EUPA

AP0
Motherboard
User's Manual

Model : AP0
Manual version : English, version 1.1
Release Date : June 22, 1999

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User's Notice

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FCC & DOC Compliance

Federal Communications Commission Statement

This device complies with FCC Rules Part 15. Operation is subject to the following two conditions:

- ✧ This device may not cause harmful interference, and
- ✧ This device must accept any interference received, including interference that may cause undesired operation.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the manufacturer
communication. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- ✧ Re-orient or relocate the receiving antenna.
- ✧ Increase the separation between the equipment and the receiver.
- ✧ Connect the equipment to an outlet on a circuit different from that to which the receiver is connected.
- ✧ Consult the dealer or an experienced radio/TV technician for help.

Warning! The use of shielded cables for the connection of the monitor to the graphics card is required to assure compliance with FCC regulations Changes or modifications to this authority to operate this equipment.

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SECTION 1: PRODUCT INFORMATION

SECTION 2: HARDWARE INSTALLATION

SECTION 3: CMOS SETUP UTILITY

SECTION 4: Audio/SOFTWARE UTILITY

SECTION 1.
PRODUCT INFORMATION

Thanks for purchasing AP0 motherboard.

This user's manual contains all the information and features that show you how to use the AP0 motherboard. Please take a moment to familiarize yourself with the design and organization of this manual.

1-1 Manual Features

This manual is divided into the following four sections:

Section 1: Product Information

A brief overview of what comes in the motherboard package, the motherboard layout and the specification it appears.

Section 2: Hardware Installation

Tell you the usage of the motherboard jumpers and the connectors.

Section 3: CMOS Setup Utility

A summary of the motherboard CMOS (BIOS) Setting.

Section 4: BIOS/Software Utility

Introduction of some useful motherboard's BIOS/Software utility.

1-2 Package Check List

This AP0 motherboard package contains the following items. Please inspect the package contents and confirm that everything is there. If anything is missing or damaged, call your vendor for instructions before operating.

I. PRODUCT INFORMATION

The package includes:

- One AP0 Motherboard
- One Floppy Interface Cable
- One IDE Interface Cable
- One CD Title including Bus Master IDE Driver and Utilities
- One User's Manual

1-3 Motherboard Specification

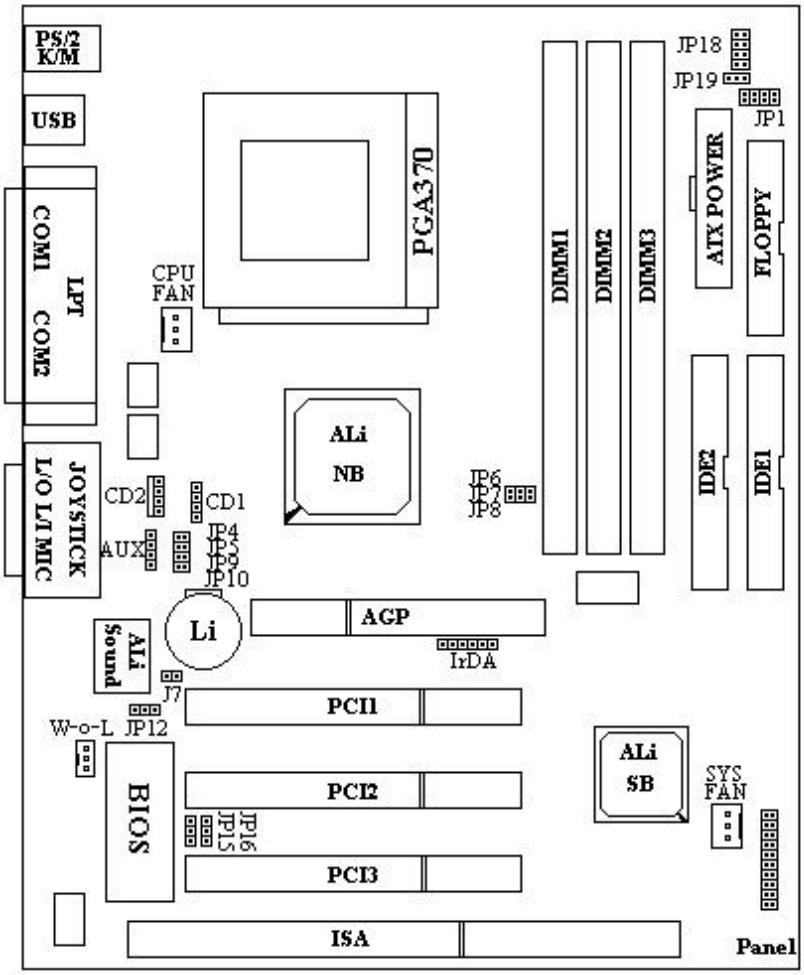
Form Factor	-MICRO-ATX form factor
Board Size	-193mm x 244mm
CPU	-Supports Socket PGA370-Celeron CPU
System Memory	-DIMM 168-pin x 3, SDRAM maximum 768MB -Support ECC (1-bit error code correct) function
Chipset	-Ali Aladdin Pro II Chipset
System Bus/FSB	-66/100MHz -**75/83/103/105/110/112/115/120/124/133/140/150MHz** (Available for over-clocking)
Expansion Slots	-1 x AGP bus / 3 x PCI bus / 1 x ISA bus
Serial Port	-Two serial ports UART 16550 compatible
Parallel Port	One parallel port supports: -SPP-standard parallel port -EPP-enhanced parallel port -ECP-extended capabilities port
Floppy Interface	Support drivers inches/format with: -3.5 inches-720KB/1.44MB/2.88MB -5.25 inches-360KB/1.2MB
IDE Interface	-Dual IDE interface support up to four IDE devices

USB Interface	-Two USB ports supported -USB legacy keyboard function supported
PS/2 Mouse	-PS/2 mouse supported by connector onboard
PS/2 Keyboard	-PS/2 keyboard supported by connector onboard
Sound	Integrated C-MEDIA 8338 sound controller compatible with: -Sound Blaster Pro -Adlib -Microsoft windows system
RTC and Battery	-Integrated Ali M5819P RTC chipset -Lithium (CR-2032) battery
Power On	-Panel switch power on -Keyboard power on
Wake-Up	-Modem ring wake up -LAN wake up -RTC Alarm Function
Hardware Monitor	-Fan speed monitor-Two fan connectors, warning when CPU fan, housing fan or system fan is malfunction -Voltage monitor-Warning when system voltage (5V, 12V, 3.3V, VCORE) are abnormal -CPU and system thermal monitor-Warning when CPU and system temperature is higher than a predefined value
Power Connector	-Supports ATX (20-pin) power connector

I. PRODUCT INFORMATION

BIOS	-Award BIOS -Year 2000 Compliance -PCI 2.1 Compliance -PnP BIOS v1.0a Compliance -APM v1.2 Compliance -DMI 2.0 compliance -Flash/Upgrade BIOS protection -Supports ACPI (Advanced Configuration and Power Interface) and OS Directed Power Management -Supports SOFT power -Virus warning supported -Floppy drive swapping function supported
LED Indicator	-System power LED -HDD activity LED
Other	-Support two FAN connectors

1-4 Motherboard Layout



I. PRODUCT INFORMATION

Jumpers

1.	**JP1**	Select VIO voltage (reserved)
2.	**JP6~8,JP19**	Select CPU External Speed
3.	**JP18**	Select CPU Speed Ratio
4.	**JP12**	Clear CMOS (Real Time Clock)
5.	**JP15, JP16**	Select ROM BIOS Type (reserved)
6.	**J7**	Select Sound ENABLE/DISABLE

Expansion Sockets

1.	**DIMM 1**	Support 168-pin DIMM Memory
2.	**DIMM 2**	Support 168-pin DIMM Memory
3.	**DIMM 3**	Support 168-pin DIMM Memory

Expansion Slots

1.	**CPU**	Socket PGA370-Celeron CPU
2.	**ISA Slot**	16-bit ISA Bus Expansion Slot
3.	**PCI Slot 1 to Slot 3**	32-bit PCI Bus Expansion Slot
4.	**AGP**	Accelerate Graphic Port

Connectors

1.	**PS/2 KB**	PS/2 Keyboard Connector (6-pin female)
2.	**PS/2 Mouse**	PS/2 Mouse Connector (6-pin female)
3.	**USB**	Universal Serial Bus Port 1 and Port 2 (two 4-pin female)
4.	**COM1/COM2**	Serial Port 1 / Serial Port 2 (two 9-pin female)
5.	**PRINTER**	Printer (Parallel) Port Connector (25-pin female)
6.	**JOYSTICK**	Joystick Connector (15-pin female)
7.	**CD1/CD2**	CD Audio Line in (4-pin male)
8.	**SOUND**	Sound port Connector (Line out / Line in / MIC in)
9.	**ATX POWER**	ATX Motherboard Power Connector (20-pin block)

10.	**CPUFAN**	CPU Fan Connector (3 pins)
11.	**CHAFAN**	Chassis Fan Connector (3 pins)
12.	**Floppy**	Floppy Drive Connector (34 pins)
13.	**Primary IDE**	Primary IDE Connector (40 pins)
14.	**Secondary IDE**	Secondary IDE Connector (40 pins)
15.	**IR**	Infrared Port Connector (5 pins)
16.	**Wake on LAN**	LAN wake up connector
17.	**Panel:**	
	- SPEAKER	Chassis Speaker Connector (4 pins)
	- **RESET**	Reset Switch Connector (2 pins)
	- **SMI**	SMI Connector (2 pins reserved)
	- HDD LED	HDD LED Connector (2 pins)
	- **PWR ON**	ATX Power Switch Connector (2 pins)
	- PWR LED	ATX Power LED Connector (3 pins)
	- KBLCK	Keyboard Lock Switch Connector (2 pins)

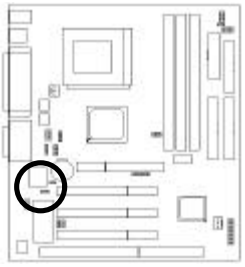
SECTION 2.
HARDWARE INSTALLATION

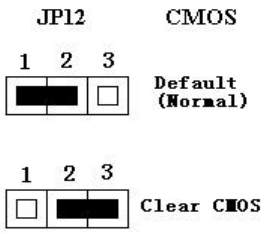
This section gives you a step-by-step procedure on how to install your system. Follow each section accordingly.

