

HOT-597
Pentium[™] processor
Based AGP MAIN BOARD
User's Manual

FCC Notice:

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy. If not installed and used properly, in strict accordance with the manufacturer's instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures :

Reorient or relocate the receiving antenna.

Increase the separation between the equipment and receiver.

Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

Consult the dealer or an experienced radio/television technician for help and for additional suggestions.

The user may find the following booklet prepared by the Federal Communications Commission helpful "How to Identify and Resolve Radio-TV Interference Problems." This booklet is available from the U.S. Government Printing Office, Washington, DC 20402, Stock 004-000-00345-4

FCC Warning

The user is cautioned that changes or modifications not expressly approved by the manufacturer could void the users authority to operate this equipment.

Note : In order for an installation of this product to maintain compliance with the limits for a Class B device, shielded cables and power cord must be used.

CE Notice:

Following standards were applied to this product, in order to achieve compliance with the electromagnetic compatibility :

- Immunity in accordance with EN 50082-1: 1992
- Emissions in accordance with EN 55022: 1987 Class B.

NOTICE

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Manual Ver 1.0

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PREFACE

HOT-597 is a high performance, cost effective, and energy efficient mainboard for the implementation of AGP, PCI, and ISA in desktop personal computer systems from 66MHz to 100MHz based on 64-bit Socket-7 super-scalar processors.

HOT-597 mainboard is a highly integrated IBM PC/ATX compatible ATX form-factor system board designed to meet the industry's most demanding desktop applications. Based on the VIA's MVP3 chipset.

HOT-597 accept AMD K6-2, K6, K5, Intel Pentium P54C, Pentium MMX, IDT-C6 and Cyrix/IBM 6x86, 6x86L, 6x86MX processors and also features high-performance pipelined burst secondary cache memory support with size of 1024KB. The memory subsystem is designed supports standard Fast Page Mode (FPM), EDO, SDRAM, and 100MHz SDRAM.

HOT-597 complies with the Accelerated Graphics Port Specification 1.0 and features support for 66/68/75/83/95/100MHz CPU bus frequencies and the 66MHz AGP bus frequency.

HOT-597 provides a new level of I/O integration. VIA MVP3 chipset provides increased integration and improved performance over other chipset designs.

The VIA's MVP3 chipset provides an integrated Bus Mastering IDE controller with two high performance Ultra 33 DMA IDE interfaces for up to four IDE devices.

The onboard I/O controller provides the standard PC I/O functions: floppy interface, two FIFO serial ports, an IrDA device port and a SPP/EPP/ECP capable parallel port.

Up to four PCI local bus slots provide a high bandwidth data path for data-movement intensive functions such as graphics, and up to three ISA slots complete the I/O function.

HOT-597 provides the foundation for cost effective, high performance, highly expandable platforms, which deliver the latest in Pentium processor and I/O standard.

1

FEATURES

HOT-597 Mainboard is carefully designed for the demanding PC user who wants high performance and many intelligent features in a compact package:

Chipset

Features VIA's 82C598MVP Chipset with I/O subsystems

Main Processor

AMD K6-2 266~450 MHz, AMD K6 166~300 MHz, K5 PR133~PR166,
Intel Pentium (P54C) 100~200 MHz, Pentium MMX (P55C) 166~233 MHz,
Cyrix/IBM 6x86 P166+~P200+, 6x86L P166+~P200+, 6x86MX PR200~PR333,
IDT-C6 200~225MHz

Secondary Cache

Onboard 512KB or 1024KB Pipelined Burst Cache.

Versatile Memory Supports

Equipped with three DIMM sockets for (8, 16, 32, 64 or 128MB) 168-pin 66MHz or 100MHz PC SDRAM memory modules up to 384 MB.

Expansion Slots

Provides four 32-bit PCI slots, three 16-bit ISA slots and one AGP slot.

AGP (Accelerated Graphics Port)

AGP Specification 1.0

HOT-597 main board equipped with an AGP slot for an AGP VGA card that supports 133MHz 2X mode for texture mapping z-buffering and alpha blending. AGP allows 3D applications to run faster and smoothly.

Onboard I/O Chip

One Floppy port

One PS/2 mouse and Keyboard connector

Two high-speed UART compatible serial port

Serial Port 2 can also be directed from COM2 to the Infrared Module for wireless connections
One parallel port with ECP and EPP capabilities

Onboard PCI Bus Master IDE Controller

Two Ultra DMA/33 Bus Master IDE Ports supports four IDE devices up to 33 MB/sec IDE transfers and supports Enhanced PIO Modes 3 and 4 and Bus Master IDE DMA Mode 2 devices

Onboard 20-pin ATX Power Supply

ATX power supply unit can connect to the 20-pin ATX power connector onboard, supporting Suspend and soft-on/off by dual-function power button.

Advanced Power Management

Features three power savings modes: **Doze**, **Standby**, and **Suspend**.

Supports **ACPI (Advanced Configuration and Power Interface)** function.

ACPI provides more efficient Energy Saving Features controlled by your operating system that supports OS Direct Power Management (OSPM) functionality.

System BIOS

Provides licensed Award BIOS V4.51PG on 2MB Flash EEPROM.

Supports Green PC, Desktop Management Interface (DMI), PnP, ACPI, NCR SCSI BIOS and Virus Protection.

Board Size:

ATX form factor size 305mm x 190mm.

ACCESSORIES OF HOT-597

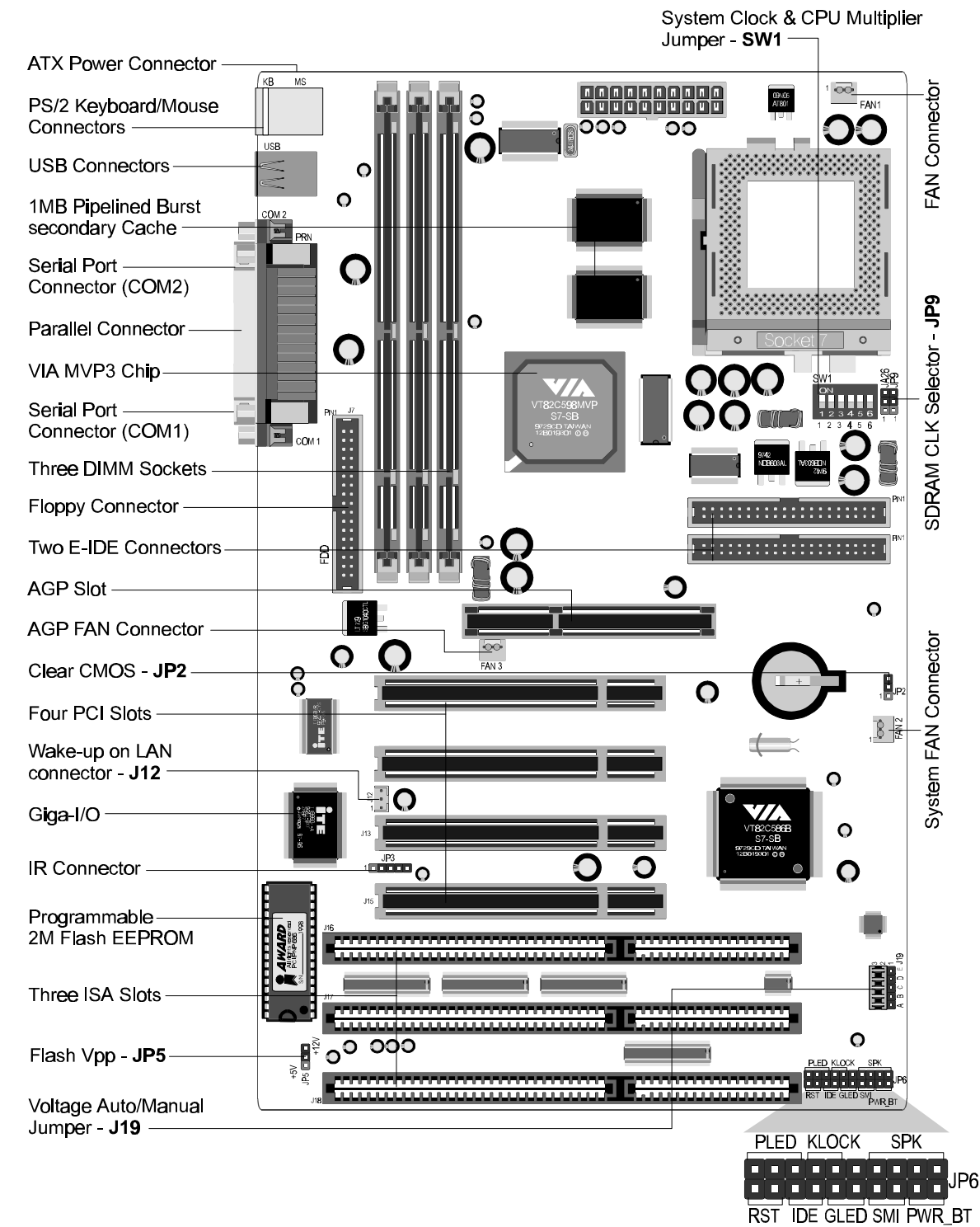


Figure 1

2

HARDWARE INSTALLATION

This chapter is designed for explaining how to configure the HOT-597 hardware. After you install the main board, you can set jumpers, install memory on the main board, and make case connectors. Refer to this chapter whenever you upgrades or reconfigure your system.

Jumper Setting

This section describe the necessary procedures and proper jumper settings to configure the HOT-597 main board.

