

VB9/VB9N
USER'S MANUAL

M/B For Slot1/Socket 370 Processor

NO. G03-VB9R1A

Release date: OCT 2000

**** Year 2000 compliant ****

Trademark:

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Manual Revision Information

Reversion	Revision History	Date
1.0	First Release	Oct 2000

Item Checklist

- VB9/VB9N
- Cable for IDE/Floppy
- CD for motherboard utilities
- Cable for LPT/ PS/2 Mouse
- Cable for Audio (option Only for VB9)
- Cable for COM1/COM2
- VB9/VB9N User's Manual

Intel® Processor Family Thermal Solutions

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

When selecting a thermal solution for your system, please refer to the website below for collection of heatsinks evaluated and recommended by Intel for use with Intel processors.

Vendor list for heatsink and fan of **Pentium® !!! processor**, please visit :

<http://developer.intel.com/design/Pentiumiii/components/index.htm>

Vendor list for heatsink and fan of **Intel®Celeron™ processor**, please visit :

<http://developer.intel.com/design/celeron/components/index.htm>

Chapter 1

Introduction of VB9/VB9N Motherboard

1-1 Feature of motherboard

The VB9/VB9N motherboard is design for use Intel PentiumIII /Celeron Slot1 or PPGA/FC-PGA CPU, which utilize both Slot1 and Socket 370 design and the memory size expandable to 1.0GB.

This motherboard use the newest VIA Apollo Pro VT82C693A chipset, whose 133MHz front side bus & 133MHz memory interface delivers a clear upgrade path to the future generation of 133MHz processors and PC-133 SDRAM. The VB9/VB9N motherboard offers ULTRA ATA 66. This provides speedier HDD throughout that boosts overall system performance.

The VB9 also has an integrated PCI Audio controller on board which is fully compatible with Sound Blaster Pro® that gives you the best sound quality and compatibility.

With 2 USB connectors (option), the VB9/VB9N meet future USB demand for USB device.

The VB9/VB9N motherboard supports ACPI function (when use ATX Power Supply) such like Ring_In Wake Up, Ring_In Power On, Wake On LAN, RTC Power On for OS Directed Power Management.

The Special fuction in BIOS SETUP can choose system clock step by step increasing between 66~99Mhz, 100~132Mhz, 133~166Mhz to approach Over-Clock possiblilty.

This motherboard supports standard Synchronous DRAM (SDRAM) and. Supports CPU Host Clock and DRAM Clock Asynchronous/Synchronous mode allow user more choose when use DRAM.

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

1-2 Specification

Spec	Description
------	-------------

Design	* Baby AT form factor 4 layers PCB size: 22.0x25.0 cm
Chipset	* VIA Apollo Pro VT82C693A/82C596B Chipset
CPU Socket	* Support Intel Pentium II/III /Celeron Slot1 and PPGA/FC-PGA CPU (You can only use one CPU interface at a time) * Support Front Side Bus 66Mhz/100Mhz/133Mhz CPU
Memory Socket	* 168-pin DIMM socket x 2 * Support PC-100/PC-133 SDRAM, VCM (Virtual Channel Memory) DRAM * Expandable to 1.0GB * Support 3.3V SDRAM DIMM
Expansion Slot & Headers	* AGP slot x1 * 32-bit PCI slot x 3 * ISA slot x 1
Integrate IDE	* 2 channel of Bus Master IDE port supporting ULTRA DMA 33/66 mode devices
Audio (only for VB9)	* CMI 8738 PCI Audio Controller * Support rear side speakers,C3DX positional Audio in 4 channels speaker mode * HRTF-Base 3D position audio, support DirectSound 3D and Aural A3D interface * Digital function that capable to provide Hi-Fi stereo, Dolby, 3D surround effects * Audio driver and utility included
BIOS	* Award 2MB Flash ROM
Multi I/O	* PS/2 mouse connectors * Floppy disk drive connector x1 * Parallel port x1 * Serial port x2 * USB connector x2 * 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.)

CPU: Intel PIII 866MHz/ Celeron 667MHz FC-PGA package
DRAM: 128M SDRAM x2 (Hyundai GM 72V66841ET75)
 128M PC-133 VCM SDRAM x2 (NEC D4565821G5)
VGA Expansion Card: Geforce 256 (1024x768 Hi-color) Driver V3.68
Hard Disk Driver: Quantum Fireball KX20A11
BIOS: Award Optimal default
OS: Win 98SE
A: PC-133 SDRAM
B: VCM SDRAM

Performance Test Report

	Copermine 866MHz	Celeron 667MHz
3D Mark 99	5899	4327
3D Mark 2000	4115	2918
3D Winbench 99 V1.2	896	816
3D Winbench 2000	80	73.4
Final Reality	5.78	4.20
Winstone 99 V1.3	31.2	23.9
Winstone 2000	32.5	23.2
Winbench 99 :		
CPU Mark 99	73.6	40.1
FPU Winmark 99	4590	2530
Business Disk Winmark99	3940	3500
Hi-end Disk Winmark99	11000	9390
Business Graphic Winmark	374	232
Hi-end Graphic Winmark	1040	686
SYS Mark 2000 : SISMark 2000 Rating (Internet Content Creation / Office Productivity)		
Suites	170 (168/171)	105 (106/105)
Offical	171 (173/169)	106 (109/104)
SISOFT Sandra 2000 :		
CPU MIPS	2342	1796
FPU MFLOPS	1160	889
CPU / Memory MB/S	282	164
FPU / Memory MB/S	303	178
QUAKE3 :		
DEMO1 FPS	97.2	51.6
DEMO2 FPS	91.9	48.2

1-4 Layout & Jumper Setting

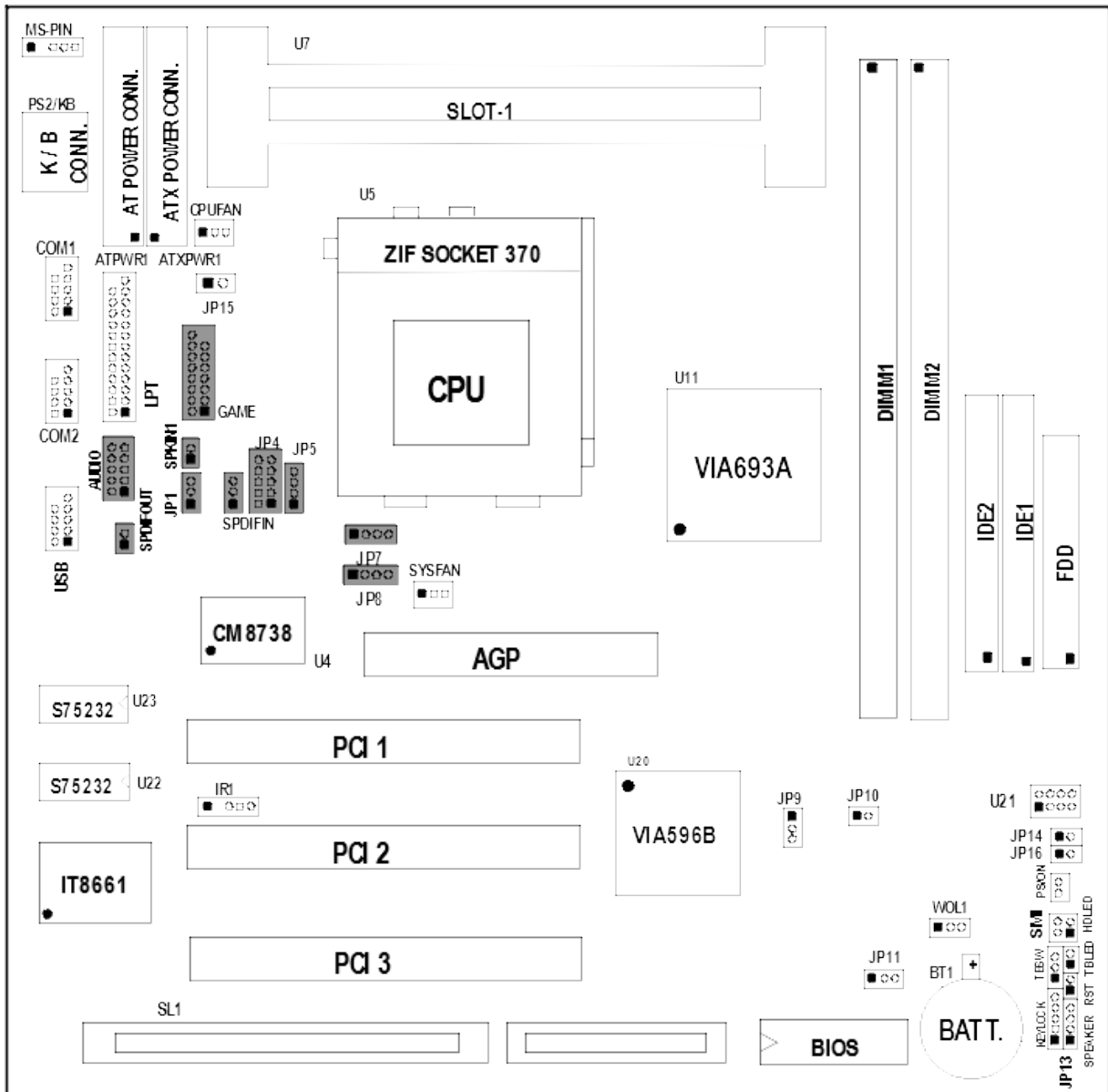


Figure 1

 Only for motherboard that embedded Audio chip (only for VB9)

Jumpers

Jumper	Name	Description	Page
JP9,JP10	CPU Bus Frequency Selection	66Mhz : JP9 2-3, JP10 Closed 100Mhz: JP9 1-2, JP10 Closed	p. 8

		133Mhz: JP9 1-2, JP10 Open	
U21	CPU Ratio Selector	Refer to page 9	p. 9
JP11	CMOS RAM Clear	1-2 Normal ,2-3 Clear CMOS	p. 9

