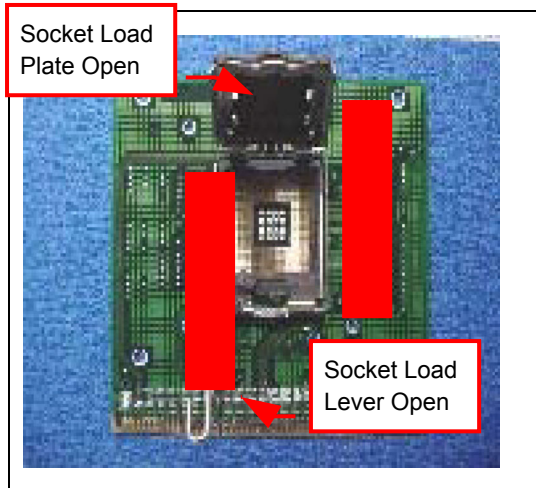
1.   Disengage Load Lever by **depressing down** and **out** on the hook to clear retention tab
2.   Rotate Load Lever to fully open position at approximately 135degrees
3.   Rotate Load Plate to fully open position at approximately 100degrees

2.   Remove PnP Cap (Pick & Place Cap)

i.   With left hand index finger and thumb to support the load plate edge, engage PnP cap with right hand thumb and peel the cap from LGA775 Socket while pressing on center of PnP cap to assist in removal.

ii.   Set PnP cap aside. Always put PnP cap back on if the processor is removed from the socket.

iii. Visually inspect PnP cap for damage. If damage observed, replace the PnP cap.

Lift here: PnP Cap
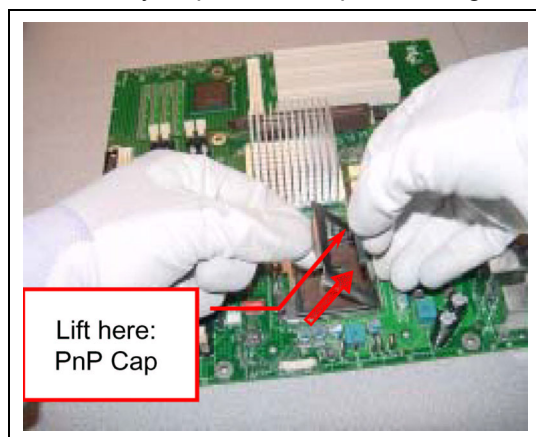
Note: After PnP cap removal, make sure socket load plate and contacts are free of foreign material; Refer to Overview Module for FM cleaning.

Note: Optionally, remove PnP cap after CPU insertion. This will compromise the ability to visually inspect socket.

3. Visually inspect for bent contacts (Recommend at least 1stpass visual inspection)

NOTE: Refer to the Handling and Inspection Module for 1stand 2ndpass inspection details.

NOTE: Glove images are for illustrative purposes only. Please consult local safety guidelines for specific requirements

NOTE: Recommend not to hold the load plate as a lever, instead hold at tab with left hand, removing the PnP cap with right hand

775-land LGA Package Insertion

1. Lift processor package from shipping media by grasping the substrate edges ONLY.
Note: Orient processor package such that the Pin 1 triangle mark is on bottom left and both key notches are on left side
2. Land Side Cover Handling: Remove land side cover with the opposite hand by depressing larger retention tab and peeling the cover away
3. Set and reserve the land side cover aside.
Note: Always keep the land side cover on the processor when not in the socket.
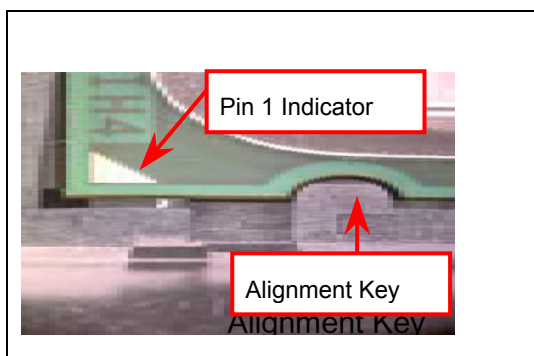
4. Visually inspect the package gold pads: Scan the processor package gold pad array for presence of foreign material. Refer to Overview Module for FM cleaning recommendations
5. Orient the package with IHS up. Locate Pin 1 and the two orientation key notches
6. Carefully place the package into the socket body using a purely vertical motion
CAUTION: Using Vacuum Pen for installation is *not* recommended
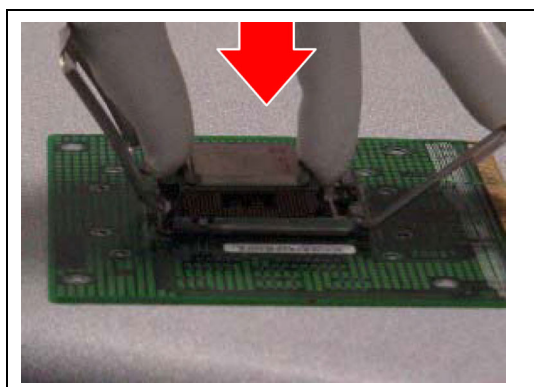
7. Verify that package is within the socket body and properly mated to the orient keys
8. Close the socket by
i. Rotating the Load Plate onto the package HIS
ii. While pressing down lightly on Load Plate, engage the Load Lever.
iii. Securing Load Lever with Load Plate tab under retention tab of Load Lever
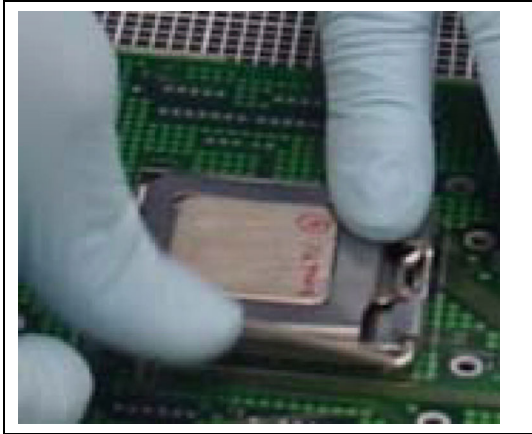
775-Land Package Removal

1. Open the Load Plate/Lever with both hands:
   With left hand index finger and thumb to support the load plate edge, engage PnP cap with right hand thumb and peel the cap from LGA775 Socket while pressing on center of PnP cap to assist in removal.
2. Pick up 775-land LGA package:
   By Vacuum Pen: Place a minimum 9-mm cup at approximately the center of IHS.

Recommend not to place Vacuum Pen on IHS edge. Risk of dropping and causing bent contact.

Recommend not to use Vacuum Pen for inserting CPU By Hand: Index finger to hold load plate hinge
   side and thumb to hold load lever side

Chamfer on Land Side Cover (align this with pin 1 mark on 775-land LGA package)

Large Retention Tabs (pointing towards user)

3. Lift the package straight up and away.
4. Assemble processors land side cover immediately to prevent contamination.
i. While holding the processor by the 3 corners, the other hand lift land side cover from work surface by grasping at the large retention tabs. Ensure retention tabs and package are pointing each other.
ii. Orientate so that land side cover chamfer is matching with package Pin 1 location.
iii. Hook the first large retention tab on the package substrate. Then press the opposite tab onto the substrate.

Hold at corners

iv. Place processor with land side cover installed onto proper shipping media or other ESD approved work surface

5. Visually inspect socket contact array

1. First Pass Inspection

i. Scan socket contact array at varying angles noting the presence of any foreign material

ii. If foreign material can't be blown off by compressed air, or mechanical damage (Mode1 or 4) observed, reject the motherboard for further evaluation or socket replacement.

2. Second Pass Inspection

i. Repeat 2 more times to sight down the rows and columns from each of the 4 sides of the socket to ensure all contacts within the array are inspected

ii. Inspect for Mode2, Mode3, and Mode5 failures

Note: Refer to the Test Module for detail visual inspections

6. Assemble LGA775 socket PnP cap

i. Secure/Hook the back side of PnP cap.

ii. Snap down the front side to fully secure

7. Close the Socket

Intel Reference Thermal Solution Assembly

NOTE: Depending on the configuration, Thermal Solution Integration procedure could perform with M/B alone or with M/B in the Chassis.

0.150-inch backside clearance for fastener

Fan cabled on side closest to MB header

Fastener slots pointing straight out
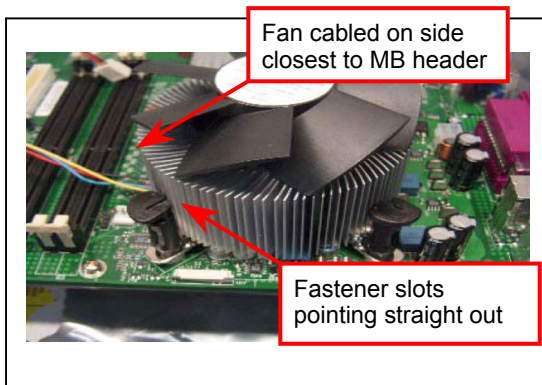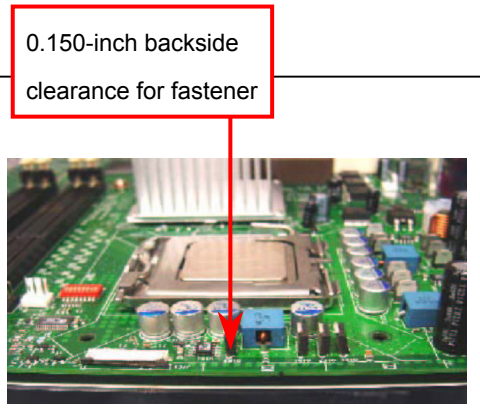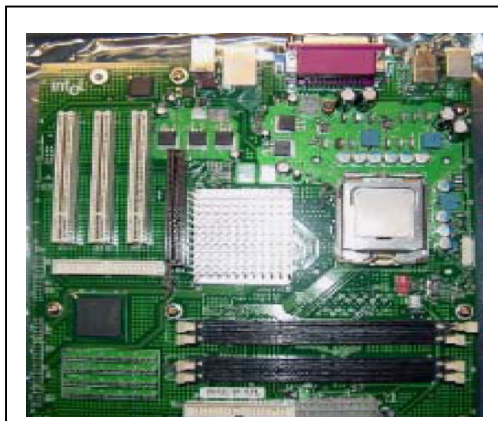
1. Place motherboard on support structure providing minimum 0.150-inch backside clearance

2. Apply 300 mg of Thermal Interface Material (Shin- Etsu G751) onto center of IHS

Apply Thermal Interface Material
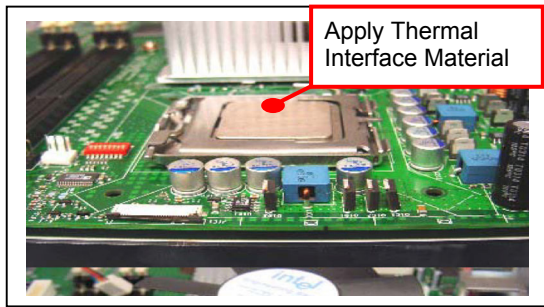
NOTE: Thermal Solutions that come with IntelR boxed processor use pre-applied thermal interface material and not grease.