Jumper pin headers show on right side are used to configure system clock, CPU multiplier voltages and SDRAM clock speed.

System Clock and CPU Clock Multiplier - SW1

DIP switch finger 1 to finger 3 are used to adjust System Clock from 66 to 100 MHz, finger 4 to finger 6 used to adjust CPU Clock Multiplier from 1.5x to 5.5x.

CPU Voltages - J19

Jumper group J19 are used to adjust onboard voltages output from Switching regulators to CPU.

Futher more, HOT-597 Mainboard provide intelligent CPU Voltages detecting and auto-adjusting function.

Enable this function by inserting a mini jumper pack on J19 row 2/3 (factory default), none of other mini jumpers are required on jumper group J19. HOT-597 Mainboard will assign proper voltages to CPU automatically.

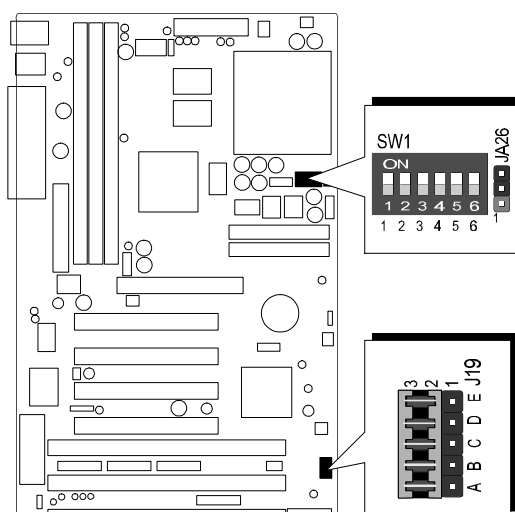


Figure 2-1

SDRAM Clock Speed - Jumper JP9

HOT-597 support 100MHz external clock speed AMD 266MHz and 400MHz K6-2, and which allows the user to use 66MHz normal SDRAM DIMM or 100MHz PC/100 SDRAM DIMM. Jumpers JP9 are used to set SDRAM DIMM clock speed synchronous with System Clock (CPU External Clock) or synchronous with AGP Clock.

Those hardware settings are made through the use of jumper caps to connect jumper pins on the main board.

The following examples show the conventions used in this chapter.

	Finger 3 set to ON, the others set to OFF		Insert a jumper pack on J19 Row 2-3 to set CPU voltage auto-detecting
	Finger 4, 6 set to ON, the others set to OFF		Remove jumper pack from J19 and insert mini on pin A, C, D on Row 1-2 to set voltage on 3.3V

Table 2-1

CPU Configuration Table

Processor	Speed	System Clock	Multiplier	Processor	Speed	System Clock	Multiplier	Processor	Speed	System Clock	Multiplier
Intel Pentium P55C MMX	233 MHz	66 MHz	3.5 x	AMD K6-2	450 MHz	100 MHz	4.5 x	Cyril/IBM 6x86MX	PR333	100 MHz	2.5 x
	200 MHz	66 MHz	3 x		400 MHz	100 MHz	4 x		PR333	83 MHz	3 x
	166 MHz	66 MHz	2.5 x		380 MHz	95 MHz	4 x		PR300	75 MHz	3 x
Intel Pentium P54C	200 MHz	66 MHz	3 x		366 MHz	66 MHz	5.5 x		PR300	66 MHz	3.5 x
	166 MHz	66 MHz	2.5 x		350 MHz	100 MHz	3.5 x		PR266	83 MHz	2.5 X
	133 MHz	66 MHz	2 x		333 MHz	95 MHz	3.5 x		PR266	66 MHz	3.5 X
	100 MHz	66 MHz	1.5 x		333 MHz	66 MHz	5 x		PR233	75 MHz	2.5 x
IDT-C6	225MHz	75 MHz	3 x		300 MHz	100 MHz	3 x		PR233	66 MHz	3 x
	200MHz	66 MHz	3 x		300 MHz	66 MHz	4.5 x		PR200	75 MHz	2 x
AMD K6	300 MHz	66 MHz	4.5 x		266 MHz	66 MHz	4 x		PR200	66 MHz	2.5 x
	266 MHz	66 MHz	4 x	AMD K5	PR166	66 MHz	2.5 x	Cyril/IBM 6x86 (L)	P200+	75 MHz	2 x
	233 MHz	66 MHz	3.5 x		PR133	66 MHz	1.5 x		P166+	66 MHz	2 x
	200 MHz	66 MHz	3 x								
	166 MHz	66 MHz	2.5 x								

Table 2-2

CPU Configuration - SW1, JA26 & J19

SW1 and J19 are the Jumpers that you need to set your CPU on HOT-597. Make sure that you know the type of CPU that you are installing and refer to the proper settings which are listed below.

Normally, CPU voltage is auto-detected on HOT-597 and is set to Auto-detected when HOT-597 is delivered. If you have a higher frequency CPU or you want to set CPU frequency and voltage manually, please refer to next two sections.

AMD-K5 Series CPUs Settings

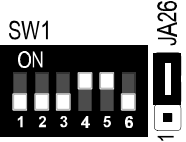
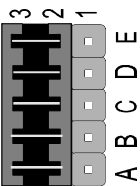

Processor	Speed	Frequency Setting SW1, JA26	Jumper Block J19 Vcore/Vio Auto-detect
AMD-K5	PR166 66MHzx2.5		 3.52V/3.52V
	PR133 66MHzx1.5		

Table 2-3

AMD-K6 Series CPUs Settings


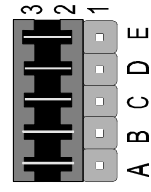




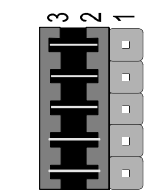

Processor	Speed	Frequency Setting SW1, JA26	Jumper Block J19 Vcore/Vio Auto-detect
AMD K6	300 MHz 66MHzx4.5		 2.2V/3.3V
	266 MHz 66MHzx4		
	233 MHz 66MHzx3.5		
	233 MHz 66MHzx3.5		3.2V/3.3V
	200 MHz 66MHzx3		 2.9V/3.3V
	166 MHz 66MHzx2.5		

Table 2-4

*Note :The voltage of AMD-K6 233MHz may vary from market and CPU core.
Please ask your CPU provider for detail.*

AMD K6-2 Series CPUs Settings



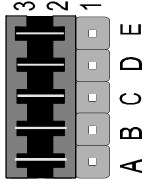


















Processor	Speed	Frequency Setting SW1, JA26	Jumper Block J19 Vcore/Vio Auto-detect
AMD K6-2	450 MHz 100MHzx4.5	SW1 ON  JA26 	 2.2V/3.3V
	400 MHz 100MHzx4	SW1 ON  JA26 	
	380 MHz 95MHzx4	SW1 ON  JA26 	
	366 MHz 66MHzx5.5	SW1 ON  JA26 	
	350 MHz 100MHzx3.5	SW1 ON  JA26 	
	333 MHz 95MHzx3.5	SW1 ON  JA26 	
	333 MHz 66MHzx5	SW1 ON  JA26 	
	300 MHz 100MHzx3	SW1 ON  JA26 	
	300 MHz 66MHzx4.5	SW1 ON  JA26 	
	266 MHz 66MHzx4	SW1 ON  JA26 	

Table 2-5

Intel Pentium MMX (P55C) Series CPUs Settings


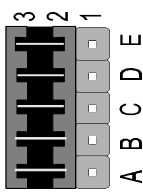
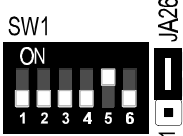
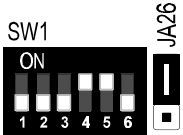
Processor	Speed	Frequency Setting SW1, JA26	Jumper Block J19 Vcore/Vio Auto-detect
Intel Pentium MMX(P55C)	233 MHz 66MHzx3.5		 2.8V/3.3V
	200 MHz 66MHzx3		
	166 MHz 66MHzx2.5		

Table 2-6

Intel Pentium (P54C) Series Settings

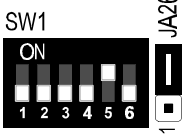
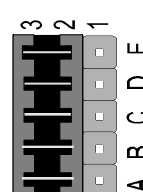

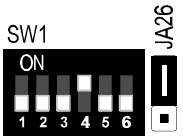
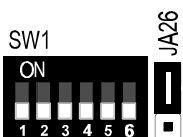
Processor	Speed	Frequency Setting SW1, JA26	Jumper Block J19 Vcore/Vio Auto-detect
Intel Pentium (P54C)	200 MHz 66MHzx3		 3.3V/3.3V
	166 MHz 66MHzx2.5		
	133 MHz 66MHzx2		
	100 MHz 66MHzx1.5		

Table 2-7

Cyrix/IBM 6x86MX Series CPUs Settings

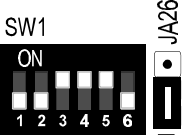
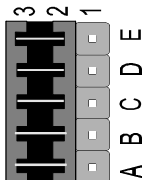


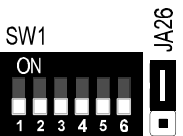

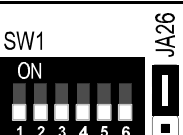
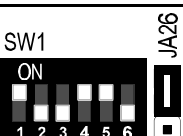
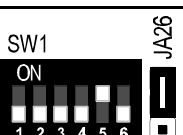
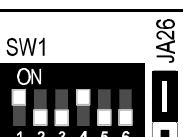
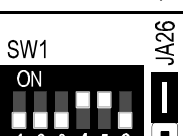
Processor	Speed	Frequency Setting SW1, JA26	Jumper Block J19 Vcore/Vio Auto-detect
Cyrix/IBM 6x86MX	PR333 100MHzx2.5		 2.9V/3.3V
	PR333 83MHzx3		
	PR300 75MHzx3		
	PR300 66MHzx3.5		
	PR266 83MHzx2.5		
	PR266 66MHzx3.5		
	PR233 75MHzx2.5		
	PR233 66MHzx3		
	PR200 75MHzx2		
	PR200 66MHzx2.5		