Connectors

Connector	Name	Description	Page
ATPWR1	AT Power Connector	12-Pin Block	p.14
ATX PWR1	ATX Power Connector	20-Pin Block	p.14
PS_KB	Keyboard Connector	5-Pin Female	p.15
MS-PIN	PS2 Mouse Connector	5-Pin Connector	p.15
LPT	Parallel Port Connector	26-Pin Block	p.16
COM1, COM2	Serial Port COMA , COMB	10-Pin Block	p.16
FDD	Floppy Driver Connector	34-Pin Block	p.16
IDE1	Primary IDE Connector	40-Pin Block	p.16
IDE2	Secondary IDE Connector	40-Pin Block	p.17
HDLED	IDE activity LED	2-Pin Connector	p.17
SMI	SMI Suspend Switch	2-Pin Connector	p.17
JP13	Front Panel Connector	16-Pin Block	p.18
IR1	Infrared Module Connector	5-Pin Block	p.18
USB	USB Port Connector	5-Pin Connector	p.18
CPUFAN, SYSFAN	FAN Connector	Extra fanning system connectors	p.18
PS/ON	ATX power button/soft power button	2-Pin Connector	p.19
WOL1	Wake On LAN	3-Pin Block	p.19

Jumpers & Connectors (Option for motherboard VB9)

Item number	Name	Description	Page
JP1	On-Board Sound Enable/Disable	1-2 : Disabled , 2-3 : Enabled	p.19
JP5	AUX IN	4-pin Block	p.20
JP7, JP8	CD-Audio	4-pin Block	p.20
Audio	Audio Connector	10-pin Connector	p.20
GAME	Game Port Connector	16-Pin Connector	p.20
SPKIN 1	PC Speaker In	2-pin Block	p.21
SPDIFIN	SPDIF (Sony/Philips Digital Interface) IN	3-pin Block	p.21
SPDIFOUT	SPDIF (Sony/Philips Digital Interface) OUT	2-pin Block	p.21
JP4	For Optional Optical Kit Connector	10-pin Connector	p.21

Expansion Sockets

Socket/Slot	Name	Description
DIMM1,DIMM2	DIMM Module Socket	168-Pins DIMM SDRAM Module Expansion Socket
U7	CPU Slot	Pentium II/III / Coppermine CPU Slot
U5	CPU Socket (Socket 370)	Celeron PPGA / Coppermine FC-PGA CPU Socket
AGP1	AGP SLOT	AGP Expansion Slot
PCI1, PCI2,PCI3	PCI Slot	32-bit PCI Local Bus Expansion slots
SL1	ISA Slot	16-bit ISA Bus Expansion slot

Chapter 2

Hardware installation

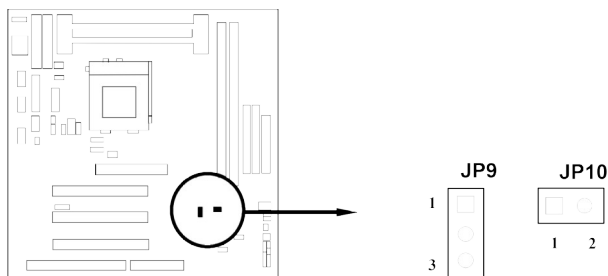
2-1 Hardware installation Steps

Before using your computer, you had better complete the following steps:

1. Check motherboard setting
2. Install CPU
3. Install Memory
4. Install Expansion cards
5. Connect Ribbon cables, Panel wires, and power supply
6. Setup BIOS
7. Install software driver & utility

2-2 Checking Motherboard's Jumper Setting

1. CPU Bus Frequency Selection : JP9, JP10



CPU External Frequency : JP9, JP10			
CPU	JP9	JP10	BIOS can Seting
66MHz	2-3	closed	66~99MHz
100MHz	1-2	closed	100~132MHz
133MHz	1-2	open	133~166MHz

- Users also can setting the CPU Bus frequency in the “Host Clock at Next Boot is” in CHIPSET FEATURES SETUP. (Please refer to page 29)
- * When you are Running overclocking, make sure all of your PCI devices have enough tolerance to run. Otherwise, it may cause your system become very unstable.

2. CPU Ratio Selector : U21

Ratio	1	2	3	4
3.0x	ON	OFF	ON	ON
3.5x	OFF	OFF	ON	ON
4.0x	ON	ON	OFF	ON
4.5x	OFF	ON	OFF	ON

Ratio	1	2	3	4
5.5x	OFF	OFF	OFF	ON
6.0x	ON	ON	ON	OFF
6.5x	OFF	ON	ON	OFF
7.0x	ON	OFF	ON	OFF

5.0x	ON	OFF	OFF	ON
------	----	-----	-----	----

7.5x	OFF	OFF	ON	OFF
8.0x	ON	ON	OFF	OFF

Table for the Pentium III and Celeron Socket 370 CPU

Celeron			Pentium III			Pentium III		
Speed	Bus	Ratio	Speed	Bus	Ratio	Speed	Bus	Ratio
300/66	66MHz	4.5x	500E/100	100MHz	5.0x	700E/100	100MHz	7.0x
333/66	66MHz	5.0x	533EB/133	133MHz	4.0x	733/133	133MHz	5.5x
366/66	66MHz	5.5x	550E/100	100MHz	5.5x	750E/100	100MHz	7.5x
400/66	66MHz	6.0x	600E/100	100MHz	6.0x	800E/100	100MHz	8.0x
466/66	66MHz	7.0x	600EB/133	133MHz	4.5x	866/133	133MHz	6.5x
500/66	66MHz	7.5x	650E/100	100MHz	6.5x	933/133	133MHz	7.0x
533/66	66MHz	8.0x	667/133	133MHz	5.0x	1.0B GHz/133	133MHz	7.5x
533A/66	66MHz	8.0x						
566/66	66MHz	8.5x						
600/66	66MHz	9.0x						
633/66	66MHz	9.5x						
667/66	66MHz	10.0x						
700/66	66MHz	10.5x						

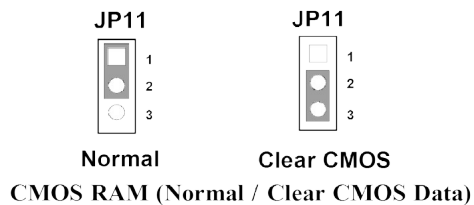
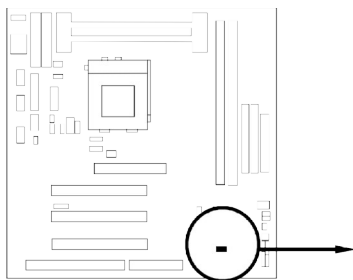
* Because the Ratio are fixed by CPU Manufacture, users don't need to setting ratio any more, this table just for reference use.

3. CMOS RAM Clear: JP11 (Yellow color selector)

WARNING: Make sure your computer is POWER OFF when you CLEAR CMOS.

Connect a jumper Cap over this jumper for a few seconds, will clears information stored in the CMOS RAM Chip that input by user, such as hard disk information and passwords. After CLEAR CMOS, you must enter the BIOS setup (by holding down during power-up) to re-enter BIOS information (see BIOS SETUP).

<u>Selections</u>	<u>JP11</u>
Normal	1-2 (Default)
Clear CMOS	2-3 (momentarily)



2-3 Install CPU

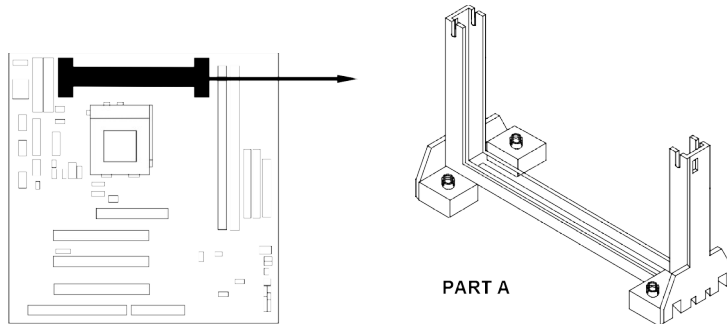
2-3-1 The mainboard provides a Slot-1 for Pentium II/III processor. The CPU on board must have a fan or heat sink attached to prevent overheating.

WARNING: Without a fan or heat sink, the CPU will overheat and cause damage to both the CPU and the mainboard.

To install a CPU, first turn off your system and remove its cover. Locate the Slot- 1 and place RETENTION MODULE as following:

IMPORTANT: You must set jumper JP9, JP10 for “Bus Frequency Selection” on [page8](#) depending on the CPU that you install.

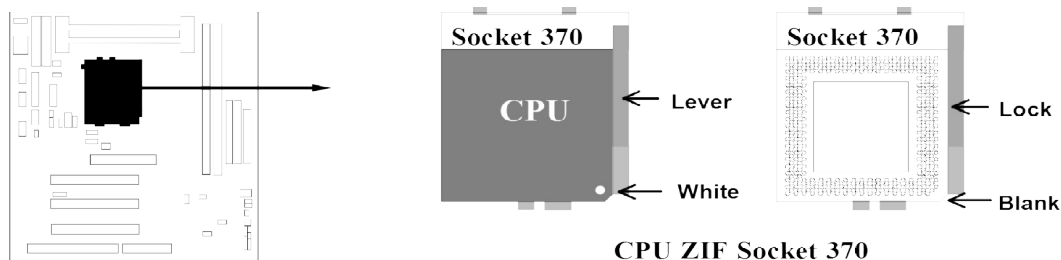
1. Attach heat sink to the CPU.
2. Place Part A on Slot-1 and gently screw four corners on top of the main- board.



2-3-2 This motherboard Provides a ZIF Socket 370. 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.



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.

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 - Accelerated Graphics Port - a high speed interface for video cards; runs at 1X (66MHz), 2X (133MHz), or 4X (266MHz).

PCI - Peripheral Component Interconnect - a high speed interface for video cards, sound cards, network interface cards, and modems; runs at 33MHz.

ISA - Industry Standard Architecture - 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 - Universal Serial Bus - a medium speed interface typically used for mouse, keyboards, scanners, scanners, and some digital cameras.

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

LAN (interface) - Local Area Network - the interface to your local area network.

BIOS (Basic Input/Output System) - the program logic used to boot up a computer and establish the relationship between the various components.

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

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

Front Side Bus Frequency

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

CPU L2 Cache

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

2-4 Install Memory

This mainboard supports two 168-pins DIMM modules to the Max Memory Size of 1GB.

