ILA

Socket PGA370 Mainboard

User's Manual

Model	**: ILA**
Manual version	**: English, version 1.0**
Release Date	**: January 4, 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 2: HARDWARE INSTALLATION

SECTION 3: CMOS SETUP UTILITY

SECTION 4: BIOS/SOFTWARE UTILITY

SECTION 5: AUDIO DRIVER/UTILITY

SECTION 1.
PRODUCT INFORMATION

Thanks for purchasing ILA Socket PGA370 mainboard.

This user's manual contains all the information and features that show you how to use the ILA mainboard. 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 mainboard package, the mainboard layout and the specification it appears.

Section 2: Hardware Installation

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

Section 3: CMOS Setup Utility

A summary of the mainboard CMOS (BIOS) Setting.

Section 4: BIOS/Software Utility

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

Section 5: Audio Driver/Utility

Install Audio Driver & Utility

I. PRODUCT INFORMATION

1-2 Package Check List

This ILA mainboard 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.

The package includes:

- One ILA Mainboard
- One Floppy Interface Cable
- One IDE Interface Cable
- One Audio Interface Cable
- One CD Title including Bus Master IDE Driver and Utilities
- One User's Manual
- One serial port bracket
- One parallel port & PS/2 Mouse bracket

1-3 Mainboard Specification

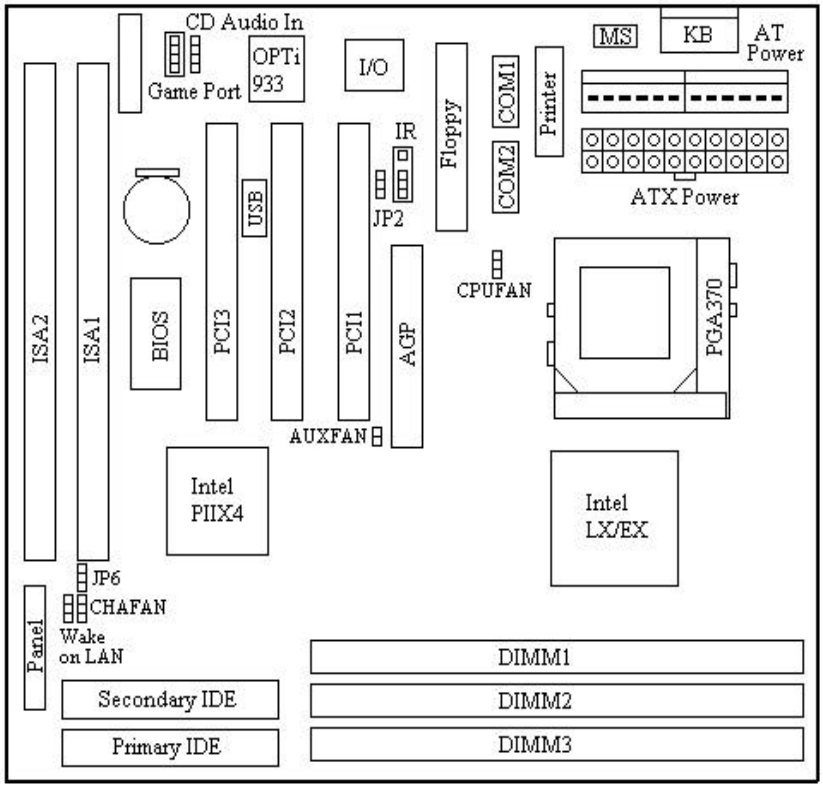
Form Factor	● AT form factor
Board Size	● 220 mm x 220 mm
CPU	● Supports Socket PGA370 Celeron CPU up to 433MHz
System Memory	● For LX mainboard, DIMM 168-pin x 3 , SDRAM added maximum up to 384MB ● For EX mainboard, DIMM 168-pin x 2 , SDRAM added maximum up to 256MB ● Supports 64M-bit SDRAM technology
Chipset	● Intel 440LX/EX AGP Chipset
System Bus/FSB	● 66MHz ● 68.5/75/83.3MHz (Available for over-clocking)

Expansion Slots	● 1 x AGP bus ● 2 x ISA bus ● 3 x PCI bus with Bus master/slave mode
Serial Port	● Two serial ports UART 16550 compatible ● Sets serial port 2 to operate in normal mode , IrDA or ASKIR
Parallel Port	One parallel port supports : ● SPP-standard parallel port ● EPP-enhanced parallel port ● ECP-extended capabilities port
Floppy Interface	Supports drives inches/format with: ● 3.5 inches—720KB/1.44MB/2.88MB ● 5.25 inches—360KB/1.2MB
IDE Interface	● Dual PCI IDE interface support up to 4 x IDE HDD or CDROM ● Supports PIO mode4 , DMA mode2 and Ultra DMA33
USB Interface	● Two USB ports supported ● USB legacy keyboard function supported
PS/2 Mouse	● PS/2 mouse supported
Keyboard	● AT keyboard supported
Fuse	● Supports recoverable fuse for USB and KB/Mouse
RTC and Battery	● RTC build in chipset (south bridge PIIX4) ● Lithium (CR-2032) battery
Wake Up Function / Power On function	● Modem ring wake up ● LAN wake up ● RTC Alarm wake up ● Keyboard/ PS/2 Mouse power on
Synchronous Switching Regulator	● High efficient synchronous switching regulator for CPU core voltage automatically detected ● Supports over-voltage / over-current protection function

Hardware Monitor (Optional)	● Fan speed monitor—Two fan connectors , warning when CPU or Housing fan is malfunction ● Fan speed control—Control CPU or Housing fan speed for the thermal issue ● 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
Sound Function	● Integrated OPTi 82C933 sound controller compatible with: - Sound Blaster Pro - Adlib - Microsoft Windows System
Power Function	● Supports ATX (20-pin) power connector ● Supports AT (12-pin) power connector
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 ● Anti-Virus Protection supported ● Floppy drive swapping function supported
LED Indicator	● System power LED ● HDD activity LED ● System Suspend LED (Blanking)
Other	● Auto-detect AT/ATX power supply type ● Support third Fan connector (2-pin)

	● Support CIR (Consumer IR) Function

1-4 Mainboard Layout



Jumpers

1.	**JP2**	Keyboard/PS/2 Mouse Power On (For ATX Power Supply Only)
4.	**JP6**	Clear CMOS (Real Time Clock)

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-370**	CPU Socket PGA370 for supporting Celeron CPU
2.	**ISA Slot 1 & Slot 2**	16-bit ISA Bus Expansion Slot
3.	**PCI Slot 1 to Slot 3**	32-bit PCI Bus Expansion Slot

Connectors

1.	**KB**	AT 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.	**ATX POWER**	ATX Mainboard Power Connector (20-pin block)
7.	**AT POWER**	Baby AT Mainboard Power Connector
8.	**CPUFAN**	Socket-370 CPU Fan Connector (3 pins)
9.	**CHAFAN**	Chassis Fan Connector (3 pins)
10.	**Floppy**	Floppy Drive Connector (34 pins)
11.	**Primary IDE**	Primary IDE Connector (40 pins)
12.	**Secondary IDE**	Secondary IDE Connector (40 pins)
13.	**IR**	Infrared Port Connector (5 pins)
14.	**Wake on LAN**	LAN wake up connector