Table 2-8

Cyrix/IBM 6x86/6x86L Series CPUs Settings

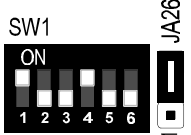
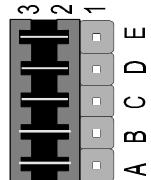


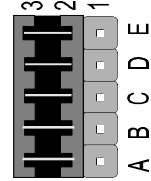

Processor	Speed	Frequency Setting SW1, JA26	Jumper Block J19 Vcore/Vio Auto-detect
Cyrix/IBM 6x86L	P200+ 75MHzx2		 2.8V/3.3V
	P166+ 66MHzx2		
Cyrix/IBM 6x86	P200+ 75MHzx2		 3.52V/3.52V
	P166+ 66MHzx2		

Table 2-9

IDT-C6 Series CPUs Settings


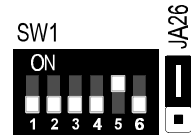
Processor	Speed	Frequency Setting SW1, JA26	Jumper Block J19 Vcore/Vio Auto-detect
IDT-C6	225 MHz 75MHzx3		 3.52V/3.52V
	200 MHz 66MHzx3		

Table 2-10

System Clock and CPU Multiplier Manual Setting

- SW1 & JA26

For whom like to set up system manually, listed tables show all the System Clock and CPU Multiplier that HOT-597 can offer. Pin header 1~3 of SW1 and JA26 are used to adjust System Clock from 60 MHz to 100 MHz. Pin header 4~6 of SW1 are used to adjust CPU core multiplier from 1.5X to 5.5X.

Table 2-11 shows the System Clock from 66 MHz to 100 MHz.

Table 2-12 shows CPU Multiplier from 1.5X to 5.5X.

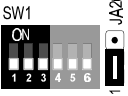
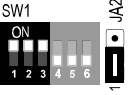
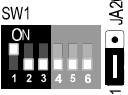
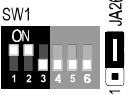

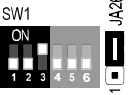
CPU External CLK			
CPU	AGP	PCI	SW1(1-3) / JA26
66MHz	66MHz	33MHz	
68MHz	68MHz	34MHz	
75MHz	75MHz	37MHz	
83MHz	55MHz	27MHz	
95MHz	63MHz	31MHz	
100MHz	66MHz	33MHz	

Table 2-11






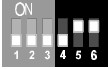
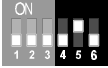

Multiplier	SW1(4-6)	Multiplier	SW1(4-6)
1.5 X / 3.5 X		4 X	
2 X		4.5 X	
2.5 X		5 X	
3 X		5.5 X	

Table 2-12

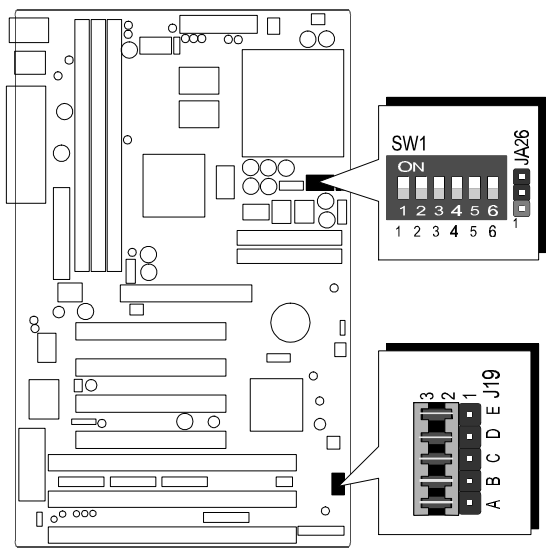


Figure 2-2

SDRAM Frequency Setting - JP9

HOT-597 support 100MHz external frequency AMD K6-2, and which allows the user to use 66MHz normal SDRAM DIMM or 100MHz PC/100 SDRAM DIMM. Jumpers JP9 are used to set SDRAM frequency which synchronous with System Clock (CPU External Clock) or synchronous with AGP External Clock.

This feature allows the user to use normal SDRAM with AMD K6-2 processor.



SDRAM Frequency Setting JP9	
Synchronous with System Clock (CPU External Clock)	Synchronous with AGP Clock
	

Table 2-13

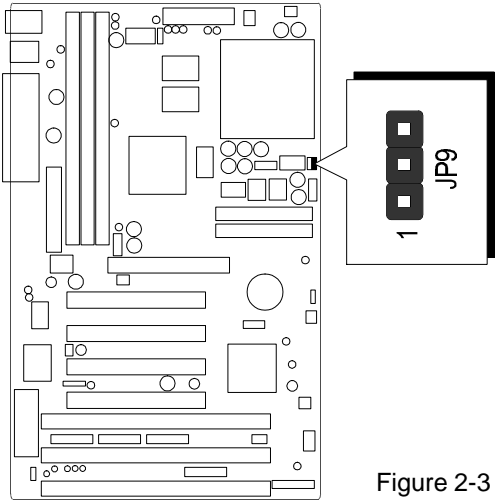


Figure 2-3

CPU Voltage Manual Setting - J19

HOT-597 automatically detects and adjusts the voltage to the proper voltage. Jumper block J19 is used to set Auto-matically or Manually adjust onboard voltages output from Switching type regulators to CPU by inserting or removing mini jumper The voltage settings are made through the use of jumper caps to connect jumper pins on the pin set A~E of Jumper block J19.

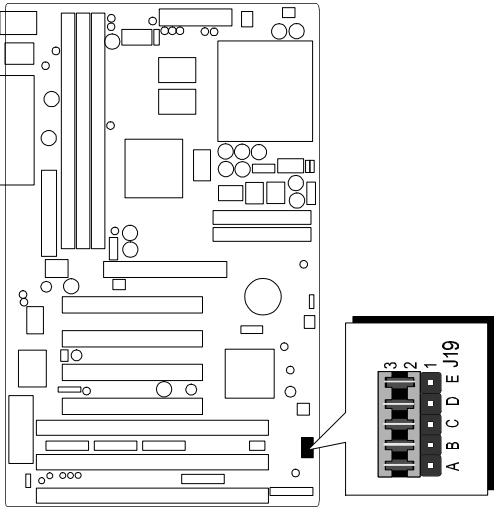


Figure 2-4

Voltage	J19	Voltage	J19
Auto -setting		2.5 V	
3.5 V		2.3 V	
3.4 V		2.2 V	
3.3 V		2.1 V	
3.2 V		2.0 V	
2.9 V		1.9 V	
2.8 V		1.8 V	

Table 2-14

Flash EEPROM Vpp - JP5

HOT-597 mainboard supports two types of Flash EEPROM:

5 volt and 12 volt. By setting up jumper JP5, the main board can use both 5V or 12V flash EEPROM with new system BIOS files as they come available.

JP5 Pin 2-3 Close for 12V Flash EEPROM

JP5 Pin 1-2 Close for 5V Flash EEPROM

CMOS Clear - JP2

HOT-597 mainboard supports jumper JP2 for discharging mainboard's CMOS memory.

This jumper can clear the CMOS data stored in the subsystem chip. To clear the CMOS data please follow listed steps:

- 1) Turn off the PC,
- 2) Remove the jumper cap from JP2 pin 1-2,
- 3) Insert the jumper cap to JP2 pin 2-3 for a brief while,
- 4) Remove the jumper cap from JP2 pin 2-3,
- 5) Reinsert the jumper cap to JP2 pin 1-2,
- 6) Turn on the PC.

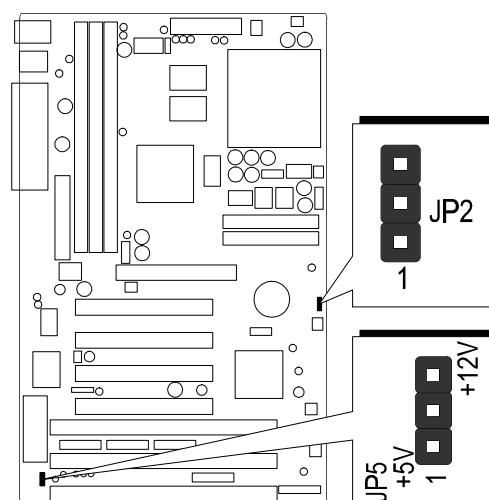


Figure 2-5

Connectors

Front Panel Connectors (JP6)

Hardware Reset Connector - RST

Attach 2-pin hardware reset switch to it.
Closing the reset switch restarts the system.

PW-LED Connector

Power LED connector is a 3-pin connector for attached to the case's Power LED.

KeyLock Connector

KeyLock connector is a 2-pin connector for a lock that may be installed on the system case for enabling or disabling the keyboard.

Speaker Connector - Speaker

PC speaker connector may attach a 4-pin PC speaker cable from the case to this connector.

SMI Connector - SMI

Hardware System Management Interface connector may attach a 2-pin momentary switch to it. When push it will force system get into power saving mode, and the system will resume when switch is pushed again.

