P4MDF/P4MDFT

USER'S MANUAL

M/B For Socket 478 Pentium 4 Processor

Trademark:

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USER'S NOTICE

Manual Revision Information

Reversion	Revision History	Date
1.0	First Edition	Dec. 2003

Item Checklist

- ☑ P4MDF/P4MDFT motherboard
- ☑ Cable for IDE/Floppy
- ☐ Cable for COM2 Connector (Option)
- ☑ CD for motherboard utilities
- ☐ Magic Twin User's Manual (Only for P4MDFT)
- ☑ P4MDF/P4MDFT User's Manual

Intel Pentium 4 Processor Family

Cooling Solutions

As processor technology pushes to faster speeds and higher performance, thermal management becomes increasingly crucial when building computer systems. Maintaining the proper thermal environment is key to reliable, long-term system operation. The overall goal in providing the proper thermal environment is keeping the processor below its specified maximum case temperature. Heatsinks induce improved processor heat dissipation through increased surface area and concentrated airflow from attached fans. In addition, interface materials allow effective transfers of heat from the processor to the heatsink. For optimum heat transfer, 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 P4MDF/P4MDFT Motherboard

The special designed 2-user motherboard (**P4MDFT**)allows two users to share the computing power of a single PC system. With integrated connectivity hardware onboard, the motherboard comes with innovative software, the MagicTwin®, allowing 2 users to be connected to it and runs up to two stations directly from it simultaneously. The unique and copyright-protected MagicTwin® technology makes each of the 2 users feel like having himself his own Windows-XP computer. Each user needs to have himself his own keyboard, mouse, sound device, and monitor. All remaining PC hardware are shared, even the IP.

Both users can operate on their own station concurrently just like the operation of a standard PC. There is no obvious delay because of the Time-slicing/Multiplexing technology built-in. Each user gets an exact and extremely short defined moment to access to the PC system, devices, applications and Windows itself. Resources are only claimed for nanoseconds at a time, usually from electronic memory, or cache. Both users get from Windows and the PC, what they really need when they need it! The MagicTwin solution turns the single PC into a cost-effective multi-user system.

The setup is intuitive and easy. In only a few minutes, users can install and start using their new workstation. No network administrator is needed as everything to network the workstations together is done automatically with the MagicTwin software. You can add immediately additional user station to the single system and turn one PC into two.

System Requirement
Jetway MagicTwin Motherboard:
   2 x PS/2 Y-cable
   Install CD (Driver and MagicTwin)
   Serial Number and Activation Key
Purchased Separately from Dealer:
   >=1.2 GHz Processor
   Min 256MB DRAM
   NVIDIA Dual Head AGP Graphic Card
   Windows XP Home, Prof. w/ SP1
   2 x PS/2 Keyboards
   2 x PS/2 Mice
   2 x Monitors

1-1 Feature of motherboard

The P4MDF/P4MDFT motherboard is design for use Intel Pentium 4 Processor in 478 Pin Package Processor with the VIA P4M266A(CE) Chipset delivers a high performance and professional desktop platform solution. Which utilize the Socket 478 design and the memory size expandable to 2.0GB.

P4MDF/P4MDFT motherboards use the newest VIA P4M266A(CE) Chipset, provided 533MHz System Bus in data transfer rate *supports Hyper Threading CPU*. These motherboards provided 100MHz/133MHz Memory clock frequency, support DDR266/DDR200 DDR Module. The motherboard embedded VIA VT8235 V-Link LPC South Bridge offer ULTRA ATA **133** to provide speedier HDD throughout that boosts overall system performance. The motherboards use VIA VT6103 LAN PHY support 10/100Mbps data transfer rate support duplex, half duplex operation.

These motherboards also has an integrated 6-channel AC'97 CODEC on board which is fully compatible with Sound Blaster Pro® that gives you the best sound quality and compatibility.

These motherboards integrated High Performance & High Quality 3D Accelerator supports Ultra-AGPII with 2GB/s bandwidth, built-in MPEG-2/1 Video Decoder and Video Accelerator supports VCD DVD HDTV decoding and playback, supports graphic and video overlay function. Built-in programmable 24-bit true-color RAMDAC up to 250MHz pixel clock. Programmable frame buffer size from 8MB and up to 32MB. For those wanting even greater graphic performance, an AGP 4X slot is included on the board, support AGP 2X/4X capability and Fast write Transaction.

With USB control as well as capability of expanding to 5x USB2.0 ports provide 480Mb/s bandwidth, these motherboards meet future USB demand also has built-in hardware monitor function to monitor and protect your computer.

A useful software tool "Magic BIOS" examines the BIOS version automatically with the correct version available on the web, links the site for users to download the latest version of BIOS and updates the BIOS. Use "Magic BIOS", users can download and update BIOS automatically and completed under the OS easily.

These motherboards provide high performance & meets future specification demand. It is really wise choice for your computer.

1-2 Specification

Spec	Description
Design	∗ Mini ATX form factor 6 layers PCB size: 18.5x25.5cm
Chipset	∗ VIA P4M266A North Bridge Chipset ∗ VIA VT8235 South Bridge Chipset
CPU Socket **(mPGA478B Socket)**	∗ Support Intel Pentium 4 478 Pin package utilizes Flip-Chip Pin Grid Array (FC-PGA2) package processor ∗ Support 1.5G~3.06G 478 Pin Pentium 4 processor ∗ ***Support Hyper Threading CPU*** ∗ Reserves support for future Intel Pentium 4 processors
Memory Socket	∗ 184-pin DDR Module socket x 2 ∗ Support 2 pcs DDR266/DDR200 DDR Modules Expandable to 2.0GB
Expansion Slot	∗ AGP slot x1 support AGP 2.0 & 4X mode ∗ 32-bit PCI slot x1
Integrate IDE	∗ 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
VGA	∗ Integrated High Performance & High Quality 3D Accelerator ∗ Support Ultra-AGPII with 2GB/s bandwidth ∗ Built-in programmable 24-bit true-color RAMDAC up to 250MHz pixel clock ∗ Programmable frame buffer size from 8MB and up to 32MB.
LAN	∗ With VIA VT6103 LAN PHY-ceiver ∗ Support Fast Ethernet LAN function provide 10/100 Mb/s data transfer rate
Audio	∗ AC'97 Digital Audio controller integrated ∗ 6-channel AC'97 Audio CODEC on board ∗ Audio driver and utility included
BIOS	∗ Award 4MB Flash ROM
Multi I/O	∗ PS/2 keyboard and PS/2 mouse connectors ∗ Floppy disk drive connector x1 ∗ Parallel port connector x1 ∗ Serial port x2 ∗ USB2.0 port x3 for P4MDFT, USB2.0 port x4 for P4MDF and headers x 2 (connecting cable option) ∗ Audio connector (Line-in, Line-out , MIC & Game Port)

1-3 Performance List

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

Performance Test Report

CPU:	Intel Pentium 4 1.9GHz mPGAB package
DRAM:	256MB DDR266 x1 (SAMSUNG K4H280838B-TCB0)
VGA Expansion Card:	NVDIA Geforce2 MX-400 64MB (1024x768xHi-color)
Hard Disk Driver:	IBM DTLA-305040 (ATA-100)
BIOS:	Award Optimal default
OS:	Win 98SE

		DDR266
3D Mark 2000		5432
3D Mark 2001		2509
3D Winbench 2000		104
Final Reality		9.99
Content Creation Winstone 2000		43.2
Content Creation Winstone 2001		50.3
Content Creation Winstone 2002		20.1
Business Winstone2001		44.1
Winbench 99:		
CPU Mark 99		111
FPU Winmark 99		6610
Business Disk Winmark99		7150
Hi-end Disk Winmark99		18800
Business Graphic Winmark		434
Hi-end Graphic Winmark		1260
SYS Mark 2000/2001 : SISMark 2000/2001 Rating (Internet Content Creation / Office Productivity)		
SISMark 2000		208 (226/195)
SISMark 2001		150 (175/129)
SISOFT Sandra 2001 :		
Dhrystone ALU	MIPS	3626
Whetstone FPU	MFLOPS	1137/2371
Int ALU/RAM	MB/S	1181
Float FPU/RAM	MB/S	1183
Integer SSE2	IT/S	7547
Floating-Point SSE2	IT/S	9352
QUAKE3 DEMO1	FPS	169.1
DEMO2	FPS	169.7
WCPUID System/CPU Clock		101/1918.93

1-4 Layout Diagram & Jumper Setting

PRINT   LAN   **6-Channel Speaker**

Center/Base

PS/2 Mouse ———   **REAR Speaker**

PS/2 Keyboard ———   **Front Speaker**

COM1   VGA   **USB1**   **USB**

USB1: (2xport for P4MDF,
1xport for P4MDFT)

Winbond 83697HF Chip ———   ATX 12V Power Conn.

K/B Power ON Jumper **(JP1)** ———
External Remote Control
(JP2) ———   ATX Power Conn.

