830CN/830CH/830CF
USER'S MANUAL

M/B For Socket-A Athlon/Duron Processor

NO. G03-830CNR5A

Release date: November 2001

TABLE OF CONTENT

USER'S NOTICE

THIS MANUAL CONTAINS ALL INFORMATION REQUIRED TO USE 830CN/830CH/ 830CF MOTHER-BOARD AND WE DO ASSURE THIS MANUAL MEETS USER'S REQUIREMENT BUT WILL CHANGE, CORRECT ANY TIME WITHOUT NOTICE. MANUFACTURER PROVIDES THIS MANUAL "AS IS" WITHOUT WARRANTY OF ANY KIND, AND WILL NOT BE LIABLE FOR ANY INDIRECT, SPECIAL, INCIDENTIAL OR CONSEQUENTIAL DAMAGES (INCLUDING DAMANGES FOR LOSS OF PROFIT, LOSS OF BUSINESS, LOSS OF USE OF DATA, INTERRUPTION OF BUSINESS AND THE LIKE).

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Manual Revision Information

Reversion	Revision History	Date
5.0	Fifth Edition	November 2001

Item Checklist

- ☑ 830CN/830CH/830CF Motherboard
- ☑ Cable for IDE/Floppy
- ☑ CD for motherboard utilities
- ☐ Cable for USB Port 3/4 (Option)
- ☑ 830CN/830CH/830CF User's Manual

AMD Athlon™ / Duron™ Processor Family

Cooling Solutions

As processor technology pushes to faster speeds and higher performance, thermal management becomes increasingly crucial when building computer systems. Maintaining the proper thermal environment is key to reliable, long-term system operation. The overall goal in providing the proper thermal environment is keeping the processor below its specified maximum case temperature. Heatsinks induce improved processor heat dissipation through increased surface area and concentrated airflow from attached fans. In addition, interface materials allow effective transfers of heat from the processor to the heatsink. For optimum heat transfer, AMD recommends the use of thermal grease and mounting clips to attach the heatsink to the processor.
When selecting a thermal solution for your system, please refer to the website below for collection of heatsinks evaluated and recommended by AMD for use with AMD processors. Note, those heatsinks are recommended for maintaining the specified Maximum T case requirement. In addition, this collection is not intended to be a comprehensive listing of all heatsinks that support AMD processors.

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

Chapter 1

Introduction of 830CN/830CH/830CF Motherboard

1-1 Feature of motherboard

The 830CN/830CH/830CF motherboard is design for use AMD Athlon / Duron processors, which utilize the Socket A design and the memory size expandable to 1GB.

This motherboard use the newest SiS 730S chipset, whose front side bus (133MHz/ 266MHz (DDR) for 830CH/830CF/830CN. Provides a high performance/low cost solution for Socket A series CPUs based system, by integrating a high performance North Bridge, advanced hardware 2D/3D GUI engine and Super-South Bridge. Moreover, by integrating the Ultra AGP technology and advanced 128-bit graphic display interface, SiS 730S delivers AGP 4X performance and up to 2GB/s memory bandwidth, and provides powerful hardware decoding DVD accelerator to improve the DVD playback performance. On-board VGA memory can select from 8Mb to 64Mb.

830CH/830CF provides 4x Mode AGP slot support 4X AGP card for those wanting even greater graphic performance. *However, due to chipset's specification, on board AGP slot supports n-Vidia TNT series VGA card only.*

830CF also support 10/100 Mb Fast Ethernet controller for office requirement.

This motherboard provides AC'97 compliant interface that comprises digital audio engine with 3D-hardware accelerator, on-chip sample rate converter. This motherboard also provides dual USB host controller with four USB Ports that deliver better connectivity and 2x12Mb bandwidth. The built-in Fast PCI IDE controller supports Ultra DMA 33/66/100 function up to 100MB/s for data transfer rate. In addition, 830CN/830CH/830CF provides hardware monitor function that will monitoring and protects your computer.

The 830CN/830CH/830CF motherboard provides special function in BIOS Setup to setting CPU Host clock step by step increasing let users to approach over clocking.

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

1-2 Specification

Spec	Description

Design	* Micro ATX form factor 4 layers PCB size: 24.4x21.0cm
Chipset	* SiS 730S Chipset for 830CN/830CH/830CF
Clock Generator	* Support 100/133MHz Front Side Bus Clock (CPU Bus clock) * Support 100/133MHz system memory clock * Support 33MHz PCI Bus clock
CPU Socket	* Support AMD Athlon 600MHz~1.33GHz processor * Support AMD Duron 600MHz~850MHz processor * Support 100/133 MHz CPU Bus clock Support 266MHz DDR (Double Data Rate) F.S.B. (for 830CN /830CH/830CF) * Reserves support for future AMD Athlon/Duron processors
Memory Socket	* 168-pin DIMM socket x2 * PC-100/PC-133 SDRAM * Expandable to 1GB * Support 3.3V SDRAM Module
Expansion Slot	* 32-bit PCI slot x3, 2.2 Specification Compliant * CNR slot x1 support Audio, Modem only * AGP Slot x1 (Only for 830CH/830CF)
Integrate VGA	* 3D graphic acceleration * VGA Memory Selectable by BIOS from 8MB to 64MB
Integrate IDE	* Two PCI IDE controllers support PCI Bus Mastering, ATA PIO/DMA and the ULTRA DMA 33/66/100 functions that deliver the data transfer rate up to 100 MB/s
Integrate LAN (Only for 830CF)	* Fast Ethernet Controller 10/100 Mbps
Audio	* AC'97 Digital Audio controller integrated * AC'97 Audio CODEC on board * Audio driver and utility included
BIOS	* Award 2MB Flash ROM
Multi I/O	* PS/2 keyboard and PS/2 mouse connectors * Floppy disk drive connector x1 * Parallel port x1 * Serial port x2 * USB connector x2,USB headers x2 (connecting cable option) * Audio connector (Line-in, Line-out, MIC & Game Port)

1-3 Performance List

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

CPU: AMD K7 900MHz FC-PGA package

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

VGA Expansion Card: On Board VGA

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

BIOS: Award Optimal default

OS: Win 98SE

Performance Test Report

	Share 8M	Share 16M	Share 32M
3D Mark 99	1712	1708	1711
3D Mark 2000	754	711	733
3D Winbench 99 V1.2	469	475	476
3D Winbench 2000	16.1	18.8	19.8
Final Reality	5.04	5.02	5.00
Winstone 99 V1.3	28.7	28.5	28.7
Content Creation Winstone 2000	34.6	32.5	33.9
Content Creation Winstone 2001	38.2	37.6	36.7
Business Winstone 2001	32.1	31.9	31.7
Winbench 99 :			
CPU Mark 99	70.8	70.7	70.6
FPU Winmark 99	4810	4810	4800
Business Disk Winmark99	4570	4500	4630
Hi-end Disk Winmark99	16600	16500	17000
Business Graphic Winmark	208	227	227
Hi-end Graphic Winmark	675	886	884
SYS Mark 2000 : SISMark 2000 Rating (Internet Content Creation / Office Productivity)			
Suites	152 (154/151)	153 (153/153)	153 (154/153)
Official	152 (155/149)	153 (153/153)	153 (155/152)
SISOFT Sandra 2000 :			
CPU MIPS	2774	2773	2772
FPU MFLOPS	1186	1188	1188
CPU / Memory MB/S	252	252	252
FPU / Memory MB/S	297	297	297
QUAKE3 :			
DEMO1 FPS	25.9	26.2	26.2
DEMO2 FPS	24.7	24.9	25.0

CPU: AMD K7 1.2GHz FC-PGA package

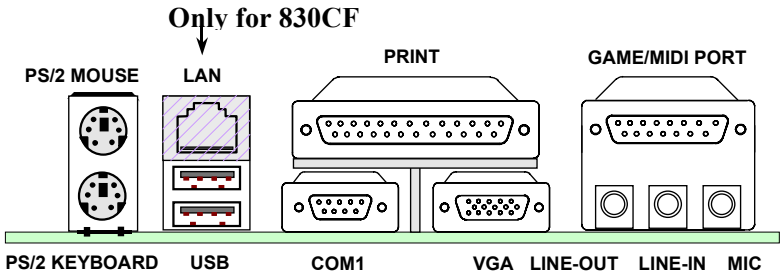
DRAM: 128M SDRAM x2 (Hyundai GM 72V66841ET75)

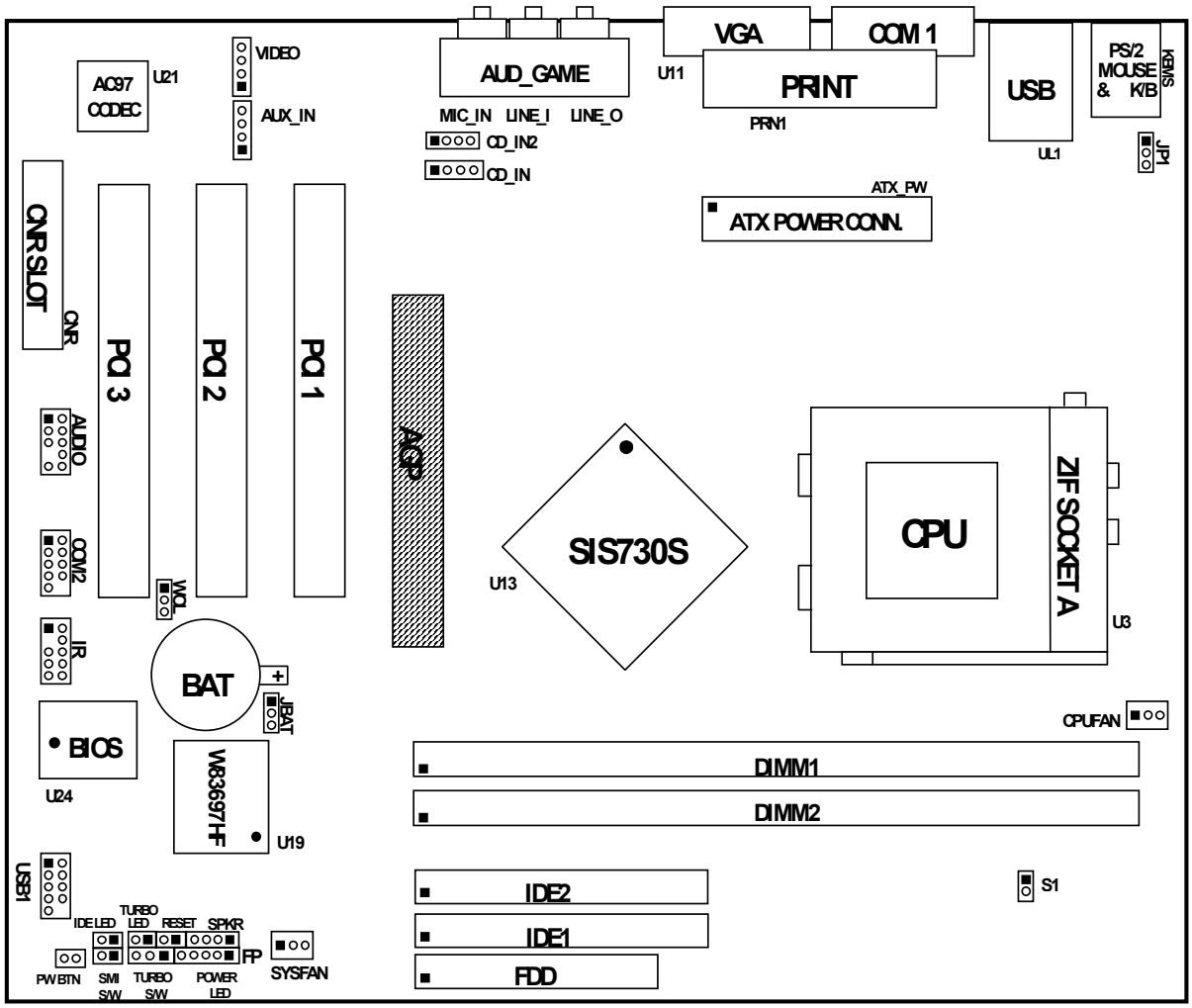
VGA Expansion Card: On Board VGA
Hard Disk Driver: IBM DTLA-305040 (ATA-100)
BIOS: Award Optimal default
OS: Win 98SE

