
849BS

USER'S MANUAL

M/B For Socket-A Athlon/Duron Processor

NO. G03-849BSR1A

Release date: April 2001

**** Year 2000 compliant ****

Trademark:

* Specifications and Information contained in this documentation are furnished for information use only, and are subject to change at any time without notice, and should not be construed as a commitment by manufacturer.

TABLE OF CONTENT

USER'S NOTICE	1
MANUAL REVISION INFORMATION	2
THERMAL SOLUTIONS	2
CHAPTER 1 INTRODUCTION OF 849BS MOTHERBOARD	
1-1 FEATURE OF MOTHERBOARD	3
1-2 SPECIFICATION	4
1-3 PERFORMANCE LIST	5
1-4 LAYOUT DIAGRAM & JUMPER SETTING	6
CHAPTER 2 HARDWARE INSTALLATION	
2-1 HARDWARE INSTALLATION STEPS	8
2-2 CHECKING MOTHERBOARD'S JUMPER SETTING	8
2-3 INSTALL CPU	9
2-3-1 GLOSSARY	9
2-3-2 ABOUT AMD ATHLON & DURON 462-PIN CPU	10
2-3-3 OVERCLOCK RUNNING	11
2-4 INSTALL MEMORY	12
2-5 EXPANSION CARD	13
2-5-1 PROCEDURE FOR EXPANSION CARD INSTALLATION	13
2-5-2 ASSIGNING IRQ FOR EXPANSION CARD	13
2-5-3 INTERRUPT REQUEST TABLE FOR THIS MOTHERBOARD	14
2-6 CONNECTORS, HEADERS	14
2-7 STARTING UP YOUR COMPUTER	21
CHAPTER 3 INTRODUCING BIOS	
3-1 ENTERING SETUP	22
3-2 GETTING HELP	23
3-3 THE MAIN MENU	23
3-4 STANDARD CMOS FEATURES	24
3-5 ADVANCED BIOS FEATURES	26
3-6 ADVANCED CHIPSET FEATURES	28
3-6-1 ADVANCED DRAM CONTROL	29
3-6-2 AGP FUNCTION SETTINGS	30
3-7 INTEGRATED PERIPHERALS	30
3-7-1 ONCHIP IDE FUNCTION	31
3-7-2 ONCHIP SUPER IO FUNCTION	32
3-7-3 ONCHIP DEVICE FUNCTION	33
3-8 POWER MANAGEMENT SETUP	34
3-8-1 PM WAKE UP EVENTS	35

3-9	PNP/PCI CONFIGURATION SETUP.....	36
3-9-1	IRQ RESOURCES.....	37
3-10	PC HEALTH STATUS.....	37
3-11	MISCELLANEOUS CONTROL	38
3-12	LOAD STANDARD/OPTIMIZED DEFAULTS.....	39
3-13	SET SUPERVISOR/USER PASSWORD.....	39

CHAPTER 4 DRIVER & FREE PROGRAM INSTALLATION

	MAGIC INSTALL SUPPORTS WINDOWS 95/98/98SE/NT4.0/2000.....	40
4-1	AGPVXD INSTALL ALI VGA AGPVXD DRIVER.....	41
4-2	IDE INSTALL ALI IDE DRIVER.....	42
4-3	SOUND INSTALL ALI AUDIO DRIVER.....	43
4-4	PC-HEALTH INSTALL ALI HARDWARE MONITOR UTILITY.....	44
4-5	MAGIC BIOS INSTALL BIOS LIVE UPDATE UTILITY.....	45
4-6	PC-CILLIN INSTALL PC-CILLIN 2000 ANTI-VIRUS PROGRAM.....	47
4-7	HOW TO DISABLE ON-BOARD SOUND FUNCTION.....	48
4-6	HOW TO UPDATE BIOS.....	49

USER'S NOTICE

COPYRIGHT OF THIS MANUAL BELONGS TO **THE MANUFACTURER**. NO PART OF THIS MANUAL, INCLUDING THE PRODUCTS AND SOFTWARE DESCRIBED IN IT MAY BE REPRODUCED, TRANSMITTED OR TRANSLATED INTO ANY LANGUAGE IN ANY FORM OR BY ANY MEANS WITHOUT WRITTEN PERMISSION OF **THE MANUFACTURER**.

THIS MANUAL CONTAINS ALL INFORMATION REQUIRED TO USE 849BS MOTHERBOARD AND WE DO ASSURE THIS MANUAL MEETS USER'S REQUIREMENT BUT WILL CHANGE, CORRECT ANY TIME WITHOUT NOTICE. **MANUFACTURER** PROVIDES THIS MANUAL "AS IS" WITHOUT WARRANTY OF ANY KIND, AND WILL NOT BE LIABLE FOR ANY INDIRECT, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES (INCLUDING DAMAGES FOR LOSS OF PROFIT, LOSS OF BUSINESS, LOSS OF USE OF DATA, INTERRUPTION OF BUSINESS AND THE LIKE).

PRODUCTS AND CORPORATE NAMES APPEARING IN THIS MANUAL MAY OR MAY NOT BE REGISTERED TRADEMARKS OR COPYRIGHTS OF THEIR RESPECTIVE COMPANIES, AND THEY ARE USED ONLY FOR IDENTIFICATION OR EXPLANATION AND TO THE OWNER'S BENEFIT, WITHOUT INTENT TO INFRINGE.

Manual Revision Information

Reversion	Revision History	Date
1.0	First Release	April 2001

Item Checklist

- 849BS Motherboard
- Cable for IDE/Floppy
- CD for motherboard utilities
- Cable for USB Port (Option)
- Cable for COM2
- 849BS User's Manual

AMD Athlon™ / Duron™ Processor Family Cooling Solutions

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

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

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

Chapter 1

Introduction of 849BS Motherboard

1-1 Feature of motherboard

The 849BS motherboard is design for use AMD Athlon / Duron processors, which utilize the SocketA design and the memory size expandable to 1GB.

This motherboard use the newest ALi M1649 chipset, whose front side bus (133MHz/266MHz Double Data Rate (DDR) provides a high performance/low cost solution for SocketA series CPUs based system, by integrating a high performance North Bridge supports AGP specification V2.0 AGP 1X/2X/4X sideband function, and Super-South Bridge provides Audio, HSP Modem, Super I/O & Fast IR.

This motherboard provides AC'97 compliant interface that comprises digital audio engine with 3D-hardware accelerator, on-chip sample rate converter. This motherboard also provides dual USB host controller with four USB Ports that deliver better connectivity and 12Mb/sec bandwidth. The built-in Fast PCI IDE controller supports Ultra DMA 33/66/100 function up to 100MB/s for data transfer rate. In addition, 849BS provides hardware monitor function that will monitoring and protect your computer.

The 849BS motherboard provides special function in BIOS Setup to setting CPU Host clock step by step increasing let users to approach over clocking.

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: 22.0x22.0cm
Chipset	* ALi M1649 +M1535D Chipset

Clock Generator	<ul style="list-style-type: none"> * Support 100/133MHz Front Side Bus Clock (CPU Bus clock) * Support 100/133MHz system memory clock * Support 33MHz PCI Bus clock
CPU Socket	<ul style="list-style-type: none"> * Support AMD Athlon 600MHz~1.33GHz processor * Support AMD Duron 600MHz~850MHz processor * Support 100/133 MHz CPU Bus clock * Support 266MHz DDR (Double Data Rate) F.S.B. * Reserves support for future AMD Athlon/Duron processors
Memory Socket	<ul style="list-style-type: none"> * 168-pin DIMM socket x2 * PC-100/PC-133 SDRAM * Expandable to 1GB * Support 3.3V SDRAM Module
Expansion Slot	<ul style="list-style-type: none"> * 32-bit PCI slot x3, 2.2 Specification Compliant * CNR slot x1 support Audio, Modem only
Integrate IDE	<ul style="list-style-type: none"> * Two PCI IDE controllers support PCI Bus Mastering, ATA PIO/DMA and the ULTRA DMA 33/66/100 functions that deliver the data transfer rate up to 100 MB/s
Audio	<ul style="list-style-type: none"> * AC'97 Digital Audio controller integrated * AC'97 Audio CODEC on board * Audio driver and utility included
BIOS	<ul style="list-style-type: none"> * Award 2Mb Flash ROM
Multi I/O	<ul style="list-style-type: none"> * Keyboard and PS/2 mouse connectors * Floppy disk drive connector x1 * Parallel port x1 * Serial port x2 * USB headers x4 (connecting cable option) * Audio connector (Line-in, Line-out, MIC & Game Port)