3. Remove Heat Sink (HS) from packaging media
4. Place HS onto the LGA775 Socket
- Ensure fan cables are oriented on side closest to fan header
- Align Fasteners with MB through-holes

Fastener Cap not resting against spring

Fastener flush against MB
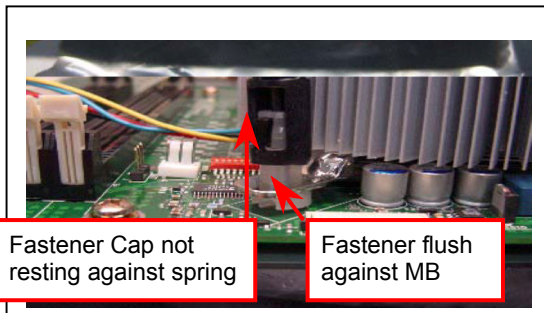
5. Inspection
- Ensure cables are not trapped or interfere fastener operation
- Ensure fastener slots are pointing straight out from heatsink

Press Down (4 Places)

Both fastener halves are flush against spring

Fastener flush against spring
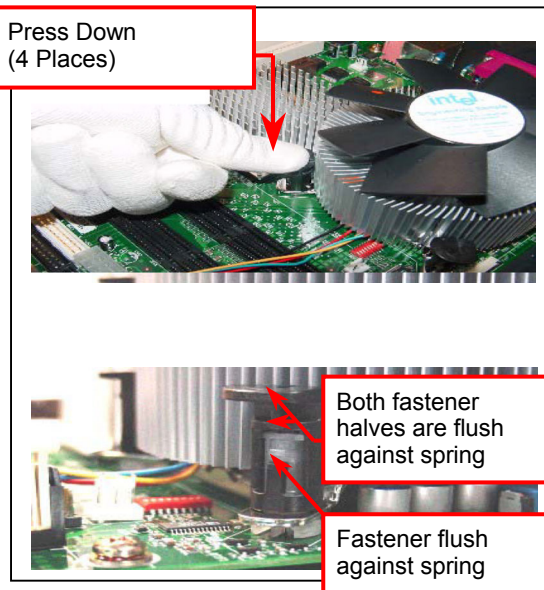
6. Actuate fasteners
- While holding HS to prevent tilting, press down on fastener caps with thumb to install and lock
Repeat with remaining fasteners
7. Inspection
- Verify the fasteners are properly seated
- Ensure both fastener cap and base are flush with spring and motherboard
8. Connect fan header with Board header
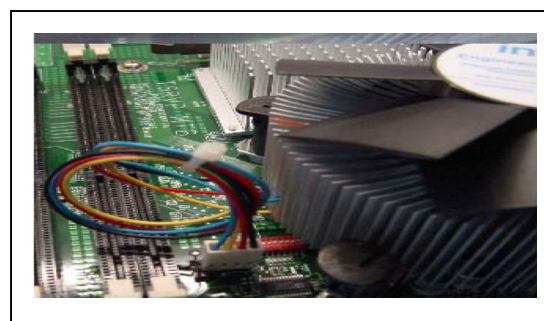
9. Secure excess cable with tie-wrap to ensure cable does not interfere with fan operation or contact other components.

Intel Reference Thermal Solution Disassembly
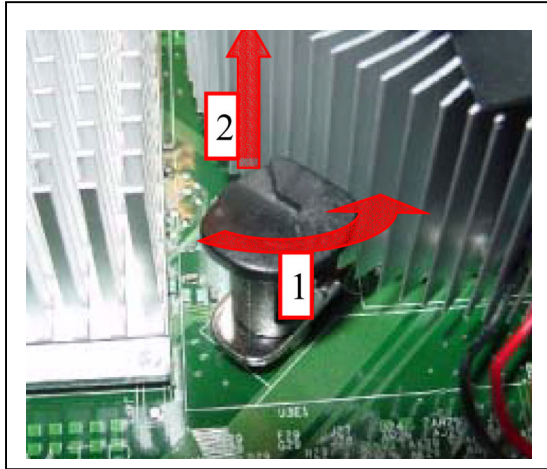
1. Rotate fastener cap. turn to un-lock
2. Pull up fastener cap to un-seat 12

1. Disconnect fan cable from motherboard header
2. Turn fastener caps (4) counter-clock wise 90degrees to the un-locked position
- A flat-bladed screwdriver may be used if required
3. Pull up on fastener caps to unseat
4. Manually remove HS with gentle twist motion.
5. To re-assemble the HS, reset the fastener caps to their original position with the slot perpendicular to the HS. Then, follow the assembly instructions.

Note: Thermal grease should be reapplied

TIM and Grease Removal from CPU
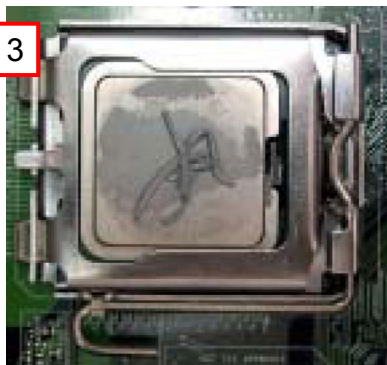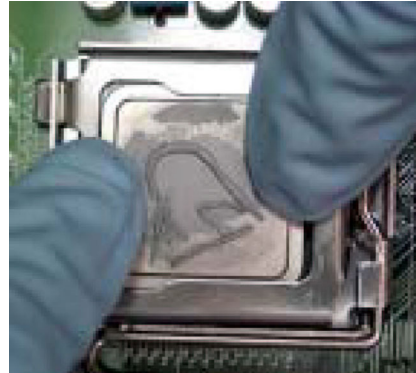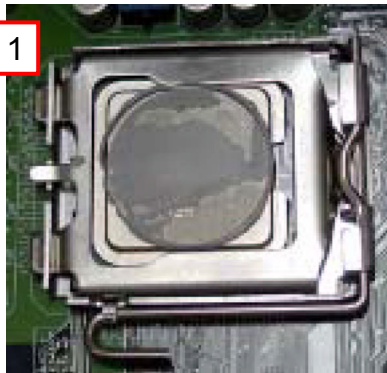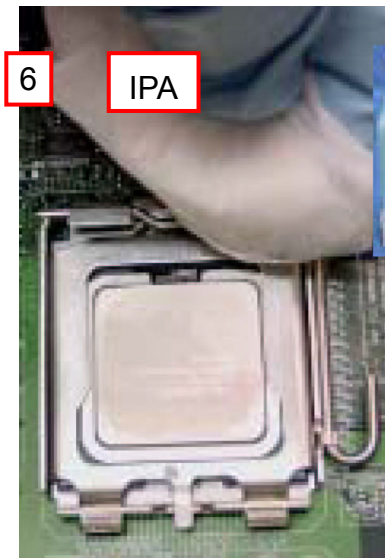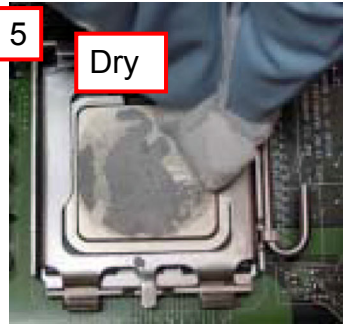
1. Remove the heatsink from the socket
2. Gently push loose thermal interface material (TIM) to center of processor (pictures 2 and 3)
3. Remove pieces with dry cloth (picture 4)
4. Wipe with dry, lint-free cloth to remove most of the material (picture 5)
5. Wet another lint-free cloth with isopropyl alcohol (IPA) and wipe to clean remaining material (picture 6)
6. Be careful to remove material from gaps between processor and load plate
7. For thermal grease removal use Step 4-6

TIM and Grease Removal from Heat-sink

Note: Remove and replace the TIM from the heatsink if you are re-using the heatsink on a new processor

1. Use dry, lint-free cloth and wipe package to remove most of the material
2. Wet another lint-free cloth with isopropyl alcohol (IPA) and wipe heatsink to clean remaining material

Dry

1

2
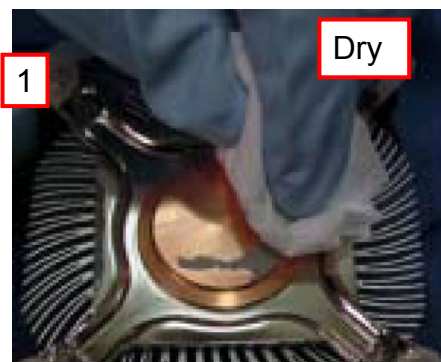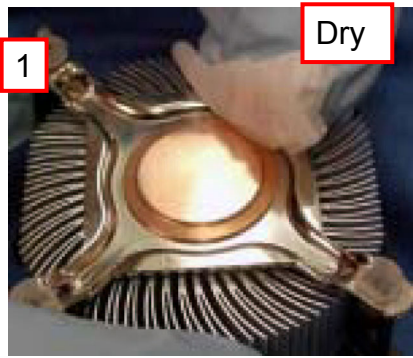
Replacing Damaged Fasteners

- • To prevent damage, avoid setting the thermal solution with the prongs down

- – Set on heatsink side or with fan down

- • The plastic fasteners on the heatsink can be replaced.