15. CD Audio In		CD Audio In Connector
16. Panel:		
-	**PWR LED**	Power LED Connector (3 pins)
-	**KBLCK**	Keyboard Lock Switch Connector (2 pins)
-	**SLP**	Suspend Switch Connector (2 pins)
-	**SPEAKER**	Chassis Speaker Connector (4 pins)
-	**GRN LED**	Green Status LED Connector (3 pins)
-	**HDD LED**	HDD LED Connector (4 pins)
-	**RESET**	Reset Switch Connector (2 pins)
-	**PWR ON**	ATX Power Switch Connector (2 pins)

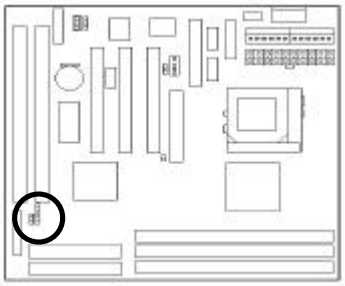
SECTION 2.
HARDWARE INSTALLATION

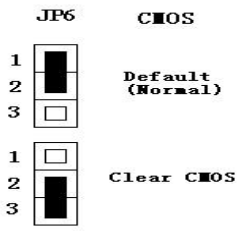
This section gives you a step-by-step procedure on how to install your system. Follow each section accordingly.

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 JP6 at pin 2-3 for few seconds.
3. Set JP6 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

Auto CPU Type Setting:

This mainboard supports jumperless CPU type setting, no jumper or switch is needed. The CPU Clock Radio of socket PGA370 Celeron CPU is fix (locked), all you need to do for CPU Type setting is load "BIOS Setup Defaults" values to set CPU Clock Frequency at default 66MHz. Then the CPU Type will be automatically detected by BIOS.

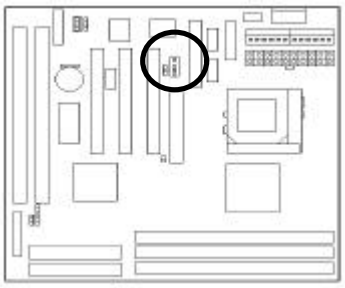
Manual CPU Type Setting:

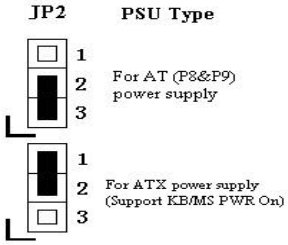
This mainboard also supports CPU over-clocking by adjusting the CPU Clock Frequency under "CHIPSET FEATURES SETUP" IN bios Setup.

System Frequency = CPU Clock Radio x CPU Clock Frequency

The available CPU Clock Frequency setting are: 66/68.5/75.0/83.3MHz

Warning: Normally, Intel 440EX/LX Chipset supports 66MHz CPU Clock Frequency, the other CPU Clock Frequency 75.0/83.3MHz are available only for internal test or end-user over-clocking testing, which may cause your system unstable or serious damage.





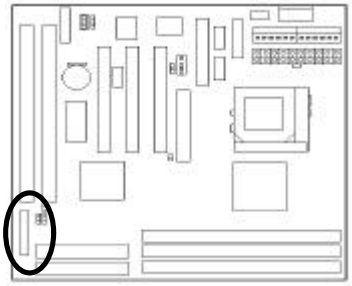
2-1.3 Power Supply Type

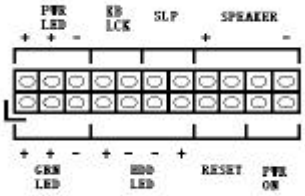
The mainboard supports two kinds of system power supply, AT (P8&P9) and ATX. For AT power supply, set JP2 at pin 2-3 to use power switch/button to power on your system. For power supply, set JP2 at pin1-2 and you can enable or disable KB/PS/2 mouse power on under BIOS Setup/Integrated

Peripherals. If you want to use the “Keyboard Power On” function, make sure you have a 300mA/+5vSB or above ATX power supply and the supporting mainboard BIOS.

2-2 Connectors

2-2.1 Panel Connector

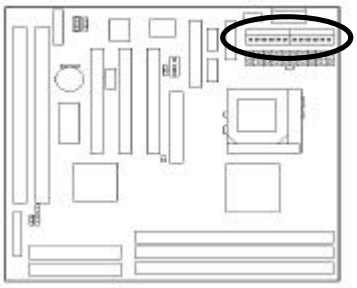


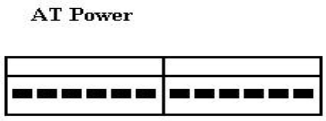


- **PWR LED** ATX Power LED Connector (3 pins)
- **KBLCK** Keyboard Lock Switch Connector (2 pins)
- **SLP** Suspend Switch Connector (2 pins)
- **SPEAKER** Chassis Speaker Connector (4 pins)
- **GRN LED** Green Status LED Connector (3 pins)
- **HDD LED** HDD LED Connector (4 pins)
- **RESET** Reset Switch Connector (2 pins)

2-2.2 AT Power Connector

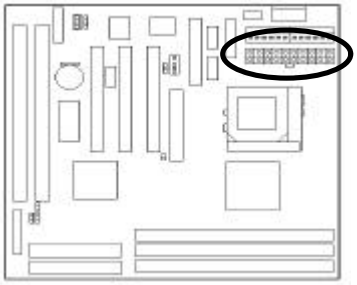
Connect the 12-pin AT power supply cable to this power connector. Make sure the right plug-in direction and the power supply is off before connecting or disconnecting the power cable.

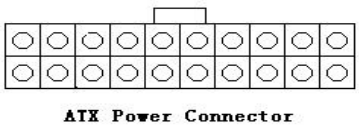




2-2.3 ATX Power Connector

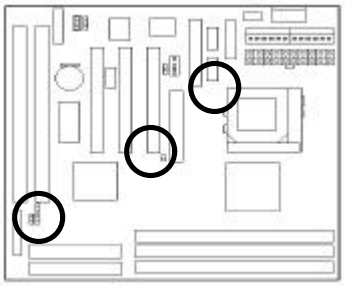
Connect the 20-pin ATX power supply cable to this power connector. Make sure the right plug-in direction and the power supply is off before connecting or disconnecting the power cable.

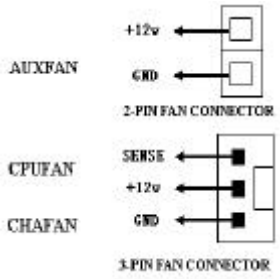




2-2.4 Fan Connectors

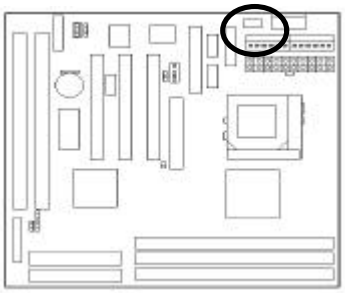
Connect the CPU and Chassis Fan cables to the 3-pin fan connectors shown below. The fan connectors are marked as CPUFAN and CHAFAN on the mainboard. Connect Auxiliary Fan cable to the 2-pin fan connector marked as AUXFAN.