PS2 KB/Mouse Port ———   DIMM Socket X2

Serial Port COM2 Connector ———   CPU Socket

CPU FAN Connector ———   USB Power On Jumper **(JP1)**
PC99 Back Panel ———

                                                         VIA P4M266A Chip
4MBit Flash ROM BIOS ———   JW_USB Connector

USB Port ———
USB Wake-Up Jumper **(JP4)** ———   IDE Activity LED **(JP7)**
USB Port/LAN Connector ———   LCD Front Panel Conn.
SPDIF-Out Optical Connector ———   ATA 100 IDE Conn.
6-Channel Audio Connector ———   SPDIF-In header
CD In Audio ———   VIA VT8235 Chip
PCI Slot ———   Power LED **(JP6)**
AC97' Codec ———   Speaker Connector
Clear CMOS **(JBAT)** ———   SYSFAN Connector
SFAN1 Connector ———   Wake On LAN
AGP Slot ———
IR Connector ———   Floppy Connector

Jumpers

Jumper	Name	Description	Page

JBAT	CMOS RAM Clear	3-pin Block	P.8
JP1	Keyboard/Mouse Power On Function	3-pin Block	P.8
JP3/JP4	USB Power On Enable/Disabled	3-pin Block	P.8

Connectors

Connector	Name	Description	Page
ATXPWR	ATX Power Connector	20-pin Block	P.12
ATX12V	ATX 12V Power Connector	4-pin Block	P.13
PS2KBMS1	PS/2 Mouse & PS/2 Keyboard Connector	6-pin Female	P.13
USB1	USB Port Connector	4-pin Connector	P.13
CN1	USB/LAN Port Connector	4-pin x2 + RJ-45 Connector	P.13
PARALL	Parallel Port Connector	25-pin Female	P.13
CN2	Audio Connector	3 phone jack Connector	P.13
COM1	Serial Port COM1 Connector	9-pin Connector	P.13
VGA	VGA Connector	15-pin Female	P.14
FDD	Floppy Driver Connector	34-pin Block	P.14
IDE1/IDE2	Primary/Secondary IDE Connector	40-pin Block	P.14

Headers

Header	Name	Description	Page
COM2	Serial Port COM2 Header	9-pin Block	P.15
SPDIF_OUT	SPDIF-OUT connector Header	3-pin Block	P.15
JW_USB	SPEAKER/ MIC Header	13-pin Block	P.15
	+USB Port Headers		P.15
JP7	IDE activity LED	2-pin Block	P.16
SPEAK	PC Speaker connector	4-pin Block	P.16
JP6	Power LED	2-pin Block	P.16
RESET	Reset switch lead	2-pin Block	P.16
PWR BTN	Power switch	2-pin Block	P.16
SPDIF_IN	SPDIF-In connector Header	3-pin Block	P.16
WOL	Wake On-LAN Headers	3-pin Block	P.17
SFAN1, SYSFAN, CPUFAN	FAN Headers	3-pin Block	P.17
IR	IR infrared module Headers	5-pin Block	P.17
CD_IN	CD Audio-In Headers	4-pin Block	P.18
JW_LCDFP	LCD display panel Header	11-pin Block	P.18
JP2	IR receiver controller Header	10-pin Block	P.18

Expansion Sockets

Socket/Slot	Name	Description	Page
ZIF Socket 478 Pin	CPU Socket	478-pin mPGA CPU Socket	P.9
DDR1, DDR2	DDR Module Socket	184-pin DDR Module Socket	P.10
PCI1	PCI Slot	32-bit PCI Local Bus Expansion slots	P.11
AGP	AGP 4X Mode Slot	AGP Expansion Slot	P.12

Chapter 2

Hardware installation

2-1 Hardware installation Steps

Before using your computer, you had better complete the following steps:
1. Check motherboard jumper setting
2. Install CPU and Fan
3. Install System Memory (DIMM)
4. Install Expansion cards
5. Connect IDE and Floppy cables, Front Panel /Back Panel cable
6. Connect ATX Power cable
7. Power-On and Load Standard Default
8. Reboot
9. Install Operating System
10. Install Driver and Utility

2-2 Checking Motherboard's Jumper Setting

(1) CMOS RAM Clear (3-pin) : JBAT

A battery must be used to retain the motherboard configuration in CMOS RAM short 1-2 pins of JBAT to store the CMOS data.

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

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

CMOS RAM Clear Setting
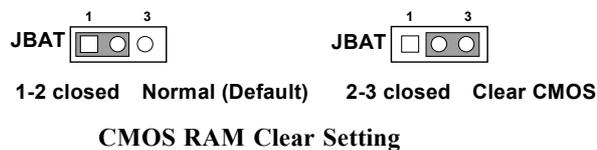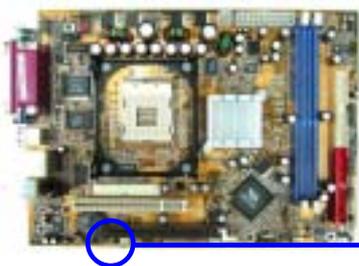
(2) Keyboard/Mouse Power On function Enabled/Disabled: JP1

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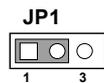
JP1	1-2 closed	K/B Power ON Disabled (Default)
JP1	2-3 closed	K/B Power ON Enabled

JP1
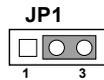
(3) USB Power On function Enabled/Disabled: JP3/JP4

JP3   JP3
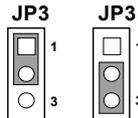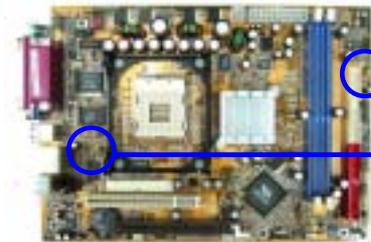
JP3	1-2 closed	USB Power On Disabled (Default)
JP3	2-3 closed	USB Power On Enabled

JP4
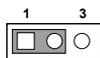
JP4	1-2 closed	USB Power On Disabled (Default)
JP4	2-3 closed	USB Power On Enabled

JP4
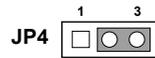
2-3 Install CPU

2-3-1 Glossary

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

CPU L2 Cache - the flash memory inside the CPU, normal it depend on CPU type.

2-3-2 About Intel Pentium 4 478-pin CPU

This motherboard provides a 478-pin surface mount, Zero Insertion Force (ZIF) socket, referred to as the mPGA478B socket supports Intel Pentium 4 processor in the 478 Pin package utilizes Flip-Chip Pin Grid Array (FC-PGA2) package technology.

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

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

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

mPGA478B

→ **Colden Arrow**

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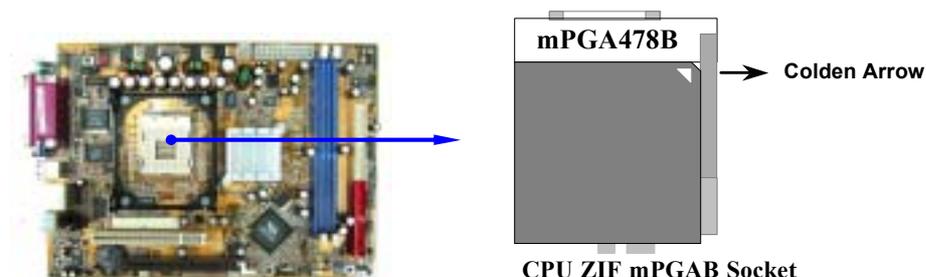
When you put the CPU into the ZIF socket. No force require to insert of the CPU, then press the level to Locate position slightly without any extra force.

2-4 Install Memory

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

Valid Memory Configurations

Bank	184-pin DDR DIMM	PCS	Total Memory
Bank 0, 1 (DDR1)	DDR266/DDR200 DDR DRAM Module	X1	64MB~1.0GB
Bank 2, 3 (DDR2)	DDR266/DDR200 DDR DRAM Module	X1	64MB~1.0GB
Total	System Memory (Max. 2.0GB)	X2	64MB~2.0GB

Generally, installing DDR SDRAM modules to your motherboard is very easy, you can refer to figure 2-4 to see what a 184-pin DDR SDRAM module looks like.
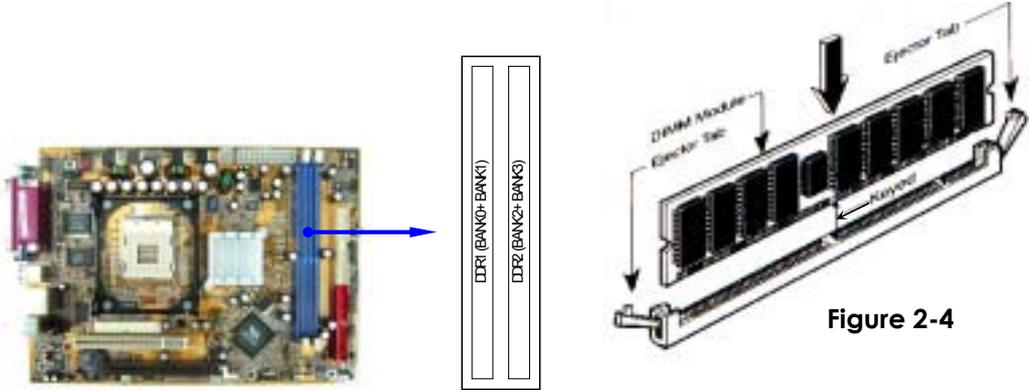
Figure 2-4

NOTE!	When you install DIMM module fully into the DIMM socket the eject tab should be locked into the DIMM module very firmly and fit into its indention on both sides.
WARNING!	For the DDR SDRAM CLOCK is set at 133MHz, use only DDR266- compliant DDR Modules. When this motherboard operate at 133Mhz, most system will not even boot if non-compliant modules are used because of the strict timing issues, if your DDR Modules are not DDR266-compliant, set the SDRAM clock to 100MHz to ensure system stability.

