618AS Pro/618AF Pro
618AS Pro-R/618AF Pro-R
USER'S MANUAL

M/B For Socket 370 Pentium® III Processor

** Year 2000 compliant **

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USER'S NOTICE

Manual Revision Information

Reversion	Revision History	Date
2.0	Second Edition	August 2001

Item Checklist

☑ Motherboard

☑ Cable for IDE/Floppy

☑ CD for motherboard utilities

    Cable for USB Port 3/4 (Option)

☑ Cable for VGA (Only for 618AF Pro/618AF Pro-R)

☑ IDE Cable for RAID (Only for 618AS Pro-R/618AF Pro-R)

☑ User's Manual

Intel® Processor Family
Thermal Solutions

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

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

Vendor list for heatsink and fan of **Pentium® !!! processor**, please visit
http://developer.intel.com/design/Pentiumiii/components/index.htm

Vendor list for heatsink and fan of **Intel® Celeron™ processor**, please visit
http://developer.intel.com/design/celeron/components/index.htm

Chapter 1

Introduction of 618AS Pro/618AF Pro/618AS Pro-R/618AF Pro-R Motherboard

1-1 Feature of motherboard

The motherboard is design for use Intel's new generation Pentium III /Tualatin processors, which utilize the Socket 370 design and the memory size expandable to 512MB.

This motherboard use the newest Intel chipset, whose 133MHz front side bus & 133MHz memory interface delivers a clear upgrade path to the future generation of 133MHz processors and PC-133 SDRAM. It offers ULTRA DMA 100MB/sec (ATA 100) to provide speedier HDD throughout that boosts overall system performance.

The 618AS Pro-R/618AF Pro-R including IDE RAID chipset and added extra 2 channel IDE interface supports either ATA100, or RAID0 (striping)/RAID1 (mirroring) function. Use RAID0 function it can increasing data storage performance, use RAID1 function it can protect data which save in hard disk drive.

For 618AF Pro/618AF Pro-R, with integrated 3D Graphic Accelerator, makes this board lower cost alternative to a video card. For those wanting even greater graphic performance, an AGP 4X slot is included on the board. This AGP slot will support either a 4X VGA card or a 4MB display cache AGP In-line Memory Module (AIMM). And for 618AS Pro/618AS Pro-R, this board provides on board AGP 4X slot for those wanting even greater graphic performance.

The motherboard integrated AC'97 2.1 CODEC on board which is fully compatible with Sound Blaster Pro® that gives you the best sound quality and compatibility. With 2 USB control as well as capability of expanding to 4 USB connectors, which guarantees this board to meet future USB demand. Moreover, this motherboard has built-in hardware monitor function that capable of monitor and protect your computer. In 618AS Pro/618AF Pro motherboards *integrated Recovery Genius in BIOS* protected your hard disk from virus crash hard disk data, and special design in hardware to protect BIOS from virus crash BIOS data.

In these motherboards we design in CPU Vcore Voltage, System 3.3V Voltage, memory 3.3V Voltage and AGP 1.5V/3.3V Voltage those can minor adjustable in BIOS setup. This design can let users approach over clock demand and also can make system more stable. The motherboard also 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	∗ ATX form factor 4 layers PCB size: 30.5x24.4cm
Chipset	∗ Intel 815E B-Step Chipset for 618AF Pro/618AF Pro-R ∗ Intel 815EP B-Step chipset for 618AS Pro/618AS Pro-R
CPU Socket	∗ Support Pentium® III 500~1GHz processor ∗ Support Celeron™ 300~950MHz processor ∗ Support 66, 100 and 133MHz CPU Bus clock ∗ Reserves support for future Intel Pentium® III processors
Memory Socket	∗ 168-pin DIMM socket x3 Expandable to 512MB ∗ Support 3.3V PC-100/PC-133 SDRAM Module
Expansion Slot & Headers	∗ AGP/AIMM slot x1 support AGP 2.0 & 4X mode ∗ 32-bit PCI slot x6 ∗ CNR slot x1
Integrate VGA (Only for 618AF Pro /618AF Pro-R)	∗ 3D graphic acceleration ∗ Expandable 4MB display cache by AIMM
Integrate IDE	∗ 2 channel of Bus Master IDE port supporting ULTRA DMA 33/66/100 mode devices
IDE RAID (Only for 618AF Pro-R 618AS Pro-R)	∗ Extra 2 channel IDE RAID interface support either ATA100 or RAID 0 (stripping), RAID 1(mirroring) function to increase performance or protect system data
AC'97Audio	∗ AC'97 Digital Audio controller integrated ∗ AC'97 Audio CODEC on board ∗ Audio driver and utility included
Voltage Minor Adjustable	∗ CPU Vcore, System 3.3V, Memory 3.3V and AGP 1.5V/3.3V these can minor adjustable in BIOS Setup
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 ∗ USB connector x2 and USB headers x2 (connecting cable option) ∗ Audio connector (Line-in, Line-out, MIC & Game Port)

1-3 Performance List

1-3-1 618AF Pro

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

CPU: Intel PIII® 866MHz FC-PGA package
DRAM: 128M SDRAM x2 (Hyundai GM 72V66841ET75)
VGA Expansion Card: Geforce 256 (1024x768 Hi-color) Driver V3.68
Hard Disk Driver: Quantum Fireball KX20A11
BIOS: Award Optimal default
OS: Win 98SE
A: On Board VGA
B: On Board VGA with 4MB external display cache
C: With expansion VGA Card (Geforce 256)

Performance Test Report

	On Board VGA	With AIMM 4M	With Geforce 256
3D Mark 99	1417	1550	5934
3D Mark 2000	957	1246	4229
3D Winbench 99 V1.2	327	439	898
3D Winbench 2000	17.4	22.8	82.5
Final Reality	6.15	6.22	6.16
Winstone 99 V1.3	31.8	32.1	33.4
Winstone 2000	34.5	35.2	34.8
Winbench 99 :			
CPU Mark 99	76.7	77.3	78.6
FPU Winmark 99	4620	4620	4610
Business Disk Winmark99	5190	5150	5210
Hi-end Disk Winmark99	17800	18000	17900
Business Graphic Winmark	219	224	399
Hi-end Graphic Winmark	776	802	1100
SYS Mark 2000 : SISMark 2000 Rating (Internet Content Creation / Office Productivity)			
Suites	173 (173/173)	174 (175/174)	182 (179/185)
Official	173 (176/170)	173 (176/171)	184 (186/181)
SISOFT Sandra 2000 :			
CPU MIPS	2360	2360	2358
FPU MFLOPS	1169	1168	1168
CPU / Memory MB/S	290	290	326
FPU / Memory MB/S	297	297	339
QUAKE3 :			
DEMO1 FPS	30.8	39.9	108.5
DEMO2 FPS	31.1	40.2	102.8

1-3-2 618AS Pro

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

CPU: Intel PIII® 866MHz FC-PGA package

DRAM: 128M SDRAM x2 (Hyundai GM 72V66841ET75)

VGA Expansion Card: Geforce 256 (1024x768 Hi-color) Driver V6.31

Hard Disk Driver: IBM DTLA-305040 (ATA-100)

BIOS: Award Optimal default

OS: Win 98SE

Performance Test Report

	Coppermine 866MHz	Celeron 667MHz
3D Mark 99	5911	5079
3D Mark 2000	4657	3753
3D Winbench 99 V1.2	899	862
3D Winbench 2000	93.4	85.8
Final Reality	5.99	4.85
Winstone 99 V1.3	33.1	26.6
Winstone 2000	35.5	27.9
Winbench 99 :		
CPU Mark 99	78.5	47.6
FPU Winmark 99	4610	3470
Business Disk Winmark99	5260	4670
Hi-end Disk Winmark99	17900	15800
Business Graphic Winmark	392	257
Hi-end Graphic Winmark	1050	730
SYS Mark 2000 : SISMark 2000 Rating (Internet Content Creation / Office Productivity)		
Suites	182 (180/184)	122 (122/122)
Official	182 (180/184)	123 (122/123)
SISOFT Sandra 2000 :		
CPU MIPS	2358 (1429666)	1787 (1083085)
FPU MFLOPS	1168 (628249)	885 (476017)
CPU / Memory MB/S	326	252
FPU / Memory MB/S	339	281
QUAKE3 :		
DEMO1 FPS	110.8	70.2
DEMO2 FPS	105.7	66.0

1-4 Layout Diagram & Jumper Setting

PRINT   GAME/MIDI PORT

PS/2 MOUSE

PS/2 Keyboard

USB

COM1   COM2

MIC

LINE-IN

LINE-OUT

FAN1

K/B Power ON Jumper **(JK1)**

PS2 KB/Mouse Port

USB Port

PC99 Back Panel

Front Panel Audio

CD Audio

VGA Connector

PCI Slot

6 Channel Conn.

CNR Slot

AC97' Codec Master /Slave Setting **(JA1)**

FAN2

Wake On LAN

Wake On Modem

ATX Power Connector

CPU F.S.B. Clock Select Jumper **(SW1, SW2, SW3, SW4)**

370 CPU Socket

DIMM Socket X3

Intel 815 Chip

ATA 100 IDE Connector

Floppy Connector

AGP Slot

Intel 82801BA Chip

(JBAT) Clear CMOS Jumper

Extra IDE RAID Connector

PDC20265R Chip ATA100/RAID Mode Jumper (J9) (for 618AS Pro-R 618AF Pro-R)

Front Panel Connector

2M bit ROM BIOS

FAN3

USB Port **(USB_B)**

ITE 8712 Chip

SCR Connector

IR Connector

Jumpers

Jumper	Name	Description	Page
JS3, JS4	CPU & SDRAM Frequency Setting	3-pin Block	p.8
JS1, JS2		2-pin Block	
JK1	Keyboard Power ON Function Setting	3-pin Block	p.9
JBAT	CMOS RAM Clear	3-pin Block	p.9
JA1	Onboard Audio CODEC Setting	3-pin Block	p.10
J9	ATA100/RAID Mode Setting	3-pin Block	p.10

Connectors

Connector	Name	Description	Page
ATXPWR	ATX Power Connector	20-pin Block	p.18
CN1 (PS2 KB/MS)	PS/2 Mouse & PS/2 Keyboard Connector	6-pin Female	p.18
USB_A	USB Port Connector	4-pin Connector	p.18
PRINT	Parallel Port Connector	25-pin Female	p.18
GAME	Audio/Game Connector	3 phone jack+ 15-pin Connector	p.18
COM1/COM2	Serial Port COM1 Connector	9-pin Connector	p.19
FDC	Floppy Driver Connector	34-pin Block	p.19
IDE1/IDE2	Primary/Secondary IDE Connector	40-pin Block	p.19
IDE3/IDE4	**Extra IDE RAID Connector**	**40-pin Block**	**p.20**

☐ **For 618AS Pro-R/618AF Pro-R**

Headers

Header	Name	Description	Page
VGA	VGA Port Headers	15-pin Block	p.20
USB_B	USB Port Headers	10-pin Block	p.20
IDE LED	IDE activity LED	2-pin Block	p.20
TBLED	Turbo LED switch	2-pin Block	p.20
RESET	Reset switch lead	2-pin Block	p.20
SPKR	Speaker connector	4-pin Block	p.20
POWER LED	Power LED	2-pin Block	p.22
PWR BTN	Power Button	2-pin Block	p.22
WOL	Wake On-LAN Headers	3-pin Block	p.22
WOM	Wake On-Modem Headers	3-pin Block	p.22
FAN1, FAN2, FAN3	FAN Speed Headers	3-pin Block	p.23
IR	IR infrared module Headers	5-pin Block	p.23
SCR	Smart Card Reader Headers	14-pin Block	p.23
AUDIO	Line-In/Out, MIC header	9-pin Block	p.24
CDIN1, CDIN2	CD Audio-In Headers	4-pin Block	p.24

