



This User's Guide & Technical Reference is for assisting system manufacturers and end-users in setting up and installing the mainboard.

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<http://www.soltek.com.tw>  
e-mail: support@soltek.com.tw

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# Chapter 1: Introduction

## 1-1 CPU

- Supports AMD Althon Slot-A 550MHz/ 600MHz/ 650MHz/ 700MHz/ 750MHz/ 800MHz/ 850MHz/ 900MHz/ 950MHz/ 1GHz CPUs.
- Supports CPU voltage Auto-Detect circuit.

## 1-2 CHIPSET

- VIA KX133 chipset includes VT8371 system controller (North Bridge) and VT82C686A PCI to ISA bridge (South Bridge).
- Supports 32-bit PCI and 32-bit AGP interfaces.
- VIA VT82C686A includes UltraDMA-33/66, 4 USB ports, Integrated Super-I/O, AC97 / MC97 link, Hardware Monitoring, Power Management, and Keyboard / PS-2 Mouse Interfaces plus RTC / CMOS on chip.
- Supports separately powered 3.3V (5V tolerant) interface to system memory, AGP, and PCI bus.
- Modular power management and clock control for advanced system power management.
- 100MHz DDR (Double Data Rate) transfer on K7 CPU address and data buses.
- Supports 66MHz 1x, 2x and 4x modes for AD and SBA signaling.
- Pipelined split-transaction long-burst transfers up to 1GB/sec.
- Supports SideBand Addressing (SBA) mode.
- Windows 95 OSR-2 VxD and integrated Windows 98 / Windows 2000 miniport driver support.
- AGP v2.0 compliant.

## 1-3 L1 / L2 CACHE

- The AMD Athlon processor on-chip L1 cache is 128KB.
- The AMD Athlon processor on-chip L2 cache is 512KB.

## **1-4 MAIN MEMORY**

- Supports PC100 and PC133 MHz SDRAM, VCM SDRAM, and ESDRAM memory up to 3 DIMMs.
- Different DRAM timing for each bank.
- Supports mixed 1M/2M/4M/8M/16M/32MxN DRAMs.
- Supports up to 1.5GB memory space (256MB DRAM technology).
- Supports 3pcs 168pin DIMM sockets ( 64-bit data width and 3.3V DRAM interface with 5V-tolerant inputs).
- Two-bank interleaving for 16Mbit SDRAM support.
- Two-bank and four bank interleaving for 64Mbit SDRAM support.

## **1-5 BIOS**

- Award BIOS.
- Supports Plug & Play (PnP).
- FLASH MEMORY for easy upgrade.
- Supports Advanced Power Management (APM) Rev 1.2 function.
- Supports Advanced Configuration Power Management Interface (ACPI) Rev 1.0 function.
- Year 2000 compliant.

## **1-6 MULTI-I/O FUNCTION**

- One floppy port supports up to 2.88MB.
- 4x Built-in USB connectors.
- Ultra ATA33/66 bus master IDE supports up to 4 IDE devices. (Including ZIP / LS-120 floppy devices)
- 2x 16550A Built-in fast UART compatible serial port connectors.
- Built-in SPP / EPP / ECP parallel port connectors.
- Built-in standard IrDA TX / RX header.
- Peripherals boot function with ATX power.

## **1-7 AC'97 CODEC FUNCTION**

- SoundBlast Pro Hardware and Direct Sound Ready AC'97 Digital Audio Controller.

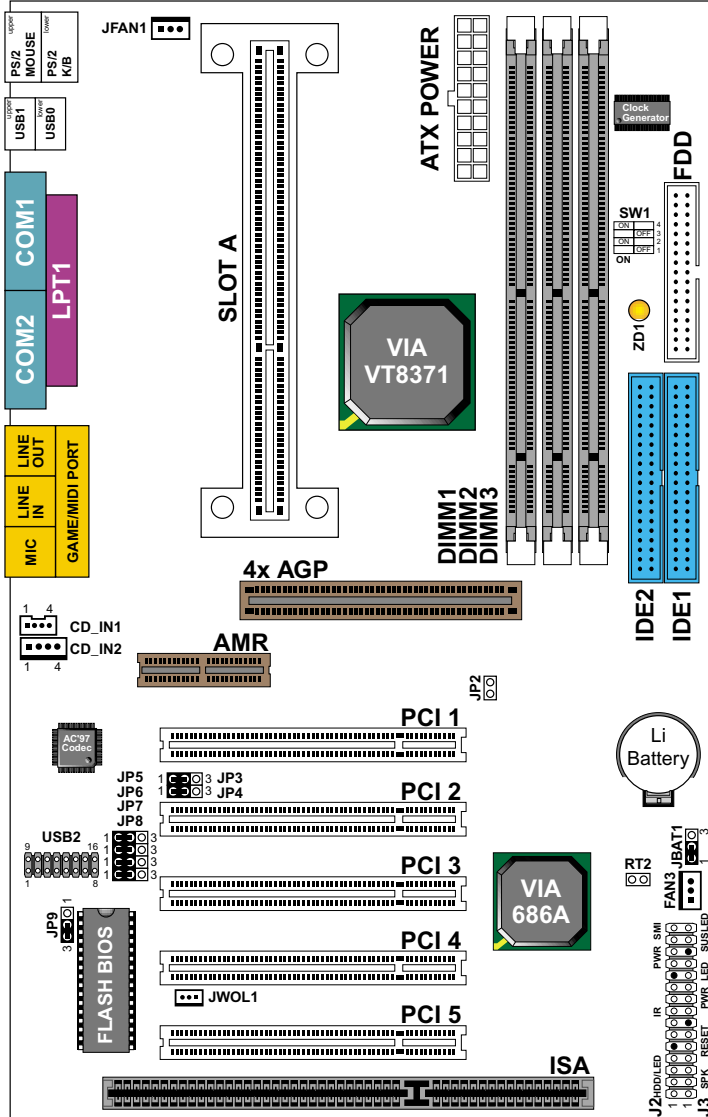
## 1-8 MISCELLANEOUS

- ATX form factor.
- Mainboard size: 19mm X 30.5mm.
- Provides 5x PCI slots, 1x ISA slot, 1x AMR slot, 1x AGP slot and 3x DIMM sockets.
- AGP 2.0 interface with 1x 2x / 4x data transfer and 2x / 4x fast write capability.
- AGP Universal Connector supports via dual mode buffers.
- Supports SCSI, CD-ROM, ZIP, LS-120 boot up function.
- Supports Wake On LAN (WOL) boot up function.
- Supports BIOS Writing Protection.
- Supports BIOS CPU Core Voltage setting. (Optional)
- Provides DIP switch for easy setting.
- Supports Hardware Monitor function.

**NOTE: To use Wake On LAN (WOL) function, the ATX power supply must provide at least 5V/720mA standby current capacity.**

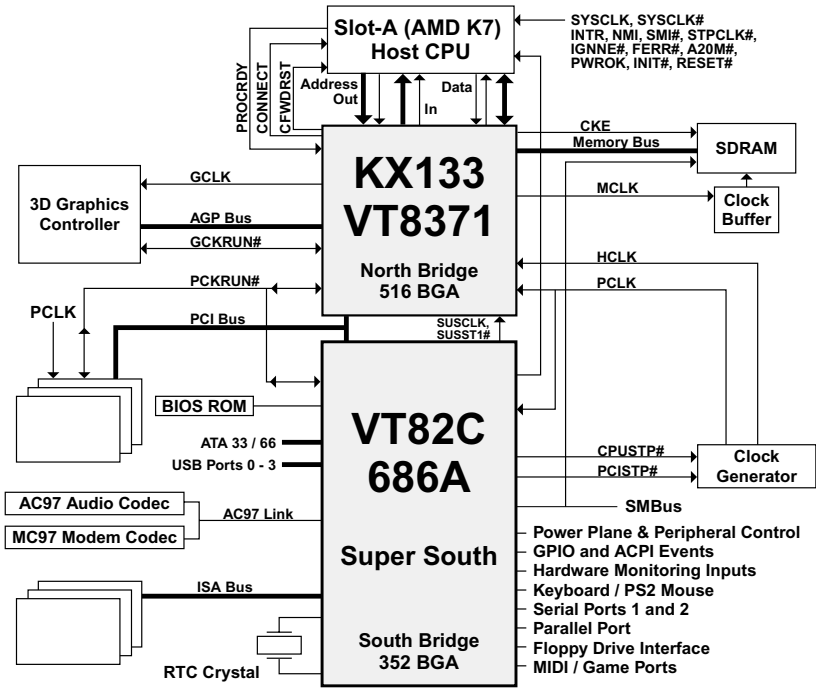
# 1-9 MAINBOARD LAYOUT

- Mainboard default setting: For AMD Athlon™ 100MHz CPU Clock.