2-5 Expansion Cards

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

2-5-1 Procedure For Expansion Card Installation

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

2-5-2 Assigning IRQs For Expansion Card

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

Standard Interrupt Assignments

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

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

2-5-3 Interrupt Request Table For This Motherboard

Interrupt request are shared as shown the table below:

	INT A	INT B	INT C	INT D	INT E	INT F	INT G	INT H

Slot 1	√								
Onboard USB 1					√				
Onboard USB 2									√
AC97/MC97			√						

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

2-5-4 AGP Slot

This motherboard provides an AGP Slot, support the 2X/4X AGP VGA card.

2x notch   4x notch

```
AGP SLOT
```
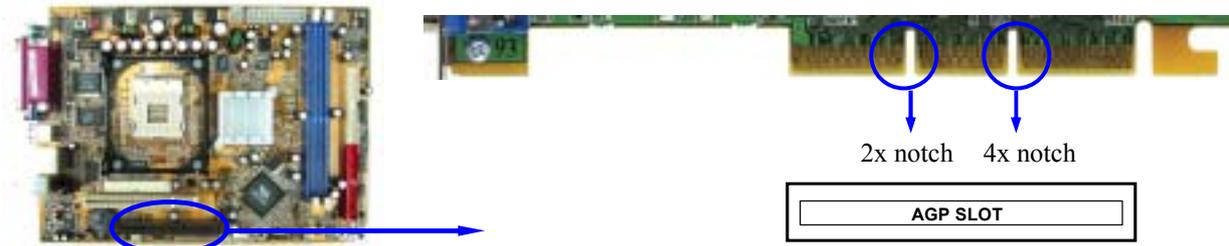
2-6 Connectors, Headers

2-6-1 Connectors

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

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

Pin 1 →

PIN	ROW2	ROW1
1	3.3V	3.3V
2	-12V	3.3V
3	GND	GND
4	Soft Power On	5V
5	GND	GND
6	GND	5V
7	GND	GND
8	-5V	Power OK
9	+5V	+5V (for Soft Logic)
10	+5V	+12V

(2)   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.

Pin 1

(3)   PS/2 Mouse & PS/2 Keyboard Connector : PS2KBMS1

The connectors for PS/2 keyboard and PS/2 Mouse. **It can connect with a Y-Cable which can support 2 Keyboard and 2 Mouse for 2 user function.**

Mouse Y-Cable →

Keyboard Y-Cable →

(4)   USB/USB1 Port connector: USB

The connectors are 4-pin connector that connect USB devices to the system board.
USB1 support 1 port USB2.0 for P4MDFT
USB1 support 2 port USB2.0 for P4MDF

(5)   LAN Port connector: LAN

This connector is standard RJ45 connector for Network

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

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 : CN1

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

Line-out : Audio output to speaker (Front Speaker for 6-channel solution)
Line-in :   Audio input to sound chip (Rear Speaker for 6-channel solution)
MIC :   Microphone Connector (Center/Base Speaker for 6-channel solution)

(8)   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.

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

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

PS/2 Mouse   PRINT   LAN   6-Channel Speaker

13

Center/Base
REAR Speaker
Front Speaker

PS/2 Keyboard   COM1   VGA   USB1 USB

USB1: (2xport for P4MDF, 1xport for P4MDFT)

(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.

FDD

Pin 1

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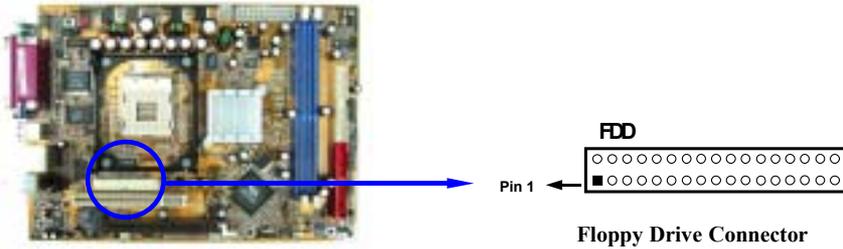
(11) Primary IDE Connector (40-pin block): IDE1

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.

IDE1

Pin 1

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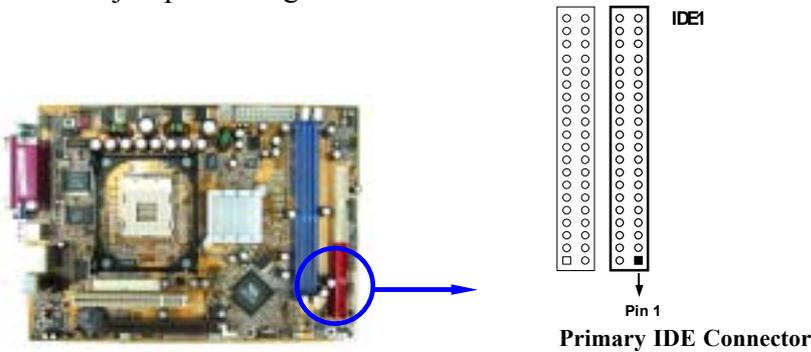
(12) Secondary IDE Connector (40-pin block): IDE2

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
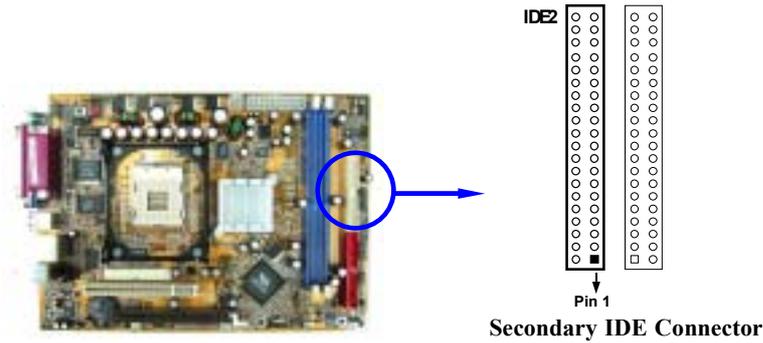
- Two hard disks can be connected to each connector. The first HDD is referred to as the "Master" and the second HDD is referred to as the "Slave".

- 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.

2-6-2 Headers

(1) Serial Port2 COM2 Header (9-pin) : COM2

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

Serial Port COM2 Header
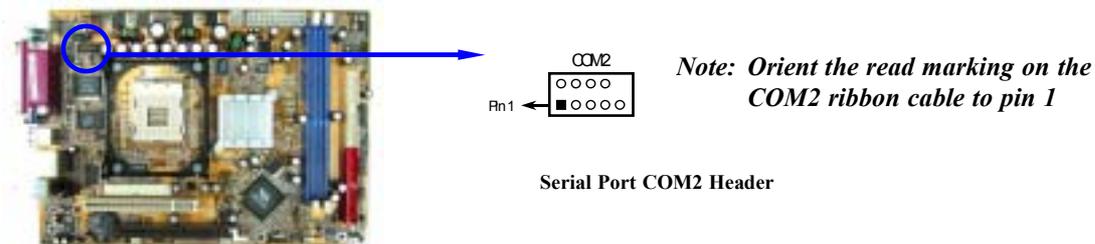
(2) SPDIF-OUT Header for Back Panel (3-pin): SPDIF_OUT
This header connect to Back Panel SPDIF-OUT connector with cable.