GLEED Connector - GLED

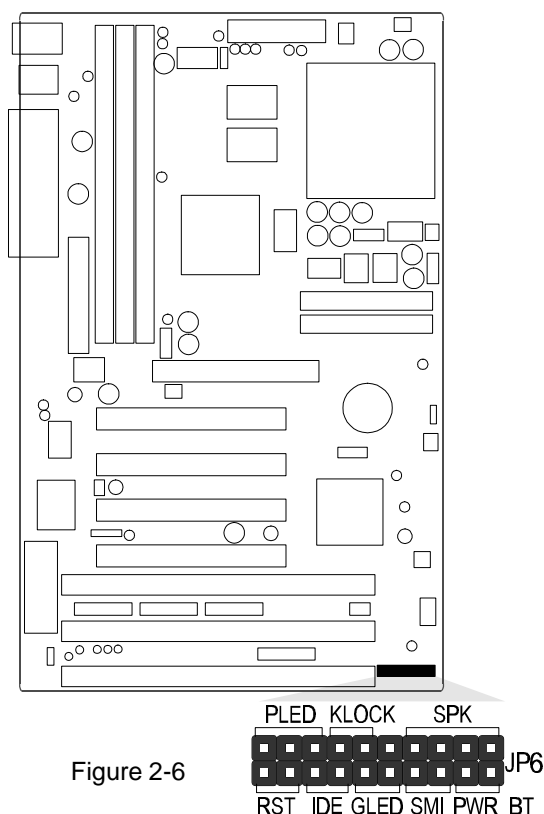
Attach a 2-pin Green LED cable to it. The Green LED lights when the system get into power saving mode. The Green LED off when the system resume back to normal mode.

HD LED Connector - IDE

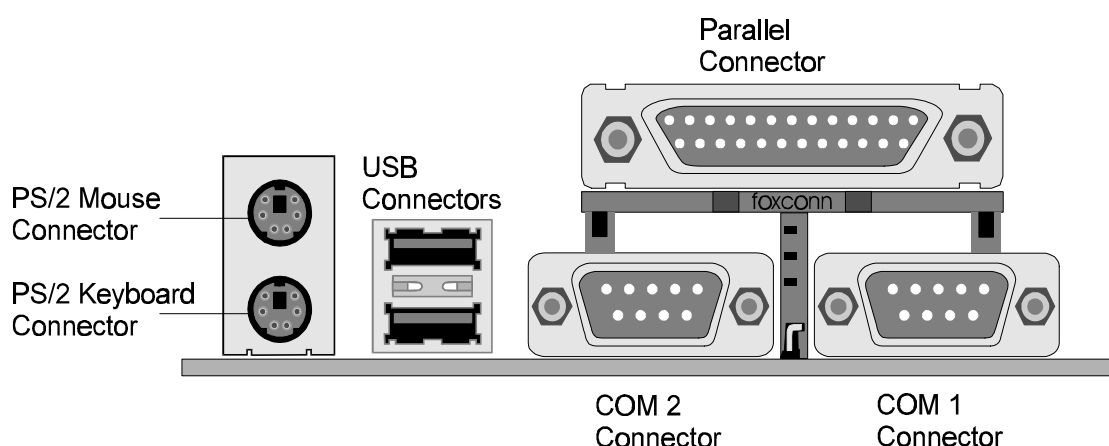
Attach a 2-pin IDE drive LED cable to this connector. The LED lights when an IDE device is active.

ATX Power On/Off Switch Connector - PWR_BT

Attach a 2-pin momentary type switch to this connector for truning on or off your ATX power supply.



Back Panel Connectors



COM1/COM2 Connectors

Attach COM1/COM2 device cables to these connectors.

PS/2 Keyboard & PS/2 Mouse Connector

Two 6-pin female PS/2 keyboard & Mouse Connectors is located at the rear of the main board. PS/2 Mouse on top of connector and PS/2 Keyboard on the bottom of connector. Plug the PS/2 keyboard and mouse jack into this connector.

Parallel Port Connector

A 25-pin female connector is located at the rear of the main board. Plug the parallel port device cable into this connector.

USB1/USB2 Port Connectors

Two female connectors are located at the rear of the board. Plug the USB devices jack into this connector.

Other Connectors

ATX Power Supply Connector - J3

It is a 20-pin male header connector is connected to the ATX power supply. The plug of the power supply will only insert in one orientation because of the different hole shade and size. Find the proper orientation and push down firmly making sure that the pins are aligned.

IR Connector - JP3

Infrared device connector may attach a 5-pin infrared device cable to this connector for enabling the infrared transfer function. This mainboard meets the specification of ASKIR and HPSIR.

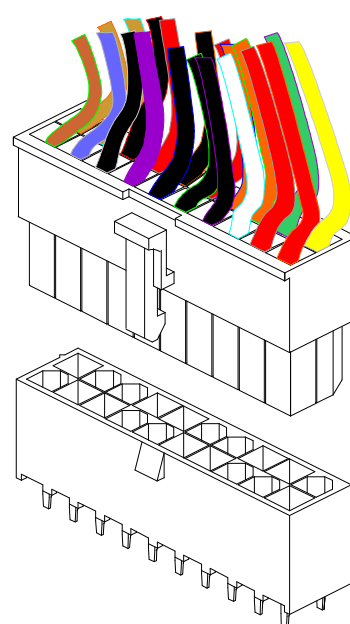
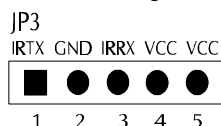


Figure 2-7

CPU, Chassis & AGP cooling Fan connectors - Fan1, Fan2 & Fan3

The main board provides two onboard 12V cooling fan power connectors for CPU (Fan 1), AGP device (Fan 3) cooling fan. Depending on the fan maker, the wiring and plug may be different. The red wire should be connected to +12V and black wire should be connected to ground (GND).

Wake-On-LAN Connectors - J12

Attach a 3-pin connector from the LAN card which supports the Wake-On-LAN (WOL) function. This function lets users wake up the connected system through the LAN card.

Enhanced IDE and Floppy connectors

The main board shipped with one 40-pin ribbon cable for IDE H.D.D, one 34-pin ribbon cable for F.D.D. Ribbon cables should always be connected with the red stripe on the Pin 1 side of the connector.

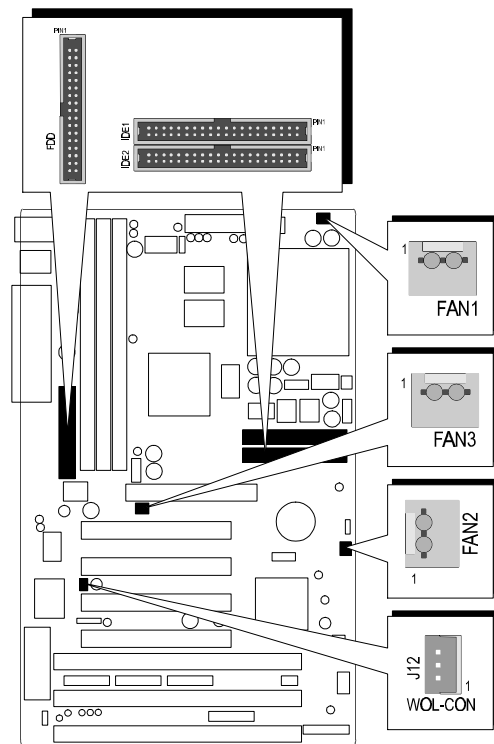


Figure 2-8

3

Memory Configuration

The HOT-597 mainboard provides three 168-pin DIMM sockets that make it possible to install from 8MB up to 384MB of SDRAM. The DIMM socket support 8MB, 16MB, 32MB, 64MB, and 128MB 3.3V single- or double-side SDRAM DIMM.

The three DIMM sockets are arranged in four banks of one socket each, each bank provides a 64/72-bit wide data path.

HOT-597 provides optional data integrity features including EC (Eccor Checking) or ECC (Error Checking and Correcting) in the memory array. EC mode provides single and multiple bit error detection. In ECC mode, during reads from the DRAM, the HOT-597 provides error checking and correction of the data.

To support ECC, you must use true (opposed to phantom parity generated by TTL chips) 72-bit parity-type DIMM for all modules.

Install memory in any or all of the banks in any combination as follows:

DIMM Socket	Memory Modules	Mudule Quantity
DIMM 0	8MB, 16MB, 32MB, 64MB, 128MB 168-pin 3.3V SDRAM DIMM	x 1
DIMM 1	8MB, 16MB, 32MB, 64MB, 128MB 168-pin 3.3V SDRAM DIMM	x 1
DIMM 3	8MB, 16MB, 32MB, 64MB, 128MB 168-pin 3.3V SDRAM DIMM	x 1

Figure 3

4

Flash Utility

This chapter briefly discusses Award Flash utility provides instructions to guide you through updating your old BIOS. The file name we use to program here is test.bin, and the file name to save old BIOS is 597.OLD. Please note that those file names are not absolute. They are only examples to let you have a more clear understanding of the updating process.

How to Begin

1. Please type "awdf flash" and press the **ENTER** key to begin the updating process.
2. Once you enter, you will see a main menu displaying:
3. Move the cursor to "File Name to Program:"
4. Type the program name "test.bin", and then press the **ENTER** key.
5. At the bottom of the menu, you will be requested to answer:

"Do You Want to Save BIOS (Y/N)? "

```
FLASH MEMORY WRITER v5.32B
Copyright (C) 1993, Award Software, Inc.,

For VF3 586B ITE867 2n5LEH2BC DATE: 04/16/98
Flash Type -

File Name to Program : test.bin

Error Message:
```

The following manual is intended to guide you through the process of both "No" and "Yes" cases respectively.