2-2.5 PS/2 Mouse Connector

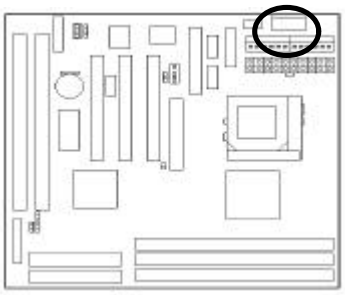
Connect the PS/2 mouse to the onboard 6-pin Mini-Din connector marked as PS/2 MS.

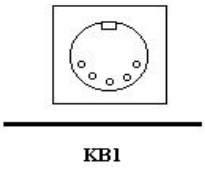


Pin	Description
1	MS DATA
2	NC
3	GND
4	+5V
5	MS CLK
6	NC

2-2.6 Keyboard Connector

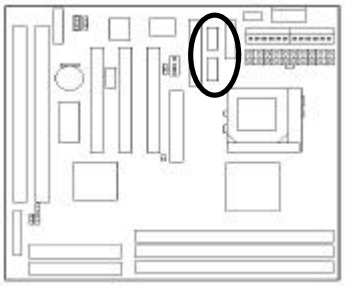
Connect the AT keyboard to the onboard keyboard connector marked as KB.

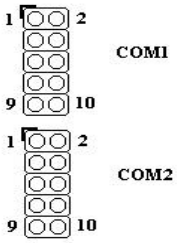




2-2.7 Serial Device(COM1/COM2) Connectors

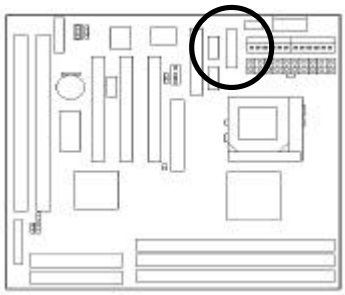
Connect your serial device(s) to the onboard 9-pin serial connectors marked as COM1 and COM2.

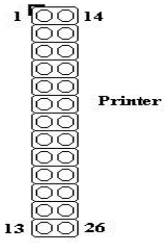




2-2.8 Printer Connctor

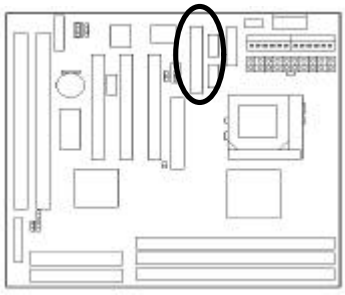
Connect your local printer to the onboard 25-pin printer connector marked as PRINTER.

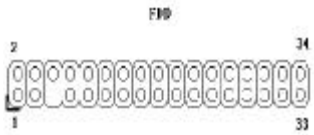




2-2.9 Floppy Drive Connector

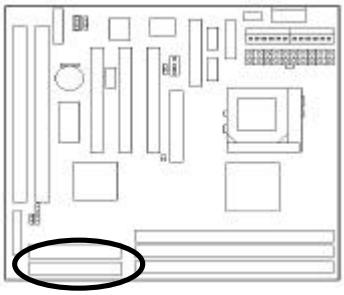
Connect the floppy drive cable to the onboard 34-pin floppy drive connector marked as FDD.

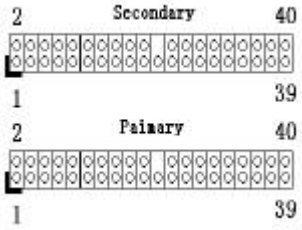


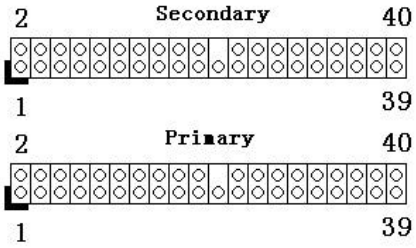


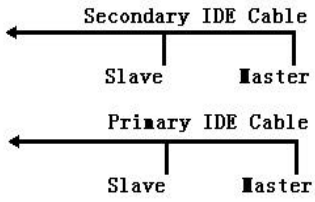
2-2.10 IDE Hard Disk and CD-ROM Connector

Connect your IDE devices to the onboard 40-pin IDE connectors marked as IDE1 and IDE2.







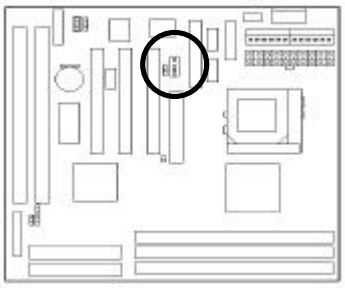


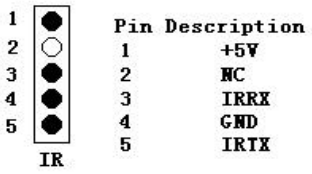
It is suggested that you connect the IDE devices to your IDE cables as the figure shown above. Each IDE channel, either Primary or Secondary, supports two IDE devices which must be set differently to master mode and slave mode.

(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

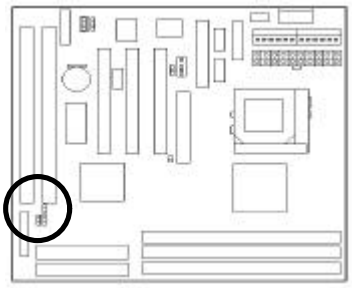
Connect your IR device to the onboard IrDA connector marked as IR.

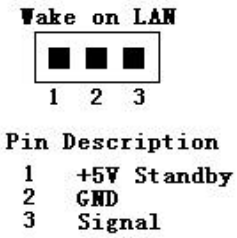




2-2.12 Wake on LAN Connector

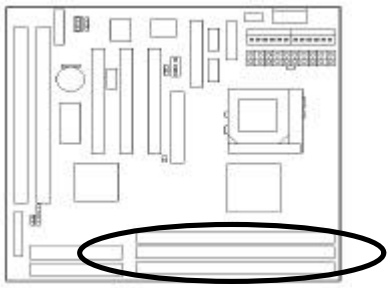
This mainboard supports wake up on LAN function. To use this function, you need a Wake on LAN supported network card and software.





2-3 System Memory Installation

There are 3 pcs 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.



There are 3 168-pin DIMM sockets that allow you to install system memory maximum up to 384MB SDRAM

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

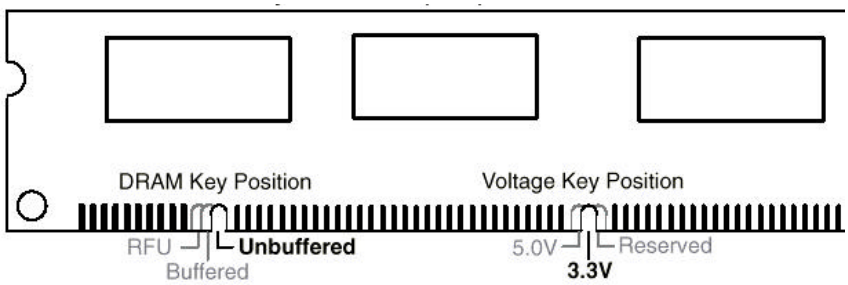
The memory speed normally marked as: -15, -12, -10, -7, -8, PC-100.

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.

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.

2-3.7 Suggested SDRAM combination

This mainboard supports the following SDRAM combination.

