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Item Checklist

Please check that your package is complete. If you discover damaged or missing items, please contact your retailer.

Motherboard x 1

- 40-pin IDE Connector Flat Cable x 1
- 34-pin Floppy Disk Drive Flat Cable x 1
- User's Manual x 1
- CD x 1
- LDCM CD x 1 (Option)
- USB Connector Cable with bracket x 1 (Option)
- IrDA Module x 1 (Option)

Option : Components will be include upon customer ordering instructions per Proforma Invoice & additional external procurement cost will be included.

1. Specifications

Microprocessor

Support for a single Intel PPGA Mendocino processor.

66MHz host bus speed

PPGA socket 370

Main Memory

Three 168-pin dual inline memory module (DIMM) sockets.

Supports up to 384 MB of synchronous DRAM (SDRAM)

Intel 82440LX AGPset and PCI/IDE Interface

Intel 82443LX PCI/AGP controller (PAC).

Integrated PCI bus mastering controller

Integrated Accelerated Graphics Port (AGP) interface

Intel 82371EB PCI/ISA/IDE Xcelerator (PIIX4E)

Multifunction PCI-to-ISA bridge

Universal Serial Bus (USB) and DMA controllers

Two fast IDE interfaces that support up to four IDE drives or devices

Power management logic

Real-time clock

I/O Features

Winbond 83977 super I/O controller

1xFDD Port support up to 2.88MB

1xParallel Port (LPT) support ECP/EPP

2xHigh Speed Serial (16C550 UART) Ports

2xUniversal Serial Bus (USB) Ports

1xPS/2 Keyboard Port

1xPS/2 Mouse Port

1xIrDA Front and Rear Port

Expansion Slots

One AGP slot

Four PCI slots

Three ISA slots

Award BIOS (1 Mbit flash memory)

Plug and Play compatible

Advanced Power Management (APM) 1.2 support

Hardware monitoring and alert (Optional)