Performance Test Report

	Share 8M	Share 16M	Share 32M
3D Mark 99	2446	2468	2466
3D Mark 2000	1042	1082	1082
3D Winbench 99 V1.2	644	653	654
3D Winbench 2000	22.2	27.3	29.8
Final Reality	9.28	6.29	6.29
Winstone 99 V1.3	32.6	33.5	32.3
Content Creation Winstone 2000	39.4	40.9	37.2
Content Creation Winstone 2001	45.5	45.4	45.5
Business Winstone 2001	39.2	39.2	39.3
Winbench 99 :			
CPU Mark 99	94.8	94.4	94.4
FPU Winmark 99	6430	6410	6410
Business Disk Winmark99	4700	4720	4570
Hi-end Disk Winmark99	17200	17200	16800
Business Graphic Winmark	303	303	304
Hi-end Graphic Winmark	1180	1180	1170
SYS Mark 2000 : SISMark 2000 Rating (Internet Content Creation / Office Productivity)			
Suites	193 (198/190)	195 (197/194)	194 (195/194)
Official	193 (199/188)	197 (199/196)	195 (200/192)
SISOFT Sandra 2000 :			
CPU MIPS	3644	3694	3687
FPU MFLOPS	1582	1640	1579
CPU / Memory MB/S	333	334	334
FPU / Memory MB/S	396	396	395
QUAKE3 :			
DEMO1 FPS	31.9	32.0	32.2
DEMO2 FPS	30.5	30.8	30.9

1-4 Layout Diagram & Jumper Setting





Only for 830CH/830CF

Jumpers

Jumper	Name	Description	Page
S1	CPU Front Side Bus Frequency Setting	1x2-pin Block	P.9

JP1	Keyboard Power ON Function Setting	3-pin Block	P.9
JBAT	CMOS RAM Clear	3-pin Block	P.10

Connectors

Connector	Name	Description	Page
ATX_PW	ATX Power Connector	20-pin Block	P.16
KBMS	PS/2 Mouse & Keyboard Connector	6-pin Female	P.16
USB	USB Port Connector	2x4-pin Connector	P.16
LAN (*for 830CF*)	LAN Port Connector	RJ45 Connector	P.17
PRN1(PRINT)	Parallel Port Connector	25-pin Female	P.17
VGA	VGA Port Connector	15-pin Female	P.17
AUD_GAME	Audio/Game Connector	3 phone jack + 15-pin Connector	P.17
COM1	Serial Port COM1 Connector	9-pin Connector	P.18
FDD	Floppy Driver Connector	34-pin Block	P.18
IDE1	Primary IDE Connector	40-pin Block	P.18
IDE2	Secondary IDE Connector	40-pin Block	P.19

Headers

Header	Name	Description	Page
COM2	COM2 Headers	9-pin Block	P.19
USB1	USB Port Headers	9-pin Block	P.20
IDE LED	IDE activity LED	2-pin Block	P.20
TURBO LED	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.20
PW BTN	Power switch	2-pin Block	P.20
WOL	Wake On-LAN Headers	3-pin Block	P.21
CPUFAN, SYSFAN	FAN Speed Headers	3-pin Block	P.21
IR	IR infrared module Headers	9-pin Block	P.21
CDIN, CDIN2	CD Audio-In Headers	4-pin Block	P.21
AUX_IN	AUX-IN Audio Input Header	4-pin Block	P.22
AUDIO	Audio External Connector	9-pin Block	P.22

Expansion Sockets

Socket/Slot	Name	Description	Page
ZIF Socket A	AMD CPU Socket	AMD Athlon/Duron CPU Socket	P.11
DIMM1, DIMM2	DIMM Module Socket	168-pin DIMM SDRAM Module Expansion Socket	P.13
PCI1, PCI2, PCI3	PCI Slot	32-bit PCI Local Bus Expansion slots	P.15
AGP	AGP Slot	AGP Slot for expansion VGA card **(830CH/830CF only)**	P.15
CNR	CNR Slot	Communication Network Riser slot Support Audio, Modem only	

Chapter 2

Hardware installation

2-1 Hardware installation Steps

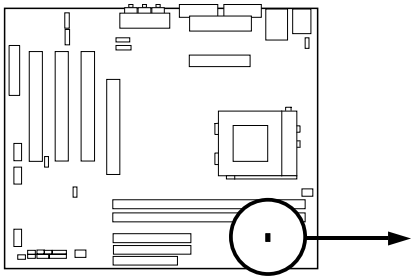
Before using your computer, you had better complete the following steps:

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

2-2 Checking Motherboard's Jumper Setting

1. CPU Front Side Bus Frequency Setting (2-pin): S1

The motherboard's CPU Host clock adjusted through jumper S1.

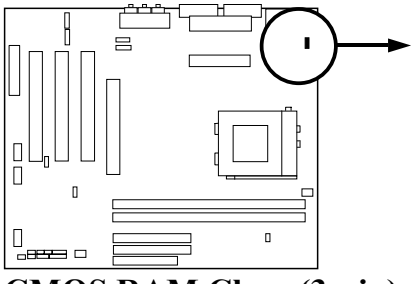


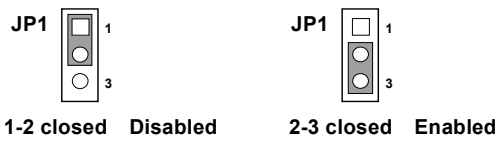
CPU Front Side Bus Frequency

* This motherboard also provides CPU Front Side Bus Frequency setting by Software, please refer page 40.

2. Keyboard Power On Function Setting (3-pin): JP1

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



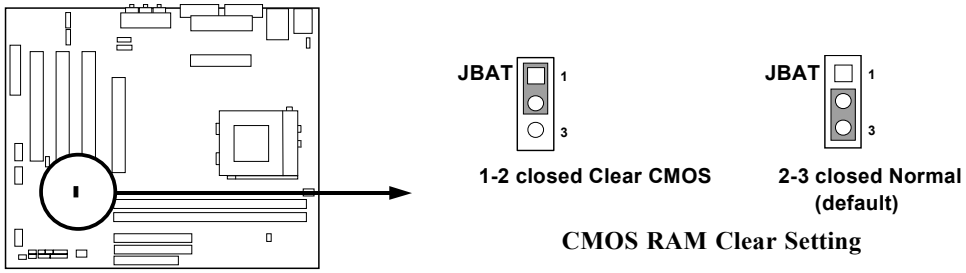


Keyboard Power On Function

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

A battery must be used to retain the motherboard configuration in CMOS RAM short 2-3 pins of JBAT to store the CMOS data.

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



CMOS RAM Clear Setting

2-3 Install CPU

2-3-1 Glossary

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Front Side Bus Frequency - the working frequency of the motherboard, which is generated by the clock generator for CPU, DRAM and PCI BUS.
CPU L2 Cache - the flash memory inside the CPU, normally Athlon CPU has 256K or above, while Duron will have 64K.

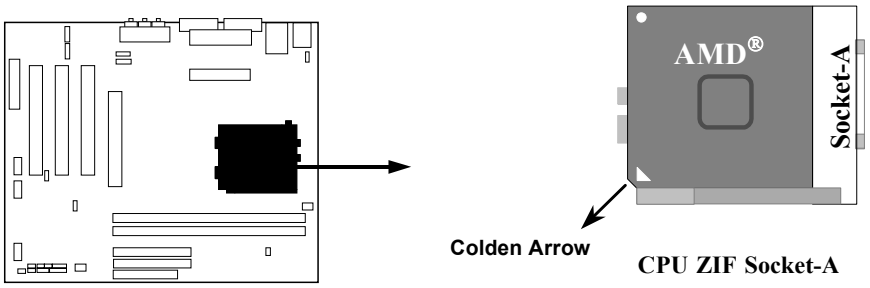
2-3-2 About AMD Athlon & Duron 462-pin CPU

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

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

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

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



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

2-3-3 Over clock Running

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

After setting the Jumper S1 you can choose over clock running by BIOS CMOS SETUP UTILITY. When you entered CMOS SETUP UTILITY, choose "Miscellaneous Control" you will see the screen as below, when setting clock control by software, you can setting Host Clock step by step in Host Clock at next boot from 100MHz to 166MHz for user approach over clock running.

```
CMOS Setup Utility – Copyright(C) 1984-2000 Award Software
                    Miscellaneous Control
```

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

Clock Control
This item allows you to set the CPU Host Clock by Hardware (Jumper S1), or by Software (BIOS)

