

# 370LXB Motherboard

## User's Manual

Product Name : 370LXB

Manual Revision: English, 1.0

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## Chapter 1. Introduction

### 1.1 Product Overview

Thank you for purchasing the **370LXB** motherboard. This motherboard utilizes **Intel's** latest technology, namely **440LX AGPset** chipset. We have conducted a motherboard compatibility test with a variety of hardware and software, such as CPUs, memory, display cards, CD-ROMs, Novell, MS Office....etc and compliance with Year 2000.

We have set high standards on our quality control, with absolute confidence, we believe this product is the wisest choice.

This manual is composed of three sections. The first section is the introduction of this motherboard, and the second section explains the proper procedure to setup the motherboard, the third section provides information on how to setup the CMOS and the fourth section is the sound driver installation.

#### Features :

- Support Desktop Management Interface (DMI) through BIOS.
- Support Accelerated Graphics Port (AGP) cards for high performance.
- Modem Remote Ring On.
- Wake up on LAN.
- RTC Wake Up Alarm: Program the date/time to wake up your system.
- Support Advanced Configuration Power Interface (ACPI).
- BIOS Green feature function, and "Plug & Play" Flash ROM.
- ESS Solo-1 PCI Sound on board.

### 1.2 Specifications

- CPU :** - Supports Intel Socket 370 Processors 266 ~ 433 + MHz
- Chipset :** - Intel 440LX AGPset chipset
- DIMM :** - Supports 3.3V EDO or SDRAM in 3 168-pin banks, each bank consists of 1x168-pin 64-bit DIMM socket, which can support memory sizes of 8/16/32/64/128 MB modules
- Supports up to a maximum of 384 MB with SDRAM & 768 MB with EDO system memory
- IDE :** - Dual channel PIO and PCI Bus Master IDE ports support up to 4 EIDE devices for HDD or CD-ROM
- Supports PIO Mode 4 with data transfer rate up to 14 MB/Sec
- Supports Ultra DMA 33 (UDMA) with data transfer rate up to 33 MB/Sec
- BIOS :** - Award BIOS V4.51 with built-in Anti-Virus, DMI support, and green function (Plug-and-Play BIOS)
- Supports CD-ROM, SCSI, and LS120/ZIP boot up
- I/O Devices :** - One FDD control port supports two of the 5.25" or 3.5" floppy drives up to 2.88 MB
- Two high-speed 16550 UART compatible serial ports
- One parallel ports with ECP/ EPP compatibility
- One PS/2 mouse port
- One AT keyboard connector
- IR Port :** - One IrDA/ASKIR compatible Infrared interface port (Cable optional)
- USB Ports :** - Two Universal Serial Bus (USB) ports support up to 127 peripheral

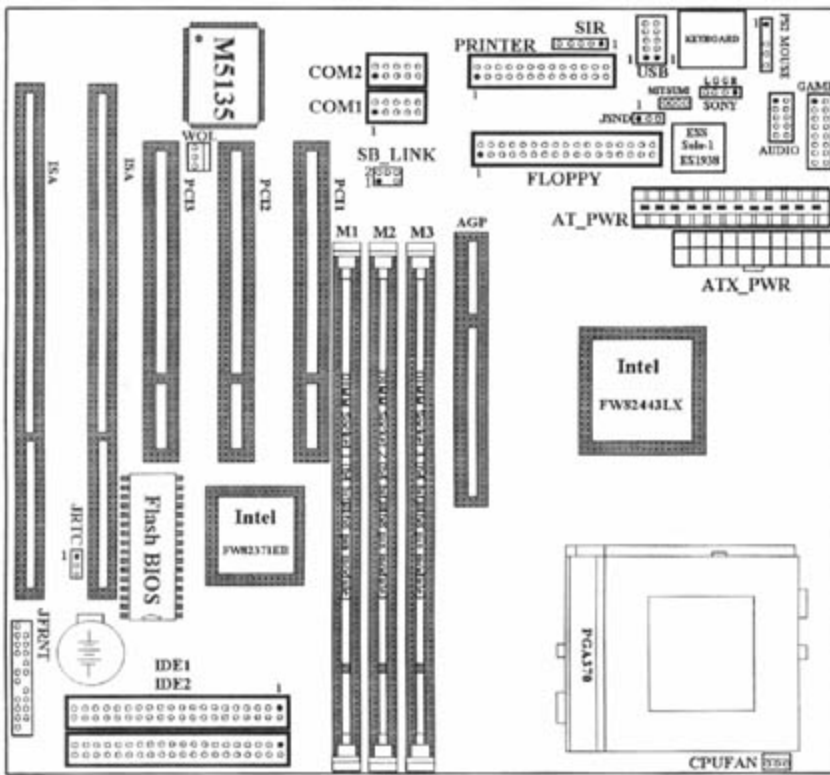
- devices
- ATX Power** :
  - Supports Modem remote Ring on function
  - Supports software power off function
  - Supports RTC Wake-Up
  - Supports Wake up on LAN
- Sound** :
  - ESS Solo-1 ES1938S PCI Sound Chip
  - Built-in 3D audio effects processor
  - Full native DOS games compatibility, via three technologies TDMA, DDMA & PC/PCI
  - High quality ESFM music synthesizer
  - Dynamic range (SNR) over 80db
  - Record, compress and playback voice, sound and music
  - Full-Duplex operation for simultaneous record and playback
  - Stereo inputs from line in, Auxiliary A (CD audio) and Auxiliary B and a mono input from microphone
  - MPU-401 interface for wavetable synthesizer and MIDI devices
  - Integrated dual game port
  - Support PC games and application for Sound Blaster and Sound Blaster pro
  - Support Microsoft Windows Sound System
  - Meet PC 97/98 and WHQL specifications
  - Sample record/playback rates up to 48KHz
- Others** :
  - Supports Creative's Sound Blaster 16 compatibility for real-mode DOS games.
- Expansion Slots** :
  - Three 32-bit PCI expansion slots
  - Two 16-bit ISA expansion slots
  - One 32-bit AGP expansion slot
- Operating System** :
  - Supports Windows 95/98, Windows NT, MS-DOS V. 6.22, OS/2, Novell, Unix, SCO UNIX.....
- Dimension** :
  - 305 mm x 180 mm ATX Form factor

### 1.3 Content

The **370LXB** motherboard box contains the following items:

- One 370LXB Motherboard
- One IDE Ribbon Cable
- One Floppy Ribbon Cable
- A Set of Serial Ribbon Cable
- A Parallel Port and A PS/2 Mouse Port
- One Audio and MIDI/Game Cable
- One Driver CD
- User's Manual

### 1.4 MotherBoard Layout



## Chapter 2. Hardware Setup

### 2.1 Installation Procedure

1. Jumper setting ( Sound & BIOS)
2. Installation of CPU
3. Installation of Memory
4. I/O Connections & Panel Connections

#### 2.1.1 Jumper Setting

In this manual , (1-2) represents the first and second pins of the jumper. (2-3) represents the second and third pins of the jumper.

