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 user's 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.

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P PREFACE

HOT-569 mainboard is a highly integrated IBM PC/AT compatible system board. The design will accept Intel Pentium P54C, Pentium MMX, Cyrix/IBM 6x86, 6x86L, 6x86MX and AMD K5, K6 processors and also features high-performance pipelined burst secondary cache memory support with size of 512KB. The memory subsystem is designed to support up to 256 MB of EDO RAM, Standard Fast Page DRAM and SDRAM in standard 72-pin SIMM socket and 168-pin 3.3 V DIMM socket.

HOT-569 provides a new level of I/O integration. Intel's 82430TX PCIset chipset provides increased integration and improved performance over other chipset designs. The 82430TX PCIset 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 Giga 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.

The HOT-569 provides the foundation for cost effective, high performance, highly expandable platforms, which deliver the latest in Pentium processor and I/O standard.

1 **FEATURES**

The HOT-569 Mainboard is carefully designed for the demanding PC user who wants high performance and many intelligent features in a compact package:

Intel Chipset:

Features Intel's 430TX PCIset with I/O subsystems.

CPU Support:

Intel Pentium 75~200 MHz, Pentium MMX 166~233 MHz,
Cyrix/IBM 6x86 P120+~P166+, 6x86L P166+ and 6x86MX PR166~PR266,
AMD K5 PR75~PR166, K6 166~266 MHz.

Secondary Cache:

Onboard 512KB Pipelined Burst SRAM.

Versatile Memory Supports:

Equipped with four SIMM sockets to support (4, 8, 16, 32, or 64MB) 72-pin EDO or FP memory modules and three DIMM sockets to (8, 16, 32, 64, or 128MB) 168-pin SDRAM memory modules up to 256 MB.

PCI and ISA Expansion Slots:

Provides four 32-bit PCI slots and three 16-bit ISA slots.

Onboard GiGA-I/O:

Provides one Floppy port; one optional PS/2 mouse connector; two high-speed UART compatible serial ports and one parallel port with ECP and EPP capabilities. Serial Port 2 can also be directed from COM2 to the Infrared Module for wireless connections.

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 12-pin AT and 20-pin ATX Power Supply:

Provides AT and ATX power connector onboard.
ATX power supports soft-on/off function.

System BIOS:

Provides licensed Award V4.51PG BIOS on Flash EEPROM.
Supports Green PC, DMI and Bundled with NCR SCSI BIOS.

ACPI:

Support ACPI (Advanced Configuration and Power Interface) function. ACPI provide more Energy Saving Features for the future operating system supporting OS Direct Power Management (OSPM) functionality.

Board Size:

3/4 baby AT compact size 220mm x 280mm.

Spread Spectrum Modulated:

Spread Spectrum built in - ±1.5% modulation to reduce the EMI.

Intelligences:

CPU voltage Auto-detecting and Setting -- HOT-569 Provides CPU type auto-detect and auto-setup proper voltage to CPU. HOT-569 can distinguish Intel Pentium P54C, Pentium P55C (MMX), Cyrix/IBM 6x86, 6x86L, 6x86MX and AMD K5, K6 166/200 MHz, K6 233 and K6 266MHz.

Dual Function Power Button (ATX power only) -- The system can be one of two states, one is Suspend mode and the other is the Soft-off mode. Pushing the power button for less than 4 seconds will place the system into Suspend mode. When push the power button for more than 4 seconds, the system enters the Soft-off mode.

Auto FAN Off -- The system and CPU FANs will power off automatically even in suspend mode.

Optional EISCA Cooler Connector :

The EISCA (Enhanced Intelligent System Cooler Architecture) cooler is a off-board device which serves as a hardware monitor of cooling fans.