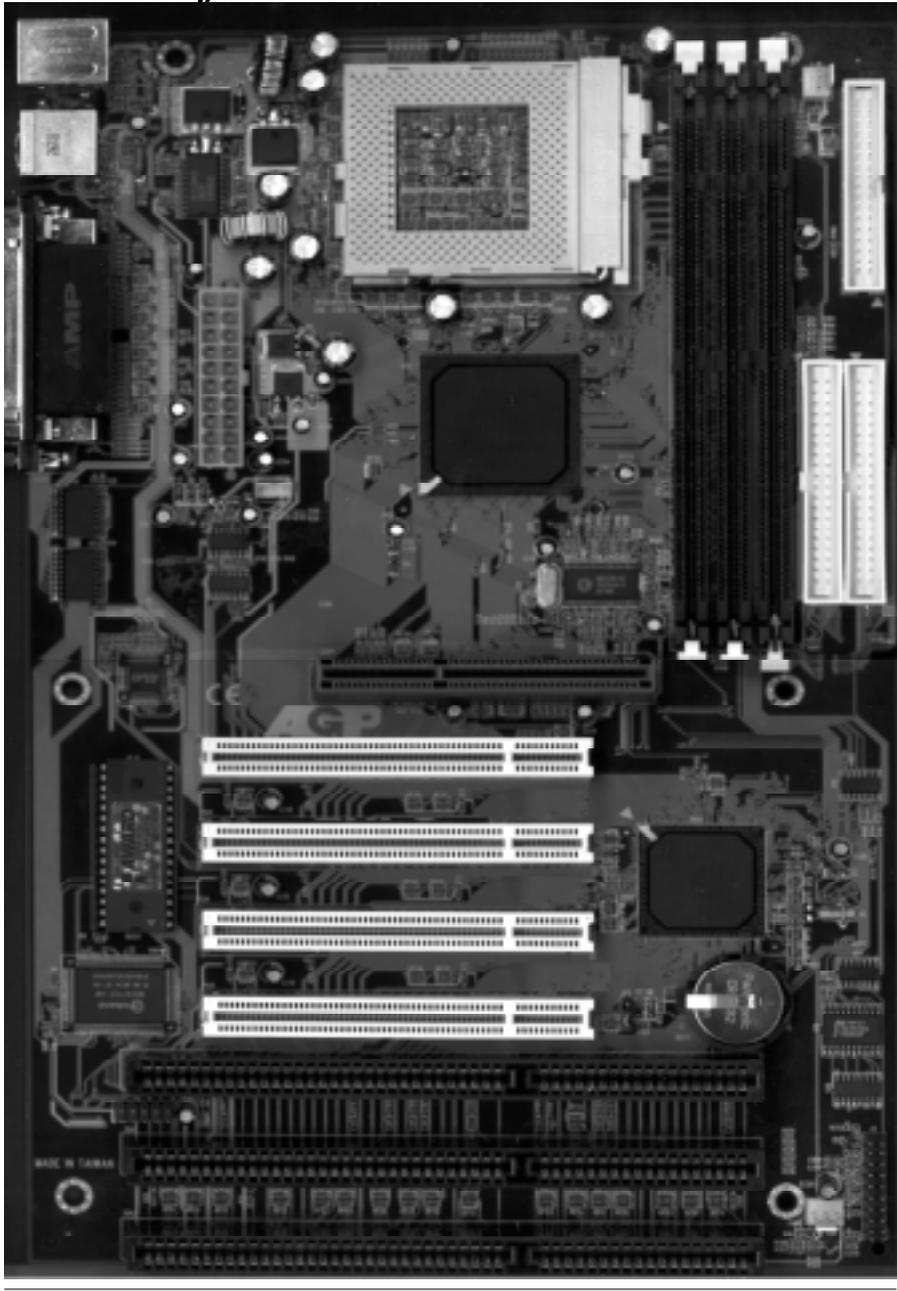
Modem Ring On. Wake on LAN

Keyboard power on, PS/2 mouse power on

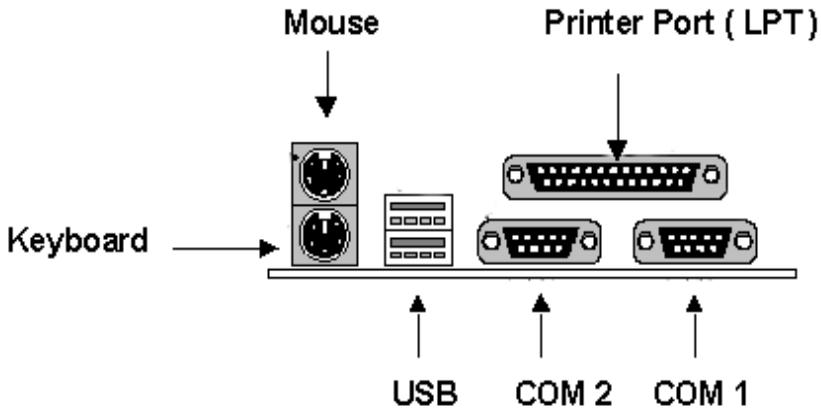
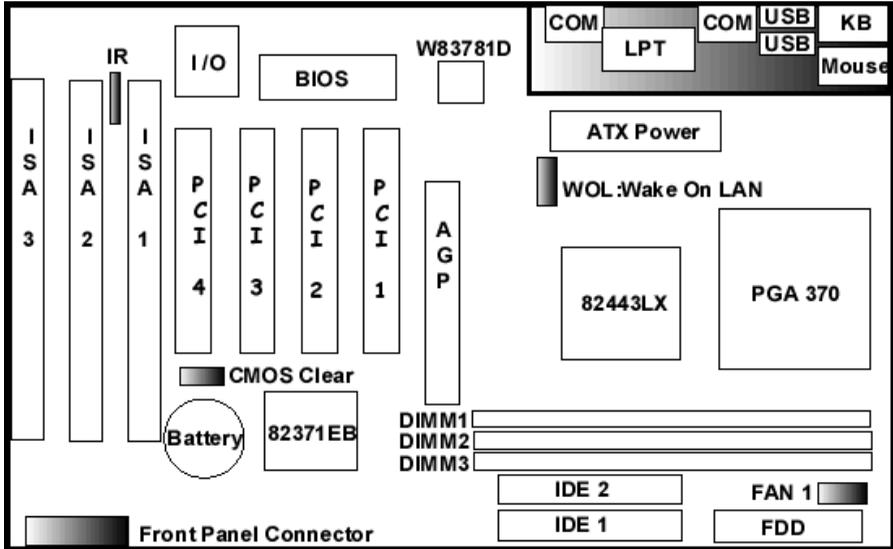
Form Factor

ATX, 305mmX190mm

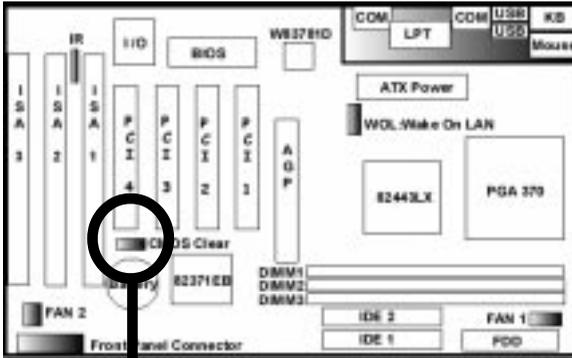
2. Parts Of The Mother Board



3. MotherBoard Layout Quick View



5-1 Jumper Setting



CMOS Clearing

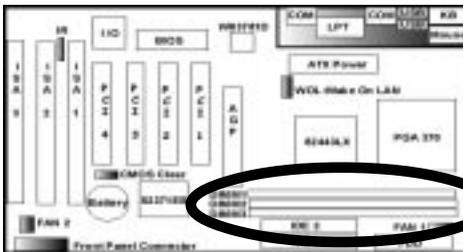
CMOS Clear, which is a safety hook if you forget the password. Follow the steps:

After you have turned off your computer, clear the CMOS memory by momentarily shorting pins 2-3, for a few seconds. Then restore it to the initial 1-2 jumper setting in order to recover and retain the default settings. Reset your computer now.

5-2 Install System Memory Modules

This motherboard supports 3 slots for 168-pin 3.3V Non-buffered DIMM modules, providing support for up to 384 MB of main memory using DIMM modules from 8MB to 128MB. The following is the example to install the system SDRAM memory module combination: if you have two DIMM Modules, you has better install them into DIMM Slot 1 & Slot 2 with the Max possible memory size up to 256MB (128 + 128)

| Numbers of the Memory Module | DIMM1 | DIMM2 | DIMM3 | Memory Size | Max. Size |
|------------------------------|-------|-------|-------|-------------|-----------|
| 1 | 1st | | | 8~128 MB | 128 MB |
| 2 | 1st | 2nd | | 8~128 MB | 256 MB |
| 3 | 1st | 2nd | 3rd | 8~128 MB | 384 MB |



- 1
- 2
- 3

The DIMM types supported is SDRAM (Synchronous DRAM). The following is the summary:

Single side:

1Mx64 (8MB), 2Mx64 (16MB), 4Mx64 (32MB), 8Mx64 (64MB), 16Mx64 (128MB)

Double side:

1Mx64x2 (16MB), 2Mx64x2 (32MB), 4Mx64x2 (64MB), 8Mx64x2 (128MB).

Total Memory Size:

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.

■ Please Install the DIMM Module from DIMM Slot 1 ■

5-3 Install the Central Processing Unit (CPU)

Selecting the CPU Frequency (Option)

CPU voltage auto-detection and allow user to set CPU frequency through CMOS setup, no jumper or switch is needed. The correct CPU information is saved into EEPROM, with these technologies, the disadvantages of Pentium base jumper-less design are eliminated. There will be no worry of wrong CPU voltage detection and no need to re-open the housing if CMOS battery loss. The CPU frequency selection is set by BIOS:

Currently, the CPU front side bus will be fixed to 66MHZ. There are 3 selectable clock options in the future version(66MHZ, 75MHZ, 83MHZ). And the new generation Intel PGA 370 type CPU will force the CPU clock ratio to the rated timing, there is no need to set the CPU Front Side Bus and the CPU Ratio for this Mother Board.

