

A689DAS

USER'S MANUAL

***M/B For Socket 754 AMD Athlon64
Processor***

NO. G03A689DASR108

Rev:1.0

Release date: January 2005

Trademark:

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Manual Revision Information

Reversion	Revision History	Date
1.0	First Edition	January 2005

Item Checklist

- A689DAS motherboard
- Cable for IDE/Floppy
- CD for motherboard utilities
- Cable for USB Port 3/4 (Option)
- Cable for Serial ATA IDE Port
- A689DAS User's Manual

AMD K8 Processor Family Cooling Solutions

As processor technology pushes to faster speeds and higher performance with increasing operation clock, thermal management becomes increasingly crucial while building computer systems. Maintaining the proper computing environment without thermal increasing is the key to reliable, stable, and 24 hours system operation. The overall goal is keeping the processor below its specified maximum case temperature. Heatsinks induce improved processor heat dissipation through increasing surface area and concentrated airflow from attached active cooling 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.

Please refer to the website below for collection of heatsinks evaluated and recommended for Socket-A processors by AMD. In addition, this collection is not intended to be a comprehensive listing of all heatsinks that support Socket-754 processors.

For vendor list of heatsinks and Active cooling fans, please visit :

http://www.amd.com/us-en/Processors/DevelopWithAMD/0,,30_2252_869_9460^9515,00.html

Chapter 1

Introduction of A689DAS Motherboard

1-1 Feature of motherboard

The A689DAS motherboard is design for use 64bit AMD Athlon64 (K8) Processor in 754 Pin HyperTrnsport Processor with the ALI M1689 Chipset delivers a high performance and professional desktop platform solution. Which utilize the Socket 754 design and the memory size expandable to 2.0GB.

The motherboard use the newest ALI M1689 Chipset, supports 800MHz System Bus in data transfer rate. These motherboards provided 133MHz/166MHz/200MHz Memory clock frequency, support DDR266/DDR333/DDR400 DDR Module. The motherboard embedded ALI M1689 offer **ULTRA ATA 133** and **Serial ATA RAID 0, 1** functions to provide speedier HDD throughout that boosts overall system performance.

The ALI M1689 used the RealTek RT8201CL LAN controller chip supports 10/100Mbps data transfer rate full duplex, half duplex operation.

These motherboards also has an integrated 6-channel AC'97 CODEC on board which is fully compatible with Sound Blaster Pro® that gives you the best sound quality and compatibility. For those wanting even greater graphic performance. ALI M1689 provided an AGP slot supports AGP 8X/4X capability and Fast write Transaction.

With USB control as well as capability of expanding to 8x USB2.0 function ports delivering 480Mb/s bandwidth and rich connectivity, these motherboards meet future USB demand also has built-in hardware monitor function to monitor and protect your computer.

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

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

1-2 Specification

Spec	Description
Design	* ATX form factor 4 layers PCB size: 30.5x20.0cm
Chipset	* ALI M1689 Chipset
CPU Socket 754	* Support 64bit AMD Athlon64 754-Pin package utilizes Flip-Chip Pin Grid Array package processor * Support CPU Frequency 800MHz * Support up to 3200+ ~ 4000+ processor * Reserves support for future AMD Athlon64 754-pin processors
Memory Socket	* 184-pin DDR Module socket x 2 * Support 2pcs DDR266/DDR33/DDR400 DDR Modules Expandable to 2.0GB
Expansion Slot	* AGP slot x1 support AGP 2.0 & AGP 3.0 for 4X/8X mode * 32-bit PCI slot x5
Integrate IDE and Serial ATA RAID	* Two PCI IDE controllers support PCI Bus Mastering, ATA PIO/DMA and the ULTRA DMA 33/66/100/133 functions that deliver the data transfer rate up to 133 MB/s; Two Serial ATA ports provide 150 MB/sec data transfer rate for two Serial ATA Devices and offer RAID 0, 1 functions
LAN	* Integrated RealTek RT8201CL PCI LAN chip * Support Fast Ethernet LAN function provide 10/100 Mb/s data transfer rate
Audio	* AC'97 Digital Audio controller integrated * 6-channel AC'97 Audio CODEC on board * Audio driver and utility included
BIOS	* Award 2MB Flash ROM
Multi I/O	* PS/2 keyboard and PS/2 mouse connectors * Floppy disk drive connector x1 * Parallel port x1 * Serial port x2 * USB2.0 port x 4 and headers x 4 (connecting cable option) * Audio connector (Line-in, Line-out, MIC)

1-3 Performance List

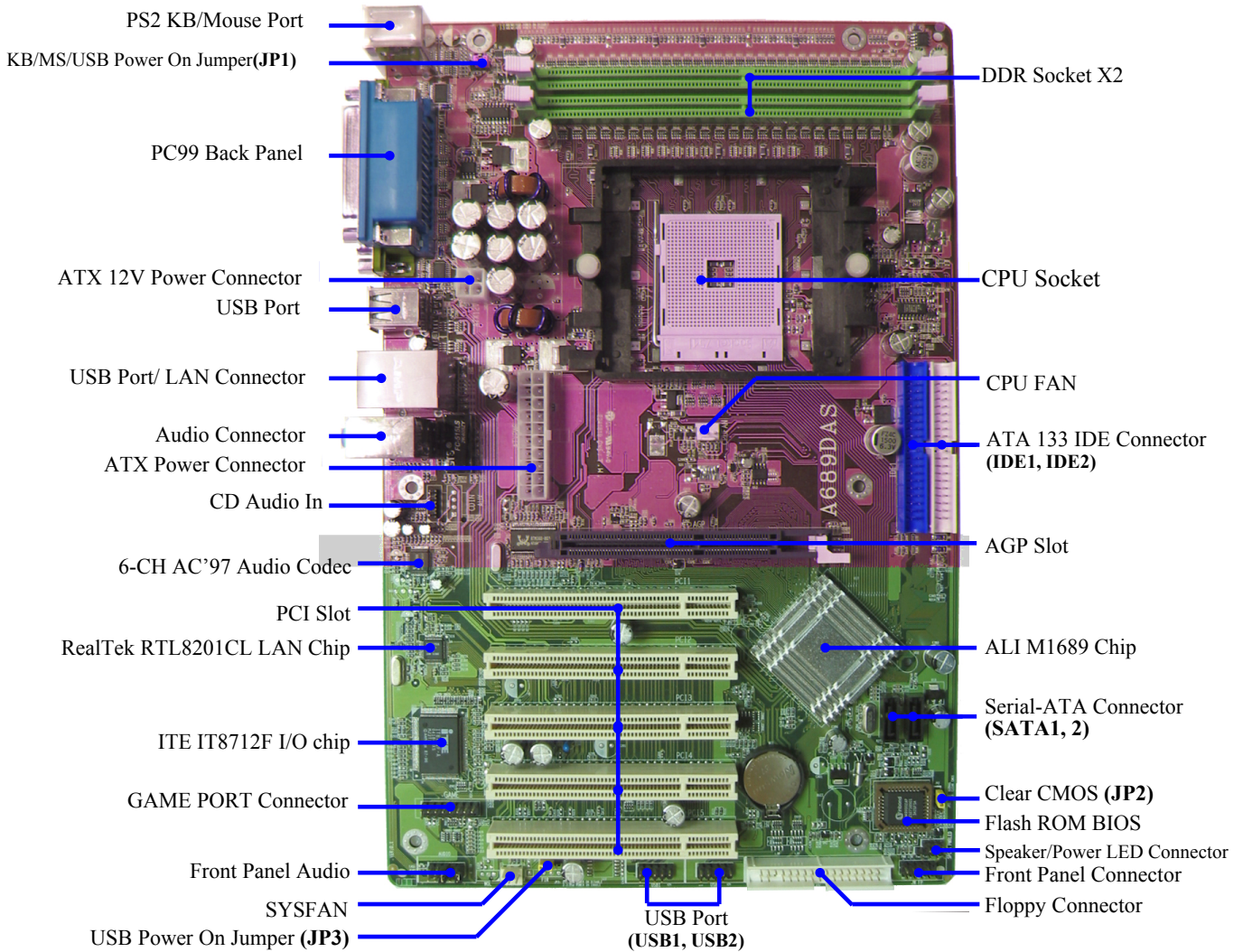
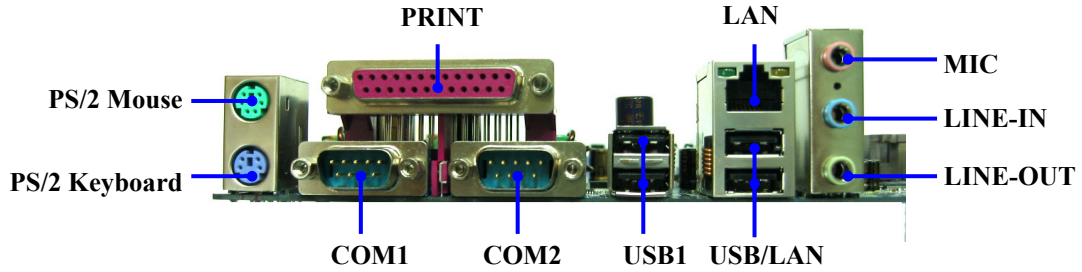
The following performance data list is the testing result of some popular benchmark testing programs. These data are just referred by users, and there is no responsibility for different testing data values gotten by users (the different Hardware & Software configuration will result in different benchmark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