Expansion Sockets

Socket/Slot	Name	Description	Page
ZIF Socket 370	CPU Socket	370-pin FC-PGA CPU Socket	p.13
DIMM1, DIMM2 DIMM3	DIMM Module Socket	168-pin DIMM SDRAM Module Expansion Socket	p.15
PCI1, PCI2, PCI3, PCI4, PCI5, PCI6	PCI Slot	32-bit PCI Local Bus Expansion slots	p.16
AGP	**AIMM** /AGP 4X Mode Slot	**AIMM** & AGP Expansion Slot	p.17
CNR	CNR Slot	Communication Network Riser Slot	

☐ **For 618AF series 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 Host/SDRAM Clock setting: JS1, JS2, JS3, JS4**

   The motherboard's CPU & SDRAM memory clock adjusted through jumper JS1, JS2, JS3 & JS4. Table as below:

CPU/SDRAM (MHz)	JS1	JS2	JS3	JS4
* AUTO	ON	ON	1-2	1-2
66/100 **(Default)**	OFF	OFF	2-3	2-3
100/100	OFF	OFF	2-3	1-2
133/100	OFF	OFF	1-2	1-2
133/133	OFF	OFF	1-2	2-3

CPU Host/SDRAM Clock Setting
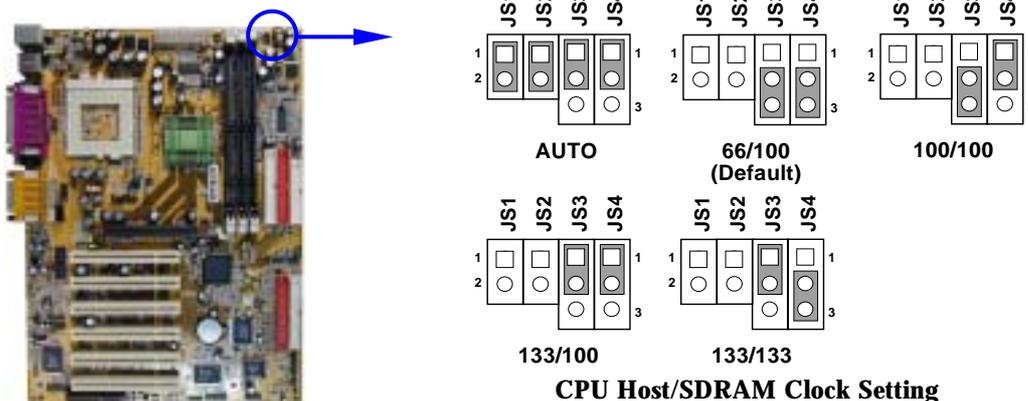
* When jumper setting Auto it only can support CPU/SDRAM frequency at 66/100, 100/100, 133/100 MHz, we recommend setting 133/133 manually when use F.S.B. 133MHz CPU to increase performance.

In "Miscellaneous Control" section of CMOS Setup Utility, you can increase the CPU clock step by step increase for over clocking possibility. Please refer to for more details.

2. Keyboard Power On Function setting (3-pin) : JK1

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 on disable.

JK1
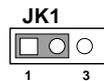
1-2 closed : Disabled (default)   2-3 closed : Enabled
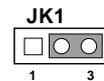
Keyboard Power On Function

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

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

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

Note: When should clear CMOS

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

JBAT
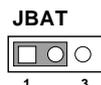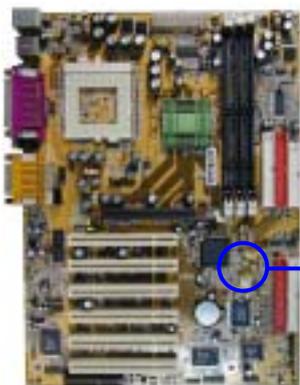
1-2 closed : Normal (default)   2-3 closed : Clear CMOS
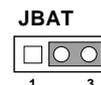
CMOS RAM Clear Setting

4. Onboard Audio CODEC Setting (3-pin) : JA1

The onboard audio CODEC can be master or slave mode. This jumper's default is to be master mode (2-3) close, when you use a AMR adapter please check, if the AMR is set to master mode then on board audio CODEC must be set to be slave mode.

JA1
1
3

JA1
1
3

1-2 closed : Slave   **2-3 closed : Master (default)**

Codec Master/Slave Mode control
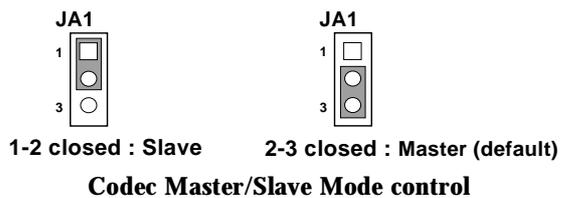
5. ATA 100/RAID Mode Setting (3-pin): J9 (for 618AF Pro-R/618AS Pro-R)

When J9 1-2 closed the IDE3 & IDE4 are setting in ATA100 Mode supports Ultra DMA 100MB/sec transfer rate.

When J9 2-3 closed the IDE3 & IDE4 are setting in RAID Mode supports RAID 0 (striping) to increase hard drive performance or RAID 1 (mirroring) to protect hard drive data for more detail information please refer CD-PACK in X:\MANUAL\PROMISE.DOC

> *Note: If you only install hard drive in IDE3 and IDE4 and the J9 setting 2-3 closed then this hard drive must install IDE RAID 0 or IDE RAID 1 Mode by Fast Build Utility, please press < Ctrl-F> to enter setup "Main Menu" and choose "Auto Setup" to setup your hard drive.*

J9
1   3

J9
1   3

1-2 closed : ATA 100 Mode   **2-3 closed : IDE RAID Mode (default)**

ATA 100/RAID Mode Setting
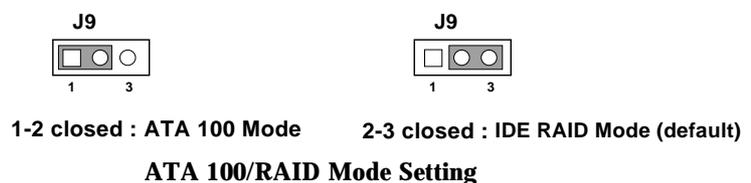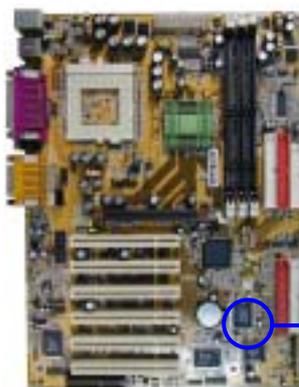
2-3 Install CPU

2-3-1 Glossary

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

Processor socket - the socket used to mount the system processor on the motherboard.
Slot (AGP, PCI, ISA, RAM) - the slots used to mount adapter cards and system RAM.
AGP - **A**ccelerated **G**raphics **P**ort - a high speed interface for video cards; runs at 1X (66MHz), 2X (133MHz), or 4X (266MHz).
PCI - **P**eripheral **C**omponent **I**nterconnect - a high speed interface for video cards, sound cards, network interface cards, and modems; runs at 33MHz.
Serial Port - a low speed interface typically used for mouse and external modems.
Parallel Port - a low speed interface typically used for printers.
PS/2 - a low speed interface used for mouse and keyboards.
USB - **U**niversal **S**erial **B**us - a medium speed interface typically used for mouse, keyboards, scanners, 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.
BIOS (**B**asic **I**nput/**O**utput **S**ystem) - the program logic used to boot up a computer and establish the relationship between the various components.
Driver - software, which defines the characteristics of a device for use by another device or other software.
Processor - the "Central Processing Unit" (CPU); the principal integrated circuit used for doing the "computing" in "personal computer"
Front Side Bus Frequency - The working frequency of the motherboard, which is generated by the clock generator for CPU, DRAM and PCI BUS.

CPU L2 Cache - The flash memory inside the CPU, normally Pentium III CPU has 256K or above, while Celeron CPU will have 128K.

The way to recognize the specification of CPU from the packing Pentium III 370 pins FC-PGA
On the surface of the CPU as shown on the right picture, under the word of "PENTIUM III" the code is:

RB 80526 P2 866 256

RB : FC–PGA packing

P2 : P2–133MHz front side bus frequency
  PY–100MHz front side bus frequency

866 : CPU internal frequency, where here is
  866MHz

256 : the size of L2 cache, where here is 256K

Celeron FC–PGA

On the surface of the CPU as shown on the right picture, under the word of "Celeron" the code is:

566/128/66/1.5V

566 : CPU internal frequency, where here is 566MHz

128 : the size of L2 cache, where here is 128K

66 : front side bus frequency, where here is 66MHz

1.5V : the voltage for the CPU

2-3-2 Setting CPU Bus Clock & Memory Clock Jumper

Setting the front side bus frequency and SDRAM frequency
The motherboard uses jumper JS1, JS2, JS3 and JS4 for the front side bus frequency and SDRAM frequency setting as shown from the table below:

CPU/SDRAM (MHz)	JS1	JS2	JS3	JS4
AUTO	ON	ON	1-2	1-2
66/100 **(Default)**	OFF	OFF	2-3	2-3
100/100	OFF	OFF	2-3	1-2
133/100	OFF	OFF	1-2	1-2
133/133	OFF	OFF	1-2	2-3

Example: ***Using a Pentium® III 866 CPU with front side bus frequency of 133MHz and PC-133 SDRAM module, the setting of JS3 will be 1-2 and JS4 will be 2-3. This sets both CPU BUS CLOCK and SDRAM CLOCK to be 133MHz.***

For experience user looking for over clocking possibility, please refer to sec 2-3-4.

2-3-3 Install CPU

This motherboard provides a ZIF socket 370. The CPU that comes with the motherboard should have a cooling FAN attached to prevent overheating. If this is not the case, then purchase a correct cooling FAN before you turn on your system.

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

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

Pentium® III

Socket 370

Colden Arrow

CPU ZIF Socket 370
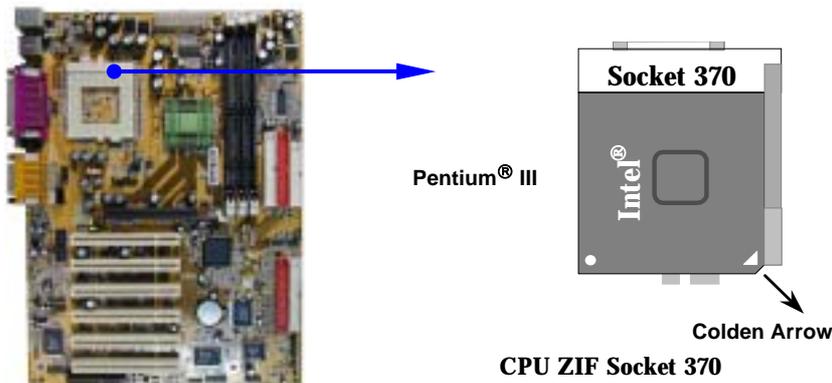
When you put the CPU into the ZIF socket. No forces require to insert of the CPU, then press the level to locate position slightly without any extra force.