- |                     |   |
|---------------------|---|
| Red Jumper Cap :    | Sets the Function of Sound<br>JSND      |
| Yellow Jumper Cap : | Sets the Function of Flash CMOS<br>JRTC |

#### WARNING:

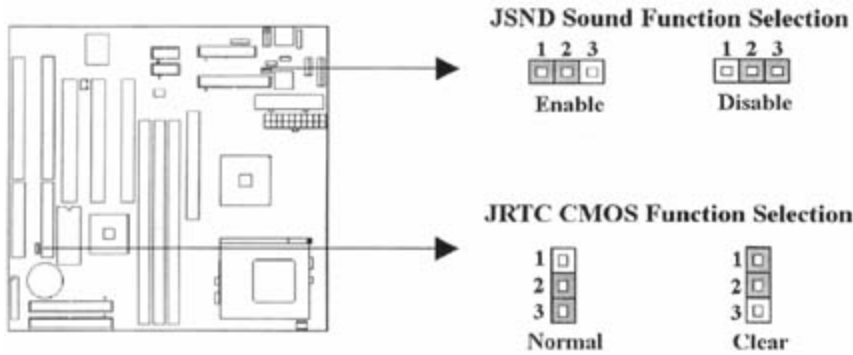
Electronic parts are Static sensitive. To prevent damage to the computer and its parts please take the following measures.

- Work on a surface such as concrete, linoleum or hard wood floor.
- Ground your self with either a properly installed grounding strap or by touching a major electrical appliance long enough to discharge the static.

#### 2.1.2 Enable/Disable Sound (JSND : Red Jumper Cap)

This jumper let you to enable or disable the sound function.

- 1-2 : Enable Sound function (Default Setting)
- 2-3 : Disable Sound function



### 2.1.3 Clearing the CMOS (JRTC : Yellow Jumper Cap)

JRTC: CMOS Function Selection

- 1-2 : Clear data
- 2-3 : Normal Operation (Default Setting)

How to Clear the CMOS Setting

1. Turn off the power.
2. Remove power cable from power connector .
3. Remove Yellow Jumper Cap from JRTC (2-3) and put on JRTC (1-2) to remove the CMOS setting.
4. Remove Yellow Jumper Cap from JRTC (1-2) and put on JRTC (2-3).
5. Connect power cable back to power connector .
6. Turn on the power.
7. While the system reboots, press <DEL> key to set the BIOS setup.

### 2.1.4 CPU Voltage Setting

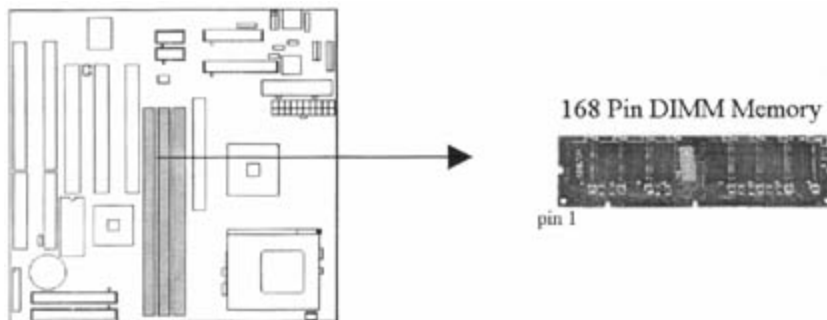
The motherboard supports Socket 370 CPU VID function, the CPU core voltage is automatically detected, the range is from 1.3V to 2.0V.

## 2.2 Installation of CPU

Before installing CPU, make sure the power is off. Locate the level bar on the PGA370 ZIF socket. Push level bar away from the socket and pull upward 90 degrees. Insert the CPU into the socket. Make sure the notch of the CPU corresponds with the white dot on the ZIF socket (the corner without pin socket). Do not push in the CPU. Make sure all pins are aligned with the CPU socket. ON the level bar.

## 2.3 Installation of Memory

370LXB motherboard has 3x168-pin 64-bit Dual Inline Memory Module (DIMM) sockets divided into 3 banks. You can install 3.3V Extended Data Output (EDO) or Unbuffered Synchronous DRAM (SDRAM) memory. This will increase the system reliability.

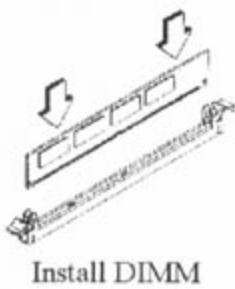


### 2.3.1 Installation of 168-pin DIMM (Dual Inline Memory Module)

1. Before inserting the DIMM, make sure the pin1 of the DIMM matches with the pin1 on the DIMM socket.
2. Insert DIMM into the DIMM sockets at a 90-degree angle and press down.

### 2.3.2 Removal of 168-pin DIMM

1. Press the holding clips on both sides of the socket outward to release the DIMM.
2. Gently pull the DIMM out of the socket.



### 2.3.3 Memory Configuration

There is no jumper setting required for the memory size or type. It is automatically detected by the system BIOS, and the total memory size is to add them together.

<i>DIMM Socket</i>	<i>DIMM Modules</i>
<b>DIMM1</b>	EDO/SDRAM 8, 16, 32, 64, 128MB
<b>DIMM2</b>	EDO/SDRAM 8, 16, 32, 64, 128MB
<b>DIMM3</b>	EDO/SDRAM 8, 16, 32, 64, 128MB

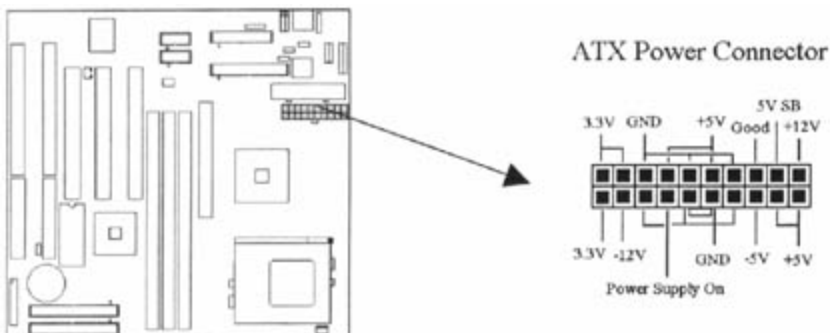
### 2.4 I/O Connections/Panel Connections