Performance Test Report

CPU: AMD K8 ATHLON 64 3400+ Support
DRAM: TwinMOS Hynix HY5DU56822CT 512MB DDR400 X 2 (1Gbyte) Memory
VGA Card : ATI RADEON 9800 PRO 256M (1024X768X32BIT Color)
Hard Disk Driver: Seagate Barracude 7200.7 SATA150
BIOS: Award Optimal default
OS: Windows XP Professional (SERVICE PACK 2)

3D Mark 2001SE	19164
3D Mark 2003	5691
3D Mark 2005	2303
AQUAMRK3	42527 (5622 / 8732)
PCMark2004	
System / CPU / Memory	4177 / 4080 / 3415
Graph / HDD	3763 / 4452
Content Creation Winstone 2004	32
Business Winstone 2004	24.6
Winbench 99 V2.0:	
Business/Hi-end Disk Winmark99	10300 / 22800
Business/Hi-end Graphic Winmark	1150 / 2060
SISMark 2004: SISMark Rating(Internet Content Creation / Office Productivity)	
SISMark 2004	173 (187 / 160)
3D Creation / 2D Creation	181 / 238
/ Web publication	153
Communication / Document Creation	151 / 187
/ Data Analysis	145
SISOFT Sandra 2005 : 1.CPU Arithmetic Benchmark 2.Memory bandwidth Benchmark 3.CPU Multi-Media Benchmark	
1.Dhrystone ALU MIPS	9427
Whetstone FPU iSSE2 FLOPS	3612 / 4653
2.Int/Float Buffered iSSE2 MB/S	2720 / 2720
3.Integer/Floating-Point SSE2 IT/S	20988 / 22630
UT2003 Benchmark (flyby/botmatch)	257.20 / 92.11
Quake3 DEMO1 / DEMO2 FPS	328.5 / 324.7
Return to Castle Wolfenstein FPS	175.1
Super Pi (1M) Second	42s
CPUZ System / CPU Clock	200.0 / 2199.9

1-4 Layout Diagram & Jumper Setting



Jumpers

Jumper	Name	Description	Page
JP2	CMOS RAM Clear	3-pin Block	P.6
JP1	Keyboard/Mouse/USB Power On Enabled/Disabled	3-pin Block	P.7
JP3	USB Power On Enabled/Disabled	3-pin Block	P.7

Connectors

Connector	Name	Description	Page
ATXPWR	ATX Power Connector	20-pin Block	P.11
ATX12V	ATX 12V Power Connector	4-pin Block	P.11
PS2KBMS	PS/2 Mouse & PS/2 Keyboard Connector	6-pin Female	P.12
USB1/ USB/LAN	USB Port Connector	4-pin Connector	P.12
LAN	LAN Port Connector	RJ-45 Connector	P.12
PARALLEL	Parallel Port Connector	25-pin Female	P.12
CN1	Audio Connector	3 phone jack Connector	P.12
COM1/COM2	Serial Port COM1/COM2 Connector	9-pin Connector	P.12
FDD	Floppy Driver Connector	34-pin Block	P.13
IDE1/IDE2	Primary/Secondary IDE Connector	40-pin Block	P.13
SATA1/SATA2	Serial ATA IDE Connector	7-pin Connector	P.14

Headers

Header	Name	Description	Page
AUDIO	SPEAKER, MIC header	9-pin Block	P.14
USB1, USB2	USB Port Headers	9-pin Block	P.14
SPEAK	PC Speaker connector	4-pin Block	P.15
PWR LED	Power LED	3-pin Block	P.15
JW_FP (Power LED/Reset/ IDE LED/Power Button)	Front Panel Header (including Power LED/ IDE activity LED/Reset switch / Power On Button lead)	9-pin Block	P.15
SYSFAN/CPUFAN	FAN Headers	3-pin Block	P.15
CDIN	CD Audio-In Headers	4-pin Block	P.16
GAME	GAME Port Connector	15-pin Block	P.16

Expansion Sockets

Socket/Slot	Name	Description	Page
ZIF Socket 754	CPU Socket	754-pin mPGAB Athlon64 CPU Socket	P.8
DIMM1, DIMM2	DDR Module Socket	184-pin DDR Module Socket	P.8
PCI1~ PCI5	PCI Slot	32-bit PCI Local Bus Expansion slots	P.9
AGP	AGP 4X/8X Mode Slot	AGP Expansion Slot	P.11

Chapter 2

Hardware installation

2-1 Hardware installation Steps

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

1. Check motherboard jumper setting
2. Install CPU and Fan
3. Install System Memory (DIMM)
4. Install Expansion cards
5. Connect IDE and Floppy cables, Front Panel /Back Panel cable
6. Connect ATX Power cable
7. Power-On and Load Standard Default
8. Reboot
9. Install Operating System
10. Install Driver and Utility

2-2 Checking Motherboard's Jumper Setting

(1) CMOS RAM Clear (3-pin) : JP2

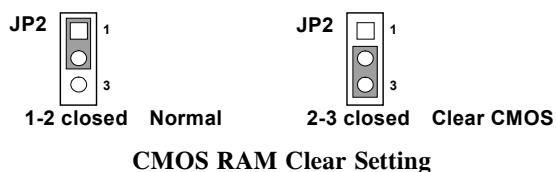
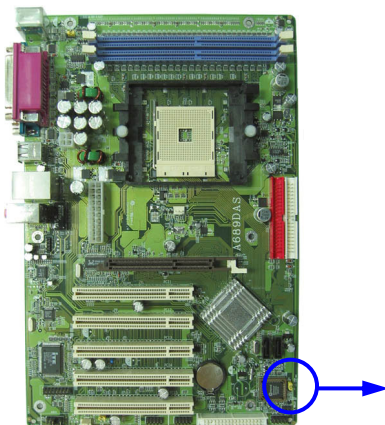
A battery must be used to retain the motherboard configuration in CMOS RAM short 1-2 pins of JP2 to store the CMOS data.

To clear the CMOS, follow the procedure below:

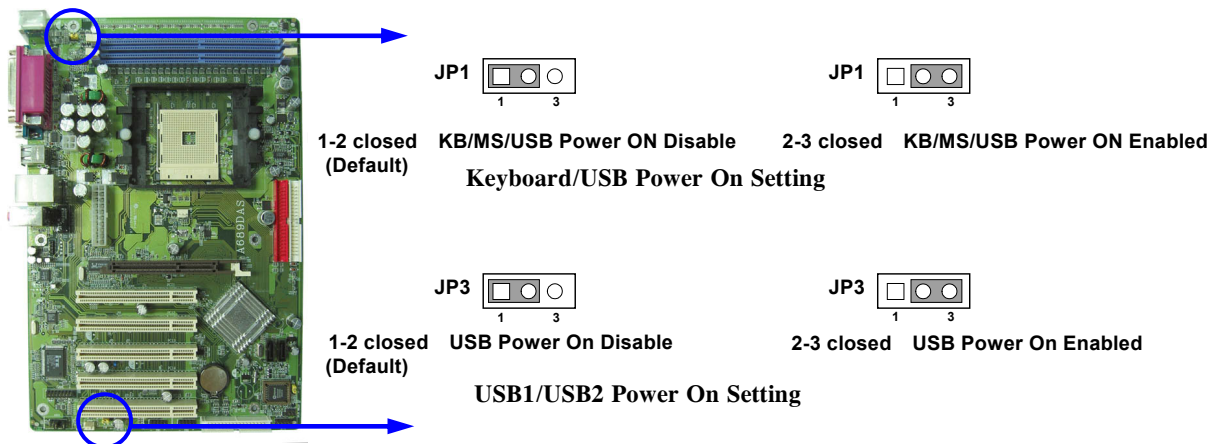
1. Turn off the system and unplug the AC power
2. Remove ATX power cable from ATX power connector
3. Locate JP2 and short pins 2-3 for a few seconds
4. Return JP2 to its normal setting by shorting pins 1-2
5. Connect ATX power cable back to ATX power connector

Note: When should clear CMOS

1. **Troubleshooting**
2. **Forget password**
3. **After over clocking system boot fail**



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



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, RAM) - the slots used to mount adapter cards and system RAM.