**NOTE:** Under 100MHz / 133MHz FSB, the SDRAM spec must complaint PC-100 / PC-133 spec.

## 1-10 MAINBOARD CHIPSETS DIAGRAM



**KX133 System Block Diagram Using the VT82C686A South Bridge**

## 1-11 SYSTEM MEMORY CONFIGURATION

This VIA KX133 (AMD K7) motherboard supports 168 pin DIMM of 4MB, 8MB, 16MB, 32MB, 64MB, 128MB or 256MB to form a memory size between 8MB to 1.5GB (SDRAM). VIA KX133 chipsets provide “Table Free” function. It means that users can install DRAM with any configuration and in any bank, and that is why the DRAM table is not needed but do remember that the DRAM must be 3.3V unbuffered, 4 clock type.



## Chapter 2: Hardware Setup

### 2-1 CPU FSB SELECT

SW1	FSB												
ON <table border="1"> <tr> <td>ON</td> <td>ON</td> <td></td> <td>ON</td> </tr> <tr> <td></td> <td></td> <td>OFF</td> <td></td> </tr> <tr> <td>1</td> <td>2</td> <td>3</td> <td>4</td> </tr> </table>	ON	ON		ON			OFF		1	2	3	4	66MHz
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	ON		ON										
OFF		OFF											
1	2	3	4										
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1	2	3	4										
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OFF			OFF										
1	2	3	4										
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		ON	ON										
OFF	OFF												
1	2	3	4										
ON <table border="1"> <tr> <td>ON</td> <td></td> <td>ON</td> <td>ON</td> </tr> <tr> <td></td> <td>OFF</td> <td></td> <td></td> </tr> <tr> <td>1</td> <td>2</td> <td>3</td> <td>4</td> </tr> </table>	ON		ON	ON		OFF			1	2	3	4	129MHz
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	OFF												
1	2	3	4										
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			ON										
OFF	OFF	OFF											
1	2	3	4										

**NOTE:** Due to the Bus Ratio is internal inside the Athlon CPU, so that there is no any external jumper for user to set the Bus Ratio value.

**WATCH OUT !!!**

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- 1. Please refer to your processor installation or other documentation attached with your CPU for detailed installing instruction.**
- 2. Installing a heat sink and cooling fan is necessary for proper heat dissipation from your CPU. Uncorrected installation may result in overheating and damage of your CPU.**
- 3. Before changing the setting of CPU Vcore from BIOS program, user SHOULD make sure of correct specification both of CPU CLOCK and RATIO. Uncorrected setting may cause damage to your CPU.**

## 2-2 JUMP SETTINGS





### ■ JFAN#: Onboard FAN (12V) Connector.

FAN#	FUNCTION
JFAN1	CPU FAN
JFAN2	SYSTEM FAN





### ■ JP3 / JP4: AC'97 Codec Control

AC'97 Codec	JP3 / JP4
Disabled	JP3 1  3 JP4 1  3
Enabled (default)	JP3 1  3 JP4 1  3

### ■ JP5 / JP6: USB Port Select (1)

USB Port Select	JP5 / JP6
Redirect USB port3 to USB2 connector (default)	JP5 1  3 JP6 1  3
Redirect USB port3 to AMR	JP5 1  3 JP6 1  3

### ■ JP7 / JP8: USB Port Select (2)

USB Port Select	JP7 / JP8
Redirect USB port2 to USB2 connector (default)	JP7 1  3 JP8 1  3
Redirect USB port2 to AGP	JP7 1  3 JP8 1  3

■ **JP9: Power Lost Resume**

This feature must work with BIOS. Please refer to the BIOS “Power On After PWR-Fail” sector.


Power Lost Resume	JP9
Normal (default)	1 <input type="checkbox"/> 2 <input checked="" type="checkbox"/> 3 <input checked="" type="checkbox"/>
Enabled	1 <input checked="" type="checkbox"/> 2 <input checked="" type="checkbox"/> 3 <input type="checkbox"/>

■ **JBAT1: Clear CMOS Data**

Before you clear the CMOS data, it's necessary to turn the power off first (including +5V standby power). Otherwise, the system may work abnormally or malfunction.

CMOS Status	JBAT1
Retain Data (default)	1 <input checked="" type="checkbox"/> 2 <input checked="" type="checkbox"/> 3 <input type="checkbox"/>
Clear CMOS Data	1 <input type="checkbox"/> 2 <input checked="" type="checkbox"/> 3 <input checked="" type="checkbox"/>

■ **RT2: Thermal Sensor Connector**

	<p>a: Connect to RT2.                      b: Connect this thermal sensor to particular device which generates lots of heat such as Hard Disk, VGA chip, etc. When connected, user could observe the temperature change from the BIOS program.</p>
-------------------------------------------------------------------------------------	--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

## ■ CD\_IN1/CD\_IN2: CD-ROM Audio Connector

PIN #	CD_IN1	CD_IN2
PIN 1	Right Channel	Left Channel
PIN 2	GND	GND
PIN 3	GND	Right Channel
PIN 4	Left Channel	GND

## ■ GAME/MIDI Port:

Connect joystick or MIDI to this connector.

## ■ MIC :Microphone Jack

Connect to microphone device.

## ■ LINE IN: Audio In Jack

Connect audio line in.

## ■ LINE OUT/SPEAKER OUT: Audio Out Jack

Connect audio line out or speaker out.

## ■ ZD1: Display DIMM Module Power Status

ON: **DO NOT** take out the DIMM module from DIMM socket when ZD1 is on, because the system is still in power on status (may be in suspend mode or STR mode).

OFF: We suggest that user had better to remove the DIMM module after disconnected the power supply.

## ■ JWOL1: Wake On LAN (WOL) Connector

This connector is designed to boot up system via LAN. Connect the wake on signal form the LAN card to this connector.

**\*\*\*For support WOL, the ATX power supply has to have at least 5V/720mA standby current.\*\*\***

<b>J2</b>	<b>PIN</b>	<b>SIGNAL DESCRIPTION</b>
<b>HDD LED CONNECTOR</b>	<b>1</b>	<b>+5V</b>
	<b>2</b>	<b>HDD LED SIGNAL</b>
	<b>3</b>	<b>HDD LED SIGNAL</b>
	<b>4</b>	<b>+5V</b>
<b>N.C.</b>	<b>5</b>	<b>NO CONNECTION</b>
<b>INFRARED CONNECTOR</b>	<b>6</b>	<b>INFRARED TRANSMIT SIGNAL</b>
	<b>7</b>	<b>GND</b>
	<b>8</b>	<b>INFRARED RECEIVE SIGNAL</b>
	<b>9</b>	<b>NO CONNECTION</b>
	<b>10</b>	<b>+5V</b>
<b>N.C.</b>	<b>11</b>	<b>NO CONNECTION</b>
<b>ATX POWER SWITCH</b>	<b>12</b>	<b>GND</b>
	<b>13</b>	<b>ATX POWER SWITCH</b>
<b>SMI CONNECTOR</b>	<b>14</b>	<b>SMI Signal</b>
	<b>15</b>	<b>GND</b>

**PIN1~PIN4: HDD DISK LED CONNECTOR**

Connect cable from the chassis's "H.D.D" to this connector.

**PIN6~PIN10: IR (INFRARED) CONNECTOR**

Connect cable from the chassis's "IR" to this connector.