- – Use Shop Intel to order spare fasteners

- – http://www.shop-intel.com

- • To remove a damaged fastener

Note: Protective gloves are not required for this procedure

- – Rotate the black pin counterclockwise until it "snaps". There will be some resistance

- – Remove the black pin from the white prong

- – Tilt the white prong to remove it from the heatsink leg

Avoid damage, avoid placing prongs on hard surface

Snap
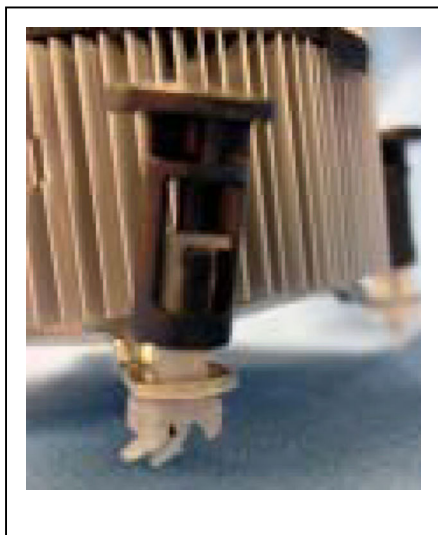
Damaged. Attempts to straighten not recommended

Tilt to remove
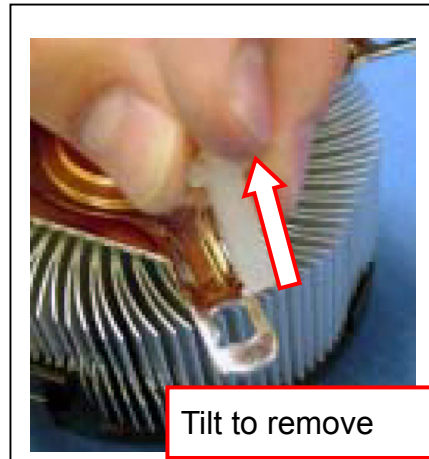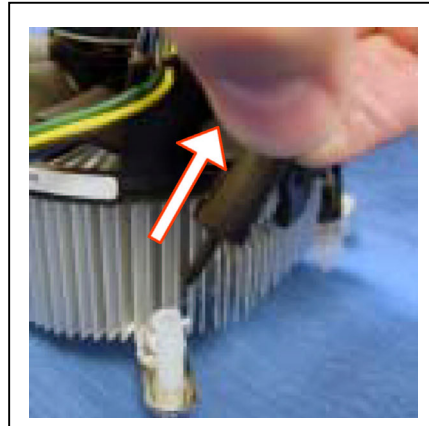
Replacing Fasteners

- To **replace** the fastener
- Start with the white prong
- Note the "keying" notch feature
- Tilt the prong to insert into the heatsink leg.
- Holding the white prong without bending it, push the black pin on from the bottom until you hear a single "click"

Replacement

Tilt to insert

Click
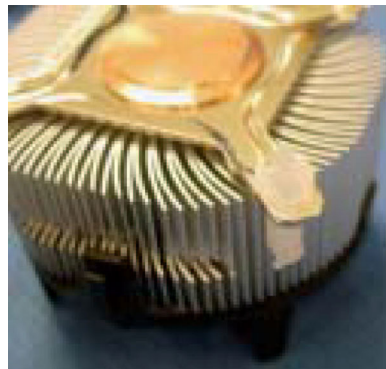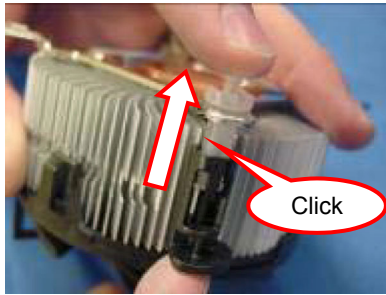
Note: The black pin and white prong will only "snap" on in one orientation

– Check to ensure the black pin is rotated properly for installation with the slot perpendicular to the heatsink

2-4 To install the system memory

This motherboard provides three 184-pin DUAL INLINE MEMORY MODULES (DIMM) sites for memory expansion available from minimum memory size of 64MB to maximum memory size of 2.0GB DDR SDRAM.

Valid Memory Configurations

Bank	184-Pin DIMM	PCS	Total Memory
Bank 0, 1 (DIMM1)	PC2100/PC2700/PC3200 DDR SDRAM	X1	64MB~1.0GB
Bank 2, 3 (DIMM2)	PC2100/PC2700/PC3200 DDR SDRAM	X1	64MB~1.0GB
Total	System Memory (Max. 2.0GB)	2	64MB~2.0GB

NOTE! Make sure the total installed memory does not exceed 2.0GB, otherwise the system may hang during startup.

Generally speaking, installing DDR SDRAM modules to your motherboard is very easy, you can refer to figure 2-4 to see what a 184-Pin PC2100/PC2700/PC3200 DDR SDRAM module looks like.

DIMM1 (BANK0+BANK1)
DIMM2 (BANK2+BANK3)

Ejector Tab
DIMM Module Ejector Tab
Keyed

Figure 2-4
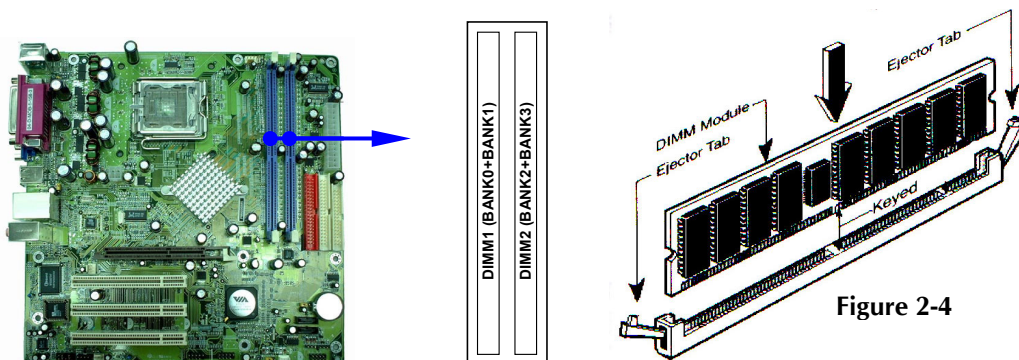
NOTE! When you install DIMM modules fully into the DIMM sockets the eject tab should be locked into the DIMM modules firmly and fit to its indention on both sides.

2-5 To install the 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.   To read documentations or manuals for your expansion cards and make any necessary hardware or software settings for your expansion card such as jumpers.
2.   To remove your computer's cover and the bracket plate on the slot you intend to use.
3.   To align the card's connectors and press firmly.
4.   To secure the card on the slot with the screen you remove above.
5.   To replace the computer system's cover.
6.   To set up the BIOS if it's necessary.
7.   To install the necessary software drivers for your expansion cards.

2-5-2 Assigning IRQs For Expansion Card

Some expansion cards need to assign an IRQ address to operate. Generally speaking, an IRQ address must exclusively assign to one use only.   With standard factory 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 requests 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	—	—	Shared	—
AGP slot	Shared	—	—	—
AC97/MC97	—	—	Shared	—

IMPORTANT!   While 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 arise between the two PCI groups that will make the system unstable or cards inoperable.

This motherboard provides an AGP Slot, support the 4X/8X AGP VGA card.

2x notch   4x notch

AGP SLOT
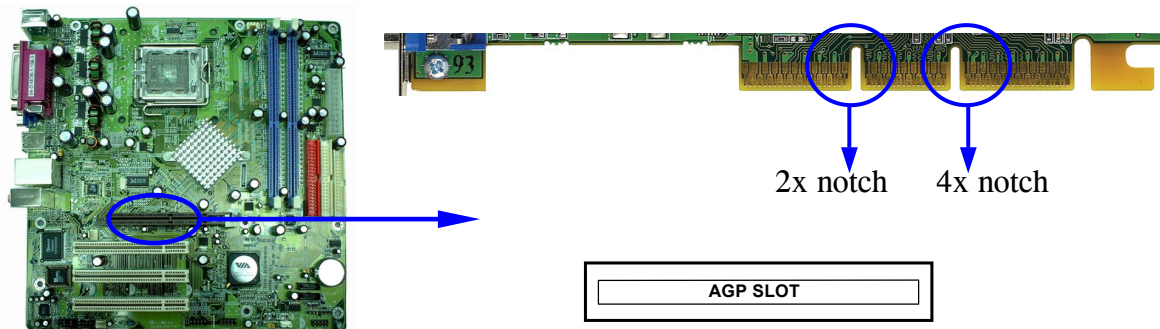
2-6 Connectors and pin headers

2-6-1   Connectors

(1) Power Connector (24-pin block) : ATXPWR

ATX Power Supply connector.   This is a new defined 24-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.

** We recommend that you use an ATX 12V Specification 2.0-compliant power supply unit (PSU) with a minimum of 350W power rating. This type has 24-pin and 4-pin power plugs.

** If you intend to use a PSU with 20-pin and 4-pin power plugs, make sure that the 20-pin power plug can provide at least 15A on +12V and the power supply unit has a minimum power rating of 350W. The system may become unstable or may not boot up if the power is inadequate.

PIN	ROW1	ROW2
1	3.3V	3.3V
2	3.3V	-12V
3	GND	GND
4	5V	Soft Power On
5	GND	GND
6	5V	GND
7	GND	GND
8	Power OK	-5V
9	+5V (for Soft Logic)	+5V
10	+12V	+5V
11	+12V	+5V
12	+3V	GND
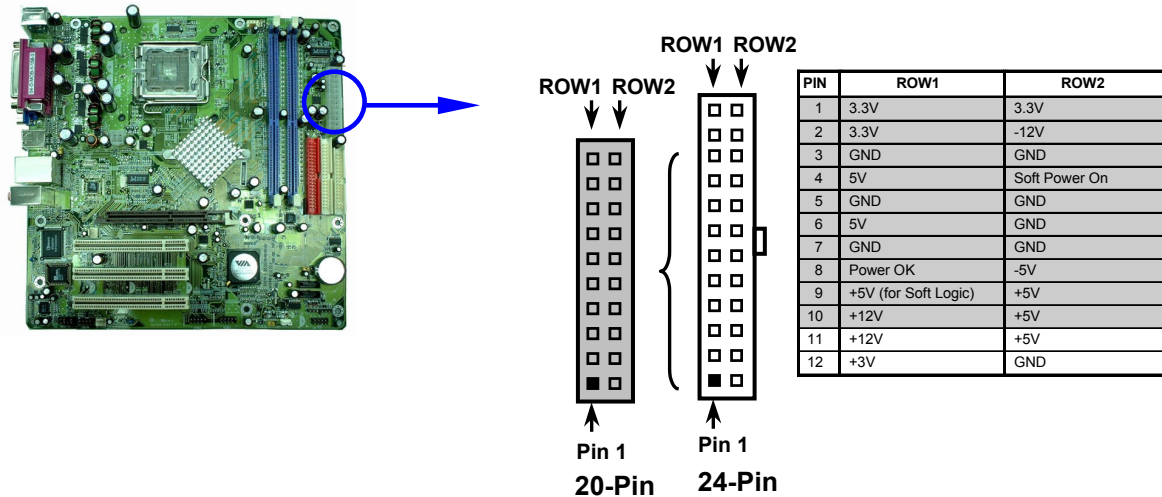
(2) ATX 12V Power Connector (4-pin block) : ATX12V

This is a new defined 4-pins connector that usually comes with ATX Power Supply. The ATX Power Supply which fully support Pentium 4 processor must including this connector for support extra 12V voltage to maintain system power consumption. Without this connector might cause system unstable because the power supply can not provide sufficient current for system.
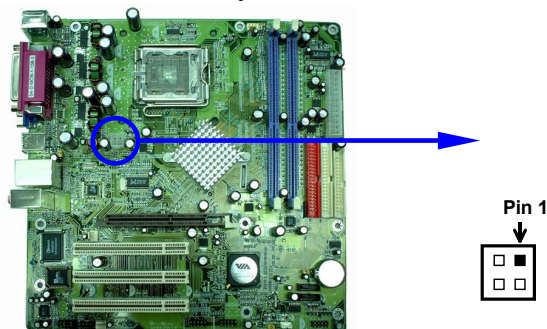
(3) PS/2 Mouse & PS/2 Keyboard Connector: PS2KBMS1

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

(4) USB Port connector: USB1, UL1

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

(5) LAN Port connector: LAN (only for PM800BMS)

This connector is standard RJ45 connector for Network

(6) Parallel Port Connector (25-pin female): PARALLEL

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.