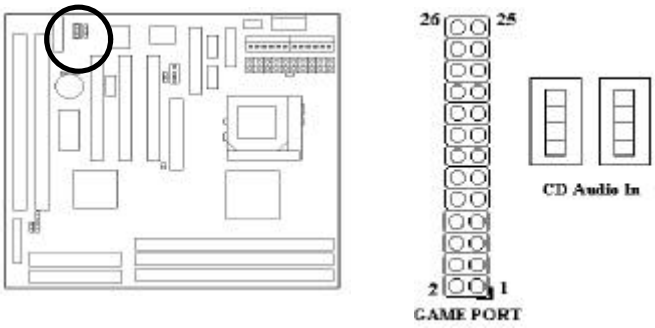
DIMM Location	DIMM Size
DIMM 1	SDRAM 8, 16, 32, 64 128,MB
DIMM 2	SDRAM 8, 16, 32, 64 128 MB
DIMM 3	SDRAM 8, 16, 32, 64 128 MB
	Total System Memory

For LX mainboard, Total Memory Size = DIMM1 + DIMM2 + DIMM3

For EX mainboard, Total Memory Size = DIMM1 + DIMM2

2-4 Game/Audio Connector

Connector the audio cable to the onboard Game/Audio connector marked as Game port。The onboard CD-IN connector marked as CD Audio In is for CD-ROM audio and MIC-IN connector marked as MIC is for Microphone In.



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(00000006)
CMOS SETUP UTILITY
AWARD SOFTWARE, INC.

STANDARD CMOS SETUP	INTEGRATED PERIPHERALS
BIOS FEATURES SETUP	PASSWORD SETTING
CHIPSET FEATURES SETUP	IDE HDD AUTO DETECTION
POWER MANAGEMENT SETUP	SAVE & EXIT SETUP
PNP/PCI CONFIGURATION	EXIT WITHOUT SAVING
LOAD SETUP DEFAULTS	
LOAD TURBO DEFAULTS	
Esc: Quit	↑ ↓ → ←:Select Item
F10:Save & Exit Setup	(Shift)F2:Change Color

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.

III. CMOS SETUP UTILITY

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(00000006)
STARDARD CMOS SETUP
AWARD SOFTWARE, INC.

Date (mm:dd:yy): Thu, Apr 30 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 detect the installed hard disk when system boot up. Select User if you prefer manually enter 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(00000008)
BIOS FEATURES SETUP
AWARD SOFTWARE, INC.

Virus Warning	:Disabled	Video BIOS Shadow	:Enabled
		C8000-CBFFF Shadow	:Disabled
External Cache	:Enabled	CC000-CFFFF Shadow	:Disabled
CPU L2 Cache ECC Checking	:Enabled	D0000-D3FFF Shadow	:Disabled
Quick Power On Self Test	:Enabled	D4000-D7FFF Shadow	:Disabled
Boot Sequence	:A,C,SCSI	D8000-DBFFF Shadow	:Disabled
Swap Floppy Drive	:Disabled	DC000-DFFFF Shadow	:Disabled
Boot Up Floppy Seek	:Disabled		
Boot Up NumLock Status	:On		
Boot Up System Speed	:High		
Typematic Rate Setting	:Disabled		
Typematic Rate (Chars/Sec)	:6		
Typematic Delay (Msec)	:250		
Security Option	:Setup		
PCI/VGA Palette Snoop	:Disabled		
OS Select For DRAM > 64MB	:Non-OS2	ESC: Quit	↑ ↓ →←:Select Item
		F1: Help	PU/PD/+/-: Modify
		F5: Old Values	(Shift) F2:Color
		F6: Load Setup Defaults	
		F7: Load Turbo Defaults	

➢ Virus Warning

Virus Warning:
- Enabled
- Disabled

When this item is enabled, BIOS will automatically load Anti-Virus program that will prevent your system being infected by Boot Viruses.

Default: Enabled

➢ External Cache

External Cache: This item controls Enable/Disable the external L2 cache.

- Enabled
- Disabled

Default: Enabled

➢ CPU L2 Cache ECC Checking

CPU L2 Cache ECC Checking:
- Enable
- Disabled

This item can be used to enable ECC (Error Checking and Correcting) function of the CPU level-2 cache memory. When the item is enabled, BIOS will automatically check if CPU support L2 ECC function. This item will not be displayed if CPU does not support L2 ECC.

Default: Enabled

➢ 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.

Default: Enabled

➢ 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.

Default: A, C, SCSI

➢ 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. **Default: Disabled**

III. CMOS SETUP UTILITY

➢ Boot Up Floppy Seek

Boot Up Floppy Seek:
- Enabled
- Disabled

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

Default: Disabled

➢ 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.

Default: On

➢ Boot Up System Speed

Boot-up System Speed:
- High
- Low

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

Default: High

➢ Typematic Rate Setting

Typematic Rate Setting:
- Enabled
- Disabled

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

Default: Disabled

➢ 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 keystrokes speed.

Default: 6

➢ 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.

Default: 250

➢ 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.

Default: Setup

➢ 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.

Default: Disabled

➢ OS Select for DRAM > 64MB

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

This item is to patch that OS/2 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.

Default: Non-OS/2

➢ 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.

Default: Enabled

➢ 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.

Default: Disabled

3-4 Chipset Features Setup

This option displays a table of items, which define timing parameters of the mainboard components including the graphic system, memory, and the system logic. In general rule, you should leave the items on this page at the default values unless you are familiar with the technical specifications of your hardware. If you change the values, you may introduce fatal errors or recurring instability into your system.

ROM PCI/ISA BIOS(00000008)
CHIPSET FEATURES SETUP
AWARD SOFTWARE, INC.

Auto Configuration	:Enabled	Pentium II Micro Codes	:Enabled
		Power Supply Type	:ATX
DRAM Speed Selection	:60ns		
MA Wait State	:Slow	********* Jumpless Setup **********	
EDO RAS# to CAS# Delay	:3	CPU Clock Frequency	:66.8MHz
EDO RAS# Precharge Time	:4		
EDO DRAM Read Burst	:x333		
EDO DRAM Write Burst	:x333		
SDRAM(CAS Lat/RAS-to-CAS)	:3/3		
SDRAM RAS Precharge Time	:3 T		
DRAM ECC Function	:Disabled		
CPU-To-PCI IDE Posting	:Enabled		
Video BIOS Cacheable	:Disabled		
Video RAM Cacheable	:Disabled		
8 Bit I/O Recovery Time	:4		
16 Bit I/O Recovery Time	:2	ESC: Quit	↑ ↓ → ←:Select Item
Memory Hole At 15M-16M	:Disabled	F1: Help	PU/PD/+/-: Modify
Passive Release	:Enabled	F5: Old Values	(Shift) F2:Color
Delayed Transaction	:Enabled	F6: Load Setup Defaults	
AGP Aperture Size(MB)	:64	F7: Load Turbo Defaults	

➢ Auto Configuration

Auto Configuration:
- Enabled
- Disabled

Leave this item at the default value Enabled. This will automatically install the correct values for the system DRAM timing. Set Disabled if you want to specify your own DRAM timing.

Default: Enabled

➢ DRAM Speed Selection

DRAM Speed Selection:
- 50ns
- 60ns

This item allows you set your DRAM speed, 50ns or 60ns.

Default: 60ns

➢ MA Wait State

MA Wait State:
- Slow
- Fast

This item defines DRAM MA (Memory Address) wait state. Set it to Fast when DRAM loading is heavy or the speed is lower.