#### I/O Connections

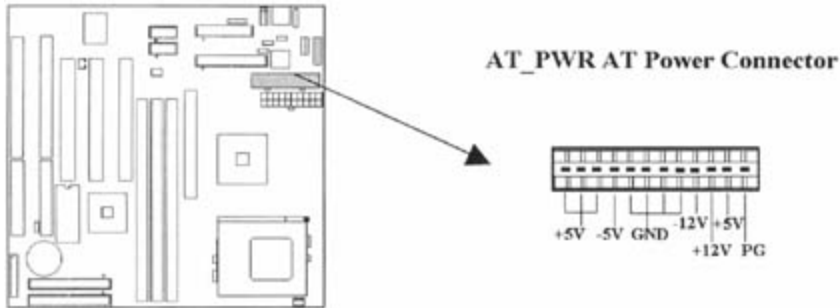
ATX_PWR	ATX Power Connector
AT_PWR	AT Power Connector
CPUFAN	CPU fan connector
SIR	IrDA Connector (Cable optional )
FLOPPY	Floppy Disk Drive Connector
IDE1, 2	Primary/ Secondary IDE Connectors
MOUSE	PS/2 Mouse Port
KEYBOARD	AT Keyboard Connector
COM1, 2	Serial Ports 1 & 2
PRINTER	Printer Port
USB1, 2	USB Connector
WOL	Wake up on LAN connector
SB_LINK	For link with Creative's Sound Blaster 16
GAME	Game/MIDI Connector
AUDIO	Line out/ Line in/ Microphone in Connector
MITSUMI	The Connector for Mitsumi CD-ROM audio cable
CD-AUDIO	The Connector for IDE/Sony CD-ROM audio cable

#### 2.4.1 ATX Power Connector (20-pin ATX\_PWR)

Make sure that the power supply is off before connecting or disconnecting the power cable.

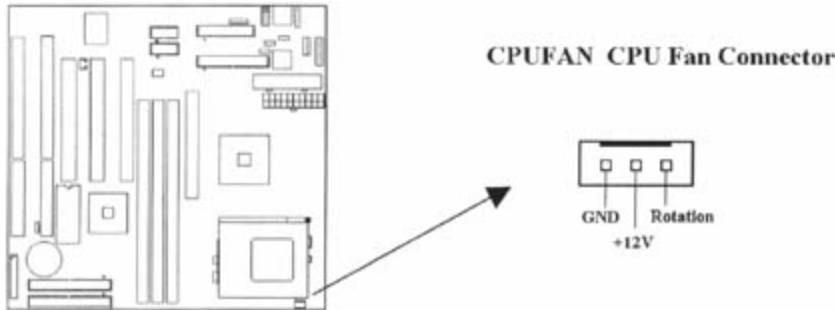


#### 2.4.2 AT Power Connector (12-pin AT\_PWR)



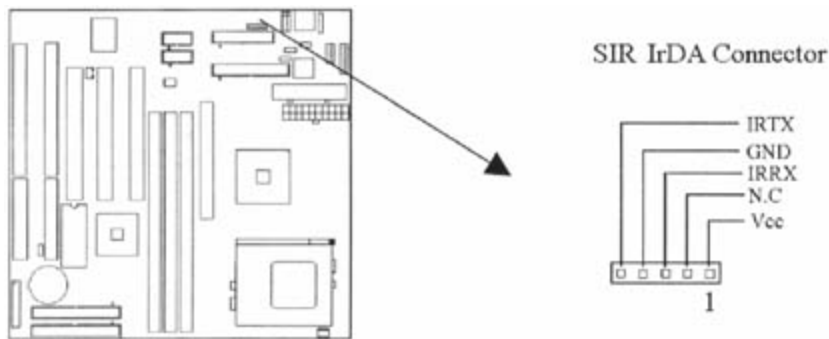
### 2.4.3 CPU Fan Connector (3-pin CPUFAN)

Connect the fan's plug to the board taking into consideration the polarity of the connector.



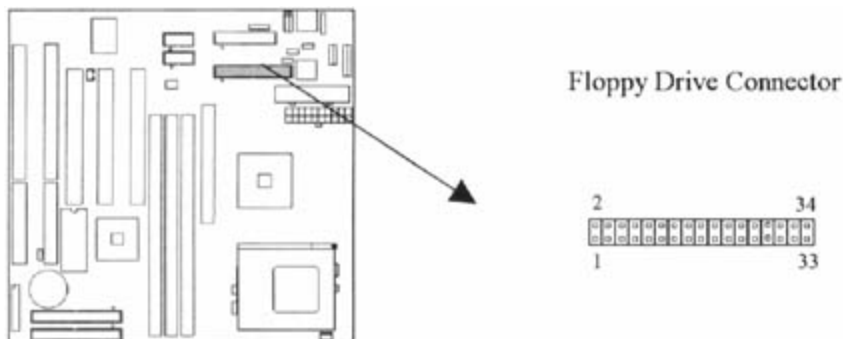
### 2.4.4 Infrared (IrDA) Connector (5-pin SIR)

This connector supports the optional wireless transmitting and receiving infrared module, with this module and application software such as Laplink or Win95 Direct Cable Connection, user can transfer files to or from their laptops, notebooks, PDA, PCs and printers. The connector supports IrDA (115.2Kbps, 2 meters) and ASK-IR (56Kbps). Install infrared module onto Infrared connector and configure the setting through 'UART Mode Select' in **Integrated Peripherals** to select whether UART is directed for use with COM2 or Infrared.



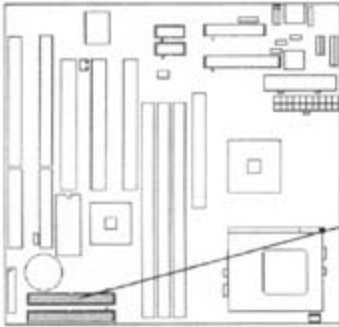
### 2.4.5 Floppy Disk Drive Connector (34-pin FLOPPY)

This connector supports the provided floppy disk drive ribbon cable. Orient the red stripe to pin 1



### 2.4.6 Primary/Secondary IDE Connector (Two 40-pin IDE)

These connectors support the provided IDE hard disk ribbon cable. Connect your first IDE hard disk to master mode of the primary channel. If you have second IDE device to install in your system, connect it as slave mode on the same channel, and the third and fourth device can be connected on secondary channel as master and slave mode respectively.