2-3-4 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 JS1, JS2, JS3, JS4 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 then.

You can choose the situation you want to try.

CPU/SDRAM (MHz)	JS1	JS2	JS3	JS4
AUTO	ON	ON	1-2	1-2
66/100 **(Default)**	OFF	OFF	2-3	2-3
100/100	OFF	OFF	2-3	1-2
133/100	OFF	OFF	1-2	1-2
133/133	OFF	OFF	1-2	2-3

```
            CMOS Setup Utility – Copyright(C) 1984-2001 Award Software
                               Miscellaneous Control
 ┌────────────────────────────────────────────────┬────────────────────────┐
 │  CyrixIII Clock Ratio          Default          │                        │
 │  Auto Detect DIMM/PCI Clk      Enabled          │        Item Help       │
 │  Spread Spectrum               Disabled         │                        │
 │  ** Current Host Clock is 66Mhz **              ├────────────────────────┤
 │  CPU Host/SDRAM/PCI Clock      66/100/33Mhz     │  Menu Level >          │
 │  CPU Clock Ratio               X 3              │                        │
 │                                                 │  CyrixIII CPU Ratio    │
 │                                                 │  Adjust                │
 │                                                 │                        │
 │                                                 │                        │
 │                                                 │                        │
 │                                                 │                        │
 │                                                 │                        │
 │                                                 │                        │
 │                                                 │                        │
 ├─────────────────────────────────────────────────┴───────────────────────┤
 │       Move Enter:Select  +/-/PU/PD:Value F10:Save ESC:Exit  F1:General Help│
 │     F5:Previous Values   F6:Optimized Defaults    F7:Standard Defaults    │
 └───────────────────────────────────────────────────────────────────────────┘
```

By press PageDown/PageUp key you can change the CPU Host/SDRAM/PCI Clock
When jumper setting CPU Host Clock 66MHz you can choose 66/100/33~99/149/49MHz
When jumper setting CPU Host Clock 100MHz you can choose 100/100/33~132/132/44MHz
When jumper setting CPU Host Clock 133MHz you can choose 133/100/33~200/151/50MHz
When jumper setting CPU Host Clock 133MHz you can choose 133/133/33~200/200/50MHz

---

WARNING! The Design of this motherboard follows chipset and CPU vender's design guideline. Any attempts to push beyond product specification are not recommended and you are taking your own risk to damage your system or important data. Before over clocking, you must make sure your components are able to tolerate such abnormal setting, especially CPU, memory, hard disks, and VGA cards.

2-4 Install Memory

This motherboard provides three 168-pin DUAL INLINE MEMORY MODULES (DIMM) sites for memory expansion available from minimum memory size of 32MB to maximum memory size of 512MB SDRAM.

Valid Memory Configurations

DIMM SDRAM Clock	DIMM1	DIMM2	DIMM3
100MHz	DS	DS	DS
	SS	SS	SS
133MHz	DS	DS	SS
	SS	SS	SS

According the specification when SDRAM clock is 133MHz only can support 2 pcs Double Sided DIMMs

    DS :   Double Sided DIMM

    SS :   Single Sided DIMM

> **NOTE!** Make sure the total installed memory does not exceeds 512MB, otherwise the system may hang during startup.

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.
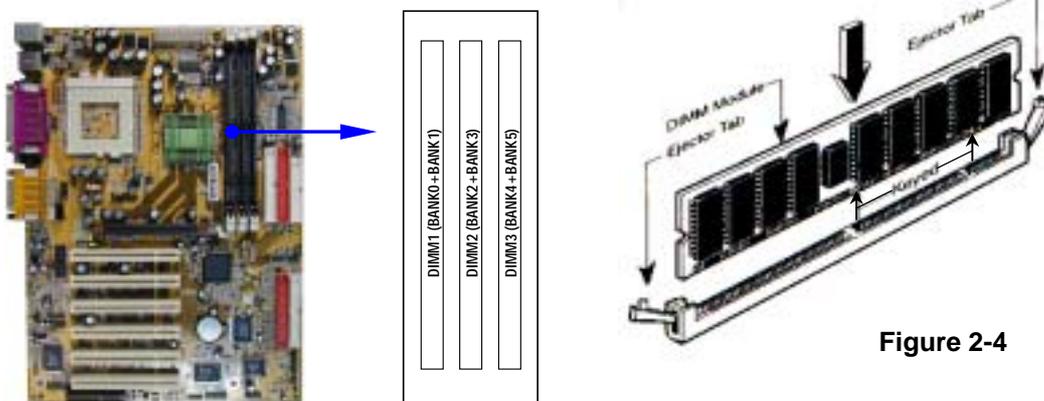
Figure 2-4

> **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 indention 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	INT E	INT F	INT G	INT H
Slot 1	√							
Slot 2		√						
Slot 3			√					
Slot 4				√				
Slot 5					√			
Slot 6						√		
Onboard VGA								
Onboard USB 0								√
Onboard USB 1				√				
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.

Note *1   Either AGP slot or onboard VGA can be active at the same time.

2-5-4 AIMM/AGP Slot

In both 618AF/618AS series motherboard you can plug a 4X AGP VGA Card into the AIMM/AGP Slot and the 618AF Pro/618AF Pro-R will disable on board VGA automatically once you plug any VGA Card into the motherboard.   The special function of 618AF Pro/618AF Pro-R is support AGP Inline Memory Module in AIMM/AGP Slot.   By plug in AGP Inline Memory Module which with 4MB of 133MHz SDRAM display cache, it will improve on board video graphic quality.

AIMM/AGP SLOT
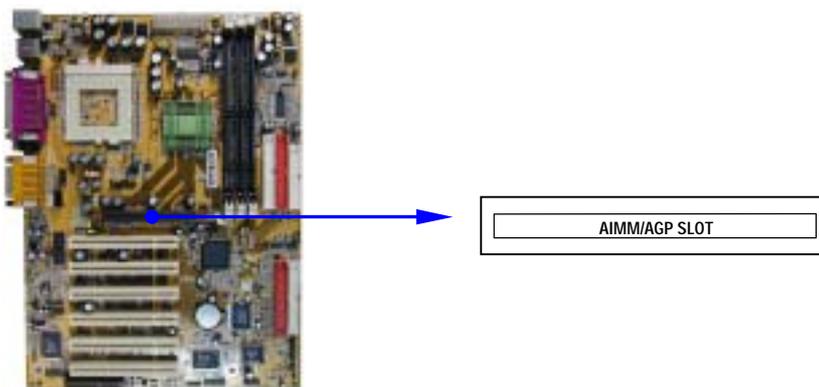
2-6 Connectors, Headers

2-6-1 Connectors

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

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

PIN	ROW2	ROW1
1	3.3V	3.3V
2	-12V	3.3V
3	GND	GND
4	Soft Power On	5V
5	GND	GND
6	GND	5V
7	GND	GND
8	-5V	Power OK
9	+5V	+5V (for Soft Logic)
10	+5V	+12V
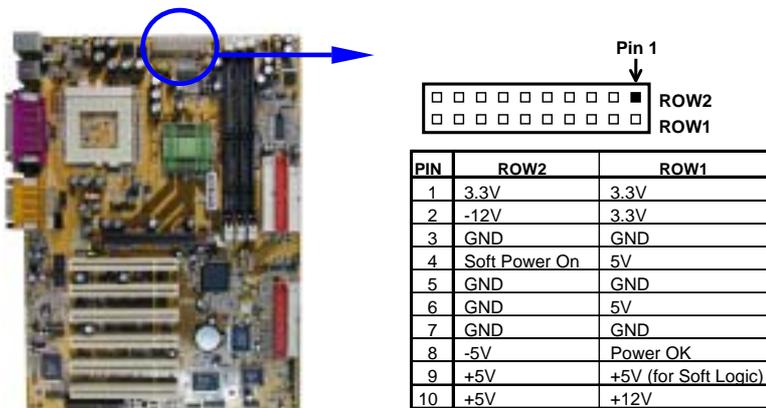
(2) PS/2 Mouse & PS/2 Keyboard Connector: PS2 KB/MS

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.

(3) USB Port connector: USB_A

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

(4) Parallel Port Connector (25-pin female): PRINT

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.

(5) Audio and Game Connector : GAME

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

Line-out :   Audio output to speaker
Line-in :   Audio input to sound chip
MIC :   Microphone Connector
Game/MIDI :   For joystick or MIDI Device

(6) Serial Port COM1: COM1/COM2

COM1 is the 9-pin D-Subminiature mail 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.
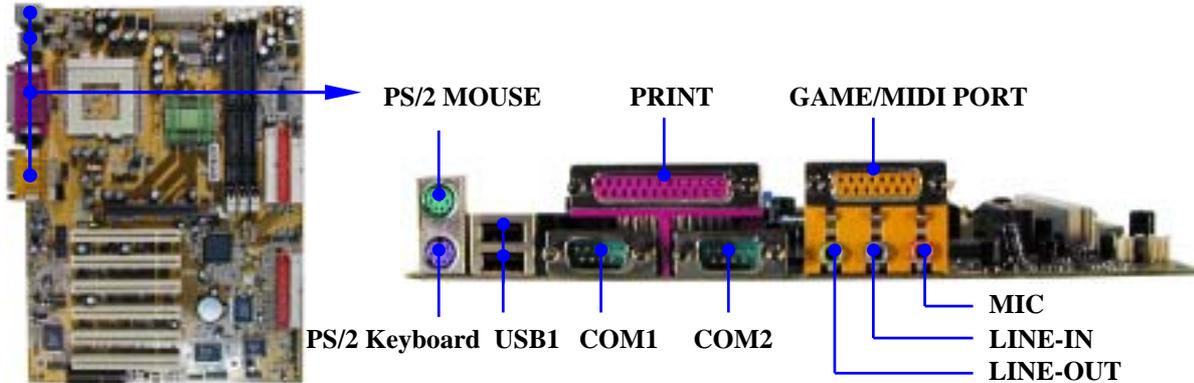
(7) Floppy drive Connector (34-pin block): FDC

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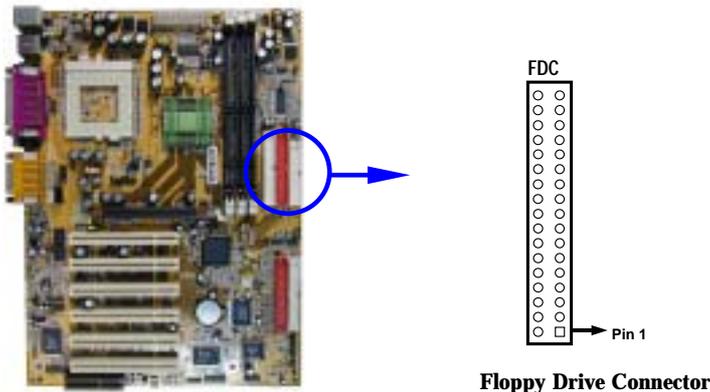
(8) Primary IDE Connector (40-pin block): IDE1

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.