AGP - Accelerated Graphics Port - a high speed interface for video cards; runs at 4X (266MHz), or 8X (533MHz).

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

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, 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, normal it depend on CPU type.

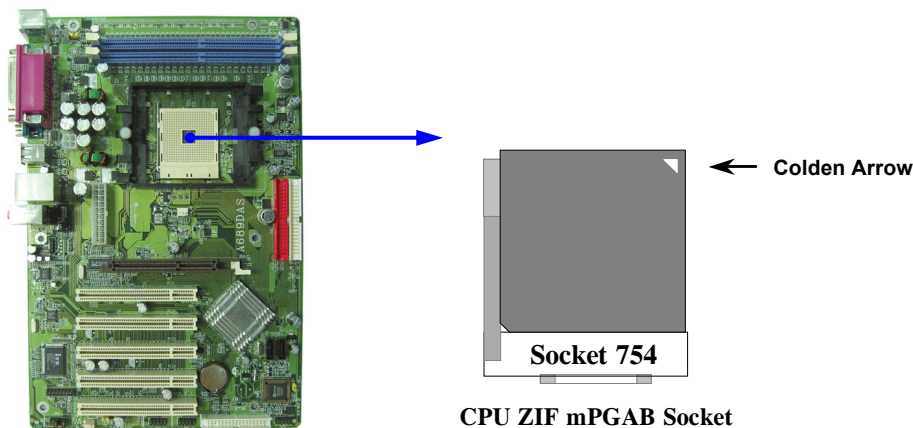
2-3-2 About AMD Athlon64 754-pin CPU

This motherboard provides a 754-pin surface mount, Zero Insertion Force (ZIF) socket, referred to as the mPGA754 socket supports AMD Athlon64 processor in the 754 Pin package utilizes Flip-Chip Pin Grid Array package technology.

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

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

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



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

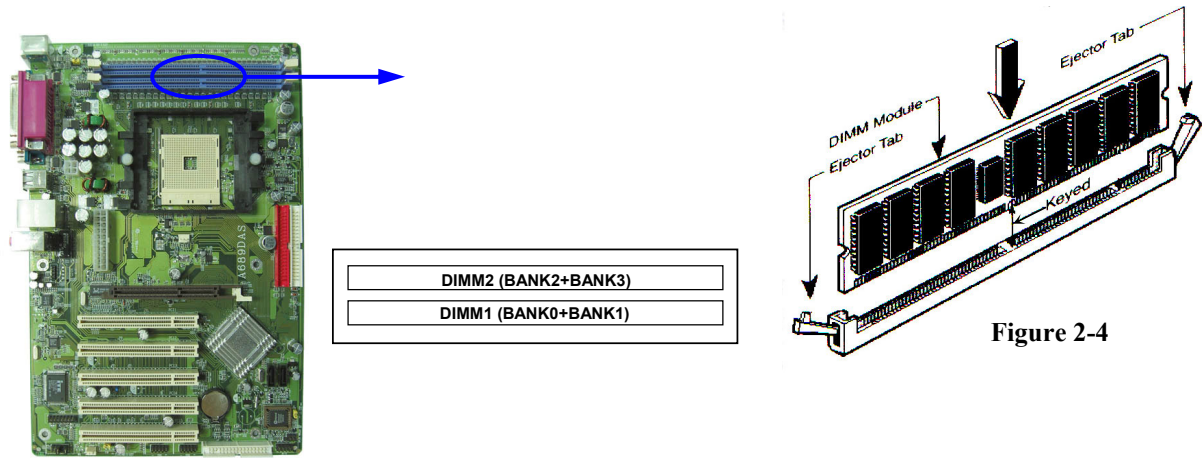
2-4 Install Memory

This motherboard provides **two** 184-pin DDR DUAL INLINE MEMORY MODULES (DIMM) sites for DDR memory expansion available from minimum memory size of 128MB to maximum memory size of 2.0GB DDR SDRAM.

Valid Memory Configurations

Bank	184-pin DDR DIMM	PCS	Total Memory
Bank 0, 1 (DIMM1)	DDR266/DDR333/DDR400 DDR DRAM Module	X1	128MB~1.0GB
Bank 2, 3 (DIMM)	DDR266/DDR333/DDR400 DDR DRAM Module	X1	128MB~1.0GB
Total	System Memory (Max. 2.0GB)	X2	128MB~2.0GB

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



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 DDR SDRAM CLOCK is set at 200MHz, use only DDR400- compliant DDR Modules. When this motherboard operate at 200Mhz, most system will not even boot if non-compliant modules are used because of the strict timing issues, if your DDR Modules are not DDR400-compliant, set the SDRAM clock to 133MHz to ensure system stability.

2-5 Expansion Cards

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

2-5-1 Procedure For Expansion Card Installation

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

2-5-2 Assigning IRQs For Expansion Card

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

Standard Interrupt Assignments

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

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

2-5-3 Interrupt Request Table For This Motherboard

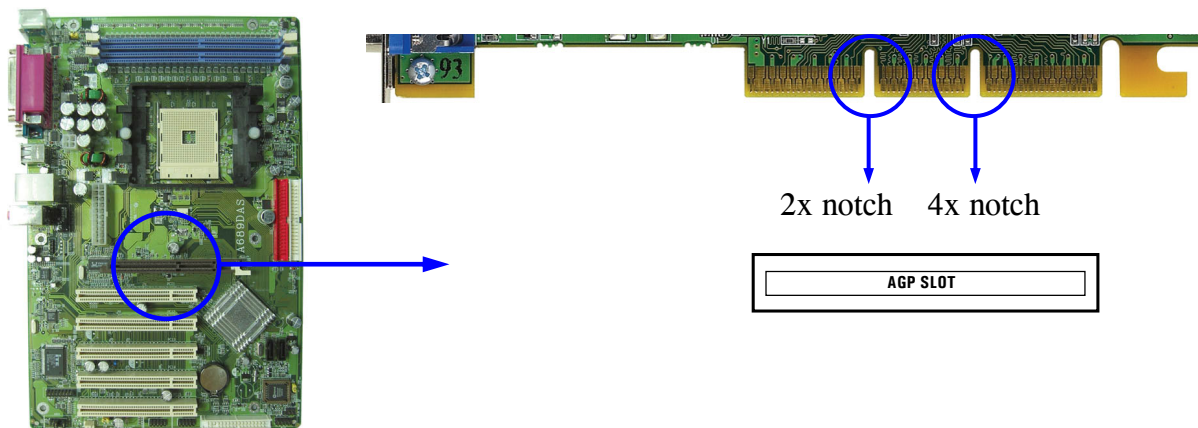
Interrupt request are shared as shown the table below:

	INT A	INT B	INT C	INT D	INT E	INT F	INT G	INT H
Slot 1	√							
Slot 2		√						
Slot 3			√					
Slot 4				√				
Slot 5					√			
Onboard USB 1					√			
Onboard USB 2								√
AC97/MC97			√					

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

2-5-4 AGP Slot

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

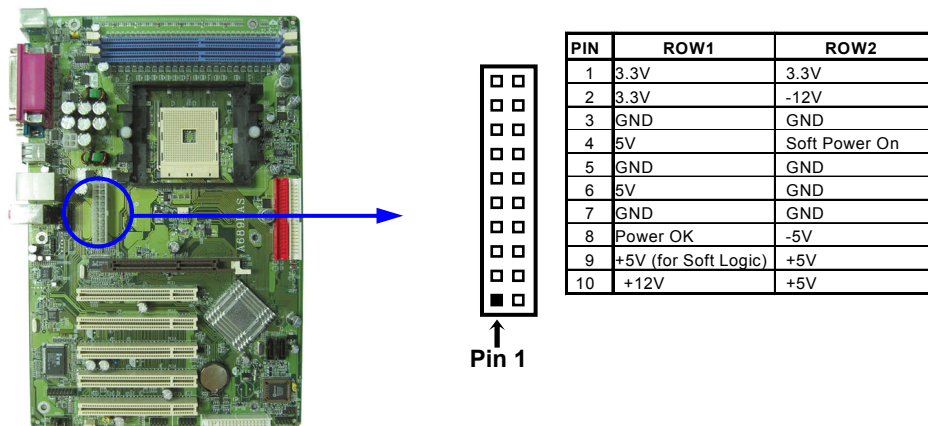


2-6 Connectors, Headers

2-6-1 Connectors

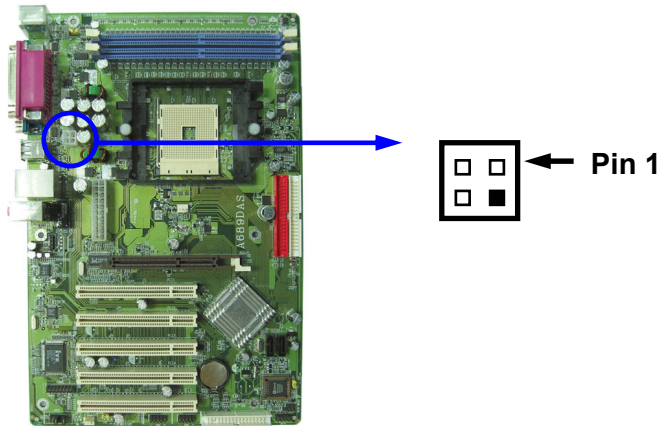
(1) Power Connector (20-pin block) : ATXPWR