2-1 Jumper Settings

Please refer the following figures for the locations of the jumpers on the mainboard.

2-1.1 CMOS Clear Setting





To clear CMOS, please follow the steps below:

1. Power off the system and unplug the chassis AC power cord.
2. Short JP12 at pin 2-3 for few seconds.
3. Set JP12 back to its Normal position at pin 1-2.
4. Plug the AC power cord to the chassis.
5. Power on the system and load the BIOS setup default.

2-1.2 CPU Type Setting

Static Precautions

Static electricity can be a serious danger to the electronic components on this motherboard. To avoid damage caused by electrostatic discharge, observe the following precautions:

-Don' t removes the motherboard from its anti-static packaging until you are ready to install it into a computer case.

-Before you handle the motherboard in any way, touch a grounded, anti-static surface, such as an unpainted portion of the system chassis, for a few seconds to discharge any built-up static electricity.

-Handle add-in cards and modules by the edges or mounting bracket.

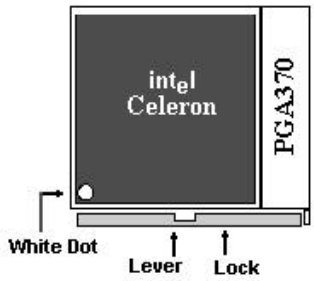
Installing the CPU

Warning: User of a CPU Cooling Fan is required to prevent CPU overheating. The Fan should be installed first before inserting the CPU into its socket.

1.Locate the ZIF (Zero Insertion Force) PGA370. This socket supports Celeron CPUs.

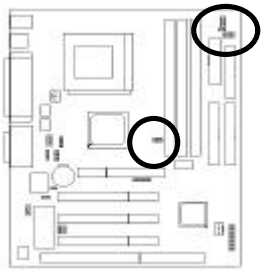
2.First open the socket by pulling the lever sideways, then upwards. Notice how the level locks in place when pressed all the way down.

3.The CPU must be inserted with the correct orientation. One corner of the CPU has a "Notch" and looks different that the other three. This corner is also missing a pin unlike the other three and is marked with a white dot on top of the CPU. Align this corner towards the end of the lever as shown in the figure below. Insert the CPU, press it down, and close the lever until it locks into place



CPU Setting

After installing the CPU, you must set the clock selection jumpers to match the frequency of the CPU. Find the jumpers labeled JP19 and JP6~8. Set the jumpers according to the figure below and table for CPU frequency.



JP19

JP6, JP7, JP8

JP6/JP7/JP8/JP19: CPU External Frequency Setup Table

JP6	JP7	JP8	JP19	CPU (MHz)
S	O	O	S	66
S	S	O	S	75
S	O	S	S	83
S	O	O	O	100
S	S	S	O	103
O	O	O	S	105
O	O	S	S	110
S	S	O	O	112
O	S	O	S	115
O	S	S	S	120
S	S	S	S	124
O	O	S	O	124
S	O	S	O	133
O	O	O	O	133
O	S	S	O	140
O	S	O	O	150

S: short, O: open

This motherboard also supports CPU over-clocking by adjusting the CPU Clock Frequency and CPU Clock Ratio.

System Frequency = CPU Clock Ratio * CPU Clock Frequency

The available settings are:

- CPU Clock Frequency
66/75/83/100/103/105/110/112/115/120/ 124/133/140/150MHz

- CPU Clock Ratio

1.5x/2x/2.5x/3x/3.5x/4x/4.5x/5x/5.5x/6x/6.5x/7x/7.5x/8x

JP18: CPU Clock Radio

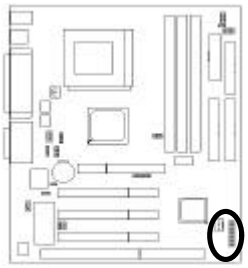
JP18(1)	JP18(2)	JP18(3)	JP18(4)	Ratio
O	O	S	O	1.5X
S	S	S	S	2X
O	S	S	S	2.5X
S	S	O	S	3X
O	S	O	S	3.5X
S	S	S	O	4X
O	S	S	O	4.5X
S	S	O	O	5X
O	S	O	O	5.5X
S	O	S	S	6X
O	O	S	S	6.5X
S	O	O	S	7X
O	O	O	S	7.5X
S	O	S	O	8X
S	O	O	O	Reserved

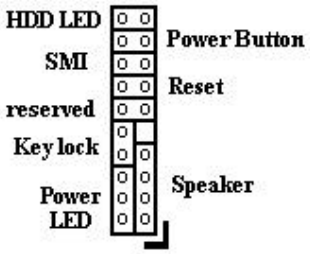
S: short, O: open

Warning: Normally, Aladdin Pro II Chipset supports 66MHz/100MHz CPU Clock Frequency, the other CPU Clock Frequency are available only for internal test or end-user over-clocking testing, which may cause your system unstable or serious damage.

2-2 Connectors

2-2.1 Panel Connector

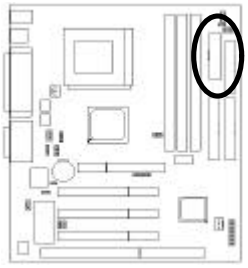




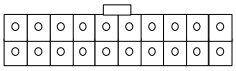
- **Speaker** Chassis Speaker Connector (4 pins)
- **Reset** Reset Switch Connector (2 pins)
- **SMI** SMI Switch Connector (2 pins Reserved)
- **HDD LED** HDD LED Connector (2 pins)
- **PWR ON** Power ON Switch Connector (2 pins)
- **Power LED** ATX Power LED Connector (3 pin)
- **Keylock** Keyboard Lock Switch Connector (2 pins)

2-2.2 Power Connector

Connect the 20-pin ATX power supply cable to this power connector. Make sure the right plug-in direction and the power supply is off before connecting or disconnecting the power cable.

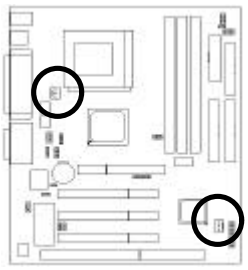


ATX Power Connector



2-2.3 Fan Connectors

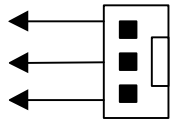
Connect the CPU and Chassis Fan cables to the fan connectors shown below. The fan connectors are marked as CPUFAN and CHAFAN on the mainboard.



Fan Connector

CPUFAN

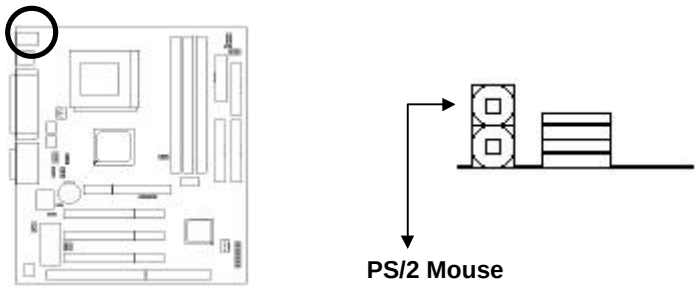
SENSE
+12v
GND



CHAFAN

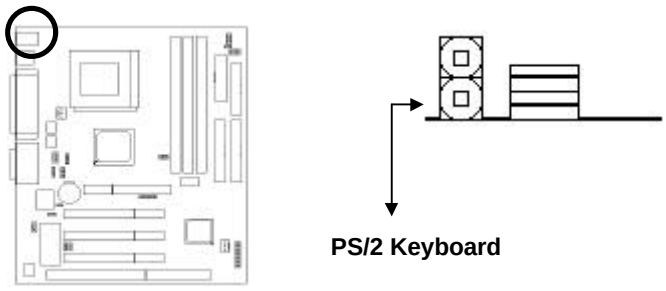
2-2.4 PS/2 Mouse Connector

Connect the PS/2 mouse to the onboard 6-pin Mini-Din connector marked as MOUSE.