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

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

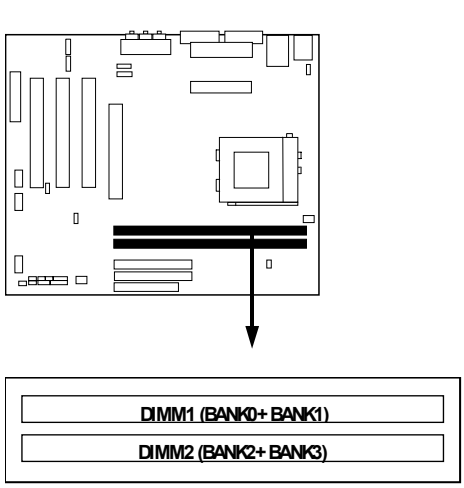
2-4 Install Memory

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

Valid Memory Configurations

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

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



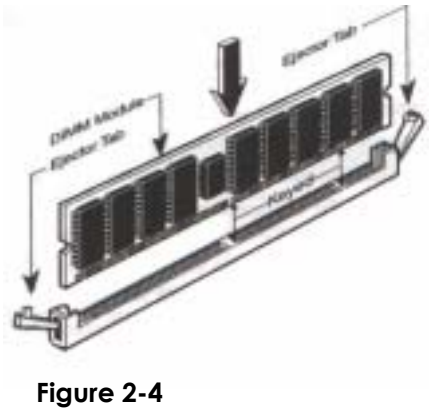


Figure 2-4

NOTE! When you install DIMM module fully into the DIMM socket the eject tab should be locked into the DIMM module very firmly and fit into its 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

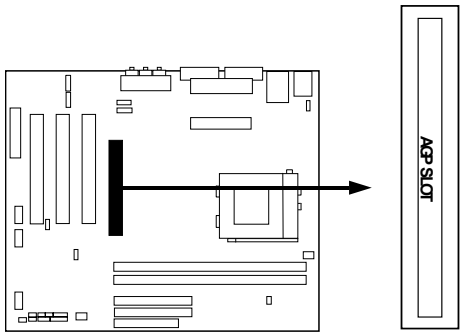
Interrupt request are shared as shown the table below:

	INT A	INT B	INT C	INT D
PCI slot 1	—	Shared	—	—
PCI slot 2	—	—	Shared	—
PCI slot 3	—	—	—	Shared
Onboard VGA	—	—	—	—
AC97/MC97	—	Shared	—	—
Onboard USB	—	—	—	Shared
Onboard USB 2	—	—	—	Shared

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

2-5-4 AGP Slot (Only for 830CH/830CF)

This motherboard provides an AGP Slot, support the 1X/2X/4X AGP VGA card.

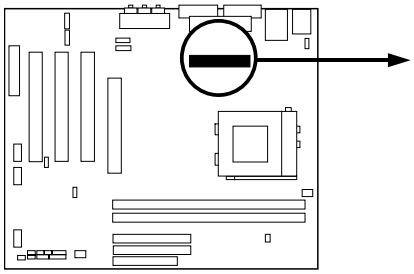


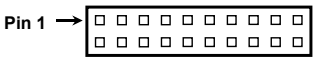
2-6 Connectors, Headers

2-6-1 Connectors

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

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

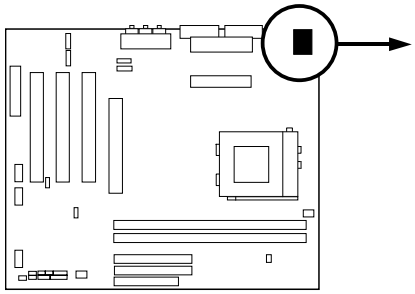


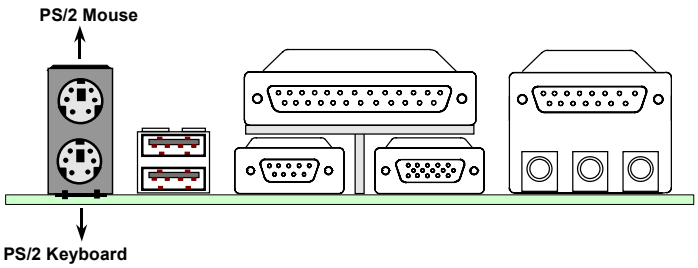


PIN	ROW2	ROW1
1	3.3V	3.3V
2	-12V	3.3V
3	GND	GND
4	Soft Power On	5V
5	GND	GND
6	GND	5V
7	GND	GND
8	-5V	Power OK
9	+5V	+5V (for Soft Logic)
10	+5V	+12V

(2) PS/2 Mouse & PS/2 Keyboard Connector: KBMS

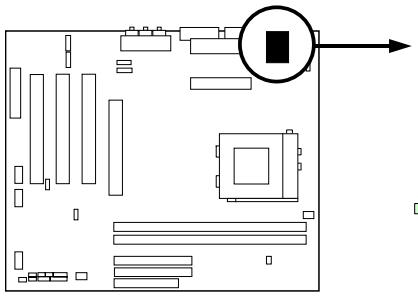
The connectors for PS/2 keyboard and PS/2 Mouse.

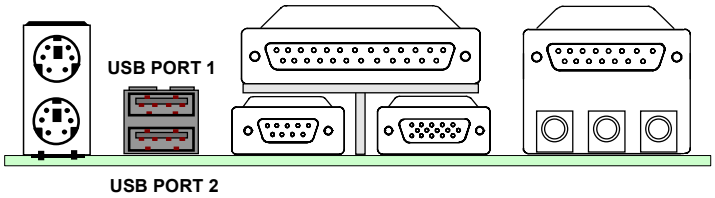




(3) USB Port connector: USB

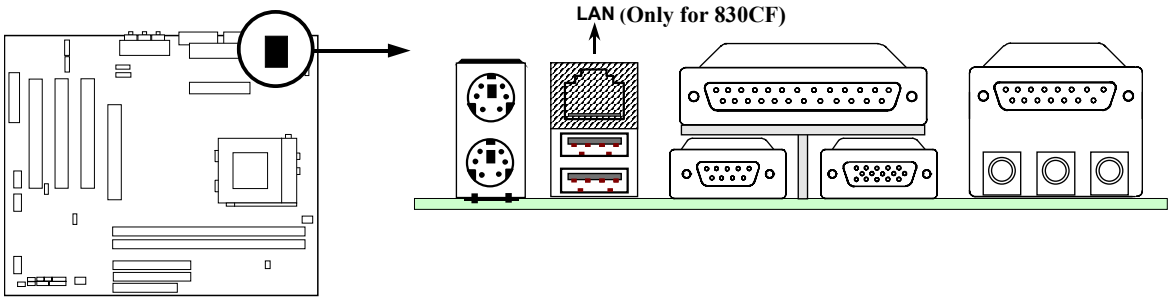
The connectors are 4-pins connector that connect USB devices to the system board.





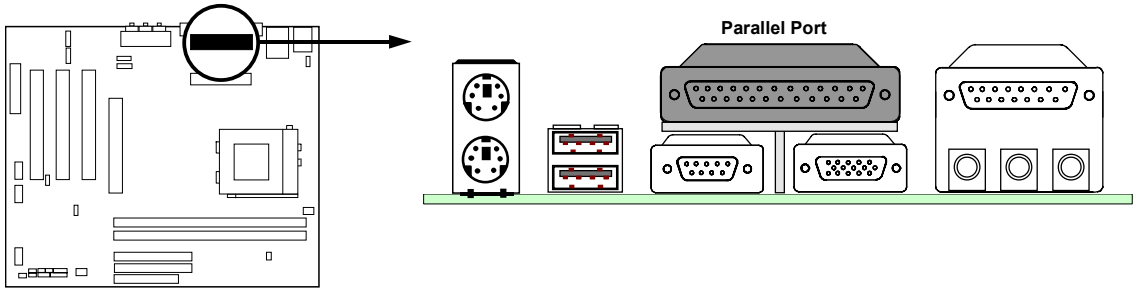
(4) LAN Port connector: LAN (Only for 830CF)

This connector is standard RJ45 connector for Network connector.

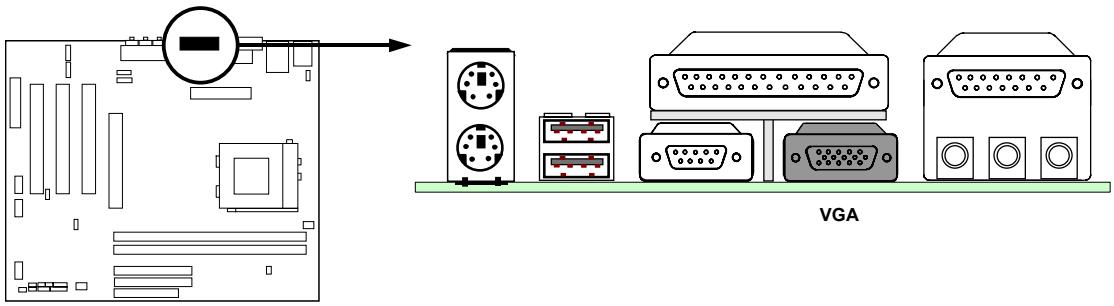


(5) Parallel Port Connector (25-pin female): PRINT

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.



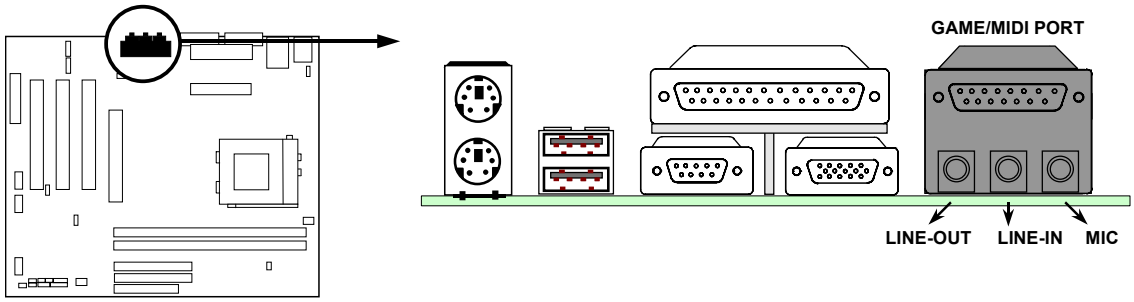
(6) VGA Connector (15-pin female): VGA



(7) Audio and Game Connector : AUD_GAME

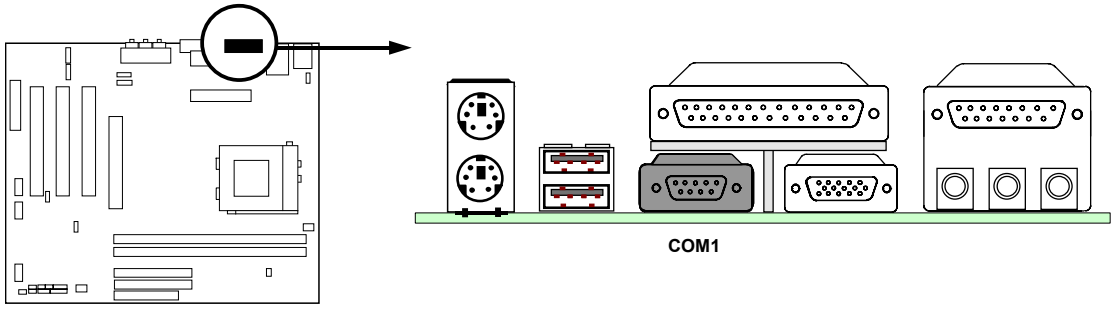
This Connector are 3 phone Jack for LINE-OUT, LINE-IN, MIC and a 15-pin D-Subminiature Receptacle Connector for joystick/MIDI Device.