SPDIF-OUT Optical Headers
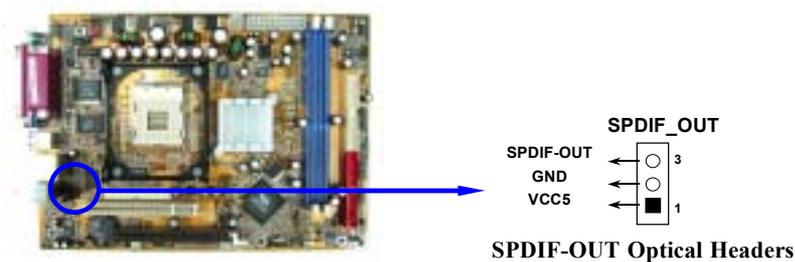
(3) UBS Port Headers/Audio Port Headers (13-pin) : JW_USB
These headers are used for connecting the additional USB port plug and Line-OUT/MIC audio port headers. By attaching an option cable, your can be provided with two additional USB/ Speaker, MIC plugs affixed to the front panel.

```
USB-VCC   1  ■  ○   2  USB-VCC
   D-     3  ○  ○   4  D-
   D+     5  ○  ○   6  D+
  GND     7  ○  ○   8  GND
 AUD-L    9  ○  ○  10  AUD-R
 SMIC    11  ○  ○  12  MIC-REF
   NC    13     ○  14  GND
```
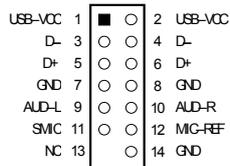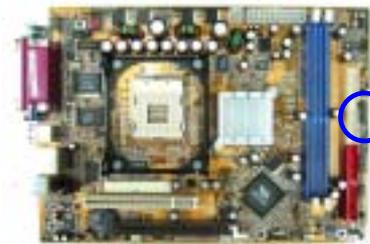
(4)   IDE Activity LED: JP7
 This connector connects to the hard disk activity indicator light on the case.

(5)   Speaker connector: SPEAK
 This 4-pin connector connects to the case-mounted speaker. See the figure below.

(6)   Power LED: JP6
 The Power LED is light on while the system power is on. Connect the Power LED from the system case to this pin.


```
            JP7
   5V      ┌─□─┐ ← Pin 1
 HDDLED    └─○─┘

            JP6
 PWRLED    ┌─□─┐ ← Pin 1
  GND      └─○─┘

           SPEAK
 Pin 1 →  ┌□ ○ ○ ○┐
           V  N  G  S
           C  C  N  P
              C  D  K
                    R
```
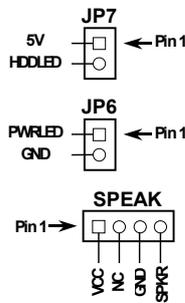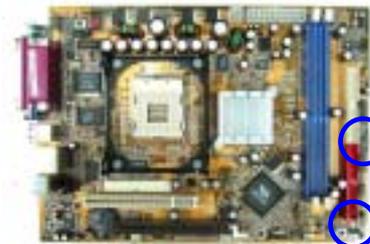
(7)   Reset switch lead: RESET
 This 2-pin connector connects to the case-mounted reset switch for rebooting your computer without having to turn off your power switch. This is a preferred method of rebooting in order to prolong the lift of the system's power supply. See the figure below.

(8)   Power switch: PWR BTN
 This 2-pin connector connects to the case-mounted power switch to power ON/OFF the system.

(9)   SPDIF-IN Headers (4-pin) : SPDIF_IN
 SPDIF_IN is the header for SPDIF Input signal. Please connect it with the cable in the front panel connector. By use the SPDIF_IN connector you can input the digital signal from SPDIF device for better audio quality.


```
                        1  ■  ■   2  SPDIF VCC (Red Wire)
 POWER BUTTON ┌─        3  ○  ○   4  GND (Black Wire)
                        5  ○  ○   6  SPDIF-IN (White Wire)
 RESET BUTTON ┌─        7     ○
```
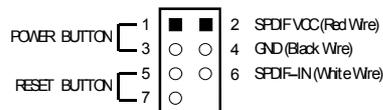
(10) Wake On-LAN Headers (3-pin) : WOL

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.
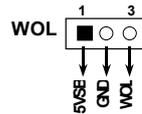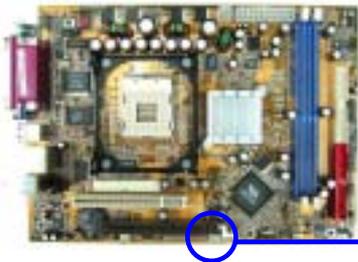
Wake-On-LAN Headers

(11) FAN Headers (3-pin) : SFAN1, SYSFAN, CPUFAN

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.
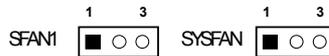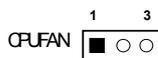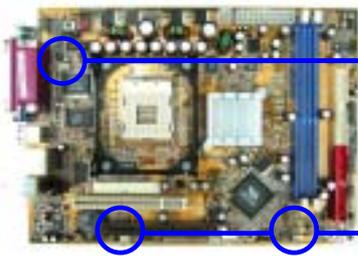
(12) IR infrared module Headers (5-pin) : IR

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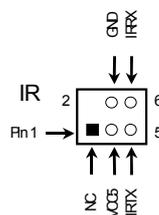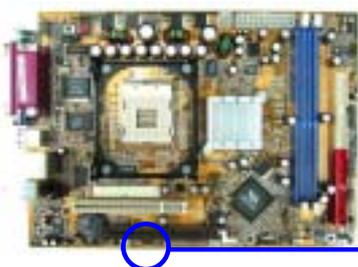
IR infrared module Headers

(13) CD Audio-In Headers (4-pin) : CD_IN

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

CDIN

4	○	←	R-CH
	○	←	GND
	○	←	GND
1	□	←	L-CH
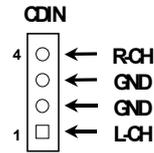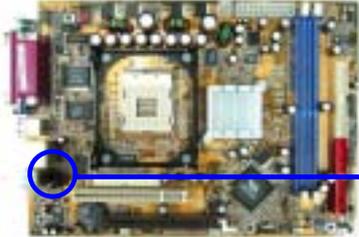
CD Audio-In Headers

(14) LCD Display panel connect Headers (11-pin) : JW_LCDFP

This headers is the connector for LCD Display Panel, it transfer the data from motherboard to display panel. Please connect this headers with optional cable between display and motherboard for display CPU/SYSTEM temperatures /FAN speed and Power/HDD status.

HD-LED	1	■	○	2	DVD-LED
LAN-LED	3	○	○	4	PWR-LED
3VSB	5	○		6	NC
GND	7	○	○	8	GND
I2C-CK	9	○	○	10	I2C-DT
PWG	11	○	○	12	+12V

(15) IR Receiver controller Header: JP2

JP2

2 ○○□□□□ 12
Pin 1 → ■○□□□□ 11

(Default Setting)
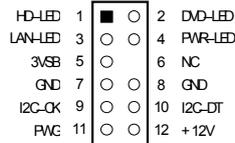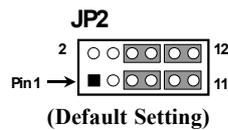
6-8, 5-7, 9-11, 10-12 closed
for Normal use

JP2

2 ○○○○○○ 12
Pin 1 → ■○○○○○ 11
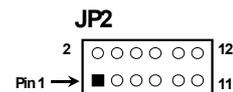
Open for connect
IR Module Cable

2-7 Starting Up Your Computer

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

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

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

4. Turn on your peripheral as following order:
    a. Your monitor.
    b. Other external peripheral (Printer, Scanner, External Modem etc…)
    c. Your system power. For ATX power supplies, you need to turn on the power supply and press the ATX power switch on the front side of the case.

5. The power LED on the front panel of the system case will light. The LED on the monitor may light up or switch between orange and green after the system is on. If it 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

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

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

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

3-1 Entering Setup

Power on the computer and by pressing <Del> immediately allows you to enter Setup.
If the message disappears before your respond and you still wish to enter Setup, restart the system to try again by turning it OFF then ON or pressing the "RESET" button on the system case. You may also restart by simultaneously pressing <Ctrl>, <Alt> and <Delete> keys. If you do not press the keys at the correct time and the system does not boot, an error message will be displayed and you will again be asked to
　　　Press <F1> to continue, <Ctrl-Alt-Esc> or <Del> to enter Setup

3-2 Getting Help

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

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

3-3 The Main Menu

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

```
        CMOS Setup Utility – Copyright(C) 1984-2003 Award Software
┌─────────────────────────────────────────────────────────────────────┐
│                                                                       │
│    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 these are setting for optimal performances system operations for performance use.

Load Standard Defaults

Use this menu to load the BIOS default values for the stable performance system operation that are factory settings for normal use.

Set Supervisor/User Password

Use this menu to set User and Supervisor Passwords.

Save & Exit Setup

Save CMOS value changes to CMOS and exit setup.

Exit Without Saving

Abandon all CMOS value changes and exit setup.

3-4 Standard CMOS Features

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