DIMM 1	DIMM 2	System can be Accept or Not
168-pin DIMM	x	Accept

x	168-pin DIMM	Accept
168-pin DIMM	168-pin DIMM	Accept

Generally, installing SDRAM modules to your motherboard is very easy, you can refer to figure 2-4 to see what a 168-Pin PC100 & PC133 SDRAM module looks like.

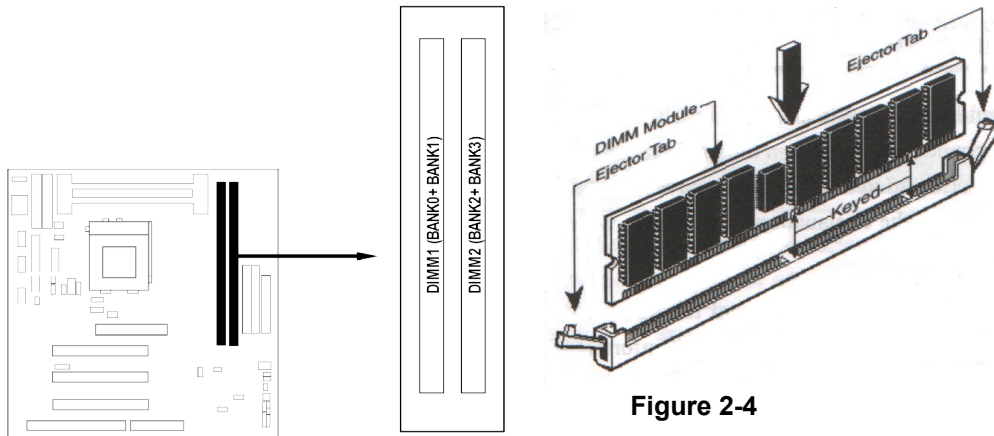


Figure 2-4

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 indentation on both sides.

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

2-5 Expansion Cards

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

2-5-1 Procedure For Expansion Card Installation

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

6. Set up the BIOS if necessary.
7. Install the necessary software driver for your expansion card.

2-5-2 Assigning IRQs For Expansion Card

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

Standard Interrupt Assignments

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

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

2-5-3 Interrupt Request Table For This Motherboard

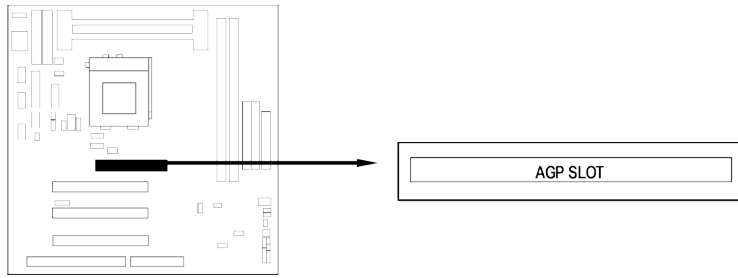
Interrupt request are shared as shown the table below:

	INT A	INT B	INT C	INT D
PCI slot 1	Shared	—	—	—
PCI slot 2	—	Shared	—	—
PCI slot 3	—	—	Shared	—
AGP slot	Shared	—	—	—
Audio	—	—	—	Shared
Onboard USB	—	—	—	Shared

IMPORTANT! If using PCI cards on shared slots, make sure that the drivers support “Shared IRQ” or that the cards don’t need IRQ assignments. Conflicts will 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 1X/2X AGP VGA card.

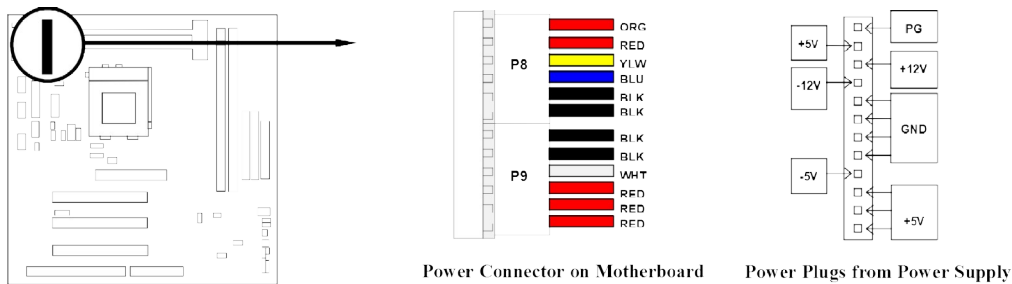


2-6 Connectors, Headers

1. Power Connector: AT Power Connector (12-pin block): ATPWR1

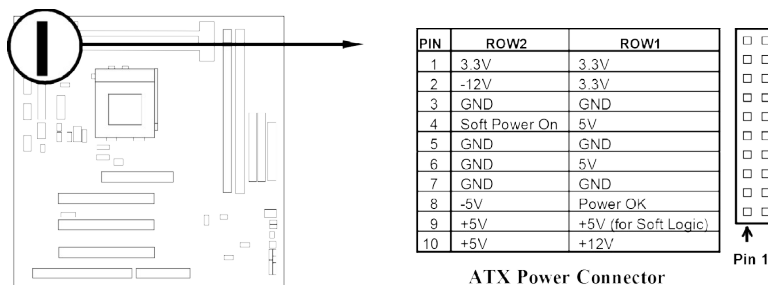
This connector connects to a standard AT power supply. To connect the leads from the power supply, ensure first that the power supply is not plugged. Most power supplies provide two plugs (P8 and P9), each containing six wires, two of which are black. Orient the connectors so that the black wires are located in the middle.

Using a slight angle, align the plastic guide pins on the lead to their receptacles on the connector. Once aligned, press the lead onto the connector until the lead locks into place.



2. Power Connector: ATX Power Connector (20-pin block): ATPWR1

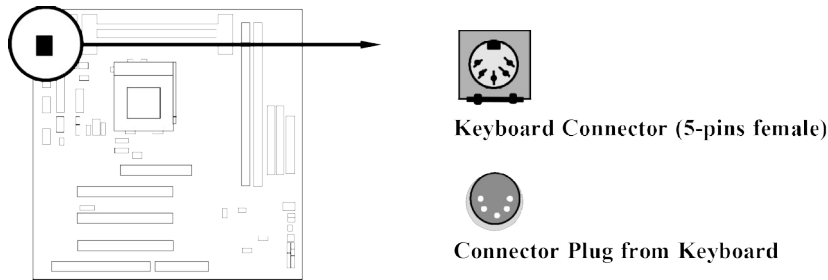
ATX Power Supply connector. This is a new defined 20-pins connector that usually comes with ATX case. The ATX Power Supply allows to use soft power on momentary switch that connect from the front panel switch to 2-pins Power On jumper pole on the motherboard. When the power switch on the back of the 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.



* Please don't turn off / on power supply too quickly. We recommend at least wait 4sec before turn on the power , to protect the system.

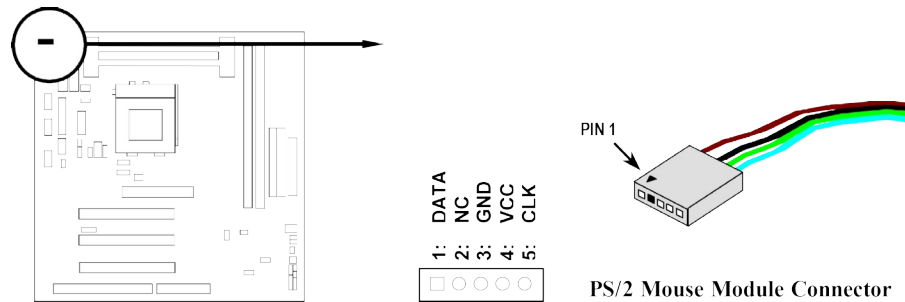
3. Keyboard Connector (5-pin female): PS2_KB

This connection is for a standard IBM-compatible or a 101 enhanced keyboard.



4. PS/2 Mouse Connector (5-pin block): MS-PIN

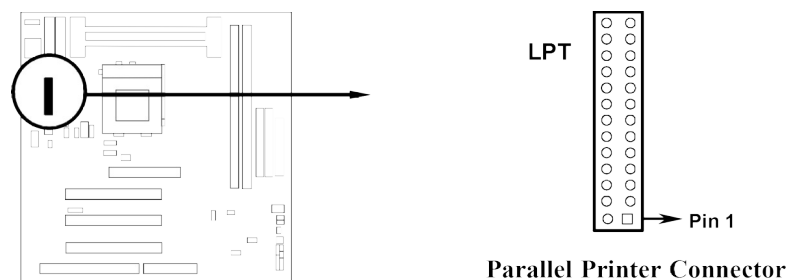
You must purchase an optional PS/2 mouse set for connection of 5-pins block to mount on an open slot of your computer's case.



5. Parallel Printer Connector (26-pin Block): LPT

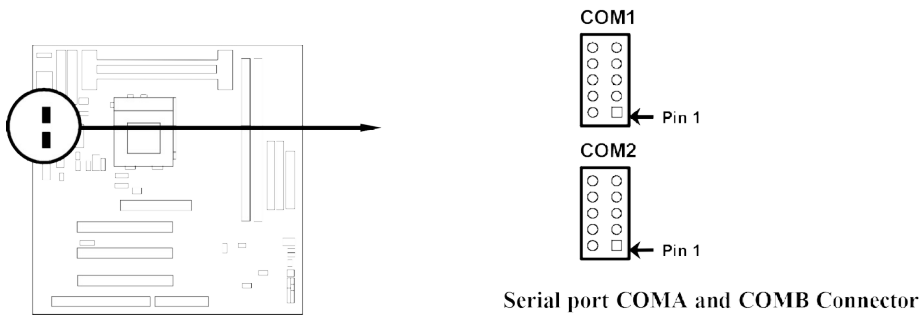
Connection for the enclosed parallel port ribbon cable with mounting bracket. Connect the ribbon cable to this connection and mount the bracket to the case on an open slot. It will then be available for a parallel printer cable.