### IDE Connectors

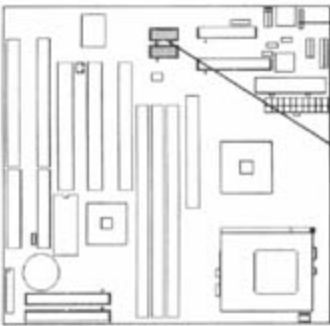
#### Primary IDE Connector



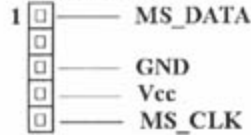
#### Secondary IDE Connector

### 2.4.7 PS/2 Mouse Port (5-pin MOUSE)

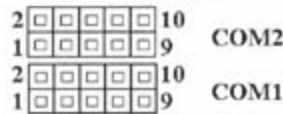
The system will direct IRQ12 to the PS/2 mouse.



### PS/2 Mouse Port



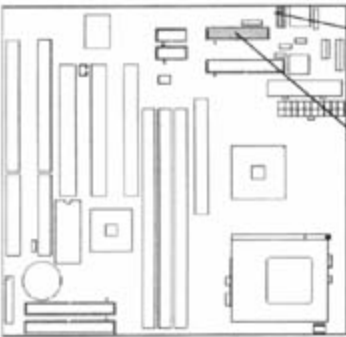
### Serial Ports 1 & 2



### 2.4.8 Serial Port (Two 10-pin COM)

### 2.4.9 Printer Port (26-pin PRINTER)

You can enable the parallel port and choose the IRQ through the “Onboard Parallel Port” setting in Integrated Peripherals of the COMS SETUP UTILITY.



### USB Port Connector



### Printer Port Connector



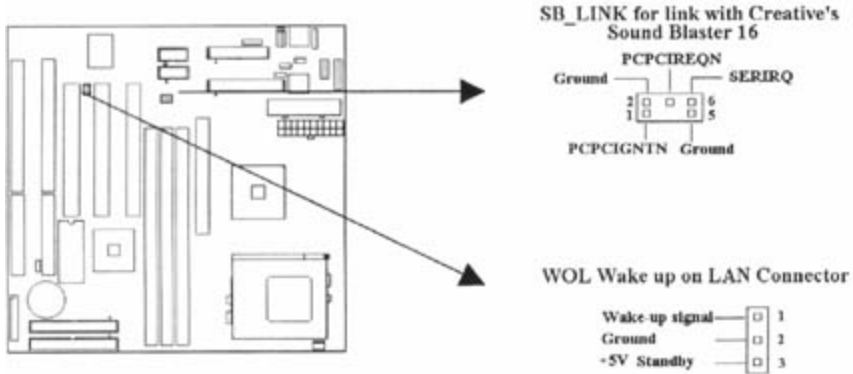
### 2.4.10 USB Connectors (Two 5-pin USB)

You can attach USB devices to the USB connector.

### 2.4.11 Wake-up on LAN Connector (3-pin WOL)

The connector powers up the system when a wakeup packet or signal is received from the network . This feature requires the **Wake up on LAN** function in BIOS is set to Enabled and that your system has an ATX power supply with at least 720mA +5V standby power.



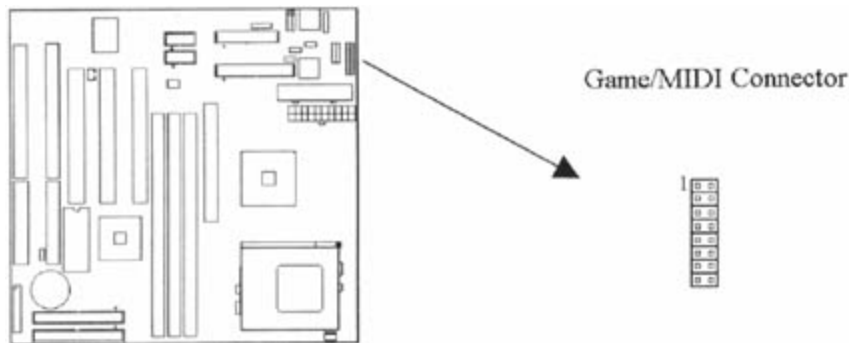


#### 2.4.12 Creative's SB\_LINK Sound Connector (6-pin SB\_LINK)

The SB\_LINK serves as a bridge between the mainboard and Creative's PCI sound card. This connector delivers Sound Blaster 16 compatibility for real-mode DOS games.

#### 2.4.13 Game/MIDI Connector (16-pin GAME)

The Game/MIDI Port connector is used to attach a joystick for game interaction or to attach an external MIDI device for playback, mixing, or recording.

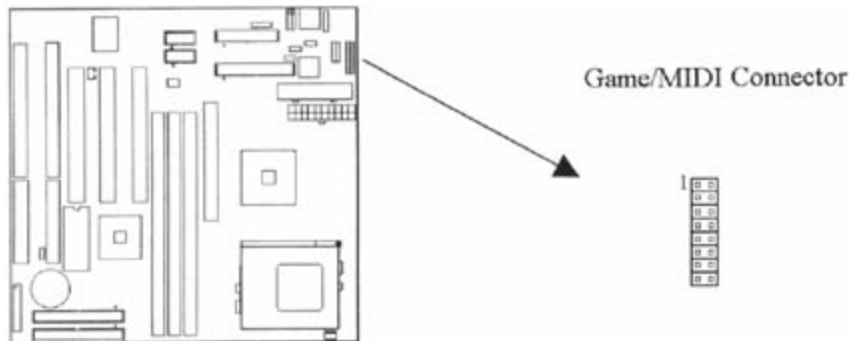


#### 2.4.14 Line out/ Line in/ Microphone in Connector (10-pin AUDIO)

The Line Out phonejack provides the audio outputs for the left and right stereo channels.

The Line In phonejack is used to attach monaural or stereo devices such as a cassette, Digital Audio Tape, or Minidisc players for playback, mixing, or recording.

The Microphone In phonejack is used to attach a monaural microphone for live audio input for playback, mixing, or recording.



#### 2.4.15 Mitsumi CD-ROM Audio (4-pin MITSUMI)

The Mitsumi CD-ROM Audio connector is used to connect the audio cable from a Mitsumi CD-ROM drive for playback, mixing, or recording. Only one of the two CD-ROM audio connectors may be used at a time.



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

### 3.2 Standard CMOS Setup

With the sub-menu (**Figure 3-2**), you can setup the; system date, system time, hard and floppy drive type, and display adapter type. Please refer to your equipment specification when changing the setup. Use arrow keys to highlight items, and use <PageUp>, <PageDown>, <+>, or <-> keys to scroll through the available options.

**Figure 3-2.** Standard CMOS Setup Screen

ROM PCI/ISA BIOS (XXXXXXXX)  
STANDARD CMOS SETUP  
AWARD SOFTWARE, INC.