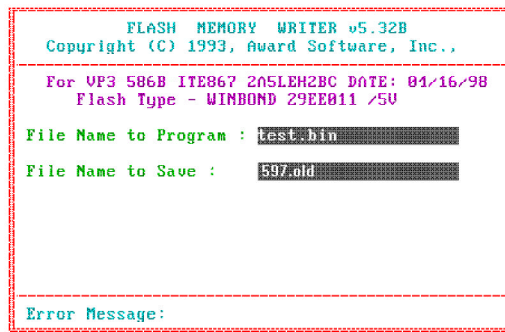
If "No"

If you do not wish to save the old BIOS:

1. Please type "N", and then press the **ENTER** key.
2. Then you will be requested to answer:

"Are You Sure to Program? "

3. Answer "No" if you do not want to program, and then it will exit.



If "Yes"

To save the old BIOS:

1. Please respond "Y", and then press the ENTER key.
2. Move the cursor to "File Name to Save: "
3. Type file name "597.OLD", and then press the ENTER key. (Your old BIOS will be saved in the file name you create. In this case, the old BIOS is saved in the file name, 597.OLD).
4. Then you will be requested to answer:

"Are You Sure to Program (Y/N)? "

5. Type "Y" to begin programming, and press the ENTER key.
6. When the programming is finished, the showing message will appear:
7. Once you see the showing message "Power Off or Reset System", please restart your system.
8. When you power on the computer again, you will find your old BIOS has already been successfully updated.

To view a complete usage of FLASH utility, please type "awdf flash /?" and press the ENTER key.

Notes About Award Flash Utility

Please note that Award Flash Utility cannot run under EMM386 or QEMM. Thus, when executing the command "awdf flash", an error message will appear:

"Error Message: Failure Due to EMM386 or QEMM !"

5

VIA VxD AGP Driver Installation

This section describe the installation of VIA VxD Driver which supports Accelerated Graphics Port (AGP) functionalists.

System Requirements

This driver should be installed on a system with the HOT-597 main board which based on VIA AGP chipset VT82C598MVP, and others' main board will not be supported. The VIA VGART Driver is only supported by Windows 95 OSR 2.1 (4.00.950 B) or later version. You may find the VGART Driver on attached CD-ROM in \Driver\VGART directory.

For Win95 users, you will need to

1. Get "USBSUPP.EXE" from Microsoft, which includes the USB supplement and a new memory manager (VMM32.VxD) needed for the AGP DIME (Direct Memory Execute) feature.
2. Get DirectX 6.0 from Microsoft. DirectX 6.0 is the first DirectX version that supports AGP's DIME.
3. Get AGP Master (i.e., AGP VGA) Driver from VGA Supplier.
4. Install "VIAGART.VXD", VIA Graphics Address Remapping Table Driver from attached CD-ROM.

For WinNT 4.0 users, you need to install Microsoft Windows NT Service Pack 3.0 before install AGP Masster Driver, or you will have to wait until WinNT 5.0 is released.

Installation Instructions

Run program "SETUP.EXE" in the directory of \Driver\VGART\VIA on attached CD-ROM, and it will install the VIA VGART Driver automatically onto your Windows 95 system.

6

BIOS Setup

HOT-597 BIOS ROM has a built-in Setup program that allows users to modify the basic system configuration. This type of information is stored in battery-backed RAM so that it retains the Setup information when the power is turned off.

Entering Setup

Power on the computer and press immediately will allow you to enter Setup. The other way to enter Setup is to power on the computer, when the below message appear briefly at the bottom of the screen during the POST (Power On Self Test), press key or simultaneously press <Ctrl>,<Alt>, and <Esc> keys.

“Press DEL to enter SETUP”

If the message disappears before you respond and you still wish to enter Setup, restart the system to try again by turning it OFF the ON or pressing the “RESET” button on the system case. You may also restart by simultaneously press <Ctrl>,<Alt>, and <Delete> keys. If you do not press the keys at the correct time and the system does not boot, an error message will be displayed and you will again be asked to,

“Press F1 to Continue, DEL To Enter Setup”

Main Menu

ROM PCI/ISA BIOS (2A5LEH2C) 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

Standard CMOS setup

This setup page includes all items in a standard compatible BIOS.

BIOS features setup

This setup page includes all items of Award special enhanced features.

Chipset features setup

This setup page includes all items of chipset features.

Power Management Setup

This setup page includes all items of Power Management features.

PnP/PCI Configuration

This item specifies the value (in units of PCI bus blocks) of the latency timer for the PCI bus master and the IRQ level for PCI device. Power-on with BIOS defaults

Load BIOS Defaults

BIOS defaults loads the values required by the System for the maximum performance. However, you can change the parameter through each Setup Menu.

Load Setup Defaults

Setup defaults loads the values required by the system for the O.K. performance. However, you can change the parameter through each Setup Menu.

Integrated Peripherals

This setup page includes all items of peripheral features.

Supervisor Password

Change, set, or disable supervisor password. It allows you to limit access to the system and Setup, or just to Setup.

User Password

Change, set, or disable user password. It allows you to limit access to the system and Setup, or just to Setup.

IDE HDD auto detection

Automatically configure IDE hard disk drive parameters.

Save & Exit setup

Save CMOS value change to CMOS and exit setup

Exit without saving

Abandon all CMOS value changes and exit setup.

Standard CMOS Setup

ROM PCI/ISA BIOS (2A5LEH2C)																																																						
STANDARD CMOS SETUP																																																						
AWARD SOFTWARE, INC.																																																						
Date (mm:dd:yy) : Tue, Jan 26 1999																																																						
Time (hh:mm:ss) : 10 : 38 : 43																																																						
<table><thead><tr><th>HARD DISKS</th><th>TYPE</th><th>SIZE</th><th>CYLS</th><th>HEAD</th><th>PRECOMP</th><th>LANDZ</th><th>SECTOR</th><th>MODE</th></tr></thead><tbody><tr><td>Primary Master</td><td>: Auto</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>AUTO</td></tr><tr><td>Primary Slave</td><td>: Auto</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>AUTO</td></tr><tr><td>Secondary Master</td><td>: Auto</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>AUTO</td></tr><tr><td>Secondary Slave</td><td>: Auto</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>AUTO</td></tr></tbody></table>										HARD DISKS	TYPE	SIZE	CYLS	HEAD	PRECOMP	LANDZ	SECTOR	MODE	Primary Master	: Auto	0	0	0	0	0	0	AUTO	Primary Slave	: Auto	0	0	0	0	0	0	AUTO	Secondary Master	: Auto	0	0	0	0	0	0	AUTO	Secondary Slave	: Auto	0	0	0	0	0	0	AUTO
HARD DISKS	TYPE	SIZE	CYLS	HEAD	PRECOMP	LANDZ	SECTOR	MODE																																														
Primary Master	: Auto	0	0	0	0	0	0	AUTO																																														
Primary Slave	: Auto	0	0	0	0	0	0	AUTO																																														
Secondary Master	: Auto	0	0	0	0	0	0	AUTO																																														
Secondary Slave	: Auto	0	0	0	0	0	0	AUTO																																														
Drive A : 1.44M, 3.5 in.																																																						
Drive B : None																																																						
Video : EGA/UGA				Base Memory: 0K																																																		
Halt On : All Errors				Extended Memory: 0K																																																		
				Other Memory: 512K																																																		
				Total Memory: 512K																																																		
ESC : Quit																																																						
F1 : Help																																																						
↑ ↓ → ← : Select Item																																																						
(Shift)F2 : Change Color																																																						
PU/PD/+/- : Modify																																																						

Date

The date format is <day>, <month> <date> <year>. Press <F3> to show the calendar.

Time

The time format is <hour> <minute> <second>. The time is calculated base on the 24-hour military-time clock. For example. 5 p.m. is 17:00:00.

Hard Disks

This item identify the types of hard disk drives that has been installed in the computer. There are 46 predefined types and a user definable type.

Press PgUp or PgDn to select a numbered hard disk type or type the number and press <Enter>. Note that the specifications of your drive must match with the drive table. The hard disk will not work properly if you enter improper information for this item. If your hard disk drive type is not matched or listed, you can use Type User to define your own drive type manually.

If you select Type User, related information is asked to be entered to the following items. Enter the information directly from the keyboard and press <Enter>. Those information should be provided in the documentation from your hard disk vendor or the system manufacturer.

The user may also set those items to AUTO to auto configure hard disk drives parameter when system power-on.

If a hard disk drive has not been installed select NONE and press <Enter>.

Drive A type / Drive B type

This item specifies the types of floppy disk drive A or drive B that has been installed in the system.

Video

This item selects the type of adapter used for the primary system monitor that must matches your video display card and monitor. Although secondary monitors are supported, you do not have to select the type in Setup.

Halt on

This item determines if the system will stop, when an error is detected during power up.

Memory

This item is display-only. It is automatically detected by POST (Power On Self Test) of the BIOS.

Base Memory

The POST of the BIOS will determine the amount of base (or conventional) memory installed in the system. The value of the base memory is typically 512K for systems with 512K memory installed on the mainboard, or 640K for systems with 640K or more memory installed on the mainboard.

Extended Memory

The BIOS determines how much extended memory is present during the POST. This is the amount of memory located above 1MB in the CPU's memory address map.

