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## EC Declaration of Conformity

We

**Iwill Corp.**

**No. 10, Wu Chuan 3rd Rd.,**

**Hsin Chuang City, Taipei,**

**Taiwan, R.O.C.**

**Declare under sole responsibility that the**

**LE370 motherboard**

**Meets the intent of Directive 89/336/ECC for Electromagnetic Compatibility. Compliance was demonstrated to the following specifications as listed in the official Journal of the European Communities:**

**EN 50081-1 Emissions:**

**EN 55022            Radiated, Class B**

**EN 55022            Conducted, Class B**

**EN 60555-2        Power Harmonics**

**EN 50082-1 Immunity:**

**IEC                    801-2   Electrostatic Discharge**

**IEC                    801-3   RF Radiate**

**IEC                    801-4   Fast Transient**

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## **About This Manual**

This manual will introduce to the user how this product is consisted. All useful information will be described in later chapters. Keep this manual for your future upgrade or system re-configuration.

### **Chapter 0 Overview**

The features and specifications of this motherboard

### **Chapter 1 Quick Installation**

The quick reference for experienced users

### **Chapter 2 Hardware Installation**

The detailed information on jumper setting, connection, and hardware installation

### **Chapter 3 System BIOS Setup**

The detail information of the system BIOS setup options

### **Chapter 4 Software and Tools**

The detail information for install software and tools.

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## **Warning**

Most of the features of this product have passed strict verification and are subject to change at any time without notice. If any malfunction occurs due to the future technical changes made by the respective component manufacturers, Iwill assumes no responsibility or liability for it.

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# Chapter 0

## Overview

Thank you for purchasing Iwill LE370 motherboard. This operation manual will instruct you how to configure and install the system properly. It contains an overview about the engineering design and features of this product. Also, this manual provides useful information for later on upgrade or configuration change. Keep this for your future need.

### YEAR 2000 issue

The IBM compatible PC utilizes a Motorola MC146818 compatible Real-Time Clock (RTC) chip to maintain the date and time. Unfortunately, the “century” is not manipulated by the RTC. It uses 8-bit of information to report the year and can only hold the last two digits of a year in packed BCD format. So 1997 is reported solely as 97. Since the RTC also contains non-volatile memory, IBM specified a location in the memory to hold “century” information. By combining the century data with the year data, software can obtain a full 4-digit year. When the Year 2000 occurs, the RTC reports the year as ‘00’ and the “century” in RTC memory will contain ‘19.’ Combining the full 4-digit year yields 1900, not 2000. Any applications which compares dates, or uses relative dates to perform functions will see an incorrect dates.

Motherboards contain BIOS, which is one of the key ingredients to check for systems designed to handle the year 2000. **All motherboards currently shipped from Iwill contain BIOS capable of handling the year 2000 date correctly.** The BIOS contains a feature that checks the least two significant digits of the year stored in the RTC during each BIOS request (INT 1Ah) to read the date and, if less than ‘80’, updates the century byte to ‘20’. This feature enables operating systems and applications using the BIOS date/time services to reliably manipulate the year as a four-digit value.

Be aware that the BIOS capability alone does not ensure that the system will handle the transition correctly. Other system components such as the operating system and application software also need to be able to handle the year 2000 date and recognize the date format from other pieces.

## 0.1 Features

### 0.1.1 Processor

Socket 370 processes support

Supports 66 MHz bus speed

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## **0.1.2 Core Logic**

Intel 1621 PCI/A.G.P. controller

Integrated DRAM controller

Integrated PCI bus mastering controller

Integrated Accelerated Graphics Port (A.G.P.) bus controller

Intel PCI/ISA/IDE Xcelerator

Multifunction PCI-to-ISA bridge (PCI Rev 2.1 compliant)

Integrated IDE controller with Ultra DMA/33 support

USB host interface with support for two USB ports

Enhanced DMA controller and standard Interrupt controller and Timer function

System Management Bus (SMB) with support for DIMM Serial PD

## **0.1.3 Main Memory**

Three 168-pin DIMM (Dual In Line Memory Module) sockets

Supports up to 768 MB of 3.3 V Unbuffered SDRAM DIMM

Supports up to 384 MB of 3.3 V Extended Data Out (EDO) memory

64-bit data interface with ECC support (SDRAM only)

## **0.1.4 Multi I/O**

Winbond W83977EF super I/O controller

Supports two floppy disk drives (include 3 Mode drive) and / or QIC-80 tape drive

Supports one multi-mode parallel port

Supports two high speed 16550 FIFO serial ports

Integrated keyboard controller

Integrated PS/2 mouse controller

Support Keyboard-Power-On function

Support Power Fail Recovery

## **0.1.5 Expansion slots**

Two ISA slot

Five PCI slot

One A.G.P. slot

---

### **0.1.6 Form Factor**

Compliance with ATX Version 2.01 specification

Supports ATX power supply connector

Supports the remote on/off switch

Physical dimensions: length: 189 mm / width: 305 mm

### **0.1.7 Manageability**

Winbond W83781 System Hardware Monitor

Wake on LAN header for use with add-in network interface cards (NICs)

### **0.1.8 Other features**

Award BIOS

Using Flash ROM to provide on-board-upgrade ability without changing components

Plug and Play compatible

Supports Advanced Power Management (APM)

Supports Creative SB-LINK to deliver Sound Blaster 16 compatibility

AUREAL 32-bit PCI audio onboard compatibility

## **0.2 Environment Requirements**

Temperature 0-55 degrees C (operating or storage)

5% to 95% non-condensing relative humidity

At least a 250 W power supply

The power supply must comply with the following recommendations found in the spec.:

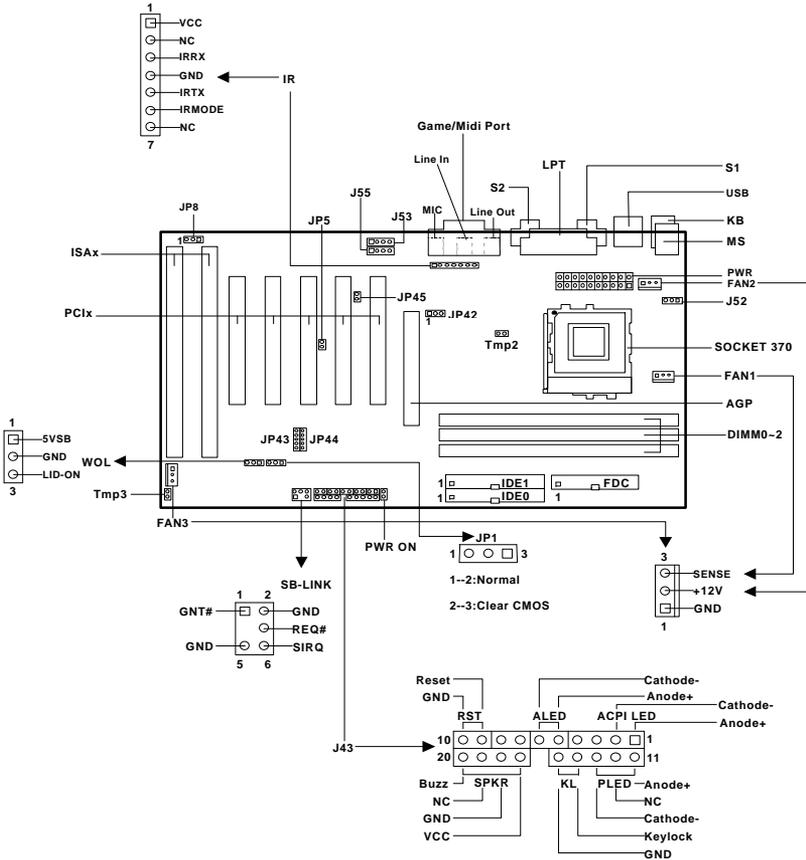
The potential relation between 3.3 VDC and +5 VDC power rails

The current capability of the +5VSB line

ATX Power supply must comply with ATX spec. 2.01. ( 5VSB  $\geq$  1A)

### 0.3 Motherboard Components Placement

The following figure shows the location of the motherboard components.