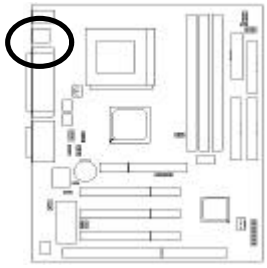
2-2.5 Keyboard Connector

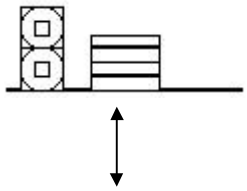
Connect the PS/2 keyboard to the onboard 6-pin Mini-Din connector marked as KB.



2-2.6 USB Device Connector

Connect your USB device(s) to the onboard USB connector marked as USB.



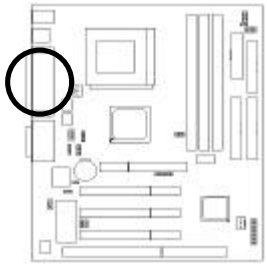


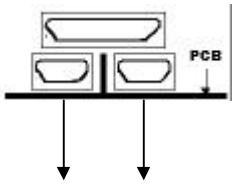
Top: USB1

Bottom: USB2

2-2.7 Serial Device(COM1/COM2) Connectors

Connect your serial device(s) to the onboard 9-pin serial connectors marked as COM1 and COM2.

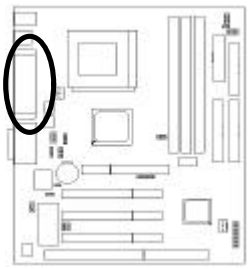


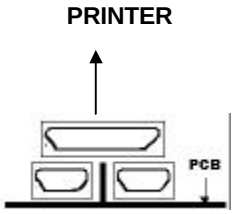


COM1 COM2

2-2.8 Printer Connctor

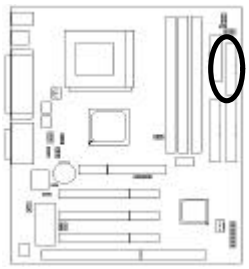
Connect your local printer to the onboard 25-pin printer connector marked as PRINTER.

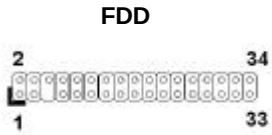




2-2.9 Floppy Drive Connector

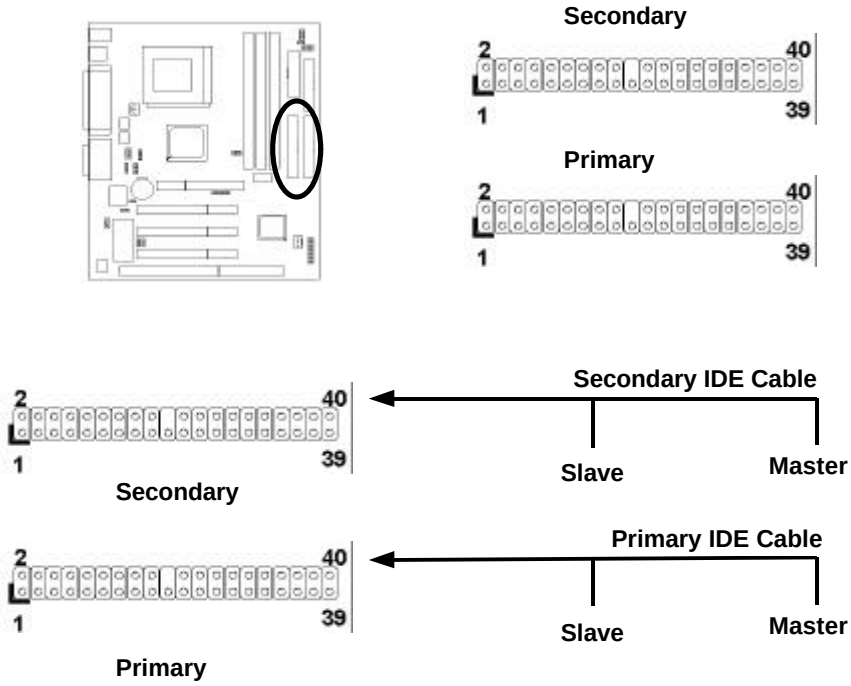
Connect the floppy drive cable to the onboard 34-pin floppy drive connector marked as FDD.





2-2.10 IDE Hard Disk and CD-ROM Connector

Connect your IDE devices to the onboard 40-pin IDE connectors marked as Primary and Secondary.

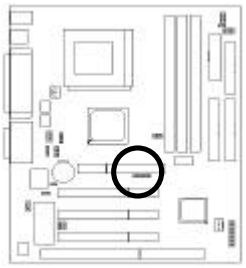


It is suggested that you connect the IDE devices to your IDE cables as the figure shown above. Each IDE channel, either Primary or Secondary, supports two IDE devices which must be set differently to master mode and slave mode.

(Refer to your hard disk and CD-ROM user' s manual for detailed settings of IDE master and slave mode.)

2-2.11 IrDA Connector

Connect your IR device to the onboard IrDA connector marked as IR.

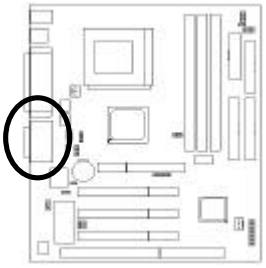


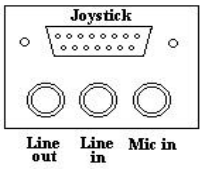
Pin	Description
1	+5V
2	NC
3	IRRX
4	GND
5	IRTX

2-2.12 Game/Audio Connector

Connect the Game/Audio devices to the onboard connector marked as **Joystick/Line in/Line out/MIC in**. Connect the audio cable to the onboard marked as **CD1/CD2/AUX.**

(J7: This jumper ENABLE/DISABLE the ONBOARD SOUND FUNCTION)

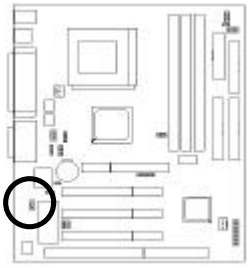




II.HARDWARE INSTALLATION

2-2.13 Wake on LAN Connector

This mainboard supports wake up on LAN function. To use this function, you need a Wake on LAN supported network card and software.



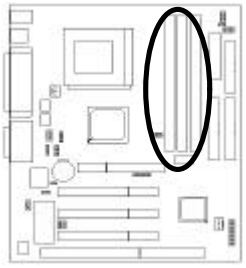
Wake on LAN

1 2 3

Pin	Description
1	+5V Standby
2	GND
3	Signal

2-3 System Memory Installation

There are 3 168-pin **DIMM** (Dual Inline Memory Module) sockets on the mainboard which support Synchronous DRAM and Registered SDRAM, and allow you install system memory maximum up to 768MB.



DIMM Sockets

2-3.1 Type

This mainboard supports Synchronous DRAM and Registered SDRAM. However, mixing SDRAM and Registered SDRAM is not allowed. Install one type only in your system for better compatibility.

2-3.2 Speed

The memory speed normally marked as: -15, -12, -10, -8, -7, PC-100.

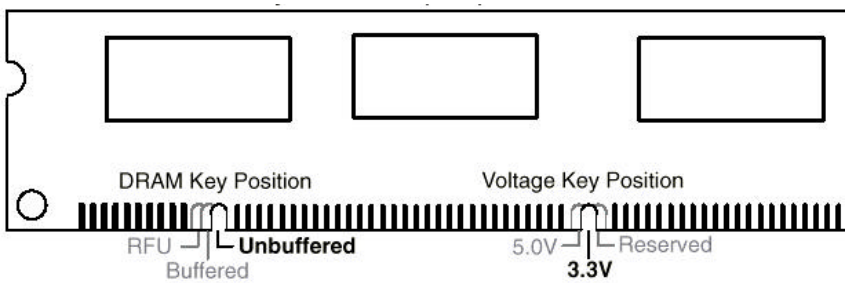
The meaning is,

-15 =15ns, and the maximum clock is 66MHz
-12 =12ns, and the maximum clock is 83MHz
-10 =10ns, and the maximum clock is 100MHz
-8 = 8ns, and the maximum clock is 125MHz
-7 = 7ns, and the maximum clock is 142MHz
PC-100 = New Intel specification for high memory speed
With 100MHz or above CPU Bus Clock.

This motherboard supports all the above memory speed. For better system performance and reliability, we suggest that you use PC-100 SDRAM if 100MHz or above CPU Bus Clock is used in your system.

2-3.3 Buffered and Non-buffered

Only the non-buffered DIMM can be used in this mainboard.



The difference between buffered and non-buffered DIMM can be identified by the notch position shown above.

2-3.4 2-clock and 4-clock signal

Both 2-clock and 4-clock SDRAM DIMM supported by this mainboard.

2-3.5 Parity and Non-parity

This mainboard supports standard 64 bit (Non-parity) and 72 bit (Parity) DIMM modules.

2-3.6 Memory Auto detection by BIOS

This mainboard BIOS can automatically detect the DIMM memory size and type, so you do not need to adjust any hardware or software settings. The maximum memory size supported up to 768MB.

2-3.7 Suggested SDRAM combination

This mainboard supports the following SDRAM combination.