IDE2   IDE1

Pin 1   Pin 1

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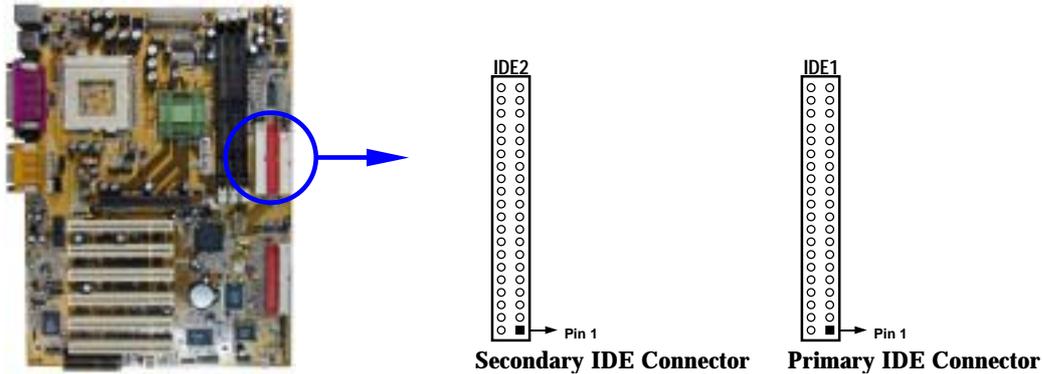
- Two hard disks can be connected to each connector. The first HDD is referred to as the "Master" and the second HDD is referred to as the "Slave".
- For performance issues, we strongly suggest you don't install a CD-ROM or DVD-ROM drive on the same IDE channel as a hard disk. Otherwise, the system performance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

(10) Extra IDE RAID connectors : IDE3/IDE4 (Only for 618AF Pro-R/618AS Pro-R)
When J9 setting 1-2 closed IDE3/IDE4 are setting in ATA 100 Mode for Normal extra IDE Interface. When J9 setting 2-3 closed IDE3/IDE4 can setting RAID Mode for stripping capable to increase transfer rate, or RAID 1 Mode for mirroring capable for data protection. For more detail description please read PROMISE.DOC in CD-PACK X:\MANUAL\PROMISE.DOC file.

IDE3   IDE4

(Primary IDE)   (Secondary IDE)

Pin 1   Pin 1

Extra IDE RAID Connector
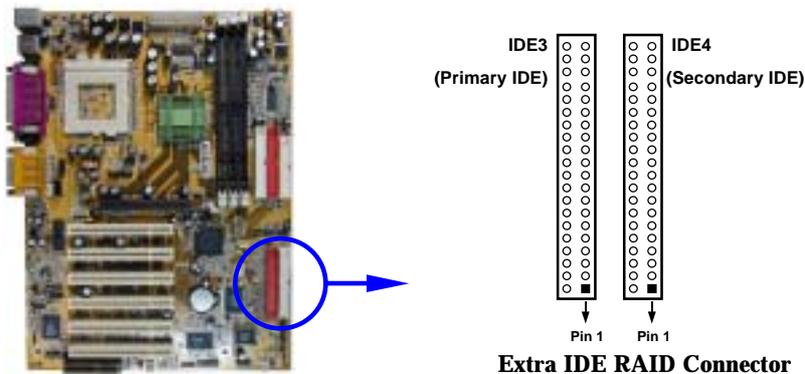
2-6-2 Headers

(1) VGA port Headers (15-pin) : VGA (Only for 618AF Pro/618AF Pro-R)
This board has VGA port headers, it come with cable providing VGA connector and bracket for you connect display monitor and computer.
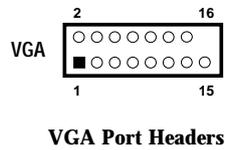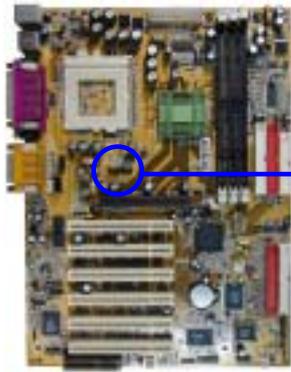
VGA Port Headers

(2) USB Port Headers (9-pin) : USB_B

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

USB Port Headers
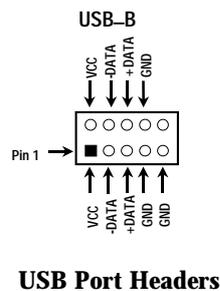
(3) IDE Activity LED: IDE LED

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

(4) Turbo LED switch: TURBO LED

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

(5) Reset switch lead: RESET

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

(6) Keyboard lock switch: KEYLOCK

This 2-pin connector connects to the case-mounted key switch for locking the keyboard for security purposes.

(7) Speaker connector: SPKR

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

(8)   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.

(9)   Power switch: PWR BTN

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

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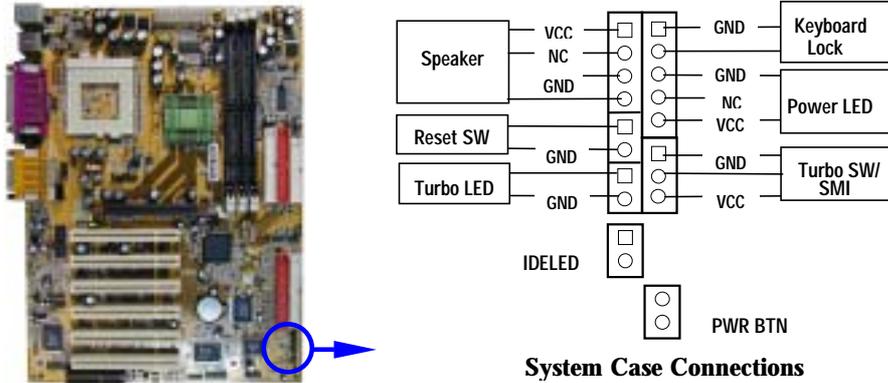
(10) Wake On-LAN Headers (3-pin) : WOL

This connector connects to a LAN card with a WAKE ON-LAN output. This connector power up the system when a wake up signal is received through the LAN card.

NOTE: This feature requires that BIOS Wake-Up by PCI Card is enabled.

(11) Wake On-Modem Headers (3-pin) : WOM

This connector connects to a PCI Modem card with a WAKE ON-Ring output by this connector can power on the system when a wake up signal is received through the PCI Modem card.

Wake-On-LAN Headers   Wake-On-Modem Headers
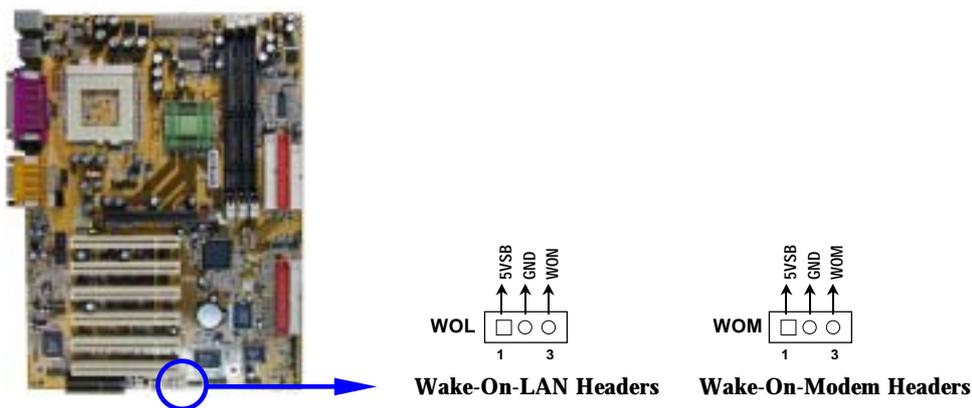
NOTE: This feature requires that BIOS Power on by Ring is enabled.

(12) FAN Speed Headers (3-pin) : FAN1, FAN2, FAN3

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.

FAN1

FAN2   FAN3
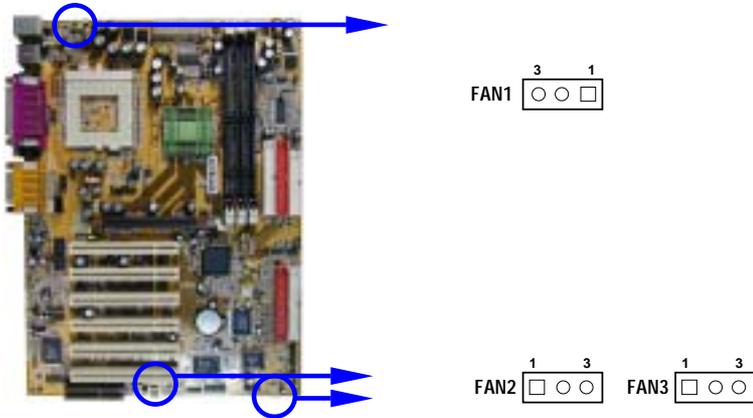
(13) IR infrared module Headers (5-pin) : IR

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

IR   VCC N.C IRRX GND IRTX

Pin 1

Infrared Module Headers
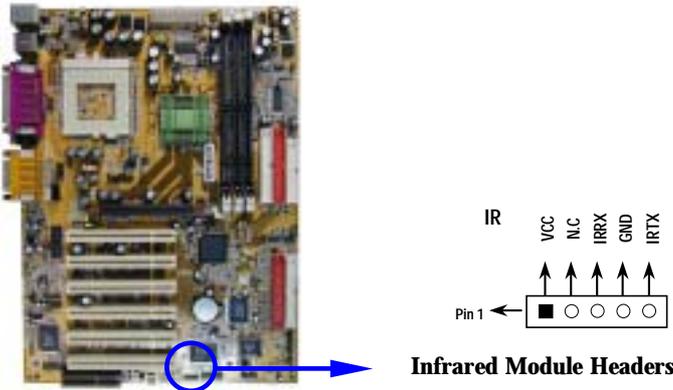
(14) Smart Card Reader Header (14-pin): SCR

SCR   LED NC SCRREST RFU SCRIO SCRRES# NC

2   14
1   13

VCC NC SCRFET# SCRCLK RFU GND NC

Smart Card Reader Headers
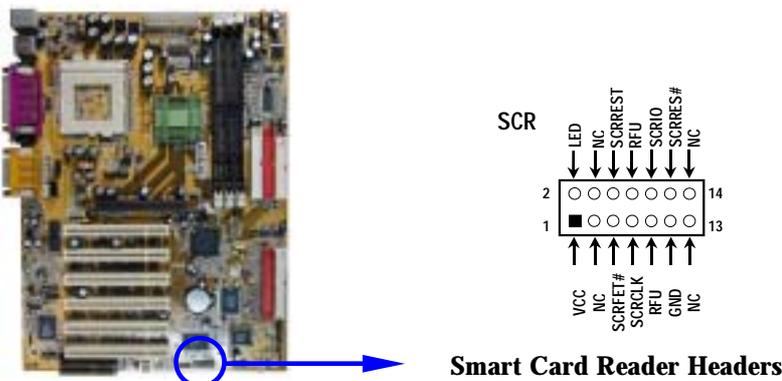
(15) Audio Front Panel Header (9-pin): AUDIO

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

AUDIO

L-OUT-R →
GND →
MICP →
GND →
L-IN-R →

← L-OUT-L
← MIC
← GND
← L-IN-L

Pin 1

Audio Front Panel Headers
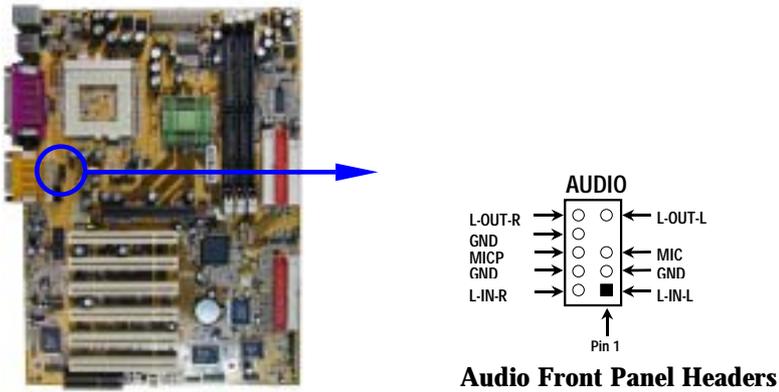
(16) CD Audio-In Headers (4-pin) : CDIN1,CDIN2

CDIN1 and CDIN2 are the connectors for CD-Audio Input signal. Please connect it to CD-ROM CD-Audio output connector.