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



(2) ATX 12V Power Connector (4-pin block) : ATX12V

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



(3) PS/2 Mouse & PS/2 Keyboard Connector: PS2KBMS

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

(4) USB Port connector: USB1, USB/LAN

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

(5) LAN Port connector: LAN

This connector is standard RJ45 connector for Network

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

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

(7) Audio and Game Connector : AUDIO (LINE-OUT/ LINE_IN/MIC)

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

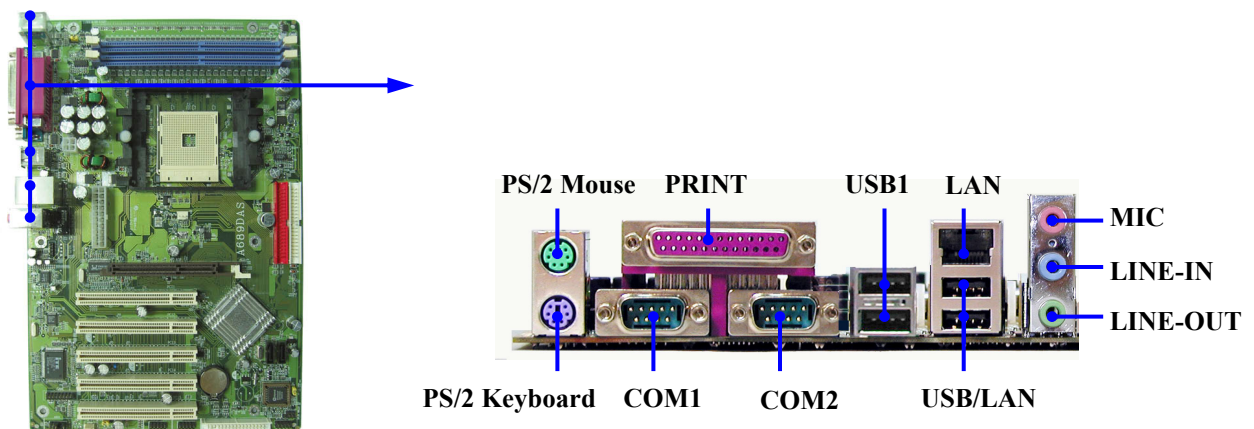
Line-out : Audio output to speaker

Line-in : Audio input to sound chip

MIC : Microphone Connector

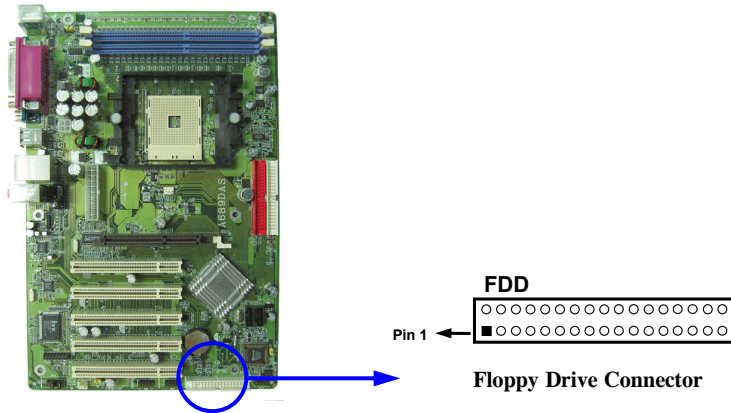
(8) Serial Port COM1/COM2 : COM1/COM2

COM1/COM2 is the 9-pin D-Subminiature male connector. The On-board serial port can be disabled through BIOS SETUP. Please refer to Chapter 3 “INTEGRATED PERIPHERALS SETUP” section for more detail information.



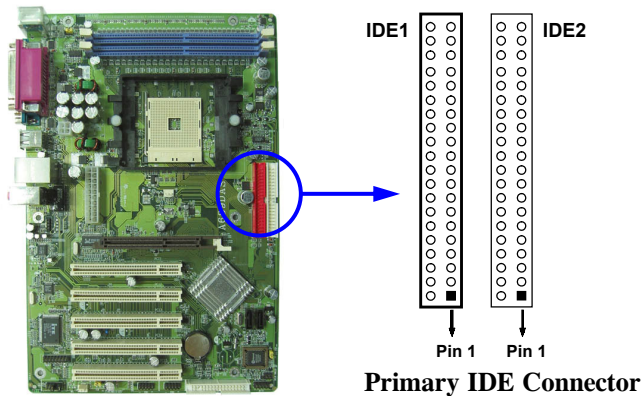
(9) Floppy drive Connector (34-pin block): FDD

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.



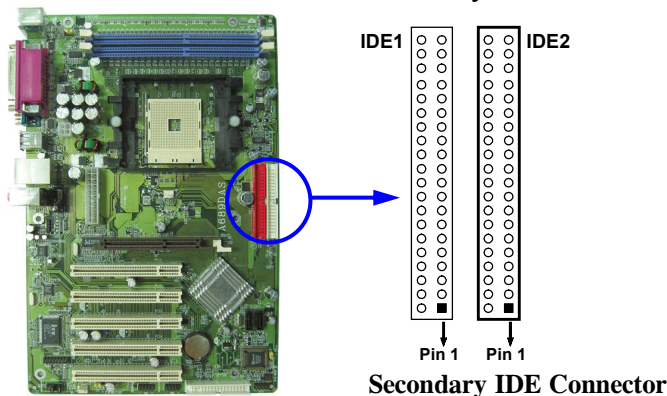
(10) Primary IDE Connector (40-pin block): IDE1

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.



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

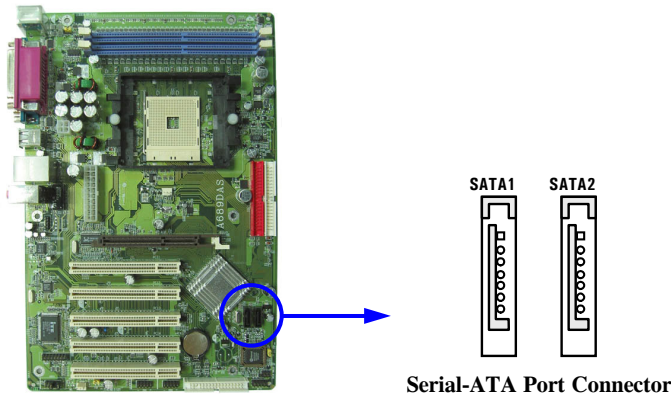
This connector connects to the next set of Master and Slave hard disks. Follow the same procedure described for the primary IDE connector. You may also configure two hard disks to be both Masters using one ribbon cable on the primary IDE connector and another ribbon cable on the secondary IDE connector.



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

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

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

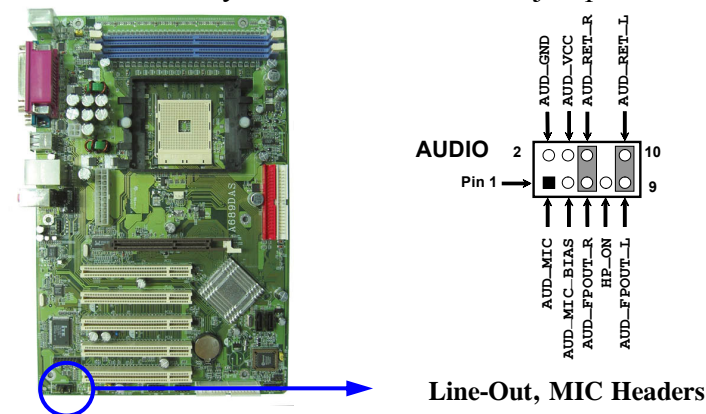


2-6-2 Headers

(1) Line-Out/MIC Header for Front Panel (9-pin): AUDIO

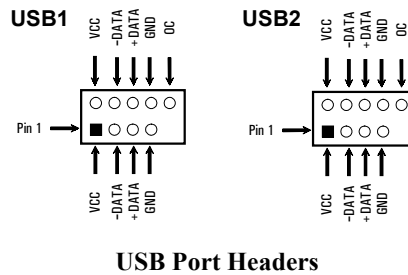
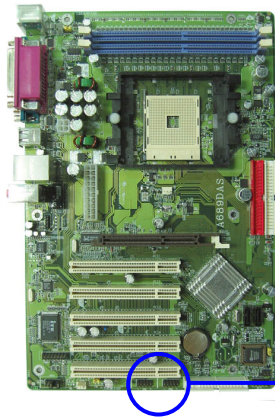
This header connect to Front Panel Line-out, MIC connector with cable.