Date (mm:dd:yy) : Tue, May 19 1998	
Time(hh:mm:ss) : 17 : 52 : 00	
<b>HARD DISKS</b>	<b>TYPE SIZE CYLS HEAD PRECOMP LANDZ SECTOR MODE</b>
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 : 640K Extended Memory : 31744K Other Memory : 384K <hr/> Total Memory : 32768K	
ESC : Quit F1 : Help	↑ ↓ → ← : Select Item (Shift) F2 : Change Color PU / PD / + / - : Modify

#### 3.2.1 Date

To assign the system date, the format is "mm.dd.yy". The input range for the Month is 1-12. Range for Date is 1-31. Range for Year is 1994-2079. System BIOS will calculate the day of the week automatically.

#### 3.2.2 Time

To assign the system time, the format is "hh:mm:ss". The setting is in military time. When entering 2:34pm enter "14:34:00".

#### 3.2.3 Hard Disks Setting

The BIOS supports Dual-Channel PIO and PCI Bus Master IDE ports. Each port supports one master and one slave hard drive. You can use <PageUp> or <PageDown> key to change hard drive type. Incorrect setting may result in boot up error or system hang.

If your hard disk drive is not listed, you can select Type "USER" to define your own drive manually. We recommend that you select Type "AUTO" for all drives. The BIOS will auto-detect the hard disk drive and CD-ROM drive at the POST stage.

If your hard disk drive is a SCSI device, please select "None" for your hard drive setting.

#### 3.2.4 Floppy Drives A&B Setting

Select your floppy disk drive type. Options are 360KB (5.25") , 720KB (3.5") , 1.2MB (5.25") , 1.44MB (3.5") , 2.88MB (3.5") .

#### 3.2.5 Video Display Adapter Setting

Select the display adapter type for your system. Options are EGA/VGA, MONO, CGA40 and CGA80.

#### 3.2.6 Halt On

This function allows the system to halt when an error is detected during Power-On Self-Test.

### 3.3 BIOS Features Setup

The sub-menu (**Figure 3-3**) includes all AWARD enhanced functions. The correct setting can enhance boot up efficiency. You can assign system speed, setup sequence, typematic and system password setting. You can enter <F1> key for help on highlighted topics. If you want to restore values before the changes you just made, press <F5> key. If you want to restore default value, press <F6> or <F7> key.

**Figure 3-3. BIOS FEATURES SETUP SCREEN**

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

Virus Warning	: Disabled	Video BIOS Shadow	: Enabled
CPU Internal Cache	: 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	: C, A, 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		
Gate A20 Option	: Fast		
Memory Parity Check	: Disabled		
Typematic Rate Setting	: Disabled		
Typematic Rate (Chars/Sec)	: 6		
Typematic Delay (Msec)	: 250	ESC : Quit	↑ ↓ → ← : Select Item
Security Option	: Setup	F1 : Help	PU/PD +/- : Modify
PCI/VGA Palette Snoop	: Disabled	F5 : Old Values (Shift) F2 : Color	
OS Select For DRAM>64MB	: Non-OS2	F6 : Load BIOS Defaults	
Report No FDD For WIN 95	: Yes	F7 : Load Setup Defaults	

#### 3.3.1 Virus Warning

When enabled, the BIOS will monitor the boot sector and the partition table on the hard drive for any attempt to modify. If an attempt is detected, the BIOS will halt the system and prompt the warning message. Select "Disabled" if you are installing a new operating system.

#### 3.3.2 CPU Internal/External Cache

These options are to enable or disable CPU Internal (L1) Cache, or External (L2) Cache.

#### 3.3.3 CPU L2 Cache ECC Checking

Select "Enabled" to enable CPU L2 Cache ECC Checking.  
Select "Disabled" to disable CPU L2 Cache ECC Checking.

#### 3.3.4 Quick Power On Self Test

Select "Enabled" to speed up time required to complete Power-On Self-Test.

#### 3.3.5 Boot Sequence

This option allows user to assign boot sequence of the system. Available options are A, C, D, E, F, CD-ROM, SCSI and LS120/ZIP.

#### 3.3.6 Swap Floppy Drive

When enabled, physical drive A will be assigned to logical drive B, and physical drive B will be assigned to logical drive A.

#### 3.3.7 Boot Up Floppy Seek

The system will detect and verify operation of the floppy drive type .

#### 3.3.8 Boot Up Numlock Status

The option allows the <NumLock> key to be activated after system boot up.

#### 3.3.9 Boot Up System Speed

This option selects system boot up speed.

#### 3.3.10 Typematic Rate Setting

Select "Enabled" to configure "Typematic Rate" and "Typematic Delay" functions.

#### 3.3.11 Typematic Rate

Use this option to set the rate at which a character keeps repeating while you hold down a key.

### 3.3.12 Typematic Delay

Select "Enabled" to set the length of delay before key strokes to repeat. Available options are "250", "500", "750", and "1000".

### 3.3.13 Security Option

You can select whether the password is required every time the system boots or only when you enter the Setup. You can assign "Supervisor Password" and "User Password" in the main CMOS Setup Utility Screen.

### 3.3.14 PCI/VGA Palette Snoop

Enable this option to correct screen color shifts, when there is a combination of VGA cards, accelerator cards, or MPEG cards present.

### 3.3.15 OS Select for DRAM > 64MB

If you are using OS/2 operating system and installed memory is larger than 64MB. You need to have the setting in the enable mode.

### 3.3.16 Video BIOS Shadow

Video shadow copies BIOS code from slower ROM to faster RAM. BIOS can then execute from RAM.

### 3.3.17 C8000-CBFFF /DC000-DFFFF Shadow

Optional firmware will be copied from ROM to RAM. When this option is enabled.

## 3.4 Chipset Features Setup

These settings are intended for the Chipset function on the motherboard. Fine tuning these options, enhances the performance of the system.

**Figure 3.4** CHIPSET FEATURES SETUP SCREEN

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

Auto Configuration	: Enabled	SDRAM CAS latency Time	: 3
DRAM Speed Selection	: 60ns	CPU Host Clock	: 66 MHz
MA Wait State	: Fast		
EDO RAS# To CAS# Delay	: 3		
EDO RAS# Precharge Time	: 3		
EDO DRAM Read Burst	: x333		
EDO DRAM Write Burst	: x222		
CPU-TO-PCI IDE Posting	: Disabled		
System BIOS Cacheable	: Enabled		
Video BIOS Cacheable	: Enabled		
Video RAM Cacheable	: Enabled		
8 Bit I/O Recovery Time	: 1		
16 Bit I/O Recovery Time	: 1		
Memory Hole At 15M-16M	: Disabled		
Passive Release	: Enabled		
Delayed Transaction	: Disabled		
AGP Aperture Size (MB)	: 64		
SDRAM RAS-to-CAS Delay	: Slow		
SDRAM RAS Precharge Time	: Slow		
		ESC : Quit	↑ ↓ → ← : Select Item
		F1 : Help	PU/PD/+/- : Modify
		F5 : Old Values	(Shift) F2 : Color
		F6 : Load BIOS Defaults	
		F7 : Load Setup Defaults	

### 3.4.1 Auto Configuration

The optimum value for the chipset and CPU will be automatically loaded when enabled.