DIMM Location	DIMM Size	Memory Size
DIMM 1	SDRAM 8, 16, 32, 64 128, 256MB	256MB
DIMM 2	SDRAM 8, 16, 32, 64 128, 256MB	256MB
DIMM 3	SDRAM 8, 16, 32, 64 128, 256MB	256MB
	DIMM1+DIMM2+DIMM3=Total System Memory	768MB

SECTION 3.
CMOS SETUP UTILITY

3-1 BIOS Setup Main Menu

This section tells you how to configure the system by changing BIOS setup options. To enter the BIOS Setup Utility, press **DEL** key during POST (Power-On Self Test). The BIOS Setup Main Menu will appear as shown below.

ROM PCI/ISA BIOS(2A6KL00B) CMOS SETUP UTILITY AWARD SOFTWARE, INC.	
STANDARD CMOS SETUP	W83783S Hardware Monitor
BIOS FEATURES SETUP	INTEGRATED PERIPHERALS
CHIPSET FEATURES SETUP	PASSWORD SETTING
POWER MANAGEMENT SETUP	IDE HDD AUTO DETECTION
PNP/PCI CONFIGURATION	HDD LOW LEVEL FORMAT
LOAD BIOS DEFAULTS	SAVE & EXIT SETUP
LOAD SETUP DEFAULTS	EXIT WITHOUT SAVING
Esc: Quit	↑ ↓ ←→:Select Item
F10:Save & Exit Setup	(Shift)F2:Change Color
Onboard I/O, IRQ, DMA Assignment	

The main menu displays a table of items, which defines basic information about your system. Below are the keyboard function keys you can use under the menu.

Menu function keys:

E S C	**To close the BIOS Setup Utility.**
› fl ‹ fi	**To move around the screen. An item is highlighted if it is selected.**
F 1	**To displays information about the highlighted item you selected.**
S H I F T + F 2	**To Change the color scheme.**
F 1 0	**To save the changes before exit the BIOS Setup Utility.**
ENTER	**To select or enter a submenu.**

3-2 Standard CMOS Setup

This "Standard CMOS Setup" sets the basic system settings such as the date, time, and the hard disk type, Video display type and error handling. Use the arrows keys › fl ‹ fi to highlight an item and use **Page Up** / **Page Down** or **+** **-** to set the value for each item.

ROM PCI/ISA BIOS(2A6KL00B)
CMOS SETUP UTILITY
AWARD SOFTWARE, INC.

Date (mm:dd:yy): Thu, Apr 3 1998
Time (hh:mm:ss): 14: 8: 0

HARD DISKS	TYPE	SIZE	CYLS	HEAD	PRECOMP	LANDZ	SECTOR	MODE
Primary Master	: Auto	0	0	0	0	0	0	Auto
Primary Slave	: Auto	0	0	0	0	0	0	Auto
Secondary Master	: Auto	0	0	0	0	0	0	Auto
Secondary Slave	: Auto	0	0	0	0	0	0	Auto

Drive A : 1.44M, 3.5in
Drive B : None

Video : EGA/VGA
Halt On : All Errors

Base Memory:	0K
Extended Memory:	0K
Other Memory:	512K
Total Memory:	512K

ESC: Quit ↑ ↓ ←→:Select Item PU/PD/+/-: Modify
F1 : Help (Shift)F2:Change Color

- **Date**

To set the date, highlight the date area. Press **+** / **-** or **Page Up** / **Page Down** to set the current date. The date format is month: **Jan. ~ Dec**., date: **1 ~ 31**, and year: **1994 ~ 2079**.

- **Time**

To set the time, highlight the time area. Press **+** / **-** or **Page Up** / **Page Down** to set the current time. The time format is hour: **00 ~ 23**, minute: 00 **~ 59**, and second: **00 ~ 59**.

- **Hard Disks → Primary Master**
- **Hard Disks→ Primary Slave**
- **Hard Disks → Secondary Master**
- **Hard Disks → Secondary Slave**

TYPE:
- Auto
- User
- None

This item lets you set your system IDE hard disk type. Select Auto to let BIOS automatically detects the installed hard disk when system boot up. Select User if you prefer manually enters the hard disk type. The available parameters are SIZE (HDD Size), CYLS (No. of Cylinder), HEAD(No. Of Head), PRECOMP (Pre-compensation), LANDZ (Landing Zone), SECTOR (No. Of Sector) and MODE (HDD Mode). Select None if there is no hard disk connected to the system.

Default: Auto

MODE:
- AUTO
- NORMAL
- LBA
- LARGE

Select NORMAL for IDE HDD smaller than 528MB. Select LBA for IDE HDD over than 528MB and support LBA (Logical Block Addressing) mode. Select LARGE for IDE HDD over than 528MB and do not support LBA mode.

Note: We recommend that you set both IDE HDD TYPE and MODE to AUTO to let BIOS automatically detect the hard disk drives for you.

Default: Auto

- **Floppy → Drive A**
- **Floppy → Drive B**

Drive A / B:
- None
- 360KB - 5.25"
- 1.2MB - 5.25"
- 720KB -3.5"
- 1.44MB - 3.5"
- 2.88MB -3.5"

Select the floppy drive type installed in your system. The available options for Drive A and Drive B are: 360KB 5.25", 1.2MB 5.25", 720KB 3.5", 1.44MB 3.5", 2.88MB 3.5" and None.

Default: Drive A => 1.44MB 3.5"

Drive B => None

- **Video**

Video:
- EGA/VGA
- CGA40
- CGA80
- Mono

Select the video display card type installed in your system. The available types are: EGA/VGA, CGA 40, CGA 80 and Mono.

Default: EGA/VGA

- **Halt On**

Halt On:
- All Errors
- No Errors
- All, But Keyboard
- All, But Diskette
- All, But Disk/Key

This item defines the operation of the system POST (Power On Self-Test). You can use this item to select which kind of errors will cause the system to halt during POST.

Default: All Errors

3.3 BIOS Features Setup

This "BIOS Features Setup" option allows you to setup and improve your system features and performance.

ROM PCI/ISA BIOS(2AKL00B)
BIOS FEATURES SETUP
AWARD SOFTWARE, INC.

Virus Warning	:Disabled	Video BIOS Shadow	:Enabled
CPU Internal Cache	:Enabled	C8000-CBFFF	:Disabled
External Cache	:Enabled	CC000-CFFFF	:Disabled
Quick Power On Self Test	:Disabled	D0000-D3FFF	:Disabled
Boot Sequence	:A,C,SCSI	D4000-D7FFF	:Disabled
Swap Floppy Drive	:Disabled	D8000-DBFFF	:Disabled
Boot Up Floppy Seek	:Enabled	DC000-DFFFF	:Disabled
Boot Up NumLock Status	:On		
Boot Up System Speed	:High		
Gate A20 Option	:Normal		
Typematic Rate Setting	:Disabled		
Typematic Rate (Chars/Sec)	:6		
Typematic Delay (Msec)	:250		
Security Option	:Setup		
PS/2 mouse function control	:Enabled		
PCI/VGA Palette Snoop	:Disabled	ESC: Quit	↑ ↓ → ←:Select Item
Assign IRQ For VGA	:Disabled	F1: Help	PU/PD/+/-: Modify
OS Select For DRAM > 64MB	:Non-OS2	F5: Old Values	(Shift) F2:Color
Report No FDD For WIN 95	:No	F6: Load BIOS Defaults	
		F7: Load Setup Defaults	

➢ Virus Warning

Virus Warning:
- Enabled
- Disabled

When this item is enabled, the Award BIOS will monitor the boot sector and partition table of the hard disk drive for any attempt at modification. If an attempt is made, the BIOS will halt the system and the error message will appear, if necessary, you will be able to run an anti-virus program to locate and remove the problem before any damage is done.

➢ CPU Internal Cache/External Cache

CPU Internal Cache/External Cache:
- Enabled
- Disabled

These two categories speed up memory access. However, it depends on CPU/chipset design. The default value is enable.

➢ Quick Power-on Self-test

Quick Power-on Self-test:
- Enable
- Disabled

This item can be used to start operating system quickly by skip some normal POST checking items.

➢ Boot Sequence

Boot Sequence:
- A,C,SCSI
- C,A,SCSI
- C,CDROM,A
- CDROM,C,A
- D,A,SCSI
- E,A,SCSI
- F,A,SCSI
- SCSI,A,C
- SCSI,C,A
- C only
- LS/ZIP,C

This item defines where the system will look for an operating system, and the order of priority. The boot up search sequence shown as left.

➢ Swap Floppy Drive

Swap Floppy Drive:
- Enabled
- Disabled

If you have two floppy drives in your system, This item allows you to swap around the assigned drive letters so that drive A becomes drive B, and drive B becomes drive A.

➢ Boot Up Floppy Seek

Boot Up Floppy Seek:
- Enabled
- Disabled

This item controls the system to seek floppy drive during boot up POST.

➢ Boot Up NumLock Status

Boot Up NumLock Status:
- On
- Off

This item defines if the keyboard **NumLock** key is active when your system is started.

➢ Boot Up System Speed

Boot-up System Speed:
- High
- Low

This item allows the system boot up with High or Low speed.