CDIN2   CDIN1

4   4

1   1

CD Audio-In Headers
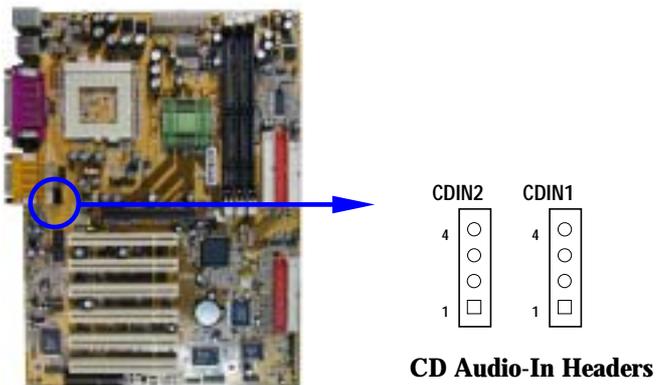
2-7 Starting Up Your Computer

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

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

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

4. Turn on your peripheral as following order:

   a. Your monitor.

   b. Other external peripheral (Printer, Scanner, External Modem etc…)

   c. Your system power. For ATX power supplies, you need to turn on the power supply and press the ATX power switch on the front side of the case.

5. The power LED on the front panel of the system case will light. The LED on the monitor may light up or switch between orange and green after the system is on. If it complies with green standards or if it is has a power standby feature. The system will then run power-on test. While the test are running, the BIOS will alarm beeps or additional message will appear on the screen.

   If you do not see any thing within 30 seconds from the time you turn on the power. The system may have failed on power-on test. Recheck your jumper settings and connections or call your retailer for assistance.

Beep	Meaning
One short beep when displaying logo	No error during POST
Long beeps in an endless loop	No DRAM install or detected
One long beep followed by three short beeps	Video card not found or video card memory bad
High frequency beeps when system is working	CPU overheated System running at a lower frequency

6. During power-on, press <Delete> key to enter BIOS setup. Follow the instructions in BIOS SETUP.

7. **Power off your computer:** You must first exit or shut down your operating system before switch off the power switch. For ATX power supply, you can press ATX power switching after exiting or shutting down your operating system. If you use Windows 9X, click **"Start"** button, click **"Shut down"** and then click **"Shut down the computer?"** The power supply should turn off after windows shut down.

Chapter 3

Introducing BIOS

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

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

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

3-1 Entering Setup

Power on the computer and by pressing < Del> immediately allows you to enter Setup.

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

Press < F1> to continue, < Ctrl-Alt-Esc> or < Del> to enter Setup

3-2 Getting Help

Main Menu

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

Status Page Setup Menu/Option Page Setup Menu

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

3-3 The Main Menu

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

```
      CMOS Setup Utility – Copyright(C) 1984-2001 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)          Thu, Jul, 31 2001         │      Item Help       │
 │ Time (hh:mm:ss)          16 : 18 : 49              │                      │
 │                                                    ├──────────────────────┤
 │ IDE Primary Master                                 │                      │
 │ IDE Primary Slave                                  │ Menu Level >         │
 │ IDE Secondary Master                               │                      │
 │ IDE Secondary Slave                                │ Change the day, moth,│
 │                                                    │ Year and century     │
 │ Drive A                  1.4M, 3.25 in.            │                      │
 │ Drive B                  None                      │                      │
 │                                                    │                      │
 │ Video                    EGA/VGA                   │                      │
 │ Halt On                  All Errors                │                      │
 │                                                    │                      │
 │ Base Memory                 640K                   │                      │
 │ Extended Memory           64512K                   │                      │
 │ Total Memory              65536K                   │                      │
 ├───────────────────────────────────────────────────┴──────────────────────┤
 │       Move Enter:Select  +/-/PU/PD:Value F10:Save  ESC:Exit  F1:General Help│
 │     F5:Previous Values   F6:Optimized Defaults     F7:Standard Defaults     │
 └───────────────────────────────────────────────────────────────────────────┘
```

Date

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

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

Month   The month from Jan. through Dec.

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

Year   The year depends on the year of the BIOS.

Time

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

Primary Master/Primary Slave
Secondary Master/Secondary Slave

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

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

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

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

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

Cylinder   number of cylinders

Head   number of heads

Precomp   write precomp

Landing Zone   landing zone

Sector   number of sectors

3-5 Advanced BIOS Features

```
         CMOS Setup Utility – Copyright(C) 1984-2001 Award Software
                          Advanced BIOS Features
┌───────────────────────────────────────────────┬──────────────────────────┐
│  Anti-Virus Protection        Disabled         │                          │
│  Recovery Genius              Enable       ← Only for 618AS Pro/618AF Pro  │
│  PhoenixNet Support           Disabled         │                          │
│  CPU L1 Cache                 Enabled          │  Menu Level >            │
│  CPU L2 Cache                 Enabled          │                          │
│  CPU L2 Cache ECC Checking    Disabled         │  Allows you to choose    │
│  Processor Number Feature     Enabled          │  the VIRUS warning       │
│  Quick Power On Self Test     Enabled          │  feature for IDE Hard    │
│  First Boot Device            Floppy           │  disk boot sector        │
│  Second Boot Device           HDD-0            │  protection. If this     │
│  Third Boot Device            LS120            │  function is enabled     │
│  Fouth Boot Device            Disabled         │  and someone attempt to  │
│  Swap Floppy Drive            Disabled         │  write data into this    │
│  Boot Up Floppy Seek          Enabled          │  area, BIOS will show a  │
│  Boot Up NumLock Status       On               │  warning message on      │
│  Gate A20 Option              Fast             │  screen and alarm beep   │
│  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 Win 95     No               │                          │
├───────────────────────────────────────────────┴──────────────────────────┤
│      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 L1 cache is built in the processor.

CPU L2 Cache

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

CPU L2 Cache ECC Checking

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

Processor Number Feature

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

Quick 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, 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 is begins to repeat the keystroke. The settings are 250, 500, 750, and 1000.

Security Option

This category allows you to limit access to the system and Setup, or just to Setup.

> **System**   The system will not boot and access to Setup will be denied if the correct password is not entered at the prompt.

> **Setup** (default) The system will boot, but access to Setup will be denied if the correct password is not entered prompt.

OS Select For DRAM > 64MB

Allows OS2® to be used with > 64MB or DRAM. Settings are Non-OS/2 (default) and OS2. Set to OS/2 if using more than 64MB and running OS/2®.

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

   On-Chip VGA Setting        Press Enter              Item Help
   SDRAM Timing Setting       Press Enter
   System BIOS Cacheable      Enabled
   Video BIOS Cacheable       Enabled           Menu Level >
   Memory Hole at 15M-16M     Disabled
   CPU Latency Timer          Disabled
   Delayed Transaction        Disabled
   AGP Mode Select            Auto
   AGP Graphics Aperture Size 64MB
```

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

SDRAM Timing Setting
Please refer to section 3-6-1

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 BIOS 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.

CPU Latency Timer
During Enabled, A deferrable CPU cycle will only be Deferred after it has been in a Snoop Stall for 31 clocks and another ADS# has arrived. During Disabled, A deferrable CPU cycle will be Deferred immediately after the GMCH receives another ADS#.

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

On-Chip Video Window Size
This option enabled/disabled the on-chip video windows size for VGA driver use. The settings are: enabled, Disabled.

AGP Graphics 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.

3-6-1 SDRAM Timing Setting

```
              CMOS Setup Utility – Copyright(C) 1984-2001 Award Software
                               SDRAM Timing Setting
┌──────────────────────────────────────────────────────────────────────────────┐
│  SDRAM CAS Latency Time        3                                               │
│  SDRAM Cycle Time Tras/Trc     6/8                   Item Help                 │
│  SDRAM RAS-to-CAS Delay        3                                               │
│  SDRAM RAS Precharge Time      3                                               │
│  DRAM CTL Buffer strengths     Normal            Menu Level >>                 │
│  DRAM MD Buffer strengths      Normal                                          │
│                                                  When set to "Auto",           │
│                                                  BIOS will program this        │
│                                                  Timing mainly by the          │
│                                                  SPD method.  SPD means        │
│                                                  "Serial Presence              │
│                                                  Detect", which enables        │
│                                                  the BIOS to access            │
│                                                  the manufacturer              │
│                                                  settings stored in            │
│                                                  DRAM module.                  │
│                                                                                │
│                                                                                │
│                                                                                │
├──────────────────────────────────────────────────────────────────────────────┤
│        Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit  F1:General Help    │
│       F5:Previous Values   F6:Optimized Defaults   F7:Standard Defaults        │
└──────────────────────────────────────────────────────────────────────────────┘
```

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

SDRAM Cycle Time Tras/Trc
Select the number of SCLKs for an access cycle. The settings are: 5/7 and 6/8.

SDRAM 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: 2 and 3.

SDRAM 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: 2 and 3.

3-7 Integrated Peripherals

```
           CMOS Setup Utility – Copyright(C) 1984-2001 Award Software
                              Integrated Peripherals
┌─────────────────────────────────────────────────┬──────────────────────┐
│  On-Chip IDE Function          Press Enter        │                      │
│  On-Chip SIO Function          Press Enter        │      Item Help       │
│  On-Chip Device Function       Press Enter        ├──────────────────────┤
│  Init Display First            PCI Slot           │                      │
│  Power On Function             BUTTON ONLY        │   Menu Level >       │
│  KB Power ON Password          Enter              │                      │
│  Hot Key Power ON              Ctrl-F1            │                      │
│  POWER After PWR-fail          off                │                      │
│                                                   │                      │
│                                                   │                      │
│                                                   │                      │
│                                                   │                      │
│                                                   │                      │
│                                                   │                      │
│                                                   │                      │
├───────────────────────────────────────────────────┴──────────────────────┤
│      Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit  F1:General Help  │
│        F5:Previous Values   F6:Optimized Defaults    F7:Standard Defaults  │
└───────────────────────────────────────────────────────────────────────────┘
```

On-Chip IDE Function

Please refer to section 3-7-1

On-Chip SIO Function

Please refer to section 3-7-2

On-Chip Device Function

Please refer to section 3-7-3

Init Display First

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

Power On Function

This function allows you to select the item to power on the system. The settings are: Button Only, Mouse Left, Mouse Right, Password, Hotkey, and keyboard 98.

Power After PWR-Fail

This option will determine how the system will power on after a power failure.