| ROM PCI/ISA BIOS (2A69JECL) | |
|-----------------------------|--------------------|
| CHIPSET FEATURES SETUP | |
| AWARD SOFTWARE, INC. | |
| Auto Configuration | : Enabled |
| DRAM Speed Selection | : 60ns |
| MA Wait State | : Fast |
| EDO RAS# To CAS# Delay | : 3 |
| EDO RAS# Precharge Time | : 4 |
| EDO DRAM Read Burst | : x222 |
| EDO DRAM Write Burst | : x222 |
| DRAM Data Integrity Mode | : Non-ECC |
| CPU-to-PCI IDE Postng | : Disabled |
| System BIOS Cacheable | : Disabled |
| Video BIOS Cacheable | : Disabled |
| Video RAM Cacheable | : Disabled |
| 8 Bit I/O Recovery Time | : 3 |
| 16 Bit I/O Recovery Time | : 2 |
| 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 |
| SDRAM CAS latency Time | : 3 |
| Auto Detect DIMM/PCI Clk | : Enabled |
| Spread Spectrum Modulated | : Disabled |
| CPU Host cLock | : 66 MHz |
| Current System Temp. | : |
| Current CPU1 Temperature | : |
| Current CPU2 Temperature | : |
| Current CPUFAN1 Speed | : |
| Current CPUFAN2 Speed | : |
| Current CPUFAN3 Speed | : |
| IN0(V) : | IN1(V) : |
| IN2(V) : | + 5 V : |
| +12 V : | -12 V :- |
| -- 5 v :- | |
| ESC : Quit | ↑ + : Select Item |
| F1 : Help | Pu/PD/+/- : Modify |
| F5 : Old values | (Shift)F2 : Color |
| F6 : Load BIOS Defaults | |
| F7 : Load Setup Defaults | |

5-4 External Connction

1. Unplug your power supply when adding or removing expansion cards or other system components. Failure to do so may cause severe damage to both your motherboard and expansion cards.

2. Ribbon cables should always be connected with the red stripe on the Pin 1 side of the connector. The Four Corners of the connectors are labeled on the motherboard. Pin 1 is the side closest to the power connector on hard drives and floppy drives. IDE ribbon cable must be less than 18in. (46cm), with the second drive connector no more than 6in. (15cm) from the first connector.

3. The motherboard requires a power supply and a “power good” signal. Make the ATX power supply can take at least 10mAmp load on the 5V Standby lead (5VSB) to meet the standard ATX specification.

4. To prevent electrical spikes, make sure that the power supply is not connected to an outlet when making or removing connections. Power supplies contain power remains, which can damage electrical components.

5. Expansion Card Installation Procedure

! Read the documentation for your expansion card and make any necessary hardware or software settings for your expansion card, such as jumpers.

! Remove your computer system’s cover and the bracket plate on the slot you intend to use. Keep the bracket for possible future use.

! Carefully align the card’s connectors and press firmly.

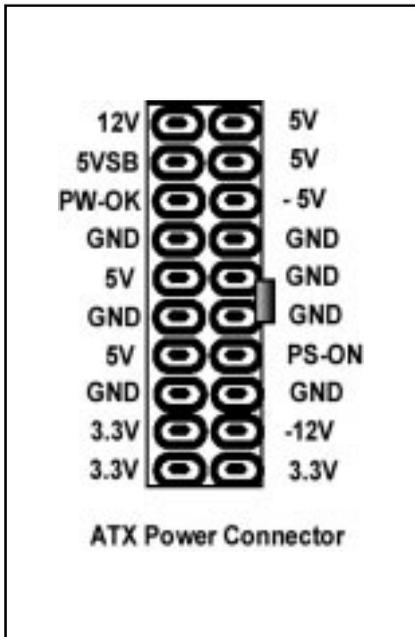
! Secure the card on the slot with the screw you removed above.

! Replace the computer system’s cover.

! Set up the BIOS if necessary (such as IRQ xx Used By ISA: Yes in PNP AND PCI SETUP)

5-4-1 Power Cable

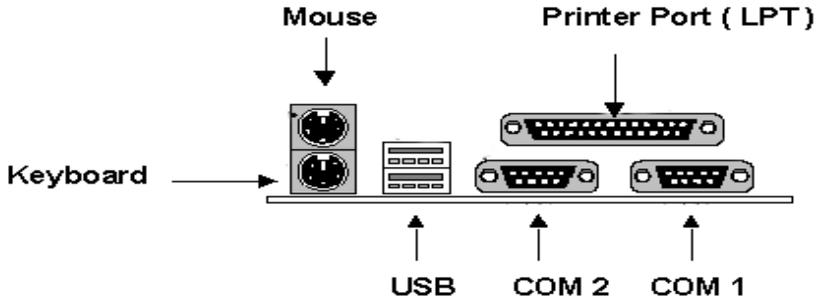
Plug the connector from the power directly into the 20-pin male ATX PW connector on the motherboard as shown in the following figure. The plug from the power supply will only insert in one orientation because of the different hole sizes. Find the proper orientation and push down firmly making sure that the pins are aligned and the power supply is off before connecting or disconnecting the power cable.



Make sure that your ATX power supply can supply at least 10 mAmp on the 5-volt standby lead (5VSB). You may experience difficulty in powering on your system if your power supply cannot support the load. For Wake on LAN support, your ATX power supply must supply at least 1 Amp.

You should plug in/out the Power Cable to/from the Mother Board more carefully, all the Pins should be connect at the same time.

5-4-2 KB, Mouse, USB, COM and LPT



PS/2 Keyboard Connector

The onboard PS/2 keyboard connector is a 6-pin Mini-Din connector marked KB2. The view angle of drawing shown here is from back panel of the housing.

| Pin | Description | Pin | Description |
|------------|--------------------|------------|--------------------|
| 1 | Keyboard Data | 2 | N.C. |
| 3 | Ground | 4 | +5VDC |
| 5 | Keyboard Clock | 6 | N.C. |

PS/2 Mouse Connector

The onboard PS/2 mouse connector is a 6-pin Mini-Din connector marked PS2. The view angle of drawing shown here is from back panel of the housing.

| Pin | Description | Pin | Description |
|------------|--------------------|------------|--------------------|
| 1 | Mouse Data | 2 | N.C. |
| 3 | Ground | 4 | +5VDC |
| 5 | Mouse CLK | 6 | N.C |

USB (Universal Serial Bus Connector)