NOTE: *Serial printers must be connected to the serial port. You can enable the parallel port and choose the IRQ through BIOS Setup.*



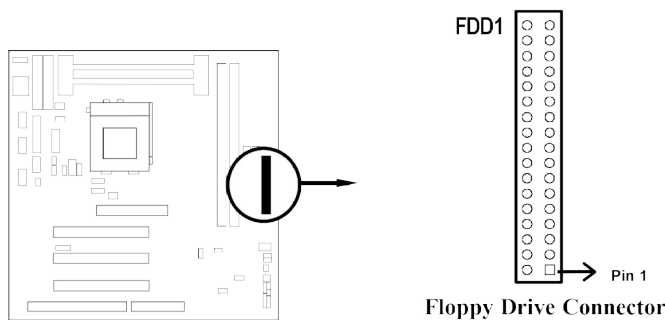
6. Serial port COMA and COMB Connector (Two 10-pin blocks): COM1, COM2

These connectors support the provided serial port ribbon cables with mounting bracket. Connect the ribbon cables to these connectors and mount the bracket to the case on an open slot. The two serial ports on the mounting bracket will then be used for pointing devices or other serial devices. See BIOS configuration of "Onboard Serial Port"



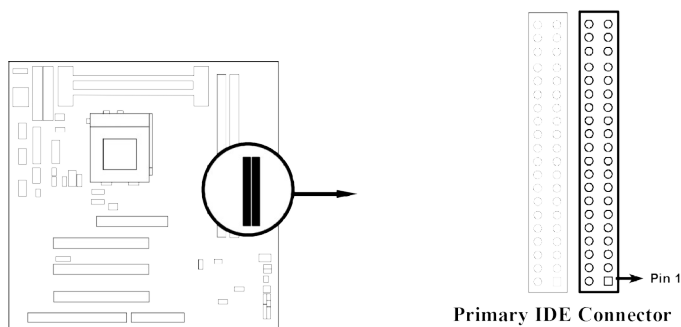
7. Floppy drive Connector (34-pin block): FDD

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.



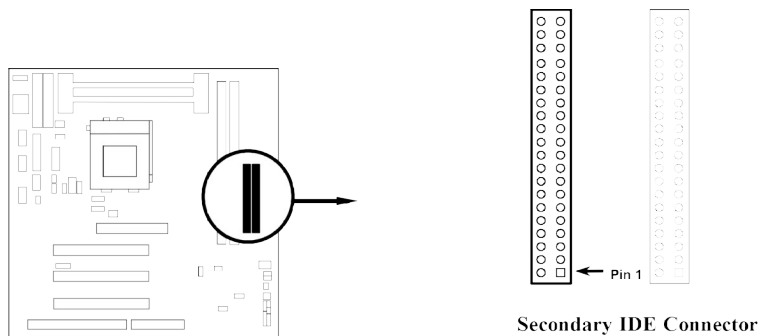
8. Primary IDE Connector (40-pin block): IDE1

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



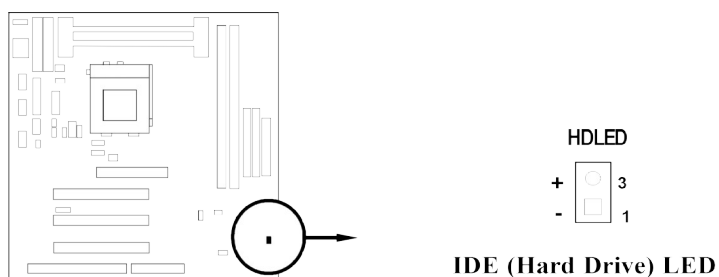
9. Secondary IDE Connector (40-pin block): IDE2

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



10. IDE activity LED: HDLED

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



11. Front Panel connector: This 16-pin connector to connect to case front panel switch.

A. Turbo LED switch: TBLED

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

B. Reset switch lead: RST

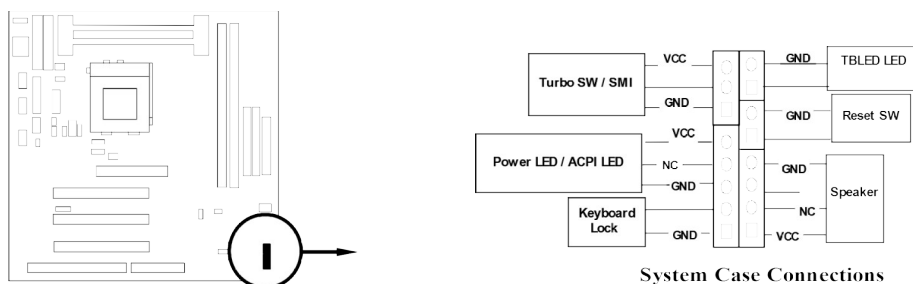
This 2-pin connector connects to the case-mounted reset switch for rebooting your computer without having to turn off your power switch. This is a preferred method of rebooting in order to prolong the life of the system's power supply. See the figure below.

C. Keyboard lock switch lead & Power LED: KEYLOCK & PWLED

This 5-pin connector connects to the case-mounted key switch for locking the keyboard for security purposes and Power LED together.

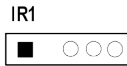
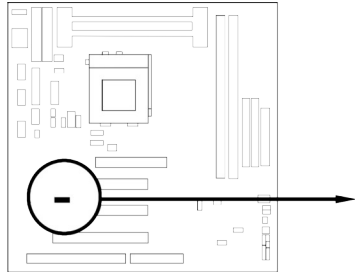
D. Speaker connector: SPEAK

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



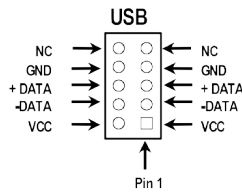
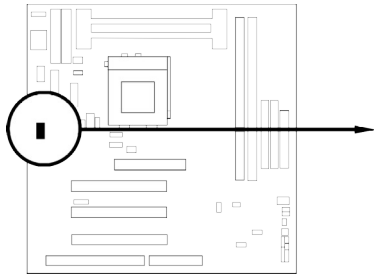
12. IR infrared module connector: IR1

This connector supports the optional wireless transmitting and receiving infrared module. This module mounts to small opening on system cases that support this feature you must also configure the setting through BIOS setup. Use the five pins as shown on the Back View and connect a ribbon cable from the module to the motherboard according to the pin definitions.



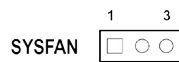
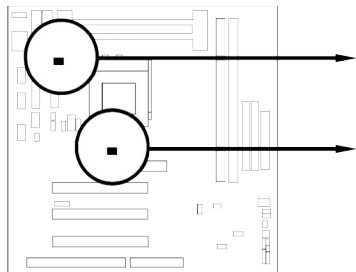
IR Infrared Module Connector

13. USB Port connector: USB



USB Port Connector

14. FAN connector: CPUFAN , SYSFAN



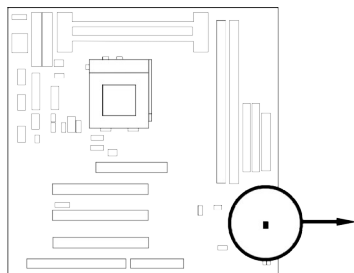
FAN Connector

15. ATX Power button: PS/ON

When using ATX power, the system power can be controlled by a momentary switch connected to PS-ON Pushing the button once will switch ON/OFF the system. The system Power LED will shows the status of the system's power.

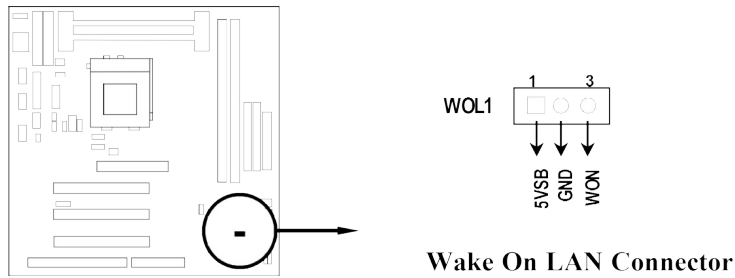
Selections

One touch Power ON/OFF



ATX Power Button

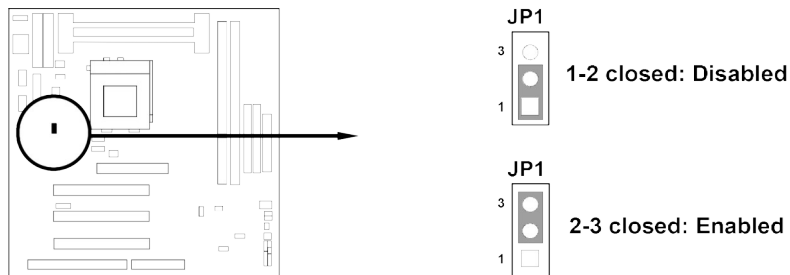
16. Wake On LAN connector: WOL1



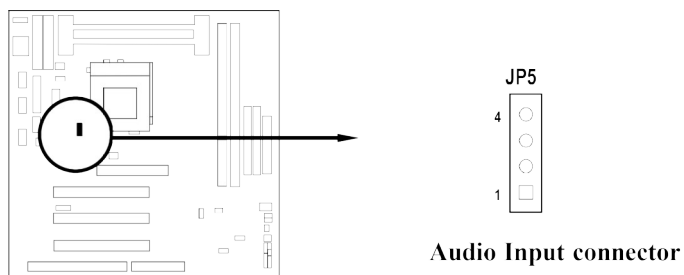
※ Wake On LAN Function worked only when power supply support 5VSB more than 750mA current.

Jumpers & Connectors (Option for motherboard that embedded Audio chip)

17. On Board Audio chip Enabled / Disabled connector: JP1

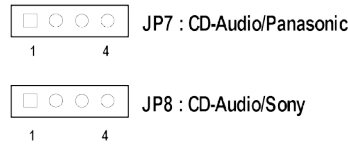
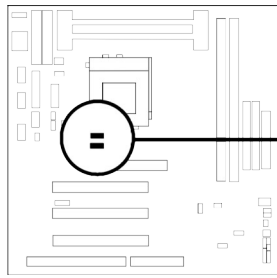


18. Auxiliary Input connector: JP5



19. CD Audio in connector : JP7, JP8

JP7 and JP8 are the connectors for CD-Audio Input signal, Please connect it to CD-ROM CD-Audio output connector.