---

<b>Location</b>	<b>ScreenPrinting</b>	<b>Description</b>
J3	Socket 370	Socket 370 connector
J5--J7	DIMM 0--2	168-pin DIMM Sockets
J11	AGP	A.G.P. connector
J12-16	PCI1--5	PCI expansion slots
J21-22	ISA 1-2	ISA expansion slots
J28	IDE 0	Primary IDE connector
J29	IDE 1	Secondary IDE connector
J30	FDC	Floppy drive connector
J31	S1	Serial 1 connector
J32	S2	Serial 2 connector
J33	LPT	Parallel connector
J34	USB	Two USB connectors
J35	MS	PS/2 mouse connector
J35	KB	PS/2 keyboard connector
J37	PWR	ATX power connector
J39	FAN1	Processor fan header
J40	FAN2	System fan header
J41	FAN3	System fan header
J42	PWR ON	Power on/off header
J43	J43	Front panel I/O header
	ACPI LED (pins 1--2):	ACPI LED header
	ALED (pins 5--6):	IDE LED header
	RST (pins 9--10):	Reset Switch header
	PLED (pins 11--13):	Power LED header
	KL (pins 14--15):	Keylock switch header
	SPKR (pins 17--20):	Speaker header
J44	SB-LINK	Creative SB-LINK header
J45	IR	IR (infrared) connector
J46	WOL	Wake On LAN header
J49	Tmp1	Temp. sensor header
J50	Tmp2	Temp. sensor header
J51	Tmp3	Temp. sensor header
J52	KB ON	Keyboard Power On connector
J53	J53	AUX in
J55	J55	CD in
J56	Game_Audio	Audio Port Connector/ Joystick/Midi Connector
JP1	CLRTC	Clear CMOS jumper
JP5	JP5	PCI compatibility jumper
JP8	JP8	Audio ON/OFF

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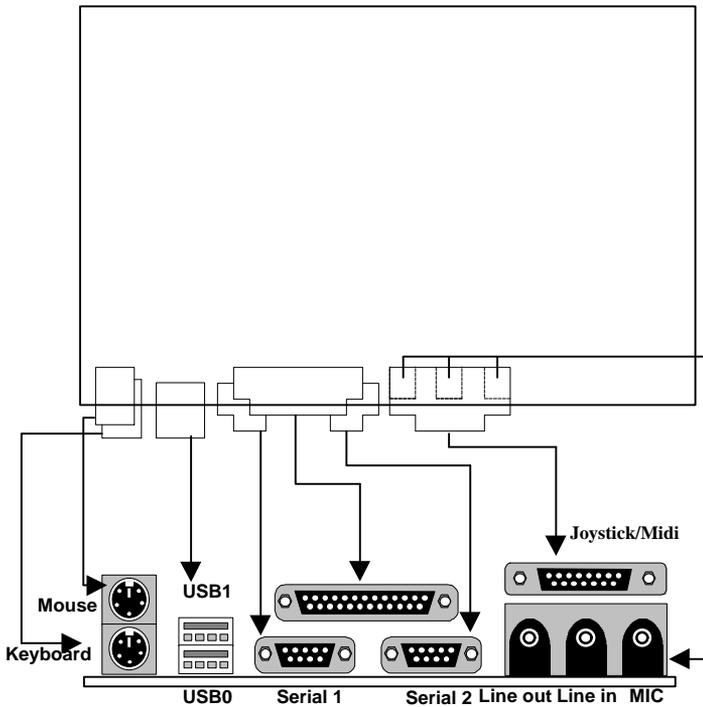
JP42	JP42	Keyboard password Power on connector
JP43	JP43	SMBUS Connect
JP44	JP44	Internal Modem Wake up connect.
JP45	JP45	Chassis Intrusion detection header

---

## 0.4 Back Panel Connectors

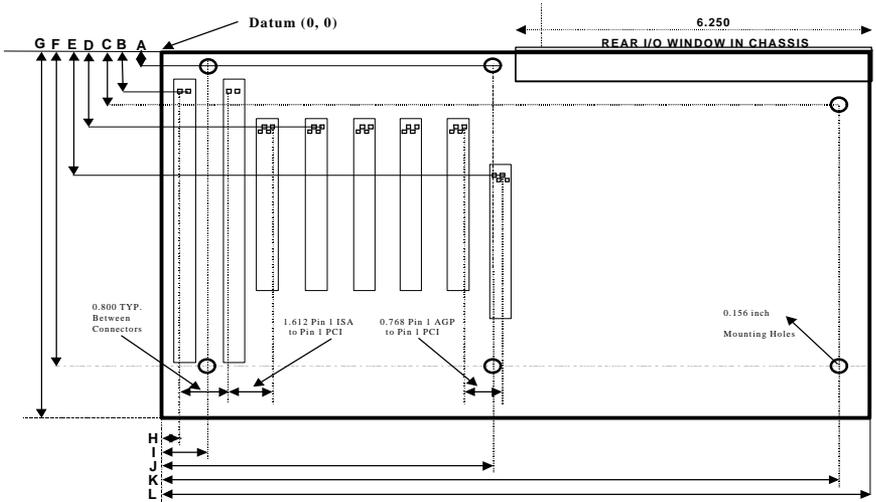
The following figure shows the location of the back panel I/O connectors, which include:

- PS/2-style keyboard and mouse connectors
- Two USB connectors
- Two serial port connectors
- One parallel port connector
- One Audio port connector
- Joyctick/Midi connector



## 0.5 Form Factor

The motherboard is designed to fit into an ATX form-factor chassis. The I/O connector locations and the mounting hole locations are in compliance with the ATX specification. Please see detail in the following figure.



A: 0.400 inch	H: 0.150 inch
B: 1.000 inch	I: 0.650 inch
C: 1.300 inch	J: 5.550 inch
D: 1.625 inch	K: 11.750 inch
E: 2.627 inch	L: 12.000 inch
F: 6.500 inch	
G: 7.4 inch	

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# Chapter 1

## Quick Installation

Several easy installation steps will be described in this chapter to help the experienced users with quick installation. If you are a beginner or need to know more about this product, refer to the Chapter 2.

### Step 1. Install CPU processor

Pull up the CPU handle bar, place the CPU into the socket in gentle and vertical way then pull down the handle bar back to its original place. When you insert the CPU, make sure they are connected thoroughly in the right direction.

### Step 2. Install processor fan

Attach the processor cooler's power cable to the header marked "FAN1".

### Step 3. Setting CPU speed

The CPU can be setup through a programmable switch, that replaces traditional manual hardware configuration. This feature allows the user to complete more easily the installation procedures. The CPU must be setup according its specifications. You can reference Appendix A or user's manual in the Power Installer CD.

### Step 4. Install the memory module

At least one piece of 168-pin 3.3V unbuffered SDRAM, EDO DIMM is needed to be located into the DIMM sockets.

### Step 5. Connect the internal peripherals

The internal peripherals means devices that are in the computer chassis like the floppy disk drive, hard disk drive, CD-ROM drive .etc. There are one 34-pin flat cable for floppy disk drive and one 40-pin flat cable for IDE devices included in your retail package. The protected key on cables' connector will guide you the correct direction when you insert the cables.

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## Step 6. Connect the Reset button

The 2-pin reset header is located on pins 9--10 (marked as RST) of the front panel connector. Connect the momentary type switch on the chassis to this header for reset function.

Signal of RST header

Pin 9            RESET

Pin 10          Ground

## Step 7. Connect the Speaker

The 4-pin speaker header is located on pins 17--20 (marked as SPKR) of the front panel connector. Connect the speaker to this header.

Signal of SPKR header

Pin 17          VCC

Pin 18          Ground

Pin 19          NC

Pin 20          BUZZ

## Step 8. Connect the power LED

The 3-pin power LED header is located on pins 11--13 (marked as PLED) of the front panel connector. Connect chassis's power LED to this header.

Signal of PLED header

Pin 11          Anode (+)

Pin 12          NC

Pin 13          Cathode (-)

## Step 9. Connect the keylock switch

The 2-pin keylock header is located on pins 14--15 (marked as KL) of the front panel connector. Connect chassis's keylock switch (if supported) to this header.

Signal of KL header

Pin 14          KEYLOCK

Pin 15          Ground

## Step 10. Connect the IDE LED

The 2-pin IDE LED header is located on pins 5--6 (marked as ALED) of the front panel connector. Connect the chassis's LED to this header.

Signal of ALED header

Pin 5            Anode (+)

Pin 6            Cathode (-)

---

### **Step 11. Connect the ACPI LED**

The 2-pin ACPI LED is located on pins 1-2 (marked as ACPI) of the front panel connector. Connect the chassis's ACPI LED to this header.

Signal of ACPI LED header

Pin 1            Cathode (-)

Pin 2            Anode (+)

### **Step 12. Connect the Power ON button**

All the ATX computer chassis provide a power on button. Connect the button to the header marked as "PWR ON".

### **Step 13. Install the Power Supply cord**

This motherboard provides the 20-pin ATX power connector. This works conjunction with the *Power On button* to provide remote On/Off function.

### **Step 14. Install the Keyboard**

Connect the keyboard to the PS/2 keyboard connector at the back panel.

### **Step 15. Install the Display Card**

Insert the display card into the ISA, PCI or AGP expansion slot.

### **Step 16. Connect the External Peripherals**

The external device means devices outside the computer chassis like the serial mouse, printer, PS/2 mouse, external modem .etc.

### **Step 17. Power on the system**

Once the system is powered on, make sure you enter the BIOS setup program and loads the manufacturer's default settings. After the system reboot, you are ready to install your operating system and we wish you to enjoy it.

---

# Chapter 2

## Hardware Installation

### 2.1 Preparation and Inspection

This motherboard, like all other electronic equipment, is static sensitive. Please take the proper precautions when handling it. If possible, ground yourself by touching a metal table or your computer frame. Keep the board in its conductive wrapping until it is configured and ready to be installed in your system.

### 2.2 Unpack the LE370

You should find the following components when opening the box:

- One LE370 motherboard
- Quick reference guide
- One 40-pin IDE cable
- One 34-pin floppy cable
- Power installer CD

For installation, you may need some or all of the following tools:

- Medium size flat blade screwdriver
- Medium sized Phillips head screwdriver
- A 3/16 inch nut driver or wrench

### 2.3 Installation procedures

#### 2.3.1 Processor (Socket 370 and FAN1)

The motherboard supports socket processor. The processor's VID pins automatically program the voltage regulator on the motherboard to the required processor voltage. The motherboard currently supports processors that run internally from 300 MHz to 466 MHz, or more.

**CPU Cooler is required to be placed on top of the CPU all the time to prevent CPU from over-heat.**

Signal of FAN1 header (processor fan header)

- |       |        |
|-------|--------|
| Pin 1 | Ground |
| Pin 2 | +12 V  |
| Pin 3 | SENSE  |

Note: Processor cooler is always required to prevent over-heat.