You can attach USB devices to the USB connector. The Mother board contains two USB connectors, which are marked as USB. USB is a new serial bus design that is capable of cascading low-/medium-speed peripherals (less than 12Mbps) such as keyboard, mouse, joystick, scanner, printer and modem/ISDN. With USB, complex cable connections at the back panel of your PC can be eliminated.

| <i>Pin</i> | <i>Description</i> | <i>Pin</i> | <i>Description</i> |
|-------------------|---------------------------|-------------------|---------------------------|
| 1 | +5 VDC | 5 | +5VDC |
| 2 | DATA - | 6 | DATA- |
| 3 | DATA + | 7 | DATA+ |
| 4 | Ground | 8 | Ground |

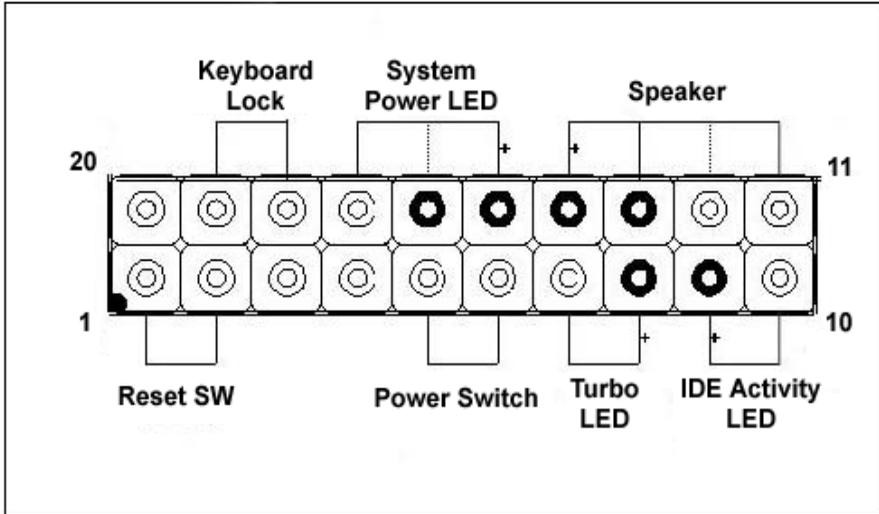
Serial Devices (COM1/COM2)

The onboard serial connectors are 9-pin D-type connector on the back Panel of mainboard. The serial port 1 connector is marked as COM1 and the serial port 2 connector is marked as COM2.

Printer Port (LPT)

The onboard printer connector is a 25-pin D-type connector marked PRINTER. The view angle of drawing shown here is from back panel of the housing.

5-4-3 *Front Panel Connection*



1). **IDE Activity LED (Pin 9,10)**

This connector connects to the IDE (hard disk) activity indicator light on the system abinet.

2). **System Power LED (Pin 15,16,17)**

This 3-pin connector lights the system power LED when the motherboard has power.

3). **Turbo LED (Pin 7,8)**

If the cabinet provide the turbo LED cable, connect the cable to this two pin connector to turn on the LED on the front panel.

4). ATX Power Switch (Pin 5,6)

The system power is controlled by a push-switch, connected to this lead. Pushing the button once will turn on the power and pushing again will turn off the power. The system power LED shows that status of the system's power. If the power to the ATX power supply is interrupted while the motherboard is on, standby power will remember that the motherboard should be on and boot the computer when power is reapplied to the ATX power supply.

5). Reset Switch (Pin 1,2)

This 2-pin connector connects to the case-mounted reset switch for rebooting your computer without having to turn off your power switch. This is a preferred method of rebooting in order to prolong the life of the system's power supply.

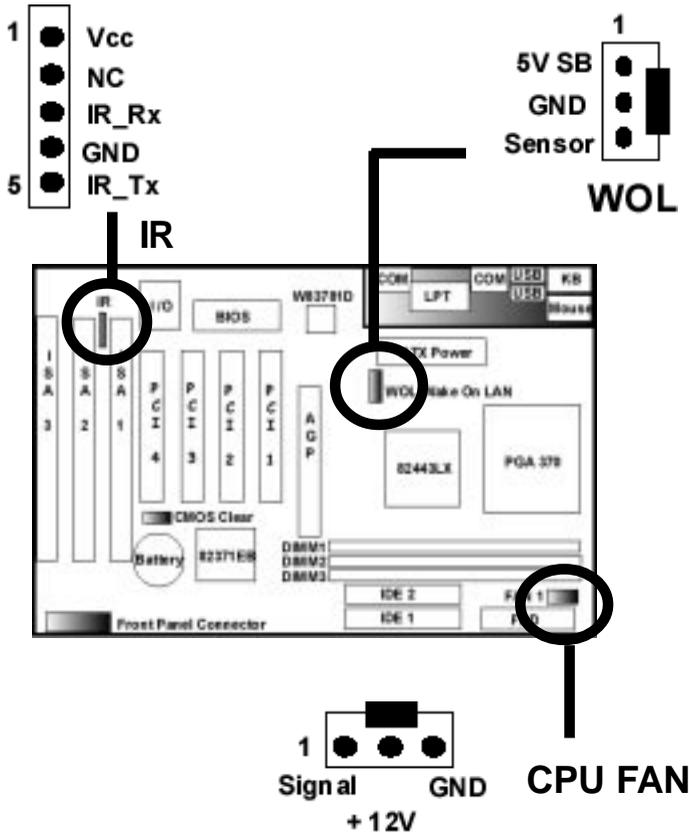
6). Keyboard Lock Switch Lead (Pin 18,19)

This 3-pin connector connects to the case-mounted keyboard lock switch for locking the keyboard.

7). Speaker Connector (Pin 11,12,13,14)

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

5-4-4 FAN, IR, WOL Connector



A. CPU Cooling FAN Connector:

This connectors support a CPU cooling fan of 500 mA (6WATT, +12V) or less. Orient the fan so that the heat sink fins allow airflow to go across the onboard heat sink(s). Depending on the fan manufacturer, the wiring and plug may be different. The red wire should be positive (+12V), while the black should be ground. Connect the fan’s plug to the board taking into consideration the polarity of the connector.