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



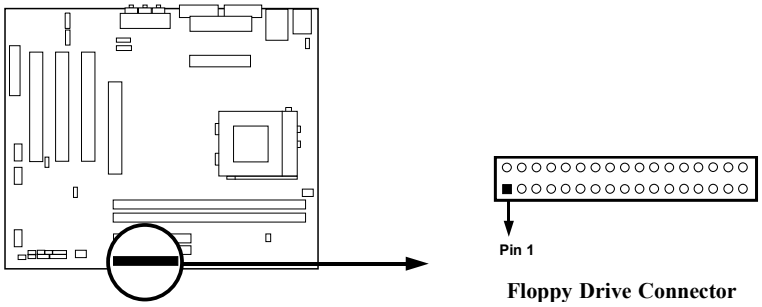
(8) Serial Port COM1: COM1

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.



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

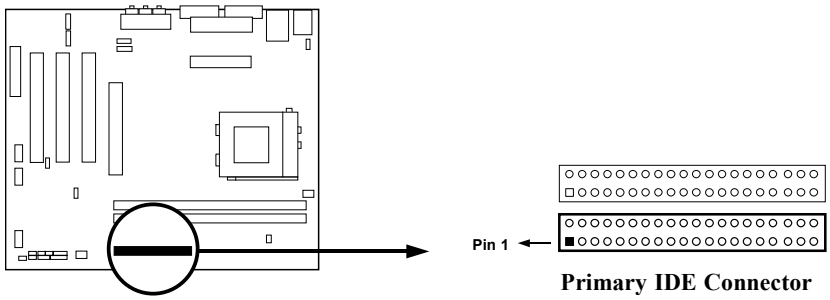
This connector supports the provided floppy drive ribbon cable. After connecting the single plug end to motherboard, connect the two plugs at other end to the floppy drives.



Floppy Drive Connector

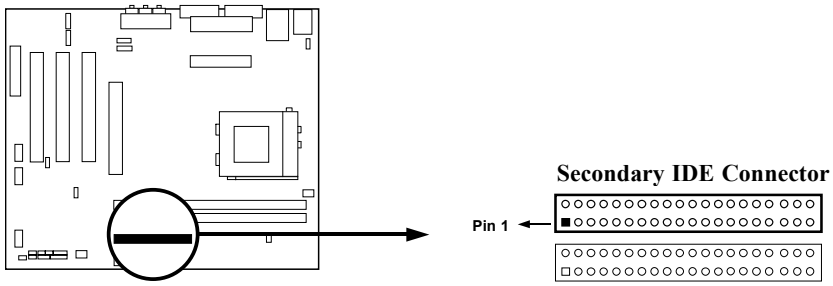
(10) Primary IDE Connector (40-pin block): IDE1

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



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

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

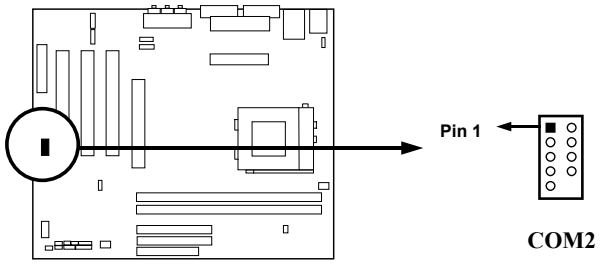


- Two hard disks can be connected to each connector. The first HDD is referred to as the "Master" and the second HDD is referred to as the "Slave".
- For performance issues, we strongly suggest you don't install a CD-ROM or DVD-ROM drive on the same IDE channel as a hard disk. Otherwise, the system performance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

2-6-2 Headers

(1) COM2 Headers (9-pin block): COM2

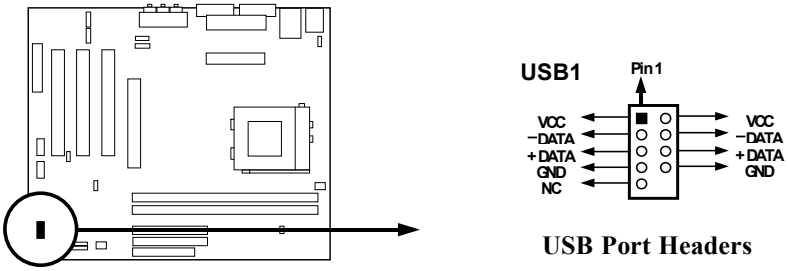
This board has another serial port COM2, it come with cable providing serial port COM2.



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

(2) USB Port Headers (9-pin block): USB1

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) Speaker connector: SPKR

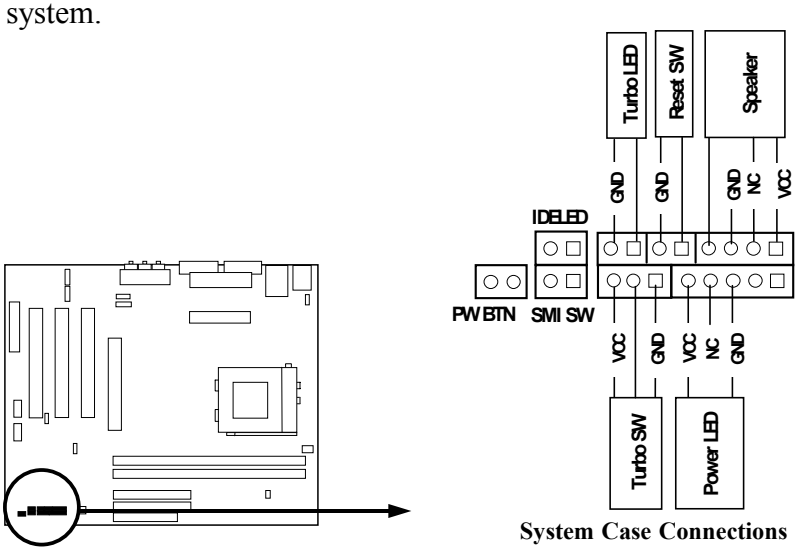
This 4-pin connector connects to the case-mounted speaker. See the figure below.

(7) Power LED: POWER LED

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

(8) Power switch: PW BTN

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

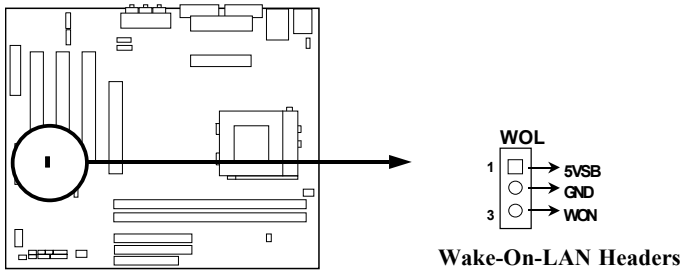


System Case Connections

(9) Wake On-LAN Headers (3-pin): WOL

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

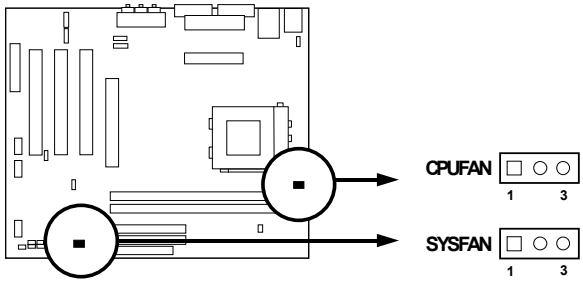
NOTE: This feature requires that Wake On LAN or Ring In Wake up is enabled.



Wake-On-LAN Headers

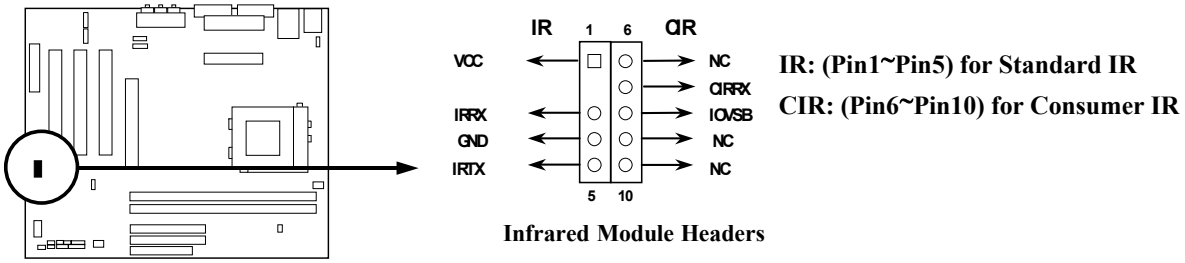
(10) FAN Speed Headers (3-pin): CPUFAN, SYSFAN

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.



(11) IR infrared module Headers (9-pin): IR

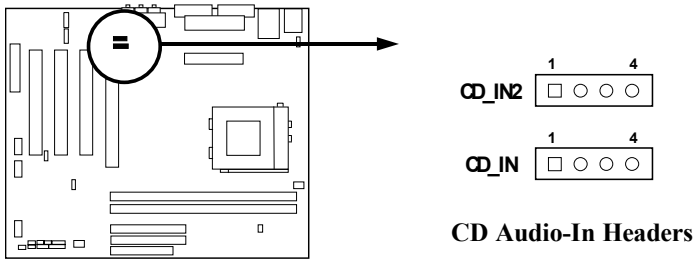
This connector supports the optional wireless transmitting and receiving infrared module. You must configure the setting through the BIOS setup to use the IR function.