---

### 2.3.2 Setting CPU speed

The CPU can be setup through a programmable switch that replaces traditional manual hardware configuration. This feature allows the user to complete more easily the installation procedures. The CPU must be setup according to its specifications. You can reference Appendix A or user's manual in the Power Installer CD.

### 2.3.3 Main memory (DIMM0--2)

The motherboard has four dual inline memory module (DIMM) sockets, which supports memory size from 8 MB to 768MB with SDRAM and EDO DRAM. The Synchronous DRAM (SDRAM) improves memory performance through memory access that is synchronous with the memory clock. The Error Checking and Correcting (ECC) memory improves system security by detecting and correcting error bit when accessing memory.

The motherboard supports the following memory features:

- JEDEC MO-161 compliant 168-pin DIMM with gold-plated contacts
- 3.3 V memory module only
- ECC logic detects multiple-bit errors and corrects single-bit errors (SDRAM)
- Unbuffered SDRAM, or 60-ns 3.3 V EDO DIMM
- 16 / 64 Mbit DRAM technology
- Symmetrical and asymmetrical DRAM addressing
- Single-sided or double-sided DIMMs
- 3.3 V EDO and SDRAM DIMMs can NOT be installed on the same motherboard

Memory can be installed in DIMM sockets without any order restriction. The memory type, size, speed can vary between sockets. The BIOS automatically detects memory type, size and speed.

Note 1. In order to reduce the loading, the total memory chip count installed on the system should not exceed 72 unless the Registered DIMMs are used.

Note 2. The Serial Presence Detect (SPD) information is highly recommended on all 100 MHz

DIMMs for this motherboard. This function is implemented using an EEPROM component on the memory module. The nonvolatile storage device contains data programmed by the DIMM manufacturer that identifies the module type and various SDRAM organization and timing parameters. A warning message will be prompted if any DIMMs installed on this motherboard has no SPD EEPROM. In this case, the system might fail to be stable without correct timing parameters.

---

### 2.3.4 Accelerated Graphics Port (AGP)

The Accelerated Graphics Port (A.G.P.) is a high-performance interconnect, especially for graphic-intensive 3D applications. A.G.P. is independent of the PCI bus and is intended for exclusive use with graphical display devices. The A.G.P. supports AC timing for 133 MHz data transfer rates, allowing data throughput of 533 MB/sec.

The most important feature of A.G.P. is DIME (Direct Memory Execute). DIME needs to allocate some system memory via the O.S. to access large textures outside the local graphic memory of the card. In order to take advantage of DIME feature, some software components should be installed or upgraded in the system.

For Windows NT 4.0 :Upgrade to "Windows NT 4.0 Service Pack 3".

For Windows 95 :Upgrade to Windows 95 OSR 2.1.

Install DirectX 6 from Microsoft.

### 2.3.5 Primary/Secondary IDE connectors (IDE0 and IDE1)

The motherboard has two bus-mastering IDE interfaces, which support PIO Mode 3 / 4 and Ultra DMA 33 mode transfer. These interfaces support IDE disks, ATAPI devices (ex: CD-ROM), ZIP and LS-120 devices. If two devices are connected to one channel, one should be set to "Master" and the other one to "Slave" (Refer to device operation guide).

Simply connect the 40-pin IDE cable between the IDE/ATAPI devices and these connectors on the motherboard. For a performance reason, we suggest that connect the disk drive to the primary channel and other devices like CD-ROM to the secondary channel.

### 2.3.6 Floppy drive connector (FDC)

The motherboard has one floppy interface, which supports 360K, 720K, 1.2M, 1.44M, 2.88M, 3 Mode floppy drives and QIC-80 Floppy tape drive. It supports up to two devices in any capacity with the same connector. Simply connect 34-pin floppy cable between this connector and floppy drives.

### 2.3.7 Serial port connector (S1 and S2)

The two 9-pin D-Sub serial port connectors on the back panel are compatible with 16550 UART. These ports are used for serial mouse, serial printer, fax modem .etc. Simply connect the serial devices to these connectors.

### 2.3.8 Parallel port connector (LPT)

The connector for the multi-mode parallel port is a 25-pin D-Sub connector located on the back panel. It is used for the printer or other parallel devices. Simply connect the parallel cable between devices and the parallel port connector.

---

### 2.3.9 Universal Serial Bus (USB)

The USB is suitable for mid-to-low speed devices like mouse, keyboard, joystick...etc. In the past, all these devices were using different connectors, and it is difficult for end users to install the system. With USB technology, users only need to plug all their USB peripherals on the connector in chain and ready to go.

The motherboard supports following USB features:

- Self-identifying, hot pluggable peripherals
- Support of isochronous and asynchronous transfer type
- Supports for a maximum of 127 physical devices
- Supports data transfer rate up to 12 Mbit/sec

The motherboard has two USB ports; any USB peripheral can be connected to either port. For more than two USB devices, an external hub can be connected to either port.

### 2.3.10 PS/2 keyboard and mouse connectors (KB and MS)

The keyboard connector is a 6-pin mini-DIN connector located on the back panel (the bottom one). Simply connect the standard PS/2 keyboard into this connector. The PS/2 mouse connector is a 6-pin mini-DIN connector on the back panel. Simply connect the PS/2 mouse into this connector.

Note that power to the computer should be turned off before a keyboard and/or mouse is connected or disconnected.

### 2.3.11 Joystick/Midi connector

This connector for playing games. Connector Midi devices for playing or editing audio.

### 2.3.12 Audio port connector

**Line out** can be connected to headphones or preferably powered speakers. **Line in** allows tape players or other audio sources to be recorded by your computer or played through the Line out. **Mic** allows microphones be connected for inputting voice.

### 2.3.13. Stereo Audio In Connector (J53 AUX in)

This connector allows you to receive stereo audio input from such sound sources as a TV tuner or MPEG card.

### 2.3.14. Stereo Audio In Connector (J55 CD in)

These connectors allow you to receive stereo audio input from an internal CD-ROM drive.

---

### 2.3.15 ATX power connector (PWR)

This motherboard supports an ATX power connector. Simply connect the power cord of power supply to this connector.

Signal of ATX power supply connector

Pin 1	+3.3 V	Pin 11	+3.3 V
Pin 2	+3.3 V	Pin 12	-12 V
Pin 3	Ground	Pin 13	Ground
Pin 4	+5 V	Pin 14	PWR_ON#
Pin 5	Ground	Pin 15	Ground
Pin 6	+5 V	Pin 16	Ground
Pin 7	Ground	Pin 17	Ground
Pin 8	PWRGOOD	Pin 18	-5 V
Pin 9	+5VSB	Pin 19	+5 V
Pin 10	+12 V	Pin 20	+5 V

### 2.3.16 System fan headers (FAN2 and FAN3)

The system airflow is critical for system's reliability. Airflow is determined by the size and number of fans and vents along with the placement in relation to the components and the airflow channels within the system.

The motherboard supports two extra system fan headers: FAN2 and FAN3. Connect the system cooler's power cable to this header to move the air through the chassis.

Signal of FAN2/3 header

Pin 1	Ground
Pin 2	+12 V
Pin 3	SENSE

### 2.3.17 Power On header (PWR ON)

This header can be connected to chassis's power switch. Because of debounce circuitry on the motherboard, the switch must be pressed for at least 50 ms to signal the power supply to switch on or off. At least two seconds must pass before the power supply will recognize another on/off signal.

Note: Hold the power on switch in for four seconds will force the system switch off.

### 2.3.18 Front panel connector (J43)

This connector contains several headers, which are connected to button or switch located on front panel of the chassis.

---

### 2.3.18.1 IDE LED header (ALED)

The 2-pin IDE LED header is located on pins 5--6 (marked as ALED) of the front panel connector. It can be connected to an LED on the chassis, which will light up when IDE devices is working.

Signal of ALED header

Pin 5            Anode (+)

Pin 6            Cathode (-)

### 2.3.18.2 RESET header (RST)

The 2-pin reset header is located on pins 9--10 (marked as RST) of the front panel connector. It can be connected to a momentary type switch that is normally open. When the switch is close, the system will reset.

Signal of RST header

Pin 9            RESET

Pin 10           Ground

### 2.3.18.3 Power LED header (PLED)

The 3-pin power LED header is located on pins 11--13 (marked as PLED) of the front panel. The power LED can be connected to a LED. When the computer is powered on, the LED will be lighted up.

Signal of PLED header

Pin 11           Anode (+)

Pin 12           NC

Pin 13           Cathode (-)

### 2.3.18.4 KEYLOCK header (KL)

The 2-pin keylock header is located on pins 14--15 (marked as KL) of the front panel. The keylock header can be connected to a switch on the chassis. When the switch is close, keyboard function will be disabled temporarily until the switch is open.

Signal of KL header

Pin 14           KEYLOCK

Pin 15           Ground

### 2.3.18.5 SPEAKER header (SPKR)

The 4-pin speaker header is located on pins 17--20 (marked as SPKR) of the front panel connector. The speaker provides error beep code information during the POST in the event that the computer can not use the video interface.

Signal of SPKR header

Pin 17           VCC

Pin 18           Ground

Pin 19           NC

Pin 20           BUZZ

---

### 2.3.18.6 Connect the ACPI LED

The 2-pin ACPI LED is located on pins 1-2 (marked as ACPI) of the front panel connector. Connect the chassis's ACPI LED to this header.