➢ Gate A20 Option

Gate A20 Option:
- Normal
- Fast

This entry allows you to select how the gate A20 is handled. The gate A20 is a device used to address memory above 1 Mbytes. Initially, the gate A20 was handled via a pin on the keyboard. Today, while keyboards still provide this support, it is more common, and much faster, for the system chipset to provide support for gate A20.

➢ Typematic Rate Setting

Typematic Rate Setting:
- Enabled
- Disabled

To Enable or Disable the speed of keyboard to send repeat keystrokes.

➢ Typematic Rate (Chars/Sec)

Typematic Rate:
- 6
- 8
- 10
- 12
- 15
- 20
- 24
- 30

This item provides typematic rate setting, which allows you to control the repeated keystroke speed.

➢ Typematic Delay (Msec)

Typematic Delay:
- 250
- 500
- 750
- 1000

This item provides typematic delay setting, which allows you control the delay time between the first and the second keystroke.

➢ Security Option

Security Option:
- Setup
- System

The "Setup" option is for password request in entering BIOS setup.

The "System" option is for password request in entering setup and system boot up.

➢ PCI/VGA Palette Snoop

PCI/VGA Palette Snoop:
- Enabled
- Disabled

Set this item to Enabled to reduce display problem when both PCI VGA and some graphic accelerator devices such as MPEG/Video capture cards are installed in your system.

➢ OS Select for DRAM > 64MB

OS Select for DRAM > 64MB:
- OS/2
- Non-OS/2

This item is to patch that can not report correct memory size for more than 64 MB. Set it to OS/2 if you have an OS/2 installed and have over 64MB system memory.

➢ Report No FDD For WIN95

Report No FDD For Win95:
- Yes
- No

While the FDD in "STANDARD CMOS SETUP"is set to NONE, set this option to No to release IRQ6 for passing Win95 logo. This option is irrelevant under normal operation.

➢ Video BIOS Shadow

Video BIOS Shadow:
- Enabled
- Disabled

This item defines if you leave default setting, video BIOS memory will be copied from ROM into DRAM area to enhance system performance as DRAM access time is faster than ROM.

➢ C8000-CBFFF Shadow to DC000-DFFFF Shadow

C8000-CBFFF to DC000-DFFFF Shadow:
- Enabled
- Disabled

Set Enabled if you know the address that your add on card ROM used to shadow them. If the item is Enabled, BIOS will copy the selected area from ROM to RAM to increase system performance.

3-4 Chipset Features Setup

This section allows you to configure the system based on the specific features of the installed chipset. This chipset manages bus speeds and access to system memory resources, such as DRAM and the external cache. It also coordinates communications between the conventional ISA bus and the PCI bus. It must be stated that these items should never need to be altered. The default settings have been chosen because they provide the best operating conditions for your system. The only time you might consider making any changes would be if you discovered that data was being lost while using your system.

ROM PCI/ISA BIOS(2A6KL00B)
CHIPSET FEATURES SETUP
AWARD SOFTWARE, INC.

Timing Pack of BANK0	:Slow	Auto Detect DIMM/PCI CLK	:Disabled
SDRAM CAS Latency of BANK0	:3 Clocks	Spread Spectrum Modulated	:Disabled
Timing Pack of BANK1	:Slow	CPU Host/PCI Clock (CPU/PCI)	:Default
SDRAM CAS Latency of BANK1	:3 Clocks		
Timing Pack of BANK2	:Slow		
SDRAM CAS Latency of BANK2	:3 Clocks		
Auto Configuration	:Disabled		
AT Bus Clock	:7.16MHz		
ECC/EC Option	:No ECC/EC		
Local In-Order-Queue Depth	:1		
DRAM Data Integrity Mode	:Disabled		
ISA Line Buffer	:Disabled		
I/O Recovery Period	:1 us		
System BIOS Cacheable	:Enabled		
VGA Frame Buffer	:16Mb		
Video BIOS Cacheable	:Enabled	ESC: Quit	↑ ↓ → ←:Select Item
Video RAM Cacheable	:Enabled	F1: Help	PU/PD/+/-: Modify
AGP2x Mode support	:Disabled	F5: Old Values	(Shift) F2:Color
AGP Aperture Size(MB)	:64MB	F6: Load BIOS Defaults	
Memory Hole 15M-16M	:Disabled	F7: Load Setup Defaults	

➢ Timing Pack of BANK0/1/2

Timing Pack of BANK0/1/2/3:
- Slow
- Medium
- Fast
- Fastest

The value in this field depends on performance parameters of the installed memory chips (DRAM). Do not change the value from the factory setting unless you install new memory that has a different performance rating than the original DRAMs.

➢ SDRAM CAS Latency of BANK0/1/2

SDRAM CAS Latency of BANK0/1/2/3:
- 2 clocks
- 3 clocks

When synchronous DRAM is installed, the number of clock cycles of CAS latency depends on the DRAM timing. Do not reset this field from the default value specified by the system designer.

➢ Auto Configuration

Auto Configuration:
- Enabled
- Disabled

This item allows you select pre-determined optimal values for DRAM, cache, and timing according to CPU type & system clock.

Note: When this item is enabled, the pre-defined items will become SHOW-ONLY.

➢ AT Bus Clock

AT Bus Clock:
- 7.16MHz
- CLK2/2
- CLK2/3
- CLK2/4
- CLK2/5
- CLK2/6

You can set the speed of the AT bus in terms of a fraction of the CPU clock speed (PCLK2), or at the fixed speed of 7.16 MHz.

➢ ECC / EC Option

ECC / EC Option:
- No ECC/EC
- ECC ON
- EC ON

You could select the option of ECC (error-correcting code) / EC (error checking) for memory.

➢ Local In-Order-Queue Depth

Local In-Order-Queue Depth:
- 1
- 2
- 4
- 8

You could select the depth of the Internal IOQ (In-Order-Queue) buffer.

➢ DRAM Data Integrity Mode

DRAM Data Integrity Mode:
- Disabled
- ECC
- Parity

Select Parity or ECC (error-correcting code), according to the type of installed DRAM.

➢ ISA Line Buffer

ISA Line Buffer:
- Enabled
- Disabled

The PCI to ISA Bridge has an 8-byte directional line buffer for ISA or DMA bus master memory reads from or writes to the PCI bus. When Enabled, an ISA or DMA bus master can pre-fetch two double words to the line buffer for a read cycle.

➢ I/O Recovery Period

I/O Recovery Period:
- 1us
- 2us
- 3us

The peripheral controller insert a minimum of 2 bus clock (BCLK) delays between back-to-back 8- or 16-bit ISA I/O cycles issued from the PCI master.

➢ VGA Frame Buffer

VGA Frame Buffer:
-Disabled
-1 MB
-2 MB
-4 MB
-8 MB
-16MB

When Enabled, a fixed VGA frame buffer from A000h to BFFFh and a CPU-to-PCI write buffer are implemented.

➢ Video BIOS Cacheable

Video BIOS Cacheable:
- Enabled
- Disabled

Selecting Enabled allows caching of the video BIOS ROM at C0000h to C7FFFh, resulting in better video performance. However, if any program writes to this memory area, a system error may result.

➢ Video RAM Cacheable

Video RAM Cacheable:
- Enabled
- Disabled

Selecting Enabled allows caching of the video BIOS ROM at C0000h to C7FFFh, resulting in better video performance. However, if any program writes to this memory area, a memory access error may result.

➢ AGP Aperture Size (MB)

AGP Aperture Size (MB):

- 16 MB
- 32 MB
- 64 MB
- 128 MB
- 256 MB

Select the size of the Accelerated Graphics Port (AGP) aperture. The aperture is a portion of the PCI memory address range dedicated for graphics memory address space. Host cycles that hit the aperture range are forwarded to the AGP without any translation. See www.agpforum.org for APG information.

3-5 Power Management Setup

This option displays a table of items, which lets you control the power management of the system. Modern operating system takes care of much of the routine power management. This mainboard supports ACPI (Advanced Configuration and Power Interface).

ROM PCI/ISA BIOS(2A6KL00B)	
POWER MANAGEMENT SETUP	
AWARD SOFTWARE, INC.	
ACPI Function : Enabled	**Standby Events**
Power Management : User Define	Bus Master : Disabled
PM Control by APM : Yes	Primary HDD : Enabled
MODEM Use IRQ : NA	Secondary HDD : Disabled
Video Off Option : Susp,Stby->Off	Video I/O Access : Disabled
Video Off Method : DPMs Support	Floppy I/O Access : Disabled
PM Monitor	Serial Port : Disabled
HDD Power Down : Disabled	Keyboard Access : Enabled
Doze Mode : Disabled	Parallel Port : Disabled
Standby Mode : Disabled	
Suspend Mode : Disabled	
Power Button : Green Mode	
ON Now Function	
Ring/WakeUp LAN Controller : Disabled	ESC: Quit ↑ ↓ → ←:Select Item
RTC Alarm Function : Disabled	F1: Help PU/PD/+/-: Modify
	F5: Old Values (Shift) F2:Color
	F6: Load BIOS Defaults
	F7: Load Setup Defaults

➢ ACPI Function

ACPI Function:
- Enabled
- Disabled

This item allows you to enable/disable the Advanced Configuration and Power Management (ACPI).