(7) Audio Connector: AUDIO

This Connector are 3 phone Jack for LINE-OUT, LINE-IN, MIC.

Line-out :   Audio output to speaker
Line-in :   Audio input to sound chip
MIC :   Microphone Connector

(8) VGA Connector (15-pin D-Sub) Connector: VGA

VGA is the 15-pin D-Subminiature female connector for display monitor.

(9) Serial Port COM1 : COM1

COM1 is the 9-pin D-Subminiature male 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.
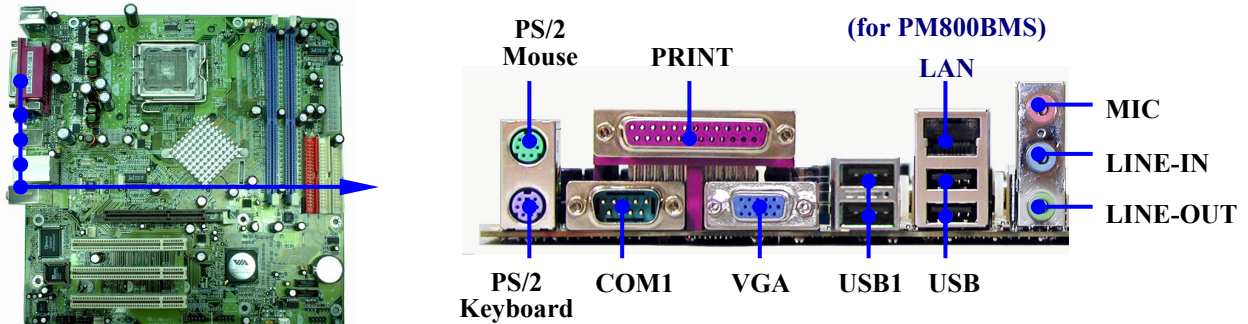
(10) Floppy drive Connector (34-pin block): FDD

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.

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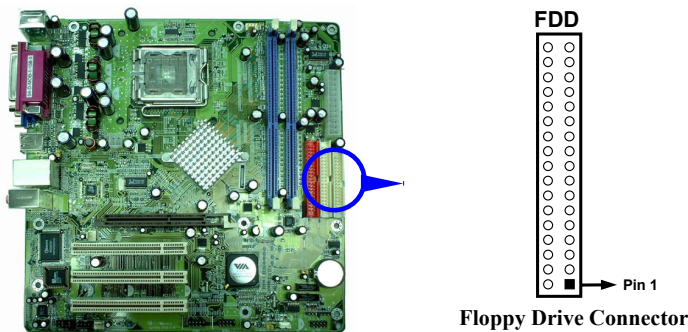
(11) Primary IDE Connector (40-pin block): IDE1

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
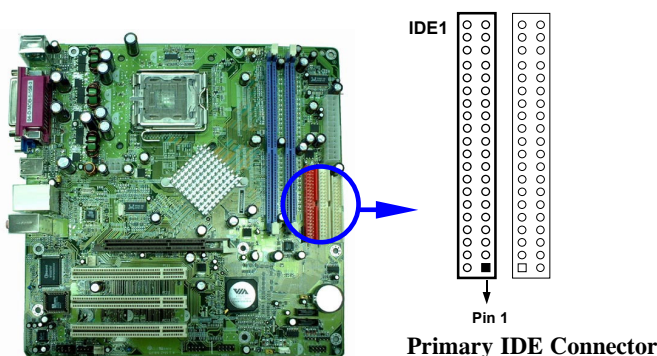
(12) Secondary IDE Connector (40-pin block): IDE2

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.

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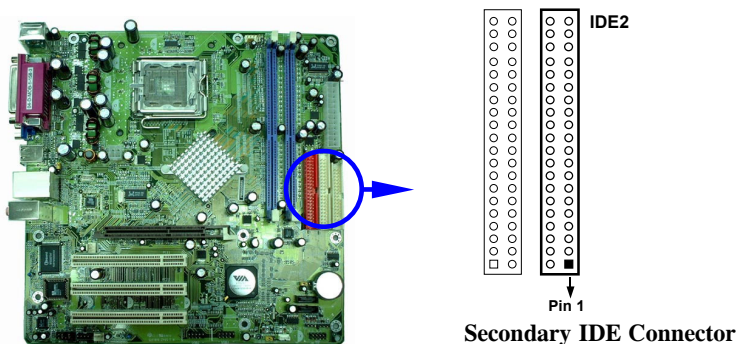
- Two hard disks can be connected to each connector.   The first HDD is referred to as the "Master" and the second HDD is referred to as the "Slave".
- For performance issues, we strongly suggest you don't install a CD-ROM or DVD-ROM drive on the same IDE channel as a hard disk.   Otherwise, the system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

(13)   Serial-ATA Port connector: SATA1/SATA2

This connector support the provided Serial ATA IDE hard disk cable to connecting the motherboard and serial ATA hard disk.

Serial-ATA Port Connector
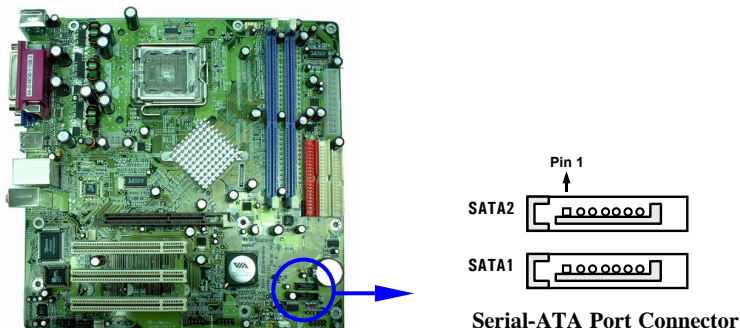
2-6-2   Pin headers

(1)   Line-Out, MIC Header (9-pin): AUDIO

This header connect to Front Panel Line-out, MIC connector with cable.

Line-Out, MIC Headers
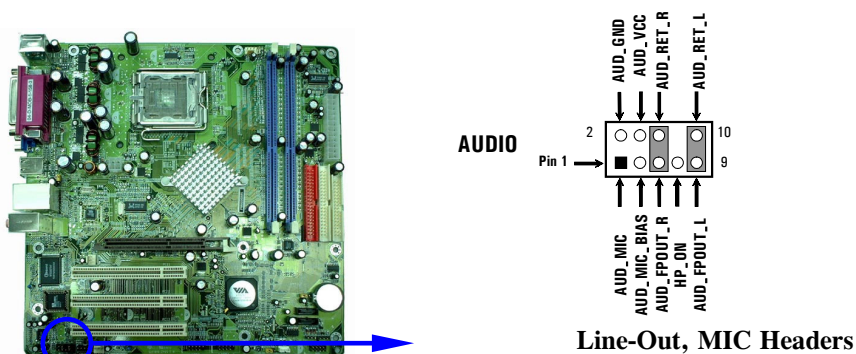
(2) USB Port Headers (9-pin) : USB2, USB3

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.

USB Port Headers
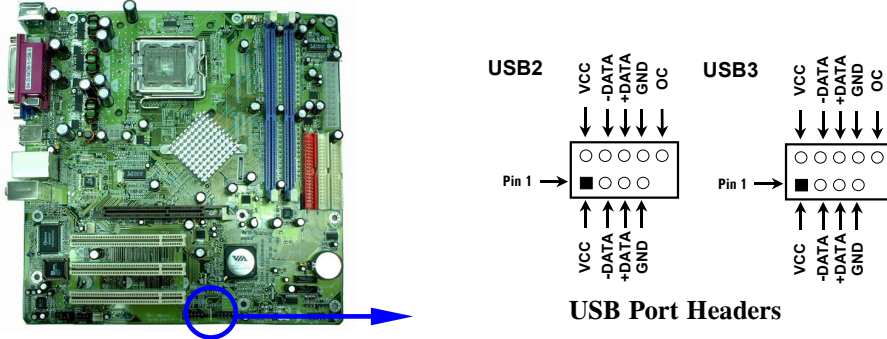
(3) Reset switch lead: RESET

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.

(4) IDE Activity LED: HD LED

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

(5) Power switch: PWR BTN

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

(6) Speaker connector: SPEAK

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.

System Case Connections
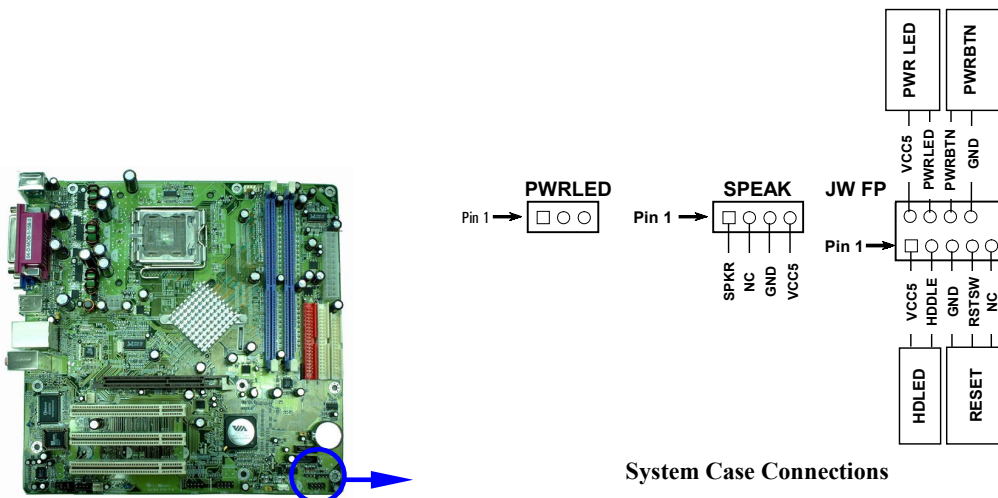
(8) Wake On-LAN Headers (3-pin) : WOL

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.