**PIN12~PIN13: ATX POWER SWITCH CONNECTOR**

Connect cable from the chassis's "POWER" to this connector.

**PIN14~PIN15: SMI CONNECTOR**

<b>J3</b>	<b>PIN</b>	<b>SIGNAL DESCRIPTION</b>
<b>SPEAKER CONNECTOR</b>	<b>1</b>	<b>SPEAKER SIGNAL</b>
	<b>2</b>	<b>NO CONNECTION</b>
	<b>3</b>	<b>GND</b>
	<b>4</b>	<b>+5V</b>
<b>RESET SWITCH</b>	<b>5</b>	<b>RESET SIGNAL</b>
	<b>6</b>	<b>GND</b>
<b>N.C.</b>	<b>7</b>	<b>NO CONNECTION</b>
<b>POWER LED CONNECTOR</b>	<b>8</b>	<b>+5V</b>
	<b>9</b>	<b>NO CONNECTION</b>
	<b>10</b>	<b>GND</b>
<b>N.C.</b>	<b>11</b>	<b>NO CONNECTION</b>
	<b>12</b>	<b>GND</b>
	<b>13</b>	<b>NO CONNECTION</b>
<b>SUSPEND LED</b>	<b>14</b>	<b>+5V</b>
	<b>15</b>	<b>SUSPEND LED</b>

**PIN1~PIN4: SPEAKER CONNECTOR**

Connect cable from the chassis's "SPEAKER" to this connector.

**PIN5~PIN6: RESET SWITCH**

Connect cable from the chassis's "RESET" to this connector. User can use this function to make a hardware re-boot. Press and hold this switch at least one second to re-boot.

**PIN8~PIN10: POWER LED CONNECTOR**

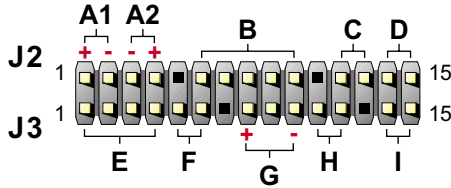
Connect to Power LED.

**PIN14~PIN15: SUSPEND LED CONNECTOR**

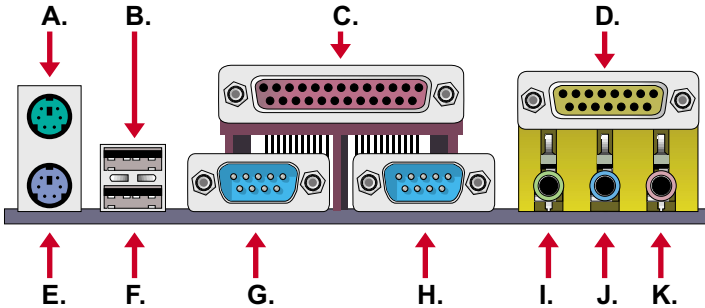
Connect to Suspend LED.

## 2-3 CONNECTORS

J2, J3:



- |                    |                   |
|--------------------|-------------------|
| A1 : 1st HDD LED   | A2 : 2nd HDD LED  |
| B. : INFRARED (IR) | C. : POWER SWITCH |
| D. : SMI           | E. : SPEAKER      |
| F. : RESET SWITCH  | G. : POWER LED    |
| H. : NONE          | I. : SUSPEND LED  |



- |                    |                     |
|--------------------|---------------------|
| A. : PS/2 MOUSE    | B. : USB 0          |
| C. : LPT1 PORT     | D. : GAME/MIDI PORT |
| E. : PS/2 KEYBOARD | F. : USB 1          |
| G. : COM1          | H. : COM2           |
| I. : LINE/SPK OUT  | J. : LINE IN        |
| K. : MIC           |                     |



## 2-4 DRIVER INSTALLATION

Onboard AC'97 Audio Codec Controller Driver Installation for Windows95 / Windows98:

---

1. Go to CD-ROM driver, we suggest the CD-ROM title is D:\.
2. Find and run **D:\DRIVER\AUDIO\VIA AC97\SETUP.EXE**
3. Then the setup program will detect your O.S. to install relative files into your system.
4. Reboot your computer.

**NOTE 1: IF USER WANTS TO USE EXTERNAL SOUND CARD, USER MUST RUN BIOS PROGRAM TO DISABLE "Onchip Sound" option in the "Chipset Feature Setup" and "Onboard Legacy Audio" option in the "Integrated Peripherals".**

**NOTE 2: UNDER WINDOWS95, USER MUST INSTALL Direct X FOR AGP ENVIRONMENT.**

**NOTE 3: User can also install 4in1 Driver from CD instead of the following drivers. (For avoid CD-ROM compalibility issue, user can ignore the IDE driver)**

### PART 1:

1. Put the CD into your CD-ROM.
2. There appears a welcome window.  
(If doesn't, it means that your CD-ROM auto-run function does not enable, but you still can browser the CD via Windows Explorer and change the directory to where your CD-ROM directory is. Then run the **autorun.exe**)
3. Select "**Install Driver**".
4. Select "**Install VIA Chipsets Driver**".
5. Select "**Install 4in1 Driver**".
6. Then the program will automatically setup all drivers your system needs.
7. Finally, the system will re-boot.

**NOTE: AFTER INSTALLED "4in1 Driver", USER DOESN'T NEED TO INSTALL ANY OTHER PROGRAM IN PART 2.**

## PART 2:

### VIA Patch Code Installation

---

Windows95 / Windows98:

1. Go to CD-ROM driver, we suggest the CD-ROM title is **D:\**.
2. Find and run **D:\Patch\Via\patch9x\Setup\Setup.exe**
3. Select "Install VIA Chipset Functions' Registry", then it will automatically install this program.

**NOTE: This program should be installed before any other VIA's drivers.**

### VIA AGP VxD Driver for Windows9x Installation

---

Windows95 / Windows98:

1. Go to CD-ROM driver, we suggest the CD-ROM title is **D:\**.
2. Find and run **D:\Driver\Via\Agp\Setup\Setup.exe**
3. Select "Install VIA AGP VxD in turbo mode" or "Install VIA AGP VxD normal mode", then it will automatically install this program.

### VIA PCI IRQ Routing Miniport for Windows9x Installation

---

Windows95 / Windows98:

1. Go to CD-ROM driver, we suggest the CD-ROM title is **D:\**.
2. Find and run **D:\Patch\Via\Virq9x\Setup.exe**

**NOTE: Before install Windows98, user must enable two functions for this miniport driver in the BIOS menu, one is "OnChip USB" in the "Chipset Features Setup" and another is "Assign IRQ for USB" in the "PnP/PCI Configuration Setup".**

#### ■ VIA Hardware Monitor Setup

1. Make sure that the CD is in the CD-ROM.
2. There will appear a welcome window, please use the mouse to choose "**Install Driver**" item.  
(If not, that means user's CD-ROM autorun function is disabled, but user could still install the program via Windows Explorer. )
3. Choose "**Install VIA Chipset Driver**" item, then choose "**Install VIA Hardware Monitor**" item.
4. The setup program will install Hardware Monitor software automatically.

## Chapter 3: BIOS Setup

### 3-1: INTRODUCE THE BIOS.

**B**IOS stands for Basic Input Output System. It is sometimes called the ROM BIOS because it is stored in a Read-Only Memory (ROM) chip on the motherboard. BIOS is the first program to run when you turn on your computer. It performs the following functions:

- initializing and testing hardware in your computer (a process called “POST”, for Power On Self Test)
- loading and running your operating system.
- managing SETUP for making changes in your computer.
- helping your operating system and application programs to manage your PC hardware by means of a set of routines called BIOS Run-Time Services.

### 3-2: WHAT IS SETUP

**S**ETUP is an interactive BIOS program that you need to run when:

- Changing the hardware on your system. (for example: installing a new Hard Disk, etc.)
- Modifying the behavior of your computer. (for example: changing the system time or date, or turning special features on or off, etc.)
- Enhancing your computer’s behavior. (for example: speeding up performance by turning on shadowing or caching.)