Default: Slow

➢ EDO RAS# To CAS# Delay

EDO RAS# To CAS# Delay:
- 2
- 3

This item defines the delay state between DRAM Row Address Strobe (RAS) and Column Address Strobe (CAS).

Default: 3

➢ EDO RAS# Precharge Time

EDO RAS# Precharge Time:
- 3
- 4

This item defines the waiting time after issuing a precharge command to EDO.

Default: 3

➢ EDO DRAM Read Burst

EDO DRAM Read Burst:
- X222
- X333

This item defines the four continuous memory reading from EDO DRAM within one read burst cycle.

Default: X333

➢ EDO DRAM Write Burst

EDO DRAM Write Burst:
- X222
- X333

This item defines the four continuous memory writing to EDO DRAM within one write burst cycle.

Default: X333

➢ SDRAM (CAS Lat/RAS-to-CAS)

SDRAM (CAS Lat/RAS-to-CAS):
- 2/2
- 3/3

SDRAM CAS Latency defines the latency between SDRAM read command and the actual data time. SDRAM RAS-to-CAS Delay defines the latency between SDRAM active command and the read/write command.

It is an important SDRAM parameter. If your SDRAM has unstable problem, try set this item to 3T.

Default: 3/3

➢ SDRAM RAS Precharge Time

SDRAM RAS Precharge Time:
- 2T
- 3T

This item defines the waiting time after issuing a SDRAM Precharge command.

Default: 3T

➢ DRAM ECC Function

DRAM ECC Function:
- Enabled
- Disabled

This item enables/disables ECC (Error Checking and Correction) for the main memory. We recommend that you leave this item at Disabled if you have not verified that your memory modules support ECC. To use this function, you need 72 bits (64+8 bit parity) DIMM.

Default: Disabled

➢ CPU-To-PCI IDE Posting

CPU-To-PCI IDE Posting:
- Enabled
- Disabled

This item defines CPU to IDE posting cycle. Set it to disabled if you have any IDE compatibility problem.

Default: Enabled

- **Video BIOS Cacheable**

Video BIOS Cacheable:
- Enabled
- Disabled

This item allows the video BIOS to be cached for faster video performance.

Default: Disabled

- **Video RAM Cacheable**

Video RAM Cacheable:
- Enabled
- Disabled

This item allows the Video RAM to be cached for faster video performance.

Default: Disabled

- **8 Bit I/O Recovery Time**
- **16 Bit I/O Recovery Time**

8 Bit I/O Recovery Time:
- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- NA

16 Bit I/O Recovery Time:
- 1
- 2
- 3
- 4
- NA

This two items set timing parameters for 8-bit and 16-bit ISA expansion cards.

Default: 8-Bit I/O Recovery Time => 4

16-Bit I/O Recovery Time => 2

- **Memory Hole At 15M-16M**

Memory Hole At 15M-16M:

- Enabled
- Disabled

This item can be used to reserve memory space for some ISA cards that require it.

Default: Disabled

- **Passive Release**
- **Delayed Transaction**

Passive Release, Delayed Transaction:
- Enabled
- Disabled

These two items make the PCI Bus Compliant with the PCI Specification ver. 2.1.

Default: Enabled

- **AGP Aperture Size (MB)**

AGP Aperture Size (MB):
- 4
- 8
- 16
- 32
- 64
- 128
- 256

This item defines the effective memory size of the AGP Aperture.

Default: 64

- **Pentium II Micro Codes**

Pentium II Micro Codes:
- Enabled
- Disabled

This item defines the Pentium II Micro Codes which are used to resolve Pentium II CPU bugs. We recommend that you leave this item at the default value for better reliability.

Default: Enabled

➢ Power Supply Type

Power Supply Type:
- ATX
- P8&P9
-Auto

This item allows you set your system power supply type. Select ATX for ATX power supply and P8&P9 for At power supply. **Default: Auto**

Note: The following BIOS items can be functioning only when the system using ATX power supply and ATX power supply type is selected in this item.

**\ CMOS Setup \ Power Management **

-Modem Wake Up

-LAN Wake Up

-RTC Wake Up Timer

-Power Button Override

**\ CMOS Setup \ Integrated Peripherals **

-KB Power ON (Ctrl-F1)

-PS2 Mouse Power ON

➢ CPU Clock Frequency

CPU Clock Frequency:
-66.8MHz
-68.5MHz
-75.0MHz
-83.3MHz

This item allows you set CPU Clock Frequency.

CPU Type	CPU Clock Ratio	CPU Clock Freq
PGA370-300	4.5X	66.8MHz
PGA370-333	5.0X	66.8MHz
PGA370-366	5.5X	66.8MHz
PGA370-400	6.0X	66.8MHz
PGA370-433	6.5X	66.8MHz

Default: 66.8MHz

Note: CPU supplier Intel has locked The CPU Clock Ratio of socket PGA370 processor.
Warning: Normally, Intel 440EX/LX Chipset supports 66MHz CPU Clock Frequency, the other CPU Clock Frequency 75.0/83.3MHz are available only for internal test or end-user over-clocking test, which may cause your system unstable or serious damage.

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 take care of much of the routine power management. This mainboard supports ACPI (Advanced Configuration and Power Interface).

ROM PCI/ISA BIOS(00000008)
POWER MANAGEMENT SETUP
AWARD SOFTWARE, INC.

Power Management	: Disabled	**Reload Global Timer Events**	
PM Control by APM	: Yes		
Video Off After	: Standby	IRQ[3-7,9-15],NMI	: Enabled
		Primary IDE0	: Disabled
Doze Mode	: Disabled	Primary IDE1	: Disabled
Standby Mode	: Disabled	Secondary IDE0	: Disabled
Suspend Mode	: Disabled	Secondary IDE1	: Disabled
HDD Power Down	: Disabled	Floppy Disk	: Disabled
Modem Wake Up	: Disabled	Serial Port	: Enabled
LAN Wake Up	: Disabled	Parallel Port	: Disabled
VGA Active Monitor	: Enabled		
Power Button Override	: Enabled		
RTC Wake Up Timer	: Disabled		
		ESC: Quit	↑ ↓ → ←:Select Item
Break Event From Suspend		F1: Help	PU/PD/+/-: Modify
		F5: Old Values	(Shift) F2:Color
IRQ 8 Clock Event	: Disabled	F6: Load Setup Defaults	
		F7: Load Turbo Defaults	

➢ 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.

Default: User Define

Mode	Doze	Standby	Suspend	HDD Power Down
Min Saving	1 hour	1 hour	1 hour	15 min

Max Saving	1 min	1 min	1 min	1 min

➢ 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.

Default: Yes

➢ Video Off After

Video Off After:
- N/A
- Doze
- Standby
- Suspend

To select the power down mode option to turn off video monitor.

Default: Standby

➢ Doze Mode

Doze Mode:
- Disabled
- 1 Min
- 2 Min
- 4 Min
- 8 Min
- 12 Min
- 20 Min
- 30 Min
- 40 Min
- 1 Hour

This item lets you set the timer after which the system enters into Doze mode from working mode. The system event is detected by monitoring the IRQ signals or other I/O events.