BIOS Features Setup

ROM PCI/ISA BIOS (2A5LEH2C) BIOS FEATURES SETUP AWARD SOFTWARE, INC.			
Virus Warning	: Disabled	Video BIOS Shadow	: Enabled
CPU Internal Cache	: Enabled	C8000-CBFFF Shadow	: Disabled
External Cache	: Enabled	CC000-CFFFF Shadow	: Disabled
Quick Power On Self Test	: Enabled	D0000-D3FFF Shadow	: Disabled
Boot Sequence	: A,C,SCSI	D4000-D7FFF Shadow	: Disabled
Swap Floppy Drive	: Disabled	D8000-DBFFF Shadow	: Disabled
Boot Up Floppy Seek	: Enabled	DC000-DFFFF Shadow	: Disabled
Boot Up NumLock Status	: On		
Gate A20 Option	: Fast		
Memory Parity/ECC Check	: Enabled		
Typematic Rate Setting	: Disabled		
Typematic Rate (Chars/Sec)	: 6		
Typematic Delay (Msec)	: 250		
Security Option	: Setup		
IDE Second Channel Control	: Enabled		
PCI/UGA Palette Snoop	: Disabled	ESC : Quit	↑↓←→ : Select Item
OS Select For DRAM > 64MB	: Non-OS2	F1 : Help	PU/PD/+/- : Modify
Report No FDD For WIN 95	: No	F5 : Old Values (Shift)	F2 : Color
		F6 : Load BIOS Defaults	
		F7 : Load Setup Defaults	

Virus Warning

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

!WARNING!
Disk boot sector is to be modified
Type "Y" to accept write or "N" to abort write
Award Software, Inc.

CPU Internal / External Cache

This item enables CPU internal cache and external cache to speed up memory access.

Quick Power On Self Test

This item speeds up Power On Self Test (POST) after you power on the computer. If it is set to Enabled, BIOS will shorten or skip some check items during POST.

Boot Sequence

This item determines which drive computer searches first for the disk operating system. Default setting is A, C, SCSI.

BIOS also support system boot from CD-ROM drive or SCSI hard disk drive.

Swap Floppy Drive

When this item enables, the BIOS will swap floppy drive assignments so that Drive A: will function as Drive B: and Drive B: as Drive A:.

Boot Up Floppy Seek

During POST, BIOS will determine if the floppy disk drive installed is 40 or 80 tracks.

Boot Up NumLock Status

When this option enables, BIOS turns on *Num Lock* when system is powered on.

Gate A20 Option

This entry allows you to select 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, set to *Fast* for the system chipset to provide support for gate A20.

Memory Parity / ECC Check

This item allows you to set memory error checking, Enabled or Disabled.

Typematic Rate Setting / Typematic Rate / Typematic Delay

This determines if the typematic rate and typematic delay are to be used. When the typematic rate setting is enabled, **typematic rate** allows you select the rate at which the keys are accelerated and **typematic delay** allows you to select the delay between when the key was first depressed and when the acceleration begins.

Security Option

This item allows you to limit access to the System and Setup, or just to Setup.

When *System* is selected, the System will not boot and access to Setup will be denied if the correct password is not entered at the prompt.

When *Setup* is selected, the System will boot, but access to Setup will be denied if the correct password is not entered at the prompt.

IDE Second Channel Control

Thi

PCI / VGA Palette Snoop

This item must be set to enabled if there is a MPEG ISA card installed in the system, and disabled if there is no MPEG ISA card installed in the system.

OS Select For DRAM > 64MB

This item allows you to access the memory that over 64 MB in OS/2.

Report No FDD For WIN 95

This item enable for report No FDD for WIN 95 if No FDD install.

Video BIOS Shadow / XXXXX-XXXXX Shadow

These items determine whether Video BIOS or optional ROM will be copied to RAM.

Chipset Features Setup

ROM PCI/ISA BIOS (2A5LEH2C) CMOS SETUP UTILITY CHIPSET FEATURES SETUP			
Bank 0/1 DRAM Timing	: FP/EDO 70ns	CPU Warning Temperature	: Disabled
Bank 2/3 DRAM Timing	: FP/EDO 70ns	Current System Temp.	: XX°CXX°F
Bank 4/5 DRAM Timing	: FP/EDO 70ns	Current CPU1 Temperature	: XX°CXX°F
SDRAM Cycle Length	: 3	Current CPUFAN1 Speed	: XXXXRPM
DRAM Read Pipeline	: Enabled	Current CPUFAN2 Speed	: XXXXRPM
Sustained 3T Write	: Enabled	Current CPUFAN3 Speed	: XXXXRPM
Cache Rd+CPU Wt Pipeline	: Enabled	Vcore : XX.XV	VIO : XX.XV
Read Around write	: Disabled	3.3 V : XX.XV	+ 5 V : XX.XV
Cache Timing	: Fast	+12 V : XX.XV	-12 V : -XX.XV
Video BIOS Cacheable	: Enabled	- 5 V : -XX.XV	
System BIOS Cacheable	: Enabled	Shutdown Temperature	: 60°C/140°F
Memory Hole At 15Mb Addr.	: Disabled	IRQ Routing Miniport Driver	: WIN98
AGP Aperture Size	: 64M		
AGP-2X Mode	: Disabled	ESC : Quit	F10 : Select Item
CPU Core Voltage	: Auto	F1 : Help	F5/PD/+/- : Modify
OnChip USB	: Disabled	F5 : Old Values (Shift)	F2 : Color
Auto Detect DIMM/PCI Clk	: Disabled	F6 : Load BIOS Defaults	
Spread Spectrum Modulated	: Disabled	F7 : Load Setup Defaults	

Bank x/x DRAM Timing

This value in this field is set by the system board manufacturer, depending on whether the board has paged DRAMs or EDO DRAMS.

The choice: 70ns, 60ns.

SDRAM Cycle Length

This field allows you to set the SDRAM latency timer.

The Choice: 2, 3.

DRAM Read Pipeline

This item allows you to set DRAM Read Pipeline function Enabled or Disabled.

Sustained 3T Write

This item allow you to enable or disable direct map write back / write through second-ary cache.

The Choice: Enabled, Disabled.

Cache Rd+CPU Wt Pipeline

This item allows you to enable/disable the cache timing.

The Choice: Enabled, Disabled.

Read Around Write

This item allows you enable/disable the read around write function (system performance timing)

The Choice: Enabled, Disabled.

Cache Timing

This item allows the user to set the cache timing. The options are Fast and Fastest.

Video BIOS Cacheable

When enabled. The Video BIOS cache will cause access to video BIOS addressed at C0000H to C7FFFH to be cached, if the cache controller is also enabled.

The Choice: Enabled, Disabled.

System BIOS Cacheable

As with caching the Video BIOS above, enabling this selection allows accesses to the system BIOS ROM addressed at F0000H ~ FFFFFH to be cached, provided that the cache controller is enabled.

The Choice: Enabled, Disabled.

Memory Hole At 15MB Addr

In order to improve performance, some space in memory can be reserved for ISA cards. This memory must be mapped into the memory space below 16 MB.

This Choice: Disabled, 15M-16M.

AGP Aperture Size

Select the size of Accelerated Graphics Port (AGP) aperture. The aperture is a portion of the PCI memory address range dedicated for graphics memory address space. Host cycles that hit the aperture range are forwarded to the AGP without any translation.

See www.apgforum.org for AGP information.

The Choice: 4M, 8M, 16M, 32M, 64M, 128M, 256M

AGP-2x Mode

This item allows you to enable/disable AGP-2x function. See www.apgforum.org for AGP information.

The Choice: Enabled, Disabled.

CPU Core Voltage

Since the mainboard support CPU voltage auto-detecting and setting, this item allows the user to enable this function when set to Auto. The user can also set CPU core voltage manually in BIOS from 2.1V to 3.5V.

OnChip USB

Select Enabled if your system contains a Universal Serial Bus (USB) controller and you have a USB peripheral.

The Choice: Enabled, Disabled.

Auto Detect DIMM/PCI Clk

Enabling this item allows system auto detect and close clock signal to empty DIMM/PCI slot to reduce EMI.

Spread Spectrum Modulated

This item allows the user to enable Spread Spectrum Modulated to reduce the EMI.

The Choice: 1.5%(NTR), 0.6%(CNTR), 1.5%(Down), 0.6%(Down) and Disabled.

CPU Warning Temperature (optional)

Since the mainboard support CPU temperature monitoring and overhear alert. This item allows the user to set the threshold of CPU warning temperature. When CPU temperature over the threshold, system will slow down clock to prevent CPU damage.

Current System Temperature (optional)

Since the mainboard support System and CPU temperature monitoring and overhear alert. This item indicate the current main board temperature.

Current CPU1 Temperature (optional)

Since the mainboard support System and CPU temperature monitoring and overhear alert. This item indicate the current Processor temperature.

Current CPU FAN1/2/3 Speed (optional)

The mainboard can detect two fans rotation speed for CPU cooler and system. CPUFAN1 indicate the CPU cooling fan's rotation speed which inserting on FAN1 and CPUFAN2 indicate cooling fans rotation speed which inserting on FAN2.

IN0(V) ~ IN2(V), +5V ~ -5V (optional)

The mainboard support CPU and mainboard voltages monitoring. The onboard hardware monitor is able to detect the voltages output of the voltage regulators and power supply.