B. IrDA Compliant Infrared Module Connector

This connector support the optional wireless transmitting and receiving infrared module. This module mounts to a small opening on system cases that support this feature. You must also configure UART 2. Use Infrared in Chipset Features Setup to select whether UART 2 is directed for use with COM2 or IrDA. When IrDA is selected in BIOS, COM2 will be disabled. Use the five pins as shown and connect a ribbon cable from the module to the motherboard to the pin definitions.

| | |
|-------|-------|
| Pin 1 | Vcc |
| Pin 2 | NC |
| Pin 3 | IR_RX |
| Pin 4 | GND |
| Pin 5 | IR_TX |

C. Wake-On-LAN (WOL)

Attach the 3-pin connector from the LAN card which supports the Wake-On-LAN (WOL) function to the WOL connector on the motherboard. This WOL function lets users wake up the connected computer through the LAN card. Please install according to the following pin assignment:

5-5 Power On Procedure

1. After all connections are made, close the system case cover.
2. Be sure that all switches are off (in some systems, marked with 0)
3. Make sure your power supply voltage is correctly set to 110V or 230V.
4. Connect the power supply cord into the power supply located on the back of your system case according to your system user's manual.
5. Connect the power cord into a power outlet that is equipped with a surge protector.
6. You may then turn on your devices in the following order:

Your monitor

External SCSI devices (starting with the last device on the chain)

Your system power. For ATX power supplies, you need to switch on the power supply as well as press the ATX power switch on the front of the case.

7. The power LED on the front panel of the system case will light. For ATX power supplies, the system LED will light when the ATX power switch is pressed. The monitor LED may light up after the system power up, if it complies with "green" standards or if it has a power standby feature. The system will then run power-on tests. While the tests are running, additional messages will appear on the screen. If you do not see anything within 30 seconds from the time you turn on the power, the system may have failed a power-on test. Recheck your jumper settings and connections or call your retailer for assistance.

8. During power-on, hold down <Delete> to enter BIOS setup menu if you want to run the BIOS Setup Utility.

Powering Off your computer: You must first exit or shut down your operating system before switching off the power switch. For ATX power supplies, you can press the ATX power switch after exiting or shutting down your operating system. If you use Windows 95/98, click the Start button, click Shut Down, and then click Shut down the computer. The system will give three quick beeps after about 30 seconds and then power off after Windows shuts down.

The message "You can now safely turn off your computer" will not appear when shutting down with ATX power supplies.

Appendix : BIOS Setup Tips

Entering the Award BIOS Setup Menu

The BIOS setup utility is a segment of codes/routines residing in the BIOS Flash ROM. This routine allows you to configure the system parameters and save the configuration into the 128 byte CMOS area, (normally in the RTC chip or directly in the main chipset). To Enter the BIOS Setup, press **DEL** during POST (Power-On Self Test).

| ROM PCI/ISA BIOS (2A69JECL) CMOS SETUP UTILITY AWARD SOFTWARE, INC. | |
|---|--------------------------|
| STANDARD CMOS SETUP | INTEGRATED PERIPHERALS |
| BIOS FEATURES SETUP | SUPERVISOR PASSWORD |
| CHIPSET FEATURES SETUP | USER PASSWORD |
| POWER MANAGEMENT SETUP | IDE HDD AUTO DETECTION |
| PNP/PCI CONFIGURATION | SAVE & EXIT SETUP |
| LOAD BIOS DEFAULTS | EXIT WITHOUT SAVING |
| LOAD SETUP DEFAULTS | |
| Esc : Quit | ↑ ↓ + - : select item |
| F10 : Save & Exit Setup | (Shift)F2 : change color |

1. Standard CMOS Setup

The Standard CMOS Setup™ sets the basic system parameters such as the date, time, and the hard disk type. Use the arrow keys to highlight an item and **Page Up** or **Page Down** to select the value for each item.

Tips:

The enhanced IDE feature allows the system to use a hard disk with a capacity of more than 528MB. This is made possible through the Logical Block Address (LBA) mode translation. The LBA is now to be considered as a standard feature of current IDE hard disk on the market which capability is larger than 528MB. Note that if HDD is formatted with LBA On, it will not be able to boot with LBA Off.

2. BIOS Features Setup

| ROM PCI/ISA BIOS (2A69JECL) | |
|-----------------------------|--------------------------------|
| BIOS FEATURES SETUP | |
| AWARD SOFTWARE, INC. | |
| virus warning | : Disabled |
| CPU Internal Cache | : Enabled |
| External Cache | : Enabled |
| Quick Power on Self Test | : Disabled |
| Boot Sequence | : A,C,SCSI |
| Swap Floppy Drive | : Disabled |
| Boot Up Floppy Seek | : Enabled |
| Boot Up NumLock Status | : on |
| Boot Up System Speed | : High |
| Gate A20 Option | : Normal |
| Typematic Rate Setting | : Disabled |
| Typematic Rate (Chars/Sec) | : 6 |
| Typematic Delay (Msec) | : 250 |
| Security Option | : Setup |
| PCI/VGA Palette Snoop | : Disabled |
| OS Select For DRAM > 64MB | : Non-OS2 |
| Video BIOS Shadow | : Enabled |
| C8000-CBFFF Shadow | : Disabled |
| CC000-CFFFF Shadow | : Disabled |
| D0000-D3FFF Shadow | : Disabled |
| D4000-D7FFF Shadow | : Disabled |
| D8000-DBFFF Shadow | : Disabled |
| DC000-DFFFF Shadow | : Disabled |
| ESC | : Quit ++ : select Item |
| F1 | : Help PU/PD/+/- : Modify |
| F5 | : Old values (shift)F2 : color |
| F6 | : Load BIOS defaults |
| F7 | : Load Setup Defaults |

This screen appears when you select the option BIOS Features Setup from the main menu.

Virus Warning

This feature protects the boot sector and partition table of your hard disk from virus intrusion.

CPU Internal Cache

Enable/Disable the CPU Internal Cache

External Cache

L2 cache, Disabling the parameter will slow down the system. Therefore, we recommend that you leave it enabled unless you are troubleshooting a problem.

Quick Power On Self Test

Speeds up POST by skipping some items that are normally checked.

Boot Sequence

Allows you to specify the system boot up search sequence.