```
              CMOS Setup Utility – Copyright(C) 1984-2003 Award Software
                                Standard CMOS Features
 ┌─────────────────────────────────────────────────────┬─────────────────────────┐
 │   Date (mm:dd:yy)          Wed, Dec, 24 2003          │      Item Help          │
 │   Time (hh:mm:ss)          16 : 48 : 35               │                         │
 │                                                       ├─────────────────────────┤
 │ > IDE Primary Master       Press Enter None           │                         │
 │ > IDE Primary Slave        Press Enter None           │  Menu Level >           │
 │ > IDE Secondary Master     Press Enter None           │                         │
 │ > IDE Secondary Slave      Press Enter None           │  Change the day, month, │
 │                                                       │  year and century       │
 │   Drive A                  1.44M, 3.5 in.             │                         │
 │   Drive B                  None                       │                         │
 │                                                       │                         │
 │   Video                    EGA/VGA                    │                         │
 │   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

```
            CMOS Setup Utility – Copyright(C) 1984-2003 Award Software
                            Advanced BIOS Features
┌─────────────────────────────────────────────────┬──────────────────────┐
│  Virus Warning              Disabled             │                      │
│  CPU L1 Cache               Enabled              │      Item Help       │
│  CPU L2 Cache               Enabled              ├──────────────────────┤
│  Quick Power On Self Test   Enabled              │                      │
│  First Boot Device          Floppy               │  Menu Level >        │
│  Second Boot Device         HDD-0                │                      │
│  Third Boot Device          CDROM                │                      │
│  Boot other Device          Enabled              │                      │
│  Swap Floppy Drive          Disabled             │                      │
│  Boot Up Floppy Seek        Enabled              │                      │
│  Boot Up NumLock Status     On                   │                      │
│  Typematic Rate Setting     Disabled             │                      │
│  Typematic Rate (Chars/Sec) 6                    │                      │
│  Typematic Delay (Msec)     250                  │                      │
│  Security Option            Setup                │                      │
│  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 L1 & L2 Cache

The default value is Enabled. This option enabled the Level 1 & Level 2 cache memory.

    Enabled (default) Enable cache

    Disabled   Disable cache

Note: The internal cache is built in the processor.

CPU L2 Cache ECC Checking

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

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 Boot Device

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

Swap Floppy Drive

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

Boot Up Floppy Seek

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

Boot Up NumLock Status

The default value is On.

    On (default)   Keypad is numeric keys.

    Off   Keypad is arrow keys.

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.

```
            CMOS Setup Utility – Copyright(C) 1984-2003 Award Software
                            Advanced Chipset Features

    > DRAM Timing Settings        Press Enter              Item Help
    > AGP Timing Settings         Press Enter
    > PCI Timing Settings         Press Enter
      System BIOS Cacheable       Disabled             Menu Level >
      FB Address Conversion       Enabled
      FB Page Close Prediction    Enabled
      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.

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

```
                CMOS Setup Utility – Copyright(C) 1984-2003 Award Software
                                DRAM Timing Settings
┌──────────────────────────────────────────────────────────────────────────────┐
│                                                                                │
│     Auto Configuration         Standard              Item Help                 │
│     RAS Active Time            6T                                               │
│     RAS Precharge Time         3T                                              │
│     RAS to CAS Delay           3T             Menu Level >>                     │
│     CAS Latency                2.5T                                            │
│     Bank Interleave            Disabled                                         │
│     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 and 3T.

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

```
            CMOS Setup Utility – Copyright(C) 1984-2003 Award Software
                              AGP Timing Settings
 ┌────────────────────────────────────────────────┬────────────────────────┐
 │  VGA Share Memory Size          32M             │                        │
 │  AGP Transfer Aperture Size     64M             │       Item Help        │
 │  AGP Mode                       Auto            ├────────────────────────┤
 │  AGP Driving Control            Auto            │                        │
 │* AGP Driving Value              DA              │   Menu Level >>        │
 │  AGP Fast Write                 Disabled        │                        │
 │  AGP Master 1 WS Write          Enabled         │                        │
 │  AGP Master 1 WS Read           Enabled         │                        │
 │  CPU to AGP Post Write          Disabled        │                        │
 │  AGP Delay Transaction          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

```
            CMOS Setup Utility – Copyright(C) 1984-2003 Award Software
                              PCI Timing Settings
 ┌────────────────────────────────────────────────┬────────────────────────┐
 │  PCI Master 1 WS Write          Disabled        │                        │
 │  PCI Master 1 WS Read           Disabled        │       Item Help        │
 │  CPU to PCI Write Buffer        Enabled         ├────────────────────────┤
 │  PCI Delay Transaction          Disabled        │                        │
 │                                                 │   Menu Level >>        │
 │                                                 │                        │
 │                                                 │                        │
 ├────────────────────────────────────────────────┴────────────────────────┤
 │ ↑↓→← 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

```
            CMOS Setup Utility – Copyright(C) 1984-2003 Award Software
                             Integrated Peripherals
 ┌────────────────────────────────────────────────┬────────────────────────┐
 │ > OnChip IDE Function           Press Enter     │                        │
 │ > OnChip Device Function        Press Enter     │       Item Help        │
 │ > 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

```
              CMOS Setup Utility – Copyright(C) 1984-2003 Award Software
                             OnChip IDE Function

   OnChip IDE Channel0            Enabled              Item Help
   OnChip IDE Channel1            Enabled
   Primary Master   PIO           Auto
   Primary Slave    PIO           Auto            Menu Level >>
   Secondary Master PIO           Auto
   Secondary Slave  PIO           Auto
   Primary Master   UDMA          Auto
   Primary Slave    UDMA          Auto
   Secondary Master UDMA          Auto
   Secondary Slave  UDMA          Auto
   IDE DMA Transfer Access        Enabled
   IDE 32-bit Transfer Mode       Enabled
   IDE HDD Block Mode             Enabled
   IDE Prefetch Mode              Enabled
   Delay For HDD (Secs)             0

    ↑↓→←  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

OnChip Device Function

VIA LAN Function	Enabled	Item Help
VIA LAN BootROM	Disabled	
VIA LAN BootROM Option	Hook INT19	
VIA LAN BootROM PXERPL Option	PXE	Menu Level >>
Current VIA MAC Address is	003018-xxxxxx	
VIA MAC Address Input	Press Enter	
AC97 Sound Device	Auto	
Game Port Address	201	
Midi Port Address	Disabled	
Midi Port IRQ	10	
AC97 Modem Device	Auto	
USB Host Controller	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.

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

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 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

```
            CMOS Setup Utility – Copyright(C) 1984-2003 Award Software
                          Onboard Super IO Function

    Onboard FDD Controller        Enabled
    Onboard Serial Port 1         3F8/IRQ4                  Item Help
    Onboard Serial Port 2         2F8/IRQ3
    UART2 Mode                    Normal              Menu Level >>
    RxD, TxD Active               Hi, Lo
    IR Duplex Mode                Half
    Use IR Pins                   IRRX/IRTX
    Onboard Parallel Port         378/IRQ7
    Parallel Mode                 SPP
    EPP Mode Select               EPP1.7
    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.

```
            CMOS Setup Utility – Copyright(C) 1984-2003 Award Software
                              Power Management Setup
┌────────────────────────────────────────────────────┬──────────────────────────┐
│    ACPI Function              Enabled                │      Item Help           │
│    ACPI Suspend Type          S1 (POS)               │                          │
│    Video Off Option           Always off             ├──────────────────────────┤
│    Video off Method           V/H SYNC+Blank         │    Menu Level >          │
│    MODEM Use IRQ              3                       │                          │
│    Power Button Function      Instant-Off            │                          │
│    Power After Power Failure  Off                    │                          │
│  > 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 $\rightarrow$ off, All Modes $\rightarrow$ 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.

Wake Up Events

Please refer to section 3-8-1

3-8-1 Wake up Events

```
              CMOS Setup Utility – Copyright(C) 1984-2003 Award Software
                              Wake Up Events

      VGA                             OFF
      LPT & COM                       LPT/COM              Item Help
      HDD & FDD                       ON
      PCI Master                      OFF
      Wake-Up on Ring/LAN             Disabled         Menu Level >>
      Wake-Up on PCI PME              Disabled
      PS2 KB Wakeup Selection         Hot Key
      Wake-Up on Hot Key (PS2 KB)     Power Key
      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.

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

IRQs Activities

Please refer to section 3-8-1.1

3-8-1.1 IRQs Activities

```
              CMOS Setup Utility – Copyright(C) 1984-2003 Award Software
                              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 **P**ersonal **C**omputer **I**nterconnect, is a system which allows I/O devices to operate at speeds nearing the speed the CPU itself uses when communicating with its own special components. This section covers some very technical items and it is strongly recommended that only experienced users should make any changes to the default settings.

```
            CMOS Setup Utility – Copyright(C) 1984-2003 Award Software
                            PnP/PCI Configurations
╔════════════════════════════════════════════════════════════════════════════╗
║   PnP OS Installed            No                                             ║
║   Reset Configuration Data    Disabled          Item Help                    ║
║                                                                              ║
║   Resources Controlled By     Manual                                         ║
║ x IRQ Resources               Press Enter                                    ║
║   PCI/VGA Palette Snoop        Disabled        ──────────────────            ║
║   Assign IRQ For VGA          Enabled                                        ║
║   Assign IRQ For USB          Enabled           Menu Level >                 ║
║                                                                              ║
║                                                                              ║
║                                                                              ║
║                                                                              ║
║──────────────────────────────────────────────────────────────────────────  ║
║   ↑↓→← 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

```
                   CMOS Setup Utility – Copyright(C) 1984-2003 Award Software
                                       IRQ Resources

    IRQ3    assigned to           PCI Device              Item Help
    IRQ4    assigned to           PCI Device
    IRQ5    assigned to           PCI Device
    IRQ7    assigned to           PCI Device        Menu Level >>
    IRQ9    assigned to           PCI Device
    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.