### 3-3: HOW TO RUN SETUP

One way of running SETUP is to press a special function key or key combination during POST, before the operating system is loaded. During POST, the BIOS usually displays a prompt such as:

```
Press DEL to enter SETUP
```

### 3-4: WHAT IS THE CMOS

CMOS is a special kind of memory maintained by a battery after you turn your computer off. The BIOS uses CMOS to store the settings you selected in SETUP. The CMOS also maintains the internal clock. Every time you turn on your computer, the BIOS looks in CMOS for the settings you selected and configures your computer accordingly. If the battery charge runs too low, the CMOS content will be lost and POST will issue a "CMOS invalid" or "CMOS checksum invalid" message. If this happens, you may have to replace the battery. After the battery is replaced, the proper settings will need to be stored in SETUP.

### 3-5: WHAT IS POST

POST is an acronym for Power On Self Test. It is a traditional name for the routines that the BIOS uses to test and initialize the devices on your system when the PC is powered on. Its meanings has grown to include anything the BIOS does before the operating system is started.

Each of POST routines is assigned a POST code, an unique number which is sent to I/O port 080h before the routine is executed.

This VIA KX133 chipset comes with the AWARD BIOS from AWARD Software Inc. Enter the AWARD BIOS program Main Menu by:

1. Turn on or reboot the system. After a series of diagnostic checks, the following message will appear:

PRESS <DEL> TO ENTER SETUP

2. Press the <DEL> key and the main program screen will appear as follows:

CMOS Setup Utility - Copyright (C) 1984-2000 Award Software

<ul style="list-style-type: none"> <li>▶ Standard CMOS Features</li> <li>▶ Advanced BIOS Features</li> <li>▶ Advanced Chipset Features</li> <li>▶ Integrated Peripherals</li> <li>▶ Power Management Setup</li> <li>▶ PnP/PCI Configurations</li> <li>▶ PC Health Status</li> </ul>	<ul style="list-style-type: none"> <li>▶ Frequency/Voltage Control</li> <li>Load Fail-Safe Defaults</li> <li>Load Optimized Defaults</li> <li>Set Supervisor Password</li> <li>Set User Password</li> <li>Save &amp; Exit Setup</li> <li>Exit Without Saving</li> </ul>
Esc : Quit F10 : Save & Exit Setup	↑ ↓ → ← : Select Item (Shift)F2 : Change Color

3. Using the arrows on your keyboard, select an option, and press <Enter>. Modify the system parameter to reflect the options installed in your system.
4. You may return to the Main Menu anytime by pressing <ESC>.
5. In the Main Menu, "SAVE AND EXIT SETUP" saves your changes and reboots the system, and "EXIT WITHOUT SAVING" ignores your changes and exits the program.

### 3-6 STANDARD CMOS FEATURES

Standard CMOS Features allows you to record some basic system hardware configuration and set the system clock and error handling. You only need to modify the configuration values of this option when you change your system hardware configuration or the configuration stored in the CMOS memory gets lost or damaged.

Run the Standard CMOS Features as follows:

1. Choose "STANDARD CMOS FEATURES" from the Main Menu and a screen with a list of options will appear.
2. Use one of the arrow keys to move between options and modify the selected options by using PgUp/PgDn/+/- keys.

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Standard CMOS Features

Date (mm:dd:yy)	Thu, Dec 30 1999	Item Help
Time (hh:mm:ss)	9 : 52 : 15	Menu Level
IDE Primary Master	Press Enter 13022 MB	
IDE Primary Slave	Press Enter None	
IDE Secondary Master	Press Enter None	
IDE Secondary Slave	Press Enter None	
Drive A	1.44M, 3.5 in.	
Drive B	None	
Video	EGA/VGA	
Halt On	All,But Keyboard	
Base Memory	640K	
Extended Memory	31744K	
Total Memory	32768K	

↑ ↓ → ←:Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help  
F5:Previous Values F6:Fail-Safe Defaults F7:Optimized Defaults

**Date (mm:dd:yy)**  
**Time (hh:mm:ss)**

Set the current date and time.

**IDE Primary Master/  
Slave**  
**IDE Secondary Master/  
Slave**

This field records the specification for all non-SCSI Hard Disk Drives installed in your system. Refer to the following screen to know how to set Hard Disk Drive.

CMOS Setup Utility - Copyright (C) 1984-2000 Award Software  
 IDE Primary Master

IDE HDD Auto-Detection	Press Enter	Item Help
IDE Primary Master	Auto	Menu Level
Access Mode	Auto	
Capacity	13022 MB	
Cylinder	25232	
Head	16	
Precomp	0	
Landing Zone	25231	
Sector	63	

↑ ↓ → ←: Move Enter: Select +/-/PU/PD: Value F10: Save ESC: Exit F1: General Help  
 F5: Previous Values F6: Fail-Safe Defaults F7: Optimized Defaults

<b>Drive A / B</b>	Set the field to the type(s) of Floppy Disk drive(s) installed in your system. The choice: 360KB, 5.25in. 1.2MB, 5.25in. 720KB, 3.5in. 1.44MB, 3.5in. 2.88MB, 3.5in.
<b>Video</b>	Set the field to the type of video display card installed in your system. The choice: Monochrome, Color 40x25, EGA / VGA, (default) Color 80x25
<b>Halt On</b>	Set this warning feature for the type of errors that will cause the system to halt. The choice: All, But Keyboard (defaults) All, But Diskette All, But Disk / Key All Errors No Errors

3. Press <ESC> and follow the screen instructions to save or disregard your setting.



## 3-7 ADVANCED BIOS FEATURES SETUP

Advanced BIOS Features Setup allows you to improve your system performance or set up system features according to your preference.

Run the Advanced BIOS Features Setup as follows:

1. Choose "ADVANCED BIOS FEATURES SETUP" from the Main Menu and a screen with a list of options will appear.

### CMOS Setup Utility - Copyright (C) 1984-2000 Award Software Advanced BIOS Features

		Item Help
Virus Warning	Disabled	Menu Level
CPU Internal Cache	Enabled	
External Cache	Enabled	
CPU L2 Cache ECC Checking	Enabled	
Quick Power On Self Test	Enabled	
First Boot Device	Floppy	
Second Boot Device	HDD-0	
Third Boot Device	LS/ZIP	
Boot Other Device	Enabled	
Swap Floppy Drive	Disabled	
Boot Up Floppy Seek	Disabled	
Boot Up NumLock Status	On	
Gate A20 Option	Fast	
Typematic Rate Setting	Disabled	
Typematic Rate (Chars/Sec)	6	
Typematic Delay (Msec)	250	
Security Option	Setup	
OS Select For DRAM > 64MB	Non-OS2	
Video BIOS Shadow	Enabled	
C80000-CBFFF Shadow	Disabled	
CC0000-CFFFF Shadow	Disabled	
D00000-D3FFF Shadow	Disabled	
D40000-D7FFF Shadow	Disabled	
D80000-DBFFF Shadow	Disabled	
DC0000-DFFFF Shadow	Disabled	

↑ ↓ → ←: Move Enter: Select +/-/PU/PD: Value F10: Save ESC: Exit F1: General Help  
F5: Previous Values F6: Fail-Safe Defaults F7: Optimized Defaults

2. Use one of the arrow keys to move between options and modify the selected options by using PgUp/PgDn/+/- keys. An explanation of the <F>keys follows:

<F1>: "Help" gives options available for each item.

<Shift> + <F2>: Change BIOS screen color.

<F5>: Get the previous values. These values are the values with the user started in the current session.

<F6>: Load all options with the BIOS default values.

<F7>: Load all options with the Setup default values.