Without install the cable, this header default setting is 5-6 short, 9-10 short. When you install the cable you have take off these jumpers.



(2) USB Port Headers (9-pin) : USB1/USB2

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



(3) Speaker connector: SPEAK

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

(4) Power LED: PWR LED

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

(5) IDE Activity LED: HD LED

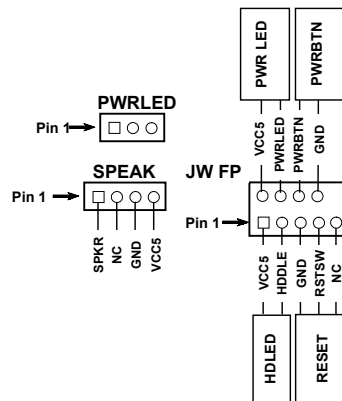
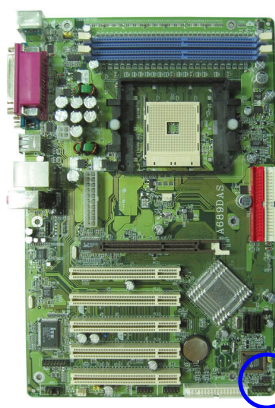
This connector connects to the hard disk activity indicator light on the case.

(6) Reset switch lead: RESET

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

(7) Power switch: PWR BTN

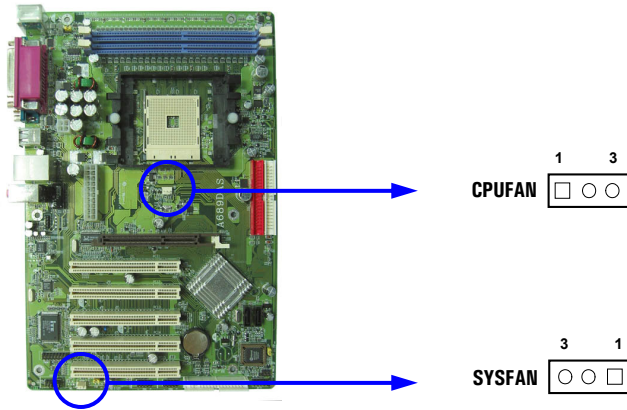
This 2-pin connector connects to the case-mounted power switch to power ON/OFF the system.



System Case Connections

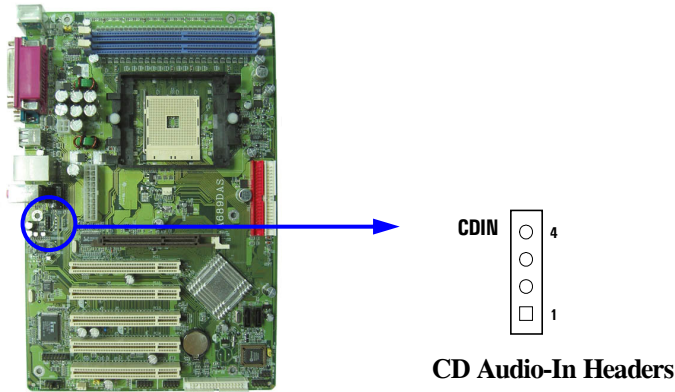
(8) FAN Headers (3-pin) : SYSFAN, CPUFAN

These connectors support cooling fans of 350mA (4.2 Watts) or less, depending on the fan manufacturer, the wire and plug may be different. The red wire should be positive, while the black should be ground. Connect the fan's plug to the board taking into consideration the polarity of connector.

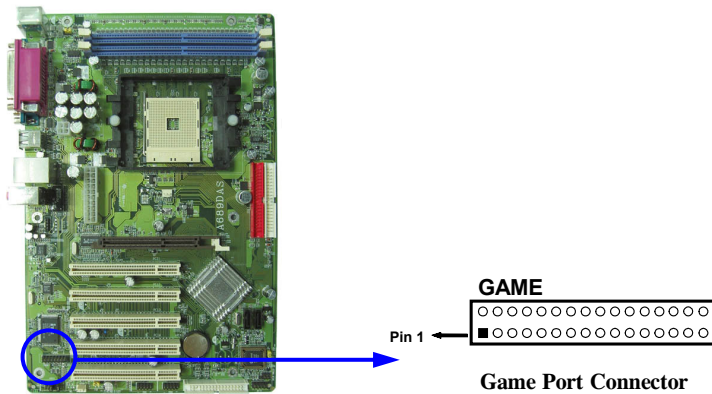


(9) CD Audio-In Headers (4-pin) : CDIN

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



(10) Game Port Connector (15-pin) : GAME



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.

Phoenix - AwardBIOS CMOS Setup Utility

Standard CMOS Features	Miscellaneous Control
Advanced BIOS Features	Load Optimized Defaults
Advanced Chipset Features	Load Standard Defaults
Integrated Peripherals	Set Supervisor Password
Power Management Setup	Set User Password
PnP/PCI Configurations	Save & Exit Setup
PC Health Status	Exit Without Saving
Esc : Quit	↑↓→← : Select Item
F10 : Save & Exit Setup	
Time, Date, Hard Disk Type...	

Figure 3-1

Standard CMOS Features

Use this Menu for basic system configurations.

Advanced BIOS Features

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

Advanced Chipset Features

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

Integrated Peripherals

Use this menu to specify your settings for integrated peripherals.

Power Management Setup

Use this menu to specify your settings for power management.

PnP/PCI configurations

This entry appears if your system supports PnP/PCI.

PC Health Status

This entry shows your PC health status.

Miscellaneous Control

Use this menu to specify your settings for Miscellaneous control.

Load Optimized Defaults

Use this menu to load the BIOS default values these are setting for optimal performances system operations for performance use.

Load Standard Defaults

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

Set Supervisor/User Password

Use this menu to set User and Supervisor Passwords.

Save & Exit Setup

Save CMOS value changes to CMOS and exit setup.

Exit Without Saving

Abandon all CMOS value changes and exit setup.

3-4 Standard CMOS Features

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

Phoenix - AwardBIOS CMOS Setup Utility
Standard CMOS Features

Date (mm:dd:yy)	Thu, Jan, 13 2005	Item Help
Time (hh:mm:ss)	16 : 48 : 35	
> IDE Primary Master	None	Menu Level > Change the day, month, year and century
> IDE Primary Slave	None	
> IDE Secondary Master	None	
> IDE Secondary Slave	None	
Drive A	1.44M, 3.5 in.	
Drive B	None	
Video	EGA/VGA	
Halt On	All Errors	
Base Memory	640K	
Extended Memory	522240K	
Total Memory	523264K	
↑↓→← Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help F5:Previous Values F6:Optimized Defaults F7:Standard Defaults		

Date

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

Day Day of the week, from Sun to Sat, determined by BIOS. Read-only.

Month The month from Jan. through Dec.

Date The date from 1 to 31 can be keyed by numeric function keys.

Year The year depends on the year of the BIOS.

Time

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

Primary Master/Primary Slave

Secondary Master/Secondary Slave

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

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

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

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

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

Cylinder number of cylinders

Head number of heads

Precomp write precomp

Landing Zone landing zone

Sector number of sectors

3-5 Advanced BIOS Features

Phoenix - AwardBIOS CMOS Setup Utility

Advanced BIOS Features

Anti-Virus Protection	<u>Disabled</u>	Item Help	
L1 Cache	Enabled		
L2 Cache	Enabled	Menu Level >	
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	Fast		
Typematic Rate Setting	Disabled		
Typematic Rate (Chars/Sec)	6		
Typematic Delay (Msec)	250		
Security Option	Setup		
APIC Mode	Enabled		
MPS Version Control For OS	1.4		
OS Select For DRAM > 64MB	Non-OS2		
HDD S.M.A.R.T. Capability	Disabled		
Report No FDD For Windows	Yes		
Video BIOS Shadow	Enabled		
↑↓→← Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help F5:Previous Values F6:Optimized Defaults F7:Standard Defaults			

Anti-Virus Protection

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

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

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

CPU Internal Cache

The default value is Enabled.