WOL

5VSB   GND   WOL

Wake-On-LAN Headers
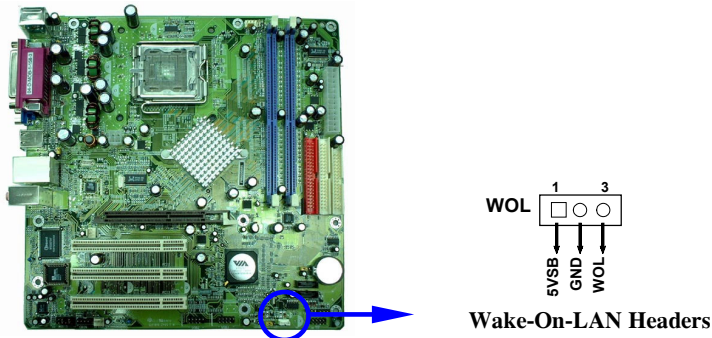
(9) FAN Headers: SFAN1, SFAN2 (3-pin), CPUFAN (4-pin)

These connectors support 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.

GND   + 12V   CPUFAN IN   CPUFAN OUT

CPUFAN   1   4

SFAN1   1   3

SFAN2   3   1
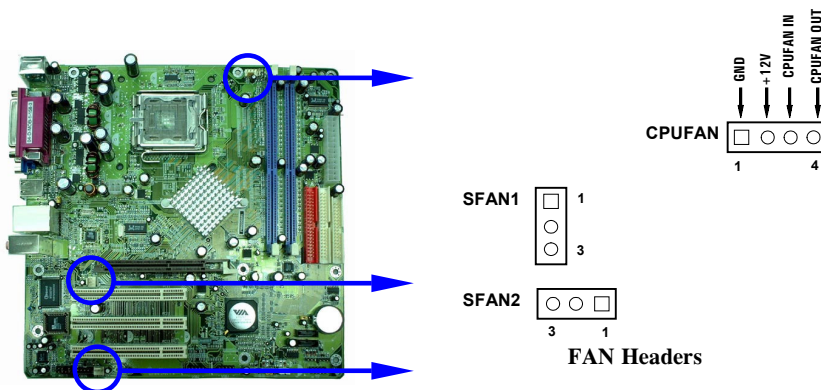
FAN Headers

(10) CD Audio-In Headers (4-pin) : CDIN

CDIN is the connector for CD-Audio Input signal. Please connect it to CD-ROM CD-Audio output connector.

CDIN   1   4

CD Audio-In Headers
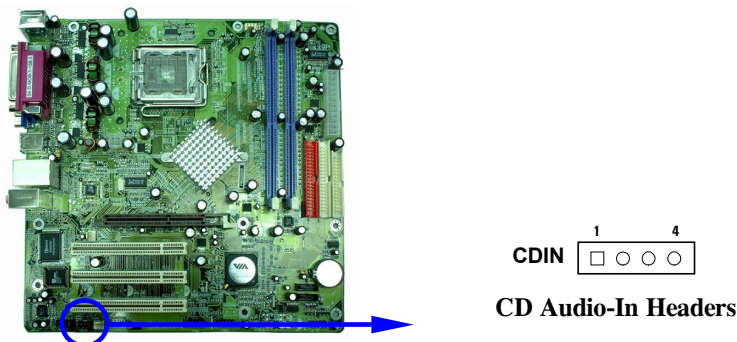
2-7 Starting up your computer

1. After all connection are ready, close your computer case cover.
2. Be sure all the switches 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 peripherals as following order:
   a. Your monitor.
   b. Other external peripherals (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 complies 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 Settings

The BIOS is a program located on a Flash Memory of the motherboard. Using this program as a bridge between motherboard and operating system.   When the computer starting to work, 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   BIOS Setup. If the message disappears before your respond and you still wish to enter BIOS   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.

```
             Phoenix – AwardBIOS CMOS Setup Utility
┌─────────────────────────────────────────────────────────────────┐
│                                                                   │
│  ┌──────────────────────────────┬────────────────────────────┐   │
│  │ Standard CMOS Features        │ Miscellaneous 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.

Miscellaneous Control
Use this menu to specify your settings for Miscellaneous 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.

```
            Phoenix – AwardBIOS CMOS Setup Utility

                    Standard CMOS Features
 ┌────────────────────────────────────────────┬──────────────────────┐
 │  Date (mm:dd:yy)        Mon, Oct, 18 2004   │                      │
 │  Time (hh:mm:ss)        16 : 45 : 35        │      Item Help       │
 │ > IDE Primary Master    Press Enter None    ├──────────────────────┤
 │ > IDE Primary Slave     Press Enter None    │                      │
 │ > IDE Secondary Master  Press Enter None    │  Menu Level >        │
 │ > IDE Secondary Slave   Press Enter None    │                      │
 │  Drive A                1.44M, 3.25 in.     │                      │
 │  Drive B                None                │  Change the day, month, │
 │  Video                  EGA/VGA             │  year and century    │
 │  Halt On                All,But Keyboard    │                      │
 │  Base Memory            640K                │                      │
 │  Extended Memory        56320K              │                      │
 │  Total Memory           57344K              │                      │
 ├────────────────────────────────────────────┴──────────────────────┤
 │  ↑↓→← Move Enter:Select +/-/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

```
              Phoenix – AwardBIOS CMOS Setup Utility

                        Advanced BIOS Features

  ┌─────────────────────────────────────────┬──────────────────────┐
  │   Virus Warning              Disabled    │                      │
  │   CPU L1 & L2 Cache          Enabled     │      Item Help        │
  │   CPU L3 Cache               Enabled     │                      │
  │   CPU L2 Cache ECC Checking  Disabled    ├──────────────────────┤
  │   Quick Power On Self Test   Enabled     │                      │
  │   Limit CPUID MaxVal         Disabled    │   Menu Level >        │
  │   Hyper-Threading Technology Enabled     │                      │
  │   SATA & SCSI Boot Order     SATA, SCSI  │                      │
  │   First Boot Device          Floppy      │                      │
  │   Second Boot Device         Hard Disk   │                      │
  │   Third Boot Device          CDROM       │                      │
  │   Boot other Device          Enabled     │                      │
  │   Boot Up Floppy Seek        Enabled     │                      │
  │   Boot Up NumLock Status     On          │                      │
  │   Typematic Rate Setting     Disabled    │                      │
  │ x Typematic Rate (Chars/Sec) 6           │                      │
  │ x Typematic Delay (Msec)     250         │                      │
  │   Security Option            Setup       │                      │
  │   APIC Mode                  Enabled     │                      │
  │   MPS Version Control For OS 1.4         │                      │
  │   OS Select for DRAM > 64MB  Non-OS2     │                      │
  │   HDD S.M.A.R.T. Capability  Disabled    │                      │
  │   Report No FDD For Windows  Yes         │                      │
  │   Video BIOS Shadow          Enabled     │                      │
  ├─────────────────────────────────────────┴──────────────────────┤
  │   ↑↓→←  Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit  F1:General Help │
  │        F5:Previous Values   F6:Optimized Defaults   F7:Standard Defaults     │
  └─────────────────────────────────────────────────────────────────┘
```

Virus Warning

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

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

Quick Power 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.

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.

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 the 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®.

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.

```
              Phoenix – AwardBIOS CMOS Setup Utility
                    Advanced Chipset Features
 ┌──────────────────────────────────────────┬─────────────────────────┐
 │ > DRAM Timing Settings      Press Enter   │                         │
 │ > AGP Timing Settings       Press Enter   │        Item Help        │
 │ > PCI Timing Settings       Press Enter   ├─────────────────────────┤
 │   System BIOS Cacheable     Disabled      │  Menu Level  >          │
 │   Memory Hole               Disabled      │                         │
 │                                           │                         │
 │                                           │                         │
 │                                           │                         │
 │                                           │                         │
 │                                           │                         │
 ├───────────────────────────────────────────┴────────────────────────┤
 │ ↑↓→← Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit  F1:General Help │
 │      F5:Previous Values   F6:Optimized Defaults  F7:Standard Defaults │
 └─────────────────────────────────────────────────────────────────────┘
```

DRAM Timing Settings

Please refer to section 3-6-1

AGP Timing Settings

Please refer to section 3-6-2

PCI Timing Settings

Please refer to section 3-6-3

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.

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.

3-6-1　　DRAM Timing Settings

```
            Phoenix – AwardBIOS CMOS Setup Utility
                    DRAM Timing Settings
┌─────────────────────────────────────────┬──────────────────────┐
│    System Performance      Auto By SPD   │      Item Help       │
│  x RAS Active Time         9T            │                      │
│  x RAS Precharge Time      4T            │   Menu Level >>      │
│  x RAS to CAS Delay        4T            │                      │
│  x DRAM CAS Latency        2.5           │                      │
│  x Bank Interleave         Disabled      │                      │
│    DRAM Bus Select         Auto          │                      │
│    DRAM Command Rate       2T Command    │                      │
│                                          │                      │
├─────────────────────────────────────────┴──────────────────────┤
│  ↑↓→← Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit  F1:General Help │
│     F5:Previous Values    F6:Optimized Defaults   F7:Standard Defaults │
└─────────────────────────────────────────────────────────────────┘
```

RAS Active Time

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: 2T and 3T.

RAS Precharge Time

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: 2T, 3T and 4T.

DRAM CAS Latency

When synchronous DRAM is installed, the number of clock cycles of CAS latency depends on the DRAM timing.　The settings are: 2T and 2.5T.