➢ Power Management

Power Management:
- Max Saving
- Mix Saving
- User Define
- Disabled

This item allows you to set the default parameters of power-saving modes. Set to Disable to disable power management function. Set to User Define to define your own parameters.

➢ PM Controlled by APM

PM Controlled by APM:
- Yes
- No

Set to Yes to transfer power management control to APM (Advanced Power Management) and enhance power saving function.

➢ MODEM Use IRQ

MODEM Use IRQ:
- **3**
- **4**
- **5**
- **7**
- **9**
- **10**
- **11**
- **NA**

This determines the IRQ in which the MODEM can use.

➢ Video Off Option

Video Off Option:
- Always On
- Suspend→Off
- Susp,Stuy→Off
- All Modes→Off

When enabled, this feature allows the VGA adapter to operate in a power saving mode.

➢ Video Off Method

Video Off Method:
- Blank Screen
- V/H SYNC+Blank
- DPMS Support

This determines the manner in which the monitor is blanked.

➢ HDD Power Down

HDD Power Down:
- Disabled
- 1 Min
- -....
- 15 Min

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

➢ Doze Mode

Doze Mode:
- Disabled
- 1 Min.... 15 Min
- 20 Min
- 30 Min
- 40 Min
- 50 Min
- 1 Hour

When enabled and after the set time of system inactivity, the CPU clock will run at slower speed while all other devices still operate at full speed.

➢ Standby Mode

Standby Mode:
- Disabled
- 1 Min.... 15 Min
- 20 Min
- 30 Min
- 40 Min
- 50 Min
- 1 Hour

When enabled and after the set time of system inactivity, the fixed disk drive and the video would be shut off while all other devices still operate at full speed.

➢ Suspend Mode

Suspend Mode:
- Disabled
- 1 Min.... 15 Min
- 20 Min
- 30 Min
- 40 Min
- 50 Min
- 1 Hour

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

➢ Power Button Down

Power Button Down:
- Power Off
- Green Mode

When enabled and after the set time of system inactivity, the power button will be powered down while all other devices remain active.

➢ Wake On LAN Use

Wake On LAN Use:
- Enabled
- Disabled

When *Enabled,* you can set the LAN awakens the system.

➢ Ring In Controller

Ring In Controller:
- Enabled
- Disabled

When *Enabled,* you can set the Ring-In controller awakens the system.

➢ RTC Alarm Function

RTC Alarm Function:
- Enabled
- Disabled

When *Enabled,* you can set the date and time at which the RTC (real-time clock) alarm awakens the system from Suspend mode.

- **WakeUp Date (of Month)**

WakeUp Date (of Month):
- 0
- 1
- .....
- 31

This item displayed only when you enable the RTC Wake Up Timer item.

You can use this item to specify the date you want to wake up the system. For Example, if you set to 18, the system will wake up on the 18th day of every month. If set to 0, the system will wake up on the specified time every day.

- **WakeUp Time (hh:mm:ss)**

WakeUp Time (hh:mm:ss):
- hh:mm:ss

This item is displayed only when you enable the RTC Wake Up Timer item. You can use this item to specify the time you want to wake up the system.

- **Bus Master**
- **Primary HDD**
- **Secondary HDD**
- **Video I/O Access**
- **Floppy I/O Access**
- **Serial Port**
- **Keyboard Access**
- **Parallel Port**

Bus Master, Primary/Secondary HDD, Video I/O Access, Floppy I/O Access, Serial & Parallel Port:
- Enabled
- Disabled

These items enable or disable the detection of IDE, Floppy, Serial and Parallel port activities for power saving mode.

3-6 PNP/PCI Configuration Setup

This option display a table of items that configures how PnP (Plug and Play) and PCI expansion cards operates in your system.

ROM PCI/ISA BIOS(2A6KL00B)
PNP/PCI CONFIGURATION SETUP
AWARD SOFTWARE, INC.

PNP OS Installed	:Yes	PCI IRQ Active By	: Level
Resources Controlled By	:Manual		
Reset Configuration Data	:Disabled		
IRQ3 assigned to	: Legacy ISA		
IRQ4 assigned to	: Legacy ISA		
IRQ5 assigned to	: PCI/ISA PnP		
IRQ7 assigned to	: PCI/ISA PnP		
IRQ9 assigned to	: PCI/ISA PnP		
IRQ10 assigned to	: PCI/ISA PnP		
IRQ11 assigned to	: PCI/ISA PnP		
IRQ12 assigned to	: PCI/ISA PnP		
IRQ14 assigned to	: PCI/ISA PnP		
IRQ15 assigned to	: PCI/ISA PnP		
DMA-0 assigned to	: PCI/ISA PnP		
DMA-1 assigned to	: PCI/ISA PnP	ESC: Quit	↑ ↓ →←:Select Item
DMA-3 assigned to	: PCI/ISA PnP	F1: Help	PU/PD/+/-: Modify
DMA-5 assigned to	: PCI/ISA PnP	F5: Old Values	(Shift) F2:Color
DMA-6 assigned to	: PCI/ISA PnP	F6: Load BIOS Defaults	
DMA-7 assigned to	: PCI/ISA PnP	F7: Load Setup Defaults	

➢ PnP OS Installed

PnP OS Installed:
- Yes
- No

Normally, BIOS will allocate the PnP resources during POST (Power-On Self Test). Set this item to Yes if you have a PnP operating system such as Windows 95, BIOS will bypass PnP device initial except of boot device (VGA/IDE or SCSI) and PnP operating system will do these PnP devices resource allocation. If this item is set to No, BIOS will handle all PnP devices.

➢ Resources Controlled By

Resources Controlled by:
- Auto
- Manual

Basically, BIOS will allocate the IRQ/DMA resources automatically for these PNP/PCI and onboard devices. The exception might be encountered when legacy ISA devices are installed, which occupies resources that BIOS can not know. Therefore, this option is for BIOS to know in advance that IRQ/DMA is occupied by legacy ISA devices if Manual is selected.

➢ Reset Configuration Data

Reset Configuration Data:
- Enabled
- Disabled

When this item is set to Enabled, BIOS will turn it Disabled again in the next boot up. This item is for clearing ESCD data. The only reason to clear is the data loosing the confidence. The engineering test is a good reason to change the default setting.

➢ IRQ3~5, IRQ7, IRQ9, IRQ10, IRQ11, IRQ12, IRQ14, IRQ15

IRQ 3-5, 7, 9-12, 14-15:
Legacy ISA
PCI/ISA PnP

Set the selected IRQ to Legacy ISA if your ISA card is not PnP compatible card and requires a special IRQ to make it function. These options provide IRQ resources allocation for Legacy ISA or PCI/ISA PnP card.

➢ DMA 0, DMA 1, DMA 3, DMA 5, DMA 6, DMA 7

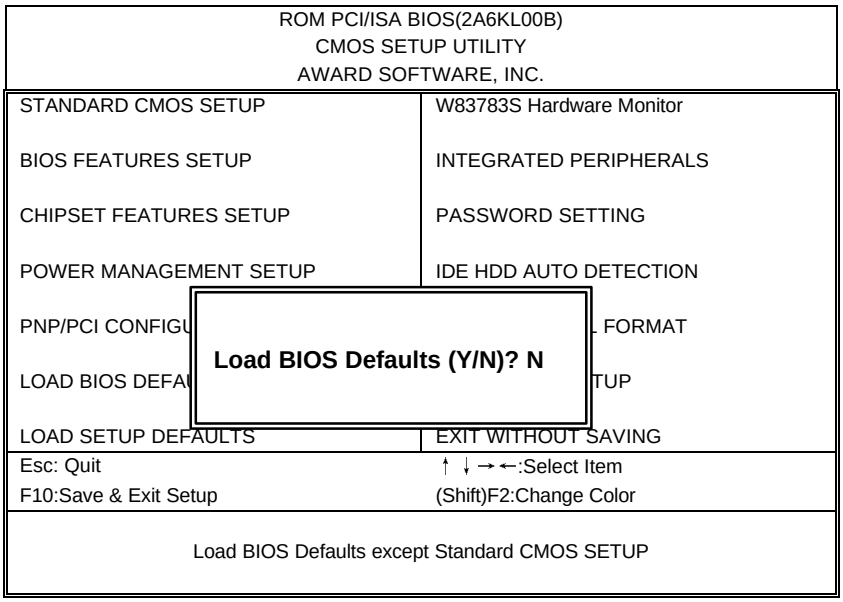
DMA 0,1,3,5-7:
- Legacy ISA
- PCI/ISA PnP

Set the selected DMA channel to Legacy ISA if your ISA card is not PnP compatible card and requires a special DMA channel to make it function.

➢ **PCI IRQ Activated by**

PCI IRQ Activated by: - Level - Edge	This sets the method by which the PCI bus recognizes that an IRQ service is being requested by a device. Under all circumstances, you should retain the default configuration unless advised otherwise by your system' s manufacturer.