Enabled (default) Enable cache

Disabled Disable cache

Note: The internal cache is built in the processor.

External Cache

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

Quick Power On Self-Test

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

Enabled (default) Enable quick POST

Disabled Normal POST

First/Second/Third/Fourth Boot Device

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

Swap Floppy Drive

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

Boot Up Floppy Seek

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

Boot Up NumLock Status

The default value is On.

On (default) Keypad is numeric keys.

Off Keypad is arrow keys.

Typematic Rate Setting

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

Typematic Rate (Chars/Sec)

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

Typematic Delay (Msec)

Sets the delay time after the key is held down before 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.

3-6 Advanced Chipset Features

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

Phoenix - AwardBIOS CMOS Setup Utility		
Advanced Chipset Features		
> DRAM Timing Settings	Press Enter	Item Help
> AGP Timing Settings	Press Enter	
System BIOS Cacheable	Enabled	Menu Level >
Memory Hole	Disabled	
↑↓→← Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help F5:Previous Values F6:Optimized Defaults F7:Standard Defaults		

DRAM Timing Settings

Please refer to section 3-6-1

AGP Timing Settings

Please refer to section 3-6-2

System BIOS Cacheable

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

Memory Hole

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

3-6-1 DRAM Timing Settings

Phoenix - AwardBIOS CMOS Setup Utility

DRAM Timing Settings

Hypertransport Link Frequency	800 MHz	Item Help
HYpertransport Link Width in	16 bit	
Hypertransport Link Width Out	16 bit	
x DRAM CAS Latency	CL=2.5	Menu Level >>
x RAS Active Time	8 Bus Clocks	
x RAS Precharge Time	3 Bus Clocks	
x RAS to CAS Delay	3 Bus Clocks	
DRAM Command Rate	1T (By CPU)	

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

RAS Active Time

This field let's you insert a timing delay between the CAS and RAS strobe signals, used when DRAM is written to, read from, or refreshed. *Fast* gives faster performance; and *Slow* gives more stable performance. This field applies only when synchronous DRAM is installed in the system. The settings are: 2T and 3T.

RAS Precharge Time

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

CAS Latency

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

3-6-2 AGP Timing Settings

Phoenix - AwardBIOS CMOS Setup Utility

AGP Timing Settings

AGP Aperture Size	128M	Item Help
AGP Transfer Mode	8X	
AGP Fast Write	Disabled	Menu Level >>
↑↓→← Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help F5:Previous Values F6:Optimized Defaults F7:Standard Defaults		

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

3-7 Integrated Peripherals

Phoenix - AwardBIOS CMOS Setup Utility

Integrated Peripherals

> OnChip IDE Function	Press Enter	Item Help
> OnChip Device Function	Press Enter	
> Onboard Super IO Function	Press Enter	
Init Display First	PCI Slot	Menu Level >
↑↓→← Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help F5:Previous Values F6:Optimized Defaults F7:Standard Defaults		

OnChip IDE Function

Please refer to section 3-7-1

OnChip Device Function

Please refer to section 3-7-2

Onboard Super IO Function

Please refer to section 3-7-3

Init Display First

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

3-7-1 OnChip IDE Function

Phoenix - AwardBIOS CMOS Setup Utility

OnChip IDE Function

SATA Function	Enabled	Item Help	
OnChip IDE Channel0	Enabled		
OnChip IDE Channel1	Enabled	Menu Level >>	
Primary Master PIO	Auto		
Primary Slave PIO	Auto		
Secondary Master PIO	Auto		
Secondary Slave PIO	Auto		
Primary Master UDMA	Auto		
Primary Slave UDMA	Auto		
Secondary Master UDMA	Auto		
Secondary Slave UDMA	Auto		
IDE HDD Block Mode	Enabled		
↑↓→← 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 *Enabled* to activate each channel separately. The settings are: Enabled and Disabled.

Primary/Secondary Master/Slave PIO

The four IDE PIO (Programmed Input/Output) fields let you set a PIO mode (0-4) for each of the four IDE devices that the onboard IDE interface supports. Modes 0 through 4 provide successively increased performance. In Auto mode, the system automatically determines the best mode for each device. The settings are: Auto, Mode 0, Mode 1, Mode 2, Mode 3, Mode 4.

Primary/Secondary Master/Slave UDMA

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

IDE HDD Block Mode

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

3-7-2 OnChip Device Function

Phoenix - AwardBIOS CMOS Setup Utility

OnChip Device Function

Onboard LAN Device	Enabled	Item Help
Onboard LAN Boot ROM	Disabled	
Onboard AC97 Audio Device	Auto	Menu Level >>
==== USB Controller System ====		
OnChip USB Controller	Enabled	
USB 2.0 Support	Enabled	
USB Keyboard Support	Disabled	
↑↓→← Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help F5:Previous Values F6:Optimized Defaults F7:Standard Defaults		

AC97 Sound Device

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

Game Port Address/Midi Port Address

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

USB Host Controller

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

USB Keyboard Support

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

3-7-3 OnChip Super IO Function

Phoenix - AwardBIOS CMOS Setup Utility

OnChip Super IO Function

Onboard FDC Controller	Enabled	Item Help
Onboard Serial Port 1	3F8/IRQ4	
Onboard Serial Port 2	2F8/IRQ3	Menu Level >>
UART Mode Select	Normal	
x UR2 Duplex Mode	Half	
Onboard Parallel Port	378/IRQ7	
Parallel Mode	SPP	
x ECP Mode Use DMA	3	
↑↓→← Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help F5:Previous Values F6:Optimized Defaults F7:Standard Defaults		

Onboard FDD Controller

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

Onboard Serial Port 1/Port 2

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

Onboard Parallel Port

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

Disabled

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

Parallel Port Mode

- SPP : Standard Parallel Port
- EPP : Enhanced Parallel Port
- ECP : Extended Capability Port

SPP/EPP/ECP/ECP+EPP

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

3-8 Power Management Setup

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

Phoenix - AwardBIOS CMOS Setup Utility
Power Management Setup

ACPI Function	Enabled	Item Help	
ACPI Suspend Type	S1 (POS)		
Power Management Option	User Define	Menu Level >	
HDD Power Down	Disabled		
Suspend Mode	Disabled		
Video Off Option	Suspend -> off		
Video off Method	V/H SYNC+Blank		
MODEM Use IRQ	3		
Power Button Function	Instant-Off		
AC Loss Auto Restart	Always-Off		
AMD K8 Cool'n'Quiet Control	Auto		
> Wake Up Events	Press Enter		
↑↓→← Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help F5:Previous Values F6:Optimized Defaults F7:Standard Defaults			

ACPI Function

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

Video Off Option

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

Video Off Method

This determines the manner in which the monitor is blanked.

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

Modem Use IRQ

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

Power Button Function

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

Wake Up Events

Please refer to section 3-8-1

3-8-1 Wake up Events

Phoenix - AwardBIOS CMOS Setup Utility

Wake Up Events

Wake-Up on Ring	Disabled	Item Help
Wake-Up on PCI PME	Disabled	
PS2 KB Wake up Selection	Hot Key	
Wake-Up on Hot Key (PS2 KB)	Disabled	Menu Level >>
Wake-Up on USB Device	Disabled	
Wake-Up on RTC Alarm	Disabled	
x Date of Month Alarm	0	
x Time (hh:mm:ss) Alarm	0 : 0 : 0	
> IRQs Activities	Press Enter	

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

Wake Up On Ring/PME

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

Wake-Up on RTC Alarm

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

Date(of month) Alarm

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

Time(hh:mm:ss) Alarm

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

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

IRQs Activities

Please refer to section 3-8-1.1

3-8-1.1 IRQs Activities

Phoenix - AwardBIOS CMOS Setup Utility

IRQs Activities

Primary INTR	ON	Item Help	
IRQ3 (COM 2)	Disabled		
IRQ4 (COM 1)	Enabled	Menu Level >>>	
IRQ5 (LPT 2)	Enabled		
IRQ6 (Floppy Disk)	Enabled		
IRQ7 (LPT 1)	Enabled		
IRQ8 (RTC Alarm)	Disabled		
IRQ9 (IRQ2 Redir)	Disabled		
IRQ10 (Reserved)	Disabled		
IRQ11 (Reserved)	Disabled		
IRQ12 (PS/2 Mouse)	Enabled		
IRQ13 (Coprocessor)	Enabled		
IRQ14 (Hard Disk)	Enabled		
IRQ15 (Reserved)	Disabled		
↑↓→← Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help F5:Previous Values F6:Optimized Defaults F7:Standard Defaults			

3-9 PnP/PCI Configuration Setup

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

Phoenix - AwardBIOS CMOS Setup Utility

PnP/PCI Configurations

PnP OS Installed	No	Item Help	
Reset Configuration Data	Disabled		
Resources Controlled By	Manual	Menu Level >	
x IRQ Resources	Press Enter		
PCI/VGA Palette Snoop	Disabled		
↑↓→← Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help F5:Previous Values F6:Optimized Defaults F7:Standard Defaults			

Reset Configuration Data

Normally, you leave this field Disabled. Select Enabled to reset Extended System Configuration Data (ESCD) when you exit Setup if you have installed a new add-on and the system reconfiguration has caused such a serious conflict that the operating system can not boot. The settings are: Enabled and Disabled.