---

<b>Virus Warning</b>	Allows you to choose the virus warning feature for IDE Hard Disk boot sector protection. If this function is enabled and someone attempt to write data into this area, BIOS will show a warning message on screen and alarm beep. The choice: Enabled, Disabled (default)
	<div style="border: 1px solid black; padding: 5px;"><p><b><i>Note: Many diagnostic (or boot manager) programs which attempt to access the boot sector table can cause the above warning message. If you will be running such a program, we recommend that you disable the virus protection first.</i></b></p></div>
<b>CPU Internal Cache</b>	Choose Enabled (default) or Disabled. This option allows user to enable or disable the CPU internal cache.
<b>External Cache</b>	Choose Enabled (default) or Disabled. This option allows user to enable or disable the external cache memory.
<b>CPU L2 Cache ECC Checking</b>	Choose Enabled (default) or Disabled.
<b>Quick Power On Self Test</b>	Choose Enabled (default) or Disabled. Allows the system to skip certain tests while booting. This will decrease the time needed to boot the system.
<b>First / Second / Third / Boot Other Device</b>	Select your boot device priority. The choice: Disabled, Floppy, LS/ZIP, SCSI, CDROM, LAN, HDD-0, HDD-1, HDD-2, HDD-3.
<b>Swap Floppy Drive</b>	If the system has two floppy devices, choose enable to assign physical drive B to logical drive A and vice-versa. The choice: Enabled, Disabled (default)

---

**Boot Up Floppy Seek** Enable tests floppy drives to determine whether they have 40 or 80 tracks.  
The choice: Enabled, Disabled (default).

---

**Boot Up NumLock Status** On (default): Activate the NumLock function at boot up.  
Off: Close the NumLock function at boot up.

---

**Gate A20 Option** Fast (default): Let chipset controls GateA20.  
Normal: A pin in the keyboard controller controls GateA20.

---

**Typematic Rate Setting** Choose Enabled or Disabled (default): Keystrokes repeat at a rate determine by the keyboard controller. When enabled, the typematic rate and typematic delay can be selected.

---

**Typematic Rate (Char / Sec)** The rate at which character repeats when you hold down a key.  
The choice: 6, 8 (default), 10, 12, 15, 20, 24, 30.

---

**Typematic Delay (Msec)** The delay before key strokes begin to repeat.  
The choice: 250 (default), 500, 750, 1000.

---

**Security Option** Choose System or Setup (default). Select whether the password is required every time the system boots or only when you enter setup.

---

**OS Select for DRAM > 64MB** Select OS2 only if you are running OS/2 operating system with greater than 64MB of RAM on the system.  
The choice: OS2, Non-OS2 (default)

---

**Video BIOS Shadow** Enabled copies Video BIOS to shadow RAM for improving performance.  
The choice: Enabled (default), Disabled

**C8000-CBFFF to  
DC0000-  
DFFFF Shadow**

---

These options are used to shadow other expansion card ROMs.

3. Press <ESC> and follow the screen instructions to save or disregard your setting.

### 3-8 ADVANCED CHIPSET FEATURES

Advanced Chipset Features changes the values of the chipset registers. These registers control the system options.

Run the Advanced Chipset Features as follows:

1. Choose "ADVANCED CHIPSET FEATURES" from the Main Menu and a screen with a list of options will appear.
2. Use one of the arrow keys to move between options and modify the selected options by using PgUp/PgDn/+/- keys.

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Advanced Chipset Features

Bank 0/1 DRAM Timing	SDRAM 10ns	Item Help
Bank 2/3 DRAM Timing	SDRAM 10ns	Menu Level
Bank 4/5 DRAM Timing	SDRAM 10ns	
SDRAM Cycle Length	3	
DRAM Clock	Host Clk	
Memory Hole	Disabled	
P2C/C2P Concurrency	Enabled	
Fast R-W Turn Around	Disabled	
System BIOS Cacheable	Disabled	
Video RAM Cacheable	Disabled	
AGP Aperture Size	64M	
AGP-4X Mode	Disabled	
AGP Driving Control	Auto	
AGP Driving Value	DA	
AGP Fast Write	Disabled	
K7 CLK_CTL Select	Optimal	
OnChip USB	Enabled	
USB Keyboard support	Disabled	
CPU to PCI Write Buffer	Enabled	
PCI Dynamic Bursting	Enabled	
PCI Master 0 WS Write	Enabled	
PCI Delay Transaction	Enabled	
PCI#2 Access #1 Retry	Enabled	
AGP Master 1 WS Write	Disabled	
AGP Master 1 WS Read	Disabled	
Memory Parity/ECC Check	Disabled	

↑ ↓ → ←:Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help  
F5:Previous Values F6:Fail-Safe Defaults F7:Optimized Defaults

---

<b>Bank 0/1 2/3 4/5 SDRAM Timing</b>	This item allows you to select the value in this field, depending on whether the board has paged SDRAMs . The choice: SDRAM 8ns, SDRAM 10ns (default), Normal, Fast, Turbo.
<b>SDRAM Cycle Length</b>	You can select CAS latency time in HCLKs of 2 or 3 (default). The system board designer should have set the values in this field, depending on the DRAM installed. Do not change the values in this field unless you change specifications of the installed DRAM or the installed CPU.
<b>DRAM CLOCK</b>	The setting of this item must depend on the spec of PC100/PC133. For example, if user chooses HCLK + 33M, that means not only the motherboard but also the SDRAM needs to comply with PC-133 spec. Choice: Host CLK(default), HCLK-33M or HCLK+33M.
<b>Memory Hole</b>	Choose 15M-16M or Disabled (default). In order to improve performance, certain space in memory can be reserved for ISA cards. This memory must be mapped into the memory's space below 16MB. Enable this option will cause memory only connect to 16MB.
<b>P2C / C2P Concurrency</b>	Use default setting.
<b>Fast R / W Turn Around</b>	When disabled, CPU bus will be occupied during the entire PCI operation period. The choice: Enabled, Disabled
<b>System BIOS Cacheable</b>	Choose Enabled or Disabled (default). When Enabled, the access to the system BIOS ROM addressed at F0000H-FFFFFH is cached.
<b>Video RAM Cacheable</b>	Choose Enabled or Disabled (default). When enabled, the access to the VGA RAM addressed is cached.

<b>AGP Aperture Size</b>	Choose 4, 8, 16, 32, 64 (default), 128 or 256MB. Memory map and graphics data structures can reside in a Graphics Aperture. This area is like a linear buffer. BIOS will automatically report the starting address of this buffer to the O.S.
<b>AGP-4X Mode</b>	This item allows user to enable / disable the AGP-4x (133MHz clock) mode. The choice: Enabled, Disabled (default).
<b>AGP Driving Control</b>	The choice: Auto (default), Manual. Auto: Let the chip auto-detect the optimal setting. Manual: Only use this option in the compatibility issue happened.
<b>AGP Driving Value</b>	Keep the default setting. If user wants to change this option, please contact your motherboard vender or manufacturer.
<b>AGP Fast Write</b>	The choice: Enabled, Disabled (default). Note: Don't enable this option unless the AGP card supports this function. Please refer to the AGP card manual before changes this option.
<b>K7 CLK_CTL Select</b>	The choice: Optimal, default.
<b>OnChip USB</b>	This should be enabled if your system has a USB installed on the system board and you wish to use it. Even when so equipped, if you add a higher performance controller, you will need to disable this feature. The choice: Enabled (default), Disabled.
<b>USB Keyboard Support</b>	Enabled: Enables function when the USB keyboard is being used. Disabled (default): When the AT keyboard is being used.
<b>CPU to PCI Write Buffer</b>	The choice: Enabled (default), Disabled.
<b>PCI Dynamic Bursting</b>	The choice: Enabled (default), Disabled.



---

**PCI Master 0 WS Write**      The choice: Enabled (default), Disabled.

---

**PCI Delay Transaction**      The choice: Enabled (default), Disabled.

---

**PCI #2 Access #1 Retry**      The choice: Enabled (default), Disabled.

---

**AGP Master 1 WS Write**      The choice: Enabled, Disabled (default).

---

**AGP Master 1 WS Read**      The choice: Enabled, Disabled (default).

---

**Memory Parity / ECC  
Check**      Enabled add a parity check to the boot-up memory tests. Select Enabled only if the system DRAM contains parity.  
The choice: Enabled, Disabled (default)

***Note: Wrong setting of CPU Vcore may cause damage to CPU. In consequence of such a potential risk, we strongly recommend user to leave DEFAULT setting unless user does comprehends how to set accurate CPU Vcore.***

3. Press <ESC> and follow the screen instructions to save or disregard your setting.

## **3-9 INTEGRATED PERIPHERALS**

Integrated Peripherals option changes the values of the chipset registers. These registers control system options in the computer.