3-6-2　　AGP Timing Settings

```
            Phoenix – AwardBIOS CMOS Setup Utility
                    AGP Timing Settings
┌─────────────────────────────────────────┬──────────────────────┐
│    AGP Transfer Aperture Size   64M      │      Item Help       │
│    AGP Transfer Mode            4X       │                      │
│    AGP Driving Control          Auto     │   Menu Level >>      │
│  * AGP Driving Value            AA       │                      │
│    AGP Fast Write               Disabled │                      │
│    AGP Master 1 WS Write        Enabled  │                      │
│    AGP Master 1 WS Read         Enabled  │                      │
│    CPU to AGP Post Write        Enabled  │                      │
│    AGP Delay Transaction        Enabled  │                      │
│    AGP 3.0 Calibration Cycle    Disabled │                      │
│    VGA Share Memory Size        64MB     │                      │
│    Direct Frame Buffer          Disabled │                      │
├─────────────────────────────────────────┴──────────────────────┤
│  ↑↓→← Move Enter:Select +/-/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.

3-6-3　PCI Timing Settings

```
             Phoenix – AwardBIOS CMOS Setup Utility
                     PCI Timing Settings
┌─────────────────────────────────────────────┬───────────────────────┐
│    PCI Master 1 WS Write      Disabled        │       Item Help       │
│    PCI Master 1 WS Read       Disabled        ├───────────────────────┤
│    CPU to CPI Post Write      Enabled         │   Menu Level >>       │
│    PCI Delay Transaction      Enabled         │                       │
│    Vlink Mode Selection       Mode 1          │                       │
│  x Vlink 8X Support           Enabled         │                       │
│                                               │                       │
├───────────────────────────────────────────────┴───────────────────────┤
│   ↑↓→← Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit  F1:General Help │
│        F5:Previous Values   F6:Optimized Defaults   F7:Standard Defaults │
└─────────────────────────────────────────────────────────────────────┘
```

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.

3-7 Integrated Peripherals

```
             Phoenix – AwardBIOS CMOS Setup Utility
                    Integrated Peripherals
┌─────────────────────────────────────────────┬───────────────────────┐
│  > OnChip IDE Function        Press Enter     │       Item Help       │
│  > OnChip Device Function     Press Enter     │                       │
│  > Onboard Super IO Function  Press Enter     ├───────────────────────┤
│    Init Display First         PCI Slot        │   Menu Level >        │
│                                               │                       │
│                                               │                       │
│                                               │                       │
├───────────────────────────────────────────────┴───────────────────────┤
│   ↑↓→← Move Enter:Select +/-/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

Onboard Super IO 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

```
                    Phoenix – AwardBIOS CMOS Setup Utility

                            OnChip IDE Function

 ┌────────────────────────────────────────────┬─────────────────────────┐
 │ OnChip IDE Channel0          Enabled        │                         │
 │ OnChip IDE Channel1          Enabled        │      Item Help          │
 │ Primary Master   PIO         Auto           │                         │
 │ Primary Slave    PIO         Auto           ├─────────────────────────┤
 │ Secondary Master PIO         Auto           │                         │
 │ Secondary Slave  PIO         Auto           │                         │
 │ Primary Master   UDMA        Auto           │    Menu Level >>        │
 │ Primary Slave    UDMA        Auto           │                         │
 │ Secondary Master UDMA        Auto           │                         │
 │ Secondary Slave  UDMA        Auto           │                         │
 │ IDE Prefetch Mode            Enabled        │                         │
 │ IDE HDD Block Mode           Enabled        │                         │
 │                                             │                         │
 │                                             │                         │
 ├─────────────────────────────────────────────┴─────────────────────────┤
 │ ↑↓→←  Move Enter:Select +/-/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

```
              Phoenix – AwardBIOS CMOS Setup Utility

                      OnChip Device Function
┌──────────────────────────────────────────────┬──────────────────────┐
│  VIA SATA Function          Enabled           │      Item Help        │
│  VIA LAN Function           Enabled           │                      │
│  Current VIA MAC Address is  003018-XXXXXX     ├──────────────────────┤
│  VIA MAC Address Input      Press Enter        │  Menu Level >>        │
│  AC97 Sound Device          Auto              │                      │
│  USB Host Controller        Enabled           │                      │
│  USB 2.0 Support            Enabled           │                      │
│  USB Keyboard Legacy Support  Disabled         │                      │
│                                               │                      │
│                                               │                      │
│                                               │                      │
├──────────────────────────────────────────────┴──────────────────────┤
│  ↑↓→←  Move Enter:Select +/-/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 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.

USB Host Controller

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 Legacy Support

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

3-7-3   Onboard Super IO Function

```
              Phoenix – AwardBIOS CMOS Setup Utility

                      Onboard Super IO Function
┌──────────────────────────────────────────────┬──────────────────────┐
│  Onboard FDD Controller      Enabled          │                      │
│  Onboard Serial Port 1       3F8/IRQ4         │      Item Help        │
│  Onboard Parallel Port       378/IRQ7         ├──────────────────────┤
│  Parallel Mode               SPP              │                      │
│  EPP Mode Select             EPP1.7           │  Menu Level >>        │
│  ECP Mode Use DMA            3                │                      │
│                                               │                      │
│                                               │                      │
│                                               │                      │
│                                               │                      │
├──────────────────────────────────────────────┴──────────────────────┤
│  ↑↓→←  Move Enter:Select +/-/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.

UART2 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

Parallel Port 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.

```
              Phoenix – AwardBIOS CMOS Setup Utility
                      Power Management Setup
┌─────────────────────────────────────────────┬─────────────────────┐
│   ACPI Function              Enabled         │                     │
│   Video Off Option           Suspend -> off  │     Item Help       │
│   Video off Method           V/H SYNC+Blank  ├─────────────────────┤
│   MODEM Use IRQ              3               │                     │
│   Power Button Function      Instant-Off     │   Menu Level >      │
│   State After Power Failure  Auto            │                     │
│ > Wake Up Events             Press Enter     │                     │
│                                              │                     │
├─────────────────────────────────────────────┴─────────────────────┤
│  ↑↓→←  Move Enter:Select +/-/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.

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.

Power Button Function

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.

State After Power Failure

This item allows the system power ON/OFF automatic when power loss and recovery again, you can choose Auto for recovery pre-state, or always ON/OFF after power recovery.

Wake Up Events

Please refer to section 3-8-1

3-8-1 Wake up Events

```
          Phoenix – AwardBIOS CMOS Setup Utility
                     Wake Up Events
┌──────────────────────────────────────┬────────────────────────┐
│  VGA                        OFF       │                        │
│  LPT & COM                  LPT/COM   │      Item Help         │
│  HDD & FDD                  ON        │                        │
│  PCI Master                 OFF       │   Menu Level >>        │
│  Wake-Up on Ring/LAN        Disabled  │                        │
│  Wake-Up on PCI PME         Disabled  │                        │
│  PS2 KB Wakeup Selection    Hot Key   │                        │
│  Wake-Up on Hot Key (PS KB) Disabled  │                        │
│  Wake-Up on RTC Alarm       Disabled  │                        │
│ x Date of Month Alarm       0         │                        │
│ x Time (hh:mm:ss) Alarm     0 : 0 : 0 │                        │
│ > IRQs Activities           Press Enter│                       │
├──────────────────────────────────────┴────────────────────────┤
│  ↑↓→← Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit  F1:General Help │
│      F5:Previous Values   F6:Optimized Defaults   F7:Standard Defaults │
└────────────────────────────────────────────────────────────────┘
```

Wake Up On Ring/PME

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.

Wake-Up on RTC Alarm

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.

IRQs Activities

Please refer to section 3-8-1.1

3-8-1.1 IRQs Activities

```
          Phoenix – AwardBIOS CMOS Setup Utility
                     IRQs Activities
┌──────────────────────────────────────┬────────────────────────┐
│  Primary INTR               ON        │                        │
│  IRQ3   (COM 2)             Enabled   │      Item Help         │
│  IRQ4   (COM 1)             Enabled   │                        │
│  IRQ5   (LPT 2)             Enabled   │                        │
│  IRQ6   (Floppy Disk)       Enabled   │   Menu Level >>>       │
│  IRQ7   (LPT 1)             Enabled   │                        │
│  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 +/-/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 Personal Computer Interconnect, 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.

```
              Phoenix – AwardBIOS CMOS Setup Utility

                        PnP/PCI Configurations

┌─────────────────────────────────────────────┬──────────────────────────┐
│   PnP OS Installed           No              │       Item Help          │
│   Reset Configuration Data   Disabled        ├──────────────────────────┤
│   Resources Controlled By    Manual          │                          │
│ x IRQ Resources              Press Enter     │   Menu Level >           │
│   PCI/VGA Palette Snoop      Disabled        │                          │
│                                              │                          │
│                                              │                          │
│                                              │                          │
├─────────────────────────────────────────────┴──────────────────────────┤
│   ↑↓→← Move Enter:Select +/-/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.
Please refer to section 3-9-1

PCI/VGA Palette Snoop

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

3-9-1   IRQ Resources

```
             Phoenix – AwardBIOS CMOS Setup Utility
                         IRQ Resources
┌─────────────────────────────────────────────┬──────────────────────┐
│  IRQ3   assigned to        PCI Device        │                      │
│  IRQ4   assigned to        PCI Device        │      Item Help       │
│  IRQ5   assigned to        PCI Device        ├──────────────────────┤
│  IRQ7   assigned to        PCI Device        │                      │
│  IRQ9   assigned to        PCI Device        │   Menu Level >>      │
│  IRQ10  assigned to        PCI Device        │                      │
│  IRQ11  assigned to        PCI Device        │                      │
│  IRQ12  assigned to        PCI Device        │                      │
│  IRQ14  assigned to        PCI Device        │                      │
│  IRQ15  assigned to        PCI Device        │                      │
├─────────────────────────────────────────────┴──────────────────────┤
│ ↑↓→← Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit  F1:General Help │
│      F5:Previous Values  F6:Optimized Defaults   F7:Standard Defaults │
└─────────────────────────────────────────────────────────────────────┘
```

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.

```
             Phoenix – AwardBIOS CMOS Setup Utility
                        PC Health Status
┌─────────────────────────────────────────────┬──────────────────────┐
│  Shutdown Temperature         Disabled       │      Item Help       │
│  Show PCHealth in POST        Enabled        │                      │
│  Current System Temperature   25°C           ├──────────────────────┤
│  Current CPU Temperature      38°C           │   Menu Level >       │
│  SYSFAN1 Speed                               │                      │
│  CPUFAN Speed                                │                      │
│  SYSFAN2 Speed                               │                      │
│  Vcore                        1.78V          │                      │
│  AGP1.5                                      │                      │
│  VDIMM                                       │                      │
│  +12V                         12.22V         │                      │
│  VCC (V)                                     │                      │
│  VBAT(V)                      3.21V          │                      │
│  5VSB(V)                      5.02V          │                      │
│  Smart Mode for CPUFAN        Disabled       │                      │
│  CPUFAN Smart Mode Tolerance  5              │                      │
├─────────────────────────────────────────────┴──────────────────────┤
│ ↑↓→← Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit  F1:General Help │
│      F5:Previous Values  F6:Optimized Defaults   F7:Standard Defaults │
└─────────────────────────────────────────────────────────────────────┘
```

Shutdown Temperature
This item can let users setting the Shutdown temperature, when CPU temperature over this setting the system will auto shutdown to protect CPU.