Infrared Module Headers

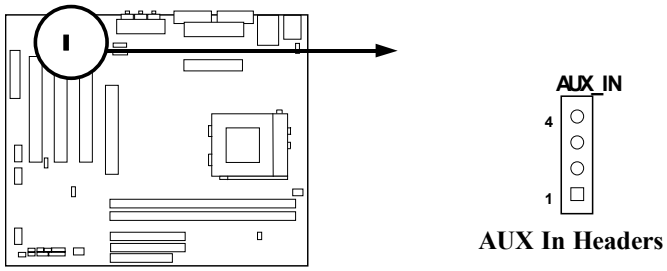
(12) CD Audio-In Headers (4-pin): CD_IN, CD_IN2

CD_IN and CD_IN2 are the connectors for CD-Audio Input signal. Please connect it to CD-ROM CD-Audio output connector.



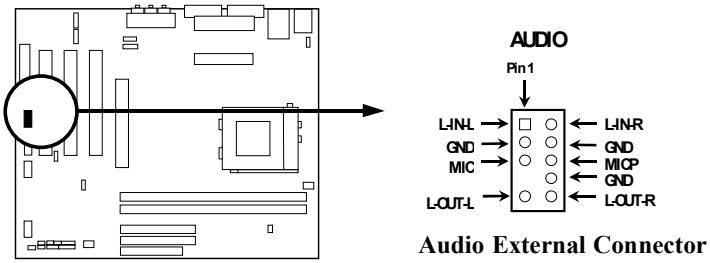
CD Audio-In Headers

(13) AUX-In Headers (4-pin): AUX_IN



AUX In Headers

(14) Audio External Connector (9-pin): AUDIO



Audio External Connector

2-7 Starting Up Your Computer

1. After all connection are made, close your computer case cover.
2. Be sure all the switch are off, and check that the power supply input voltage is set to proper position, usually in-put voltage is 220V~240V or 110V~120V depending on your country's voltage used.
3. Connect the power supply cord into the power supply located on the back of your system case according to your system user's manual.
4. Turn on your peripheral as following order:
   a. Your monitor.
   b. Other external peripheral (Printer, Scanner, External Modem etc…)
   c. Your system power. For ATX power supplies, you need to turn on the power supply and press the ATX power switch on the front side of the case.
5. The power LED on the front panel of the system case will light. The LED on the monitor may light up or switch between orange and green after the system is on. If it complies with green standards or if it is has a power standby feature. The system will then run power-on test. While the test are running, the BIOS will alarm beeps or additional message will appear on the screen.

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

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

6. During power-on, press <Delete> key to enter BIOS setup. Follow the instructions in BIOS SETUP.
7. **Power off your computer:** You must first exit or shut down your operating system before switch off the power switch. For ATX power supply, you can press ATX power switching after exiting or shutting down your operating system. If you use Windows 9X, click **"Start"** button, click **"Shut down"** and then click **"Shut down the computer?"** The power supply should turn off after windows shut down.

Chapter 3

Introducing BIOS

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

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

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

3-1 Entering Setup

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

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

3-2 Getting Help

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

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

3-3 The Main Menu

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

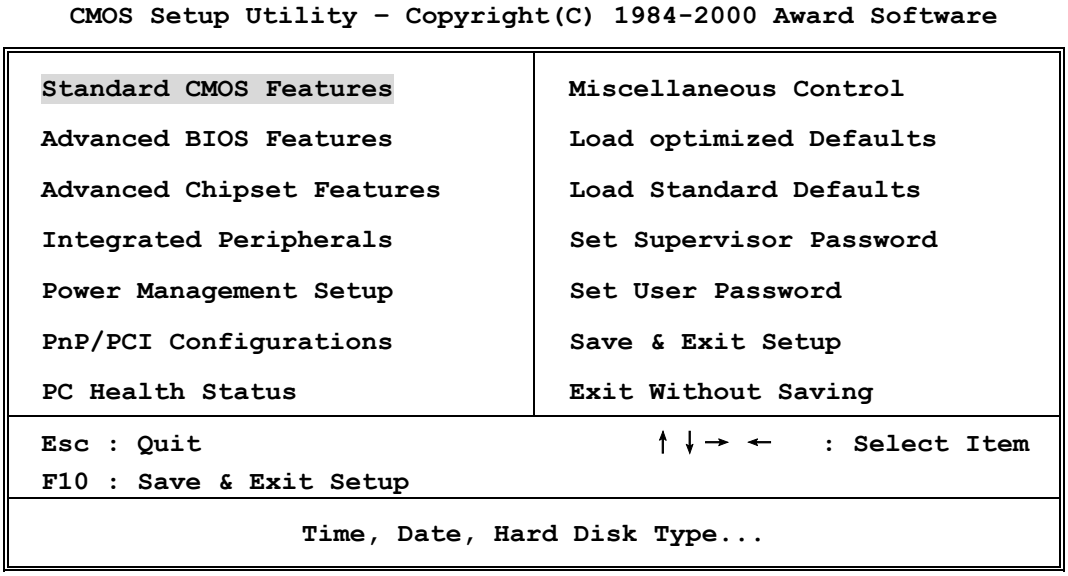


Figure 3-1

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.

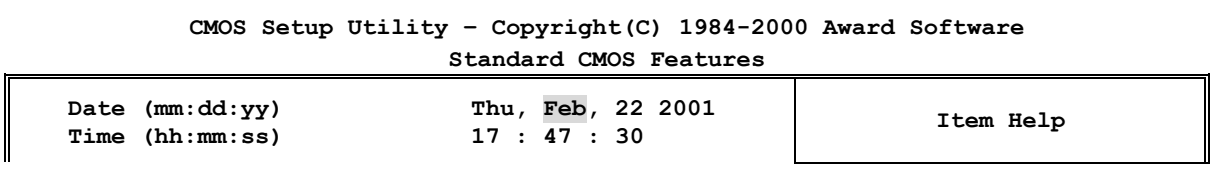
Set Supervisor/User Password
Use this menu to set User and Supervisor Passwords.

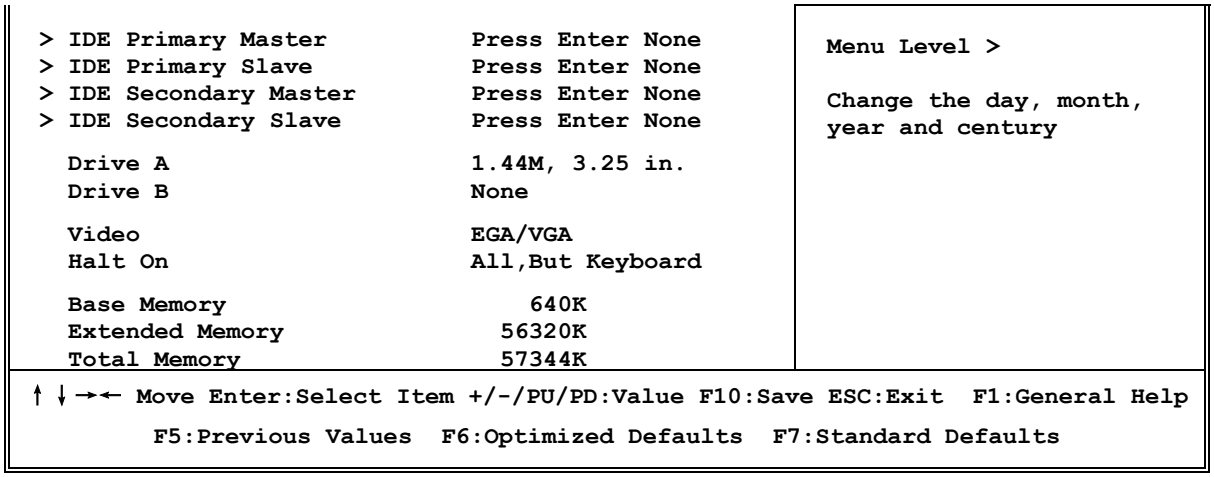
Save & Exit Setup
Save CMOS value changes to CMOS and exit setup.

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.





Date

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

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

Month The month from Jan. through Dec.

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

Year The year depends on the year of the BIOS.

Time

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

Primary Master/Primary Slave

Secondary Master/Secondary Slave

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

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

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

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

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

Cylinder number of cylinders

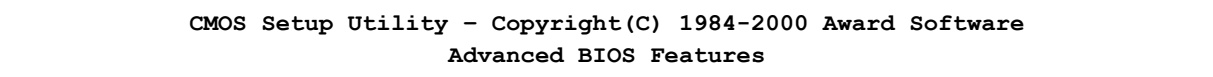
Head number of heads

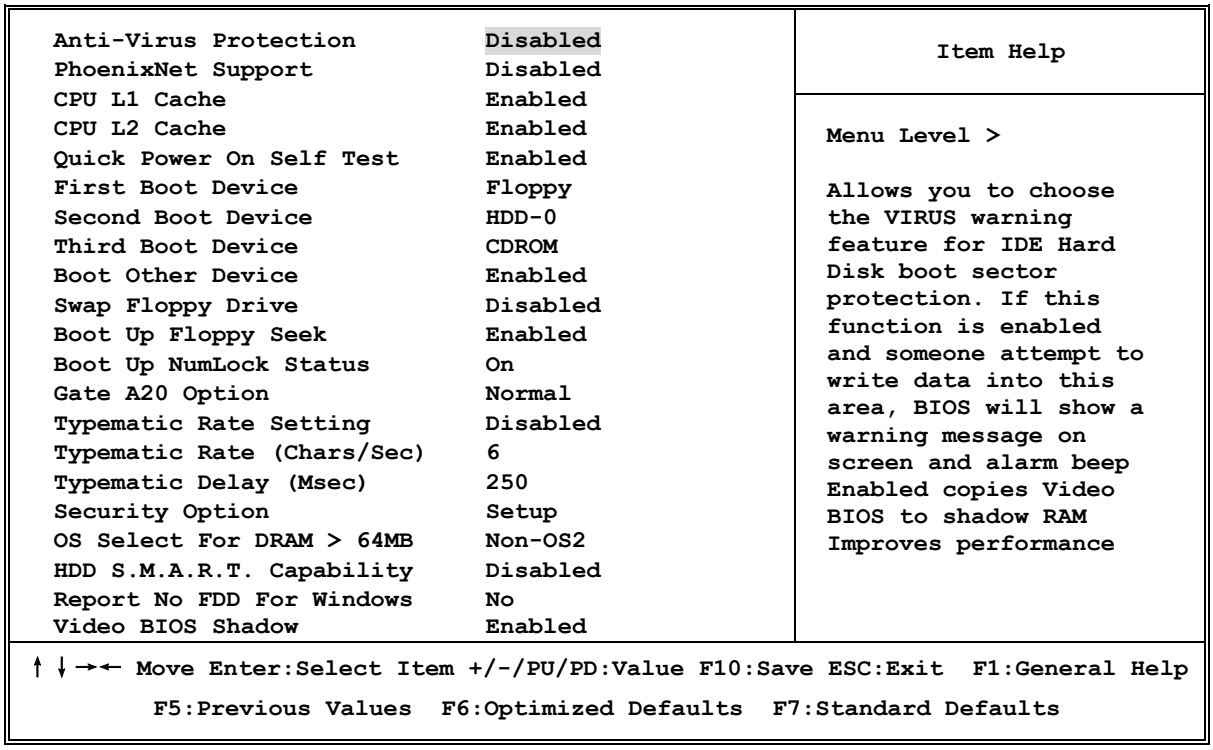
Precomp write precomp

Landing Zone landing zone

Sector number of sectors

3-5 Advanced BIOS Features





Anti-Virus Protection

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

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

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

CPU L1 Cache

The default value is Enabled.