Run the Integrated Peripherals as follows:

1. Choose "INTEGRATED PERIPHERALS" from the Main Menu and a screen with a list of options will appear.
2. Use one of the arrow keys to move between options and modify the selected options by using PgUp/PgDn/+/- keys.

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Integrated Peripherals

		Item Help
OnChip IDE Channel10	Enabled	Menu Level
OnChip IDE Channel11	Enabled	
IDE Prefetch Mode	Enabled	
Primary Master PIO	Auto	
Primary Slave PIO	Auto	
Secondary Master PIO	Auto	
Secondary Slave PIO	Auto	
Primary Master DMA	Auto	
Primary Slave DMA	Auto	
Secondary Master DMA	Auto	
Secondary Slave DMA	Auto	
Init Display First	PCI Slot	
IDE HDD Block Mode	Enabled	
Onboard FDC Controller	Enabled	
Onboard Serial Port 1	3F8/IRQ4	
Onboard Serial Port 2	2F8/IRQ3	
UART 2 Mode	Normal	
IR Function Duplex	Enabled	
TX, RX inverting enable	Hi, Lo	
Onboard Parallel Port	378/IRQ7	
Onboard Parallel Mode	ECP+EPP	
ECP Mode Use DMA	3	
Parallel Port EPP Type	EPP1.9	
Onboard Legacy Audio	Enabled	
Sound Blaster	Disabled	
SB I/O Base Address	220H	
SB IRQ Select	IRQ5	
SB DMA Select	DMA1	
MPU-401	Disabled	
MPU-401 I/O Address	330-333H	
Game Port (200-207H)	Enabled	

↑ ↓ → ←: Move Enter: Select +/-/PU/PD: Value F10: Save ESC: Exit F1: General Help  
F5: Previous Values F6: Fail-Safe Defaults F7: Optimized Defaults

<b>OnChip IDE Channel 0 / 1</b>	<hr/> <p>The chipset contains a PCI IDE interface with support from two IDE channels. Select Enabled to activate the first and/or the second IDE interface. Select Disabled to deactivate an interface, if you install a primary and/or second add-on IDE interface. The choice: Enabled(default), Disabled.</p> <hr/>
<b>Primary Master/Slave PIO Secondary Master/Slave PIO</b>	<hr/> <p>Choose Auto (default) or Mode 0~4. The BIOS will detect the HDD mode type automatically when you choose Auto. You need to set to a lower mode than Auto when your hard disk becomes unstable.</p> <hr/>
<b>Primary Master/Slave UDMA Secondary Master/Slave UDMA</b>	<hr/> <p>Enabled (default): Turn on the onboard IDE function. Disabled: Turn off the onboard IDE function.</p> <hr/>
<b>Init Display First</b>	<hr/> <p>This option allows you to decide to activate PCI Slot or AGP first. Choose PCI Slot(default), AGP.</p> <hr/>
<b>IDE Prefetch Mode</b>	<hr/> <p>Choose Enable(default), Disabled.</p> <hr/>
<b>Onboard FDC Controller</b>	<hr/> <p>Choose Enabled (default) or Disabled. Choose Disabled when you use an ISA card with FDD function, or choose Enabled to use the onboard FDD connector.</p> <hr/>
<b>Onboard Serial Port1</b>	<hr/> <p>Choose Auto (default), 3F8/IRQ4, 2F8/IRQ3, 3E8/IRQ4, 2E8/IRQ3 or Disabled. Don't set port 1 &amp; 2 to the same value, except when setting at Disabled.</p> <hr/>
<b>Onboard Serial Port2</b>	<hr/> <p>Choose Auto (default), 3F8/IRQ4, 2F8/IRQ3, 3E8/IRQ4, 2E8/IRQ3 or Disabled.</p> <hr/>
<b>UART 2 Mode Select</b>	<hr/> <p>Choose Standard (default), HPSIR or ASKIR.</p> <hr/>

---

<b>IR Transmission Delay</b>	Enabled: Enable delay when transferring data. Disabled (default): Disable delay when transferring data.
<b>TX, RX inverting enable</b>	Choose Lo,Lo (default) / Lo,Hi / Hi,Hi / Hi,Lo.
<b>Onboard Paralle Port</b>	Choose the printer I/O address: 378H/IRQ7 (default), 3BCH/IRQ7, 278H/IRQ5 or Disabled.
<b>Onboard Parallel Mode</b>	Choose Normal (default), ECP/EPP, SPP mode. The mode depends on the external device connected to this port. <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"><b>Note: The above 2 options will not be displayed unless the EPP/ECP is selected.</b></div>
<b>ECP Mode Use DMA</b>	Choose DMA3 (default) or DMA1. Most sound cards use DMA1. Check with your sound card configuration to make sure that there is no conflict with this function.
<b>Parallel Port EPP Type</b>	Choose EPP1.7 or EPP1.9 (default). EPP1.9 supports hardware handshake. This setting is dependent upon your EPP device.
<b>Onboard Legacy Audio</b>	The choice: Enabled (default), Disabled.
<b>Sound Blaster</b>	The choice: Enabled, Disabled (default).
<b>SB I/O Base Address</b>	The choice: 220H (default), 240H, 260H, 280H.
<b>SB IRQ Select</b>	The choice: IRQ5(default), IRQ9, IRQ10.

<b>SB DMA Select</b>	The choice: DMA0, DMA1 (default), DMA2, DMA3.
<b>MPU-401</b>	The choice: Enabled, Disabled (default).
<b>MPU-401 I/O Address</b>	The choice: 330-333H (default), 300-303H, 310-313H, 320-323H.
<b>Game Port (200-207H)</b>	The choice: Enabled (default), Disabled.

3. Press <ESC> and follow the screen instructions to save or disregard your setting.

## 3-10 POWER MANAGEMENT SETUP

Power Management Setup changes the system power savings function.

Run the Power Management Setup as follows:

1. Choose "POWER MANAGEMENT SETUP" from the Main Menu and a screen with a list of options will appear.
2. Use one of the arrow keys to move between options and modify the selected options by using PgUp/PgDn/+/- keys.

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Power Management Setup

ACPI function	Enabled	Item Help
Power Management	Press Enter	Menu Level
ACPI Suspend Type	S1(POS)	
PM Control by APM	Yes	
Video Off Option	Suspend -> Off	
Video Off Method	V/H SYNC+Blank	
MODEM Use IRQ	3	
Soft-Off by PWRBTN	Instant-Off	
Wake Up Events	Press Enter	

↑↓→←:Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help  
F5:Previous Values F6:Fail-Safe Defaults F7:Optimized Defaults

**ACPI Function** Enabled: Turn on ACPI function.  
 Disabled (default): Turn off ACPI function.

**Power Management** Press enter to next screen as following:  
 The choice: User Define (default), Mix Saving or Max Saving.

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 Power Management

Power Management	User Define	Item Help
HDD Power Down	Disable	Menu Level
Suspend Mode	Disable	

↑↓→←:Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help  
 F5:Previous Values F6:Fail-Safe Defaults F7:Optimized Defaults

**HDD Power Down** Time is adjustable from 1 to 15 minutes. When the set time has elapsed, the BIOS sends a command to the HDD to power down which turns off the motor.

**Suspend Mode** This option allows you to choose the mode for the different timer. The Suspend mode turns off the CPU and saves the energy of the system.