```
                   CMOS Setup Utility – Copyright(C) 1984-2003 Award Software
                                     PC Health Status

   CPU Warning Temperature      Disabled                Item Help
   Show PC Health in Post       Enabled
   CPUFAN Smart Mode            Enabled
   CPUFAN Temp1 Value           40               Menu Level >
   CPUFAN Speed below Temp1     50%
   CPUFAN Temp2 Value           45
   CPUFAN Speed below Temp2     80%
   SYSFAN Smart Mode            Enabled
   SYSFAN Speed Value           40
   SYSTEM Speed below Temp1     50%
   SYSTEM Temp2 Value           45
   SYSTEM Speed below Temp2     80%
   Current System Temperature   25ºC
   Current CPU Temperature      38ºC
   CPUFAN                       5000 rpm
   SYSFAN                       5000 rpm
   Vcore                        1.78V
   Vcc3.3                       3.31V
   + 5V                         4.98V
   AGPVDD

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

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

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

```
             CMOS Setup Utility – Copyright(C) 1984-2003 Award Software
                              Miscellaneous Control
┌────────────────────────────────────────────────────┬──────────────────────┐
│   CPU Clock Ratio                 8X                 │     Item Help        │
│   Auto Detect PCI/DIMM Clock      Enabled            │                      │
│   Spread Spectrum                 Disabled           ├──────────────────────┤
│   ** Current Host/PCI Clock is                       │  Menu Level >        │
│   Host/PCI Clock at Next Boot is                     │                      │
│   ** Current DRAM Clock is                           │                      │
│   DRAM Clock at next Boot is                         │                      │
│   CPU Vcore Select                Default            │                      │
│   AGPVDD Output                   1.5V(Default)      │                      │
│   VRAM Output                     2.6V(Default)      │                      │
│   Chipset 2.5V                    2.55V(Default)     │                      │
│   VTT Voltage                     1/2 VRAM           │                      │
│   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 DIMM/PCI Clock.

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

Host/PCI Clock at next Boot is
This item allows you to select CPU frequency step by step increasing
The choice are: 100MHz~132MHz, 133MHz~200MHz.

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 (only select CPU Frequency 100MHz.)

AGPVDD Output
This item allows you to select 1.5V of the AGP 4X 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/ME/NT4.0/2000/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 12 selections:
1. VIA 4 IN 1   install VIA Service Pack 4 IN 1 driver
2. VGA   install VIA VGA Driver
3. SOUND   install ALC Audio Codec Installing driver
4. LAN   install VIA 10/100MB LAN Controller driver
5. USB2.0   install USB 2.0 driver
6. PC-CILLIN   install PC-CILLIN2004 anti-virus program
7. PC-HEALTH   install My Guard for VIA8235 Utility
8. MBIOS&DX9   install BIOS Live Update Utility and Microsoft DirectX 9 driver
9. REMOTE   install Remote Controller driver
10. MAGIC TWIN   install Magic Twin utility
11. BROWSE CD   to browse the contents of the CD
12. EXIT   to exit from MAGIC INSTALL menu

4-1 VIA 4 IN 1 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 choose all driver

5. Click NEXT to Install ATAPI Vender Support Driver

6. Click NEXT to choose enabled DMA Mode

7. Click NEXT to Install VIA AGP VXD Driver

8. Click NEXT to Install VIA IRQ Routing Mini port Driver

9. Click Finish to restart computer

4-2 VGA install Prosavage DDR VGA Driver

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

1. Click VGA when MAGIC INSTALL MENU appears

2. Click NEXT When ProSavageDDR Driver Install Setup Wizard Appears

3. Click NEXT to Install Driver File

4. Click Finish to Restart Computer

4-3 Sound Install ALC Audio Codec Driver
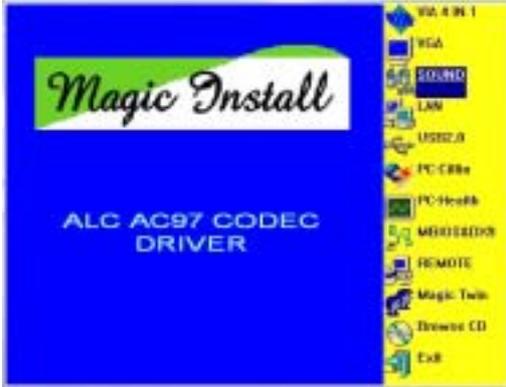
1. Click SOUND when MAGIC INSTALL MENU appears
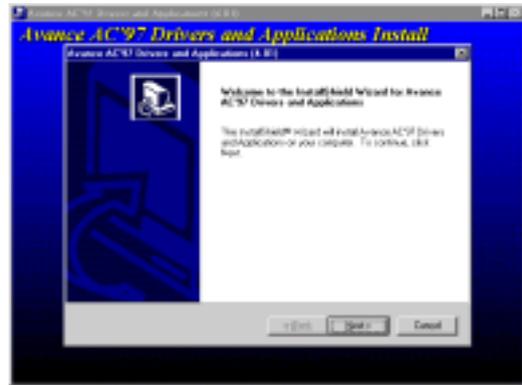
2. Then auto detect operation system language edition, click OK, start to install DRIVER

3. Click Finish and Restart Windows
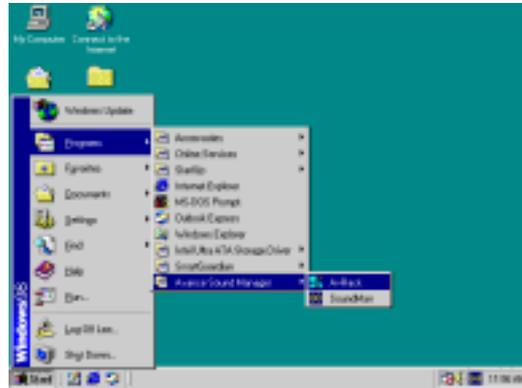
4. Click Start→Program→Avance Sound Manager→AvRack. Then AVRACK Windows appears
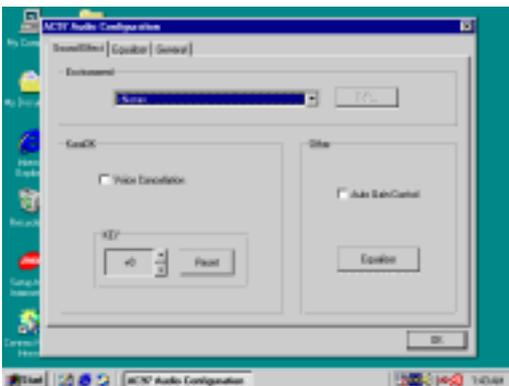