CD Audio In Connector

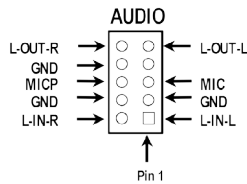
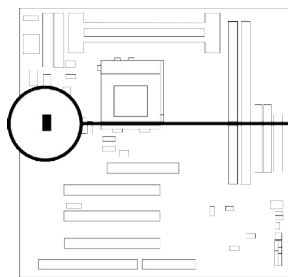
20. Audio connector: Audio Port

This Connector are 3 phone Jack for LINE-OUT,LINE-IN,MIC and a 15-pin D-Subminiature Receptacle Connector for joystick/MIDI Device.

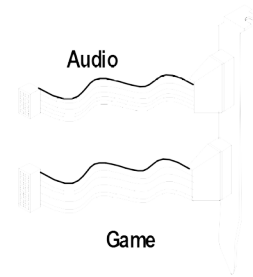
Line-out : audio output to speaker

Line-in : audio input to sound chip *(Please plug here for second pair speakers as output channels when use 4 speakers)*

MIC : Microphone Connector

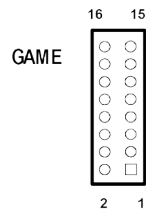
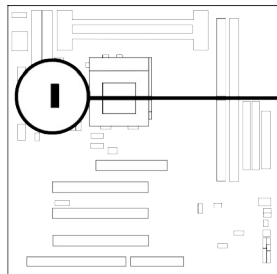


Audio Connector

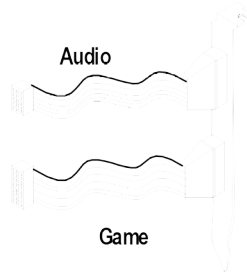


Orient the red stripe on the monitor cable with Pin 1

21. Game Port connector: GAME PORT



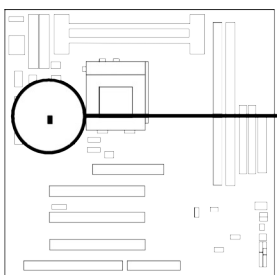
GAME PORT Connector



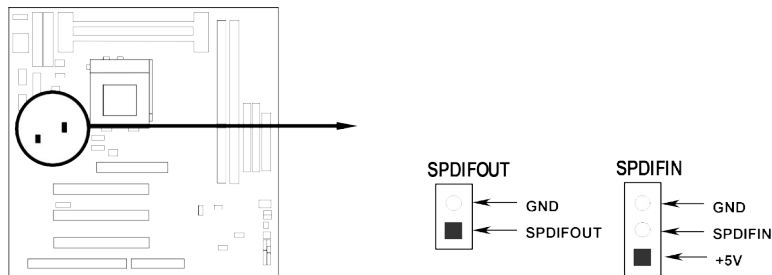
Orient the red stripe on the monitor cable with Pin 1

※ *This conector able to support two Gome Ports.*

22. PC Speaker signal Input connector: SPKIN 1

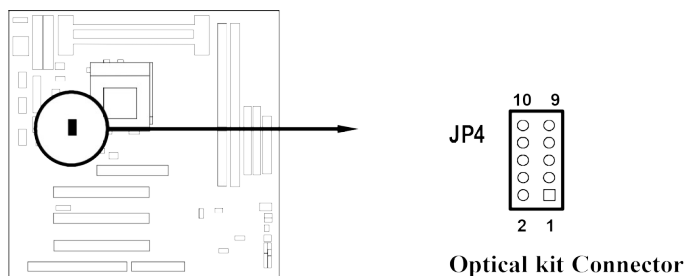


23. SPDIF (Sony / Philips Digital Interface) Input / Output Connectors: SPDIFIN / SPDIFOUT



24. Optical kit connector: JP4

This connector is for user that has Optical kit(optional) to provide other set of SPDIF INPUT and SPDIF OUTPUT function.



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 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 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 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.

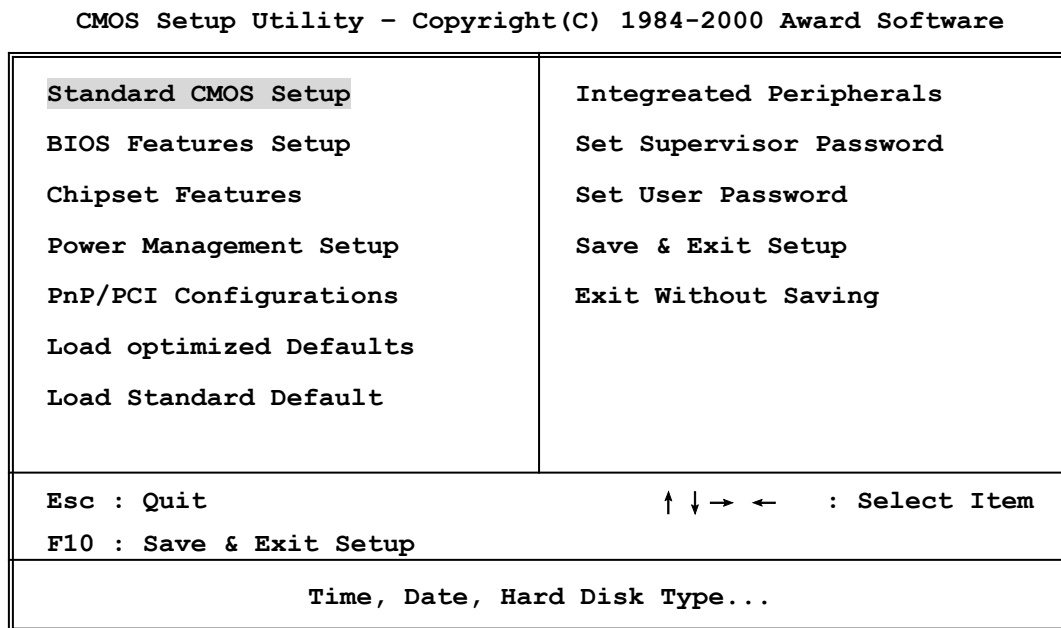


Figure 3-1

Standard CMOS Setup

Use this Menu for basic system configurations.

BIOS Features Setup

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

Chipset Features Setup

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

Integreated 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.

Load Optimized Defaults

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

Load Standard Defaults

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

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 Setup

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

CMOS Setup Utility - Copyright(C) 1984-2000 Award Software
Standard CMOS Setup

Date (mm:dd:yy)	Wed, Jul, 26 2000	Item Help
Time (hh:mm:ss)	17 : 35 : 22	
> IDE Primary Master	Press Enter None	Menu Level > Change the day, month, year and century
> IDE Primary Slave	Press Enter None	
> IDE Secondary Master	Press Enter None	
> IDE Secondary Slave	Press Enter None	
Drive A	1.44M, 3.25 in.	
Drive B	None	
Video	EGA/VGA	
Halt On	All,But Keyboard	
Base Memory	640K	
Extended Memory	56320K	
Total Memory	57344K	

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

Date

The date format is <day><month><date><year>.

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

Time

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

Primary Master/Primary Slave

Secondary Master/Secondary Slave

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

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

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

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

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

Cylinder number of cylinders

Head number of heads

Precomp write precomp

Landing Zone landing zone

Sector number of sectors

3-5 BIOS Features Setup

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

BIOS Features Setup

Virus Warning	Disabled	Item Help
CPU Internal Cache	Enabled	
External Cache	Enabled	Menu Level > 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
CPU L2 Cache ECC Checking	Enabled	
Processor Number Feature	Enabled	
Quick Power On Self Test	Enabled	
Boot Sequence	A,C,SCSI	
Swap Floppy Drive	Disabled	
Boot Up Floppy Seek	Enabled	
Boot Up NumLock Status	On	
IDE HDD Block Mode	Enabled	
Gate A20 Option	Normal	

Memory Parity/ECC Check	Enabled	Area, BIOS will show a warning message on Screen and alarm beep
Typematic Rate Setting	Disabled	
x Typematic Rate (Chars/Sec)	6	
x Typematic Delay (Msec)	250	
Security Option	Setup	
OS Select For DRAM > 64MB	Non-OS2	
HDD S.M.A.R.T. Capability	Disabled	
Video BIOS Shadow	Enabled	
C8000-CBFFF Shadow	Disabled	
CC000-CFFFF Shadow	Disabled	
D0000-D3FFF Shadow	Disabled	
D4000-D7FFF Shadow	Disabled	
D8000-DBFFF Shadow	Disabled	
DC000-DFFFF Shadow	Disabled	
↑ ↓ → ← Move Enter:Select Item +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help F5:Previous Values F6:Optimized Defaults F7:Standard Defaults		

Anti-Virus Warning

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

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

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

CPU Internal Cache

The default value is Enabled.

Enabled (default) Enable cache

Disabled Disable cache

Note: The internal cache is built in the processor.

External Cache

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

CPU L2 Cache ECC Checking

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

Processor Number Feature

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

Quick Powr On Self-Test

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

Enabled (default) Enable quick POST
Disabled Normal POST

Boot Sequence

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

Swap Floppy Drive

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

Boot Up Floppy Seek

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

Boot Up NumLock Status

The default value is On.

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

Gate A20 Option

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

Typematic Rate Setting

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

Typematic Rate (Chars/Sec)

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

Typematic Delay (Msec)

Sets the delay time after the key is held down before it 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[®].

Report No FDD For Win 95

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

3.6 Chipset Features Setup

CHIPSET FEATURES SETUP
AWARD SOFTWARE, INC.

Bank 0/1 DRAM Timing	: SDRAM 10ns	Auto Detect DIMM/PCI Clk	: Enabled
Bank 2/3 DRAM Timing	: SDRAM 10ns	Spread Spectrum	: Disabled
SDRAM Cycle Length	: 3	** Current Host Clock is	66 Mhz **
SDRAM Bank Interleave	: Disabled	Host Clock at Next Boot is	66 Mhz
SDRAM Drive Strength	: AUTO	** Current DRAM Clock is	66 Mhz **
		DRAM Clock at Next Boot is	66 Mhz
Memory Hole	: Disabled		
Read Around write	: Disabled		
Concurrent PCI/Host	: Disabled		
System BIOS Cacheable	: Enabled		
Video RAM Cacheable	: Enabled		
AGP Aperture Size	: 64M		
AGP-2X Mode	: Enabled		
OnChip USB	: Enabled		
USB Keyboard Support	: Disabled		
↑ ↓ → ← Move Enter:Select Item +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help F5:Previous Values F6:Optimized Defaults F7:Standard Defaults			

Host Clock at Next Boot is

Press Page Down/ Page Up Key you can change the Host Clock.