1-3 Performance List

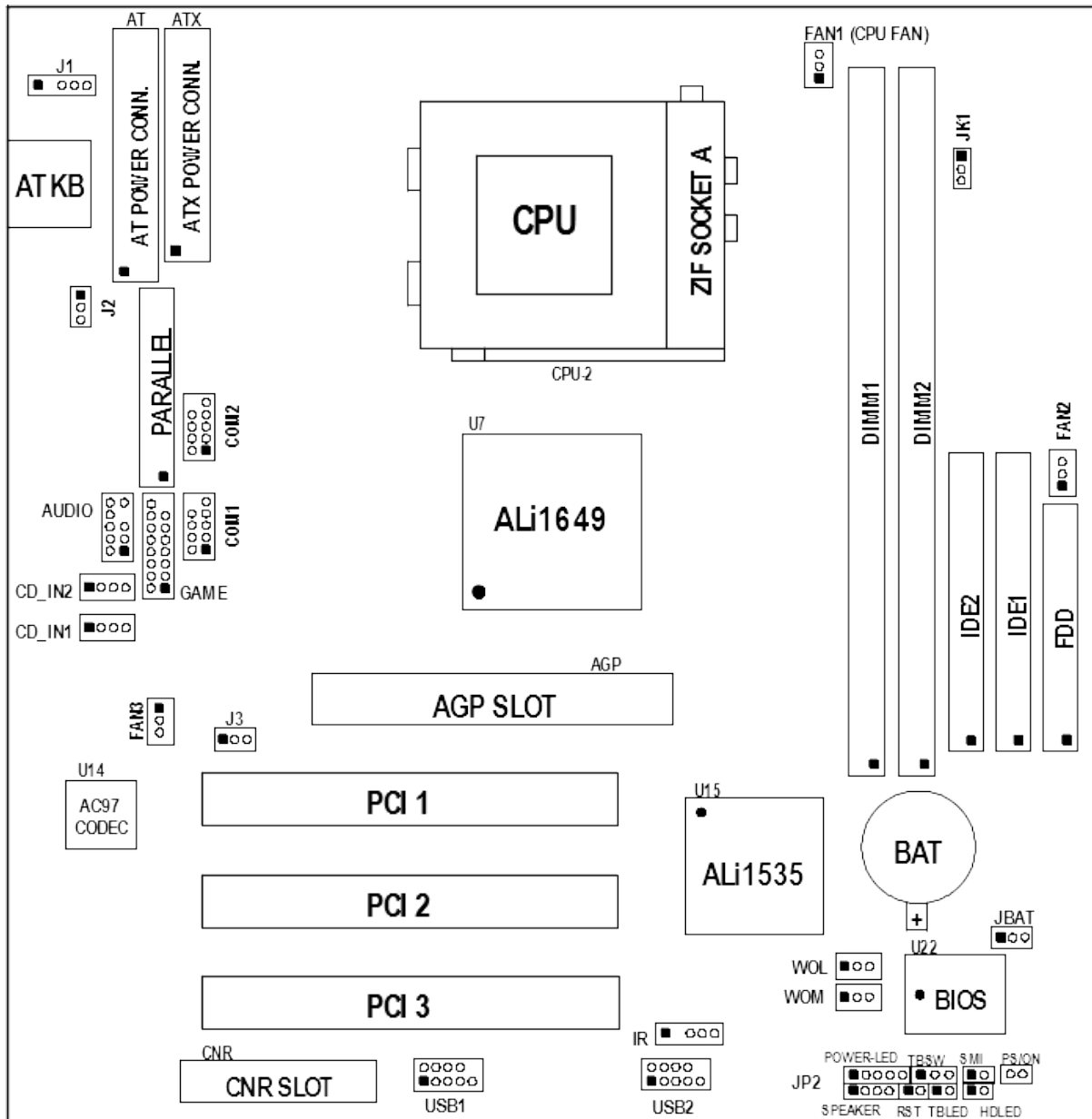
The following performance data list is the testing result of some popular benchmark testing programs. These data are just referred by users, and there is no responsibility for different testing data values gotten by users (the different Hardware & Software configuration will result in different benchmark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

CPU: AMD K7 900MHz/1.2GHz PGA package
DRAM: 128M SDRAM x2 (Hyundai GM 72V66841ET75)
VGA Expansion Card: RIVA Geforce 256 (1024x768xHi-Color)
Hard Disk Driver: IBM DTLA-305040 (ATA-100)
BIOS: Award Optimal default
OS: Win 98SE

Performance Test Report

	900MHz (100/100)	1.2GHz (133/133)
3D Mark 99	5671	5930
3D Mark 2000	4448	4691
3D Winbench 99 V1.2	899	900
3D Winbench 2000	91.7	93.1
Final Reality	5.12	5.84
Winstone 99 V1.3	31.2	34.5
Content Creation Winstone 2000	35	42.3
Content Creation Winstone 2001	38.7	48.4
Business Winstone 2001	34.3	41
Winbench 99 :		
CPU Mark 99	73.7	98.7
FPU Winmark 99	4600	6160
Business Disk Winmark99	5690	6690
Hi-end Disk Winmark99	18100	18800
Business Graphic Winmark	384	503
Hi-end Graphic Winmark	1100	1450
SYS Mark 2000 : SISMark 2000 Rating (Internet Content Creation / Office Productivity)		
Suites	168 (164/171)	213 (210/216)
Official	168 (166/170)	213 (215/211)
SISOFT Sandra 2000 :		
CPU MIPS	2651	3606
FPU MFLOPS	1177	1546
CPU / Memory MB/S	300	397
FPU / Memory MB/S	354	473
QUAKE3 :		
DEMO1 FPS	91.2	121.2
DEMO2 FPS	88.7	119.6

1-4 Layout Diagram & Jumper Setting



Jumpers

Jumper	Name	Description	Page
JK1	CPU Front Side Bus Frequency Setting	3-pin Block	p.8

J2	Keyboard Power ON Function Setting	3-pin Block	p.8
J3	VCC3 Voltage Setting	3-pin Block	p.9
JBAT	CMOS RAM Clear	3-pin Block	p.9

Connectors

Connector	Name	Description	Page
AT	AT Power Connector	12-pin Block	p.14
ATX	ATX Power Connector	20-pin Block	p.14
ATKB	Keyboard Connector	5-pin Female Connector	p.15
PS2MS (J1)	PS/2 Mouse Headers	5-pin Block	p.15
PARALLEL	Parallel Port Connector	25-pin Female	p.15
COM1/COM2	COM1/COM2 Headers	9-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

Headers

Header	Name	Description	Page
AUDIO	Audio External Connector	9-pin Block	p.17
GAME	GAME Port Connector	15-pin Female	p.17
CDIN_1, CDIN_2	CD Audio-In Headers	4-pin Block	p.18
USB1/USB2	USB Port Headers	9-pin Block	p.18
HDLED	IDE activity LED	2-pin Block	p.18
TBLED	Turbo LED switch	2-pin Block	p.18
RST	Reset switch lead	2-pin Block	p.18
SPEAKER	Speaker connector	4-pin Block	p.18
POWER-LED	Power LED	2-pin Block	p.19
PS/ON	Power switch	2-pin Block	p.19
WOM	Wake On Modem Headers	3-pin Block	p.19
WOL	Wake On-LAN Headers	3-pin Block	p.20
FAN1/FAN2/FAN3	FAN Speed Headers	3-pin Block	p.20
IR	IR infrared module Headers	9-pin Block	p.20

Expansion Sockets

Socket/Slot	Name	Description	Page
ZIF Socket A	AMD CPU Socket	AMD Athlon/Duron CPU Socket	p.10
AGP	AGP 4X slot	124-pin AGP Expansion slot	
DIMM1, DIMM2	DIMM Module Socket	168-pin DIMM SDRAM Module Expansion Socket	p.12
PCI1, PCI2, PCI3	PCI Slot	32-bit PCI Local Bus Expansion slots	p.14
CNR	CNR Slot	Communication Network Riser slot Support Audio, Modem only	

Chapter 2

Hardware installation

2-1 Hardware installation Steps

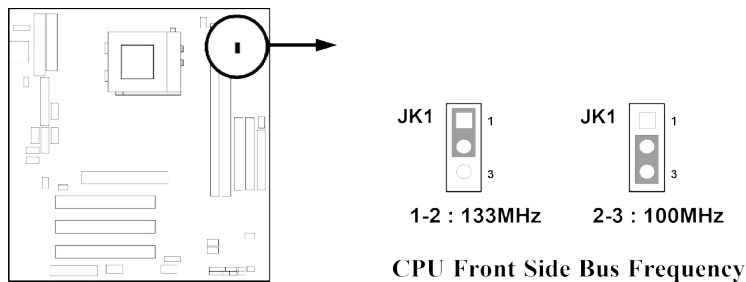
Before using your computer, you had better complete the following steps:

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 Front Side Bus Frequency Setting (3-pin): JK1

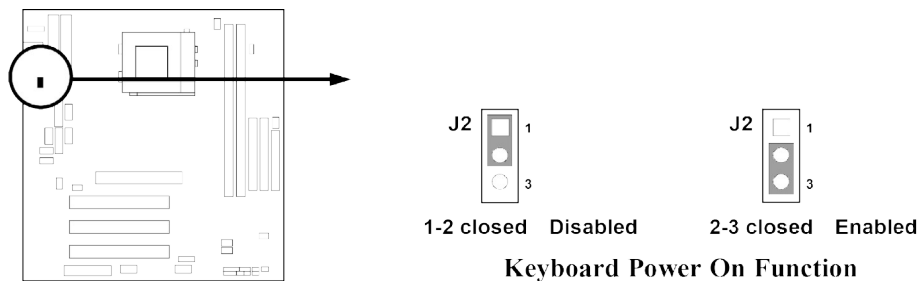
The motherboard's CPU Host clock adjusted through jumper JK1.



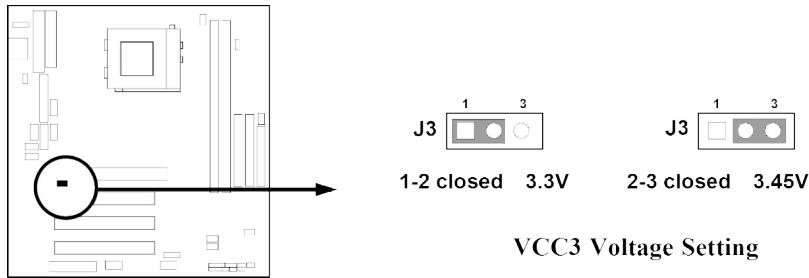
* This motherboard also provides CPU Front Side Bus Frequency setting by Software, please refer [page 38](#).

2. Keyboard Power On Function Setting (3-pin): J2

This allows you to disable the keyboard power on function. Set the jumper to enabled or disabled if you wish to use your keyboard (by pressing <>) to power on your computer. This feature requires an ATX power supply that can supply at least 300mA on the +5VSB lead. The default is set to disable.



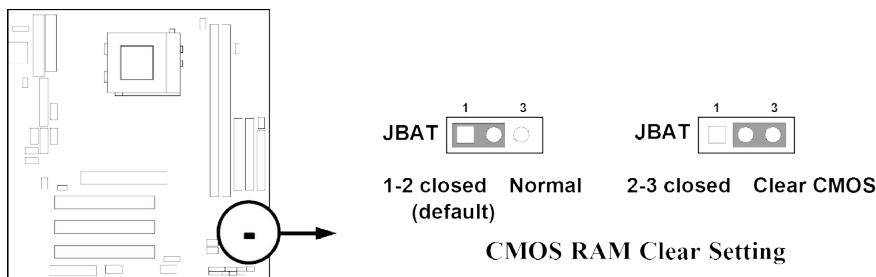
3. VCC3 Voltage Setting (3-pin): J3



4. CMOS RAM Clear Setting (3-pin): JBAT

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

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



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 devices, 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.