5. Sound Effect select and KaraOK Mode Function
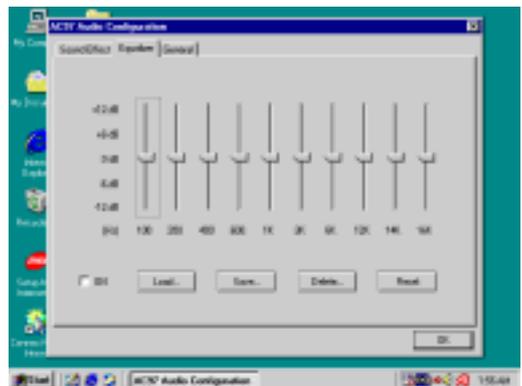
6. Manual Sound Effect Setting

Note: **The path of the file**
For WIN98/NT4.0/WIN2K is X:\CODEC\ALCCODEC\SETUP.EXE
For WIN95 is X:\VIA\VIAUDIO\SETUP.EXE
For Linux is X:\VIA\VIAUDIO\Linux
For Real DOS Mode is X:\VIA\VIAUDIO\VIADOS

4-4 LAN Install VIA10/100MB LAN Controller Driver

The VIA10/100MB PCI Ethernet Adapter Driver path is X:\VIA\LANDRV

1. Click LAN when Magic Install Menu appear

2. Setup VIA 10/100Mb PCI Ethernet Driver
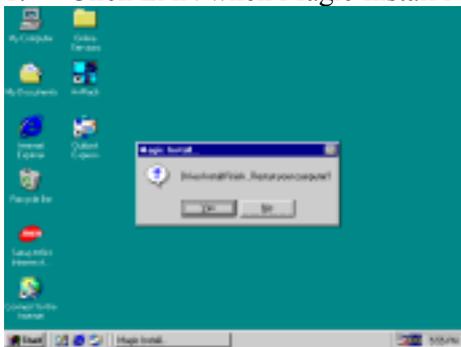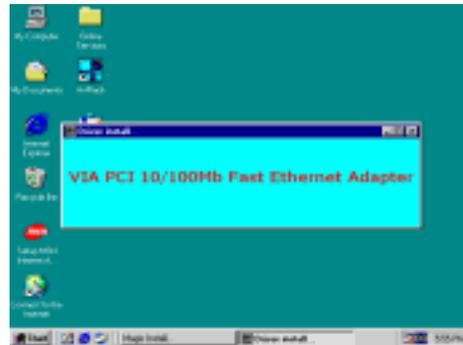
3. Driver install Finish , Click Yes and Restart Computer

4. When windows ask VIA 10/100Mb PCI Ethernet Adapter driver path, Change directory to X:\VIA\LANDRV and click OK , then finish installation
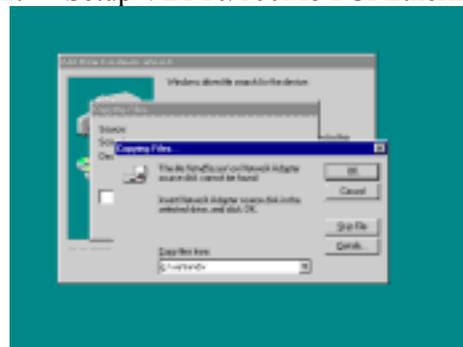
4-5 PC-HEALTH My Guard for VIA8235 Utility

The path of the file is X:\VIA\MYGUARD\SETUP.EXE
(Support Windows 9X/ME/2K/NT/XP)

1. Click PC-Health when Magic Install Menu appears

2. Click Next when Install shield wizard Window appears, Choose destination location and click Next, when the start copy file windows appear, click next
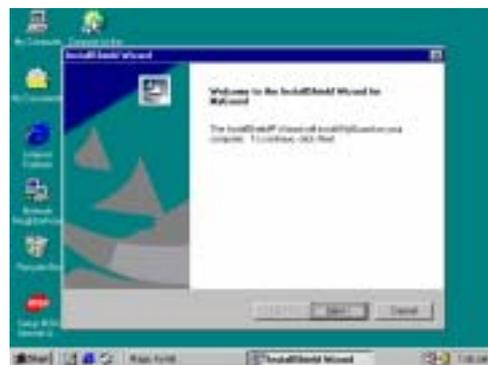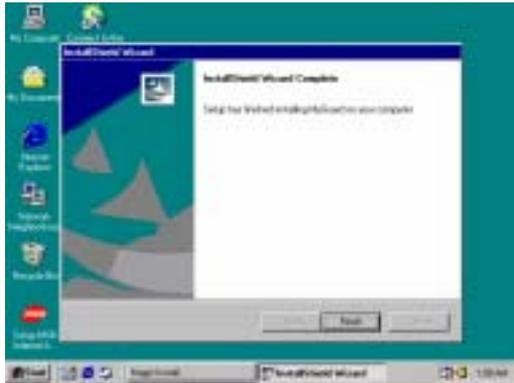
3. Select Finish after setup complete

4. Execute MY GUARD utility, On-time Monitoring your system health

4-6 MAGIC BIOS Install BIOS Live Update Utility
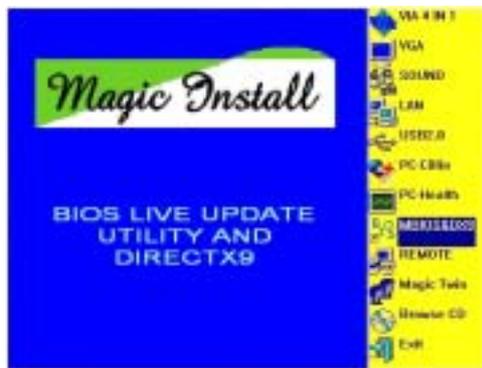
1. Click Magic BIOS when Magic Install MENU appears

2. Click Next to install the Magic BIOS in Destination Folder
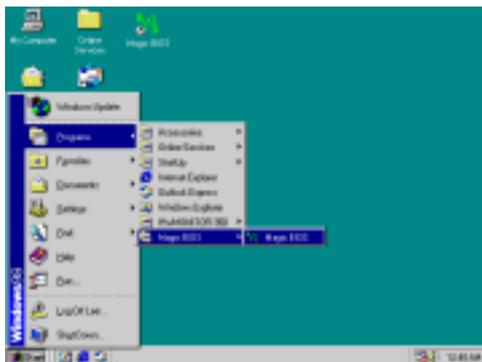
3. After finish Setup you will have a Magic BIOS icon in your screen
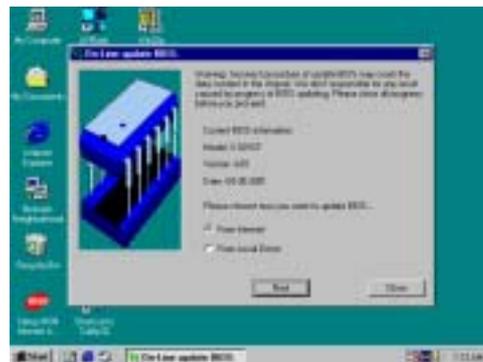
4. Double click the Magic BIOS icon you will have this picture, choose from internet you can upgrade BIOS On-line

5. When On-line update BIOS the program will auto-check your BIOS version

6. Click Next if you need update BIOS, after upgrade BIOS, the system will clear CMOS and automatically restart
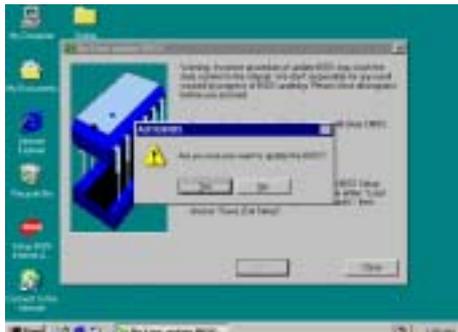
7. Click Yes if you want to update the BIOS otherwise choose No to exit
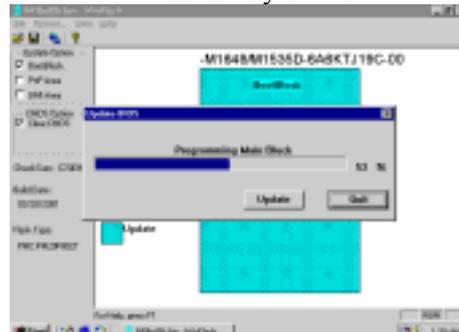
8. When System programming BIOS don't turn off power, after finish update BIOS, the system will clear CMOS and automatically Restart

9. When choose From Local Driver to update BIOS, you must have the correct BIOS file in your Local Driver
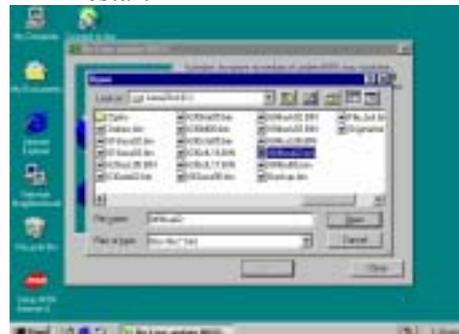
10. Choose the correct BIOS file to update BIOS

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

3. Select Install USB Driver and Click NEXT

4. Select FINISH and Restart your Computer
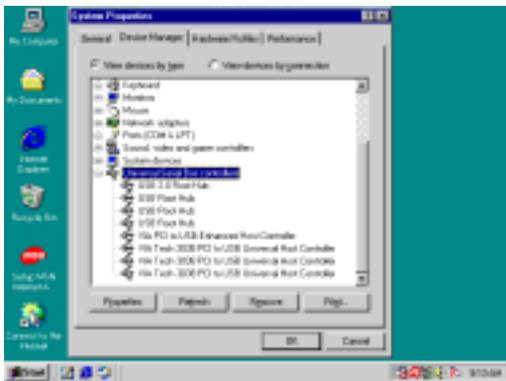
5. Check device working properly in Device Manager

The Path of the file is X:\VIA\VIAUSB20\SETUP.EXE

4-8 PC-CILLIN Install PC-CILLIN 2004 Anti-virus program

1. Click PC-CILLIN when MAGIC INSTALL MENU appear

2. Click NEXT when the "Trend Micro internet security" installshield wizard windows appear

3. This is license agreement, select "I Accept the terms" and Click NEXT
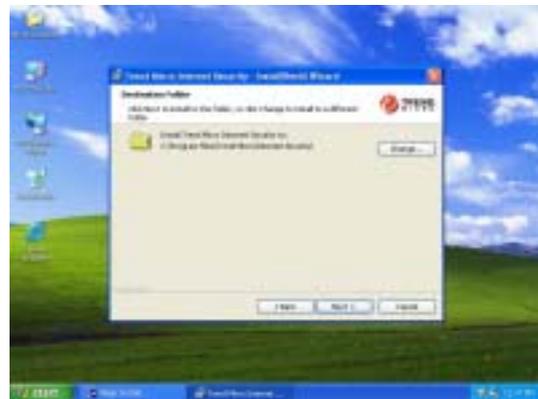
4. Click NEXT and Enter your Customer Information, Click NEXT or choose Change to change the path for the file to be stored
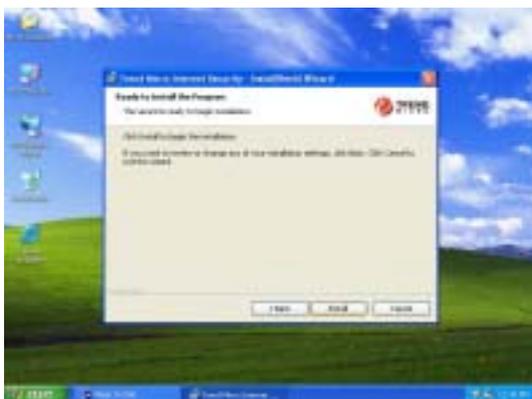
5. Click INSTALL, Start to install the software

6. Setup Complete and click FINISH

7. After PC-CILLIN 2004 complete, Please register your information and we recommend select update item to download newest engine code and virus code

Note : **Please install ACROBAT READER, Before you read PC-CILLIN 2004 User Manual, the path at X:\acrobat\adberdr6_enu_full.exe**

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

Before update BIOS please choose Disabled in "Flash Part Write Protect" item on "Miscellaneous Control" in BIOS Setup, please refer page 35

Method 1. Use "Magic BIOS" update BIOS in Windows 98 (refer)

Method 2. 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 P4MDF/P4MDFT from our web site to your boot disc.

STEP 4. Insert your boot disc into A:,

start the computer, type "Awdflash A:\ P4MDFAxxx.BIN /SN/PY/CC/R"

P4MDFAxxx.BIN is the file name of latest BIOS it can be P4MDFA3.BIN or P4MDFB2.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.

CHAPTER 5

5-1 INSTALLATION OF MagicTwin (a 2-User-System solution)

Introduction