When jumper setting in 66Mhz Host Clock can setting 66Mhz~99Mhz

When jumper setting in 100Mhz Host Clock can setting 100Mhz~132Mhz

When jumper setting in 133Mhz Host Clock can setting 133Mhz~166Mhz

** Please turn off system power if the screen does not have any display after change of the setting. Then press and hold down “ INS ” key, and turn on system power again (release “ INS ” key till the screen has display) to reset correct frequency of CPU HOST clock.*

DRAM Clock at Next Boot is

Press Page Down /Page Up Key you can SDRAM Clock

When jumper setting in 66Mhz you can setting DRAM Clock : Host, Host+33M

When jumper setting in 100Mhz you can setting DRAM Clock : Host, Host+33M,

Host-33M

When jumper setting in 133Mhz you can setting DRAM Clock : Host, Host-33M

SDRAM Cycle Length

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

PCI Delay Transaction

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

OnChip USB

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

USB Keyboard Support

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

Auto Detect DIMM/PCI Clk

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

3.7 Power Management Setup

POWER MANAGEMENT SETUP
AWARD SOFTWARE, INC.

ACPI function	: Enabled	Primary INTR	: ON
Power Management	: User Define	IRQ3 (COM 2)	: Primary
PM Control by APM	: Yes	IRQ4 (COM 1)	: Primary
Video Off After	: Suspend	IRQ5 (LPT 1)	: Primary
Video Off Method	: V/H SYNC+Blank	IRQ6 (Floppy Disk)	: Primary
MODEM Use IRQ	: 3	IRQ7 (LPT 1)	: Primary
Soft-off by PWRBTN	: Instant-off	IRQ8 (RTC Alarm)	: Disabled
HDD Power Down	: Disabled	IRQ9 (IRQ2 Redir)	: Secondary
Doze Mode	: Disabled	IRQ10 (Reserved)	: Secondary
Suspend Mode	: Disabled	IRQ11 (Reserved)	: Secondary
** PM Events **			
VGA	: OFF	IRQ12 (PS/2 Mouse)	: Primary
LPT & COM	: LPT/COM	IRQ13 (Coprocesor)	: Primary
		IRQ14 (Hard Disk)	: Primary

HDD & FDD : ON	IRQ15 (Reserved) : Disabled
DMA/master : OFF	
Modem Ring Resume : Disabled	
RTC Alarm Resume : Disabled	
↑ ↓ → ← Move Enter:Select Item +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help F5:Previous Values F6:Optimized Defaults F7:Standard Defaults	

- **Power Management:** This category allows you to select the type (or degree) of power saving and is directly related to the following modes:
Doze Mode , Standby Mode ,Suspend Mode , HDD Power Down

There are four selections for Power Management, three of which have fixed mode settings.

Disable (default)	No power management. Disables all four modes
Min. Power Saving	Minimum power management. Doze Mode = 1 hr. Standby Mode =1 hr., Suspend Mode = 1 hr., and HDD Power Down = 15 min.
Max. Power Saving	Maximum power management -- ONLY AVAILABLE FOR SL CPU'S . Doze Mode = 1 min., Standby Mode = 1 min., Suspend Mode = 1 min., and HDD Power Down = 1 min.
User Defined	Allows you to set each mode individually. When not disabled, each of the ranges are from 1 min. to 1 hr. except for HDD Power Down which ranges from 1 min. to 15 min. and disable.

- **PM Control APM:** When enabled, an Advanced Power Management device will be activated to enhance the Max. Power Saving mode and stop the CPU internal clock.
If the Max. Power Saving is not enabled, this will be preset to *No*.
- **Video Off Method:** This determines the manner in which the monitor is blanked.

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.
Blank Screen	This option only writes blanks to the video buffer.
DPMS	Initial display power management signaling.

- **Video Off After:** When enabled, this feature allows the VGA adapter to operate in a power saving mode.

N/A	Monitor will remain on during power saving modes.
Suspend	Monitor blanked when the systems enters the Suspend mode.
Standby	Monitor blanked when the system enters Standby mode.
Doze	Monitor blanked when the system enters any power saving mode.

- **MODEM Use IRQ:** Name the interrupt request (IRQ) line assigned to the modem (if any) on your system. Activity of the selected IRQ always awakens the system.
The choices: NA, 3, 4, 5, 7, 9, 10, 11
- **PM Timer:** The following four modes are Green PC power saving functions which are only user configurable when *User Defined* Power Management has been selected see above for available selections.
- **Doze Mode:** When enabled and after the set time of system inactivity, the CPU clock will run at slower speed while all other devices still operate at full speed.

- **Standby Mode:** When enabled and after the set time of system inactivity, the fixed disk drive and the video would be shut off while all other devices still operate at full speed.
- **Suspend Mode:** When enabled and after the set time of system inactivity, all devices except the CPU will be shut off.
- **HDD Power Down:** When enabled and after the set time of system inactivity, the hard disk drive will be powered down while all other devices remain active.
- **Throttle Duty Cycle:** When the system enters Doze mode, the CPU clock runs only part of the time. You may select the percent of time that the clock runs.
The Choice: 12.5%, 25.0%, 37.5%, 50.0%, 62.5%, 75.0%
- **ZZ Active in Suspend:** When Enabled, the ZZ signal is active during Suspend mode.
The Choice: Enabled, Disabled.
- **VGA Active Monitor:** When Enabled, any video activity restarts the global timer for Standby mode.
The Choice: Enabled, Disabled.
- **Soft-Off by PWR-BTTN:** When Enabled, turning the system off with the on/off button places the system in a very low-power-usage state, with only enough circuitry receiving power to detect power button activity or Resume by Ring activity.
The Choice: Instant-Off, Delay 4 Sec.
- **Resume by Ring:** An input signal on the serial Ring Indicator (RI) line (in other words, an incoming call on the modem) awakens the system from a soft off state..
The Choice: Enabled, Disabled.
- **IRQ 8 Break Suspend:** You can Enable or Disable monitoring of IRQ8 so it does not awaken the system from Suspend mode.
The Choice: Enabled, Disabled.

Reload Global Timer Events:

When Enabled, an event occurring on each device listed below restarts the global time for Standby mode.

IRQ[3 -7, 9-15], NMI , Primary IDE 0 , Primary IDE 1, Secondary IDE 0 , Secondary IDE 1
Floppy Disk , Serial Port , Parallel Port

3-8 PnP/PCI CONFIGURATION SETUP

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

PNP/PCI CONFIGURATION SETUP

AWARD SOFTWARE, INC.

PNP OS Installed	: No	CPU to PCI Write Buffer	: Enabled
Resources Controlled By	: Manual	PCI Dynamic Bursting	: Enabled
Reset Configuration Data	: Disabled	PCI Master 0 WS Write	: Enabled
IRQ-3 assigned to	: PCI/ISA PnP	PCI Delay Transaction	: Disabled
IRQ-4 assigned to	: PCI/ISA PnP	PCI#2 Access #1 Retry	: Disabled
IRQ-5 assigned to	: PCI/ISA PnP	AGP Master 1 WS Write	: Enabled
IRQ-7 assigned to	: PCI/ISA PnP	AGP Master 0 WS Read	: Disabled

IRQ-9 assigned to : PCI/ISA PnP	Assign IRQ For USB : Enabled
IRQ-10 assigned to : PCI/ISA PnP	Assign IRQ For VGA : Enabled
IRQ-11 assigned to : PCI/ISA PnP	
IRQ-12 assigned to : PCI/ISA PnP	
IRQ-14 assigned to : PCI/ISA PnP	
IRQ-15 assigned to : PCI/ISA PnP	
DMA-0 assigned to : PCI/ISA PnP	
DMA-1 assigned to : PCI/ISA PnP	Esc: Quit ↑↓→← : Select Item
DMA-3 assigned to : PCI/ISA PnP	F1 : Help Pu/Pd/+/-:Modify
DMA-5 assigned to : PCI/ISA PnP	F5 : Old Values (Shift)F2 : Color
DMA-6 assigned to : PCI/ISA PnP	F6 : Load Optimal Defaults
DMA-7 assigned to : PCI/ISA PnP	F7 : Load Standard Defaults

3-9 LOAD OPTIMAL DEFAULTS

The “LOAD OPTIMAL DEFAULTS” function loads the system Optimal default data directly from ROM and initialize associated hardware properly. This function will be necessary only when the system CMOS data is corrupted.

CMOS SETUP UTILITY
AWARD SOFTWARE, INC.

STANDARD CMOS SETUP	INTEGRATED PERIPHERALS
BIOS FEATURES SETUP	SUPERVISOR PASSWORD
CHIPSET FEATURES SETUP	USER PASSWORD
POWER MANAGEMENT	ON
PNP/PCI CONFIGURATION	Load OPTIMAL Default (Y/N)? Y
LOAD OPTIMAL DEFAULTS	SAVE & EXIT SETUP
LOAD STANDARD DEFAULTS	EXIT WITHOUT SAVING
Esc : QUIT	↑↓→← : Select Item
F10 : Save & Exit Setup	(Shift) F2 : Change Color
Time, Date, Hard Disk Type...	

3-10 LOAD STANDARD DEFAULTS

The “LOAD STANDARD DEFAULTS” function loads the system Standard default data directly from ROM and initialize associated hardware properly. This function will be necessary only when the system CMOS data is corrupted.

CMOS SETUP UTILITY
AWARD SOFTWARE, INC.

STANDARD CMOS SETUP	INTEGRATED PERIPHERALS
BIOS FEATURES SETUP	SUPERVISOR PASSWORD
CHIPSET FEATURES SETUP	USER PASSWORD
POWER MANAGEMENT	Load STANDARD Default (Y/N)? Y
PNP/PCI CONFIGURATION	EXIT WITHOUT SAVING
LOAD OPTIMAL DEFAULT	
LOAD STANDARD DEFAULTS	
Esc : QUIT	↑↓→← : Select Item
F10 : Save & Exit Setup	(Shift) F2 : Change Color
Time, Date, Hard Disk Type...	