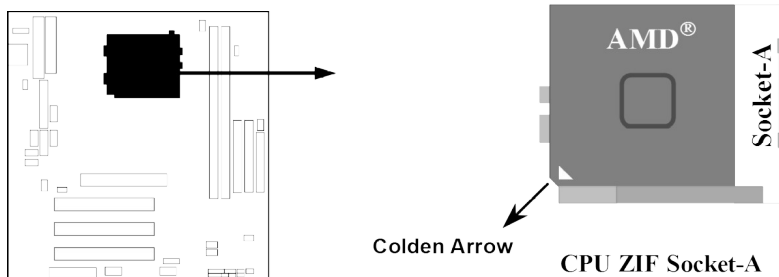
2-3-2 About AMD Athlon & Duron 462-pin CPU

This motherboard supports Socket-A (Socket-462) AMD Athlon/Duron processors. This motherboard provides a ZIF Socket-A. The CPU that comes with the motherboard should have a cooling FAN attached to prevent overheating. If this is not the case, then purchase a correct cooling FAN before you turn on your system.

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

WARNING! Due to this motherboard provides new function of protecting CPU ; you must connect the CPU FAN connector on CPUFAN (FAN1) location in order to obtain this feature. Without connection on CPUFAN (or you have connect CPU FAN on SYSFAN), the system will shut down immediately to protect both your CPU and motherboard.

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 forces require to insert of the CPU, then press the level to Locate position slightly without any extra force.

2-3-3 Over clock Running

WARNING! This section is for experienced motherboard installer only. Over clocking can result in system instability or even shortening life of the processor.

After setting the Jumper [JK1](#) you can choose over clock running by BIOS CMOS SETUP UTILITY. When you entered CMOS SETUP UTILITY, choose “Miscellaneous Control” you will see the screen as below, when setting clock control by software, you can setting Host Clock step by step in Host Clock at next boot from 100MHz to 166MHz for user approach over clock running.

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

Miscellaneous Control

Auto Detect DIMM/PCI Clk Enabled Spread Spectrum Disabled Clock Control By Software ** Current Host Clock is 100 MHz ** HOST clock at next boot is 100 Mhz ** Current DRAM Clock is 100 MHz ** DRAM clock at next boot is 100 Mhz (HOST CLK)	Item Help Menu Level >
↑ ↓ → ← Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help F5:Previous Values F6:Optimized Defaults F7:Standard Defaults	

Clock Control

This item allows you to set the CPU Host Clock by Hardware (Jumper [JK1](#)), or by Software (BIOS)

Host clock at next boot is

When Clock Control setting By Software, this item allows you to set CPU Host Clock step by step from 100MHz to 166MHz, use Page Down/Page Up key can change the frequency to approach over clocking.

DRAM clock at next boot is

This item allows you to set the DRAM clock synchronous as CPU Host Clock, or Asynchronous as Host clock *4/3 to approach your SDRAM specification.

2-4 Install Memory

This motherboard provides **two** 168-pin DUAL INLINE MEMORY MODULES (DIMM) sites for memory expansion available from minimum memory size of 16MB to maximum memory size of 1GB SDRAM.

Valid Memory Configurations

Bank	168-Pin DIMM		Total Memory
Bank 0, 1 (DIMM1)	SDRAM 32, 64, 128, 256, 512MB	X 1	16MB~512MB
Bank 2, 3 (DIMM2)	SDRAM 32, 64, 128, 256, 512MB	X 1	16MB~512MB
Total	System Memory (Max. 1GB)		16MB~1GB

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.

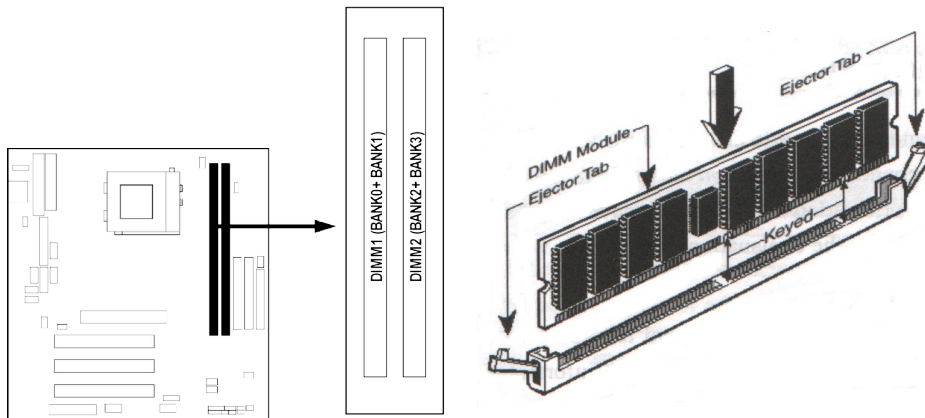


Figure 2-4

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

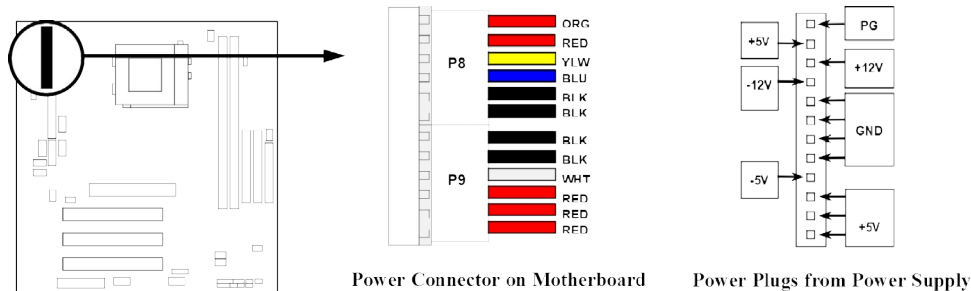
PCI slot 2	—	—	Shared	—
PCI slot 3	—	—	—	Shared
Onboard VGA	—	—	—	—
AC97/MC97	—	Shared	—	—
Onboard USB1	—	—	—	Shared
Onboard USB 2	—	—	—	Shared

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.

2-6 Connectors, Headers

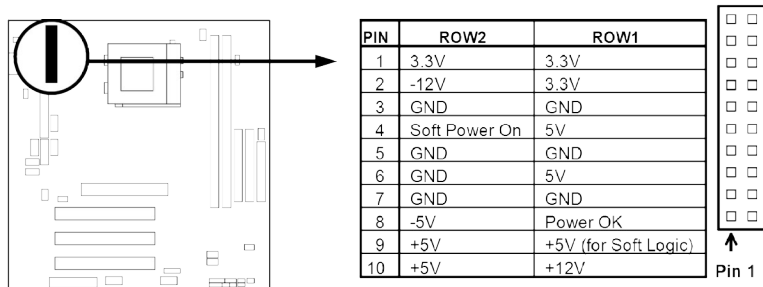
1. Power Connector: AT Power Connector (12-pin block): AT

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): ATX

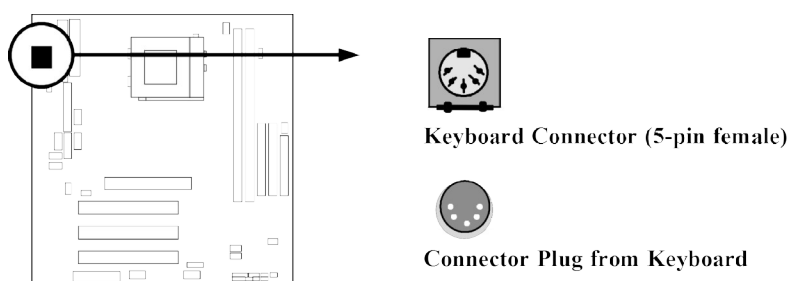
ATX Power Supply connector. This is a new defined 20-pins connector that usually comes with ATX case. The ATX Power Supply allows to use soft power on momentary switch that connect from the front panel switch to 2-pins Power On jumper pole on the motherboard. When the power switch on the back of the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

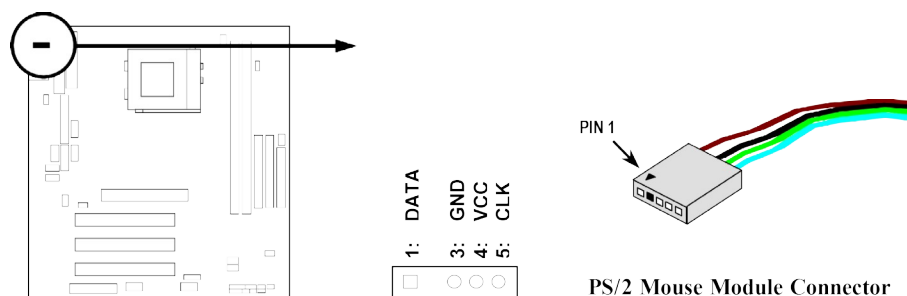
3. Keyboard Connector (5-pin female): ATKB

This connection is for a standard IBM-compatible keyboard. May also be known as a 101 enhanced keyboard.



4. PS/2 Mouse Connector (5-pin block): PS2MS (J1)

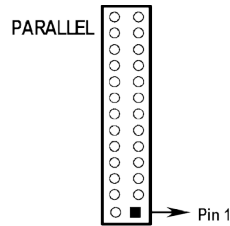
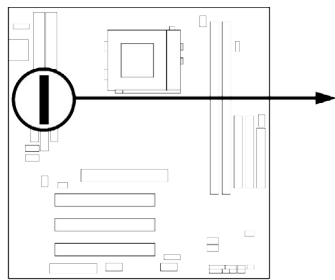
If you are using a PS/2 mouse, you must purchase an optional PS/2 mouse set which connects to the 5-pin block and mounts to an open slot on your computer's case.



5. Parallel Printer Connector (26-pin block): PARALLEL

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.

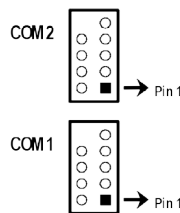
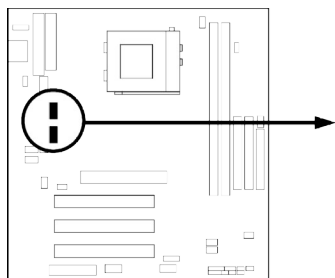
NOTE: *Serial printers must be connected to the serial port. You can enable the parallel port and choose the IRQ through BIOS Setup.*



Parallel Printer Connector

6. Serial port COMA and COMB Connector (Two 9-pin blocks): COM1, COM2

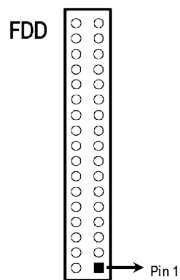
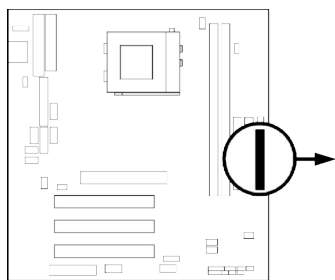
These connectors support the provided serial port ribbon cables with mounting bracket. Connect the ribbon cables to these connectors and mount the bracket to the case on an open slot. The two serial ports on the mounting bracket will then be used for pointing devices or other serial devices. See BIOS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



Serial port COMA and COMB Connector

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

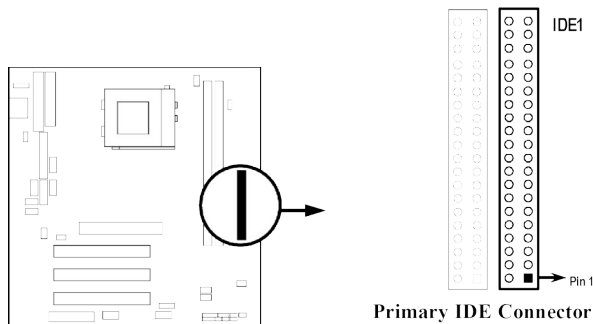
This connector supports the provided floppy drive ribbon cable. After connecting the single plug end to motherboard, connect the two plugs at other end to the floppy drives.