Enabled (default) Enable cache

Disabled Disable cache

Note: The internal cache is built in the processor.

CPU L2 Cache

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

Quick Power On Self-Test

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

Enabled (default) Enable quick POST

Disabled Normal POST

First/Second/Third/ Boot Device, Boot Other Device

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

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

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

Boot Up NumLock Status
The default value is On.

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

Gate A20 Option

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

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

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

Typematic Delay (Msec)
Sets the delay time after the key is held down before 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.

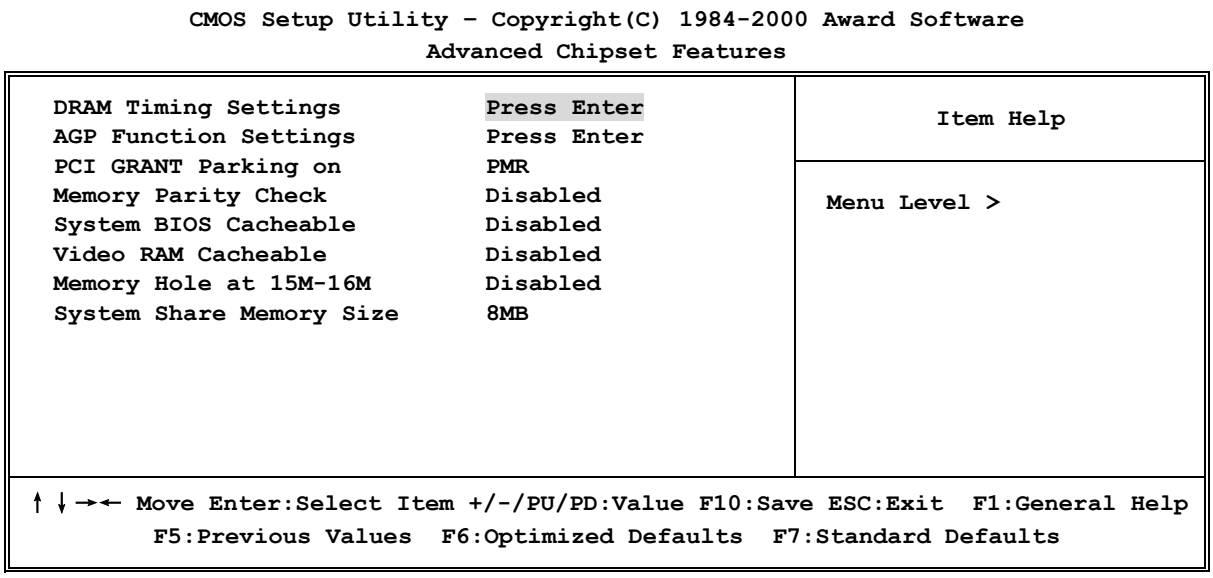
System	The system will not boot and access to Setup will be denied if the correct password is not entered at the prompt.
Setup (default)	The system will boot, but access to Setup will be denied if the correct password is not entered prompt.

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.



DRAM Timing Settings
Please refer to section 3-6-1

AGP Function Settings
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.
Please refer to section 3-6-2

PCI GRANT Parking On
The settings are: PMR, PCI Master.

Memory Parity Check
This function provides parity check of memory.
The choice is either Disabled or Enabled.

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

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

Memory Hole at 15M-16M
You can reserve this area of system memory for ISA adapter ROM. When this area is reserved, it cannot be cached. The user information of peripherals that need to use this area of

system memory usually discusses their memory requirements. The settings are: Enabled and Disabled.

3-6-1 DRAM Timing Setting

```
CMOS Setup Utility – Copyright(C) 1984-2000 Award Software
DRAM Timing Setting

Auto Configuration                  Manual      |  Item Help
RAS Active Time                     6T          |
RAS Precharg Time                   3T          |
RAS to CAS Delay                    3T          |  Menu Level >>
Early CKE Delay Adjustment          Auto        |
Early CKE Delay 1T Control          Normal      |
Write Recovery Time                 2T          |
Background Command Lead-off Time    Delay 1T    |
Read/Write Cycles Lead-off Time     Delay 1T    |
CAS Latency                         Auto        |

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

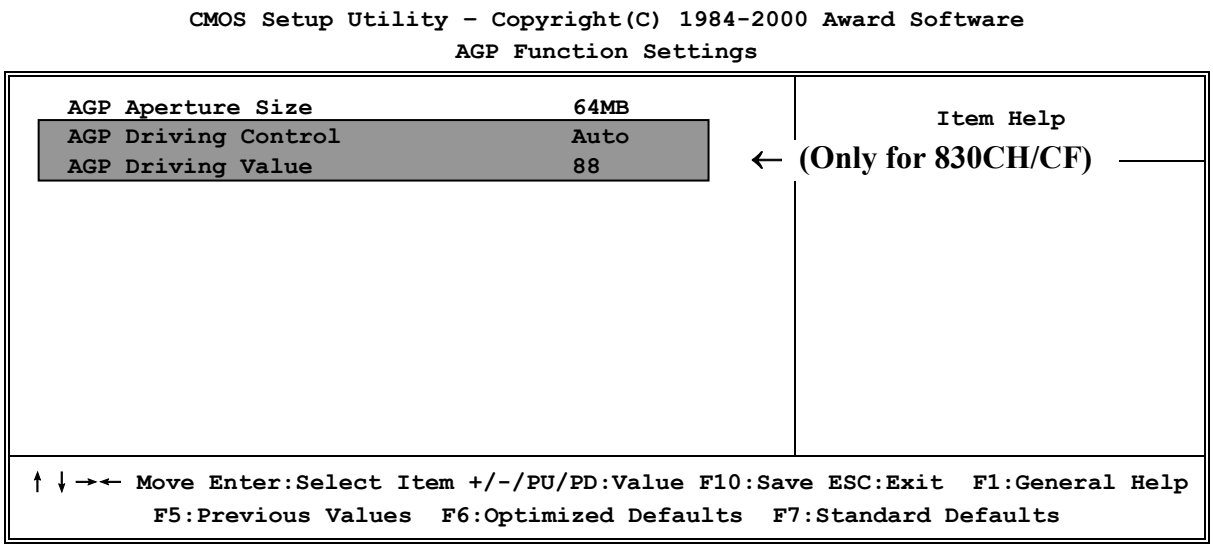
RAS Active Time
Select the number of SCLKs for an access cycle. The settings are: Auto (Default), 6T, 7T, 5T, 4T.

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

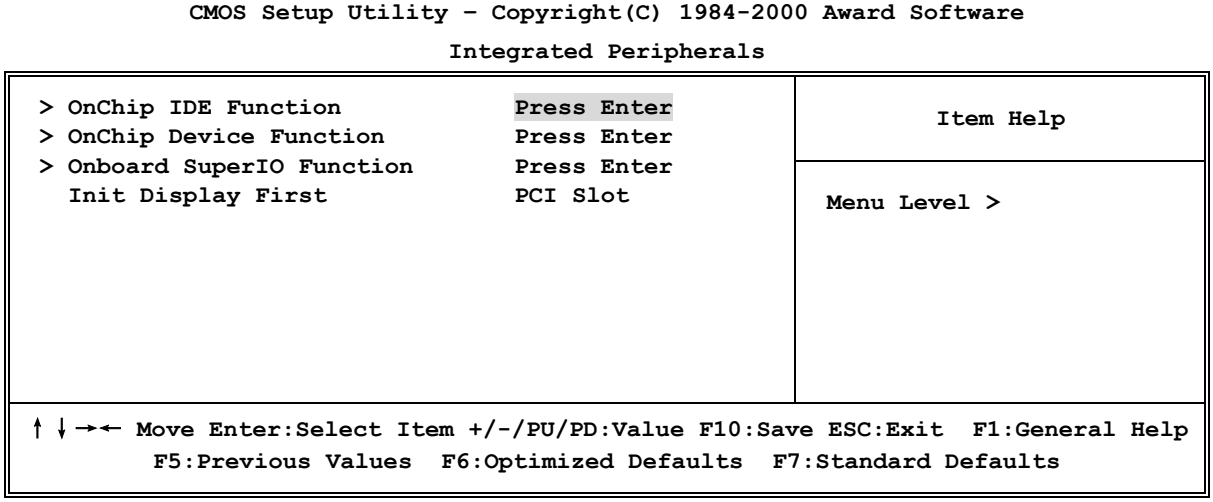
RAS to CAS Delay
This field let's you insert a timing delay between the CAS and RAS strobe signals, used when DRAM is written to, read from, or refreshed. *Fast* gives faster performance; and *Slow* gives more stable performance. This field applies only when synchronous DRAM is installed in the system. The settings are: 2 and 3.

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

3-6-2 AGP Function Settings



3-7 Integrated Peripherals



OnChip IDE Function
Please refer to section 3-7-1

OnChip Device Function
Please refer to section 3-7-2

Onboard SuperIO Function
Please refer to section 3-7-3

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

3-7-1 OnChip IDE Function