ACCESSORIES OF HOT-569

Serial Port Connectors

Parallel/Floppy Connector

AT & ATX Power Connectors

PS/2 Mouse connctor

Giga-I/O

Three ISA Slots

USB Connector

Two E-IDE Connectors

Four PCI Slots

Four SIMM sockets

Three DIMM sockets

Programmable Flash EEPROM

EISCA Connector

430TX PCIset

CPU ZIF Socket 7

Switching Voltage Regulators with CPU Auto-detecting

512KB Pipelined Burst secondary Cache

2 Hardware Configuration

Jumper Setting

Jumper setting becomes a easier thing on HOT-569 of Shuttle's Mainboard.**SW1 is composed by a 6 fingers DIP Switch and a 6 set 4-pin jumper group** which can fullfil System Clocks, CPU Clock Multiplier, and CPU Voltages setting.
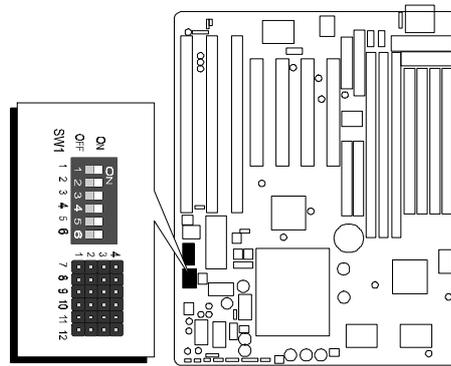
System Clock and CPU Clock Multiplier - DIP Switch of SW1

DIP switch finger 1 to finger 3 are used to adjust System Clock from 50 to 83 MHz, finger 4 to finger 6 used to adjust CPU Clock Multiplier from 1.5x to 5.5x. (please also refer to page 9 CPU Clock Configuration section)

CPU Voltages - Jumper group of SW1

Jumper group SW1 are used to adjust onboard voltages output from Switching regulators to CPU.

Further more, HOT-569 Mainboard provide**intelligent CPU Voltages detecting and auto-adjusting function**. Enable this function by inserting a**mini jumper pack** on SW1 jumper group row 2/3 (factory default), none of other mini jumpers are required on jumper group. HOT-569 Mainboard will assign proper voltages to CPU automatically.
(please also refer to page 13, CPU Voltage Configuration section)
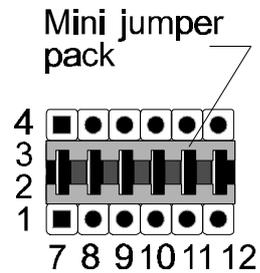
Listed below show the processors which can be detected and assigned voltages automatically by HOT-569.

Processors	Voltages assigned (V_{CORE}/V_{IO})
Intel Pentium P54C (STD) 75~200 MHz	3.3V / 3.3V
Intel Pentium P54C (VRE) 75~200 MHz	3.3V / 3.3V
Intel Pentium P55C (MMX) 166~233 MHz	2.8V / 3.3V

Processors	Voltages assigned (V_{CORE}/V_{IO})
AMD K6 166/200 MHz	2.9V / 3.3V
AMD K6 233 MHz	3.2V / 3.3V
AMD K6 266 MHz*	2.1V / 3.3V
AMD K5 PR75~PR166	3.52V / 3.52V
Cyrix/IBM 6x86 P120+~P166+	3.52V / 3.52V
Cyrix/IBM 6x86(3.3V) P120+~P166+**	3.52V / 3.52V
Cyrix/IBM 6x86L P166+	2.8V / 3.3V
Cyrix/IBM 6x86MX PR166~PR266	2.9V / 3.3V

* Note: **The main board will assign 2.1V Vcore for AMD 266MHz K6 processor automatically, for 3.2V Vcore K6 266MHz processor, the user may need to adjust voltage manually.**

Note: **Since the main board will assign 3.52V for all Cyrix/IBM 6x86 processor automatically, for meeting voltage requirement of 3.3V 6x86 processor, the user need to adjust voltage manually.

CPU Clock Configuration

Like as previously section mentioned, HOT-569 provides multiple setting function of CPU clock on a single DIP switch SW1. On SW1, the user can set up System Clock and CPU Clock Multiplier.

SW1 is a 6-finger DIP Switch, finger 1~3 are used to adjust system clock from 50MHz to 83 MHz, finger 4~6 are used to adjust CPU multiplier from 1.5X to 5.5X.

Listed diagrams on right side show the sample fingers position on SW1:

1) Finger 5 set to ON,
   the others set to OFF.

2) Finger 1, 4, 5 set to ON,
   Finger 2, 3, 6 set to OFF.

Listed tables show the System Clock and Multiplier for each single processor.