3-11 INTEGRATED PERIPHERALS SETUP

The “INTEGRATED PERIPHERALS SETUP” mainly deals with I/O function. This function will be necessary only when the system I/O malfunctioned or the system is unable to detect your CD-ROM or hard disk.

INTEGRATED PERIPHERALS AWARD SOFTWARE, INC.

OnChip IDE Channel 0 : Enabled	UR2 Mode : Normal
OnChip IDE Channel 1 : Enabled	
IDE Prefetch Mode : Disabled	Onboard Parallel Port : 378/IRQ7
IDE HDD Block Mode : Enabled	Parallel Port Mode : SPP
IDE Primary Master PIO : Auto	
IDE Primary Slave PIO : Auto	
IDE Secondary Master PIO : Auto	
IDE Secondary Slave PIO : Auto	
IDE Primary Master UDMA : Auto	
IDE Primary Slave UDMA : Auto	
IDE Secondary Master UDMA : Auto	
IDE Secondary Slave UDMA : Auto	
Init Display First : PCI SLOT	
Onboard FDC Controller : Enabled	
Onboard SERIAL PORT 1 : 3F8/IRQ4	
Onboard SERIAL PORT 2 : 2F8/IRQ3	
Esc: Quit	↑↓→←: Select Item
F1 : Help	Pu/Pd/+/-: Modify
F5 : Old Values	(Shift)F2 : Color
	F6 : Load Optimal Defaults
	F7 : Load Standard Defaults

OnChip IDE Channel0/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.

Onboard FDD Controller

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

Onboard Serial Port 1/Port 2

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

UART 2 Mode

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

Onboard Parallel Port

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

Disabled

(3BCH/IRQ7)/ Line Printer port 0

(278H/IRQ5)/ Line Printer port 2

(378H/IRQ7) Line Printer port 1

Onboard Parallel Mode

SPP : Standard Parallel Port

EPP : Enhanced Parallel Port

ECP : Extended Capability Port

SPP/EPP/ECP/ECP+EPP

To operate the onboard parallel port as Standard Parallel Port only, choose “SPP.” To operate the onboard parallel port in the EPP modes simultaneously, choose “EPP.” By choosing “ECP”, the onboard parallel port will operate in ECP mode only. Choosing

“ECP+EPP” will allow the onboard parallel port to support both the ECP and EPP modes simultaneously. The ECP mode has to use the DMA channel, so choose the onboard parallel port with the ECP feature. After selecting it, the following message will appear: “ECP Mode Use DMA” at this time, the user can choose between DMA channels 3 to 1. The onboard parallel port is EPP Spec. compliant, so after the user chooses the onboard parallel port with the EPP function, the following message will be displayed on the screen: “EPP Mode Select.” At this time either EPP 1.7 spec. or EPP 1.9 spec. can be chosen.

3-12 SUPERVISOR/USER PASSWORD

This item lets you configure the system so that a password is required each time the system boots or an attempt is made to enter the Setup program (Refer to Figure 3-3 for the details). Supervisor Password allows you to change all CMOS settings but the User Password setting doesn't have this function. The way to set up the passwords for both Supervisor and User are as follow:

1. Choose either Supervisor Password or User Password in the Main Menu and press <Enter>. The following message appears:
“Enter Password:”
2. The first time you run this option, enter your password up to only 8 characters and press <Enter>. The screen does not display the entered characters. For no password just press <Enter>.
3. After you enter the password, the following message appears prompting you to confirm the password:
“Confirm Password:”
4. Enter exact the same password you just typed again to confirm the password and press <Enter>.
5. Move the cursor to Save & Exit Setup to save the password.
6. If you need to delete the password you entered before, choose the Supervisor Password and Press <Enter>. It will delete the password that you had before.
7. Move the cursor to Save & Exit Setup to save the option you did, otherwise the old password will still be there when you turn on your machine next time.

3.13 SAVE & EXIT SETUP

The “SAVE & EXIT SETUP” option will bring you back to boot up procedure with all the changes you just made which are recorded in the CMOS RAM.

3-14 EXIT WITHOUT SAVING

The “EXIT WITHOUT SAVING” option will bring you back to normal boot up procedure without saving any data into CMOS RAM. All of the old data in the CMOS will not be destroyed.

Chapter 4

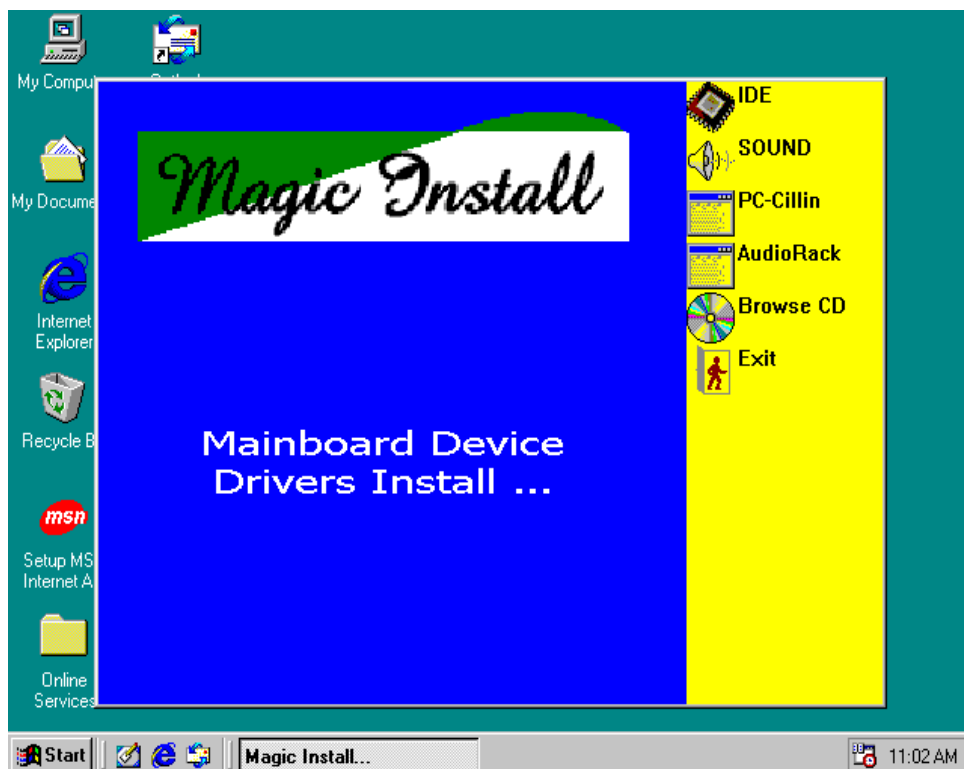
DRIVER & FREE PROGRAM INSTALLATION

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 95/98/98SE/NT4.0/2000

Insert CD into your CD-ROM drive and the MAGIC INSTALL Menu should appear as below. If the menu does not appear, double-click MY COMPUTER / double-click CD-ROM drive or click START / click RUN / type X:\SETUP.EXE (assuming X is your CD-ROM drive).



From MAGIC INSTALL MENU you may make 6 selections:

1. IDE install VIA Service Pack 4 IN 1 driver
2. SOUND install CMI8738 PCI Audio driver
3. PC-CILLIN install PC-CILLIN98 anti-virus program
4. AudioRack install CMI8738 PCI Audio Rack Software
5. BROWSE CD to browse the contents of the CD
6. EXIT to exit from MAGIC INSTALL menu

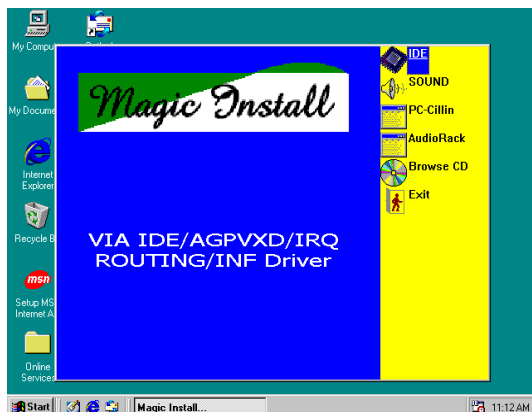
4-1 IDE Install VIA Service Pack 4 IN 1 Driver

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

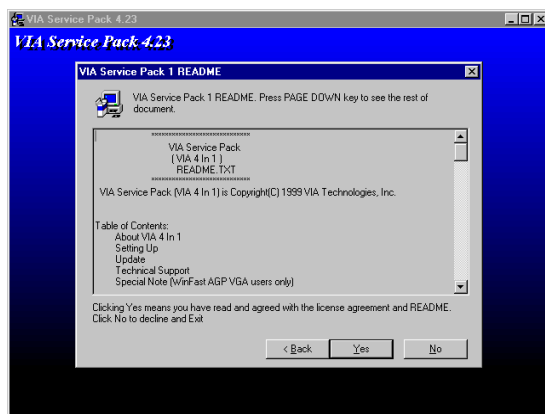
AGPVXD : VIA AGPVXD DRIVER IS TO BE INSTALLED, IF YOU ARE USING AND AGP VGA CARD, VIAGART.VXD WILL PROVIDE SERVICE ROUTINES TO YOUR VGA DRIVER AND INTERFACE DIRECTLY TO HARDWARE, PROVIDING FAST GRAPHIC ACCESS

IRQ ROUTING : VIA PCI IRQ MINIPOINT 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