```
CMOS Setup Utility – Copyright(C) 1984-2000 Award Software
                    OnChip IDE Function
```

Internal PCI/IDE	Both	Item Help
Primary Master PIO	Auto	
Primary Slave PIO	Auto	Menu Level >>
Secondary Master PIO	Auto	
Secondary Slave PIO	Auto	
Primary Master UDMA	Auto	
Primary Slave UDMA	Auto	
Secondary Master UDMA	Auto	
Secondary Slave UDMA	Auto	
IDE Burst Mode	Enabled	
IDE HDD Block Mode	Enabled	
IDE Prefetch Mode	Enabled	
Delay For HDD (Secs)	0	

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

Internal PCI/IDE
The integrated peripheral controller contains an IDE interface with support for two IDE channels. Select Both to activate each channel separately. The settings are: Both, IDE0, IDE1.

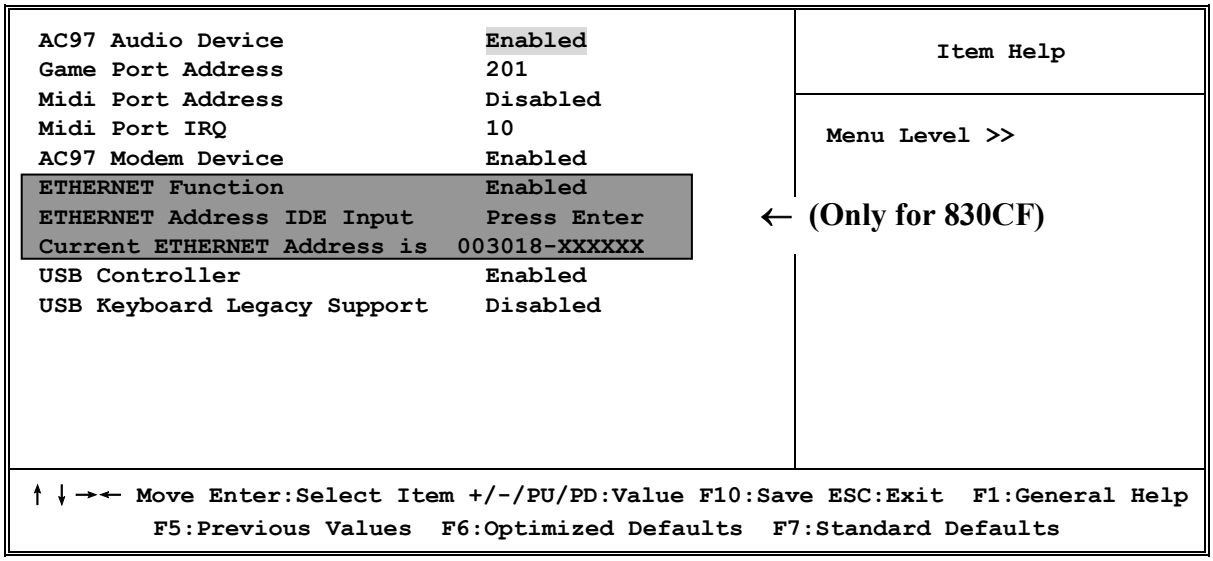
Primary/Secondary Master/Slave PIO
The four IDE PIO (Programmed Input/Output) fields let you set a PIO mode (0-4) for each of the four IDE devices that the onboard IDE interface supports. Modes 0 through 4 provide successively increased performance. In Auto mode, the system automatically determines the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

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

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

3-7-2 OnChip Device Function

```
CMOS Setup Utility – Copyright(C) 1984-2000 Award Software
                  OnChip Device Function
```



AC97 Sound Device

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

Game Port Address/Midi Port Address

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

AC97 Modem Device

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

USB Controller

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

USB Keyboard Legacy Support

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

ETHERNET Address ID Input *(Only for 830CF)*

This item allows you to setting the Mac address from 000000 to FFFFFF.

3-7-3 Onboard SuperIO Function

CMOS Setup Utility – Copyright(C) 1984-2000 Award Software
Onboard SuperIO Function

Onboard FDD Controller	Enabled	Item Help
Onboard Serial Port 1	3F8/IRQ4	
Onboard Serial Port 2	2F8/IRQ3	Menu Level >>
UART2 Mode	Normal	
RxD,TxD Active	Hi, Lo	
IR Transmission Delay	Enabled	
IR Duplex Mode	Half	
Use IR Pins	IRRX/IRTX	
Onboard Parallel Port	378/IRQ7	
Parallel Port Mode	SPP	
EPP Mode Select	EPP1.9	
ECP Mode Use DMA	3	

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

Onboard FDD Controller

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

Onboard Serial Port 1/Port 2

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

UART 2 Mode

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

Onboard Parallel Port

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

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

Parallel Port Mode

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

SPP/EPP/ECP/ECP+EPP

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

3-8 Power Management Setup

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

```
CMOS Setup Utility – Copyright(C) 1984-2000 Award Software
Power Management Setup
```

ACPI function	Enabled	Item Help
Video Off Option	Always off	
Video Off Method	V/H SYNC+Blank	Menu Level >
MODEM Use IRQ	3	
Hot key Function As	Power Off	
Power Button Function	Instant Off	
> PM Wake Up Events	Press Enter	

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

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

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

Video Off Method
This determines the manner in which the monitor is blanked.

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

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

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

PM Wake Up Events
Please refer to section 3-8-1

3-8-1 PM Wake Up Events

```
CMOS Setup Utility – Copyright(C) 1984-2000 Award Software
PM Wake Up Events
```

IRQ [3-7,9-15],NMI	Enabled	Item Help
IRQ 8 Break Suspend	Disabled	
RING Power Up Control	Disabled	Menu Level >>
MACPME Power UP Control	Disabled	
PCIPME Power Up Control	Disabled	
KB Power ON Password	Enter	
Power Up by Alarm	Disabled	
x Month Alarm	NA	
x Day of Month Alarm	NA	
x Time (hh:mm:ss) Alarm	0 : 0 : 0	

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

Ring Power Up Control

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.

PCIPME Power Up Control

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

KB Power ON Password

This item can setting Power On Password, if you Enabled keyboard Power On function then you can Power On system by key-in the password which you setting.

Power Up 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.

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) 1984-2000 Award Software
PnP/PCI Configurations
```

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

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

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

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

The settings are: Auto(ESCD), Manual.

IRQ Resources
When resources are controlled manually, assign each system interrupt a type, depending on the type of device using the interrupt.
Please refer to section 3-9-1

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

3-9-1 IRQ Resources

```
CMOS Setup Utility – Copyright(C) 1984-2000 Award Software
                        IRQ Resources
```

IRQ-3 assigned to PCI Device IRQ-4 assigned to PCI Device IRQ-5 assigned to PCI Device IRQ-7 assigned to PCI Device IRQ-9 assigned to PCI Device IRQ-10 assigned to PCI Device IRQ-11 assigned to PCI Device IRQ-12 assigned to PCI Device	Item Help Menu Level >> Legacy ISA for devices Compliant with the Original PC AT bus Specification, PCI/ISA PnP for devices Compliant with the Plug and Play standard Whether designed for PCI or ISA bus architecture

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

3-10 PC Health Status

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

```
CMOS Setup Utility – Copyright(C) 1984-2000 Award Software
                        PC Health Status
```

Shutdown Temperature Disabled Show PC Health in Post Enabled Detect CPUFAN in Post Enabled Current System Temp. 28°C/82°F Current CPU Temperature 29°C/84°F Current CPUFAN Speed 4687 RPM Current SYSFAN Speed 0 RPM Vcore 1.69V Vcc3.3 3.31V + 5V 5.00V +12V + 12.02V -12V - 12.16V 5VSB(V) 5.45V	Item Help Menu Level >

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

Show PC Health in Post

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

Current CPU Temperature/Current System Temp/Current CPUFAN, SYSFAN Speed/ Vcore/ Vcc/3.3V/+5V/+12V/-12V/5VSB(V)