Processors	System Clock / Multiplier	SW 1 6-finger DIP Switch	
AMD-K6 266MHz	66 MHz / x 4		Finger 4, 6 ON Finger 1, 2, 3, 5 OFF
AMD-K6 233MHz	66 MHz / x 3.5		All Fingers OFF
AMD-K6 200MHz	66 MHz / x 3		Finger 5 ON Finger 1, 2, 3, 4, 6 OFF
AMD-K6 166MHz	66 MHz / x 2.5		Finger 4, 5 ON Finger 1, 2, 3, 6 OFF
AMD-K5 PR166	66 MHz / x 2.5		Finger 4, 5 ON Finger 1, 2, 3, 6 OFF
AMD-K5 PR133/PR100	66 MHz / x 1.5		All Fingers OFF
AMD-K5 PR120/PR90	60 MHz / x 1.5		Finger 1 ON Finger 2, 3, 4, 5, 6 OFF
AMD-K5 PR75	50 MHz / x 1.5		Finger 1, 2, 3 ON Finger 4, 5, 6 OFF

Table 2-1

Processors	System Clock / Multiplier	SW1 6-Finger DIP Switch	
Pentium P55C MMX 233 MHz	66 MHz / x 3.5		All Fingers OFF
Pentium P55C MMX 200 MHz	66 MHz / x 3		Finger 5 ON Finger 1, 2, 3, 4, 6 OFF
Pentium P54C 200 MHz	66 MHz / x 3		Finger 5 ON Finger 1, 2, 3, 4, 6 OFF
Pentium P55C MMX 166 MHz	66 MHz / x 2.5		Finger 4, 5 ON Finger 1, 2, 3, 6 OFF
Pentium P54C 166 MHz	66 MHz / x 2.5		Finger 4, 5 ON Finger 1, 2, 3, 6 OFF
Pentium P54C 150 MHz	60 MHz / x 2.5		Finger 1, 4, 5 ON Finger 2, 3, 6 OFF
Pentium P54C 133 MHz	66 MHz / x 2		Finger 4 ON Finger 1, 2, 3, 5, 6 OFF
Pentium P54C 120 MHz	60 MHz / x 2		Finger 1, 4 ON Finger 2, 3, 5, 6 OFF
Pentium P54C 100 MHz	66 MHz / x 1.5		All Fingers OFF
Pentium P54C 90 MHz	60 MHz / x 1.5		Finger 1 ON Finger 2, 3, 4, 5, 6 OFF
Pentium P54C 75 MHz	50 MHz / x 1.5		Finger 1, 2, 3 ON Finger 4, 5, 6 OFF

Table 2-2

Processors	System Clock / Multiplier	SW1 6-Fingers DIP Switch	
Cyrix/IBM 6x86MX PR266	66 MHz / x 3.5		All Fingers OFF
Cyrix/IBM 6x86MX PR233	66 MHz / x 3		Finger 5 ON Finger 1, 2, 3, 4, 6 OFF
Cyrix/IBM 6x86MX PR200	66 MHz / x 2.5		Finger 4, 5 ON Finger 1, 2, 3, 6 OFF
Cyrix/IBM 6x86MX PR166	60 MHz / x 2.5		Finger 1, 4, 5 ON Finger 2, 3, 6 OFF
Cyrix/IBM 6x86L P166+	66 MHz / x 2		Finger 4 ON Finger 1, 2, 3, 5, 6 OFF
Cyrix/IBM 6x86 P166+	66 MHz / x 2		Finger 4 ON Finger 1, 2, 3, 5, 6 OFF
Cyrix/IBM 6x86 P150+	60 MHz / x 2		Finger 1, 4 ON Finger 2, 3, 5, 6 OFF
Cyrix/IBM 6x86 P133+	55 MHz / x 2		Finger 1, 2, 4 ON Finger 3, 5, 6 OFF
Cyrix/IBM 6x86 P120+	50 MHz / x 2		Finger 1, 2, 3, 4 ON Finger 5, 6 OFF

Table 2-3

For whom like to set up system manually, listed tables show all the System Clock and CPU Multiplier that HOT-569 can offer.

Table 2-4 shows the System Clock from 50 MHz to 83 MHz.
Table 2-5 shows CPU Multiplier from 1.5X to 5.5X.

Note: 75MHz and 83MHz are out of Intel chipset specification.