3-7-1   On-Chip IDE Function

```
             CMOS Setup Utility – Copyright(C) 1984-2001 Award Software
                               On-Chip IDE Function
┌─────────────────────────────────────────────────────┬──────────────────────┐
│  On-Chip Primary   PCI IDE      Enabled              │                      │
│  On-Chip Secondary PCI IDE      Enabled              │      Item Help       │
│  IDE Primary Master   PIO       Auto                 ├──────────────────────┤
│  IDE Primary Slave    PIO       Auto                 │                      │
│  IDE Secondary Master PIO       Auto                 │   Menu Level  >>     │
│  IDE Secondary Slave  PIO       Auto                 │                      │
│  IDE Primary Master   UDMA      Auto                 │                      │
│  IDE Primary Slave    UDMA      Auto                 │                      │
│  IDE Secondary Master UDMA      Auto                 │                      │
│  IDE Secondary Slave  UDMA      Auto                 │                      │
│  IDE 32-bit Transfer Mode       Enabled              │                      │
│  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    │
└─────────────────────────────────────────────────────────────────────────────┘
```

On-Chip Primary/Secondary PCI IDE

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.

IDE 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.

IDE 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 On-Chip SIO Function

```
                    CMOS Setup Utility – Copyright(C) 1984-2001 Award Software
                                    On-Chip SIO Function
```

```
┌─────────────────────────────────────────────────────────────────────────────────┐
│   Onboard FDD Controller         Enabled          │                              │
│   Onboard Serial Port 1          3F8/IRQ4          │         Item Help            │
│   Onboard Serial Port 2          2F8/IRQ3          ├──────────────────────────────┤
│   UART Mode Select               Normal           │                              │
│   UR2 Duplex Mode                Half             │    Menu Level  >>            │
│   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 FDC Controller
Select Enabled if your system has a floppy disk controller (FDD) installed on the system board and you wish to use it. If you install add-on FDC or the system has no floppy drive, select Disabled in this field. The settings are: Enabled and Disabled.

Onboard Serial Port 1/Port 2
Select an address and corresponding interrupt for the first and the second serial ports. The settings are: 3F8/IRQ4, 2E8/IRQ3, 3E8/IRQ4, 2F8/IRQ3, Disabled, Auto.

UART Mode Select
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 On-Chip Device Function

```
          CMOS Setup Utility – Copyright(C) 1984-2001 Award Software
                            On-Chip Device Function
┌─────────────────────────────────────────────────┬───────────────────────┐
│  USB Controller                Enabled           │                       │
│  USB Keyboard Support          Disabled          │      Item Help        │
│  ** Onboard AC97 Codec is ALC100/200 **          ├───────────────────────┤
│  AC97 Sound                    Enabled           │                       │
│  AC97 Modem                    Auto              │   Menu Level >>       │
│  Game Port Address             201               │                       │
│  Midi Port Address             330               │                       │
│  Midi Port IRQ                 10                │                       │
│                                                  │                       │
├─────────────────────────────────────────────────┴───────────────────────┤
│        Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit  F1:General Help│
│     F5:Previous Values   F6:Optimized Defaults    F7:Standard Defaults     │
└───────────────────────────────────────────────────────────────────────────┘
```

USB 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.

AC97 Sound

This item allows you to decide to enable/disable the 815 chipset family to support AC97 Audio. The settings are: Enabled, Disabled.

AC97 Modem

This item allows you to decide to enable/disable the 815 chipset family to support AC97 Modem. The settings are: Enabled, Disabled.

Game Port Address/Midi Port Address

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

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         │
 │   Power Management            User Define     │                           │
 │   Video Off Method            DPMS           ├───────────────────────────│
 │   Video Off In Suspend        Yes            │  Menu Level >             │
 │   Suspend Type                Stop Grant     │                           │
 │   MODEM Use IRQ               3              │                           │
 │   Suspend Mode                Disabled        │                           │
 │   HDD Power Down              Disabled        │                           │
 │   Soft-off by PWR-BTTN        Instant-off     │                           │
 │   Wake-Up by PCI card         Disabled        │                           │
 │   Power On by Ring            Disabled        │                           │
 │   Resume by Alarm             Disabled        │                           │
 │ x Date (of Month) Alarm        0             │                           │
 │ x Time (hh:mm:ss) Alarm         0 : 0 : 0     │                           │
 │ > PM Timer Reload 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.

Power Management

This category allows you to select the type (or degree) of power saving which is directly related to the following modes:

1. **Suspend Mode**
2. **HDD Power Down**

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

Min Saving   Minimum power management. Suspend Mode= 1 hr., and HDD Power Down= 15 min.

Max Saving   Maximum power management. Suspend Mode= 1 min., and HDD Power Down= 1 min.

User Define(default) Allows you to set each mode individually. When not disabled, each of the ranges is from 1 min. to 1hr. except for HDD Power Down that ranges from 1 min. to 15 min. and disable.

Video Off Method

This determines the manner in which the monitor is blanked.

    V/H SYNC+ Blank This selection will cause the system to turn off the vertical and horizontal synchronization ports and write blanks to the video buffer.

    Blank Screen   This option only writes blanks to the video buffer.

    DPMS (default)   Initial display power management signaling.

Video Off In Suspend

This determines the manner in which the monitor is blanked. The settings are: Yes and No.

Suspend Type

Select the Suspend Type.

The settings are: PWRON Suspend, Stop Grant.

Modem Use IRQ

This determines the IRQ in which the MODEM can use.

The settings are: 3, 4, 5, 7, 9, 10, 11, NA.

Suspend Mode

When enabled and after the set time of system inactivity, all devices except the CPU will be shut off.

The settings are: l/2/4/8/12/20/30/40 Min, 1 Hour, and Disabled.

HDD Power Down

When enabled and after setting time of system inactivity, the hard disk drive will be powered down while all the other devices remain active.

The settings are: 1/2/3/4/5/6/7/8/9/10/11/12/13/14/15 Min and Disabled.

Soft-Off by PWR-BTTN

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 by PCI card

This will enable the system to wake up to PCI LAN Card.
The settings are: Enabled and Disabled.

Power On by Ring

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.

CPU Thermal-Throttling

Select the CPU THRM-Throttling rate. The settings are: 12.5%, 25.0%, 37.5%, 50.0%, 62.5%, 75.0%, 87.5%.

Resume by 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.

PM Timer Reload Events

Pm Timer Reload events are I/O events whose occurrence can prevent the system from entering a power saving mode or can awaken the system from such a mode. In effect, the system remains alert for anything which occurs to a device which is configured as *Enabled,* even when the system is in a power down mode.

Primary IDE 0
Primary IDE 1
Secondary IDE 0
Secondary IDE 1
FDD, COM, LPT Port
PCI PIRQ[A-D] #

3-9 PnP/PCI Configuration Setup

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

```
            CMOS Setup Utility – Copyright(C) 1984-2001 Award Software
                              PnP/PCI Configurations
 ┌──────────────────────────────────────────────┬──────────────────────────┐
 │   Reset Configuration Data        Disabled    │                          │
 │                                               │       Item Help          │
 │                                               │                          │
 │   Resources Controlled By         Manual      ├──────────────────────────┤
 │ > IRQ Resources                   Press Enter │  Menu Level >            │
 │                                               │  Default is Disabled.    │
 │   PCI/VGA Palette Snoop           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             │
 ├──────────────────────────────────────────────┴──────────────────────────┤
 │       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.

DMA Resources
This sub menu can let you control the DMA resource.

PCI/VGA Palette Snoop
Leave this field at *Disabled.* The settings are Enabled, Disabled.

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
 ┌────────────────────────────────────────────┬──────────────────────┐
 │  Show PC Health in Post        Enabled      │                      │
 │  Shutdown Temperature          Disabled     │      Item Help       │
 │  Vcore                          1.65V        ├──────────────────────┤
 │  Vcc 1.8V                       1.85V        │                      │
 │  VCC 3.3V                       3.3V         │   Menu Level >       │
 │  VCC 5V                         4.97V        │                      │
 │  +12V                          11.90V        │                      │
 │  -12V                      (-)12.03V         │                      │
 │  -5V                       (-) 5.10V         │                      │
 │  5VSB                           4.97V        │                      │
 │  Vbat                           3.29V        │                      │
 │  System Temperature            25°C          │                      │
 │  CPU Temperature               35°C          │                      │
 │  FAN1 Speed                    5843 RPM      │                      │
 │  FAN2 Speed                    6132 RPM      │                      │
 │  FAN3 Speed                    5720 RPM      │                      │
 ├────────────────────────────────────────────┴──────────────────────┤
 │       Move Enter:Select  +/-/PU/PD:Value F10:Save ESC:Exit  F1:General Help │
 │     F5:Previous Values    F6:Optimized Defaults   F7:Standard Defaults │
 └────────────────────────────────────────────────────────────────────┘
```

CPU Temperature
During Enabled, this will warn the user when the CPU temperature reaches a certain temperature.

Current System Temp/Current CPU Temperature/Current FAN1, FAN2, FAN3 Speed/ Vcore/VTT/3.3V/+5V/+12V/-12V/ -5V/VBAT(V)/5VSB(V)

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

Shutdown Temperature

This option is for setting the Shutdown temperature level for the processor. When the processor reaches the temperature you set, this will shutdown the system.

3-11 Miscellaneous Control

This section is for setting CPU Miscellaneous Control.

```
           CMOS Setup Utility – Copyright(C) 1984-2001 Award Software
                            Miscellaneous Control
  ┌──────────────────────────────────────────────┬────────────────────────┐
  │  Cyrix III Clock Ratio         Default        │                        │
  │  Auto Detect DIMM/PCI Clk      Enabled        │       Item Help        │
  │  Spread Spectrum               Disabled       ├────────────────────────┤
  │  ** Current Host Clock is 133 Mhz **          │                        │
  │  CPU Host/SDRAM/PCI Clock   133/133/33(by HW jumper)│ Menu Level >      │
  │  CPU Clock Ratio               X 3            │                        │
  │  CPU Vcore Select               Default       │  CyrixIII CPU Ratio    │
  │  Vcc3 Select                    3.32V(Default)│  Adjust                │
  │  AGP Vcc3 Select                3.30V(Default)│                        │
  │  AGP VDDQ Select                1.5V (Default)│                        │
  │  VDIMM Select                   3.30V(Default)│                        │
  │  Flash Part 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 DIMM/PCI Clk

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

Spread Spectrum

This item allows you to set the Spread Spectrum.

CPU/SDRAM/PCI Clock

This item allows you to select the CPU/SDRAM/PCI Clock, refer to Page 14.
By press PageDown/PageUp key you can change the CPU Host/SDRAM/PCI Clock
When jumper setting CPU Host Clock 66MHz you can choose 66/100/33~99/149/49MHz
When jumper setting CPU Host Clock 100MHz you can choose 100/100/33~132/132/44MHz
When jumper setting CPU Host Clock 133MHz you can choose 133/133/33~200/200/50MHz
When jumper setting CPU Host Clock 133MHz you can choose 133/100/33~200/151/50MHz

CPU Clock Ratio

This item allows you to select the CPU ratio.

CPU Vcore Select

This item allows you to select Vcore of the CPU. The choice are: +1.475V~+1.825V.

VCC3 Select

This item allows you to select 3.3V of the system. The choice are : 3.32V(Default), 3.20V, 3.29V, 3.40V, 3.42V, 3.50V, 3.52V, 3.63V.

AGP VCC3

This item allows you to select 3.3V of the AGP VGA card. The choice are : 3.30V(Default), 3.11V, 3.21V, 3.27V, 3.36V, 3.41V, 3.48V, 3.58V.