### 3.4.2 DRAM Speed Selection

This option must match the memory speed. If the installed memory is 60ns type, you should set it to "60".

### 3.4.3 EDO RAS# To CAS# Delay

These are timing of EDO CAS Latency and RAS to CAS Delay, calculated by clocks. They are important parameters affects EDO performance.

### 3.4.4 EDO RAS# Precharge Time

The RAS Recharge means the timing to inactive RAS and the timing for DRAM to do Recharge before next RAS can be issued.

### 3.4.5 System BIOS Cacheable

Allows the system BIOS to be cached for faster system performance.

### 3.4.6 Video BIOS Cacheable

Allows the video BIOS to be cached for faster video performance.

### 3.4.7 Video RAM Cacheable

This item lets you cache Video RAM A000 and B000.

### 3.4.8 8 Bit I/O Recovery Time

This option specifies the length of a delay inserted between consecutive 8-bit I/O operations.

### 3.4.9 16 Bit I/O Recovery Time

This option specifies the length of a delay inserted between consecutive 16-bit I/O operations.

### 3.4.10 Memory Hole At 15M-16M

Enabling this feature reserves 15MB to 16MB memory address space to ISA expansion cards that specifically require this setting. This makes the memory from 15MB and up unavailable to the system. Expansion cards can only access memory up to 16MB.

### 3.4.11 Passive Release

This function is used to meet the latency of the ISA bus master. Try to enable or disable it, if you have ISA card compatibility problem.

### 3.4.12 Delayed Transaction

This function is used to meet the latency of PCI cycles to from ISA bus. Try to enable or disable it, if you have ISA card compatibility problem.

### 3.4.13 AGP Aperture Size (MB)

Choose 4, 8, 16, 32, 64, 128, 256MB. Memory-mapped, graphics data structures can reside in the Graphics Aperture.

### 3.4.14 SDRAM RAS-to-CAS Delay

These are timing of SDRAM CAS Latency and RAS to CAS Delay, Calculated by clocks. They are important parameters affects SDRAM Performance.

### 3.4.15 SDRAM RAS Precharge Time

The RAS precharge means the timing to inactive RAS and the timing for DRAM to do precharge before next RAS can be issued.

### 3.4.16 CPU Host Clock

Default is 66 MHz. Choose 66, 75, 83MHz for the external frequency of your CPU.

The 75, 83MHz frequency setting are optional.

The frequency mapping table of the elements:

Ext. frequency	AGP	PCI	ISA	DIMM
66MHz	66MHz	33MHz	8.33MHz	66MHz
75MHz	75MHz	37.5MHz	8.33MHz	75MHz
83MHz	83MHz	41.6MHz	8.33MHz	83MHz

**Notice:**The 75, 83 frequency setting are over specification.

**Warning:** Over specification operations are not recommended.

## 3.5 Power Management Setup

Power management decreases power usage under the pre-defined standby time range.

**Figure 3-5.** POWER MANAGEMENT SETUP SCREEN

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

ACPI function	: Disabled	<b>** Reload Global Timer Events **</b>
Power Management	: User Defined	IRQ[3-7, 9-15], NMI : Disabled
PM Control by APM	: Yes	Primary IDE 0 : Disabled
Video Off Method	: V/H SYNC+Blank	Primary IDE 1 : Disabled
Video Off After	: Standby	Secondary IDE 0 : Disabled
MODEM Use IRQ	: 3	Secondary IDE 1 : Disabled
Doze Mode	: Disabled	Floppy Disk : Disabled
Standby Mode	: Disabled	Serial Port : Enabled
Suspend Mode	: Disabled	Parallel Port : Disabled
HDD Power Down	: Disabled	
Throttle Duty Cycle	: 62.5%	
VGA Active Monitor	: Enabled	
Soft-off by PWR-BTTN	: Instant-off	
Resume by Ring	: Disabled	ESC : Quit      ↑ ↓ → ← : Select Item
Resume by Alarm	: Disabled	F1 : Help      PU/PD/+/- : Modify
		F5 : Old Values      (Shift) F2 : Color
Wake up on LAN	: Disabled	F6 : Load BIOS Defaults
IRQ 8 Break Suspend	: Disabled	F7 : Load Setup Defaults

### 3.5.1 ACPI Function

This item allows you to enable or disable the function of Advanced Configuration and Power Interface which offers improved power management .

### 3.5.2 Power Management

Min Saving	System starts power saving function when the inactivity period exceeds 1 hour.
Max Saving	System starts power saving function when the inactivity period exceeds 1 min.
User Defined	Allows user to define the inactivity period before power saving function activates,

### 3.5.3 PM Control by APM

Select "Yes" if your system has Advanced Power Management (APM) .

### 3.5.4 Video Off Method

This field defines the video off features. The following options are available: DPMS OFF, DPMS Reduce ON, Blank Screen, V/H SYNC+Blank, DPMS Standby, and DPMS Suspend. The DPMS (Display Power Management System) features allow the BIOS to control the video display card if it supports the DPMS feature.

### 3.5.5 Video Off After

This option allows your monitor to blank after your system went into Doze, Standby or Suspend mode. You can elect to not blank screen by select "N/A". Default value is "Standby".

### 3.5.6 Doze Mode

When system is inactive after the predefined time limit, system performance will drop down. This is the first level of Power Management.

### 3.5.7 Standby Mode

System turns off the video signal and the fixed drives. This is the second level of Power Management.

### 3.5.8 Suspend Mode

System further shuts down all devices except for CPU itself. This is the third level of Power Management.

### 3.5.9 HDD Power Down

This instructs hard drives to shut off while in the Power Management modes.

### 3.5.10 VGA Active Monitor

To enable or disable the detection of VGA activity for power down state transition.

### 3.5.11 Soft-off by PWR-BTTN ( for ATX power supply )

When set to "Delay 4 Sec.", the ATX switch can be used as a normal system power-off button when pressed for less than 4 seconds. "Instant" disables the ATX switch function when the button is pressed under 4 seconds.

### 3.5.12 Resume by Ring ( for ATX power supply )

This option lets you specify enable or disable external Modem Wake Up function. The function of power on through modem when system is off.