Signal of ACPI LED header

Pin 1	Anode (+)
Pin 2	Cathode (-)

### 2.3.19 SB-LINK header (SB-LINK)

Sound Blaster 16 was almost the standard of the ISA Bus sound cards, a lot of games were programmed for Sound Blaster especially under DOS environment. If the users are still interested in playing these game titles, they might have compatibility problems with the new up graded PCI Bus sound card.

This header adopts Intel's PC/PCI technology to deliver Sound Blaster 16 compatibility to PCI Bus sound card, enabling users to play real-mode DOS games. Connect the cable provided by PCI Bus sound card to this connector.

Signal of SB-LINK header

Pin 1	GNT#	Pin 2	Ground
Pin 3	Key	Pin 4	REQ#
Pin 5	Ground	Pin 6	SIRQ

### 2.3.20 Infrared connector (IR)

Serial Port 2 can be configured to support an IrDA module connected to this connector. After the IrDA interface is configured, data can be transferred between devices by using application software.

Signal of IR connector

Pin 1	VCC	Pin 5	IRTX
Pin 2	NC	Pin 6	IRMODE
Pin 3	IRRX	Pin 7	NC
Pin 4	Ground		

### 2.3.21 WOL header (WOL)

This header is used to implement the Wake on LAN feature. Connect this header to a network interface card (NIC) that supports the Wake on LAN technology. The NIC monitors network traffic. When it detects a Magic Packet, it asserts a signal through the WOL header to wake up the computer. This signal can wake up the computer only when the power cord is still plugged into the socket and the computer is turned off.

Signal of WOL header

Pin 1	5VSB
Pin 2	Ground
Pin 3	LID_ON

---

### 2.3.22 Clear CMOS jumper block (JP1)

To reset the RTC (Real Time Clock) CMOS data, you need to change the jumper cap of JP1 from *1-2 close* to *2-3 close*, then set to *1-2 close* again. After that, you should get into BIOS setup program and choose LOAD SETUP DEFAULTS, then you will now get original manufacturer default setting in your CMOS.

This function is used when you forget your password or our wish to reset all the settings that have been modified.

### 2.3.23 Keyboard Power On (J52)

This allows you to disable or enable the keyboard power up function. Set to 5V\_SB if you want to use your keyboard to power up your computer. This feature requires an ATX power supply that can supply at least 300mA on the +5VSB lead and the new ACPI BIOS support.

### 2.3.24 System Hardware Monitor

The system hardware monitor supports following features:

- Integrated temperature sensor to monitor system temperature

- Voltage sense monitoring to detect voltage level (Vcorea,Vcoreb,+12 V, -12 V, +5 V, -5 V, +3.3 V,VBAT,5VSB)

- Fan speed sensors for up to three fans

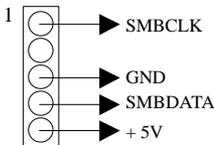
With a proprietary application, the system hardware monitor logic will check the voltage, temperature and fan speed all the time. If any failure occurs, the application will prompt warning message in a real time.

### 2.3.25 Chassis Intrusion Detection (JP45)

The chassis intrusion circuitry can detect unauthorized intrusion to the system. The chassis intrusion connector is located on JP45. Attach a micro-switch to JP45. When the micro-switch is closed, it means that the chassis has been opened. The circuitry will then alert the user with a warning message when the system is turned on.

### 2.3.26 SMBus connector (JP43)

This connector allows you to connect SMBus devices. SMBus devices communicate by means of the SMBus with an SMBus host and/or other SMBus devices. The SMBus or System Management Bus is a specific implementation of an I<sup>2</sup>C bus, which is a multi-master bus, that is, multiple chips can be connected to the same bus and each one can act as a master by initiating data transfer.



---

### **2.3.27 Internal modem Wake Up Function connector (JP44)**

This connector for “Power on by Ring “ function as internal modem.

### **2.3.28 Keyboard Password Power On connector (JP42)**

When 1-2 pin is ON, Power On function by BIOS control. You can select password power on or Hot-key power on. When 2-3 pin is ON, Power On function was be button.

### **2.3.29 Audio ON/OFF function Select (JP8)**

When 1-2 pin is ON, Audio On can be used. When 2-3 pin is ON, Audio Off.

---

# Chapter 3

## System BIOS Setup

### 3.1 Introduction

The motherboard uses an AWARD BIOS, which is stored in flash memory and can be upgraded with a disk-based program. The setup program is for viewing and changing the BIOS setting for a computer. These settings are stored in battery-backed RAM so that it retains all the settings when the power is turned off.

#### 3.1.1 Upgrade BIOS

The BIOS can be upgraded from a diskette with the Award Flash utility -- AWDFLASH.EXE. The BIOS image file and the update utility are available from Iwill's WEB site: [www.iwill.com.tw](http://www.iwill.com.tw).

#### 3.1.2 Recovering BIOS Data

Some types of failure can destroy the BIOS. For example, the data can be lost if a power outage occurs while the BIOS being updated in flash memory. The BIOS can be recovered from a diskette. To create a BIOS recovery diskette, a bootable diskette must be created and the recovery files copied to it. The recovery files are available from Iwill.

Note: No video is displayed during the recovery process.

#### 3.1.3 Enter BIOS setup program

The BIOS setup program is accessed by pressing the <Del> key after Power-On Self Test (POST) memory test begins and before the scanning of IDE devices. During that time, a message "Press DEL to enter SETUP" will be displayed at the bottom of the screen. If the message disappears before you respond, you can restart the system by

- Turning off the system power then turn it on again, or
- Pressing the "RESET" button on the system case, or
- Pressing <Ctrl>, <Alt> and <Del> keys simultaneously.

---

### 3.1.4 Using BIOS setup program

The following table shows the function keys available for menu screens.

<Up>	Move to the previous field
<Down>	Move to the next field
<Left>	Move to the field in the left hand
<Right>	Move to the field in the right hand
<Esc>	Quit from setup program without saving changes, or Exit from current menu page and return to main menu page
<PgUp> or <+>	Select the previous value for a field
<PgDn> or <->	Select the next value for a field
<F1>	Bring up a help screen for the current field
(Shift)<F2>	Change screen color. F2 to select color forward, (Shift) F2 to select color backward
F10 key	Save the current value and exit setup program

#### NOTE

Generally, the BIOS default settings have been carefully chosen by the system manufacturer to provide the absolute maximum performance and reliability. It is very dangerous to change any setting without full understanding. We strongly recommend that

**DO NOT update your BIOS if the system works perfect.**

**DO NOT change any setting unless you fully understand what it means.**

If the system does not work smoothly after changing the BIOS setting, follow the procedures described before to enter setup program then load the default to the original manufacturer default setting.

If the system is no longer able to boot after changing the setting, the only way to recover it is to clear the data stored in RTC CMOS. To reset the RTC CMOS data, you need to change the jumper cap of JP1 from *1-2 close* to *2-3 close*, then set to default *1-2 close* again. After that, you should get into BIOS setup program and choose LOAD SETUP DEFAULTS to get original manufacturer default setting in your CMOS.

---

## 3.2 Main Menu

The main menu allows you to select from several setup pages. Use the arrow keys to select among these pages and press <Enter> key to enter the sub-menu. Note that a brief description of each highlighted selection appears at the bottom of the screen.

The main menu includes the following setup pages.

u includes the following setup pages.

### **STANDARD CMOS SETUP**

Allocates resources for hardware components

### **BIOS FEATURES SETUP**

Specifies advanced features available through the BIOS

### **CHIPSET FEATURES SETUP**

Specifies advanced features available through the chipset

### **POWER MANAGEMENT SETUP**

Specifies power management features

### **PNP /PCI CONFIGURATION**

Specifies Plug and Play and PCI features

### **INTEGRATED PERIPHERALS**

Specifies on-board controller features

### **LOAD SETUP DEFAULTS**

Load the manufacturer default setting into CMOS

### **IWILL SMART SETTING**

Specifies special features

### **SUPERVISOR / USER PASSWORD**

Specifies passwords

### **IDE HDD AUTO DETECTION**

Auto-detect the parameters of IDE disks

### **SAVE & EXIT SETUP**

Save current value to CMOS and exit setup

### **EXIT WITHOUT SAVING**

Abandon all changes and exit setup

## 3.3 STANDARD CMOS SETUP

This setup page is used for allocating resources for hardware components.

### 3.3.1 Date

This field specifies the current date. The date format is <day>, <month>, <date>, and <year>.

---

### 3.3.2 Time

This field specifies the current time. The time format is <hour>, <minute>, and <second>. The time is calculated based on the 24-hour military-time clock.

### 3.3.3 Primary Master / Primary Slave / Secondary Master / Secondary Slave

This field specifies the geometric parameters and translation mode of IDE disk drives.

#### 3.3.3.1 TYPE

This field specifies the drive type that corresponds to the drive installed in the system. If set to *User*, the number of *Cylinders*, *Heads*, and *Sectors* can be modified.

Options	Description
<b>1 – 45</b>	Specifies pre-defined disk drive type
<b>User</b>	Specifies disk drive type by user
<b>Auto</b>	BIOS automatically fills in the values for the cylinders, heads and sectors fields
<b>None</b>	No disk drive attached

#### 3.3.3.2 Cylinders

If device *TYPE* is set to *Auto*, this field reports the number of cylinders for your hard disk and can not be modified. If the *TYPE* is set to *User*, you must type the correct number of cylinders for your hard disk.

#### 3.3.3.3 Heads

If device *TYPE* is set to *Auto*, this field reports the number of heads for your hard disk and can not be modified. If the *TYPE* is set to *User*, you must type the correct number of heads for your hard disk.