<b>ACPI Suspend Type</b>	The choice: S1(POS) (default) or S3 (STR).
<b>PM Control By APM</b>	Choose Yes (default) or No. You need to choose Yes when the operating system has the APM functions, otherwise choose No.
<b>Video Off Option</b>	The choice: Suspend -> Off (default), All Modes -> Off, Always On.
<b>Video Off Method</b>	Choose Blank Screen, DPMS Support or V/H Sync+Blank (default). You can choose either DPMS or V/H Sync+Blank when the monitor has the Green function. You need to choose Blank when the monitor has neither the Green function.
<b>Modem Use IRQ</b>	Assign the IRQ number to the modem which is being used so that the ring signal can wake up the system. The default setting is 3 (COM2).
<b>Soft-Off By PWR-BTTN</b>	Instant-Off (default): Turn off the system power at once after pushing the power button. Delay 4 Sec: Turn off the system power 4 seconds after pushing the power button (to meet PC97/98 spec)

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Wake Up Events

VGA	OFF	Item Help
LPT & COM	LPT/COM	Menu Level
HDD & FDD	ON	
PCI Master	OFF	
Wake Up On LAN	Disabled	
Modem Ring Resume	Disabled	
RTC Alarm Resume	Disabled	
Date (of Month)	0	
Resume Time (hh:mm:ss)	0 0 0	
IRQs Activity Monitoring	Press Enter	

↑ ↓ → ←: Move Enter: Select +/-/PU/PD: Value F10: Save ESC: Exit F1: General Help  
F5: Previous Values F6: Fail-Safe Defaults F7: Optimized Defaults

---

**VGA** When On of VGA, any activity from one of the listed system peripheral devices or IRQs wakes up the system.  
Choice: On(default), Off.

---

**LPT & COM** When On of LPT&COM, any activity from one of the listed system peripheral devices or IRQs wakes up the system.  
Choice: LPT/COM(default), NONE, LPT or COM.

---

**HDD & FDD** When On of HDD&FDD, any activity from one of the listed system peripheral devices wakes up the system.  
Choice: On(default), Off.

---

**DMA / master** When On, any activity from one of the listed system peripheral devices wakes up the system.  
Choice: On, Off(default).

<b>Wake On LAN</b>	Enabled: Wake on the system from the LAN card (LAN card must support wake on LAN function and the power supply must provide at least 5V/7750mA standby current) Disabled(default): Disable Wake On LAN function.
<b>Modem Ring Resume</b>	An input signal on the serial Ring Indicator (RI) Line (in other words, an incoming call on the modem) awakens the system from a soft off state.
<b>RTC Alarm Resume</b>	When Enabled, you can set the date and time at the which the RTC(Real Time Clock) alarm awakens the system from suspend mode. Choice: Disabled(default), Enabled.
<b>Date (of Month)</b>	Set a certain date when RTC Alarm Resume option is Enabled to awaken the system. This option is concurrent with Resume Time option.
<b>Resume Time (hh:mm:ss)</b>	Set a certain time when RTC Alarm Resume option is Enabled to awaken the system. This option is concurrent with Date option.

CMOS Setup Utility - Copyright (C) 1984-2000 Award Software  
 IRQs Activity Monitoring

Primary INTR	ON	Item Help
IRQ3 (COM 2)	Primary	Menu Level
IRQ4 (COM 1)	Primary	
IRQ5 (LPT 2)	Primary	
IRQ6 (Floppy Disk)	Primary	
IRQ7 (LPT 1)	Primary	
IRQ8 (RTC Alarm)	Disabled	
IRQ9 (IRQ2 Redir)	Secondary	
IRQ10 (Reserved)	Secondary	
IRQ11 (Reserved)	Secondary	
IRQ12 (PS/2 Mouse)	Primary	
IRQ13 (Coprocessor)	Primary	
IRQ14 (Hard Disk)	Primary	
IRQ15 (Reserved)	Disabled	

↑ ↓ → ←: Move Enter: Select +/-/PU/PD: Value F10: Save ESC: Exit F1: General Help  
 F5: Previous Values F6: Fail-Safe Defaults F7: Optimized Defaults

**Primary INTR**

When set to On, any event occurring at will awaken a system which has been powered down.  
 On(default): The system can not enter the power saving mode when I/O ports or IRQ# is activated.  
 Off: The system still can enter the power saving mode when I/O ports or IRQ# is activated.

The following is a list of IRQ's(Interrupt ReQuests), which can be exempted much as the COM ports and LPT ports above can. When an I/O device wants to gain the attention of the operating system, it signals this by causing an IRQ to occur. When the operating system is ready to respond to the request, it interrupts itself and performs the service.

When set On, activity will neither prevent the system from going into a power management mode nor awaken it.

- IRQ3 (COM2)**
- IRQ4 (COM1)**
- IRQ5 (LPT2)**
- IRQ6 (Floppy Disk)**
- IRQ7 (LPT1)**
- IRQ8 (RTC Alarm)**

3. Press <ESC> and follow the screen instructions to save or disregard your setting.

## 3-11 PnP/PCI CONFIGURATION SETUP

PnP/PCI Configuration Setup defines PCI bus slots.

Run the PnP/PCI Configuration Setup as follows:

1. Choose "PnP/PCI CONFIGURATION SETUP" from the Main Menu and a screen with a list of options will appear.
2. Use one of the arrow keys to move between options and modify the selected options by using PgUp/PgDn/+/- keys.

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PnP/PCI Configurations

PNP OS Installed	No	Item Help
Reset Configuration Data	Disabled	Menu Level
Resources Controlled By	Auto(ESCD)	
IRQ Resources	Press Enter	
DMA Resources	Press Enter	
PCI/VGA Palette Snoop	Disabled	
Assign IRQ For VGA	Enabled	
Assign IRQ For USB	Enabled	

↑ ↓ → ←: Move Enter: Select +/-/PU/PD: Value F10: Save ESC: Exit F1: General Help  
F5: Previous Values F6: Fail-Safe Defaults F7: Optimized Defaults

**PNP OS Installed**

Yes: OS supports Plug and Play function.  
 No (default): OS doesn't support Plug and Play function.

**Note: BIOS will automatically disable all PnP resources except the boot device card when you select Yes on Non-PnP O.S.**

**Reset Configuration Data**

Choose Enabled or Disabled (default). Disable retains Enabled PnP configuration data in BIOS and resets the PnP configuration data in the BIOS.

**Resources Controlled By**

Choose Manual or Auto (ESCD) (default). The BIOS checks the IRQ/DMA channel number on the ISA and PCI card manually if you choose Manual. And the IRQ/DMA channel number will be checked automatically if you choose Auto.

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 IRQ Resources

IRQ-3 assigned to	PCI/ISA PnP	Item Help
IRQ-4 assigned to	PCI/ISA PnP	Menu Level
IRQ-5 assigned to	PCI/ISA PnP	
IRQ-7 assigned to	PCI/ISA PnP	
IRQ-9 assigned to	PCI/ISA PnP	
IRQ-10 assigned to	PCI/ISA PnP	
IRQ-11 assigned to	PCI/ISA PnP	
IRQ-12 assigned to	PCI/ISA PnP	
IRQ-14 assigned to	PCI/ISA PnP	
IRQ-15 assigned to	PCI/ISA PnP	

↑↓←→:Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help  
 F5:Previous Values F6:Fail-Safe Defaults F7:Optimized Defaults

CMOS Setup Utility - Copyright (C) 1984-2000 Award Software  
 DMA Resources

DMA-0 assigned to	PCI/ISA PnP	Item Help
DMA-1 assigned to	PCI/ISA PnP	Menu Level
DMA-3 assigned to	PCI/ISA PnP	
DMA-5 assigned to	PCI/ISA PnP	
DMA-6 assigned to	PCI/ISA PnP	
DMA-7 assigned to	PCI/ISA PnP	

↑ ↓ → ←: Move Enter: Select +/- PU/PD: Value F10: Save ESC: Exit F1: General Help  
 F5: Previous Values F6: Fail-Safe Defaults F7: Optimized Defaults

**IRQ-x assigned to  
 DMA-x assigned to**

Legacy ISA: Manually assigns IRQ / DMA to device.  
 PCI / ISA PnP: BIOS assigns IRQ / DMA to device automatically.

**Assign IRQ for VGA**

Enabled (default): Add one IRQ to VGA controller.  
 Disabled: Remove IRQ from VGA controller. The system will have extra IRQ for other devices but the VGA controller will still not be disabled (only IRQ will be removed)

**Assign IRQ for USB**

Enabled (default): Add one IRQ to USB controller.  
 Disabled: Remove IRQ from USB controller. The system will have extra IRQ for other devices but the USB controller will still not be disabled (only IRQ was removed)

3. Press <ESC> and follow the screen instructions to save or disregard your setting.



## 3-12 PC Health Status

PC Health Status option shows information about system temperature and fan speed when it is working.