AGP VDDQ Select

This item allows you to select 1.5V of the AGP VGA card. The choice are : 1.5V(Default), 1.6V, 1.7V.

VDIMM Select

This item allows you to select 3.3V of the SDR Module. The choice are: 3.3V(Default), 3.45V, 3.55V.

Flash Part Write Protect

This item allow you protect BIOS data, please setting Disabled before upgrade BIOS

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

Insert CD into your CD-ROM drive and the MAGIC INSTALL Menu should appear as below. If the menu does not appear, double-click MY COMPUTER / double-click CD-ROM drive or click START / click RUN / type X:\SETUP.EXE (assuming X is your CD-ROM drive).
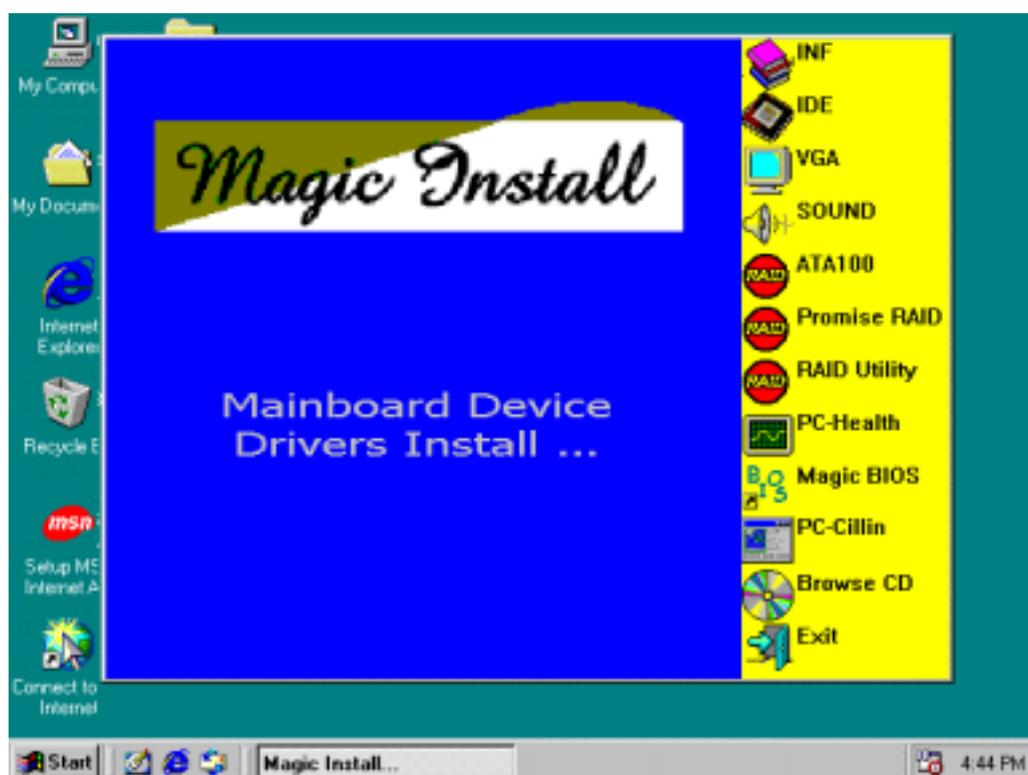
From MAGIC INSTALL MENU you may make 12 selections:

1. INF   install INTEL 815 chipset system driver
2. IDE   install Intel Ultra ATA Storage driver
3. VGA   install on-board VGA driver **(618AF Pro/618AF Pro-R Only)**
4. SOUND   install AC97 sound driver and the program for editing/playback
5. ATA100   install Promise ATA 100 Controller driver
                                (for 618AF Pro-R/618AS Pro-R only)
6. PROMISE RAID   install Promise RAID Controller driver
                                (for 618AF Pro-R/618AS Pro-R only)
7. RAID UTILITY   install Promise RAID Controller Utility
                                (for 618AF Pro-R/618AS Pro-R only)
8. PC-HEALTH   installs SMART GUARDIAN software for hardware monitoring device
9. MAGIC BIOS   install BIOS Live Update Utility
10. PC-CILLIN   install PC-CILLIN 2000 anti-virus program
11. BROWSE CD   to browse the contents of the CD
12. EXIT   to exit from MAGIC INSTALL menu

Each selection is illustrated as below:

4-1 INF   install INTEL 815 chipset system driver

After you have completed the installation of your operation system (WINDOWS 95/98/ 98SE). You will find an UNKNOWN DEVICE in the device manager (START/SETTING/ CONTROL PANEL/SYSTEM/DEVICE MANAGER). You have to install INF driver as shown below:

1. Click INF in the MAGIC INSTALL MENU   2. Click NEXT when Chipset Software Install
                                               Utility appears

3. This chart shows motherboards supported by the driver click NEXT

4. Select if you want computer re-started click Finish

NOTE: MAGIC INSTALL will auto detect file path X:\INTEL815\INF\INFINST.EXE
        This driver supports WINDOWS 95/98/98SE/ME/2000 (NT4.0 do not require)

4-2 IDE   install Intel ULTRA ATA Storage driver

1. Click IDE when MAGIC INSTALL MENU appears

2. Click NEXT when INTEL Ultra ATA Storage Wizard appears

3. This is to announce the Copy Right click NEXT

4. Click NEXT or BROWSE to change the path you want the driver stored

5. Select if you want to re-start your computer and click Finish

6. You may choose to remove the driver or you may remove it at ADD/REMOVE PROGRAMS

NOTE: MAGIC INSTALL will auto detect file path X:\INTEL815\IDE\SETUP.EXE
        This driver supports WINDOWS 95/98/98SE/ME/NT4.0/2000

4-3 VGA install on-board VGA driver (618AF Pro/618AF Pro-R Only)

A. For WINDOWS 95/98/98SE/ME/NT4.0/2000
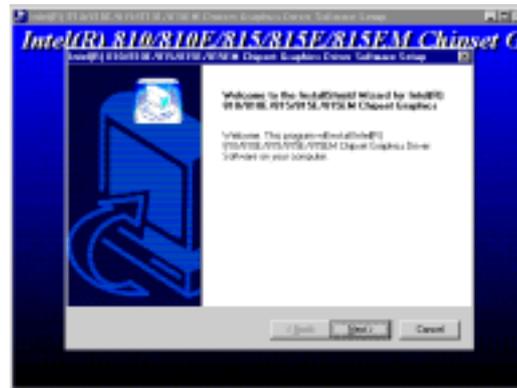
1. Click VGA when MAGIC INSTALL MENU appears

2. Click NEXT when INTEL 81X Family Chipset Graphics Driver Software appears
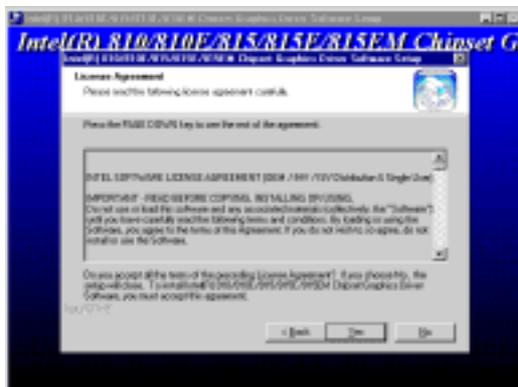
3. Click Yes, this is to announce Copy Right

4. Select if you want to re-start computer and click Finish

4-4 AC97 sound driver and the program Install for editing/playback

1. Click SOUND when MAGIC INSTALL MENU appears

2. Then auto detect operation system language edition, click Next, start to install DRIVER

3. Click Finish and Restart Windows
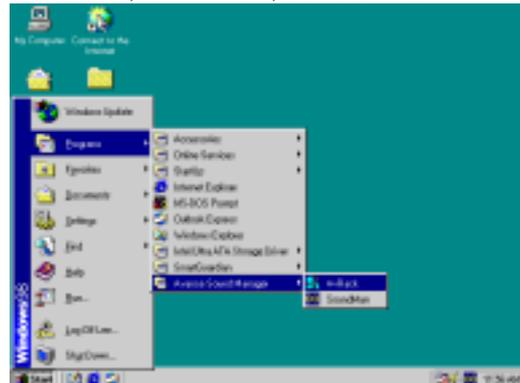
4. Click Start→Program→Avance Sound Manager→AvRack. Then AVRACK Windows appears

5. Avance Audio Rack table can play CD, WAV, MID, MP3, AVI, MPG Format File
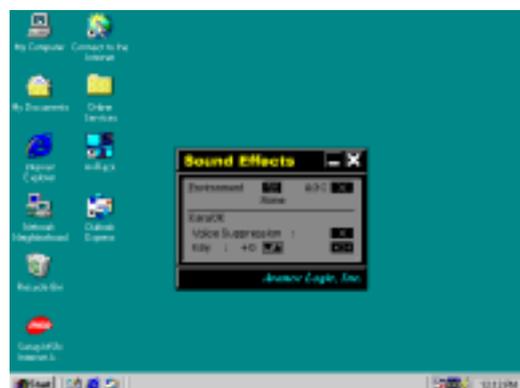
6. This is a Sound Environment Simulator and Karaok function table

NOTE: **MAGIC INSTALL will auto detect file path:**
        X:\CODEC\ALC201\SETUP.EXE (for WINDOWS 95/98/98SE/ME/NT4.0/2000)

4-5 Install PROMISE ATA100/RAID Driver (Only for 618AS Pro-R/ 618AF Pro-R)

(Read CD-PACK X:\MANUAL\PROMISE.DOC to get more information)

4-5-1 Install PROMISE ATA100 IDE Controller Driver

When the Jumper setting ATA100 you will have next screen in Magic Install MENU.

1. Click PROMISE ATA100 Controller Driver in MAGIC INSTALL MENU

2. Install PROMISE ATA100 Controller Driver
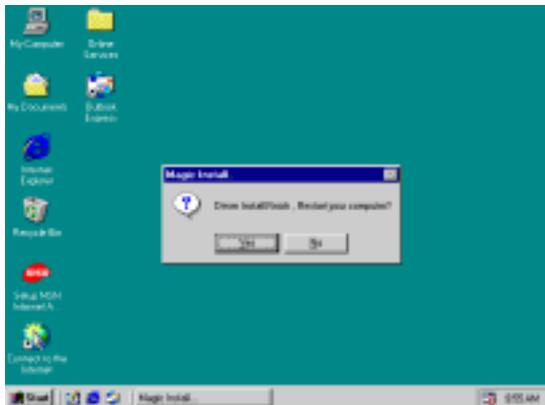
3. Click Yes to Restart your computer after Driver Install Finish

NOTE: **The path of the file:**
   For Windows 95/98 is X:\PORMISE\ATA100\WIN95-98 (including Win95/98)
   For Windows ME is X:\PORMISE\ATA100\WINME
   For Windows 2000 is X:\PORMISE\ATA100\WIN2000
   For Windows NT4.0 is X:\PORMISE\ATA100\NT4

4-5-2 Install PROMISE IDE RAID Controller Driver (Only for 618AS Pro-R/618AF Pro-R)

When the Jumper setting in RAID Mode you will have next screen in Magic Install MENU.