Show PC Health in Post
During Enabled, it displays information list below.   The choice is either Enabled or Disabled.

Current CPU Temperature/Current System Temperature/Current FAN1, FAN2 Speed/

Vcore/3.3V/+5V/+12V/-12V/VBAT(V)/5VSB(V)
This will show the CPU/FAN/System voltage chart and FAN Speed.

3-11 Miscellaneous Control

This section is for setting CPU Frequency/Voltage Control.

```
                    Phoenix – AwardBIOS CMOS Setup Utility
                            Miscellaneous Control
┌─────────────────────────────────────────────────┬─────────────────────┐
│  CPU Clock Ratio                    8X           │                     │
│  Auto Detect DIMM/PCI Clock      Enabled         │      Item Help      │
│  Spread Spectrum                 Disabled        ├─────────────────────┤
│  ** Current Host Clock is 100/33MHz **           │  Menu Level >       │
│  Host/PCI Clock at Next Boot     100/33MHz       │                     │
│  ** Current DRAM Clock is 133MHz **              │                     │
│  DRAM Clock at next Boot         133MHz(By SPD)  │                     │
│  VAGP Output                     1.6V(Default)   │                     │
│  VRAM Output                     2.65V(Default)  │                     │
│  Chipset 2.5V                    2.50V(Default)  │                     │
│  VAGP LUV Protect                Enabled         │                     │
│  VRAM LUV Protect                Enabled         │                     │
│  Dual3.3V LUV Protect            Disabled        │                     │
├─────────────────────────────────────────────────┴─────────────────────┤
│  ↑↓→← Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit  F1:General Help │
│       F5:Previous Values    F6:Optimized Defaults  F7:Standard Defaults │
└────────────────────────────────────────────────────────────────────────┘
```

Auto Detect PCI/DIMM Clock

This item allows you to enable/disable auto detect PCI/DIMM Clock.

Spread Spectrum

This item allows you to set the CPU Host/PCI clock and Spread Spectrum.
The settings are: Enabled, Disabled.

Host Clock at next Boot is

This item allows you to select CPU frequency step by step increasing
The choice are: 100MHz/132MHz, 133MHz/165MHz, 166MHz/255MHz.

DRAM Clock at next Boot is

This field displays the capability of the memory modules that you can use
The choice is either 100MHz or 133MHz or 166MHz or 200MHz.

VAGP Output

This item allows you to select 1.5V of the AGP 4X/8X VGA card. The choice are: 1.5V, 1.6V.

VRAM Output

This item allows you to select 2.5V of the DDR Module. The choice are: 2.5V, 2.6V, 2.7V, 2.8V.

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 include 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 9X/NT/2K/XP

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 11 selections:

1. VIA 4 IN 1   install VIA Service Pack 4 IN 1 driver
2. VGA   install PM800 VGA driver
3. SOUND   install AC97 Audio Codec Installing driver
4. LAN   install VIA LAN Controller driver (**for PM800BMS**)
5. USB2.0   install USB 2.0 driver
6. SATA   install VIA Serial ATA driver
7. DirectX9   install Microsoft DirectX 9 driver
8. PC-CILLIN   install PC-CILLIN2005 anti-virus program
9. PC-HEALTH   install Winbond PC-HEALTH hardware monitor Software
10. BROWSE CD   to browse the contents of the CD
11. EXIT   to exit from MAGIC INSTALL menu

4-1 VIA 4IN1　Install VIA Service Pack 4 IN 1 Driver

*　　The path of the file is X:\VIA\DRIVER\SETUP.EXE

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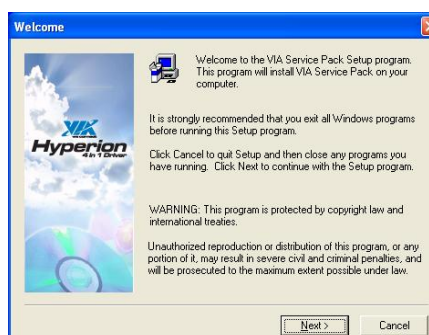
2. Click NEXT when VIA Service Pack Wizard appears
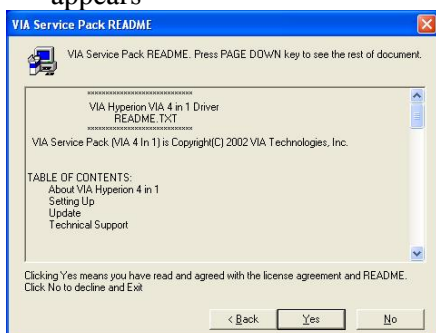
3. This is to announce the Copy Write, click Yes

4. Click NEXT to Normal Installation

5. Click NEXT to VIA INF Driver 2.30A

6. Click Finish to restart computer

4-2   VGA   install VIA PM800 VGA Driver

For WINDOWS 9X/ME/NT4.0/2000/XP

1. Click VGA when MAGIC INSTALL MENU appears

2. Click NEXT When VIA/S3G UniChrome Family Display driver setup Appears
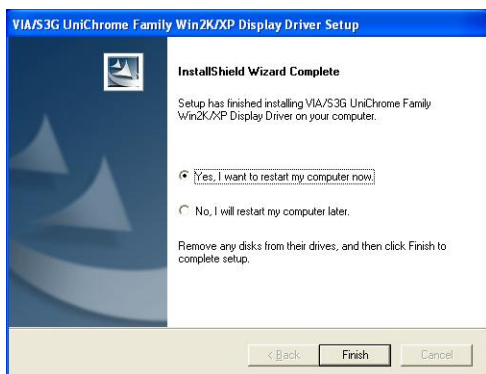
3. Click Finish to Restart Computer

4-3   SOUND   install VIA AC97' Codec Audio Driver

1. Click SOUND when MAGIC INSTALL MENU appears
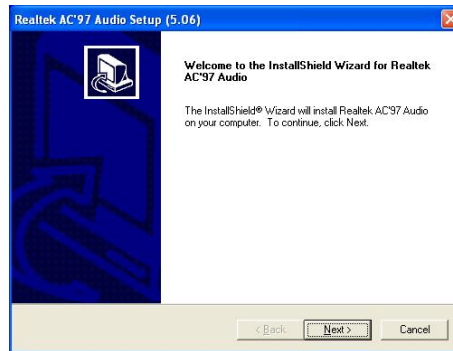
2. Then auto detect operation system language edition, click NEXT, start to install DRIVER
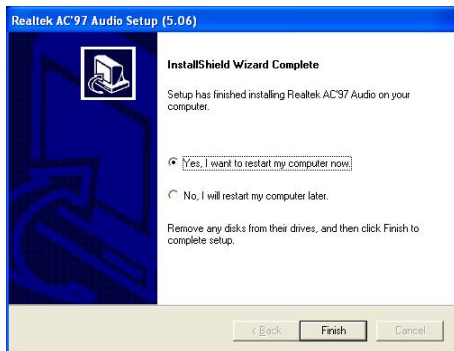
3. Click Finish and Restart Windows

4. Click Start→Program→Viny Deck→Viny Deck. Then Viny Deck Windows appears
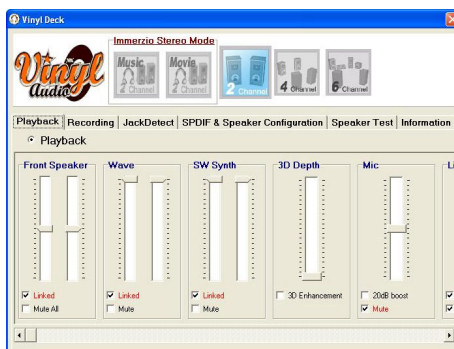
5. Speaker configuration setting

6. 2-ch Speaker position test

Note: **The path of the file**

　　For WIN98/NT4.0/WIN2K/XP is X:\CODEC\VIACODEC\SETUP.EXE

Note: **In Win2K/WinME users have to click Control Panel\System\Device Manager\ DVD\CD-ROM drives to Enabled digital CD Audio for the CD-ROM Device when use the SPDIF-Out digital signal.**

4-4 LAN Install VIA LAN Controller Driver (for PM800BMS)

The VIA 10/100Mb PCI Ethernet Adapter Driver path is X:\VIA\LANDRV
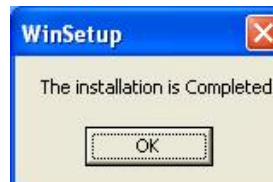
1. Click LAN when Magic Install Menu appear

2. Click OK to The installation is Completed
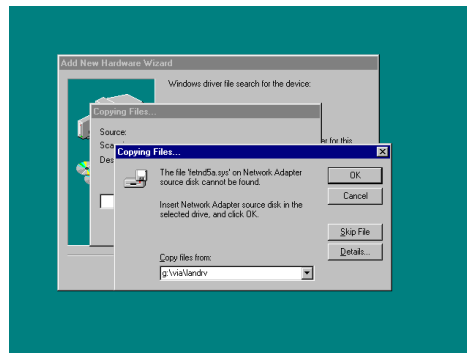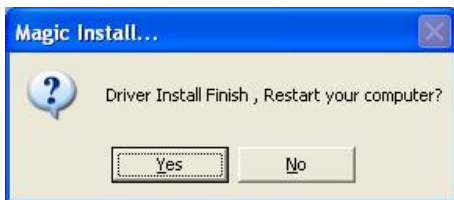
3. Driver install Finish, Click Yes and Restart Computer

4. When windows ask VIA 10/100Mb PCI Ethernet Adapter driver path, Change directory to X:\VIA\LANDRV and click OK, then finish installation