#### 3.3.3.4 Sectors

If device *TYPE* is set to *Auto*, this field reports the number of sectors for your hard disk and can not be modified. If the *TYPE* is set to *User*, you must type the correct number of sectors for your hard disk.

#### 3.3.3.5 MODE

This field specifies the IDE translation mode.

Options	Description
<b>NORMAL</b>	Specifies traditional CHS addressing mode
<b>LARGE</b>	Specifies extended CHS translation mode
<b>LBA</b>	Specifies LBA translation mode
<b>AUTO</b>	BIOS specifies translation method automatically

---

### 3.3.4 Drive A / Drive B

This field specifies the traditional type of the floppy drives.

Options	Description
<b>None</b>	No floppy drive is connected
<b>360K, 5.25 in.</b>	A 360K floppy drive is connected
<b>1.2M, 5.25 in.</b>	A 1.2M floppy drive is connected
<b>720K, 3.5 in.</b>	A 720K floppy drive is connected
<b>1.44M, 3.5 in.</b>	A 1.44M floppy drive is connected
<b>2.88M, 3.5 in.</b>	A 2.88M floppy drive is connected

### 3.3.5 Floppy 3 Mode Support

3 Mode floppy drive is a kind of 3.5 inches drive, which is used at NEC PC98 computer. It supports 1.2M and 1.44M format with the same drive. This field specifies which drive 3 Mode is supported. When a floppy drive is specified to support 3 Mode, the respective drive setting in "Drive A / Drive B" field will be invalid.

Options	Description
<b>Disabled</b>	No 3 Mode drive is connected
<b>Drive A</b>	A 3 Mode drive is connected as drive A
<b>Drive B</b>	A 3 Mode drive is connected as drive B
<b>Both</b>	Both drive A and drive B are 3 Mode drives

### 3.3.6 Video

This field specifies the type of the graphics adapters used for the primary system monitor.

Options	Description
<b>EGA/VGA</b>	Specifies EGA or VGA adapter
<b>CGA 40</b>	Specifies CGA adapter with 40 column mode
<b>CGA 80</b>	Specifies CGA adapter with 80 column
<b>MONO</b>	Specifies Monochrome adapter

### 3.3.7 Halt On

This field specifies the failure event, which should halt the system if occurred.

Options	Description
<b>All Errors</b>	When the BIOS detects a non-fatal error, the system will stop and you will be prompted
<b>No Errors</b>	The system will not stop for any error that may be detected
<b>All, But Keyboard</b>	The system will stop for any errors except keyboard error
<b>All, But Diskette</b>	The system will stop for any errors except diskette error
<b>All, But Disk/Key</b>	The system will stop for any errors except diskette and keyboard errors

---

### 3.3.8 Base Memory

The POST will determine the amount of base (conventional) memory installed in the system. The value of the base memory is typically 640K. This field has no options.

### 3.3.9 Extended Memory

The BIOS determines how much extended memory is present during the POST. This is the amount of memory located above 1MB in the processor's memory address map. This field has no options.

### 3.3.10 Other Memory

This refers to the memory located in the 640K to 1024K address space. This is memory that can be used for different applications. DOS uses this area to load device drivers in an effort to keep as much base memory free for application programs. The BIOS is the most frequent user of this RAM area since this is where it shadows RAM. This field has no options.

## 3.4 BIOS FEATURES SETUP

This setup page specifies advanced features available through the BIOS.

### 3.4.1 Virus Warning

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

Note that many disk diagnostic programs will attempt to access the boot sector table, which can cause the above warning message. If you will be running such a program, we recommend that you first disable Virus Warning beforehand.

Options	<b>Enabled</b>
	<b>Disabled (*)</b>

### 3.4.2 CPU Internal Cache

This field configures the CPU internal cache (L1 cache).

Options	<b>Enabled (*)</b>
	<b>Disabled</b>

### 3.4.3 External Cache

This field configures the system external cache (L2 cache).

Options	<b>Enabled (*)</b>
	<b>Disabled</b>

---

### 3.4.4 CPU L2 Cache ECC Checking

This field specifies whether the CPU L2 cache supports ECC or not.

Options      **Enabled (\*)**  
                 **Disabled**

### 3.4.5 Quick Power On Self Test

When enabled, BIOS will shorten or skip some items during POST.

Options      **Enabled (\*)**  
                 **Disabled**

### 3.4.6 Boot Sequence

This field configures the boot sequence of boot devices.

Options	Description
<b>A,C,SCSI (*)</b>	System will first try to boot from floppy drive then master IDE disk drive on primary channel and then SCSI disk drive
<b>C,A,SCSI</b>	Master IDE disk drive on primary channel, floppy drive, SCSI disk driver
<b>C,CDROM,A</b>	Master IDE disk drive on primary channel, ATAPI CDROM drive, floppy drive
<b>CDROM,C,A</b>	ATAPI CDROM drive, master IDE disk drive on primary channel, floppy drive
<b>D,A,SCSI</b>	Slave IDE disk drive on primary channel, floppy drive, SCSI disk drive
<b>E,A,SCSI</b>	Master IDE disk drive on secondary channel, floppy drive, SCSI disk drive
<b>F,A,SCSI</b>	Slave IDE disk drive on secondary channel, floppy drive, SCSI disk drive
<b>SCSI,A,C</b>	SCSI disk drive, floppy drive, ATAPI CD-ROM drive
<b>SCSI,C,A</b>	SCSI disk drive, master IDE disk drive on primary channel, floppy drive
<b>C only</b>	Master IDE disk drive on primary channel only
<b>LS/ZIP,C</b>	LS-120 or ZIP drive, master IDE disk drive on primary channel

### 3.4.7 Swap Floppy Drive

When enabled, the logical drive letter of floppy drive A and B will be exchanged without changing the physical cable.

Options      **Enabled**  
                 **Disabled (\*)**

---

### 3.4.8 Boot Up Floppy Seek

When enabled, BIOS will check floppy drive status during POST. If an error occurred, system will be paused and an error message will be prompted.

Options	<b>Enabled (*)</b> <b>Disabled</b>
---------	---------------------------------------

### 3.4.9 Boot Up NumLock Status

This field configures the numeric keypad after system booting up.

Options	Description
<b>On (*)</b>	Keypad works as number keys
<b>Off</b>	Keypad works as arrow keys

### 3.4.10 Boot Up System Speed

This field configures boot into OS speed.

Options	<b>High (*)</b> Low
---------	------------------------

### 3.4.11 Gate A20 Option

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

Options	Description
<b>Fast (*)</b>	GateA20 signal supported by core logic
<b>Normal</b>	GateA20 signal supported by keyboard controller

### 3.4.12 Typematic Rate Setting

This field configures how the keyboard is handled. When enabled, the *Typematic Rate (Chars/Sec)* and *Typematic Delay (Msec)* fields will be available.

Options	<b>Enabled</b> <b>Disabled (*)</b>
---------	---------------------------------------

### 3.4.13 Typematic Rate (Chars/Sec)

This field specifies how many characters will be prompted in one second when a key is pressed continuously.

Options	<b>6 (*), 8, 10, 12, 15, 20, 24, 30</b>
---------	---

---

### 3.4.14 Typematic Delay (Msec)

This field specifies the delay between when a key was first pressed and when the acceleration begins.

Options      **250 msec (\*), 500 msec, 750 msec, 1000 msec**

### 3.4.15 Security Option

This field configures how the system security is handled. It works conjunction with *SETTING SUPERVISOR / USER PASSWORD* page to control the security level of the system.

Options	Description
<b>Setup (*)</b>	System need password to enter BIOS setup program
<b>System</b>	System need password to boot

### 3.4.16 PS/2 mouse function control

This field configures PS/2 mouse function .

Options	Description
<b>Enabled (*)</b>	
<b>Disabled</b>	

### 3.4.17 PCI / VGA Palette Snoop

This field controls the ability of a primary PCI graphics controller to share a common palette with an ISA/VESA video or MPEG card

Options	Description
<b>Enabled</b>	PCI VGA co-works with ISA MPEG card
<b>Disabled (*)</b>	All cases except above

### 3.4.18 OS Select for DRAM >64MB

When enabled, this field allows you to access the memory that over 64MB under OS/2.

Options	Description
<b>OS/2</b>	
<b>Non-OS/2 (*)</b>	

### 3.4.19 Report No FDD For WIN 95

For a floppy diskless system that running Windows 95, this field should be set to *Yes*.

Options	Description
<b>Yes</b>	
<b>No (*)</b>	

### 3.4.20 Video BIOS Shadow

When enabled, the video BIOS will be copied to system memory and increase the video speed.

Options	Description
<b>Enabled (*)</b>	
<b>Disabled</b>	

---

### 3.4.21 C8000-CBFFF / CC000-CFFFF / D0000-D3FFF Shadow

#### D4000-D7FFF / D8000-DBFFF / DC000-DFFFF Shadow

When enabled, the extended ROM data located at the respective address range will be copied to system memory.

Options	<b>Enabled</b>
	<b>Disabled (*)</b>

## 3.5 CHIPSET FEATURES SETUP

This setup page is used to specify advanced features available through the chipset. The default settings have been chosen carefully for the most operating conditions. **DO NOT change the value of any field in this setup page without full understanding.**

### 3.5.1 Auto Configuration

When enabled, BIOS will divide all the memory into two categories: 50ns DRAM and 60ns DRAM. A set of pre-defined values about DRAM timing will be used for each category. Then the user can assign the correct timing easily. When disabled, user can specify the DRAM timing value and some engineering knowledge is needed while handling it.