1. Click PROMISE RAID Controller Driver when MAGIC INSTALL MENU
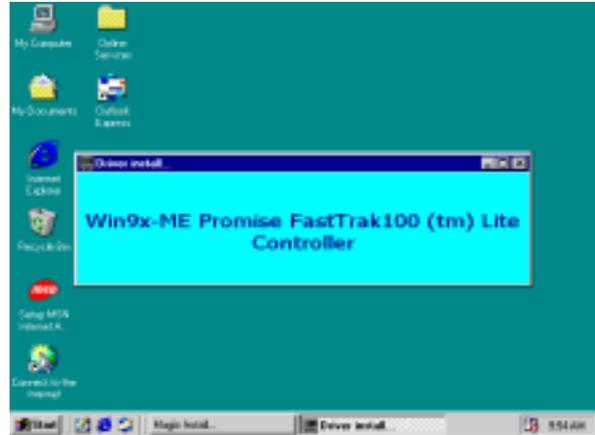
2. Install PROMISE RAID Controller Driver
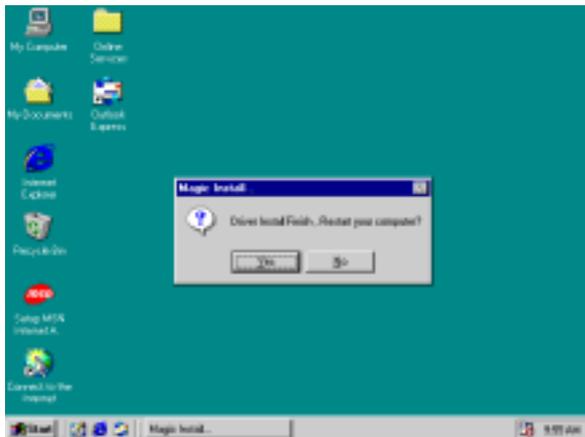
3. Click Yes to Restart your computer after Driver Install Finish

NOTE: **The path of the file:**
For Windows 9X is X:\PORMISE\RAID\WIN9X-ME (including Win95/98/ME)
For Windows NT4.0 is X:\PORMISE\RAID\NT4
For Windows 2000 is X:\PORMISE\RAID\WIN2000
For Novell Netware is X:\PORMISE\RAID\NETWARE

4-5-3 Install PROMISE IDE RAID Controller Utility (Only for 618AS Pro-R/618AF Pro-R)

1. Click PROMISE RAID Controller Utility in MAGIC INSTALL MENU

2. In this screen please click Next to install PROMISE Monitoring Utility

3. Click Next to continue Setup PROMISE FastTrak Controller Utility

4. Select the components you want to install and click Next to Setup

5. Select Yes if you want the FastCheck Monitoring Utility automatically run after windows starts

6. Click Finish after complete Setup

7. After Windows restart click FastCheck
   Monitoring Utility you can monitor the
   RAID Status

**For detail information please read PROMISE.DOC in CD-PACK
X:\MANUAL\PROMISE.DOC**

4-6 PC-HEALTH installs 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 OK

4. Click OK after the software is installed

**NOTE: MAGIC INSTALL will auto detect file path X:\INTEL815\HEALTH\SETUP.EXE
        This driver supports WINDOWS 95/98/98SE/NT4.0/2000**

4-7 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
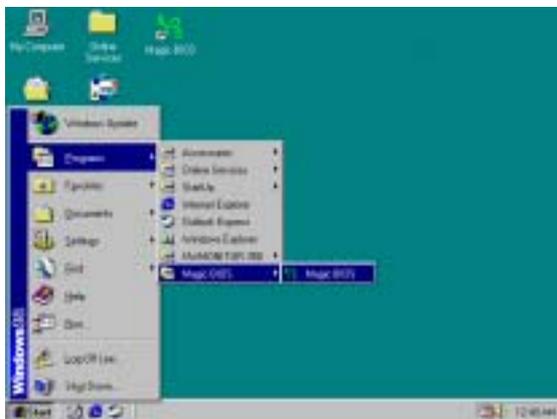
3. After finish Setup you will have a Magic BIOS icon in your screen


4. Double click the Magic BIOS icon you will have this picture, choose from internet you can upgrade BIOS On-line
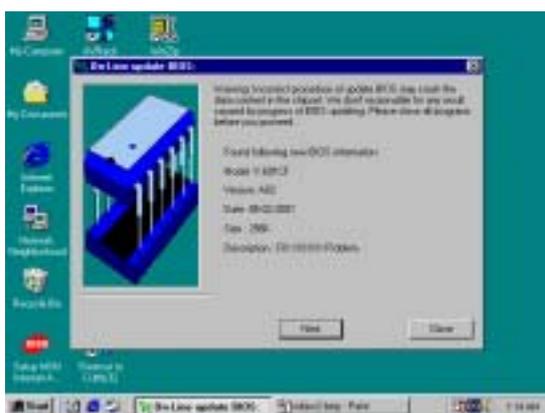
5. When On-line update BIOS the program will auto-check your BIOS version

6. Click Next if you need update BIOS, after upgrade BIOS, the system will clear CMOS and automatically restart
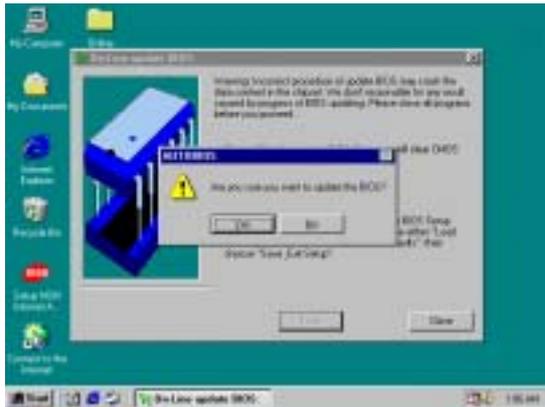
7. Click Yes if you want to update the BIOS otherwise choose No to exit

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
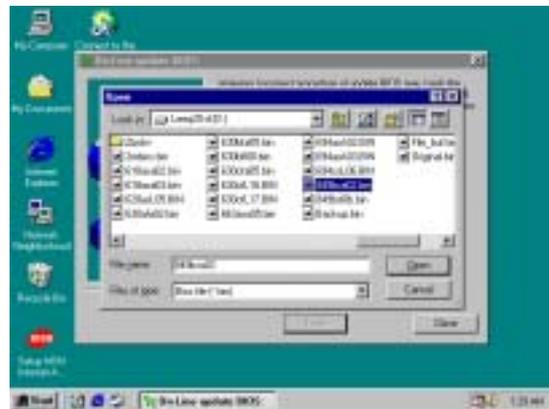
10. Choose the correct BIOS file to update BIOS

4-8 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
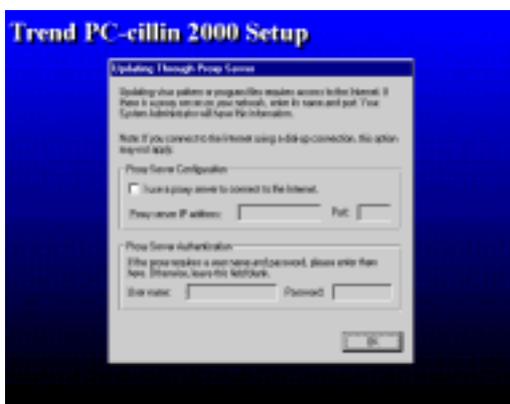
5. Click OK and If You Have Proxy Server, Enter Your Setting.

6. Click NEXT when Start Copy Files, Start to install the software.
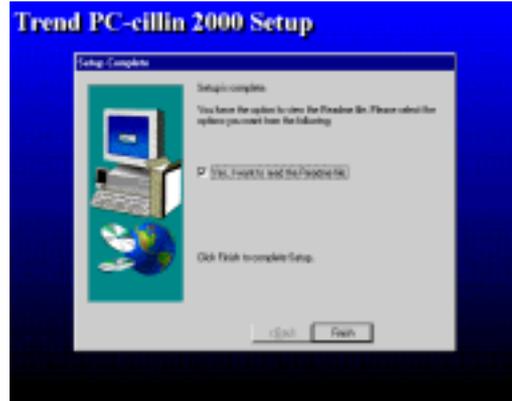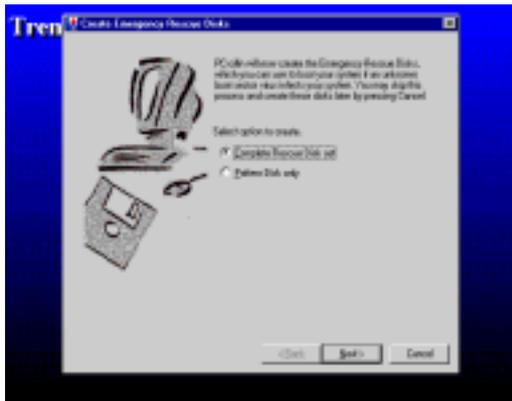
7. If you want to make a rescue disc, insert a 1.44 MB disc

8. Setup Complete and click Finish
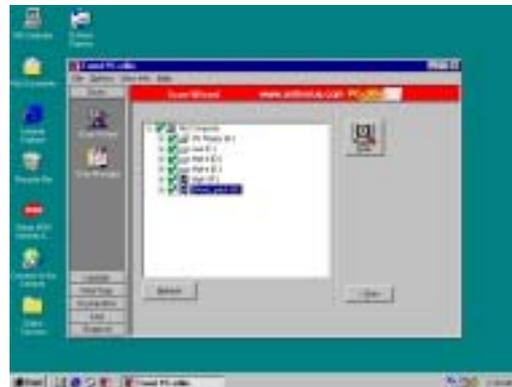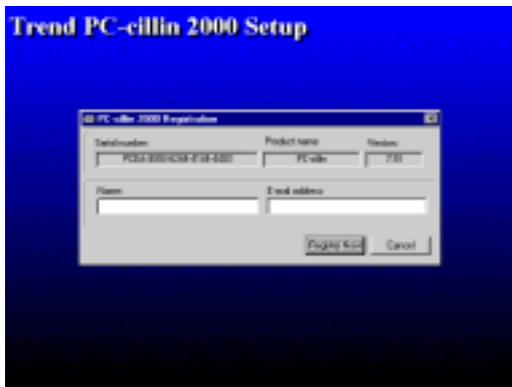
9. Enter Your name and E-mail address Register PC-cillin 2000 or Click Cancel Register Later

10. After install PC-cillin 2000 complete we recommend select update item to download newest virus code and setting Auto refresh virus code

PS: **After altering the options, there will be changes on the sound effect, user has to reset all the option in order to have the original sound effects.**

4-9   HOW TO DISABLE ON-BOARD SOUND

Enter BIOS SETUP choose INTEGRATE PERIPHERALS choose ON-CHIP DEVICE FUNCTION choose AC97 AUDIO
Disable on-board sound function by press PAGE DOWN KEY to Disable

4-10   HOW TO UPDATE BIOS

Before update BIOS please choose Disabled in "Flash Part Write Protect" item on "Miscellaneous Control" in BIOS Setup, please refer page 43

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

Method 2.   In DOS Mode

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

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

STEP 3. Copy latest BIOS for 618AS Pro/618AF Pro/618AF Pro-R/618AS Pro-R from our web site to your boot disc.

STEP 4. Insert your boot disc into A:,
start the computer, type "Awdflash A:\618AFPxxx.BIN /SN /PY /CC /R"
618AFPxxx.BIN is the file name of latest BIOS it can be 618AFPA3.BIN or 618AFPB2.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