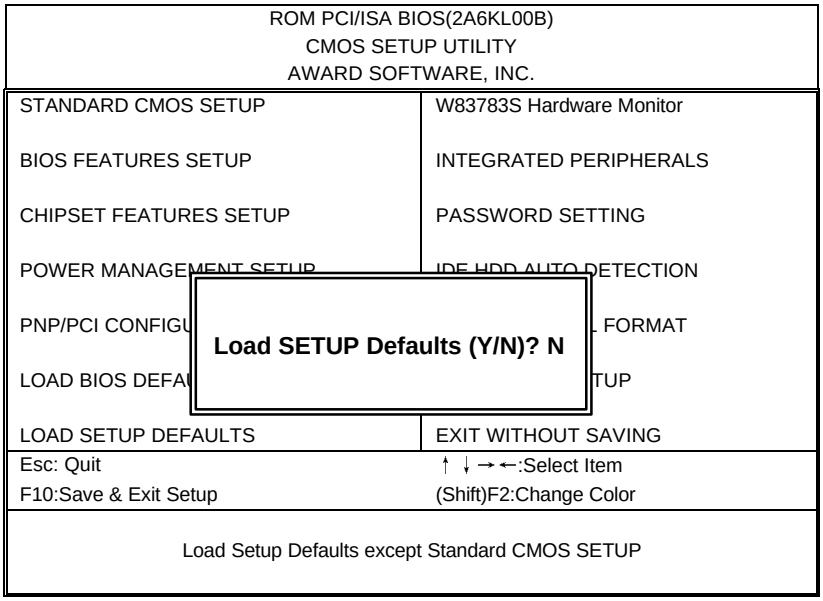
3.7 Load BIOS Defaults



This option allows you load BIOS optimized settings for optimum system performance. We recommend you to use the optimal settings if your system has large memory size and fully loading with add-on cards.

To load Setup Default, press Y key to confirm the operation when you see the above display.

3-8 Load Setup Defaults



This option provides better performance than optimal setup values. Load the setup values if you have light system loading, that is, few add-on cards and memories.

If your system has heavy loading (more add-on cards and memories), you may manually set the parameters in the "Chipset Features Setup" to get proper setting to get the best system performance. Before changing any settings in the "Chipset Features Setup", be sure that you understand the functions of every item.

3-9 W83783S Hardware Monitor

This option allows you to configure the W83783S Hardware Monitor features.

ROM PCI/ISA BIOS(2A6KL00B)
W83783S Hardware Monitor
AWARD SOFTWARE, INC.

CPU Warning Temperature		: 40C/104F
Current System Temp.		: 23C/75F
Current CPU1 Speed		: 21C/69F
Current CPUFAN1 Speed		: 0 RPM
Current CPUFAN2 Speed		: 0 RPM
Vcore	:1.96 V +3.3V	:3.39V
+ 5V	:4.86 V +12V	:11.85V
-12V	:-11.04 V	
Shoudown Temperature		:60C/140F

ESC: Quit	↑ ↓ →←:Select Item
F1: Help	PU/PD/+/-: Modify
F5: Old Values	(Shift) F2:Color
F6: Load BIOS Defaults	
F7: Load Setup Defaults	

➢ CPU Warning Temperature

CPU Warning Temperature: Select the CPU warning temperature. If your CPU temperature is higher than the selected temperature, the BIOS will slow down your CPU process till the temperature is below the CPU warning temperature then the CPU will work normally.

- **Current CPU/System Temperature**

Current CPU/System Temperature: Indicate the temperature of current CPU/System.

- **Current CPUFAN1/2 Speed**

Current CPUFAN1/2 Speed: Indicate the speed of current CPUFAN 1 / CPUFAN 2.On

- **Shutdown Temperature**

Shutdown Temperature: Select the Shutdown temperature.

3-10 Integrated Peripherals

This option allows you to configure the I/O features.

ROM PCI/ISA BIOS(2A6KL00B)
INTEGRATED PERIPHERALS
AWARD SOFTWARE, INC.

On-Chip Primary IDE	: Enabled	Onboard UART Port 1	: 3F8/IRQ4
Master PIO	: Auto	Onboard UART Port 2	: 2F8/IRQ3
Slave PIO	: Auto	UART2 Mode	: Normal
Master Ultra DMA	: Disabled		
Slave Ultra DMA	: Disabled	Onboard Parallel Port	: 378/IRQ7
On-Chip Secondary IDE	: Enabled	Parallel Port Mode	: ECPPP1.9
Master PIO	: Auto	ECP Mode Use DMA	: 3
Slave PIO	: Auto	Onboard IrDA Port	: Disable
Master Ultra DMA	: Disabled		
Slave Ultra DMA	: Disabled		
IDE HDD Block Mode	: Disabled		
On-Chip USB Controller	: Disabled		
Init Display First	: PCI Slot		
Ali SOUND Controller	: Disabled		
		ESC: Quit	↑ ↓ →←:Select Item
POWER ON Function	:BUTTON ONLY	F1: Help	PU/PD/+/-: Modify
		F5: Old Values	(Shift) F2:Color
KBC clock source	: 8 MHz	F6: Load BIOS Defaults	
Onboard FDC Controller	: Enabled	F7: Load Setup Defaults	

➢ On-Chip Primary IDE

On-Chip Primary IDE:
- Enabled
- Disabled

The chipset contains a PCI IDE interface with support for two IDE channels. Select Enabled to activate the primary IDE interface. Select Disabled to deactivate this interface

➢ On-Chip Secondary IDE

On-Chip Secondary IDE:
- Enabled
- Disabled

The chipset contains a PCI IDE interface with support for two IDE channels. Select Enabled to activate the secondary IDE interface. Select Disabled to deactivate this interface

➢ On-Chip Primary/Secondary Master/Slave PIO

On-Chip Primary/Secondary Master/Slave PIO:
- Auto
- Mode0/1/2/3/4

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

➢ On-Chip Primary/Secondary Master/Slave UDMA

On-Chip Primary/Secondary Master/Slave UDMA:
- Auto
- Mode0/1/2
- Disabled

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, select Auto to enable BIOS support

➢ IDE HDD Block Mode

IDE HDD Block Mode:
- Enabled
- Disabled

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

➢ On-Chip USB Controller

On-Chip USB Controller:
- Enabled
- Disabled

Select Enabled if your system contains a Universal Serial Bus (USB) controller

➢ USB Keyboard Support

USB Keyboard Support:
- Disabled
- Enabled

Select Enabled if your system contains a Universal Serial Bus (USB) controller and you have a USB keyboard

➢ Init Display First

Init Display First:
- PCI Slot
- AGP

This item allows you to decide to active whether PCI Slot or AGP first

➢ POWER ON Function

POWER ON Function:
- Password
- Hot KEY
- BUTTON ONLY

Set the power on function mode for power on

➢ KB Power ON Password

KB Power ON Password:
- Enabled
- Disabled

Set the password for the keyboard power on.

➢ KBC clock source

KBC clock source: - 8MHz - 12MHz - 16MHz	Set the frequency for the keyboard controller input clock

➢ Onboard FDC Controller

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

➢ Onboard UART Port 1/Port 2

Onboard UART Port 1/Port 2: **-3F8/IRQ4** **-2E8/IRQ3** **-3E8/IRQ4** **-2F8/IRQ3** **- Disabled** **- Auto**	Select an address and corresponding interrupt for the first and second serial ports.

➢ UART 2 Mode

UART 2 Mode: - IrDA - Norma - ASK IR	Select an operating mode for the second serial port. The choice: IrDA, Normal, ASK IR.

- **Half Duplex time-out**

Half Duplex time-out:
- Enabled
- Disabled

Half-duplex mode permits transmission in one direction only at a time

- **Onboard Parallel Port**

Onboard Parallel Port:
- 378/IRQ7
- 278/IRQ5
- 3BC/IRQ7
- Disabled.

This item allows you to determine access onboard parallel port controller with which I/O address

- **Parallel Port Mode**

Parallel Port Mode:
- EPP1.9
- ECP
- ECPEPP1.9
- SPP
- ECPEPP1.7
- EPP1.7.

Select an operating mode for the onboard parallel (printer) port. Select Normal unless your hardware and software require one of the other modes offered in this field.

- **ECP Mode Use DMA**

ECP Mode Use DMA:
- 1
- 3

Select a DMA channel for the parallel port for use during ECP mode.

-

➢ Onboard IrDA Port

Onboard IrDA Port: Select the Onboard IrDA port.

- Disabled
- 2E8H
- 2F8H
- 3E8H
- 3F8H
- 3E0H
- 2E0H

➢ IR IRQ Select

IR IRQ Select: You could select the IRQ for the IR.

- IRQ3,
- IRQ4,
- IRQ10
- IRQ11

➢ IrDA Mode

IrDA Mode: Select the IrDA mode.

- IrDA1.0
- IrDA1.1

3-11 Password Setting

Password prevents unauthorized use of your computer. If you set a password, the system prompts for the correct password before boot or access to Setup, the steps as follows,

1. Highlight the item Password Setting on the main menu and press ENTER.
2. The password dialog box will appear.
3. If you are installing a new password, carefully type in the password. Press ENTER after you have typed in the password. If you are deleting a password that is already installed just press ENTER when the password dialog box appears.
4. The system will ask you to confirm the new password by asking you to type it in a second time. Carefully type the password again and press ENTER, or just press ENTER if you are deleting a password that is already installed.
5. If you typed the password correctly, the password will be installed.