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

3-11 Miscellaneous Control

This section is for setting CPU Frequency Control.

```
CMOS Setup Utility – Copyright(C) 1984-2000 Award Software
Miscellaneous Control

Auto Detect DIMM/PCI Clk        Enabled          | Item Help
Spread Spectrum                 Disabled         |
Clock Control                   By Hardware      | Menu Level >
** Current Host Clock is 100 MHz **              |
HOST clock at next boot is 100 Mhz               |
** Current DRAM Clock is 100 MHz **              |
DRAM clock at next boot is 100 Mhz (HOST CLK)    |

↑ ↓ →← Move Enter:Select Item +/-/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.

Clock Control
This item allows you to set the CPU Host Clock by Hardware (Jumper S1), or by Software (BIOS)

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

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

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/ME/NT4.0/2000

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

From MAGIC INSTALL MENU you may make 11 selections:

1. AGPVXD	Install AGPVXD file when use External AGP card **(for 830CH/CF)**
2. VGA	Install SiS 630/730 On-chip VGA driver
3. SOUND	Install On-chip AC'97 Audio driver
4. LAN	Install PCI Fast Ethernet driver **(for 830CF)**
5. PC-HEALTH	Install Winbond Hardware Doctor Monitoring Software
6. MAGIC BIOS	install BIOS Live Update Utility
7. PC-CILLIN	Install PC-CILLIN2000 Anti-virus program
8. AUDIORACK	Install Sound Application software
9. LANLED	Install LAN State Utility
10. BROWSE CD	To browse the contents of the CD
11. EXIT	To exit from Magic Install menu

4-1 AGPVXD Install SiS 630/730 AGPVXD Driver

The AGPVXD Driver Is Only For AGP Slot VGA CARD User, On Board VGA User No

Require. **(Only for 830CH/830CF)**

The path of the file:
for WINDOWS 9X is X:\SIS630\AGPVXD\WIN9X\SETUP.EXE
(including WIN95/98/98SE/ME)
for WINDOWS 2000 is X:\SIS630\AGPVXD\WIN2000\SETUP.EXE

For WINDOWS 95/98/98SE/ME/2000

1. Click AGPVXD when Magic Install MENU appears

2. Click Next when SiS Aceleration Graphic Port appears

3. Click NEXT or choose BROWSE to change the path For the file to be stored

4. After Setup complete please select restart my computer now and click Finish to complete setup

4-2 VGA Install SiS 630/730 VGA Driver

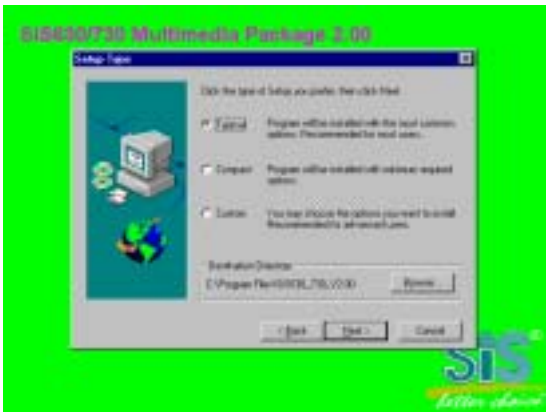
The path of the file:

for WINDOWS 9X is X:\SIS630\VGA\WIN9X\SETUP.EXE (including Windows 98/98SE/ME)
for WINDOWS NT4.0 is X:\SIS630\VGA\WINNT40
for WINDOWS 2000 is X:\SIS630\VGA\WIN2000\SETUP.EXE
for LINUX is X:\SIS630\LINUX

A. For WINDOWS 98/98SE/ME/2000

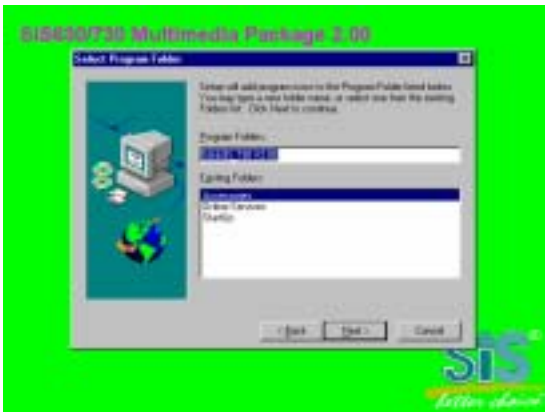
5. Click VGA when Magic Install MENU appears

6. Click Next when SiS630 Multimedia Package appears

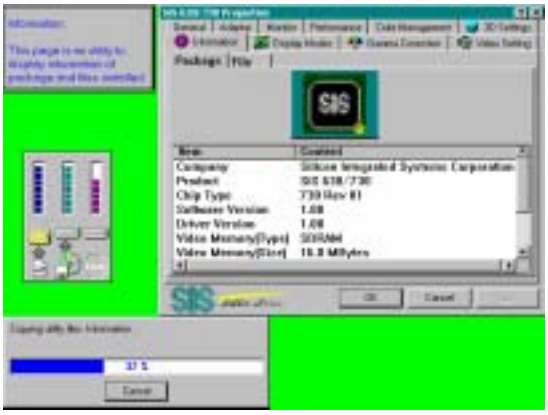


7. Multimedia Package support three types of Setup: Typical, Compact, Custom

   Please choice Typical and Click Next to continue step



8. System will add program icons to the Program Folder listed. Click Next to continue, and after "Start Copying Files" window appears click Next



9. System starting install VGA driver

10. After Setup complete please select restart my computer now and click Finish to complete setup

4-3 SOUND Install SiS 7018 AC'97 Audio Driver and Application Software

The path of the file is X:\SIS630\SOUND\SETUP.EXE
(Support WINDOWS 95/98/98SE/ME/NT4.0/2000)

1. Click SOUND when Magic Install Menu window appears

2. Click Next when SiS PCI Audio Driver Setup window appears

3. Click Next to install the driver in Program Files Folder

4. Select restart my computer now and click Finish to complete setup

5. After restart computer the system will auto detect SiS 7018 Audio Driver and install it to system

6. Click Audio Rack when Magic Install Menu appears

7. Run Programs →Audio Rack will show next screen

4-4 LAN (Only for 830CF) Install SiS 900 PCI Fast Ethernet Driver

The path of the file:
for WINDOWS 9X/2000 is X:\SIS630\LANDRV\SETUP.EXE
(Including WINDOWS 95/98/98SE/98ME/2000)
for WINDOWS NT4.0 is X:\SIS630\LANDRV\NT40

WINDOWS 95/98/98SE/98ME/2000 Setup

1. Click LAN when Magic Install Menu appears

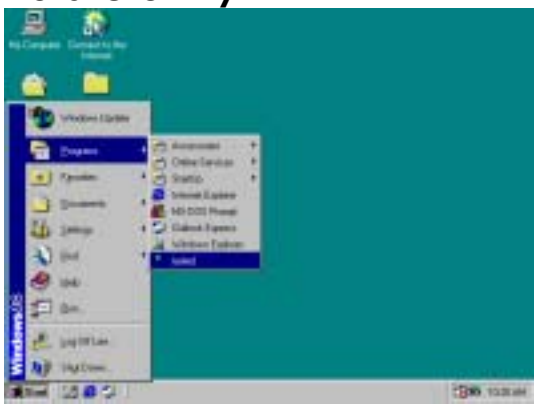
2. Click NEXT when SiS PCI LAN Driver Setup appears

3. Choice restart my computer now to finish setting up LAN Card, click Finish to complete setup

4. After restart computer you can check in control Panel\System Device Manager\ Network adapters to make sure LAN card Driver setup completely Click NEXT when SiS PCI LAN Driver Setup appears

4-5 LANLED Install SiS 900 LAN State Utility

1. Click LANLED when Magic Install Menu appears



2. Run Programs\Lanled will show Next Screen

3. "SiS 10/100 Fast Ethernet Monitor" can real time Monitor your LAN status

4-6 PC-HEALTH Winbond Hardware Doctor Monitoring Software

The path of the file is X:\SIS630\HEALTH-W\SETUP.EXE
(Only support WINDOWS 95/98/98SE/ME)

In Windows 95/98 Winbond Hardware Doctor Monitoring Software needs some system files to copy in Utility that's why it needs install PC-HEALTH twice to complete setup.

1. Click PC-Health when Magic Install Menu

2. Click OK when Winbond Hardware Doctor

appears

3. Click the Button to start installation

Setup Window appears

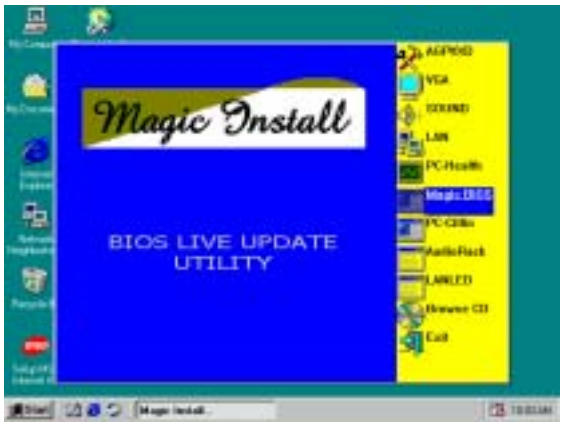
4. Select Program Group name or enter a new group name, click continue to setup and click OK after setup complete

4-6-1 How To Utilize PC-HEALTH

1. Click Program → Winbond Hardware Doctor → Hardware Doctor the Winbond Hardware Doctor will appears
   You can remove the Utility in Control Panel → Add/Remove Program icon

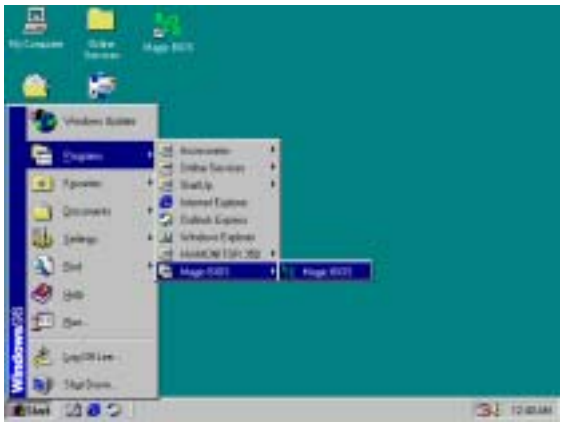
2. After executing Winbond Hardware Doctor it supports system voltage, Fan speed and CPU/SYSTEM Temperature. Because this is a On-time Monitoring program therefore the value will change after it detected, if the value is over default setting the system will have warning picture and beeps

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



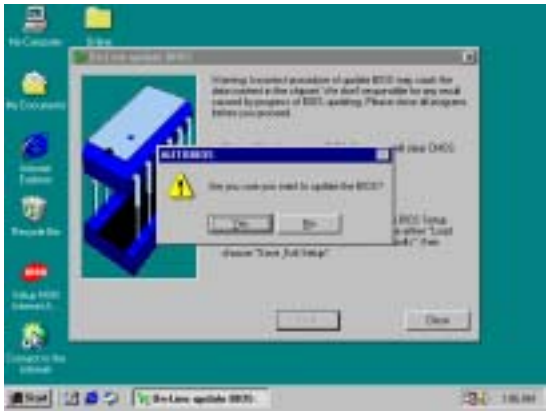
3. After finish Setup you will have a Magic BIOS icon in your screen

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

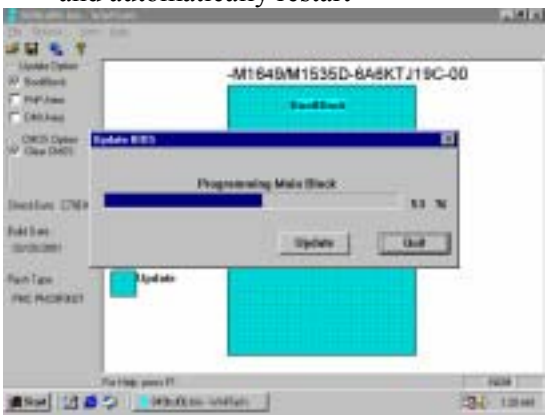
5. When On-line update BIOS the program will auto-check your BIOS version

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

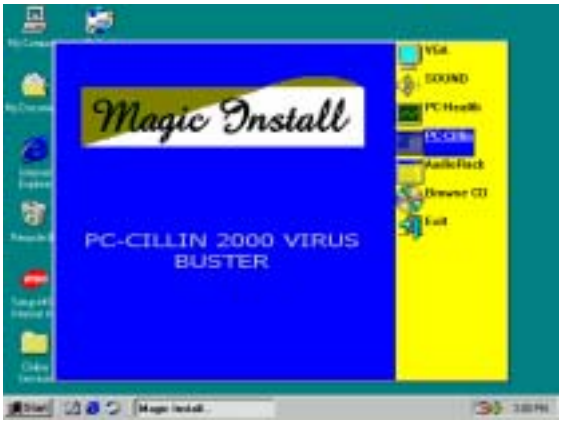


8. When System programming BIOS don't turn off power, after finish update BIOS, the system will clear CMOS and automatically Restart

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

4-9 How To Disable On Board Sound Function

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

4-10 HOW TO UPDATE BIOS

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

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

STEP 3. Copy latest BIOS for 830CN/830CH/830CF from our web site to your boot disc.

STEP 4. Insert your boot disc into A:,
start the computer, type "Awdflash A:\830CNxxx.BIN /SN/PY/CC/R"
830CNxxx.BIN is the file name of latest BIOS it can be 830CNA03.BIN or 830CNB02.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