Floppy Drive Connector

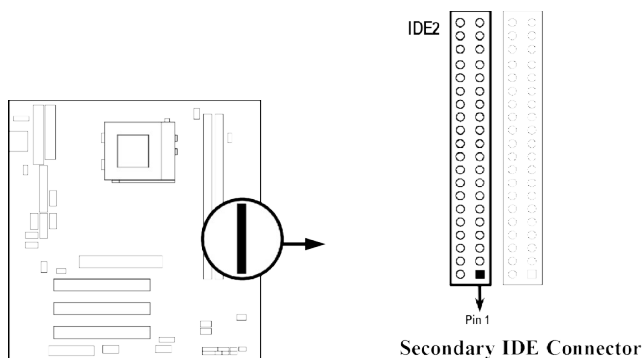
8. Primary IDE Connector (40-pin block): IDE1

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

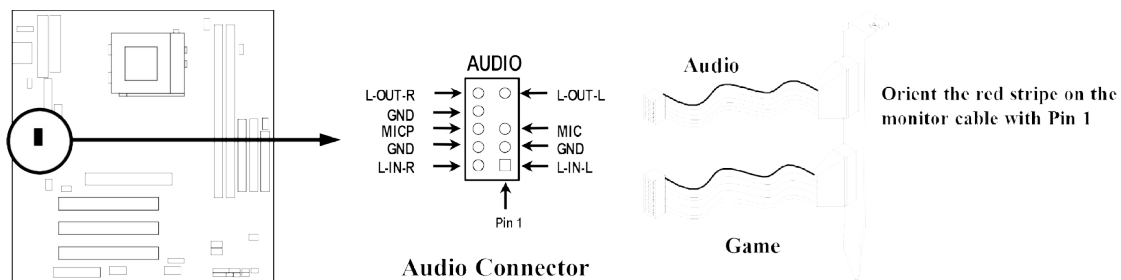


9. Secondary IDE Connector (40-pin block): IDE2

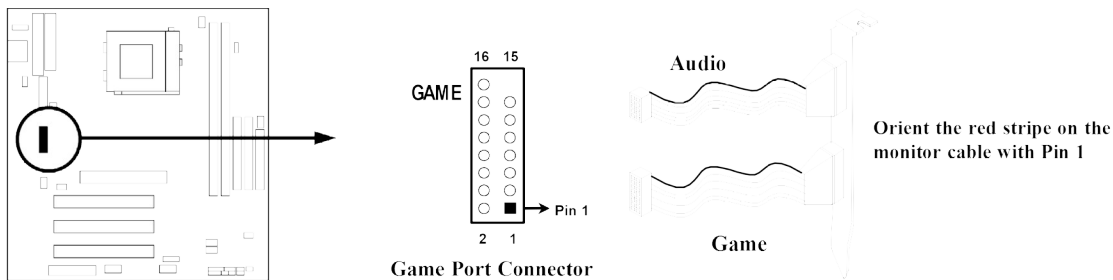
This connector connects to the next set of Master and Slave hard disks. Follow the same procedure described for the primary IDE connector. You may also configure two hard disks to be both, Masters using one ribbon cable on the primary IDE connector and another ribbon cable on the secondary IDE connector.



10. Audio connector: AUDIO

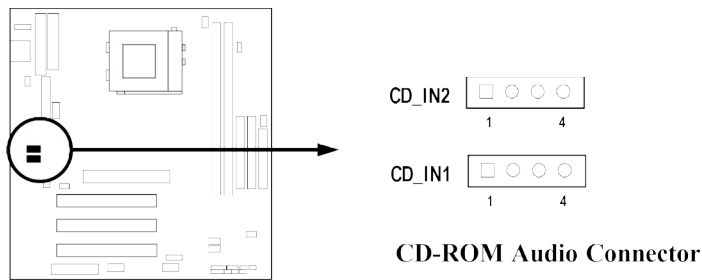


11. Game Port connector: GAME

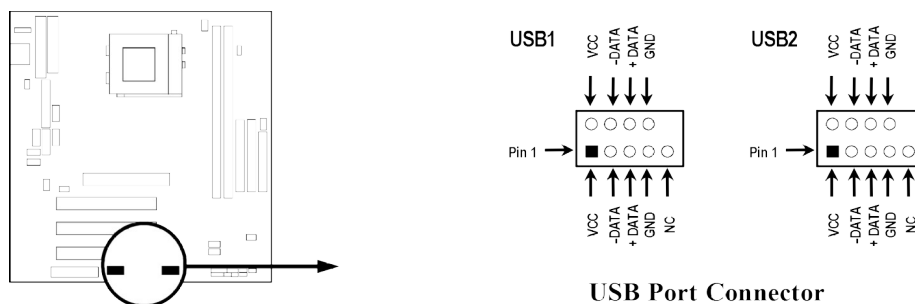


※ This connector able to support two Game Ports.

12. CD-ROM Audio connector: CD_IN1, CD_IN2

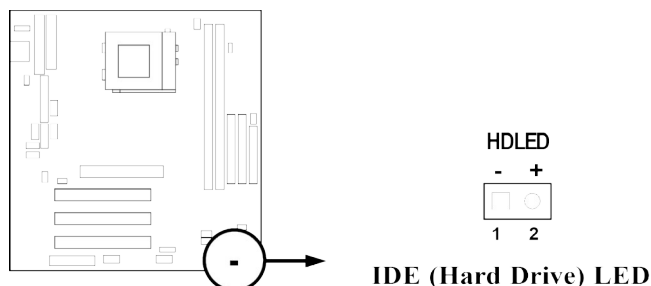


13. USB Port connector: USB1, USB2



14. IDE activity LED: HDLED

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



15. 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

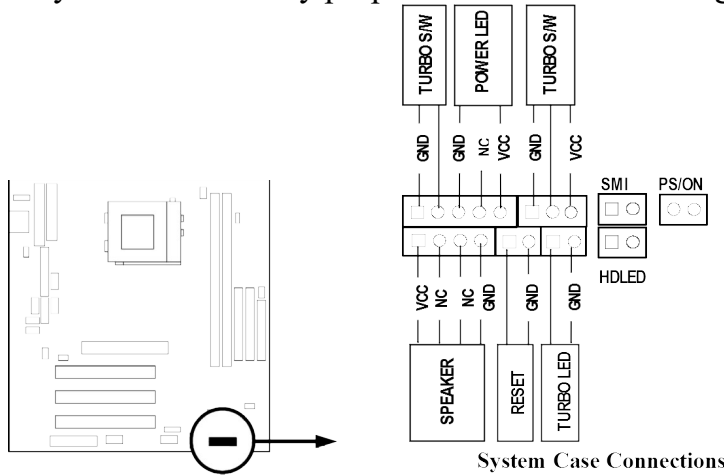
This 2-pin connector connects to the case-mounted reset switch for rebooting your computer without having to turn off your power switch. This is a preferred method of rebooting in order to prolong the life of the system's power supply. See the figure below.

C. Speaker connector: SPEAKER

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

D. Keyboard lock switch lead & Power LED: KEYLOCK & POWER-LED

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

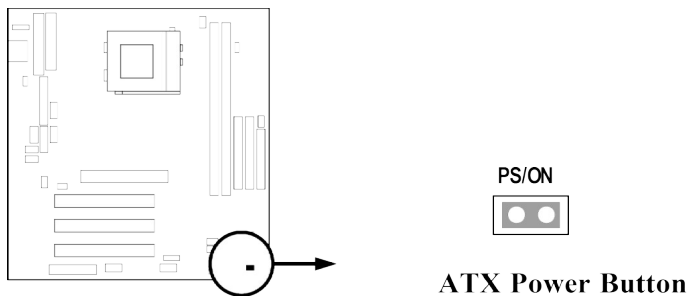


16. ATX Power button: PS/ON

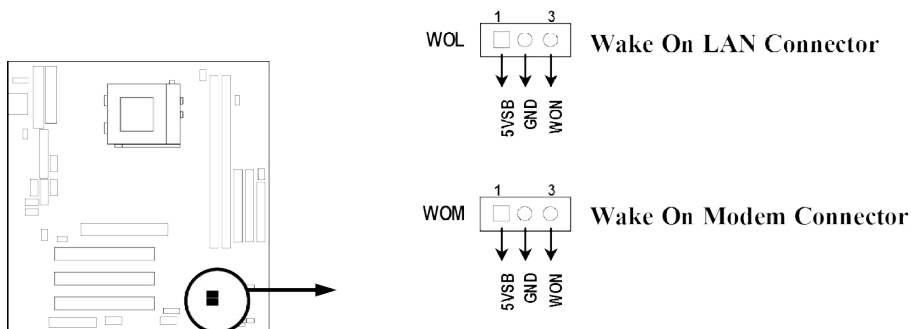
When using ATX power, the system power can be controlled by a momentary switch connected to PS-ON. Pushing the button once will switch ON/OFF the system. The system Power LED will show the status of the system's power.