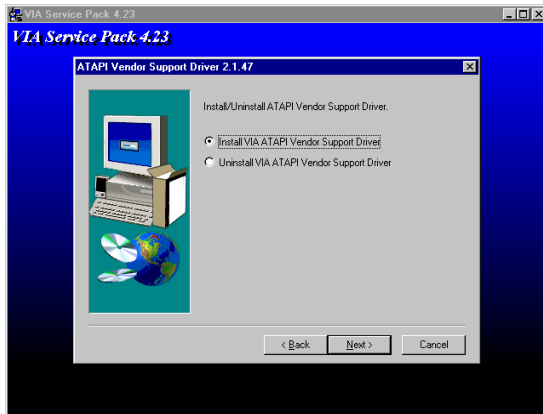


1. Click IDE when MAGIC INSTALL MENU appears
2. Click NEXT when VIA Service Pack Wizard appears



3. This is to announce the Copy Write, click
4. Click NEXT to choose all driver

NEXT



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

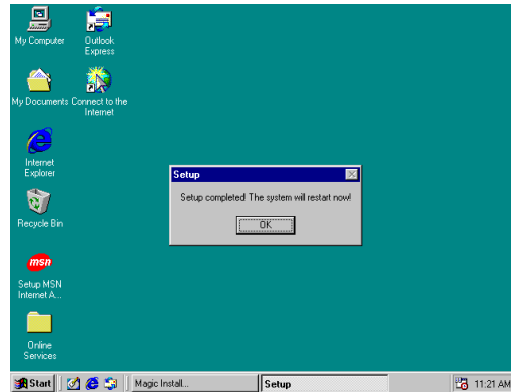


8. Click NEXT to Install VIA IRQ Routing Mini port Driver

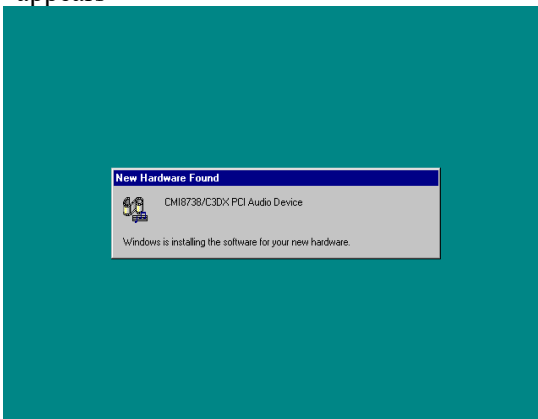


9. Click Finish to restart computer

4-2 Sound CMI8738 PCI Audio Installing Driver

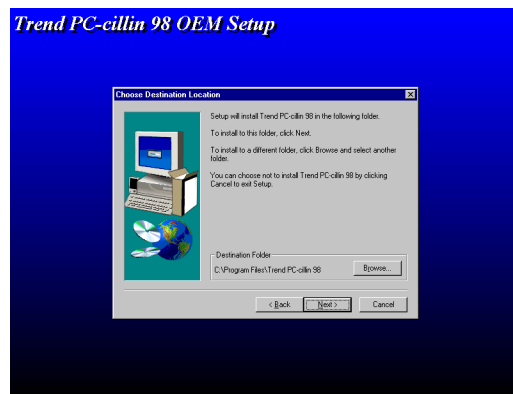
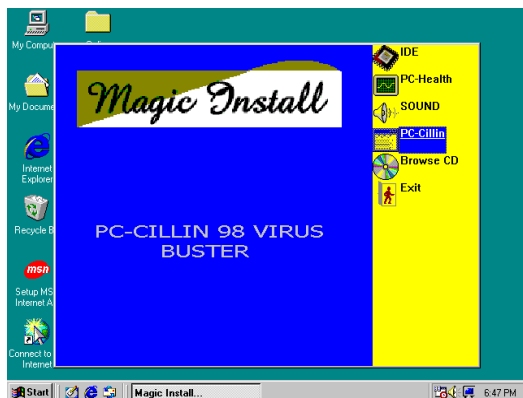


1. Click SOUND when Magic Install MENU appears
2. Sound Driver Setup Completed , Click OK Restart Computer

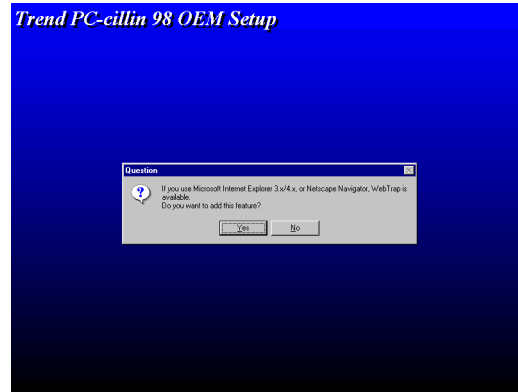
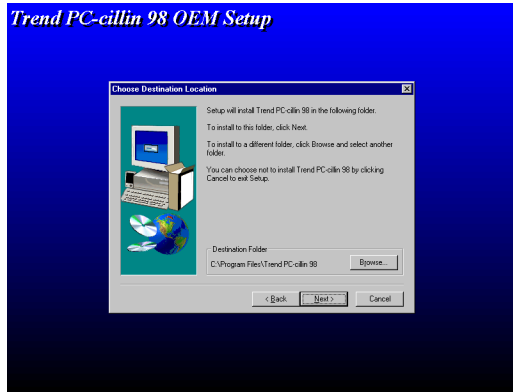


3. After Restart Computer , Windows can auto Install C-Media PCI Audio Legacy Device / CMI8738/C3DX PCI Audio Device / DOS Mode MPU-401 Emulator / Game port Joystick Driver

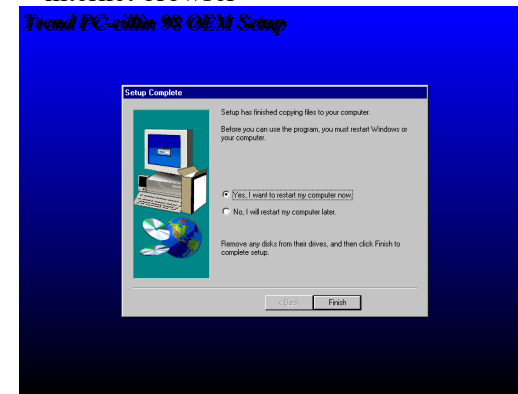
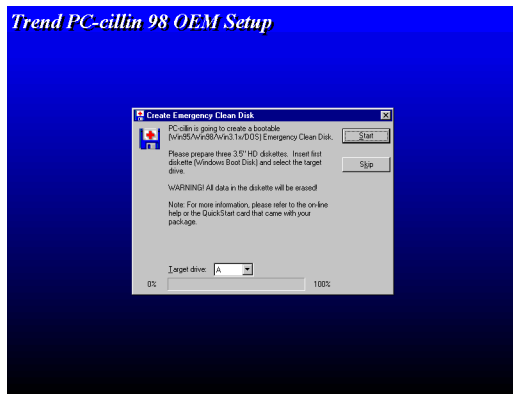
4-3 PC-CILLIN install PC-CILLIN98 anti-virus program



1. Click PC-CILLIN when MAGIC INSTALL MENU Appears
2. Click NEXT when PC-CILIN 98 OEM SETUP APPEARS. Then click YES when the announcement of copywrite appears. Software is starting to detect HD for virus

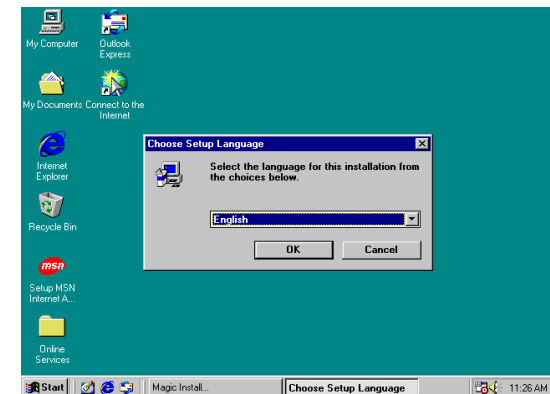
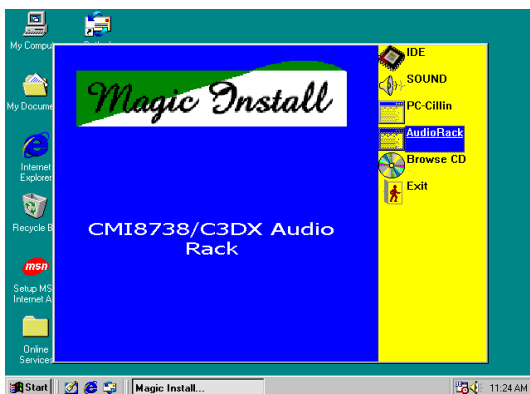


3. Click NEXT or choose BROWSE to change the path For the file to be stored
4. Start to install the software, choose YES or NO when asked if you want PC-CILLIN To be added in ACTIVE CHANNEL or in Your internet browser



5. If you want to make a rescue disc, insert a 1.44 MB disk
6. Choose if you want to re-start and click Finish

4-5 AudioRack installs CMI8738 PCI Audio Application Software



1. Click AudioRack when MAGIC INSTALL
2. Then auto detect operation system language

MENU appears

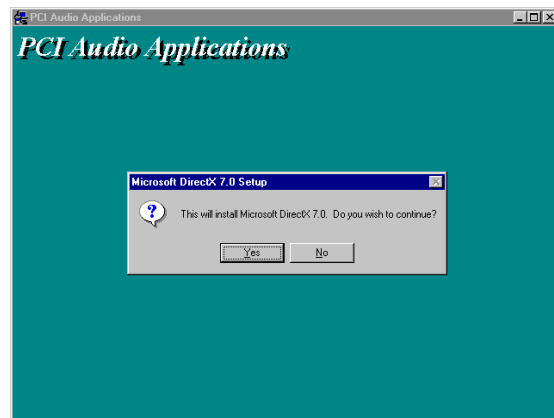


edition, click OK , start to install driver



3. This to assign the path of the file, click NEXT

4. This to assign place of program file ,Click NEXT



5. Start Copy file and click FINISH to Complete setup

6. Install Microsoft DirectX7 , Click YES or NO Finish Install (WIN98ME no need)

4-6 HOW TO DISABLE ON-BOARD SOUND

Please refer page 19 setting JP1 1-2 closed to Disabled On-board Audio Controller.

4-7 HOW TO UPDATE BIOS

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

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

STEP 3. Copy latest BIOS for VB9 from our web site to your boot disc.

STEP 4. Insert your boot disc into A:,

start the computer, type “Awdflash A:\VB9xxx.BIN/SN/PY/CC/R”

VB9xxx.BIN is the file name of latest BIOS it can be VB9A03.BIN or
VB9B02.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