MagicTwin is a 2-User-System solution built on this special designed motherboard with dual video connectors (such as a dual port AGP VGA card), two PS/2 keyboards and two PS/2 mice connected from motherboard using packaged Y-cables and one piece of software (Driver and Tools). It allows you to add ONE additional station simultaneously running under Windows XP Home or XP-Professional (Service Pack 1). Please refer the detail on the packaged MagicTwin XP 2-User Software Installation Guide.

Necessary Components to Configure 2-User-System:
- ➢ one special designed Motherboard (incl. all cablings)
- ➢ one Dual Display VGA card for two monitors (purchase separately)
- ➢ two Y-cables for two PS/2 Keyboards and two PS/2 Mice
- ➢ MAGIC INSTALL CD (incl. all DRIVERS you need and some TOOLS to enable the 2-User function of the motherboard). In addition this CD includes an auto detect software, which detects, installs and assigns the related 2nd video display and the 2nd PS/2 keyboard and PS/2 mouse.
- ➢ two monitors
- ➢ two speaker systems (optional)

Recommendations
- ➢ CPU: >1.2 GHz
- ➢ minimum 256 MB RAM for two Stations, running simultaneously
- ➢ two Standard PS/2 Keyboards, -Mice and two Monitors (Sound: optional)
- ➢ Hard disk and CD-ROM drive

Installation of MagicTwin
- ➢ We recommend to install Windows XP and all related drivers from the scratch
- ➢ Switch off your PC and open the computer case
- ➢ Remove the AGP-slot bracket and insert the delivered dual headed AGP Video Card into the AGP-slot
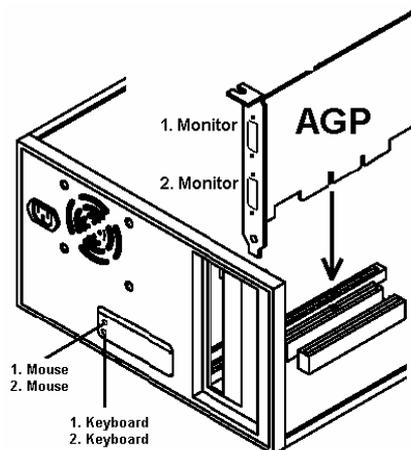
➢ As well attach the delivered Y-cables to the "green" port (former PS/2 Mouse port) and into the "violet" port (former PS/2 Keyboard port) at the rear side of the motherboard.

➢ Connect the 1st. and 2nd. Mouse to the octopus cable, which is also linked to the "green" PS/2 connector and the 1st. and 2nd Keyboard to the other octopus cable, which is also connected to the "violet" port. The additional monitor MUST be attached otherwise windows will not detect and enable the 2nd monitor. Make sure the additional keyboards and mice work; they should affect the host console.

➢ Start your PC. Windows will automatically detect the new AGP Video device as a standard VGA-card. Please install all drivers first before your install "MagicTwin" of the MAGIC INSTALL CD. Insert the CD, wait for the automatic start and run the Installation of all other drivers first, and then lastly the MagicTwin from the Magic Install CD. If the CD does not run automatically, please click to Start-> Run-> CD-Drive-> SETUP.EXE.


Click "MagicTwin" when the MAGIC INSTALL MENU appears. The Installation-routine will start…

Welcome- Mask, click "Next"
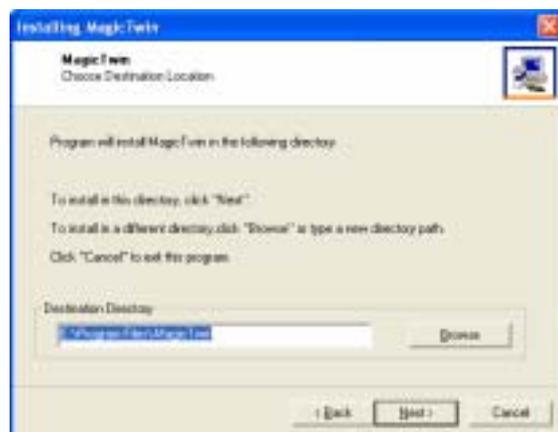
Option: Change destination path or click "Next"
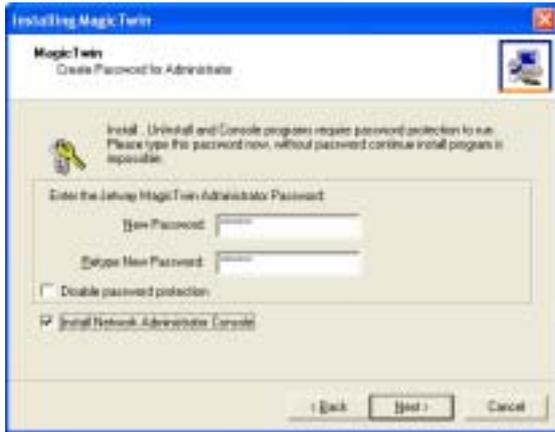
Password and Network Console, click "Next"
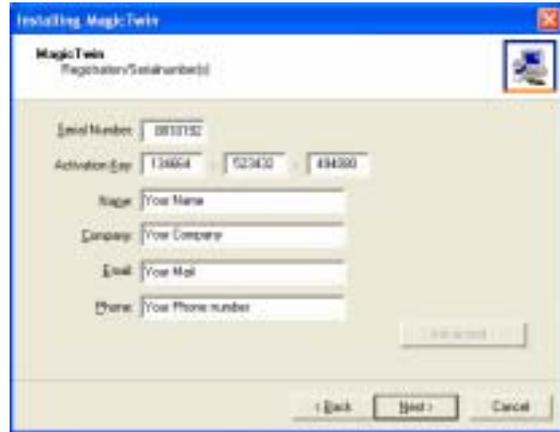
Type in the Serial and your Address, click "Next"

Installation in process, please wait…

Afterwards "Reboot your PC".

> Windows is restarting and loading the new installed drivers. The MagicTwin will be activated and assign automatically the 2nd Station to the 2nd monitor, -PS/2-keyboard and PS/2 mouse.

> Please login in to Windows and add one or more additional users under the control panel.

NVIDIA AGP-card

The NVIDIA AGP dual-headed adapters are supported under MagicTwin. It does not work with ATI graphic card at the moment. One display can be used by the host and the second by the MagicTwin station. This will be done automatically after installation of MagicTwin. Please refer to the MagicTwin XP 2-User Software Installation Guide for detail.

Language Support

The MagicTwin Console text and online help have not been updated for all supported languages. The same applies to the installation process text, menue items and desktop shortcuts. Therefore some text may be incorrect with respect to some languages.

Microsoft License Agreement

MagicTwin is (technically) able to run with only a single Windows-XP Installation and license. Each software application including Windows has i's own EULA (End User License Agreement) that you must check for the specifics of multi-user application. 's software license does not supersede any other manufacturer´s license. Since most liecense agreements are vague about this specific situation of multi-user or leave it open, and their partners cannot give any general recommendation other than to check the EULA of the software that is being used on each of the workstations.

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