Swap Floppy Drive

This item allows you to swap floppy drives. For example, if you have two floppy drives (A and B), you can assign the first drive as drive B and the second drive as drive A

Boot Up Floppy Seek

Do the floppy seek test

Boot Up NumLock Status

Setting this parameter to On enables the numeric function of the numeric keypad.

Boot Up System Speed

Select High or Low system speed after boot.

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. Select **Fast** that mean GateA20 signal supported by core logic
Normal mean GateA20 signal supported by keyboard controller

Typematic Rate Setting

Enable/Disable the keyboard repeat function. When enabled, continually holding down a key on the keyboard will generate repeatedly keystrokes.

Typematic Rate (Chars/Sec)

This item allows you to control the speed of repeated keystrokes. The default is 30 characters/sec.

Typematic Delay (Msec)

Control the delay time between the first and the second keystroke

Security Option

The **System** option limits access to both the System boot and BIOS setup. A prompt asking you to enter your password appears on the screen every time you boot the system. The **Setup** option limits access only to BIOS setup.

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.

If an ISA card is connected to a PCI VGA card via the VESA connector, and that ISA card connects to a VGA monitor, then that ISA card uses the RAMDAC of the PCI card.

OS Select for DRAM > 64MB

Set to OS/2 if your system is utilizing an OS/2 operating system and has a memory size of more than 64 MB.

Video BIOS Shadow

VGA BIOS Shadowing means to copy video display card BIOS into the DRAM area. This enhances system performance because DRAM access time is faster than ROM.

3. Chipset Features Setup

| ROM PCI/ISA BIOS (2A69JECL) | |
|-----------------------------|--------------------|
| CHIPSET FEATURES SETUP | |
| AWARD SOFTWARE, INC. | |
| Auto Configuration | : Enabled |
| DRAM Speed Selection | : 60ns |
| MA Wait State | : Fast |
| EDO RAS# To CAS# Delay | : 3 |
| EDO RAS# Precharge Time | : 4 |
| EDO DRAM Read Burst | : x222 |
| EDO DRAM Write Burst | : x222 |
| DRAM Data Integrity Mode | : Non-ECC |
| CPU-To-PCI IDE Posting | : Disabled |
| System BIOS Cacheable | : Disabled |
| Video BIOS Cacheable | : Disabled |
| Video RAM Cacheable | : Disabled |
| 8 Bit I/O Recovery Time | : 3 |
| 16 Bit I/O Recovery Time | : 2 |
| 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 |
| SDRAM CAS latency Time | : 3 |
| Auto Detect DIMM/PCI Clk | : Enabled |
| Spread Spectrum Modulated | : Disabled |
| CPU Host Clock | : 66 MHz |
| CPU warning Temperature | : Disabled |
| Current System Temp. | : |
| Current CPU1 Temperature | : |
| Current CPU2 Temperature | : |
| Current CUFAN1 Speed | : |
| Current CUFAN2 Speed | : |
| Current CUFAN3 Speed | : |
| IN0(V) : | IN1(V) : |
| IN2(V) : | + 5 V : |
| +12 V : | -12 V :- |
| -- 5 V :- | |
| ESC : Quit | ++ : Select Item |
| F1 : Help | PU/PD/+/- : Modify |
| F5 : Old values | (shift)F2 : Color |
| F6 : Load BIOS Defaults | |
| F7 : Load Setup Defaults | |

Notice:

It is highly recommended that the items are optimal setting for this Main-Board. You should not change them unless you are familiar with the chipset. Make sure you fully understand the items contained in this menu before you try to change anything. You may change the parameter settings to improve system performance. However, it may cause system unstable if the settings are not correct for your system configuration.

Once you change the setting and not sure which one will be better parameter, please load the BIOS default by press F6 or load the SETUP default by press F7

Auto Configuration

This selects predetermined optimal values of the chipset parameters.

Enabled: This enables auto-configuration and provides the option to select pre-defined timing modes.

Disabled: This allows the user to specify DRAM timing parameters.

EDO DRAM Speed Selection

This value must correspond to the speed of the DRAM installed in your system. The default is 60ns. This item is for EDO DIMM in Pentium II processor at 66MHz only.

MA Wait State

To enable or disable one additional MA (DRAM memory address) wait state. The default setting is Slow.

EDO RAS# to CAS# Delay

This option allows you to set the wait state between row address strobe (RAS) and column address strobe (CAS) signals.

EDO RAS# Precharge Time

This parameter specifies the number of clocks required to dessert the RAS signal to prevent DRAM from losing data after performing a read. This operation is called Precharge.

EDO DRAM Read Burst

Read Burst means to read four continuous memory cycles on four predefined addresses from the DRAM. The default value is x222 for 60ns EDO DRAM. Which means the 2nd,3rd and 4th memory cycles are 2 CPU clocks for EDO. The value of x is the timing of first memory cycle.

EDO DRAM Write Burst

Write Burst means to write four continuous memory cycles on four predefined addresses to the DRAM. The default value is x222 for 60ns EDO DRAM. Which means the 2nd,3rd and 4th memory cycles are 2 CPU clocks for EDO. The value of x is the timing of first memory cycle.

DRAM Data Integrity Mode

1. Non ECC: No error checking at all.
2. ECC: Checks for and corrects errors (ECC memory necessary)

CPU-To-PCI IDE Posting

To enable or disable CPU to PCI IDE post write cycle. The IDE write cycles will be queued in the FIFO or buffer, and CPU can be released to do next job. Disable it, if you find any IDE compatibility problem.

System BIOS Cacheable

Decide the ROM area F0000H-FFFFFFH is cacheable.

Video BIOS Cacheable

Decide the video BIOS C0000H-C7FFFH is cacheable.

Video RAM Cacheable

Decide the ROM area A0000-BFFFF is cacheable.

8 BIT I/O Recovery Time

This function allows you to set the wait state that is added to an 8 bit ISA instruction originated by the PCI bus. It had better set to default.

16 BIT I/O Recovery Time

This function allows you to set the wait state that is added to an 16 bit ISA instruction originated by the PCI bus.

Memory Hole At 15M-16M

Reserve this memory area for the use of ISA adapters ROMs.