Resource Controlled By

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

The settings are: Auto(ESCD), Manual.

IRQ Resources

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

Please refer to section 3-9-1

PCI/VGA Palette Snoop

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

3-9-1 IRQ Resources

Phoenix - AwardBIOS CMOS Setup Utility

IRQ Resources

IRQ Resources			Item Help
IRQ5	assigned to	PCI Device	Menu Level >>
IRQ7	assigned to	PCI Device	
IRQ9	assigned to	PCI Device	
IRQ10	assigned to	PCI Device	
IRQ11	assigned to	PCI Device	
IRQ12	assigned to	PCI Device	
IRQ14	assigned to	PCI Device	
IRQ15	assigned to	PCI Device	
↑↓→← Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help F5:Previous Values F6:Optimized Defaults F7:Standard Defaults			

3-10 PC Health Status

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

Phoenix - AwardBIOS CMOS Setup Utility

PC Health Status

Shutdown Temperature	<u>Disabled</u>	Item Help
Show PC Health in Post	Enabled	
Vcore	1.51V	Menu Level >
VDIMM	2.51V	
+3.3 <V>	3.44V	
+5 <V>	5.22V	
+12 <V>	12.02V	
+3.3VUS <V>	3.40V	
VBAT <V>	3.29V	
+V5SUS <V>	5.17V	
CPUFAN Temperature	49°C/120°F	
SFAN1 Temperature	28°C/82°F	
CPUFAN Speed	3060 RPM	
SFAN1 Speed	0 RPM	
SFAN2 Speed	0 RPM	
===== SmartGuardian Control System =====		
CPUFAN Smart Mode	Disabled	
x CPUFAN Smart Control Temp	20°C	
↑↓→← Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help F5:Previous Values F6:Optimized Defaults F7:Standard Defaults		

Shutdown Temperature

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

Show PC Health in Post

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

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

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

3-11 Miscellaneous Control

This section is for setting CPU Frequency/Voltage Control.

Phoenix - AwardBIOS CMOS Setup Utility
Miscellaneous Control

CPU Ratio	Default	Item Help
Auto Detect PCI Clk	Enabled	
Spread Spectrum	Disabled	
*** Current Host Frequency is 200MHz ***		
CPU Clock at Next Boot is	200MHz	Menu Level >
*** Current DRAM Frequency is 133MHz ***		
DRAM Clock at next Boot is	200MHz (By SPD)	
CPU Vcore	Default	
VRAM Output	2.5V (Default)	
Flash Write Protect	Enabled	
↑↓→← Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help F5:Previous Values F6:Optimized Defaults F7:Standard Defaults		

Auto Detect PCI Clk

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

Spread Spectrum

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

Host Clock at next Boot is

This item allows you to select CPU frequency step by step increasing.
The choice are: 200MHz~300MHz.

DRAM Clock at next Boot is

This field displays the capability of the memory modules that you can use.

3-12 Load Standard/Optimized Defaults

Load Standard Defaults

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

Load Standard Defaults (Y/N)? N

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

Load Optimized Defaults

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

Load Optimized Defaults (Y/N)? N

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

3-13 Set Supervisor/User Password

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

Supervisor password: Can enter and change the options of the setup menus.

User password: Can only enter but do not have the right to change the options of the setup menus. When you select this function, the following message will appear at the center of the screen to assist you in creating a password.

ENTER PASSWORD:

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

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

PASSWORD DISABLED.

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

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

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

Chapter 4

DRIVER & FREE PROGRAM INSTALLATION

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

MAGIC INSTALL Supports WINDOWS 98SE/ME/NT4.0/2000/XP

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



From MAGIC INSTALL MENU you may make 8 selections:

1. ALI install ALI integrated driver
2. SOUND install ALC AC97' Codec Audio driver
3. USB2.0 install USB 2.0 driver
4. DIRECTX9 install Microsoft DirectX 9 driver
5. PC-CILLIN install PC-CILLIN2004 anti-virus program
6. PC-HEALTH install ITE Smart GUARDIAN driver
7. BROWSE CD to browse the contents of the CD
8. EXIT to exit from MAGIC INSTALL menu

4-1 ALI install ALI Integrated driver

Note : You should install this driver before the installation of VGA graphic driver,
If you already install VGA Graphic driver, please remove VGA graphic driver,
Then install ALI integrated driver first.

ALI Integrated driver pack include following device driver:

FAST ETHERNET : Install ULI PCI 10-100 Fast Ethernet device driver.

USB2.0 : Install ULI USB2.0 driver

AGPVXD : ULI AGPVXD driver is to be installed, If you are using an AGP
VGA Card , ULI AGPVXD will provide service routines to your
VGA driver and interface directly to hardware, providing fast
graphic access .

SATA : Install ULI M5289 SATA driver

Making SATA HDD driver diskette before Install WindowsXP/2000

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

How to make a SATA HDD driver diskette?

STEP 1: Insert the diskette which been formatted in floppy drive on a system which can start OS.

STEP 2: After booting OS insert the bundle CD in your CD-ROM

STEP 3: Copy all the files from X:\ALI689\SATADISK*. * to floppy diskette

Once you have the SATA driver diskette ready, you may start to install Windows XP or Windows 2000 on your System.

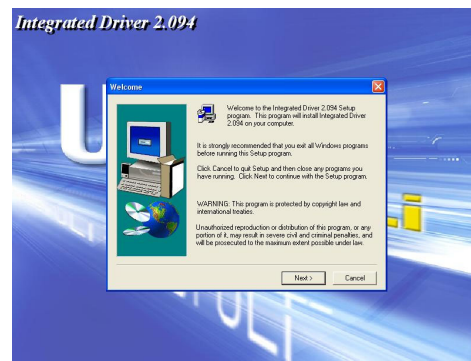
Installation of Windows XP/ Windows 2000

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

At this moment, please press <F6> key and follow the instructions of Windows XP or Windows 2000 for the proper installation.



1. Click ALI in the MAGIC INSTALL MENU



2. Click NEXT when Integrated driver Install windows appears



3. Please select you want to install driver .



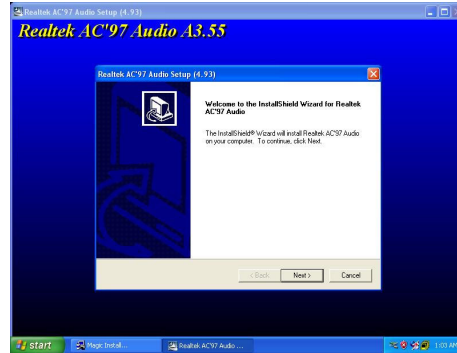
4. click OK and restart your computer

* **The path of the file is X:\ALI689\DRIVER\SETUP.EXE**

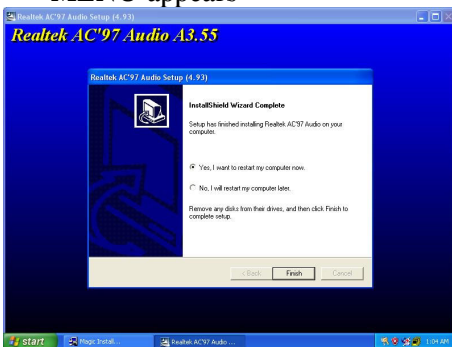
4-2 SOUND Install ALC655 Audio Codec Driver



1. Click SOUND when MAGIC INSTALL MENU appears



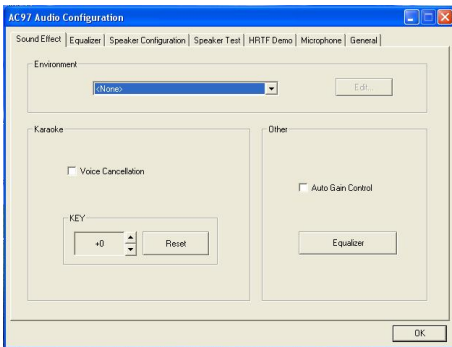
2. Click NEXT when the realtek AC97 Audio Setup windows appear



3. Click Finish and Restart Windows



4. Realtek AVRACK utility



5. Sound Effect select and KaraOK Mode Function



6. Manual Sound Effect Setting



7. This is 2/4/6 channel speakers configuration setting



8. This is 2/4/6 channel speakers position test setting

The path of the file is X:\CODEC\ALC\SETUP.EXE

4-3 USB2.0 install Intel USB2.0 Driver

Windows 2000 OS

Please install Windows 2000 service pack 4 or later .