4-5 PC-HEALTH Winbond Hardware Doctor Monitoring Software

The path of the file is X:\VIA\HEALTH-W\SETUP.EXE
(Only support WINDOWS 95/98/98SE/ME)
In Windows 95/98 Winbond Hardware Doctor Monitoring Software needs some system files to copy in Utility that's why it needs install PC-HEALTH twice to complete setup.
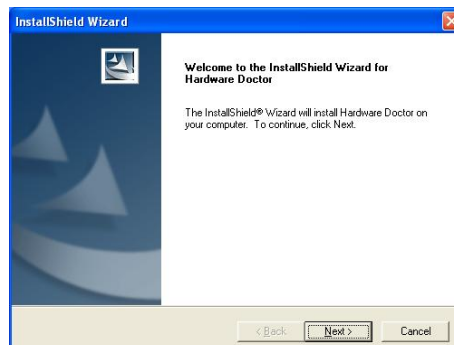
1. Click PC-Health when Magic Install Menu appears

2. Click Next when Install shield wizard Window appears, Choose destination location and click Next, select program folder and click next

3. Click the Button to start installation
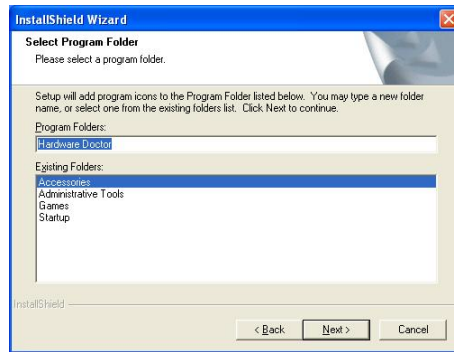
4. Select Program Group name or enter a new group name, click continue to setup and click OK after setup complete

5. Select Finish after setup complete
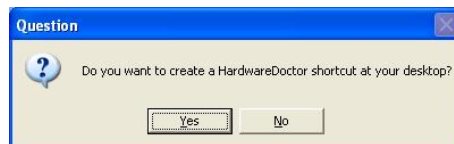
6. Click Yes to create a HardwareDoctor shortcut at Your desktop
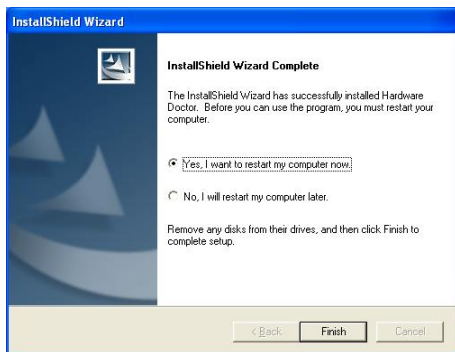
7. Click Yes and Restart Computer
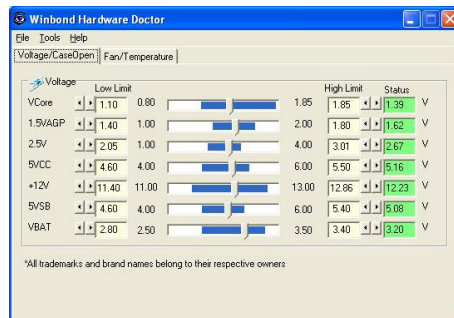
8. After executing Winbond Hardware Doctor it supports system voltage, Fan speed and CPU/SYSTEM Temperature.   Because this is a On-time Monitoring program therefore the value will change after it detected, if the value is over default setting the system will have warning picture and beeps.   This is a System Voltage status

4-6 PC-CILLIN Install PC-CILLIN 2005 Anti-virus program

1. Click PC-CILLIN when MAGIC INSTALL MENU appears
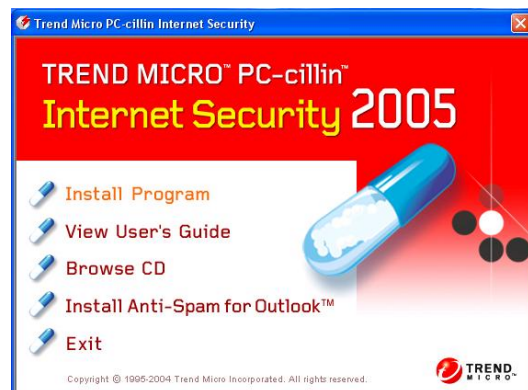
2. Please select "Install program" when the "Trend Micro internet security" installshield wizard windows appears

3. Click NEXT and Enter your Customer Information, Click NEXT or choose Change to change the path for the file to be stored
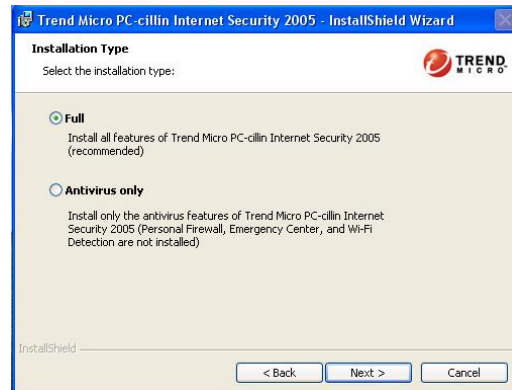
4. Please select install "FULL" function or install "Antivirus software" only

5. We suggest to use "Recommend configuration".
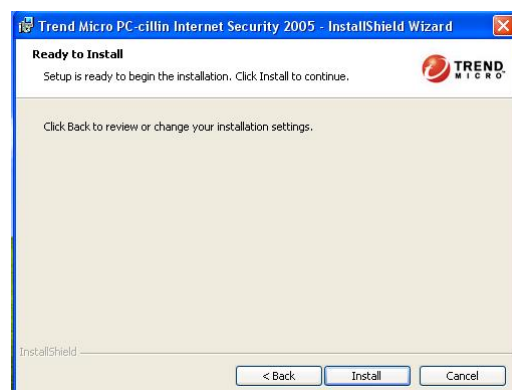
6. Click Install to install PCCILLIN 2005 internet security software , then select to restart your computer

Note : Please install ACROBAT READER for reading PC-CILLIN 2005 User Manual which locates at the path "X:\acrobat\adberdr6_enu_full.exe".

4-7   USB2.0 Install VIA USB2.0 DEVICE DRIVER

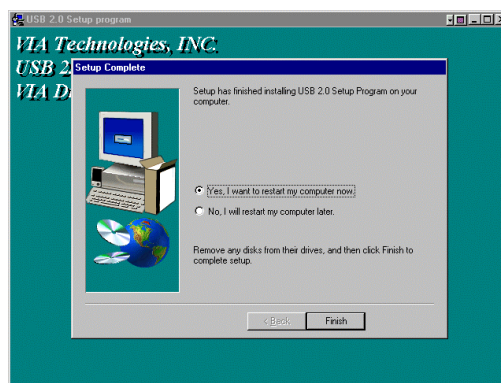1. Click USB2.0 when MAGIC INSTALL MENU Appear

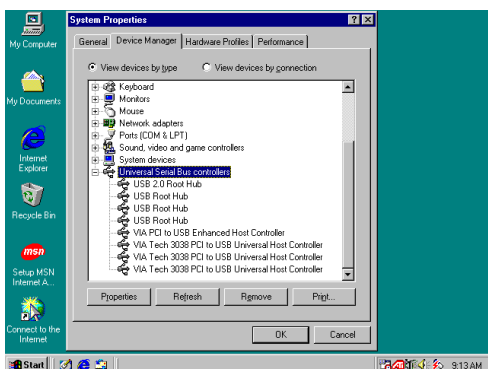2. When USB2.0 Setup Program Appear, Click NEXT

Note: Please Install Microsoft Service Pack 1 in Windows XP OS Before you Install VIA USB2.0 Device Driver.

3. Select Install USB Driver and Click NEXT

4. Select FINISH and Restart your Computer

5. Check device working properly in Device Manager

The Path of the file is X:\VIA\VIAUSB20\SETUP.EXE
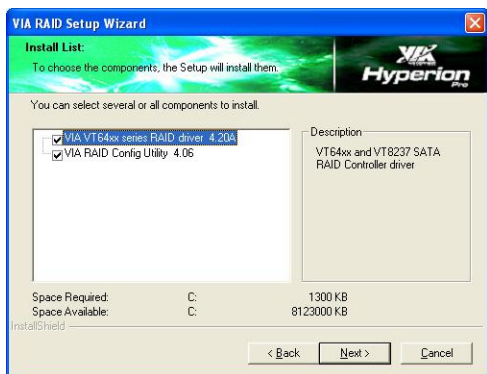
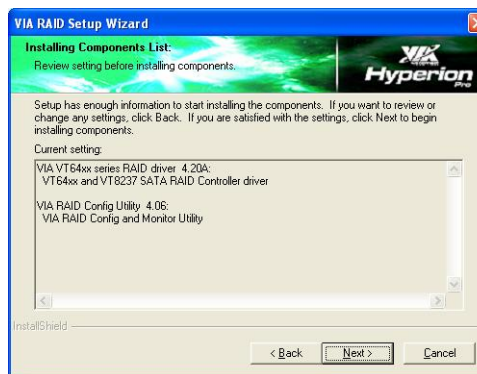# 4-8   SATA   Install VIA Serial ATA

1. Click SATA when MAGIC INSTALL MENU appears

2. When license agreement appear, choose I agree and click NEXT

3. Select you want to install driver

4. Review install driver and utility component, then click NEXT

5. The Following information to show installing status and Click Next

6. Click Finish and restart your computer

Making SATA HDD driver diskette before Install WindowsXP/2000

If you only have Serial ATA HDDs on your system, before you install the Windows XP or Windows 2000, you will need to make a SATA HDD driver diskette before you start to install the Operating System.

How to make a SATA HDD driver diskette?

STEP 1: Insert the diskette which been formatted in floppy drive on a system which can start OS.
STEP 2: After booting OS insert the bundle CD in your CD-ROM
STEP 3: Copy all the files from \VIA\VIASATA\DriverDisk to floppy diskette
Once you have the SATA driver diskette ready, you may start to install Windows XP or Windows 2000 on your System.

Installation of Windows XP/ Windows 2000

For installation of Windows XP or Windows 2000, please insert Windows XP or Windows 2000 CD into the CD-ROM drive. Then remove the floppy diskette, and boot the system. At the very beginning, you will see the message at the bottom of screen, "Press F6 if you need to install a third party SCSI or RAID driver…."
At this moment, please press <F6> key and follow the instructions of Windows XP or Windows 2000 for the proper installation.

4-9   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

4-10   HOW TO UPDATE BIOS

Method 1.   In DOS Mode

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 PM800BMS/PM800BM from our web site to your boot disc.
STEP 4. Insert your boot disc into A:,
start the computer, type "Awdflash A:\ PM800Axxx.BIN /SN/PY/CC/R"
PM800Axxx.BIN is the file name of latest BIOS it can be PM800A3.BIN or PM800B2.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.