Passive Release

This item lets you control the Passive Release function of the PIIX4 chipset (Intel PCI to ISA bridge). This function is used to meet latency of ISA bus master. Try to enable or disable it, if you have ISA card compatibility problem.

Delayed Transaction

This item lets you control the Delayed Transaction function of the PIIX4 chipset (Intel PCI to ISA bridge). This function is used to meet latency of PCI cycles to or from ISA bus. Try to enable or disable it, if you have ISA card compatibility problem.

AGP Aperture Size

AGP could use the DRAM as its video RAM. Choose the DRAM size that you wish to allocate as video RAM.

SDRAM RAS-to-CAS delay

These are timing of SDRAM CAS Latency and RAS to CAS Delay, calculated by clocks. They are important parameters that affect the SDRAM performance, default is 2 clocks. If your SDRAM has unstable problem, change 2/2 to 3/3.

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. RAS is the address latch control signal of DRAM row address. The default setting is 3 clocks.

SDRAM CAS Latency Time This setting defines the CAS timing parameter of the SDRAM in terms of clocks.

Auto Detect DIMM/PCI Clk Allows you to stop DIMM/PCI Clock drive when the DIMM site or PCI Slot are not plug. This item may help reduce EMI.

Spread Spectrum Modulated Allows you to active the Spread Spectrum Modulation function for reduce EMI. (Note: When Enabled the item that performance will be impacted).

CPU Host Clock

Currently, the CPU front side bus will be fixed to 66MHz. There are 3 options selectable clock in the further version(66MHz, 75MHz, 83MHz.). And the new generation Intel PGA 370 type CPU will force the CPU clock ratio to the related timing, there is no need to set the CPU front Side bus for this Mother Board.

CPU Warning Temperature

This is the temperature that the computer will respond to an overheating CPU.

Notes:

The BIOS also support the Current System/CPU Temperature & CPU FAN speed monitor, user can trace this environment in this page. Meanwhile the BIOS also monitor the Main Board important voltage such as the CPU Voltage, +/- 5V, +/- 12V, 5V Standby, Battery voltage, user can double check the current M/B voltage with this page.

4. Power Management Setup

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ROM PCI/ISA BIOS (2A69JECL)
POWER MANAGEMENT SETUP
AWARD SOFTWARE, INC.

Power Management      : Disabled
PM Control by APM     : Yes
Video Off Method      : V/H SYNC+Blank
Video Off After       : Standby
MODEM Use IRQ         : 3
Doze Mode             : Disable
Standby Mode          : Disable
Suspend Mode         : Disable
HDD Power Down       : Disable
Throttle duty Cycle   : 62.5%
PCI/VGA Act-Monitor  : Disabled
Soft-off by PWR-BTTN : Instant-off
Poweron by Ring       : Disabled
Resume by Alarm       : Disabled

wake Up On LAN       : Enabled
IRQ 8 Break suspend  : Disabled

** Reload Global Timer Events **
IRQ[3-7,9-15],NMI   : Disabled
Primary IDE 0        : Disabled
Primary IDE 1        : Disabled
Secondary IDE 0      : Disabled
Secondary IDE 1      : Disabled
Floppy Disk          : Disabled
Serial Port          : Enabled
Parallel Port        : Disabled