To select "Enabled" : To let the system to enter the environment of DOS or Windows 95/98 OS before system is power off. As long as there are any message through the Modem to enter the System during system is power off. The system will enable power on function.

### 3.5.13 Resume by Alarm ( for ATX power supply )

Set this option to enable or disable the RTC Alarm to Wake Up the system which is set at soft Off.

### 3.5.14 Wake up on LAN ( for ATX power supply )

This allows you to remotely power up your system through your network by sending a wake-up frame or signal. With this feature, you can remotely upload/download data to/from systems during off-peak hours. Set to Enabled to set this feature.

### 3.5.15 Date (of Month) Alarm, Time (hh:mm:ss) Alarm

Set these options to specify the RTC Alarm time on Date / Hour / Minute / Second.

### 3.5.16 IRQ 8 Break Suspend

To enable or disable the detection of IRQ 8 (RTC) event for power down state transition.

### 3.5.17 IRQ[3-7, 9-15], NMI

To enable or disable the detection of IRQ 3-7, IRQ 9-15 or NMI interrupt events for power down state transition.

### 3.5.18 Primary/Secondary IDE 0/1, Floppy Disk, Serial & Parallel Port

These items enable or disable the detection of IDE, floppy, serial and parallel port activities for power down state transition. Actually it detects the read/write to/from I/O port.

## 3.6 PNP/PCI Configuration Setup

**Figure 3.6 PNP/PCI CONFIGURATION SETUP**

ROM PCI / ISA BIOS (XXXXXXXX)  
PNP/PCI CONFIGURATION  
AWARD SOFTWARE, INC.

PNP OS Installed	: No	PCI IDE IRQ Map To	: PCI-AUTO
Resources Controlled By	: Manual	Primary IDE INT#	: A
Reset Configuration Data	: Disabled	Secondary IDE INT#	: B
IRQ-3 assigned to	: PCI/ISA PnP	Used MEM base addr	: N/A
IRQ-4 assigned to	: PCI/ISA PnP	Used MEM Length	: 8K
IRQ-5 assigned to	: PCI/ISA PnP	Assign IRQ For USB	: Enabled
IRQ-7 assigned to	: PCI/ISA PnP		
IRQ-9 assigned to	: PCI/ISA PnP		
IRQ-10 assigned to	: PCI/ISA PnP		
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 BIOS Defaults	
DMA-7 assigned to	: PCI/ISA PnP	F7 : Load Setup Defaults	

#### 3.6.1 PNP OS Installed

This field allows you to use a Plug-and-Play (PnP) operating system.

Please set it as " No " if the operating system has no PnP function or to avoid reassigning the IRQs by the operating system.

#### 3.6.2 Resources Controlled By

Default setting is "Auto". This setting allows the BIOS to self detect setting and Plug-and-Play devices during start up. The user can select and configure IRQs under "Manual" mode.



### 3.6.3 Reset Configuration Data

In case a conflict occurs after you assign the IRQs or after you configure your system, you can enable this function to allow your system to automatically reset your configuration and reassign the IRQs, DMAs, and I/O address.

### 3.6.4 IRQ-xx assigned to

If your ISA card is not PnP compatible and requires a special IRQ to support its function, set the selected IRQ-x assigned to :“Legacy ISA”. This setting informs the PnP BIOS to reserve the selected IRQ for the installed legacy ISA card.

### 3.6.5 DMA-x assigned to

If your ISA card is not PnP compatible and requires a special DMA channel to support its function, set the selected DMA channel to “Legacy ISA”. This setting informs the PnP BIOS to reserve the selected DMA channel for the installed legacy ISA card.

### 3.6.6 PCI IDE IRQ Map To

Some old PCI IDE add-on cards are not fully PnP compatible. These cards require you to specify the slot in use to allow the BIOS to properly configure the PnP resources.

### 3.6.7 Primary/Secondary IDE INT#

These two items, in conjunction with item “PCI IDE IRQ Map To”, specify the IRQ routing of the primary or secondary channel of the PCI IDE add-on card.

### 3.6.8 Used MEM base addr

This item, in conjunction with the “Used MEM Length”, lets you set a memory space for non-PnP compatible ISA card.

### 3.6.9 Assign IRQ For USB

Default is Enabled. You can disable this item when you do not attach any USB devices on board and need extra IRQ for other device. The yellow exclamation mark will be shown in System/Device Manager under Windows 95/98 if you disable this item. This is a normal status.

You can control Input and Output functions from this screen.

**Figure 3-7 Integrated Peripherals**  
ROM PCI / ISA BIOS (XXXXXXXX)  
INTEGRATED PERIPHERALS  
AWARD SOFTWARE, INC.

IDE HDD Block Mode	: Enabled	Parallel Port Mode	: ECPEPP1.9
IDE Primary Master PIO	: Auto	ECP Mode Use DMA	: 3
IDE Primary Slave PIO	: Auto		
IDE Secondary Master PIO	: Auto		
IDE Secondary Slave PIO	: Auto		
IDE Primary Master UDMA	: Auto		
IDE Primary Slave UDMA	: Auto		
IDE Secondary Master UDMA	: Auto		
IDE Secondary Slave UDMA	: Auto		
On-Chip Primary PCI IDE	: Enabled	ESC : Quit	↑ ↓ → ← : Select Item
On-Chip Secondary PCI IDE	: Enabled	F1 : Help	PU/PD/+- : Modify
USB Keyboard Support	: Disabled	F5 : Old Values (Shift) F2 : Color	
Init Display First	: AGP	F6 : Load BIOS Defaults	
KBC clock source	: 8 MHz	F7 : Load Setup Defaults	
Onboard FDC Controller	: Enabled		
Onboard UART Port 1	: 3F8/IRQ4		
Onboard UART Port 2	: 2F8/IRQ3		
UART2 Mode	: Normal		
Onboard Parallel Port	: 378/IRQ7		

### 3.7.1 IDE HDD Block Mode

This feature enhances disk performance by allowing multi-sector data transfers and eliminates the interrupt handling time for each sector.

### 3.7.2 IDE Primary & Secondary Master/Slave PIO

These four PIO fields let you set a PIO mode (0-4) for each of four IDE devices. When under “Auto” mode, the system automatically set the best mode for each device

### 3.7.3 IDE Primary & Secondary Master/Slave UDMA

When set to “Auto” mode, the system will detect if the hard drive supports Ultra DMA mode.

### 3.7.4 On-Chip primary/Secondary PCI IDE

Select "Enabled" to activate each on-board IDE channel separately, Select "Disabled", if you install an add-on IDE Control card

### **3.7.5 USB Keyboard Support**

This item lets you enable or disable the USB keyboard driver within the onboard BIOS.