Power Management Setup

ROM PCI/ISA BIOS (2A5LEH2C) POWER MANAGEMENT SETUP AWARD SOFTWARE, INC.			
ACPI function	: Disabled	Primary INTR	: ON
Power Management	: User Define	IRQ3 (COM 2)	: Primary
PM Control by APM	: Yes	IRQ4 (COM 1)	: Primary
Video Off Option	: Suspend -> Off	IRQ5 (LPT 2)	: Primary
Video Off Method	: V/H SYNC+Blank	IRQ6 (Floppy Disk)	: Primary
MODEM Use IRQ	: 3	IRQ7 (LPT 1)	: Primary
Soft-Off by PWRBTN	: Instant-Off	IRQ8 (RTC Alarm)	: Disabled
** PM Timers **		IRQ9 (IRQ2 Redir)	: Secondary
HDD Power Down	: Disable	IRQ10 (Reserved)	: Secondary
Doze Mode	: Disable	IRQ11 (Reserved)	: Secondary
Suspend Mode	: Disable	IRQ12 (PS/2 Mouse)	: Primary
** PM Events **		IRQ13 (Coprocessor)	: Primary
VGA	: OFF	IRQ14 (Hard Disk)	: Primary
LPT & COM	: LPT/COM	IRQ15 (Reserved)	: Disabled
HDD & FDD	: ON		
DMA/master	: OFF	ESC : Quit	↑↓←→ : Select Item
Modem Ring/LAN Resume	: Disabled	F1 : Help	PU/PD/+/- : Modify
RTC Alarm Resume	: Disabled	F5 : Old Values (Shift)	F2 : Color
		F6 : Load BIOS Defaults	
		F7 : Load Setup Defaults	

ACPI function

This item determine to support ACPI function or not.

Power Management

This item determines the options of the power management function. *Max Saving* puts the system into power saving mode after a brief period of system inactivity; *Min Saving* is the same as *Max Saving* except the time of the system inactivity period is longer; *Disabled* disables the power saving feature; *User Defined* allows you to set power saving options according to your preference.

PM Control by APM

When enabled, and Advanced Power Management device will be activated to enhance the Max. Power Saving mode and stop the CPU internal clock. If Advance Power Management (APM) is installed on your system, selecting *Yes* give better power savings.

If the Max. Power Saving is not enabled, this will be preset to *No*.

Video Off Option

When enabled, this features allows the VGA adapter to operate in a power saving mode.

Always On : Monitor will remain on during power saving modes.

Suspend-->Off : Monitor blanked when the systems enters the Suspend mode.

Susp, Stby-->Off : Monitor blanked when the system enters either Suspend or Standby modes.

All Modes-->Off : Monitor blanked when the system enters any power saving mode.

Video Off Method

This determines the manner in which the monitor is blanked.

V/H SYNC+Blank This selection will cause the system to turn off the vertical and horizontal synchronization ports and write blanks to the video buffer.

Blank Screen This option only writes blanks to the video buffer.

DPMS Allows the BIOS to control the video display card if it supports the DPMS feature.

MODEM Use IRQ

This determines the IRQ in which the MODEM can use.

The choice: 3, 4, 5, 7, 9, 10, 11, NA.

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.

The choice: Delay 4 Sec, Instant Off.

HDD Power Down

When enabled and after the set time of system inactivity, the hard disk drive will be powered down while all other devices remain active.

Doze Mode, Suspend Mode

These items set the period of time after which each of these mode activate, the periods are from 10sec to 1 hour.

Doze Mode When enabled and after the set time of system inactivity, CPU clock will run at slower speed while all other devices still operate at full speed.

Suspend Mode When enabled and after the set time of system inactivity, all devices except CPU will be shut off.

**** PM Events ****

PM events are I/O events whose occurrence can prevent the system from entering a power saving mode or can awaken the system from such a mode. In effect, the system remains alert for anything occurs to a device which is configured as *On*, even when the system is a power down mode.

VGA

When set to *On* (default), any event occurring at a VGA port will awaken a system which has been powered down.

LPT & COM

When set to *LPT/COM* (default), any event occurring at a COM (Serial)/LPT port will awaken a system which has been powered down.

HDD & FDD

When set to *On* (default), any event occurring at a hard or floppy drive port will awaken a system which has been powered down.

DMA / master

When set to *On* (default), any event occurring to the DMA controller will awaken a system which has been powered down.

Modem Ring / LAN Resume

When set to *Enabled*, any event occurring Modem Ring/activity of LAN will awaken a system which has been powered down.

Note : The mainboard support Wake-ON-LAN function with Intel LAN card only.

RTC Alarm Resume

When set to *Enabled RTC Alarm Resume*, you could set the date (of month) and timer (hh:mm:ss), any event occurring at RTC will awaken system which has been powered down.

Primary INTR

When set to *On* (default), any event occurring at will awaken a system which has been powered down.

The following is a list of IRQ, Interrupt ReQuests, which can be exemplified much as the COM ports and LPT port 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.

As above, the choices are *On* and *Off*.

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

- | | |
|-----------------------|----------------------|
| - IRQ3 (COM 2) | - IRQ4 (COM 1) |
| - IRQ5 (LPT 2) | - IRQ6 (Floppy Disk) |
| - IRQ7 (LPT 1) | - IRQ8 (RTC Alarm) |
| - IRQ9 (IRQ2 Redir) | - IRQ10 (Reserved) |
| - IRQ11 (Reserved) | - IRQ12 (PS/2 Mouse) |
| - IRQ13 (Coprocessor) | - IRQ14 (Hard Disk) |
| - IRQ15 (Reserved) | |

PNP / PCI Configuration Setup

ROM PCI/ISA BIOS (2A5LEH2C) PNP/PCI CONFIGURATION AWARD SOFTWARE, INC.	
PNP OS Installed : No	CPU to PCI Write Buffer : Enabled
Resources Controlled By : Manual	PCI Dynamic Bursting : Enabled
Reset Configuration Data : Disabled	PCI Master 0 WS Write : Enabled
ACPI I/O Device Node : Enabled	PCI Delay Transaction : Enabled
IRQ-3 assigned to : PCI/ISA PnP	PCI Master Read Prefetch : Enabled
IRQ-4 assigned to : PCI/ISA PnP	PCI#2 Access #1 Retry : Disabled
IRQ-5 assigned to : PCI/ISA PnP	AGP Master 1 WS Write : Enabled
IRQ-7 assigned to : PCI/ISA PnP	AGP Master 1 WS Read : Disabled
IRQ-9 assigned to : PCI/ISA PnP	PCI Latency Timer(CLK) : 64
IRQ-10 assigned to : PCI/ISA PnP	MS IRQ Routing Table : Disabled
IRQ-11 assigned to : PCI/ISA PnP	PCI IRQ Activated By : Level
IRQ-12 assigned to : PCI/ISA PnP	Assign IRQ For USB : Enabled
IRQ-14 assigned to : PCI/ISA PnP	Assign IRQ For VGA : Enabled
IRQ-15 assigned to : PCI/ISA PnP	Assign IRQ For ACPI : IRQ10
DMA-0 assigned to : PCI/ISA PnP	
DMA-1 assigned to : PCI/ISA PnP	ESC : Quit ↑↓←→ : Select Item
DMA-3 assigned to : PCI/ISA PnP	F1 : Help PU/PD/+/- : Modify
DMA-5 assigned to : PCI/ISA PnP	F5 : Old Values (Shift)F2 : Color
DMA-6 assigned to : PCI/ISA PnP	F6 : Load BIOS Defaults
DMA-7 assigned to : PCI/ISA PnP	F7 : Load Setup Defaults

PNP OS Installed

When this item is set to *Yes*, it will allow the PnP OS(Windows 95) control the system resources except PCI devices and PnP boot devices.

The Choice: Yes and No.

Resources Controlled By

The Award Plug and Play BIOS has the capability to automatically configure all of the boot and Plug and Play compatible devices. However, this capability means absolutely nothing unless you are using a Plug and Play operating system as Windows 95.

The Choice: Auto and Manual.

Reset Configuration Data

Normally, you leave this field Disabled. Select Enabled to reset Extended System Configuration Data (ESCD) when you exit Setup if you have installed a new add-on and the system reconfiguration has caused such a serious conflict that the operating system can not boot.

The Choice: Enabled and Disabled.

ACPI I/O Device Node

This item allows the user to set ACPI I/O Device Node Enabled or Disabled.

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

When resources are controlled manually, assign each system interrupt as one of the following types, depending on the type of device using the interrupt:

Legacy ISA Devices compliant with the original PC AT bus specification, requiring a specific interrupt (such as IRQ4 for serial port 1). PCI/ISA PnP Devices compliant with the Plug and Play standard, whether designed for PCI or ISA bus architecture.

The Choice: Legacy ISA and PCI/ISA PnP.

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

When resources are controlled manually, assign each system DMA as one of the following types, depending on the type of device using the interrupt:

Legacy ISA Devices compliant with the original PC AT bus specification, requiring a specific interrupt (such as IRQ4 for serial port 1). PCI/ISA PnP Devices compliant with the Plug and Play standard, whether designed for PCI or ISA bus architecture.

The Choice: Legacy ISA and PCI/ISA PnP.

These items allow you to determine the DMA assigned to the ISA bus and is not available for PCI slot.

The Choice: Legacy ISA and PCI/ISA PnP.

CPU to PCI Write Buffer

When enabled, up to four Dwords of data can be written to the PCI bus without interrupting the CPU. When disabled, a write buffer is not used and the CPU read cycle will not be completed until the PCI bus signals that it is ready to receive the data.

The choice: Enabled, Disabled.

PCI Dynamic Bursting

When Enabled, data transfers on the PCI bus, where possible, make use of the high-performance PCI burst protocol, in which greater amounts of data are transferred at a single command.

The choice: Enabled, Disabled.