Selections

One touch Power ON/OFF

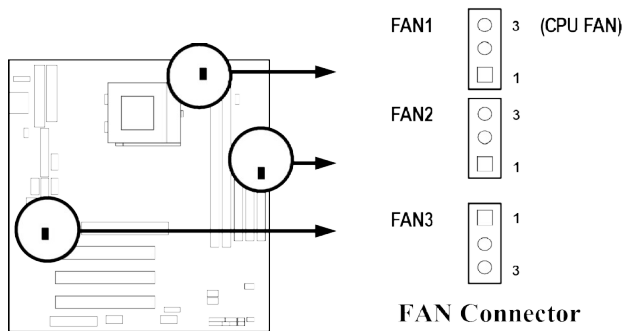


17. Wake On LAN/Modem connector: WOL/WOM



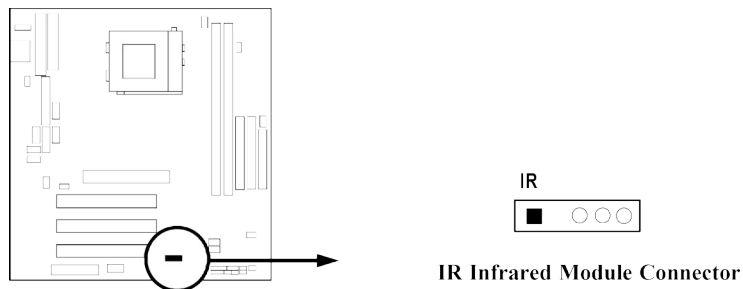
※ Wake On LAN/Modem function worked only when power supply support 5VSB more than 750mA current.

18. FAN connector: FAN1 (CPU FAN), FAN2, FAN3



19. IR infrared module connector: IR

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.



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 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.

CMOS Setup Utility - Copyright(C) 1984-2001 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 that are factory settings for optimal performances system operations.

Load Standard Defaults

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

Set Supervisor/User Password

Use this menu to set User and Supervisor Passwords.

Save & Exit Setup

Save CMOS value changes to CMOS and exit setup.

Exit Without Saving

Abandon all CMOS value changes and exit setup.

3-4 Standard CMOS Features

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

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

Date (mm:dd:yy)	Mon, Mar, 26 2001	Item Help
Time (hh:mm:ss)	17 : 55 : 28	

<pre> > IDE Primary Master Press Enter None > 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 </pre>	<pre> Menu Level > Change the day, month, year and century </pre>
<pre> ↑ ↓ → ← Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help F5:Previous Values F6:Optimized Defaults F7:Standard Defaults </pre>	

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

Anti-Virus Protection	Disabled	Item Help
PhoenixNet Support	Disabled	
CPU L1 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 area, BIOS will show a warning message on screen and alarm beep Enabled copies Video BIOS to shadow RAM Improves performance
CPU L2 Cache	Enabled	
Quick Power On Self Test	Enabled	
First Boot Device	Floppy	
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	
Gate A20 Option	Normal	
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	No	
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		

Anti-Virus Protection

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

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

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

CPU L1 Cache

The default value is Enabled.

Enabled (default) Enable cache

Disabled Disable cache

Note: The internal cache is built in the processor.

CPU L2 Cache

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

Quick Power On Self-Test

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

Enabled (default) Enable quick POST

Disabled Normal POST

First/Second/Third/ Boot Device, Boot Other 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, LAN 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 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) 1984-2001 Award Software
Advanced Chipset Features

<pre>> DRAM Timing Settings Press Enter > AGP Function Settings Press Enter System BIOS Cacheable Disabled Video RAM Cacheable Disabled Memory Hole at 15M-16M Disabled</pre>	<pre>Item Help</pre>	
		<pre>Menu Level ></pre>
<pre>↑ ↓ → ← Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help F5:Previous Values F6:Optimized Defaults F7:Standard Defaults</pre>		

DRAM Timing Settings

Please refer to section 3-6-1

AGP Function Settings

Please refer to section 3-6-2

System BIOS Cacheable

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

Video RAM Cacheable

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

Memory Hole at 15M-16M

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 Setting

DRAM Timing Setting

Auto Configuration	Manual	Item Help
RAS Active Time	Auto	Menu Level >>
RAS Precharg Time	Auto	
RAS to CAS Delay	Auto	
CAS Latency	Auto	
↑ ↓ → ← 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

Select the number of SCLKs for an access cycle. The settings are: Auto (default), 6T, 7T, 5T.

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 data. *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: Auto (default), 4T, 2T and 3T.

RAS to CAS Delay

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: Auto (default), 4T, 3T and 2T.

CAS Latency

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

3-6-2 AGP Function Settings

AGP Rate	Auto	Item Help
AGP SideBand Support	Disabled	
AGP Aperture Size	AGP Aperture Size	Menu Level >>
AGP Delay Offset	8MB []	
AGP Driving Strength	16MB []	
	32MB []	
	64MB []	
	128MB []	
	256MB []	
	↑↓:Move ENTER:Accept ESC:Abort	
↑ ↓ → ← Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help F5:Previous Values F6:Optimized Defaults F7:Standard Defaults		

AGP Aperture Size

This option determines the effective size of the graphics aperture used in the particular PAC configuration. The AGP aperture is memory-mapped, while graphics data structure can reside in a graphics aperture. The aperture range should be programmed as not cacheable in the processor cache, accesses with the aperture range are forwarded to the main memory, then PAC will translate the original issued address via a translation table that is maintained on the main memory. The option allows the selection of an aperture size of 32MB, 64MB.

3-7 Integrated Peripherals

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

Integrated Peripherals

> OnChip IDE Function	Press Enter	Item Help
> OnChip Super IO Function	Press Enter	
> OnChip Device Function	Press Enter	
Init Display First	PCI Slot	Menu Level >
Power ON Function	Button Only	
KB Power ON Password	Enter	
Hot Key Power ON	Ctrl-F1	
↑ ↓ → ← 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 Super IO Function

Please refer to section 3-7-2

OnChip Device 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.

Power ON Function

This item allows you choose Power ON by Password, Hot KEY, Button Only, Keyboard 98 when use ATX power supply.

3-7-1 OnChip IDE Function

CMOS Setup Utility - Copyright(C) 1984-2001 Award Software
OnChip IDE Function

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

The integrated peripheral controller contains an IDE interface with support for two IDE channels. Select Both to activate each channel separately. The settings are: Enabled, 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 Super IO Function

CMOS Setup Utility - Copyright(C) 1984-2001 Award Software
OnChip Super IO Function

Onboard FDD Controller	Enabled	Item Help
Onboard Serial Port 1	3F8/IRQ4	
Onboard Serial Port 2	2F8/IRQ3	
Onboard Serial Port 3	Disabled	
UART Mode	IrDA	Menu Level >>
RxD,TxD Active	Hi, Lo	
IR Duplex Mode	Half	
Fast IR Mode Use DMA	1	
Onboard Parallel Port	378/IRQ7	
Parallel Port Mode	SPP	
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/Port3

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 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.

3-7-3 OnChip Device Function

CMOS Setup Utility - Copyright(C) 1984-2001 Award Software
OnChip Device Function

AC97 Sound Device Auto Game Port Device Enabled AC97 Modem Device Auto USB Host Controller Enabled USB Keyboard Legacy Support Disabled	Item Help Menu Level >>
↑ ↓ → ← 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 Device

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 Legacy Support

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

3-8 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) 1984-2001 Award Software

Power Management Setup

ACPI function	Enabled	Item Help
Video Off Option	Always off	
Video Off Method	V/H SYNC+Blank	Menu Level >
MODEM Use IRQ	3	
Power Button Function	Instant Off	
> PM Wake Up Events	Press Enter	
↑ ↓ → ← Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help F5:Previous Values F6:Optimized Defaults F7:Standard Defaults		

ACPI Function

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

Video Off Option

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

Video Off Method

This determines the manner in which the monitor is blanked.

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

Modem Use IRQ

This determines the IRQ in which the MODEM can use.
The settings are: 3, 4, 5, 7, 9, 10, 11, NA.

Power Button Function

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

PM Wake Up Events

Please refer to section 3-8-1

3-8-1 PM Wake Up Events

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

PM Wake Up Events

Wake-Up on PCI PME	Disabled	Item Help
Wake-Up on Ring/(LAN)	Disabled	

<pre> Wake-Up on RTC Alarm Disabled x Date(of Month) Alarm 0 x Time (hh:mm:ss) Alarm 0 : 0 : 0 > IRQs Activity Press Enter </pre>	<pre> Menu Level >> </pre>
<pre> ↑ ↓ → ← Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help F5:Previous Values F6:Optimized Defaults F7:Standard Defaults </pre>	

Wake-Up on PCI PME

This will enable the system to wake up by PCI device Power Management function. The settings are: Enabled and Disabled.

Wake-Up on Ring/(LAN)

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

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.

3-9 PnP/PCI Configuration Setup

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

CMOS Setup Utility - Copyright(C) 1984-2001 Award Software
PnP/PCI Configurations

Reset Configuration Data	<u>Disabled</u>	Item Help
Resources Controlled By	Manual	Menu Level >
> IRQ Resources	Press Enter	
PCI/VGA Palette Snoop	Disabled	Default is Disabled. Select Enabled to reset Extended System Configuration Data (ESCD) when you exit Setup if you have installed a new add-on and the system reconfiguration has caused such a serious conflict that the OS cannot boot
Assign IRQ For VGA	Enabled	
Assign IRQ For USB	Enabled	
↑ ↓ → ← 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) 1984-2001 Award Software
IRQ Resources

IRQ-3 assigned to	<u>PCI Device</u>	Item Help
IRQ-4 assigned to	PCI Device	

IRQ-5 assigned to	PCI Device	Menu Level >> Legacy ISA for devices Compliant with the Original PC AT bus Specification, PCI/ISA PnP for devices Compliant with the Plug and Play standard Whether designed for PCI or ISA bus architecture
IRQ-7 assigned to	PCI Device	
IRQ-9 assigned to	PCI Device	
IRQ-10 assigned to	PCI Device	
IRQ-11 assigned to	PCI Device	
IRQ-12 assigned to	PCI Device	
IRQ-14 assigned to	PCI Device	
IRQ-15 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) 1984-2001 Award Software
PC Health Status

CPU Warning Temperature	60°C/140°F	Item Help Menu Level >
Shutdown Temperature	65°C/149°F	
Show PC Health in Post	Enabled	
Detect CPUFAN in Post	Enabled	
Current System Temperature	28°C/82°F	
Current CPU Temperature	29°C/84°F	
Current CPUFAN Speed	4687 RPM	
Current SYSFAN Speed	0 RPM	
Vcore	1.69V	
+3.3V	3.31V	
+ 5V	5.00V	
+12V	+ 12.02V	
↑ ↓ → ← 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 CPUFAN, SYSFAN Speed/
Vcore/ Vcc/3.3V/+5V/+12V/-12V/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 Control.