Default: Disabled

➢ Standby Mode

Standby Mode
- Disabled
- 1 Min
- 2 Min
- 4 Min
- 8 Min
- 12 Min
- 20 Min
- 30 Min
- 40 Min
- 1 Hour

This item lets you set the timer after which the system enters into Standby mode from Doze mode.

In this mode, the monitor power-saving feature activates. Any activity detected returns the system to normal full power mode. The system activity is detected by monitoring the IRQ signals or other I/O events.

Default: Disabled

➢ Suspend Mode

Suspend Mode:
- Disabled
- 1 Min
- 2 Min
- 4 Min
- 8 Min
- 12 Min
- 20 Min
- 30 Min
- 40 Min
- 1 Hour

This item lets you set the timer after which the system enters into Suspend mode from Standby mode. The system activity is detected by monitoring the IRQ signals or other I/O events.

Default: Disabled

➢ HDD Power Down

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

This item allows you specify the IDE HDD idle time before the device enters the power down state. This item is independent from the power states, Standby and Suspend Mode.

Default: Disabled

➢ Modem Wake Up

Modem Wake Up:
- Enabled
- Disabled

To enable or disable Modem Wake Up function.

Default: Disabled

➢ LAN Wake Up

LAN Wake Up:
- Enabled
- Disabled

To enable or disable LAN Wake Up function.

Default: Disabled

➢ VGA Active Monitor

VGA Active Monitor:
- Enabled
- Disabled

To enable or disable the detection of VGA activity for power saving mode.

Default: Enabled

➢ Power Button Override

Power Button Override:
- Enabled
- Disabled

When set to Enabled, the power switch on the front panel can be used to control power On/Suspend/Off.

Press switch	System status
Less than 4 seconds	Suspend mode
Longer than 4 seconds	Power off

When set to Disabled, the power switch is only used to control On/Off, no Suspend mode functions.

Default: Enabled

➢ RTC Wake Up Timer

RTC Wake Up Timer:
- Enabled
- Disabled

To enable or disable the RTC Wake Up function.

Default: Disabled

➢ 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.

➢ IRQ 8 Clock Event

IRQ 8 Clock Event:
- Enabled
- Disabled

OS/2 has periodically IRQ8 RTC(Real Time Clock) event. When set this item to enabled, OS/2 may has problem to go into Doze/Standby/Suspend mode.

Default: Disabled

➢ IRQ [3-7,9-15],NMI

IRQ [3-7,9-15],NMI:
- Enabled
- Disabled

To enable or disable the detection of IRQ3-7, IRQ9-15 or NMI interrupts events for power saving mode.

Default: Enabled

- **Primary IDE 0**
- **Primary IDE 1**
- **Secondary IDE 0**
- **Secondary IDE 1**
- **Floppy Disk**
- **Serial Port**
- **Parallel Port**

Primary/Secondary IDE 0/1, Floppy, Serial & Parallel Port:

- Enabled
- Disabled

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

Default: Serial Port => Enabled

Others => Disabled

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(00000009)
PNP/PCI CONFIGURATION SETUP
AWARD SOFTWARE, INC.

PnP OS Install	:No	Init VGA First	: PCI Slot
Resources Controlled By	:Manual	PCI IDE IRQ Map To	: PCI-AUTO
Reset Configuration Data	:Disabled	Primary IDE INT#	: A
		Secondary IDE INT#	: B
IRQ-3 assigned to	: Legacy ISA		
IRQ-4 assigned to	: Legacy ISA	Used MEM base addr	: N/A
IRQ-5 assigned to	: PCI/ISA PnP		
IRQ-7 assigned to	: PCI/ISA PnP	PCI Slot1 IRQ(Right)	: Auto
IRQ-9 assigned to	: PCI/ISA PnP	PCI Slot2 IRQ	: Auto
IRQ-10 assigned to	: PCI/ISA PnP	PCI Slot3 IRQ (Left)	: Auto
IRQ-11 assigned to	: PCI/ISA PnP		
IRQ-12 assigned to	: PCI/ISA PnP		
IRQ-14 assigned to	: PCI/ISA PnP		
IRQ-15 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 Setup Defaults	
DMA-7 assigned to	: PCI/ISA PnP	F7: Load Turbo 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.

Default: No

➢ 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.

Default: Manual

➢ 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.

Default: Disabled

➢ IRQ3, IRQ4, IRQ5, 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.

Default: IRQ 3~4 => Legacy ISA

Others =>PCI/ISA PnP

➢ 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.

Default: PCI/ISA PnP

➢ Init Display First

Init Display First:
- PCI Slot
- AGP

This item allows you select whether PCI Slot or AGP device will be initialed first for display.

Default: AGP

➢ PCI IDE IRQ Map To

PCI IDE IRQ Map To:
- ISA
- PCI-Slot1
- PCI-Slot2
- PCI-Slot3
- PCI-Slot4
- PCI-Auto

This is a complement for the case that an ISA or PCI add-on IDE card is installed. Since most of PCI add-on IDE cards are not PCI Compliant, a location and INT# inputs are necessary for acknowledging to BIOS.

Set this item to `PCI-Auto` to allow BIOS to configure the installed PCI IDE card automatically.

Default: PCI-Auto

- **Primary IDE INT#**
- **Secondary IDE INT#**

Primary/Secondary IDE INT#:
- A
- B
- C
- D

Each PCI slot has four PCI interrupts (INT) aligned as listed , A, B, C, D. You should specify the slot in the "PCI IDE IRQ Map To", and set the PCI interrupt (INT) here to the interrupt connection on the card.

Use this item to specify the interrupt of the primary/ secondary channel of the PCI IDE add-on card.

Default: Primary IDE INT# => A

Secondary IDE INT# => B

- **Used MEM Base Addr**

Used MEM base addr:
- N/A
- C800
- CC00
- D000
- D400
- D800
- DC00

This item lets you set a memory space for non-PnP ISA card and specifies the memory base of the reserved memory space.

Default: N/A

- **Used MEM Length**

Used MEM Length:
- 8K
- 16K
- 32K
- 64K

This item is displayed when the above Used MEM base addr option is not set to N/A.

If your ISA card is not PnP card and requires special memory space to make it function, use item to set the memory size to inform the PnP BIOS to reserve the specified memory space for installing legacy ISA card.

➢ **PCI Slot1 (Right) to PCI Slot3 IRQ (Left)**

PCI Slot 1 to PCI Slot3 IRQ:

- 3
- 4
- 5
- 7
- 9
- 10
- 11
- 12
- 14
- 15
- Auto

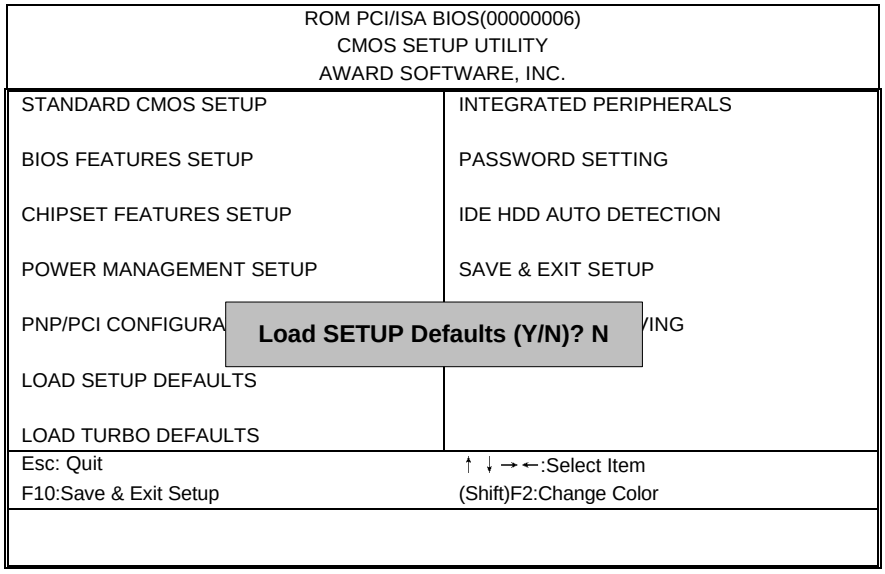
These items allow you manually assign an specified IRQ to each PCI slot.