Run the PC Health Status as follows:

1. Choose "PC Health Status" from the Main Menu and a screen with a list of options will appear.
2. Use one of the arrow keys to move between options and modify the selected options by using PgUp/PgDn/+/- keys.

CMOS Setup Utility - Copyright (C) 1984-2000 Award Software  
PC Health Status

Current CPU Temp.	°C/°F	Item Help
Current System Temp.	°C/°F	Menu Level
Current CPUFAN1 Speed	RPM	
Current CPUFAN2 Speed	RPM	
Vcore	1.16V	
2.5V	3.42V	
3.3V	3.42V	
5V	5.20V	
12V	12.54V	

↑↓→←:Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help  
F5:Previous Values F6:Fail-Safe Defaults F7:Optimized Defaults

**NOTE: PC Health Status option only appears the current state of those items above the table, user can not change any setting here but keep a eye on your system temperature information and so on.**

3. Press <ESC> and follow the screen instructions to save or disregard your setting.

### 3-13 FREQUENCY/VOLTAGE CONTROL

Frequency/Voltage Control option allows user to adjust CPU's settings and retain some informations inside computer when it is working.

Run the Frequency/Voltage Control as follows:

1. Choose "FREQUENCY/VOLTAGE CONTROL" from the Main Menu and a screen with a list of options will appear.
2. Use one of the arrow keys to move between options and modify the selected options by using PgUp/PgDn/+/- keys.

CMOS Setup Utility - Copyright (C) 1984-2000 Award Software  
Frequency/Voltage Control

Auto Detect DIMM/PCI Clk	Disabled	Item Help
CPU Host Clock (CPU/PCI)	Default	Menu Level

↑↓→←:Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help  
F5:Previous Values F6:Fail-Safe Defaults F7:Optimized Defaults

**Auto Detect DIMM/PCI  
clk** Choose Disabled (default) or Enabled. The clock generator will turn off the DIMM clock if this slot is empty.

**CPU Host Clock (CPU/  
PCI)** Select the CPU Host Clock.  
The choice: default, 83/23MHz, 88/29MHz, 90/30MHz, 95/  
32MHz, 100/33MHz, 110/37MHz, 115/38MHz.

3. Press <ESC> and follow the screen instructions to save or disregard your setting.

### **3-14 LOAD FAIL-SAFE DEFAULTS**

Load Fail-Safe Defaults option loads the default system values to the system configuration fields. If the CMOS is corrupted the defaults are loaded automatically.

Choose this option and the following message will appear:

“Load Setup Defaults (Y/N)? N”

To use the Fail-Safe Defaults, change the prompt to “Y” and press <Enter>.

### **3-15 LOAD OPTIMIZED DEFAULTS**

Load Optimized Defaults option loads optimized system values to the system configuration fields.

Choose this option and the following message will appear:

“Load Optimized Defaults (Y/N)? N”

To use the Optimized Defaults, change the prompt to “Y” and press <Enter>.

## 3-16 SUPERVISOR/USER PASSWORD

These two options allow you to set your system passwords. Normally, the supervisor has a higher ability to change the CMOS setup option than the user. The way to set up the passwords for both supervisor and user are as follows:

1. Choose "CHANGE PASSWORD" from the Main Menu and press <Enter>. The following message appears:

"Enter Password:"

2. The first time you run this option, enter your own password up to 8 characters and press <Enter>. The screen doesn't display the entered characters.
3. After you entered the password, the following message appears prompting you to confirm the password:

"Confirm Password:"

4. Enter the same password "exactly" as you just typed again to confirm the password and press <Enter>.
5. Move the cursor to Save & Exit Setup to save the password.
6. If you need to delete the password you entered before, choose the Supervisor Password and press <Enter>. It will delete the password that you had before.
7. Move the cursor to Save & Exit Setup to save the option you did, otherwise the old password will still be there the next time you turn your machine on.
8. Press <ESC> to exit to the Main Menu.

**Note:** *If you forget or lose the password, the only way to access the system is to clear the CMOS RAM by setting JBAT1. All setup information will be lost and back to default setting. You need to run the BIOS setup program and re-define all settings again.*

### **3-17 SAVE & EXIT SETUP**

Save & Exit Setup allows you to save all modifications you have specified into the CMOS memory. Highlight this option on the Main Menu and the following message appears:

SAVE to CMOS and EXIT (Y/N)? Y

Press <Enter> key to save the configuration changes.

### **3-18 EXIT WITHOUT SAVING**

Exit Without Saving allows you to exit the Setup utility without saving the modifications that you have specified. Highlight this option on the Main Menu and following message appears:

Quit Without Saving (Y/N)? N

You may change the prompt to “Y” and press the <Enter> key to leave this option.

## **APPENDIX A**

### **FLASH MEMORY UPDATE INSTALLATION**

1. Download BIOS files and flash utility from your board vendor. They are: awdfash.exe and .bin file.
2. Copy them to bootable diskette and boot from diskette.
3. The diskette cannot include memory manager e.g. emm386.exe, qemm and himem.sys, otherwise there will appear an error message "insufficient memory".
4. Type "awdfash filename(XXXX.bin)".
5. Next screen will ask you save current bios to file or not? Depend on your diskette capacity, choose Y or N for this option.
6. Then screen ask you programming the flash memory now? type Y for this option.
7. Programming finish, utility will ask you reboot system.
8. Reset system and press DEL key enter bios setup screen.
9. Select LOAD SETUP DEFAULTS, press ENTER, press Y, press F10, press Y
10. Finish update procedure.

## APPENDIX B DRIVER INSTALLATION

**If you are using Windows 98 SE, you do not need to install the 4-in-1 driver as the IRQ Routing Driver and the ACPI Registry are already incorporated into the operating system. Users with Windows 98 SE may update the IDE Busmaster and AGP drivers by installing them individually.**

### PART 1:

1. Put the CD into your CD-ROM.
2. There appears a welcome window.  
(If doesn't, it means that your CD-ROM auto-run function does not enable, but you still can browser the CD via Windows Explorer and change the directory to where your CD-ROM directory is. Then run the **autorun.exe**)
3. Select "**Install Driver**".
4. Select "**Install VIA Chipsets Driver**".
5. Select "**Install 4in1 Driver**".
6. Then the program will automatically setup all drivers your system needs.
7. Finally, the system will re-boot.

**NOTE: AFTER INSTALLED "4in1 Driver", USER DOESN'T NEED TO INSTALL ANY OTHER PROGRAM IN PART 2.**

### PART 2:

**CAUTION!! ALL THE VIA MAINBOARD MUST INSTALL FOLLOWING 3 DRIVERS!!!**

#### VIA Patch Code Installation

##### *Windows95/Windows98:*

1. Go to the CD-ROM disk, we suggest the CD-ROM title is D:\.
2. Find and run D:\Patch\Via\patch9x\Setup\Setup.exe
3. Select "Install VIA Chipset Functions' Registry", then it will automatically install this program.

**Note!** This program should be installed before any other VIA's drivers.

#### VIA AGP VxD Driver for Windows 9x Installation

##### *Windows95/Windows98:*

1. Go to the CD-ROM disk, we suggest the CD-ROM title is D:\.
2. Find and run D:\Driver\Via\Agp\Setup\Setup.exe
3. Select "Install VIA AGP VxD in turbo mode" or "Install VIA AGP VxD normal mode", then it will automatically install this program.



## VIA PCI IRQ Routing Miniport for Windows 9x Installation

### **Windows95/Windows98:**

1. Go to the CD-ROM disk, we suggest the CD-ROM title is D:\.
2. Find and run D:\Patch\Via\Virq9x\Setup.exe

**Note:** Before install Windows98, user must enable two functions for this miniport driver in the BIOS menu, one is "OnChip USB" in the "Chipset Features Setup" and another is "Assign IRQ for USB" in the "PNP/PCI Configuration Setup".