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

Auto Detect DIMM/PCI Clk	Enabled	Item Help
--------------------------	---------	-----------

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

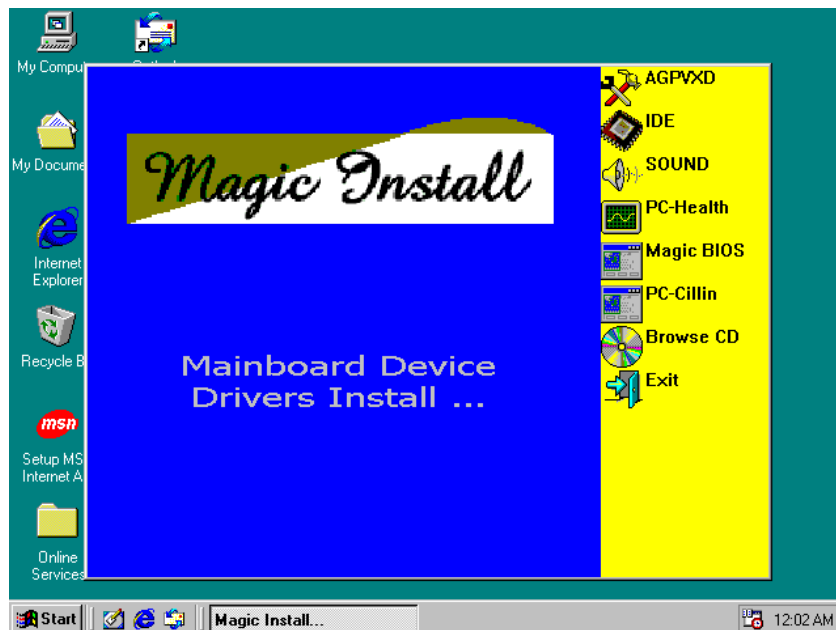
DRIVER & FREE PROGRAM INSTALLATION

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 **95/98/98SE/ME/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 8 selections:

- | | |
|---------------|--|
| 1. AGPVXD | Install AGPVXD file when use AGP card |
| 2. IDE | Install ALi IDE driver |
| 3. SOUND | Install ALi Audio driver |
| 4. PC-HEALTH | Install ALi Hardware Monitoring Utility |
| 5. MAGIC BIOS | Install BIOS Live Update Utility |
| 6. PC-CILLIN | Install PC-CILLIN2000 Anti-virus program |
| 7. BROWSE CD | To browse the contents of the CD |
| 8. EXIT | To exit from Magic Install menu |

4-1 AGPVXD Install ALi VGA AGPVXD Driver

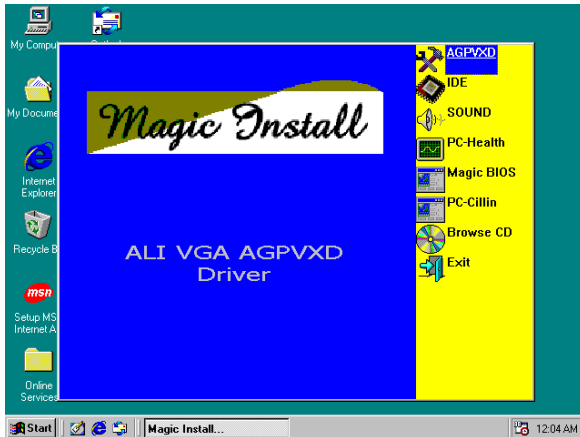
The AGPVXD Driver is Only For AGP Slot VGA CARD User.

The path of the file:

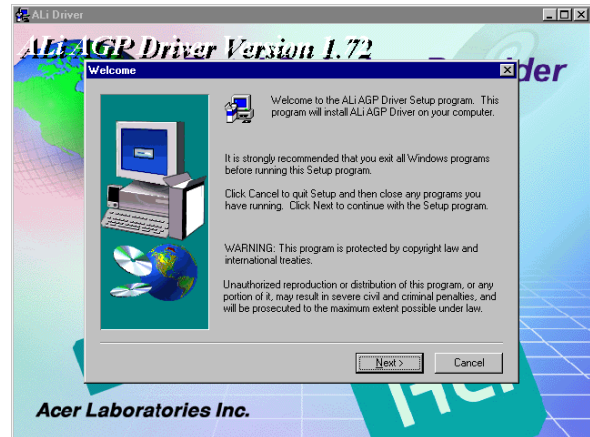
for WINDOWS 9X is X:\ALi\M1649\AGPVXD\AGP*.EXE

(including WIN98/98SE/ME)

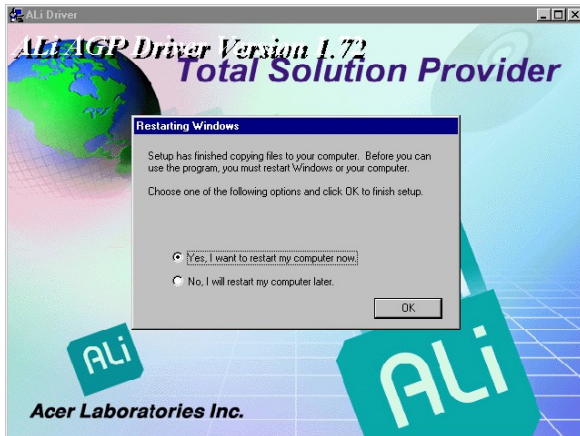
For WINDOWS 98/98SE/ME/2000



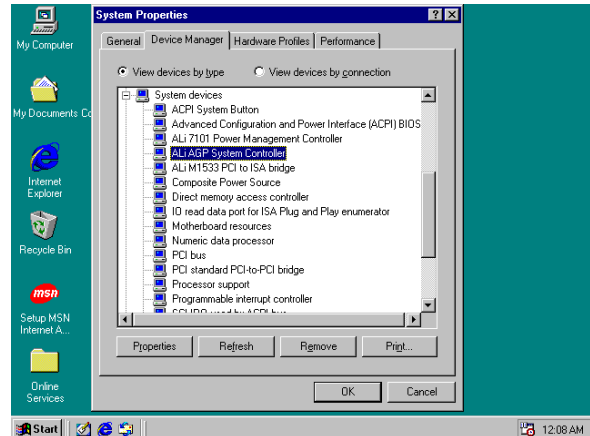
1. Click AGPVXD when Magic Install MENU appears



2. Click Next when Install Utility appears

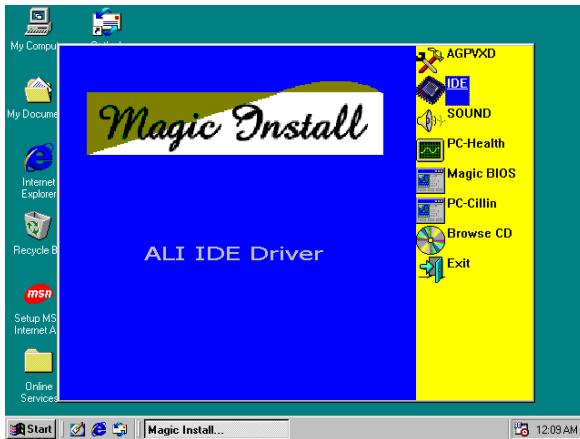


3. Click Yes to Restarting windows after installation finish

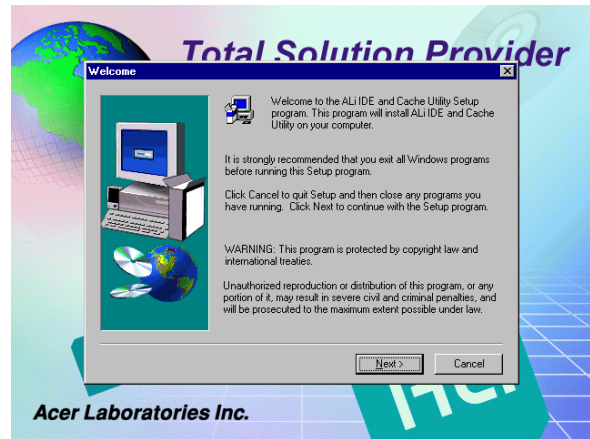


4. You can double check in System Properties icon to make sure the AGPVXD driver already installed

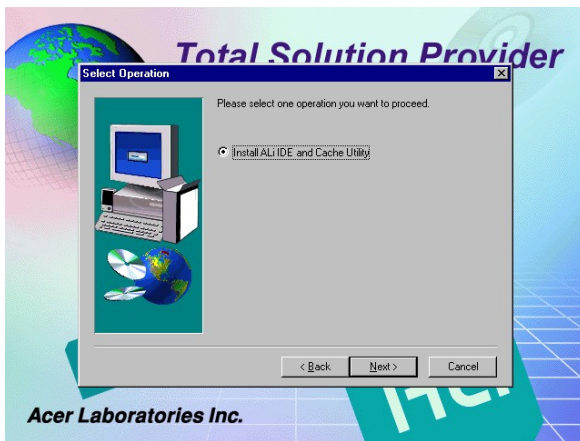
4-2 IDE Install ALi IDE Driver



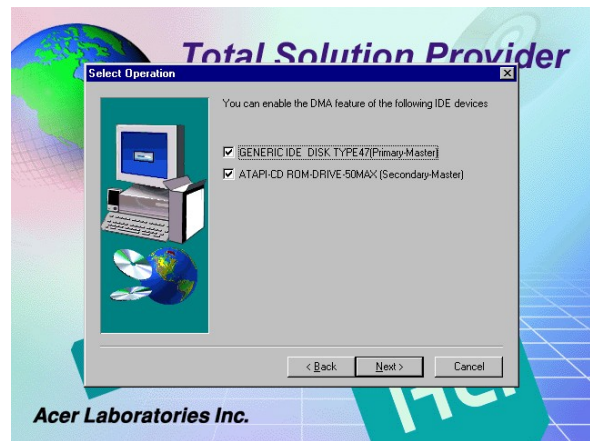
1. Click IDE when Magic Install Menu appears