### **3.7.6 Init Display First**

**This item lets the system to detect AGP or PCI-Slot first when boot-up.**

### **3.7.7 Onboard FDC Controller**

Select "Enabled" to activate the on-board FDC

Select "Disabled" to activate an add-on FDC

### **3.7.8 Onboard UART Port 1 & 2**

Select an address and corresponding interrupt for the first/second serial port. The default value for the first serial port is "3F8/IRQ4" and the second serial port is "2F8/IRQ3".

### **3.7.9 UART2 Mode**

Select to activate the Infrared transfer function.

### **3.7.10 Onboard Parallel Port**

Select address and interrupt for the Parallel port.

### **3.7.11 Parallel Port Mode**

Select an operating mode for the parallel port. Mode options are SPP, EPP1.7, ECPEPP1.7, EPP1.9, ECP and ECPEPP1.9.

### **3.7.12 ECP Mode Use DMA**

Select a DMA channel if parallel port is set as "ECP" , "ECPEPP1.7" or " ECPEPP1.9 " .

## **3.8 Load BIOS Defaults**

This loads the standard BIOS default values. To select, highlight it and press the <Enter> key. Then press the <Y> and <Enter> keys to confirm. Otherwise, press the <N> key to cancel.

## **3.9 Load Setup Defaults**

This feature loads the setup default values from BIOS default table. To select, highlight it and press the <Enter> key. Then press the <Y> and <Enter> keys to confirm. Otherwise, press the <N> key to cancel.

## **3.10 Supervisor/User Password**

You can assign, modify, or cancel password settings. To modify, highlight "Supervisor Password" or "User Password" and press the <Enter> key. The screen will prompt you ( "Enter Password :") . Enter your password. The maximum size of the password is 8 characters. System will prompt you to reenter the password to verify. Remember the passwords are case sensitive.

If you want to remove the passwords, either delete passwords or press <Enter> when prompting for new password.

If you want it to require password upon initial system startup and upon entering the CMOS Setup Utility, you will need to change the selection of the (Security Option) under ( BIOS FEATURES SETUP ) to "System".

If the setting is "Setup", the system will only require the password you activate CMOS Setup Utility.

## **3.11 IDE HDD Auto Detection**

If your system has an IDE hard drive, you can use this function to detect its parameters and enter them into the "Standard CMOS Setup" automatically. This routine only detects one set of parameters. If your hard disk is formatted using different parameters than those detected, you have to enter the parameters manually. If the parameters listed do not match the ones used to format the disk, the information on that disk will not be accessible. If the auto-detected parameters displayed do not match those that are used for your drive, ignore them. Type N to reject the values and enter the correct ones manually from the Standard CMOS Setup screen.

## **3.12 Exit CMOS Setup Utility**

Press the <F10> key to save the setup and exit. Press <ESC> key to exit without saving. Either saving or not saving modifications, screen will prompt user to confirm, and system will reboot on exit.

## Chapter 4. Sound Driver Installation

### 4.1 Windows 95 Installation

1. Start up Windows 95 OSR2.1 or later version

[ If your Windows 95 is older version, please install the USB supplement service pack ( usbsupp.exe ) files first. You can get this file from Microsoft Inc. ( <http://www.microsoft.com> ). ]

2. Remove the " ?PCI Multimedia Audio Devices " item from Start \Settings \Control Panel \System \Device Manager \?Other devices.
3. Insert the CD Driver into the CD drive - enter the \370LXB\SOUND\WIN9X directory on the CD-ROM and double-click SETUP.EXE
4. Choose the " Upgrade Drivers " option then click " Next " button.
5. Follow the prompts to complete the installation.
6. Restart your system.
7. The New Hardware Found Wizard will detect " PCI Multimedia Audio Device ". Click the " Next " button and select " Other Locations..." button. Type in [D:\370LXB\SOUND\WIN9X](#) and click " OK " button. (Assume the CD ROM is Ddrive)
8. Windows found the following updated driver for this device:ESS SOLO-1 PCI AudioDrive. Click " Finish " button.
9. When the Insert Disk dialog is displayed, please insert the " Windows 95 CD-ROM " into the CD drive, then click " OK " button. Type in " D:\WIN95 ", then click " OK " button.
10. Follow the prompts to complete the installation.

### 4.2 Windows 98 Installation

1. Start up Windows 98.
2. Open " My Computer ", and select " Control Panel " icon.
3. Select " System " icon, and then select " Device Manager " page.
4. Please remove " ?PCI Multimedia Audio Device " from " ?Other devices " under device list with the " Remove " button.
5. Please double click on the Add New Hardware icon then click " Next " button, click " Next " one more times.
6. This Wizard searches for new drivers for " PCI Multimedia Audio Device ", you have to attempt to locate a driver provided by the manufacturer.
7. Please insert the CD Driver into the CD drive, then click " Next " button.
8. " What do you want Windows to do? ", Please click " search for the best driver for your device [Recommended] ", then click " Next " button.
9. Please click " Specify a location ", then type in "D:\370LXB\SOUND\WIN9X ", then click " Next " button. Click " Next " one more times.

Note: D: is the Drive where CD Driver has been inserted.

10. Click the " Finish " button.
11. When Insert Disk dialog is displayed, please insert the " Windows 98 CD- ROM " into the CD drive, then click " OK " button.
12. Windows found and installed Sound devices then click " Next " button.
13. Click " Finish " button.

### 4.3 Windows NT 4.0 Installation

1. Login Windows NT 4.0
2. Insert the CD Driver into the CD drive - enter the \370LXB\SOUND\NT40 directory on the CD-ROM and double-click SETUP.EXE
3. Follow the prompts to complete the installation.
4. Restart your system.

### 4.4 AudioRack32 Installation

1. You must have Windows 95 , 98 or NT installed prior to using the AudioRack32. After placing the CD Driver in a CD drive, click START on the taskbar and choose RUN from the popup menu.
2. In the Run dialog box, type the letter of the drive and " setup " ( for example , D:\370LXB\SOUND\RACK32\SETUP ), then click OK.
3. The first AudioRack32 Setup dialog box appears. Note the instructions, then Click " Next " to proceed or " CANCEL " to leave Setup.
4. Next the Choose Destination Location dialog box appears. Click " Next " to install the AudioRack32 in the default directory or " Browse " to choose a different directory. When you are done click " OK " or " Cancel " to return to the Choose Destination Location dialog box.
5. If the directory you designate doesn't exist, you will be asked to confirm your selection. Click " YES " to proceed or " NO " to go back and enter a new destination directory.

6. Once you have chosen the default directory or entered a directory of your own choosing, the Setup Program will install the AudioRack32.