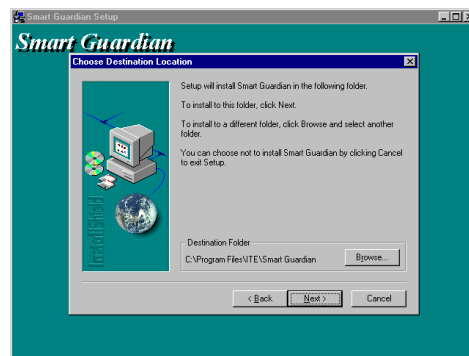
Windows XP OS

Please install Windows XP service pack 1 or later .

4-4 PC-HEALTH install ITE SMART GUARDIAN Software for Hardware Monitoring Device



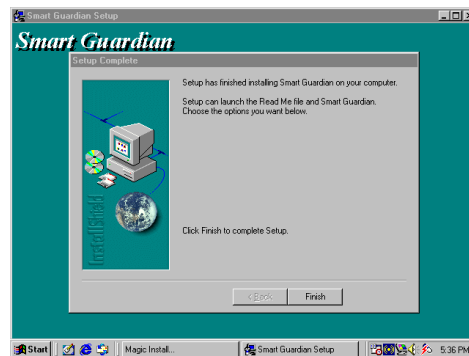
1. Click PC-HEALTH when MAGIC INSTALL MENU appears



2. Click OK when SMART GUARDIAN INSTALL appears



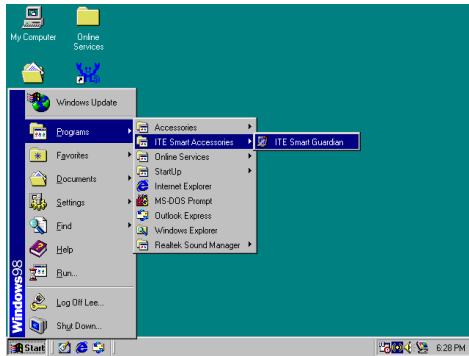
3. This to assign the path of the file, click NEXT



4. Click FINISH after the software is installed

The path of the file is X:\ALI689\SMARTGD\SETUP.EXE

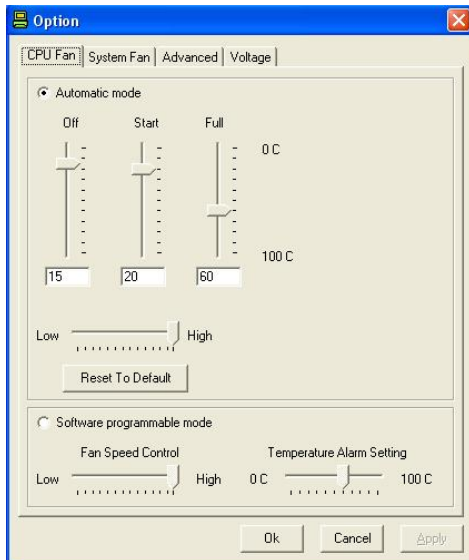
4-4-1 HOW TO UTILIZE PC-HEALTH



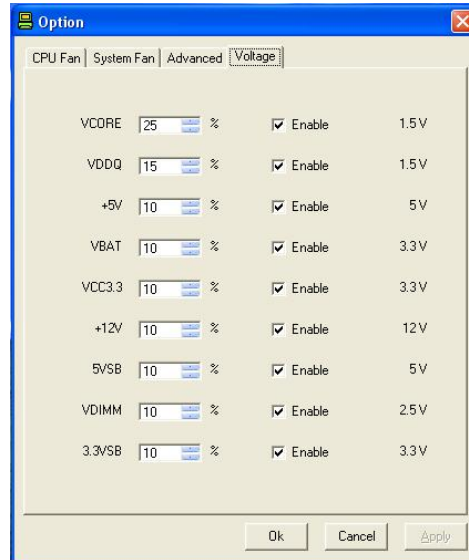
1. Click START/PROGRAMS/ITE SMART ACCESSORIES / ITE SMART GUARDIAN



2. You will see a real time report about FAN SPEED, VOLTAGE and TEMPERATURE System will make a warning if any value is beyond Initial setting value



3. You can click OPTION to re-set cpu / system smart fan speed by yourself

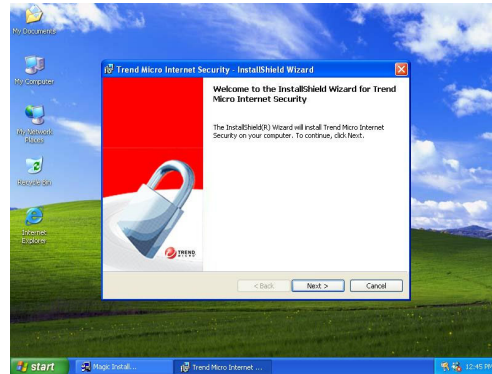


4. You can click OPTION to re-set voltage warning range

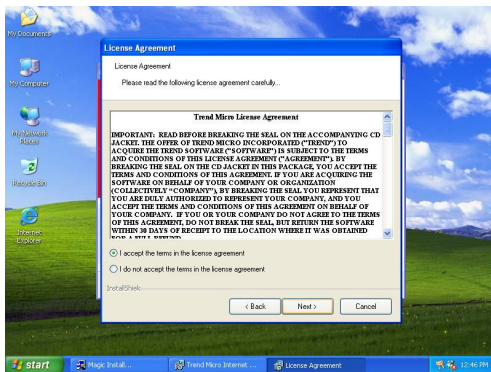
4-5 PC-CILLIN Install PC-CILLIN 2004 Anti-virus program



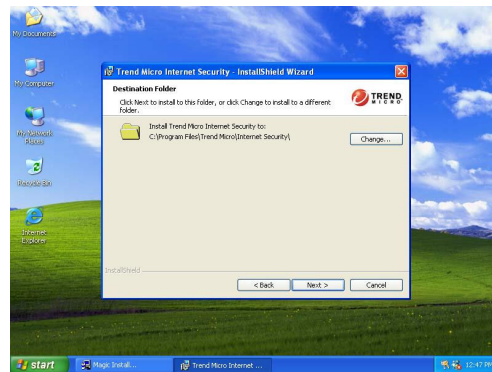
1. Click PC-CILLIN when MAGIC INSTALL MENU appear



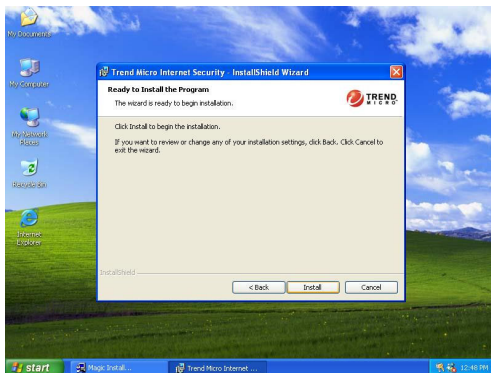
2. Click NEXT when the "Trend Micro internet security" installshield wizard windows appear



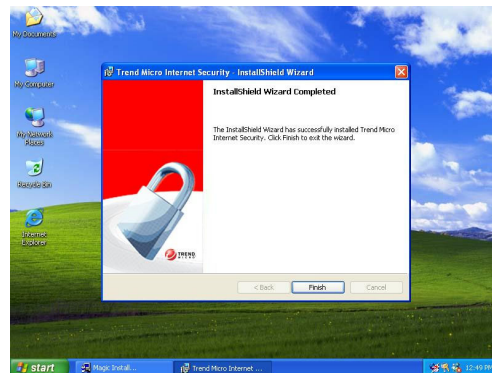
3. This is license agreement, select "I Accept the terms" and Click NEXT



4. Click NEXT and Enter your Customer Information, Click NEXT or choose Change to change the path for the file to be stored



5. Click INSTALL, Start to install the software



6. Setup Complete and click FINISH



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

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

4-6 HOW TO UPDATE BIOS

Before update BIOS users have to “Disable”, “Flash Part Write Protect” item which in “Miscellaneous Control” of BIOS SETUP. Otherwise the system the will not allow you to upgrade BIOS by Award Flash Utility.

- 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 A68DAS from our web site to your boot disc.
- STEP 4.** Insert your boot disc into A:, start the computer, type “Awdflash A:\689xxx.BIN /SN/PY/CC/R”
689xxx.BIN is the file name of latest BIOS it can be 689DASA03.BIN or 689DASB02.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.