2. Click Next to begin install ALi IDE driver



3. Click Next to install ALi IDE and Cache Utility



4. Choose Primary/Secondary Master to enable the DMA feature of IDE device and click next to install this feature

Note: The path of the file is
X:\ALi\M1649\IDE\SETUP.EXE

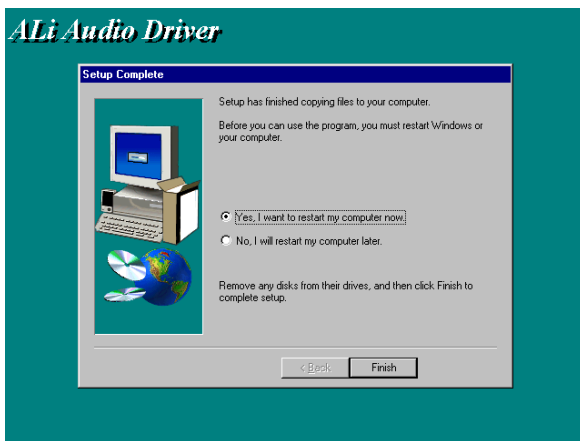
4-3 SOUND Install ALi Audio Driver



1. Click SOUND when Magic Install MENU appears



2. Click Next to begin install ALi Audio Driver on your computer



3. Click Finish if you want to restart your computer after finish install the ALi Audio Driver

Note: The path of the file

For WIN98 is X:\ALi\M1649\Audio\Win98

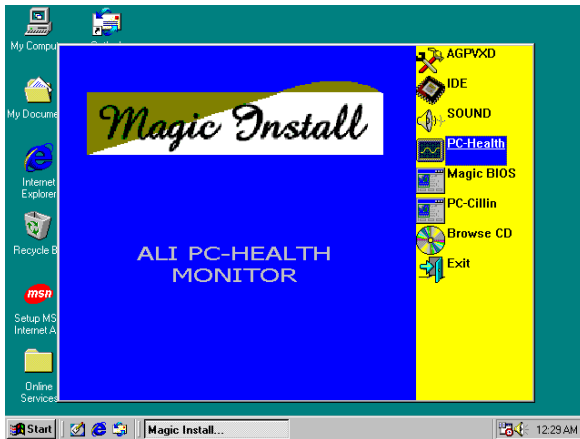
For WIN95 is X:\ALi\M1649\Audio\Win95

For NT4.0 is X:\ALi\M1649\Audio\NT4

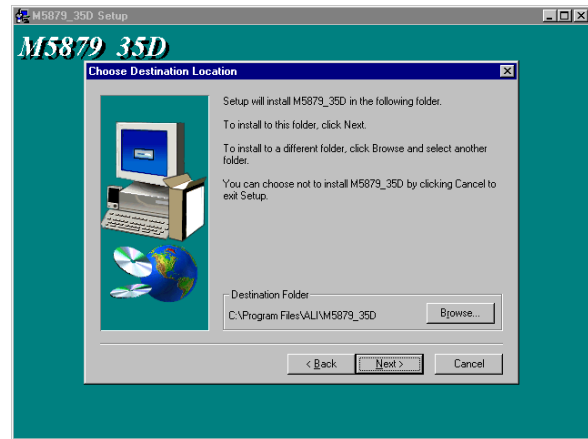
For WIN2K is X:\ALi\M1649\Audio\Win2000

For Linux is X:\ALi\M1649\Audio\Linux

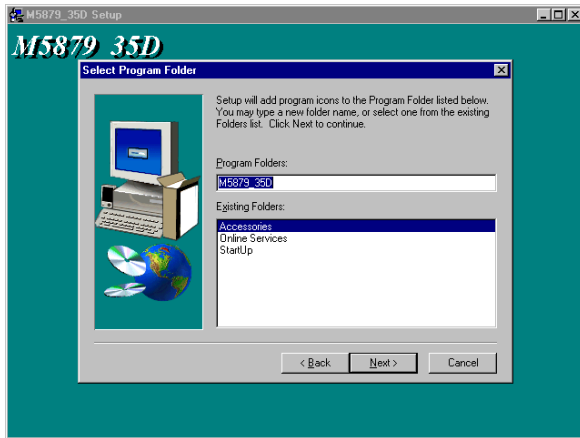
4-4 PC-HEALTH Install ALi Hardware Monitor Utility



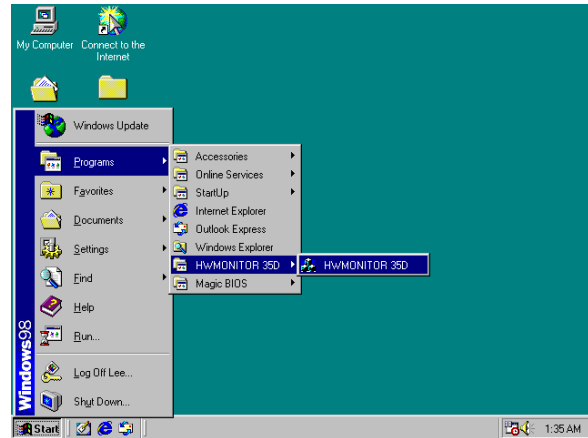
1. Click PC-Health when Magic Install NENU appears



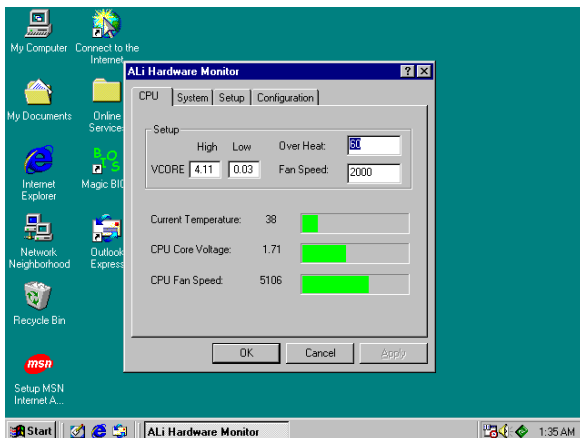
2. Click Next to choose default destination folder to install hardware monitor driver



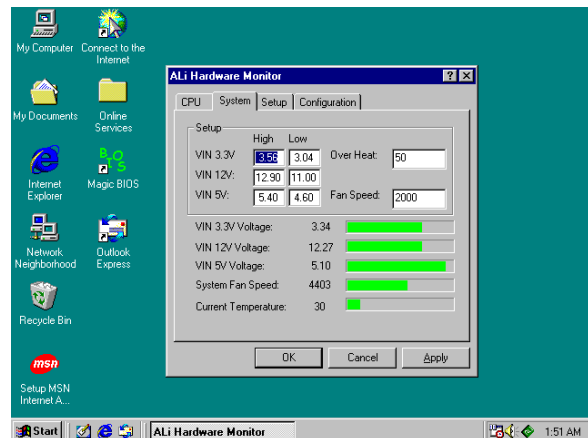
3. Click Next to add program icons to the Program Folder



4. After Install Hardware Monitor Driver you can check in Program Folder

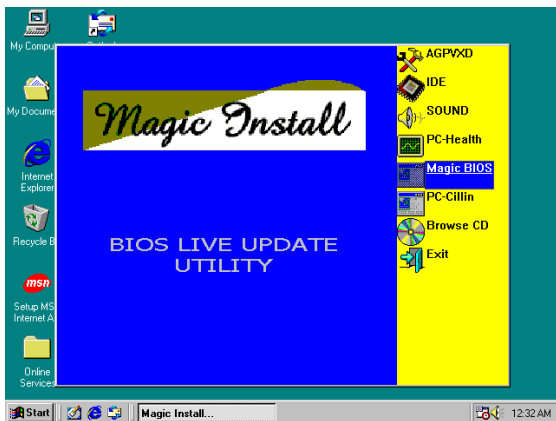


5. In ALi Hardware Monitor CPU item will show CPU Vcore, Temperature and Fan Speed

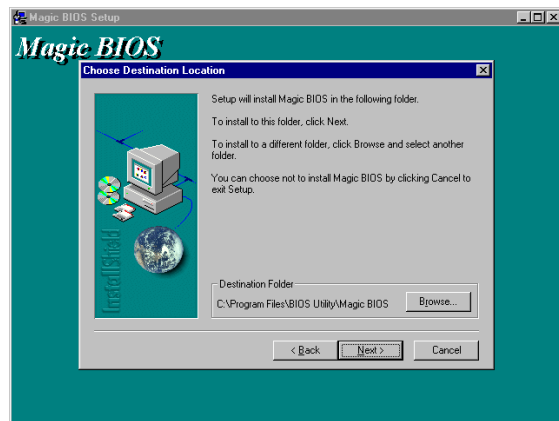


6. In System item will show System Voltage, Temperature, Fan Speed

4-5 MAGIC BIOS Install BIOS Live Update Utility



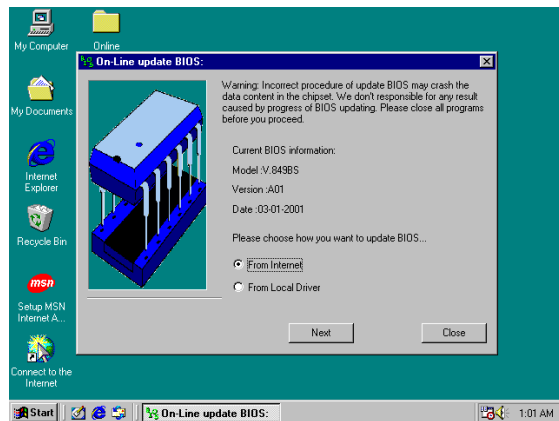
1. Click Magic BIOS when Magic Install MENU appears



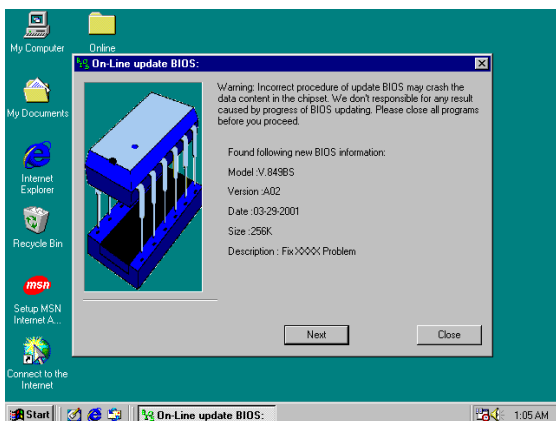
2. Click Next to install the Magic BIOS in Destination Folder