[Note]

If you forget your password, or you want to cancel your password, you can do the steps as the following,

(1) Password forgotten:

i> Turn off the system

ii> Short JP12 at Pin 2-3 for a few seconds to clear CMOS.

iii> Set the JP12 back to Pin 1-2.

iv> Power on the system.

(2) Clear Password:

Clear your password by key-in the password you installed before,

Then go to PASSWORD SETTING to press ENTER twice.

3-12 IDE HDD Auto Detection

This item automatically detects and installs any hard disk drives installed on the primary and secondary IDE channel. Most modern drives can be detected. If you are using a very old drive that can be detected, you can install it manually using the Standard CMOS Setup option. Setup will check for two devices on the primary IDE channel and then two devices on the secondary IDE channel. At each device, the system will flash an N in the dialog box. Press Enter to skip the device and proceed to the next device. Press Y, then Enter to tell the system to accept the BIOS auto-detected device type.

3-13 Save & Exit Setup

Highlight this item and press ENTER to save the changes that you have made in the setup utility and exit the setup program. When the *Save and Exit* dialog box appears, press Y to save and exit, or press N to return to the setup main menu.

3-14 Exit without Saving

Use this option to exit Setup Utility without saving the CMOS value changes.

SECTION 4.
Audio/SOFTWARE UTILITY

4-1 DOS Installation

Before beginning the installation, please make sure that your hard disk has sufficient space (min. 4MB). Insert the Driver CD into the CD-ROM Drive.

1. Change directory to PCI audio DOS drivers' folder (ex. D:\DOSDRV) at DOS prompt, and type:

   INSTALL [Enter]

2. Type DOS utilities path, which you want to install.

3. Program will expand the file to the path, which you've specified.

4. Install program will add initial drivers into AUTOEXEC.BAT file.

4-2 Win95/98 Installation

We recommend that you install Microsoft Windows before you install this PCI sound driver, and you not install any other sound device drivers in your current system.

1. Turn on the computer, and enter the Microsoft Windows 95 / 98.

2. You will see a windows prompt like this:

   "New Hardware Found

   CMI8338 Audio Adapter (PCI Multimedia Audio Device)

   Windows has found new hardware and is installing the software for it", then the dialog box shown.

3. Select "Driver form disk provided by hardware manufacturer", click "OK".

4. When system requests for CMI8338/C3DX PCI Audio drivers disk, please make sure the drive and path are pointed to the place where the installation driver is in, and then click "OK".

5. Now, system is installing device drivers automatically. After a while, the system will finish the installation includes the following device drivers.

CMI8338/C3DX PCI Audio Device

CMI8338/C3DX PCI Audio Joystick Device

CMI8338/C3DX PCI Audio Legacy Device

DOS mode MPU-401 Emulator

6. Click “start” key
7. Select “Run”
8. Key in the drive and path for Windows application installation program, for example, “D:\W95-98\APP\SETUP.EXE”
9. Click “OK” to start the installation procedure, and follow the on-screen instructions to finish the installation. When all the application software have been installed, please shut down Windows 95/98 system, and reboot your system.

4-3 Windows NT 4.0 Installation

We recommend that you install Windows NT 4.0 before you install this PCI audio driver, and you not install any other sound device drivers in your current system.

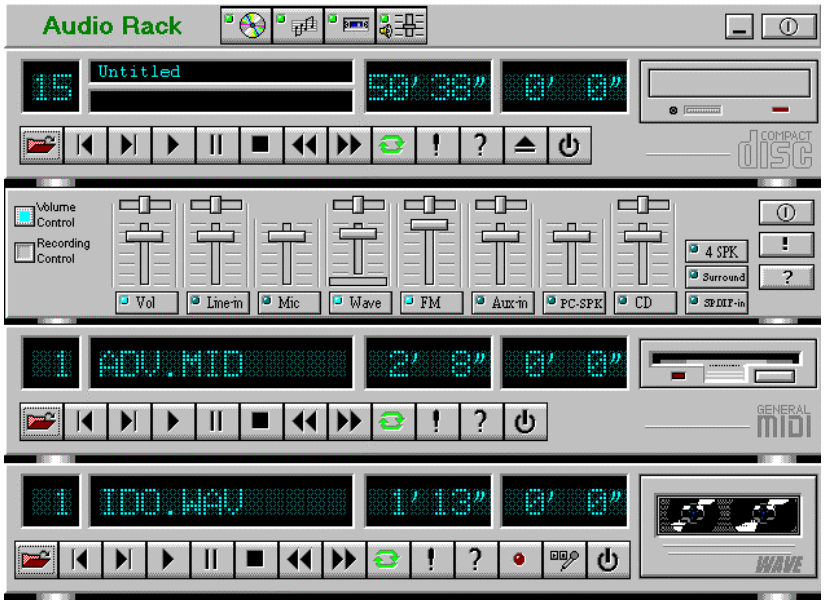
1. Click “Start” button, move the highlight bars to “Setting” item, and select the “Control Panel”.
2. Double-click “Multimedia” icon.
3. Select “Devices” page, and press “Add” button.
4. Select “Unlisted or Updated Driver” item in “List of Drivers”.
5. Specify the drive and the path where NT drivers are in (such as D:\NT40\DRV).
6. Select “C-Media CM8338” item and press “OK” button.
7. Select proper I/O value.

8. Press “OK” button.
9. Restart the system when being asked.
10. Now, you have already installed the PCI Audio Adapter under Microsoft Windows NT 4.0 successfully. if you want to install the Windows applications, continue the following steps:
11. Click “start” key.
12. Select “Run” item.
13. Key in drive and path for Windows NT application installation program, for example, “D:\NT40\APP\SETUP.EXE”
14. Click “OK” to start the installation procedure, and follow the on-screen instructions to finish the installation. When all of application software have been installed, shut down the Windows NT system, and then reboot your system.

4-4 Windows Appc. (The Audio Rack)

Introduction

By means of a user-friendly interface(as easy as operating your home stereo system), this PCI audio rack provides you with the control over your PC's audio functions, including the advantage of four speakers mode enable/ disable, and perfect digital sound (SPDIF) input / output control.



This Audio Rack consists of several major components:
Control Center: Controls the display of the PCI Audio Rack's components.

MIDI Player: Plays MIDI music files, and allows you to create your personal song playlists, and play the song files.

Wave Player: Records and plays digital audio (wave) files. Allows you to create wave file playlists, and playback the wave files.

CD Player: Plays standard audio CDs. Allows you to create your favorite song playlists.

System Mixer: Controls the volume level of your audio inputs and outputs.

Showing or Hiding Audio Rack Components

To remove or add a component from the display, click on the component's button on the Control Center's Button Bar or toggle it off.

MIDI Player, Wave Player, and CD Player

CD Player (above, similar to Wave Player and MIDI Player)

Sel (or Trk) field: If you have multiple selections in your playlist, this shows the number of the current selection or CD track.

Current File or Track: The name of the current MIDI file, wave audio file, or CD track.

Total Length field: displays the total length of files or tracks in minutes and seconds.

Current Time field: displays the current time of files or tracks in minutes and seconds when playback or recording.

Please refer to the help screen for more detail button function descriptions. (click on help "?" button on the player)

System Mixer

System Mixer allows you to control all the audio output and input levels.

System Mixer displays the volume controls, which your audio drivers make available. *The names for these controls may vary.*

Mixer panel while the four speakers mode is enabled.

Mixer panel while the four speakers mode is disabled.

Volume Control: Clicking on this button shows and allows you to use the output level controls.

Recording Control: Clicking on this button shows and allows you use the input level controls.

***Input and Output Level Sliders and Buttons*: For** each input or output signals type, the control slider controls the loudness whereas the horizontal slider controls the balance between the two speakers. The mute button temporarily stops input or output without changing slider positions.

Control types and names might vary. The common types are listed below:

- **Vol**: The master control for all outputs. The strength of an output signal is determined by both the Vol slider and the slider for the individual output. To affect *all* outputs, move the Vol slider. To change the output of an *individual* output type, move *its* slider.
- **Line-in/Rear**: Controls the audio hardware's Line In or Line Out levels. Line levels might be for an externally attached cassette player, for instance, while the four speakers' mode is enabled, this control becomes the Rear speaker volume control.
- **Mic**: Controls the microphone-input level.
- **Wave**: Controls wave (voice) playback or the recording levels.
- **FM**: Controls the FM music playback or the recording level.
- **Aux-in**: Controls the Aux-in music play or the recording level.
- **PC-SPK**: Controls the external PC speaker input level.
- **CD**: Controls the CD drive output level, for CD drives configured to play their audio output through the PC's audio hardware.

- **4SPK**: Turn on or turn off the Rear speakers' effect.
- **Surround**: Turn on or turn off the 3D surround sound effect.
- **SPDIF-in**: Turn on or turn off the SPDIF digital signal input.

***Mute Buttons*:** Toggle between muting and enabling the signal. A button with a lit LED is enabled, and when it is not lit, it means it is mute. Several *output* signals can usually be enabled at once.