Options	<b>Enabled (*)</b>
	<b>Disabled</b>

### 3.5.2 EDO DRAM Speed Selection

This field selects pre-defined EDO DRAM timing for different speed categories. It is available only when the *Auto Configuration* field set to *Enabled*.

Options	Description
<b>50ns</b>	Pre-defined timing for 50ns EDO DRAM
<b>60ns (*)</b>	Pre-defined timing for 60ns EDO DRAM

### 3.5.3 MA Wait State:

Slow/Fast

### 3.5.4 EDO RAS# TO CAS# DELAY

When DRAM is refreshed, both rows and columns are addressed separately. This setup item allow you to determine the timing of the transition from Row Address Strobe (RAS) to Column Address Strobe (CAS)

Options	<b>2 /3 (*)</b>
---------	-----------------

---

### 3.5.5 EDO RAS# Precharge Time

DRAM must continually be refreshed or it will lose its data. Normally, DRAM is refreshed entirely as the result of a single request. This option allows you to determine the number of CPU clocks allocated for the Row Address Strobe to accumulate its charge before the DRAM is refreshed. If insufficient time is allowed, refresh may be incomplete and data lost.

Options        **3 / 4 (\*)**

### 3.5.6 EDO DRAM Read/Write BURST

This sets the timing for burst mode reads/write from EDO DRAM. Burst read and write requests are generated by the CPU in four separate parts. The first part provides the location within the DRAM where the read or write is to take place while the remaining three parts provide the actual data. The lower the timing numbers, the faster the system will address memory.

Options	Description
<b>x222</b>	Read/Write DRAM timings are 2-2-2
<b>x333</b>	Read/Write DRAM timings are 3-3-3

### 3.5.7 DRAM Data Integrity Mode

When enabled, the BIOS will use ECC (Error Checking and Correcting) protocol to increase integrity of system data. When ECC is selected, all memory modules the system used must support ECC.

Options        **ECC / Non-ECC (\*)**

### 3.5.8 CPU-TO-PCI Posting

This item allows you to select the cycles are treated as normal I/O write transaction or not.

Options        **Enabled (\*) / Disabled**

### 3.5.9 System BIOS Cacheable

When enabled, accesses to the system BIOS will be cached.

Options        **Enabled (\*) / Disabled**

### 3.5.10 Video BIOS Cacheable

When enabled, access to the video BIOS will be cached.

Options        **Enabled / Disabled (\*)**

### 3.5.11 Video RAM Cacheable

When enabled, access to the video memory located at A0000H to BFFFFH will be cached.

Options        **Enabled / Disabled (\*)**

---

### 3.5.12 8 Bit I/O Recovery Time

This field specifies the number of clocks, which the system will delay after the completion of an 8 bit input/output request.

Options      **1 (\*) / 2 / 3 / 4 / 5 / 6 / 7 / NA / 8**

### 3.5.13 16 Bit I/O Recovery Time

This field specifies the number of clocks, which the system will delay after the completion of an 16 bit input/output request.

Options      **1 (\*) / 2 / 3 / NA / 4**

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

Some add-in cards need to re-map its resource to a block of main memory address range. Any host cycles that match this memory hole are passed on to the add-in cards.

Options      **Enabled / Disabled (\*)**

### 3.5.15 AGP Aperture Size (MB)

This field specifies the size of system memory that can be used for A.G.P. graphics aperture.

Options      **4 / 8 / 16 / 32 / 64 (\*) / 128 / 256**

### 3.5.16 SDRAM RAS-to-CAS Delay

This field specifies the length of the delay inserted between the RAS and CAS signals of the DRAM system memory access cycle if SDRAM is installed. The settings

Options      **Fast / Slow (\*)**

### 3.5.17 SDRAM RAS Precharge TIME

This field specifies the length of the RAS part of the DRAM system memory access cycle when Synchronous DRAM system memory is installed in the computer.

Options      **Fast / Slow (\*)**

### 3.5.18 SDRAM CAS latency TIME

You can select CAS latency time in HCLKs of 2 or 3. The system board designer should set the values in this field, depending on the DRAM installed.

Options      **2 / 3(\*)**

### 3.5.19 Passive Release

When enabled, the south bridge PIIX4 will support the Passive Release mechanism when it is a PCI master. The PCI revision 2.1 compliant requires this field to be enabled. This field is for experienced users only.

Options      **Enabled (\*) / Disabled**

---

### 3.5.20 Delayed Transaction

When enabled, the south bridge PIIX4 will supports the Delayed Transaction mechanism when it is the target of a PCI transaction. The PCI revision 2.1 compliant requires this field to be enabled. This field is for experienced users only.

Options      **Enabled (\*) / Disabled**

## 3.6 POWER MANEGEMENT SETUP

This setup page specifies power management features.

There are several modes used to save computer's energy:

Doze Mode	The CPU clock will run at slower speed, and all other devices still operate at full speed
Standby Mode	The CPU clock will run at slower speed, and the fixed disk drive will be power off, and the video will be power off, and all other devices still operate at full speed
Suspend Mode	All devices except the CPU will be shut off

Each power saving mode has a respective timer. The value of the timer can be assigned or reloaded and it will count down to zero. When the timer equals to zero, the system will be forced into the related power saving mode. If any predefined signal or event is detected during the timer counting period, the timer will be reloaded automatically.

### 3.6.1 ACPI Function

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

Options      **Enabled(\*)**  
**Disabled**

### 3.6.2 Power Management

Options	Description
<b>Disable</b>	The computer always runs at full speed. No power is saved
<b>Min Saving</b>	When idled for one hour, the system will enter suspend mode
<b>Max Saving</b>	When idled for fifteen minutes, the system will enter suspend mode
<b>User Define (*)</b>	User can specify the timer value of each power saving mode

---

### 3.6.3 PM Control by APM

When enabled, an Advanced Power Management (APM) protocol will be activated to handle the power saving mode.

Options      **Yes (\*)**  
                 **No**

### 3.6.4 Video off Method

This field specifies the method that video subsystem used for power saving.

Options	Description
<b>V/H SYNC+Blank (*)</b>	Turn off the vertical and horizontal synchronization ports and write blanks to the video buffer
<b>Blank Screen</b>	Writes blanks to the video buffer only
<b>DPMS</b>	Initial display power management signaling with DPMS

### 3.6.5 Video Off After

This field specifies the power saving mode, which will shut off the video.

Options      **Doze / Standby (\*) / Suspend / NA**

### 3.6.6 MODEM Use IRQ

This field specifies the IRQ channel for MODEM used.

Options      **3 (\*) / 4 / 5 / 7 / 9 / 10 / 11 / NA**

### 3.6.7 Doze Mode

This field specifies the timer value of Doze Mode. It is available only when the *Power Management* field set to *User Define*.

Options      **1 Min / 2 Min / 4 Min / 8 Min / 12 Min / 20 Min**  
                 **30 Min / 40 Min / 1 Hour / Disable**

### 3.6.8 Standby Mode

This field specifies the timer value of Standby Mode. It is available only when the *Power Management* field set to *User Define*.

Options      **1 Min / 2 Min / 4 Min / 8 Min / 12 Min / 20 Min**  
                 **30 Min / 40 Min / 1 Hour / Disable (\*)**

---

### 3.6.9 Suspend Mode

This field specifies the timer value of Suspend Mode. It is available only when the *Power Management* field set to *User Define*.

Options      **1 Min / 2 Min / 4 Min / 8 Min / 12 Min / 20 Min**  
**30 Min / 40 Min / 1 Hour / Disable (\*)**

### 3.6.10 HDD Power Down

This field specifies the timer value for HDD power down. It is available only when the *Power Management* field set to *User Define*.

Options      **1 Min / 2 Min / 3 Min / 4 Min / 5 Min / 6 Min**  
**7 Min / 8 Min / 9 Min / 10 Min / 11 Min / 12 Min**  
**13 Min / 14 Min / 15 Min / Disable (\*)**

### 3.6.11 Throttle Duty Cycle

This field specifies system performance when system is in suspend mode. More performance, less energy saved.

Options      **Disabled**  
**12.5-25%**  
**37.5-50%**  
**50-62.5%(\*)**

### 3.6.12 PCI/VGA ACT-Monitor

During Enabled, if there's no activity in the monitor screen the system will go into Power Saving Mode. During Disabled, the system will go into Power Saving Mode, whether there is activity in the monitor screen or not.

Options      **Enabled (\*)**  
**Disabled**

### 3.6.13 Soft-Off by PWR-BTTN

This field specified the function of power button.

Options	Description
<b>Instant-Off</b>	When power button pressed, turn off the system immediately.
<b>Delay 4 Sec.</b>	Turn off the system after the power button has been pressed for four seconds.

---

### 3.6.14 Wake Up On LAN

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

Options	<b>Enabled(*)</b>
	<b>Disabled</b>

### 3.6.15 Power On By Ring

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

Options	<b>Enabled</b>
	<b>Disabled(*)</b>

### 3.6.16 Resume by Alarm

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

Options	Description
<b>Disabled(*)</b>	Disable RTC alarm function
<b>Enabled</b>	Set the Date and Time you want. If Date set to 0, it means diary alarm.

### 3.6.17 IRQ 8 Break Suspend

You con Enabled or Disabled monitoring of IRQ 8 so it does not awaken the system form suspend mode.