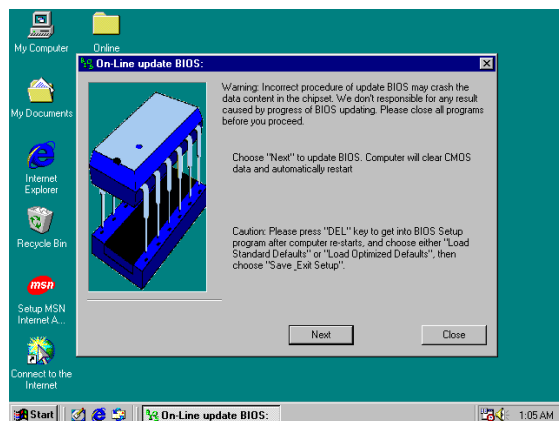
3. After finish Setup you will have a Magic BIOS icon in your screen



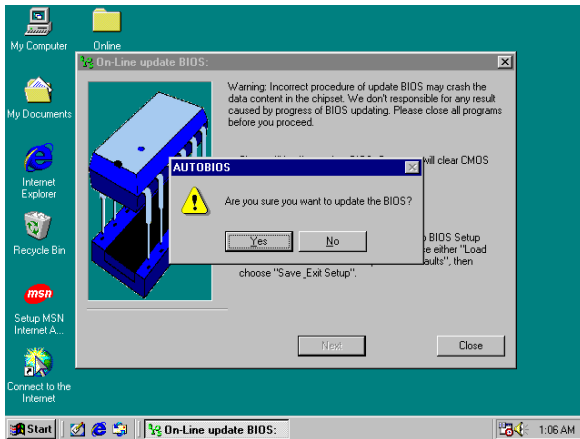
4. Double click the Magic BIOS icon you will have this picture, choose from internet you can upgrade BIOS On-line



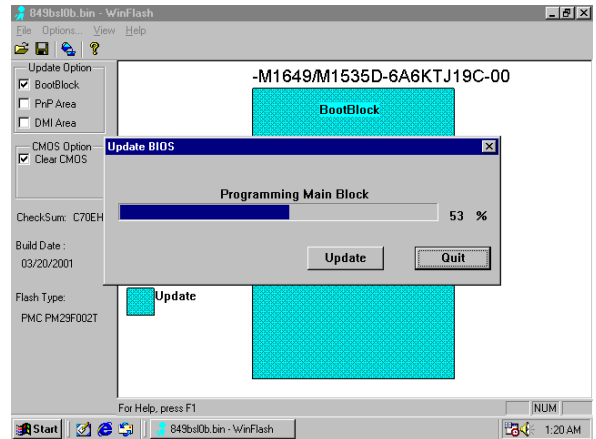
5. When On-line update BIOS the program will auto-check your BIOS version



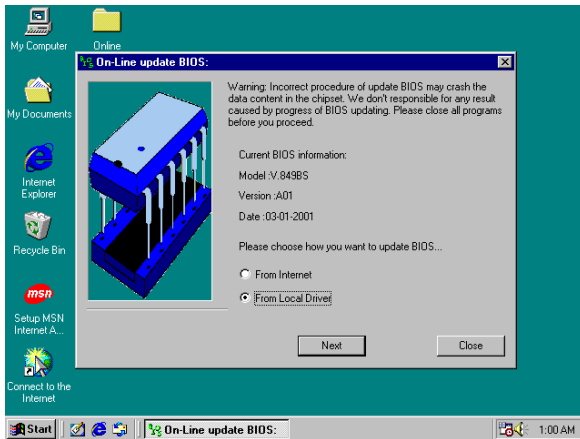
6. Click Next if you need update BIOS, after upgrade BIOS, the system will clear CMOS and automatically restart



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

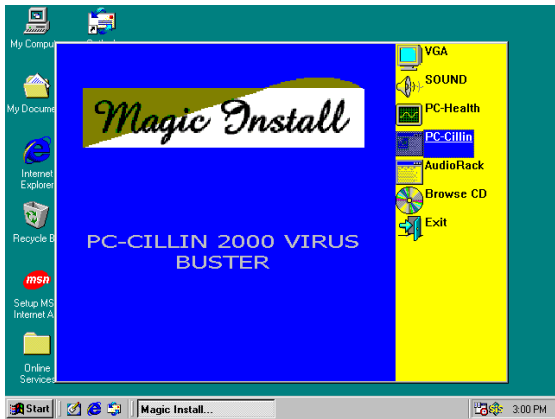


9. When choose From Local Driver to update BIOS, you must have the correct BIOS file in your Local Driver



10. Choose the correct BIOS file to update BIOS

4-6 PC-CILLIN Install PC-CILLIN 2000 Anti-virus program



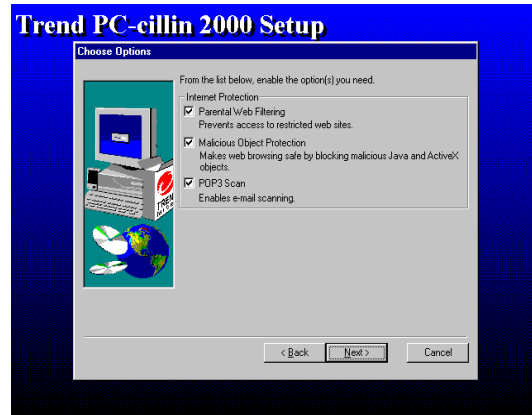
1. Click PC-CILLIN when MAGIC INSTALL MENU Appears



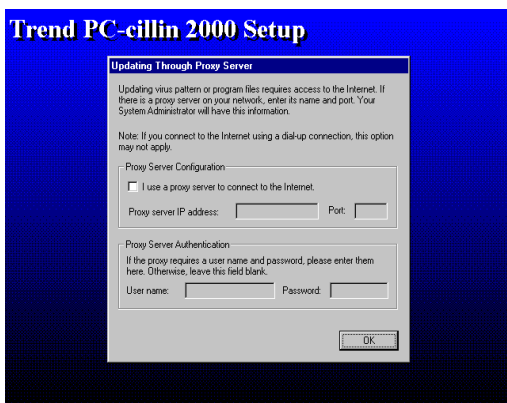
2. Click NEXT when PC-CILIN 2000 SETUP APPEARS. Then click YES when the announcement of copywrite appears. Software is starting to detect HD for virus



3. Click NEXT and Enter User Information, Click NEXT or choose BROWSE to change the path For the file to be stored



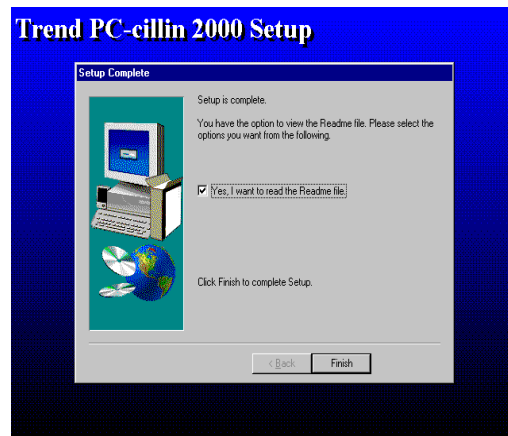
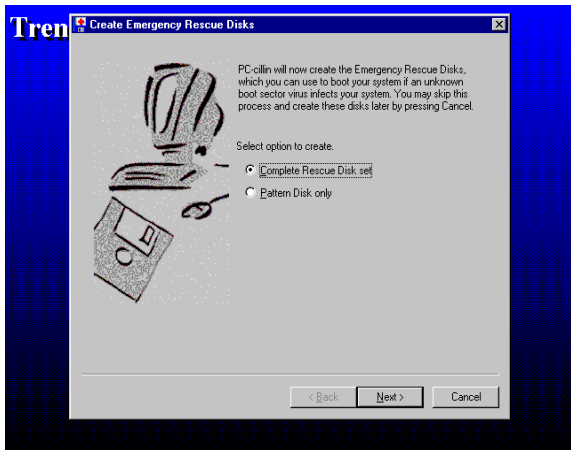
4. Click NEXT and Choose all Internet Protection



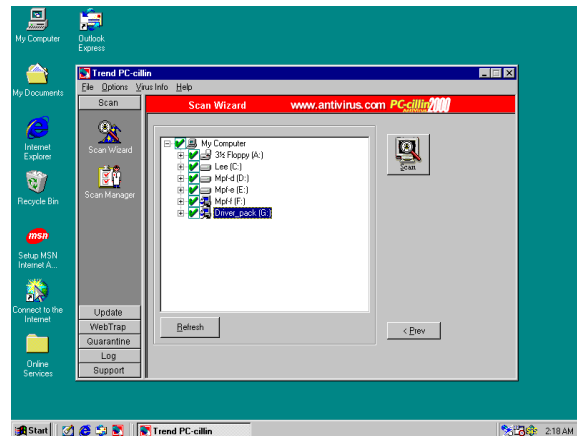
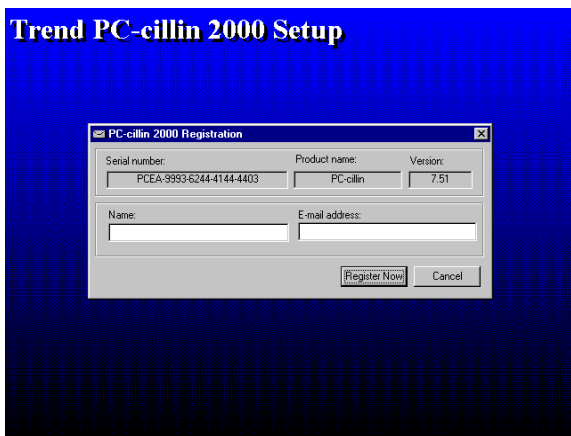
5. Click OK and If You Have Proxy Server, Enter Your Setting.



6. Click NEXT when Start Copy Files, Start to install the software.



7. If you want to make a rescue disc, insert a 1.44 MB disc
8. Setup Complete and click Finish



9. Enter Your name and E-mail address Register PC-cillin 2000 or Click Cancel Register Later
10. After install PC-cillin 2000 complete we recommend select update item to download newest virus code and setting Auto refresh virus code

4-7 How To Disable On Board Sound Function

Please key in “DEL” key after power on to enter BIOS SETUP screen and choose Integrate Peripherals → On-Chip Device Function → AC97 Audio item to disabled all on board Sound function by Page Down key.

4-8 HOW TO UPDATE BIOS

Method 1. Use “Magic BIOS” update BIOS in Windows 98 (refer [page 45](#))

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 849BS from our web site to your boot disc.

STEP 4. Insert your boot disc into A:,
start the computer, type “Awdflash A:\849BSxxx.BIN /SN/PY/CC/R”
849BSxxx.BIN is the file name of latest BIOS it can be 849BSA03.BIN
or 849BSB02.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