PCI Master 0 WS Write

When Enabled, writes to the PCI bus are command with zero wait states.

The choice: Enabled, Disabled.

PCI Delay Transaction

The chipset has an embedded 32-bit posted write buffer to support delay transactions cycles. Select Enabled to support compliance with PCI specification version 2.1.

The choice: Enabled, Disabled.

PCI Master Read Prefetch

This item allows you enable/disable the PCI Master Read Prefetch.

The choice: Enabled, Disabled.

PCI #2 Access #1 Retry

This item allows you enable/disable the PCI #2 Access #1 Retry.

The choice: Enabled, Disabled.

AGP Master 1 WS Write

This implements a single delay when writing to the AGP Bus. By default, two-wait states are used by the system, allowing for greater stability.

The choice: Enabled, Disabled.

AGP Master 1 WS Read

This implements a single delay when reading from the AGP Bus. By default, two-wait states are used by the system, allowing for greater stability.

The choice: Enabled, Disabled.

PCI Latency Timer (CLK)

The number of clocks programed in the PCI Latency Timer represents the guaranteed time slice allocated to the 82C598AT, after which it must complete the current data transfer phase and surrender the bus as soon as its bus grant is removed.

The PCI Latency Timer is used to guarantee to the PCI agents a minimum amount of the system resource.

The default setting is 64 PCI clocks.

MS IRQ Routing Table

This item allows the user to set BIOS IRQ Routing Table Enabled or Disabled.

PCI IRQ Activated by

This item sets the method by which the PCI bus recognize that an IRQ service is being requested by a device. You should never change the default configuration unless advised otherwise by your System's manufacturer.

The Choice: Level(default) and Edge.

Assign IRQ For USB

This item allows the user to assign IRQ to on-board USB controller or not.

Since on-board controller is enabled always, if none of IRQ is assigned to it, there will be a question mark report on system device under windows 95.

Assign IRQ For VGA

This item allows the user to set VGA IRQ Routing table Enabled or Disabled.

Assign IRQ For ACPI

This item allows the user to set ACPI IRQ Routing table Enabled or Disabled.

Integrated Peripherals

ROM PCI/ISA BIOS (2A5LEH2C) INTEGRATED PERIPHERALS AWARD SOFTWARE, INC.	
OnChip IDE First Channel : Enabled OnChip IDE Second Channel : Enabled IDE Prefetch Mode : Enabled IDE HDD Block Mode : Enabled IDE Primary Master PIO : Auto IDE Primary Slave PIO : Auto IDE Secondary Master PIO : Auto IDE Secondary Slave PIO : Auto IDE Primary Master UDMA : Auto IDE Primary Slave UDMA : Auto IDE Secondary Master UDMA : Auto IDE Secondary Slave UDMA : Auto Init Display First : PCI Slot	Parallel Port Mode : SPP ECP Mode Use DMA : 3
Onboard FDC Controller : Enabled Onboard Serial Port 1 : Auto Onboard Serial Port 2 : Auto UR2 Mode : Standard UR2 Duplex Mode : Half Onboard Parallel Port : 378/IRQ7	ESC : Quit ↑↓←→ : Select Item F1 : Help PU/PD/+/- : Modify F5 : Old Values (Shift)F2 : Color F6 : Load BIOS Defaults F7 : Load Setup Defaults

OnChip IDE First Channel

This item is used to defined on chip Primary PCI IDE controller is Enable or Disable setting.

OnChip IDE Second Channel

This item is used to defined on chip secondary PCI IDE controller is Enable or Disable setting.

IDE Prefetch Mode

Enable prefetching for IDE drive interfaces that support its faster drive accesses. If you are getting disk drive errors, change the setting to omit the drive interface where the errors occur. Depending on the configuration of your IDE subsystem, this field may not appear, and it does not appear when the Internal PCI/IDE field, above, is Disabled.

The choice: Enabled, Disabled.

IDE HDD Block Mode

This item is used to set IDE HDD Block Mode. If your IDE Hard Disk supports block mode, then you can enable this function to speed up the HDD access time. If not, please disable this function to avoid HDD access error.

IDE Primary Master PIO

In these items, there are five modes defined in manual mode and one automatic mode. There are 0, 1, 2, 3, 4, and AUTO is the default settings for on board Primary Master PIO timing.

IDE Primary Slave PIO

In these items, there are five modes defined in manual mode and one automatic mode. There are 0, 1, 2, 3, 4, and AUTO is the default settings for on board Primary Slave PIO timing.

IDE Secondary Master PIO

In these items, there are five modes defined in manual mode and one automatic mode. There are 0, 1, 2, 3, 4, and AUTO is the default settings for on board Secondary Master IDE PIO timing.

IDE Secondary Slave PIO

In these items, there are five modes defined in manual mode and one automatic mode. There are 0, 1, 2, 3, 4, and AUTO is the default settings for on board Secondary Slave IDE PIO timing.

IDE Primary Master UDMA

On this mainboard, VIA chipset improves IDE transfer rate using Bus Master UltraDMA/33 IDE which can handle data transfer up to 33MB/sec. The options are Disabled and Auto, and Auto is the default settings for on board Primary Master UltraDMA33.

IDE Primary Slave UDMA

On this mainboard, VIA chipset improves IDE transfer rate using Bus Master UltraDMA/33 IDE which can handle data transfer up to 33MB/sec. The options are Disabled and Auto, and Auto is the default settings for on board Primary Slave UltraDMA33.

IDE Secondary Master UDMA

On this mainboard, VIA chipset improves IDE transfer rate using Bus Master UltraDMA/33 IDE which can handle data transfer up to 33MB/sec. The options are Disabled and Auto, and Auto is the default settings for on board Secondary Master UltraDMA33.

IDE Secondary Slave UDMA

On this mainboard, VIA chipset improves IDE transfer rate using Bus Master UltraDMA/33 IDE which can handle data transfer up to 33MB/sec. The options are Disabled and Auto, and Auto is the default settings for on board Secondary Slave UltraDMA33.

Init Display First

This item is used to determine initial device when system power on. The options are *PCI* and *AGP*.

Onboard FDC Controller

This item specifies onboard floppy disk drive controller. This setting allows you to connect your floppy disk drives to the onboard floppy connector. Choose the “*Disabled*” settings if you have a separate control card.

Onboard Serial Port 1/2

This item is used to define onboard serial port 1/Port2 to *3F8/IRQ4*, *2F8/IRQ3*, *3E8/IRQ4*, *2E8/IRQ3*, *Auto* or *Disabled*.

UR2 Mode

The main board support IrDA(HPSIR) and Amplitudes Shift Keyed IR(ASKIR) infrared through COM2 port. When IR is enable, the onboard COM2 port will be disabled. This item specifies onboard Infra Red mode to IrDA 1.0, ASKIR, MIR 0.57M, MIR 1.15M, FIR or Standard (Disabled).

Note : FIR is not supported currently.

UR2 Duplex Mode

This item specifies onboard infrared transfer mode to full-duplex or half-duplex. This item will not show up when IrDA, ASKIR, or MIR UR2 modes are selected.

Onboard Parallel Port

This item specifies onboard parallel port address to *378H*, *278H*, *3BCH* or *Disabled*.

Parallel Port Mode

This item specifies onboard parallel port mode. The options are *SPP* (Standard Parallel Port), *EPP* (Enhanced Parallel Port), *ECP* (Extended Capabilities Port), and *EPP+ECP*.

ECP Mode Use DMA

This item specifies *DMA* (Direct Memory Access) channel when ECP device is in use. The options are *DMA 1* and *DMA 3*. This item will not show up when SPP and EPP printer mode is selected.

Password Setting

This section describes the two access modes that can be set using the options found on the Supervisor Password and User Password.

```

ROM PCI/ISA BIOS (2A59GH2B)
CMOS SETUP UTILITY
AWARD SOFTWARE, INC.

STANDARD CMOS SETUP
BIOS FEATURES SETUP
CHIPSET FEATURES SETUP
POWER MANAGEMENT SETUP
PNP/PCI CONFIGURATION
LOAD BIOS DEFAULTS
LOAD SETUP DEFAULTS

INTEGRATED PERIPHERALS
IDE HDD AUTO DETECTION
SUPERVISOR PASSWORD
USER PASSWORD
SAVE & EXIT SETUP
UT SAVING

Enter Password:

Esc : Quit
F10 : Save & Exit Setup

↑ ↓ → ← : Select Item
(Shift)F2 : Change Color

Change/Set/Disable Password

```

Supervisor Password and User Password

You can prevent unauthorized access to your system by setting a security password. The system will prompt for the correct password every time the user tries to run the BIOS Setup Utility. Two types of passwords are available:

Supervisor Password

This password allows the user full access to the system. The supervisor can edit and modify all items in the BIOS setup utility without restriction.

☐ User Password

This gives the user limited access to the system. The user can view all settings in the BIOS setup utility but can only modify a few minor settings in BIOS (including the user password setting).

Enter Password

Type the password (a valid password may contain up to 8 alphanumeric characters) and press <Enter>. You will be prompted to re-type to confirm the new password. You may press <Esc> at any time to abort the selection and not enter a new password.

Password Disable

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

If you select System at Security Option of BIOS Features Setup Menu, you will be prompted for the password every time the system is rebooted or any time you try to enter Setup. If you select Setup at Security Option of BIOS Features Setup Menu, you will be prompted only when you try to enter Setup.

Warning : Retain a record of your password in a safe place. If you forget the password, the only way to access the system again is to clear CMOS memory; please refer to “Clear CMOS”.