ESC : Quit           | |++ : Select Item
F1  : Help          | PU/PD/+/- : Modify
F5  : Old values    | (Shift)F2 : color
F6  : Load BIOS Defaults
F7  : Load Setup Defaults

```

Power Management

This function allows you to set the default parameters of power-saving modes.

PM Control by APM

If Max Saving” is selected, you can turn on this item, transfer power management control to APM

Video Off Method

The option V/H SYNC+Blank allows the BIOS to blank off screen display by turning off the V-Sync signals sent from add-on VGA card. DPMS Supported” allows the BIOS to blank off screen display by your add-on VGA card which supports DPMS; Blank Screen allows the BIOS to blank screen display by turning off the red-green-blue signals.

Video Off After

What time frame that the video will be disabled under current power management settings.

MODEM use IRQ

When the system is in green function, modem will wakes up the system through IRQ you assigned here.

Doze Mode

When disabled, the system will not enter Doze mode. The specified time option defines the idle time the system takes before it enters Doze mode.

Standby Mode

When the standby mode timer times-out, it will enter the standby mode and retain CPU at a slow working speed. The screen will be blanked out.

Suspend Mode

This function works only when the Pentium II Processor is installed. The timer starts to count when system Standby mode timer is timed out and no PM Events are occurring. Valid range is from 1 minute up to 1 hour.

HDD Power Down

This option lets you specify the IDE HDD idle time before the device enters the power down state.

Throttle duty Cycle

Choose the duty cycle time : 12.5%, 25%, 37.5%, 50%, 62.5%(default), 75%, or 87.5%. The bigger of the percentage, the more saving power it gets.

PCI/VGA Active Monitor

Enabled : System can not enter the power saving mode when monitor is on.

Disabled : the system can enter the power saving mode when monitor is on.

Soft-Off by PWRBTN

When enabled, turning the system off with the on/off button places the system in a very low-power-usage state, with only enough circuitry receiving power to detect power button activity or Resume by Ring activity.

Power On by Ring

Enabled : Wake up the system from ring signal.

Disabled : (default) Ring signal can not wake up the system.

Resume by Alarm:

This option allows you to have the system turn on at a preset time each day or on a certain day.

Wake ON LAN

Enable or Disable the Wake up by LAN Card signal function

IRQ8 Break Suspend

Choose Enabled or Disabled (default). Alarm function will be activated when this function is enabled.

4. PNP/PCI Configuration

| ROM PCI/ISA BIOS (2A69JECL) | |
|-----------------------------|-----------------------|
| PNP/PCI CONFIGURATION | |
| AWARD SOFTWARE, INC. | |
| PNP OS Installed | : NO |
| Resources Controlled By | : Auto |
| Reset Configuration Data | : Disabled |
| PCI IDE IRQ Map To | : PCI-AUTO |
| Primary IDE INT# | : A |
| Secondary IDE INT# | : B |
| ESC | : Quit |
| F1 | : Help |
| F5 | : Old Values |
| F6 | : Load BIOS Defaults |
| F7 | : Load Setup Defaults |
| + | : Select Item |
| PU/PD/+/- | : Modify |
| (Shift)F2 | : Color |

PnP OS Installed

Normally, the PnP resources are allocated by BIOS during POST (Power-On Self Test). If you are using a PnP operating system (such as Windows 95,98), set this item to Yes to inform BIOS to configure only the resources needed for booting (VGA/IDE or SCSI). The rest of system resources will be allocated by PnP operating system.

Resources Controlled By

Setting this option to Manual allows you to individually assign the IRQs and DMAs to the ISA and PCI devices. Set this to Auto to enable the auto-configuration function.

Reset Configuration Data

If you had plugged some Legacy cards in the system and there were records into ESCD (Extended System Configuration Data). You can set this field to Enabled to clear ESCD one time, while the Legacy cards were removed.

PCI IDE IRQ Map To

Select PCI-AUTO, ISA, or assign a PCI SLOT number (depending on which slot the PCI IDE is inserted). The default setting is PCI-AUTO. If PCI-AUTO does not work, then assign an individual PCI SLOT number

Primary IDE INT# Secondary IDE INT#

Choose INTA#, INTB#, INTC#, or INTD#. The default setting is INTA#.

Assign IRQ For USB

Assign IRQ For USB

5. *LOAD BIOS / SETUP DEFAULTS*

This Main Menu item loads the default system values. These settings are recommended for optimum performance. If the CMOS is corrupted when enter BIOS setup utility you must load setup default again. Choose this item and the following message appears:

Load SETUP Defaults (Y/N)? Y

To use the Setup defaults, change the prompt to and press <Y> and press <Enter>.

Note:

Optimal is not the slowest setting for this mainboard. If you need to verify a unstable problem, you may manually set the parameter in the BIOS Features Setup and Chipset Features Setup” to get slowest and safer setting.

6. INTEGRATED PERIPHERALS SETUP

| ROM PCI/ISA BIOS (2A69JECL) | |
|-----------------------------|---------------------------------------|
| INTEGRATED PERIPHERALS | |
| AWARD SOFTWARE, INC. | |
| IDE HDD Block Mode | : Disabled |
| IDE Primary Master PIO | : Auto |
| IDE Primary Slave PIO | : Auto |
| IDE Secondary Master PIO | : Auto |
| IDE Secondary Slave PIO | : Auto |
| IDE Primary Master UDMA | : Disabled |
| IDE Primary Slave UDMA | : Disabled |
| IDE Secondary Master UDMA | : Disabled |
| IDE Secondary Slave UDMA | : Disabled |
| On-Chip Primary PCI IDE | : Enabled |
| On-Chip Secondary PCI IDE | : Enabled |
| USB Keyboard Support | : Disabled |
| Init Display First | : PCI Slot |
| KBC input clock | : 8 MHz |
| Onboard FDC Controller | : Enabled |
| Onboard Serial Port 1 | : 3F8/IRQ4 |
| Onboard Serial Port 2 | : |
| UART Mode Select | : |
| RxD , TXD Active | : Hi,Lo |
| IR Transmittion delay | : Enabled |
| Onboard Parallel Port | : |
| Parallel Port Mode | : |
| ECP Mode Use DMA | : 3 |
| EPP Mode Select | : EPP1.9 |
| ESC | : Quit +/- : Select Item |
| F1 | : Help PU/PD+/- : Modify |
| F5 | : Old Values (Shift)F2 : Color |
| F6 | : Load BIOS Defaults |
| F7 | : Load Setup Defaults |

IDE HDD Block Mode

Enabled IDE HDD Block Mode. The HDD transfer rate is better than Disable

IDE Primary Master / Slave PIO

Auto : BIOS will automatically detect the Onboard PCI IDE HDD Accessing mode.

IDE Secondary Master / Slave PIO

Auto : BIOS will automatically detect the Onboard PCI IDE HDD Accessing mode.

IDE Primary Master / Slave UDMA

Allows you to select the first PCI IDE channel of the first master hard disk mode or to detect it by the BIOS if the hard disk supports UDMA (Ultra DMA, faster than DMA).

IDE Secondary Master / Slave UDMA

Allows you to select the second PCI IDE channel of the secondary master hard disk mode or to detect it by the BIOS if the hard disk supports UDMA (Ultra DMA, faster than DMA).

OnChip Primary / Secondary PCI IDE

When enabled, allows you to use the onboard PCI IDE.

USB Keyboard Support

Choose Disabled (default) or Enabled. You need to use the regular keyboard to get in the BIOS Setup to enable this function before using the USB keyboard.

Init Display First

Set the Display Card priority

KB Power on Password

Set the keyboard power on password

Hot key power on

Set the power on hot key

KBC input clock:

Sets the keyboard clock value.

Onboard FDD Controller

When enabled, the floppy diskette drive (FDD) controller is activated.

Onboard Serial Port1 / Port2

If the serial port uses the onboard I/O controller, you can modify your serial port parameter

UART Mode Select

Choose Normal (default), IrDA 1.0, or ASKIR to meet the specification of your Infra Red device.

RxD, TxD Active

Choose Hi/Hi; Hi/Lo (default); Lo/Hi; or Lo/Lo. Ask your IR provider when you use this function.

IR Transmission Delay

Choose Enabled or Disabled. Ask your IR provider when you use this function.

Onboard Parallel Port

Select from a given set of parameters if the parallel port uses the onboard I/O controller. The options are : 278/IRQ5 , 3BC/IRQ7 , 378/IRQ7(Default).

Onboard Parallel Mode

Allows you to connect with an advanced printer.

7. *USER Password*

This Main Menu item lets you configure the system so that a password is required every time the system boots or an attempt is made to enter the Setup program. The password cannot be longer than 8 characters.

8. *IDE HDD Auto Detection*

If your system has an IDE hard drive, you can use this utility to detect its parameters and automatically enter them into the Standard CMOS Setup.

Normal mode

For drives small than 528MB

Large Mode

For drives larger than 528MB that do not use LBA. There can only be used with MS-Dos operating system.

LBA mode

For drives larger than 528MB and up to 8.4GB that use logic block addressing mode. Normally we recommend to select LBA Mode if our HDD drivers large than 528MB

9. *SAVE & EXIT SETUP*

Save the BIOS Data or Quit without Saving

- The END -