Options	<b>Enabled</b>
	<b>Disable (*)</b>

### 3.6.18 Reload Global Timer Events

This field configures the events to reload the power saving mode timer.

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

If enabled, timer will be reloaded when any of these interrupts occurs.

#### **Primary IDE 0**

If enabled, timer will be reloaded when master disk of primary IDE channel is active.

#### **Primary IDE 1**

If enabled, timer will be reloaded when slave disk of primary IDE channel is active.

#### **Secondary IDE 0**

If enabled, timer will be reloaded when master disk of secondary IDE channel is active.

#### **Secondary IDE 1**

If enabled, timer will be reloaded when slave disk of secondary IDE channel is active.

#### **Floppy Disk**

If enabled, timer will be reloaded when floppy disk is active.

---

### Serial Port

If enabled, timer will be reloaded when serial port is active.

### Parallel Port

If enabled, timer will be reloaded when parallel port is active.

## 3.7 PNP/ PCI CONFIGURATION

This setup page specifies Plug and Play and PCI features

### 3.7.1 PNP OS Installed

The field specifies whether a Plug and Play operating system is installed.

Options	Yes / No (*)
---------	--------------

### 3.7.2 Resources Controlled By

The BIOS has the capability to assign the system resource to all of the boot and Plug and Play devices. However, this capability means absolutely nothing unless you are using a Plug and Play operating system such as Windows® 95.

Options	Description
<b>Auto</b>	Resource controlled by BIOS automatically
<b>Manual (*)</b>	Resource controlled by the user

### 3.7.3 Reset Configuration Data

When enabled, the extended configuration data (ESCD) will be cleared during each boot time.

Options	Enabled / Disabled (*)
---------	------------------------

### 3.7.4 IRQ 3 / 4 / 5 / 7 / 9 / 10 / 11 / 12 / 14 / 15 assigned to

#### DMA 0 / 1 / 3 / 5 / 6 / 7 assigned to

If the *Resources Controlled By* field is set as *Manual*, these resource fields can be assigned by the user.

Options	Description
<b>Legacy ISA</b>	Resource will not be assigned to any PnP device
<b>PCI/ISA PnP</b>	Resource is available to PnP devices

### 3.7.5 PCI IDE IRQ Map to

This allows you to configure your system to the type of IDE disk controller in use. By default, Setup assumes that your controller is an ISA (Industry Standard Architecture) device rather than a PCI controller. The more apparent difference is the type of slot being used.

---

If you have equipped your system with a PCI controller, changing this allows you to specify which slot has the controller and which PCI interrupt (A, B, C or D) is associated with the connected hard drives.

Remember that this setting refers to the hard disk drive itself, rather than individual partitions. Since each IDE controller supports two separate hard drives, you can select the INT# for each. Again, you will note that the primary had a lower interrupt than the secondary as described in “Slot x Using INT#” above.

Selecting “PCI Auto” allows the system to automatically determine how your IDE disk system is configured.

### 3.7.6 Primary IDE INT#

This item allows you to enable or disable the function of Primary IDE INT#.

Options      **A (\*) / B / C / D**

### 3.7.7 Secondary IDE INT#

This item allows you to enable or disable the function of Secondary IDE INT#.

Options      **A / B (\*) / C / D**

### 3.7.8 Slot 1 to Slot 4 Use IRQ NO.

These fields set how IRQ use is determined for each PCI slot. The default setting for each field is Auto, which uses auto-routing to determine IRQ use.

Options      **Auto (\*) / 3/4/5/7/9/10/11/12/14/15**

### 3.7.9 Used MEM base addr

Some add-in cards ask for a special range of the system address space. This field specifies the base address of the memory address space.

Options      **N/A (\*) / C800 / CC00 / D000 / D400 / D800 / DC00**

#### 3.7.9.1 Used MEM Length

This field is available only when the *Used MEM base addr* field has been assigned to a base address. It specifies the memory size for the add-in card used.

Options      **8K (\*) / 16K / 32K / 64K**

### 3.7.10 Assign IRQ For USB

When disabled, the BIOS will not assign IRQ channel to USB controller.

Options      **Enabled (\*) / Disabled**

---

## 3.8 INTEGRATED PERIPHERALS

### 3.8.1 IDE HDD Block Mode

When enabled, the IDE controller will use the faster block mode to access devices.

Options      **Enabled (\*) / Disabled**

### 3.8.2 IDE Primary Master / Slave PIO

#### IDE Secondary Master / Slave PIO

These fields configure the PIO (Programmable Input Output) transfer mode for IDE controller. The maximum transfer rate of each PIO mode are listing as follow:

	Maximum transfer rate
PIO Mode 0	3.3 MB/sec
PIO Mode 1	5.2 MB/sec
PIO Mode 2	8.3 MB/sec
PIO Mode 3	11 MB/sec
PIO Mode 4	16.6 MB/sec

Options	Description
Auto (*)	The BIOS negotiates with device automatically
Mode 0	Use Mode 0 timing to access device
Mode 1	Use Mode 1 timing to access device
Mode 2	Use Mode 2 timing to access device
Mode 3	Use Mode 3 timing to access device
Mode 4	Use Mode 4 timing to access device

### 3.8.3 IDE Primary Master / Slave Ultra DMA

#### IDE Secondary Master / Slave Ultra DMA

When selected *Auto*, the IDE controller will use Ultra DMA 33 Mode to access device if the device supports it. The maximum transfer rate of Ultra DMA 33 Mode is 33.3 MB/sec.

Options      **Auto (\*) / Disabled**

### 3.8.4 On-Chip Primary / Secondary PCI IDE

These fields enable or disable the onboard IDE controller.

Options      **Enabled (\*) / Disabled**

---

### 3.8.5 USB Keyboard Support

This field enables or disables the USB keyboard supported.

Options      **Enabled / Disabled (\*)**

### 3.8.6 KBC clock source

Set the frequency for the keyboard controller input clock.

Options      **8 MHz (\*) / 12 MHz / 16MHz.**

### 3.8.7 Onboard FDC Controller

This field enables or disables the onboard floppy controller.

Options      **Enabled (\*) / Disabled**

### 3.8.8 Onboard Serial Port 1 / 2

These fields configure the onboard serial ports. There are several port address and IRQ channels that can be selected.

Options	Description
<b>3F8 / IRQ 4</b>	Port address 3F8h, IRQ 4
<b>2F8 / IRQ 3</b>	Port address 2F8h, IRQ 3
<b>3E8 / IRQ 4</b>	Port address 3E8h, IRQ 4
<b>2E8 / IRQ 3</b>	Port address 2E8h, IRQ 3
<b>Auto</b>	BIOS assigns port address and IRQ channel automatically
<b>Disabled</b>	Disables serial port

### 3.8.9 Onboard Parallel Port

This field configures the onboard parallel port. There are several port addresses and IRQ channel that can be selected.

Options	Description
<b>378 / IRQ 7</b>	Port address 378h, IRQ 7
<b>278 / IRQ 5</b>	Port address 278h, IRQ 5
<b>3BC / IRQ 7</b>	Port address 3BCh, IRQ 7
<b>Disabled</b>	Disable parallel port

### 3.8.10 Parallel Port Mode

This field configures the operating mode of onboard parallel port.

Options      **SPP (\*) / EPP / ECP / ECP+EPP**

---

### 3.8.10.1 ECP Mode Use DMA

When the *Parallel Port Mode* field is configured as *ECP*, *ECP+EPP* mode, it needs a DMA channel for data transfer. This field specifies the DMA channel for ECP parallel port use.

Options	Description
<b>1</b>	Use DMA channel 1
<b>3 (*)</b>	Use DMA channel 3

### 3.8.10.2 EPP Mode Select

When the *Parallel Port Mode* field is configured as *EPP*, *ECP+EPP* mode, the EPP version can be specified by this field.

Options	Description
<b>EPP1.7</b>	Use EPP 1.7 protocol
<b>EPP1.9 (*)</b>	Use EPP 1.9 protocol

## 3.8.11 Init Display First

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

Options	PCI Slot
	<b>AGP (*)</b>

## 3.8.12 POWER ON Function

This field configures the Keyboard-Power-On function of the system. If you change the value, the Power On Self Test (POST) needs to be executed completely to update the new setting and make it effect. Once a power outage occurs, you need to configure this field again.

Options	Description
<b>Hot KEY</b>	Enable Keyboard-Power-On function. You can assign a hot key through the <i>Hot Key Power ON</i> field. Press this hot key will power on your system.
<b>Password</b>	Enable Keyboard-Power-On function. You can assign a password string through <i>KB Power ON Password</i> field. Type this password string will power on your system.
<b>Mouse left</b>	Enable Mouse left function. You can assign a Mouse left key through the <i>Mouse left Power ON</i> field. Press this mouse left will power on your system.
<b>Mouse right</b>	Enable Mouse right function. You can assign a Mouse right key through the <i>Mouse right Power ON</i> field. Press this mouse right will power on your system.
<b>Button only</b>	Enable Button only function. You only use <i>Button</i> through the Power on your system.
<b>Keyboard 98</b>	Enable Keyboard 98 function. Since this support is not a standard feature in AwardBIOS, you need to <i>make a special request in advance</i> .

---

### 3.8.12.1 Hot Key Power ON

This field specifies the Keyboard-Power-On hot key.

Options      **Ctrl-F1 / Ctrl-F2 / Ctrl-F3 / Ctrl-F4 / Ctrl-F5 / Ctrl-F6  
Ctrl-F7 / Ctrl-F8 / Ctrl-F9 / Ctrl-F10 / Ctrl-F11 / Ctrl-F12**

### 3.8.12.2 KB Power ON Password

This field specifies the Keyboard-Power-On password.