Leave this item at default "Auto", BIOS will automatically assign an available IRQ to the device on each PCI slot.

Default:

Auto

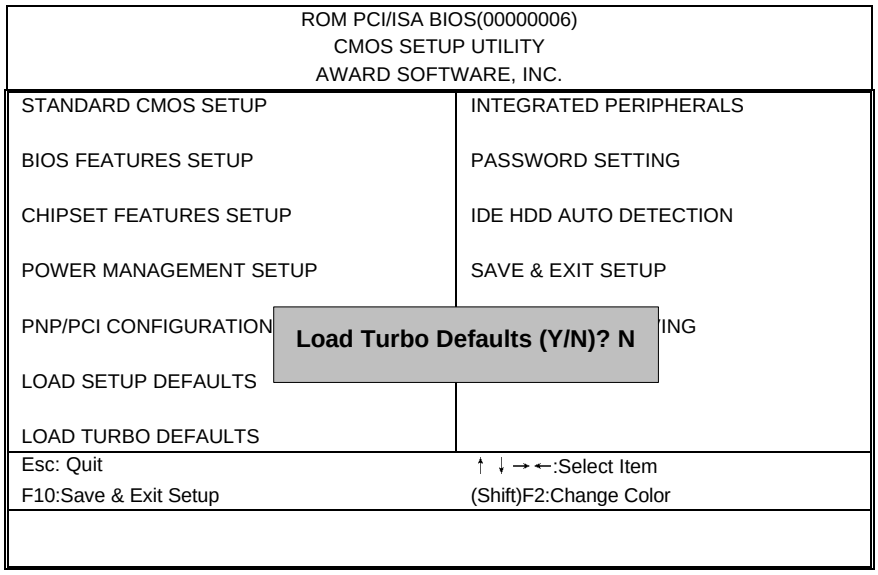
3.7 Load Setup Defaults



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 Turbo Defaults



This option provides better performance than optimal setup values. Load the turbo 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 Integrated Peripherals

ROM PCI/ISA BIOS(00000009)
INTEGRATED PERIPHERALS
AWARD SOFTWARE, INC.

IDE HDD Block Mode	: Enabled	Onboard Serial1 Port 2	: Auto
IDE Primary Master PIO	: Auto	Onboard UART 2 Mode	: Standard
IDE Primary Slave PIO	: Auto		
IDE Secondary Master PIO	: Auto	Onboard Parallel Port	: 378/IRQ7
IDE Secondary Slave PIO	: Auto	Parallel Port Mode	:SPP
IDE Primary Master UDMA	: Auto		
IDE Primary Slave UDMA	: Auto		
IDE Secondary Master UDMA	: Auto		
IDE Secondary Slave UDMA	: Auto		
On-Chip Primary PCI IDE	: Enabled		
On-Chip Secondary PCI IDE	: Enabled		
USB Legacy Support	: Disabled		
USB IRQ Released	: No		
Flash/Upgrade BIOS	: Enabled		
Onboard Sound Chip	: Enabled		
		ESC: Quit	↑ ↓ → ←:Select Item
KB Power ON (Ctrl-F1)	: Disabled	F1: Help	PU/PD/+/-: Modify
PS2 Mouse Power ON	: Disabled	F5: Old Values	(Shift) F2:Color
Onboard FDC Controller	: Enabled	F6: Load Setup Defaults	
Onboard Serial1 Port 1	: Auto	F7: Load Turbo Defaults	

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

- **IDE HDD Block Mode**

IDE HDD Block Mode:
- Enabled
- Disabled

This BIOS supports the enhanced IDE specification and allow multiple sectors access in a time when read/write. If set this item to disabled, IDE runs in single sector access.

Default: Enabled

- **IDE Primary Master PIO**
- **IDE Primary Slave PIO**
- **IDE Secondary Master PIO**
- **IDE Secondary Slave PIO**

IDE Primary/Secondary Master/Secondary PIO:
- Auto
- Mode 1
- Mode 2
- Mode 3
- Mode 4

Set these items to Auto to auto-detect the HDD speed. The PIO mode specifies the data transfer rate of HDD.

IDE HDD Mode	Transfer Rate
Mode 0	3.3MB/s
Mode 1	5.2MB/s
Mode 2	8.3MB/s
Mode 3	11.1MB/s
Mode 4	16.6MB/s.

Set to slower mode if your hard disk performance becomes unstable.

Default: Auto

- **IDE Primary Master UDMA**
- **IDE Primary Slave UDMA**
- **IDE Secondary Master UDMA**
- **IDE Secondary Slave UDMA**

IDE Primary/Secondary Master/Slave UDMA:
- Auto
- Disabled

These items allows you to set the Ultra DMA/33 mode supported by the IDE hard disk drive installed in your system.

Default: Auto

➢ On-Chip Primary PCI IDE
➢ On-Chip Secondary PCI IDE

On-Chip Primary/Secondary PCI IDE:
- Enabled
- Disabled

To enable or disable the IDE device connected to the Primary/Secondary IDE connector.

Default: Enabled

➢ USB Legacy Support

USB Legacy Support:
- Enabled
- Disabled

This BIOS simulates USB keyboard in legacy mode, which means during POST or under operating system, you can use a USB keyboard without loading USB driver. Note you can not use both USB driver and USB legacy keyboard at the same time. Set disabled if you have USB driver in the operating system.

Default: Disabled

➢ USB IRQ Released

USB IRQ Released:
- Yes
- No

This item allows you to release USB controller IRQ if you do not have any USB device or your system IRQ are not enough for add-on cards allocation.

Default: No

➢ Flash/Upgrade BIOS

Flash/Upgrade BIOS:
- Enabled
- Disabled

This item allows you to protect your mainboard BIOS being flashed/upgraded by MAXFLASH.EXE flash utility if you set this item disabled.

You can specify the BIOS password to avoid that someone can change your setting.

Default: Enabled

➢ Onboard Sound Chip

Onboard Sound Chip:
- Enabled
- Disabled

This item allows you to enabled or disabled the OPTi sound chip function on the mainboard.

Default: Enabled

➢ KB Power ON (Ctrl-F1)

KB Power ON:
- Enabled
- Disabled

This item allows you to enable or disable the keyboard power on function.

Press “Ctrl-F1” to power on system after setting this item to enabled.

Default: Disabled

➢ PS2 Mouse Power ON

PS2 Mouse Power ON:
- Enabled
- Disabled

This item allows you to enable or disable the mouse power on function.

Double click on the system PS2 mouse button to power on system after setting this item to enabled.

Default: Enabled

➢ Onboard FDC Controller

Onboard FDC Controller:
- Enabled
- Disabled

To enable or disable the onboard floppy disk controller. Set to disabled if you want to use a separate floppy disk controller card.

Default: Enabled

➢ Onboard Serial Port 1
➢ Onboard Serial Port 2

Onboard Serial Port 1 & 2:
- Auto
- 3F8/IRQ4
- 2F8/IRQ3
- 3E8/IRQ4
- 2E8/IRQ3
- Disabled

This item allows you to select the I/O port and IRQ used by the onboard serial ports.

Default: Onboard Serial Port 1=> Auto

Onboard Serial Port 2=> Auto

➢ Onboard UART Mode

Onboard UART Mode:
- Standard
- IrDA
- ASKIR

This item is selectable only when the onboard serial port 2 is enabled. The available mode selections for the serial port 2 are Standard, IrDA, and ASKIR.

Standard: Configures serial port as normal mode.

IrDA: Set to this setting if there is an infrared device connected on the onboard IrDA connector. The maximum baud rate of this setting is: 115K baud.

ASKIR: Set to this setting if there is an infrared device connected on the onboard IrDA connector. The maximum baud rate of this setting is: 19.2K baud.

Default: Standard

➢ Onboard Parallel Port

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

This item controls the onboard parallel port address and interrupt.

Default: 378/IRQ7

➢ Parallel Port Mode

Parallel Port Mode:
- SPP
- EPP
- ECP
- ECP + EPP

This item allows you to set the parallel port mode.

1. **SPP (Standard Parallel Port):** IBM AT and PS/2 compatible mode
2. **EPP (Enhanced Parallel Port):** To enhances the parallel port by directly write/read data to/from parallel port without latch.
3. **ECP (Extended Parallel Port):** ECP supports DMA and RLE (Run Length Encoded) compression and decompression.

Default: SPP

➢ ECP Mode Use DMA

ECP Mode Use DMA:
- 3
- 1

This item displayed when select the ECP mode above for the parallel port. You can set the DMA channel of ECP mode.

Default: 3

3-10 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 JP1 at Pin 2-3 for a few seconds to clear CMOS.

iii> Set the JP1 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.

3-11 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't 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.

3-12 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.

3-13 Exit without Saving

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

SECTION 4.
BIOS/SOFTWARE UTILITY

4-1 Flash Utility MAXFLASH.EXE

This section tells you a step-by-step procedure on how to use the flash utility, “maxflash.exe”, upgrade your mainboard BIOS.

To upgrade your motherboard BIOS, please follow the following:

1. For Win95 system, press F8 before Win95 boot-up and select “Safe mode command prompt only”.
   For Non-Win95 system, boot-up the system into DOS prompt with a bootable floppy disk.
   !!!DO NOT load any memory manager like EMM386.EXE, QEMM386.EXE under config.sys.!!!
2. Run **A: >maxflash biosfile.bin**
3. After loading the new BIOS code, the utility will prompt you to save original BIOS code into your HDD or floppy. Please press "Y" to store it as "BIOS.OLD".
4. After the old BIOS has been successfully saved, press "Y" to replace BIOS.
5. After the flashing process, reboot the system by turn off the power.
   !!! DO NOT TURN OFF THE POWER DURING THE FLASHING PROCESS. !!!
6. Press "DEL" key to enter BIOS setup during POST. Reload the "BIOS SETUP DEFAULT" and reconfigure other items as your previous setting
7. Then save and exit.

4-2 BIOS Flash/Upgrade Protection

This mainboard supports BIOS Flash/Upgrade protection which allows you protect your system BIOS being flashed by flash utility. We suggest you use this feature with Password Setting in BIOS to prevent your BIOS being flashed by flash utility.

To active the BIOS Flash/Upgrade protection, follow the steps below:

1. When the system boot up at POST (Power On Self- Test), press <Del> key to enter BIOS Setup Utility.
2. Set the “Flash/Upgrade BIOS” item in the “Integrated Peripherals” to Disabled.
3. Save the changes and exit Setup Utility.

4-3 Remove Question Marks “?” in Win95 Device Manager

Since some of Intel 440BX/LX/EX latest technologies, like “ACPI”, “USB” & “Ultra DMA/33”, are so new, Win95 did not support them on Aug. of 1995 which is the moment Win'95 formal released.

To solve this problem, please use the Win95 patch utility – Mpatch.exe.

After running the utility, you should select both “Chipset” & “USB controller” under “Choice” for full installation.

4-4 Install Bus Master IDE (Ultra DMA/33) Driver

The Bus Master IDE (Ultra DMA/33) driver is available in the bundled CD title. You may run IDE\setup.exe directly to install the driver.

After installation, you will see following devices under Win95 Device Manager:

--- Hard Disk Controllers

Intel 82371AB PCI Bus Master IDE Controller

Primary Bus Master IDE Controller

Secondary Bus Master IDE Controller

SECTION 5.
AUDIO DRIVER/UTILITY

The onboard OPTi 933 audio adapter has four sets of audio drivers for different operation system. All drivers can be found in the bundle CD title.

Drivers Overview:
- Microsoft Windows 95/ Windows 98
- Microsoft Windows NT 3.50/3.51/4.00
- Microsoft Windows 3.1
- OS/2 2.1 / 3.0

5-1 Windows95/98 Driver Installation

Driver files location:
Windows 95/98 audio driver for English version: \Audio\OPTI\933\win95

Procedure:

1. **Update Device Driver Wizard**
   When windows95/98 boot up, the "Update Device Driver Wizard" will appear. Please select "Next" to complete the Audio driver installation.

2. **Select Location**
   If Windows can not find the proper driver location, please select "Other Location …" for the right driver location.
   Type in the driver location: D: \Audio\OPTI\933\win95 (assuming your CD-ROM disc drive is in drive D), then select OK.

3. **Copy Files From**
   Windows 95 will then ask you confirm the driver location, please type in D: \Audio\OPTI\933\win95 (assuming your CD-ROM disc drive is in the drive D).

After Windows 95 has finished copying all necessary files, please select Yes to restart your computer.

After finishing the driver installation, the sound devices will be added under Win95 Device Manager.

5-2 Windows NT Driver Installation

Driver Files Location
Windows NT audio driver: \ Audio \ OPTI \ 933 \ WIN-NT

Procedure:
1.Click Start---Setting---Control Panel
2.Double Click Multimedia Icon
3.Click Device---Add
4.Select Unlisted or Updated Driver then click OK
5.Input Driver Path <CD-ROM Driver>: \ Audio \ OPTI\933\WIN_NT
6.Select OPTi 82c933 then click OK
7.Restart your system, Driver Installation Finished.

5-3 DOS/Windows 3.1 Driver Installation

Driver Files Location
Windows 3.1 audio driver: \ Audio \ OPTI \ 933 \ dos_w31
Procedure:
Run <CD-ROM Driver>: \ Audio \ OPTI \ 933 \ dos-w31 \ setup.exe

5-4 OS/2 Driver Installation

Driver Files Location
OS/2 audio driver: \ Audio \ OPTI \ 933 \ OS2
Procedure:
Run <CD-ROM Driver>: \ Audio \ OPTI \ 933 \ OS2 \ minstall.exe