## 3.8.13 PWRON After PWR-Fail

The field configures system is on or off after power lost..

Options	Description
<b>Former-Sts(*)</b>	System is on or off follows the status before power lost
<b>On</b>	System is on after power lost
<b>Off</b>	System is off after power lost

## 3.9 LOAD SETUP DEFAULTS

This setup page is used for loading the manufacturer default values.

## 3.10 IWILL SMART SETTING

### 3.10.1 CPU Speed

This field specifies supports you more CPU's speed.

Options      **300 (66x4.5) (\*) / 333 (66x5) / 366 (66x5.5) / 400 (66x6) / 433 (66x6.5) / 466 (66x7)  
/ Manual    MHz**

#### 3.10.1.1 Manual

This option sets the CPU speed.

In this field, the CPU speed is indicated like this:

**CPU speed = CPU Frequency x CPU Ratio**, select the CPU speed according to the type and the speed of your CPU.

#### CPU Frequency

Option      **50/55/60/66/68/75/83 MHz**

#### CPU Ratio:

Option      **3/3.5/4/4.5/5/5.5/6/6.5/7/7.5/8**

---

### 3.10.2 Auto Detect DIMM/PCI Clk

When enabled, the motherboard will automatically disable the clock source for a DIMM socket, which does not have a module on it. The same story will occur on all PCI slots.

Options	<b>Enabled (*)</b>
	<b>Disabled</b>

### 3.10.3 BIOS-ROM Flash Protect

When Non-Flash, BIOS will not be upgraded.

Options	<b>Non-Flash(*)</b>
	<b>Flashable</b>

## 3.11 SUPERVISOR / USER PASSWORD SETTING

These setup pages are used for password setting. Note that the User Password can enter BIOS setup program, but has no rights to change the value of any fields.

When a password has been enabled and the *Security Option* field is set as *Setup*, you will be prompted to enter the password every time you try to enter BIOS Setup program. This prevents an unauthorized person from changing any part of your system configuration. Additionally, if the *Security Option* field is set as *Boot*, the BIOS will request a password every time your system boot. This would prevent unauthorized use of your computer.

To disable a password, just press <Enter> when you are prompted to enter the new password. A message will confirm that the password is disabled. Once the password is disabled, the system will boot and you can enter setup program freely.

## 3.12 IDE HDD AUTODETECTION

This setup page detects and configures hard disk parameters automatically.

## 3.13 SAVE & EXIT SETUP

Save current CMOS value and exit BIOS setup program.

## 3.14 EXIT WITHOUT SAVING

Abandon all CMOS value changes and exit BIOS setup program.

---

# Chapter 4

## Software and Tools

### 4.1 Software Installation

The attached Power Installer CD contains all the necessary drivers, utilities and tools for Iwill's full range of motherboards. It provides the users an easy way to install the needed drivers without going through complicated process, for this Power Installer is able to auto-detect and display the drivers, utilities and tools needed for your motherboard.

**Note:** Not all the drivers or utilities can be used on this motherboard.

#### 4.1.1 What's contained in Power Installer CD (for this motherboard needed)

##### 1. Drivers

- a. Intel PIIX4 Patch Program
- b. Intel IDE Bus Master Driver
- c. Aureal A3D Sound Driver

##### 2. Utilities

- a. McAfee Anti-Virus
- b. Iwill PC Doctor

##### 3. Tool

- a. Adobe Acrobat Reader

##### 4. Make Driver Diskettes

##### 5. Manuals

#### 4.1.2 How to use the Power Installer CD

This Power Installer CD is an Auto Run program under Windows 95 and Windows NT. You may just click on the software shown on screen that need to be installed, then follow the prompts to complete setup.

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## 4.2 How to make driver diskette

This bootable Power Installer CD also allows you to boot up your system, even when the OS is not installed.

When the system boots up, it will perform "Iwill Diskette Creator" automatically for making the driver diskettes you need.

Note: At least one CD-ROM drive and one 1.44M floppy drive are necessary to make "Iwill Diskette Creator" work properly.

Follow the instructions below to make your own device driver diskettes if you have a CD-ROM with IDE interface. Should you have SCSI CD-ROM installed, please skip 1 – 6 and start the following procedure from Step 7.

1. Press "**Del**" key to enter "**CMOS Setup Utility**" menu while boot up the system.
2. Use arrow keys to select "**BIOS FEATURES SETUP**" on the menu, then press "**Enter**."
3. Select "**Boot Sequence**" and change the default setting from A.C. SCSI to "**CD-ROM.C.A**" with page up/page down key.
4. Press "**Esc**" key to go back to CMOS SETUP Utility menu.
5. Press "**F10**" to select "Save and Exit Setup"
6. Press "**Y**" then "Enter" to complete. Now you are able to boot up the system from CD-ROM.
7. Insert the Power Installer CD into the CD-ROM drive and restart the computer.
8. Iwill Diskette Creator is now executed automatically for making your own driver diskettes.
9. Make the desired driver diskettes according to the instructions prompted on screen.

## 4.3 View Detailed Manual

This Power Installer includes all the User's Manuals with detailed information for each motherboard.

### 4.3.1 How to view the user's manual

1. Insert Power Installer into your CD-ROM drive.
2. Click on **View Manual**, the following selections will pop out for your choice.

#### **IWILL Product Manual**

Pentium III Xeon Series:

1. DGL200

Pentium III Series:

1. DBL100
2. DBS100
3. BS100
4. BD100
5. DBD100

Pentium II Series:

1. LE370
2. DPIIIS2
3. PIILS
4. PIILD
5. PIILE

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Pentium Series:

1. XA100 Plus
2. XA100

SCSI User's Guide:

1. Adaptec EZ-SCSI 4.0
2. Adaptec 7800 Family Manager Set

3. Key-in the corresponding number for the user's manual you wish to read.

## 4.4 CPU frequency selection by BIOS

Iwill LE370 motherboard offer the soft-menu for CPU selection.

### Through Software -- BIOS setting

In case there is a special need for over-clocking, please ...

- a. Press "**Del**" key to enter "**CMOS Setup Utility**"
- b. Select **IWILL SMART SETTING**
- c. Select **CPU Speed**
- d. Use page down/page up key to choose  
**300 (66x4.5) (\*) / 333 (66x5) / 366 (66x5.5) / 400 (66x6) / 433 (66x6.5) / 466 (66x7) / 500(66x7.5)/533(66x8)/ Manual MHz** (default: 300 MHz)
- e. Press **Save & Exit CMOS Setup** to complete

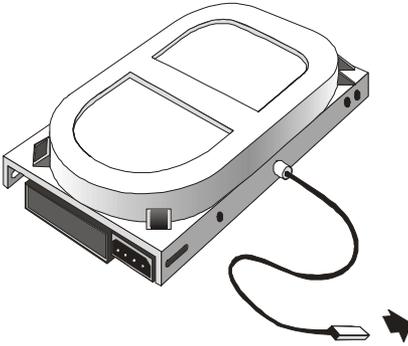
Should your CPU fails to over-clock, the screen will become blank and the system will hang up while re-boot the system. If this happens, Please proceed the following process:

- a. Power Off the system.
- b. Hold the **INSERT** key then Power On the system again.  
The system will re-start with 66 MHz external Frequency.
- c. You may now select lower frequency and try again.

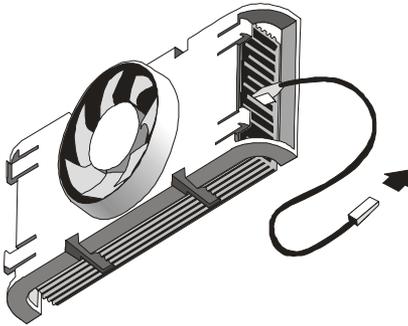
**Warning:** Over-clocking is not guaranteed. They are provided to experienced engineers for testing purpose.

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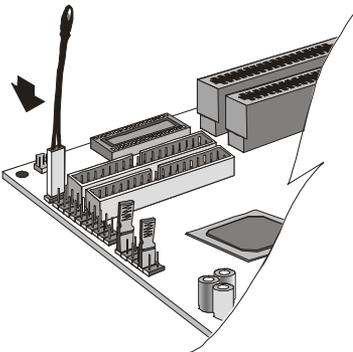
## 4.5 How to use Thermal sensor



Detect all the heat-releasing devices. Firmly screw the connector to the device.



Detect CPU temperature.  
Connect it to CPU heat sink. Not for LE370



Detect system temperature.  
No need to contact this thermistor to the device.  
Just leave it on the motherboard.

---

## 4.6 How to install Aureal A3D sound driver

A. When you first time install windows 98/95. Please follow instructions below.

1. Select "Control Panel".
2. Click on "system"
3. Select "Device management".
4. Click on "other devices". You will find an "exclamation mark" & "question mark" ahead.
5. Select "Driver"
6. Select "Update Driver"
7. Put into "Iwill Power Installer" into your CD-ROM.
8. Select CD path "D:/drivers/au8820/win9x"
9. Follow the instructions under windows to complete.

B. Upgrade. Please follow instructions below.

1. windows will auto-detect your system, and prompt with "Unknow Device" message on your monitor.
2. Put into "Iwill Power Installer" into your CD-ROM
3. Select your CD-ROM path "D:/drivers/au8820/win9x"
4. Follow the instructions under windows to complete.