System Clock	DIP Switch of SW 1 Finger 1 ~ 3	
50 MHz		Finger 1, 2, 3 ON
55 MHz		Finger 1, 2 ON Finger 3 OFF
60 MHz		Finger 1 ON Finger 2, 3 OFF
66 MHz		Finger 1, 2, 3 OFF
75 MHz		Finger 2 ON Finger 1, 3 OFF
83 MHz		Finger 1, 3 ON Finger 2 OFF
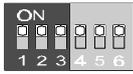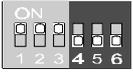
Table 2-4
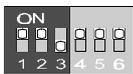
Multiplier	DIP Switch of SW 1 Finger 4 ~ 6	
1.5 x		Finger 4, 5, 6 OFF
2 x		Finger 4 ON Finger 5, 6 OFF
2.5 x		Finger 4, 5 ON Finger 6 OFF
3 x		Finger 5 ON Finger 4, 6 OFF
3.5 x		Finger 4, 5, 6 OFF
4 x		Finger 4, 6 ON Finger 5 OFF
4.5 x		Finger 4, 5, 6 ON
5 x		Finger 5, 6 ON Finger 4 OFF
5.5 x		Finger 6 ON Finger 4, 5 OFF

Table 2-5
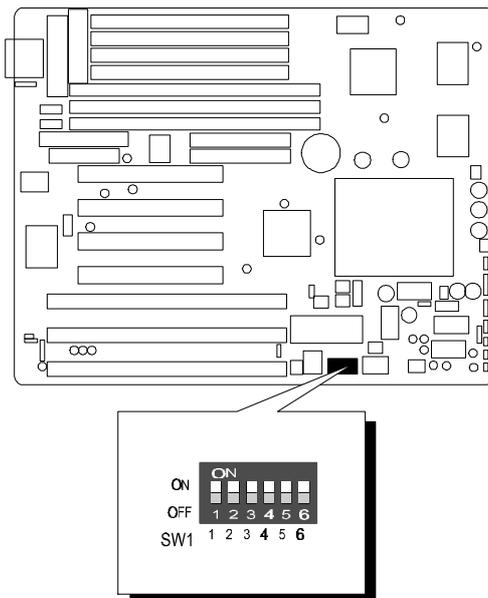
CPU Voltage Configuration

HOT-569 main board provides jumper group of SW1 to adjust onboard voltages output from Switching regulators to CPU.

HOT-569 Mainboard provide intelligent CPU Voltages detecting and auto-adjusting function. Enable this function by inserting a mini jumper pack on SW1 jumper group row 2/3 (factory default), none of other mini jumpers are required on jumper group. HOT-569 Mainboard will assign proper voltages to CPU automatically.

Voltage Auto-Setting -- Inserting jumper pack on jumper group row 2/3 of SW1. Setting to **AUTO** on " **CPU Voltage**" item in Chipset Setup Feature of BIOS Software. System will auto-detect CPU type and assign proper voltages.
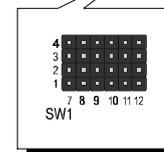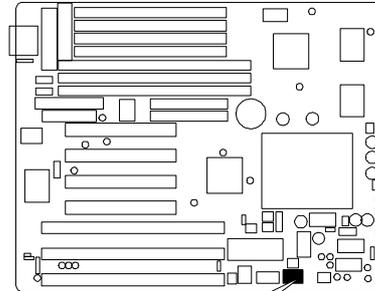
Adjust Voltage Manually from BIOS -- Inserting jumper pack on group row 2/3 of SW1. Adjusting voltage from 2.0V to 3.52V on " **CPU Voltage**" item in Chipset Setup Feature of BIOS Software.

Adjust Voltage Manually by Hardware -- Removing jumper pack from group row 2/3 and insert it to row 3/4 of SW1, adjust voltage on SW1-7 to SW1-12 on jumper group row 1/2 manually. Voltage output ranging from 2.0V to 3.52V. " **CPU Voltage**" item in Chipset Setup Feature of BIOS Software become not available.

Listed diagrams on right side show the sample position on jumper group of SW1:

1) Voltage Auto-setting or adjust voltage from BIOS
   - jumper pack on row 2/3.
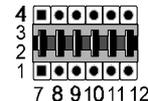
2) Adjust voltage manually from hardware
   - jumper pack on row 3/4, voltage set to 2.8V manually.
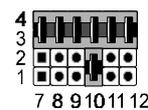
Table 2-6 on next page shows the voltage setting for the processors and Table 2-7 shows the total voltage setting that HOT-569 can offer.

Table 2-6

Processors	Voltage Vcore/Vio	Jumper Group of SW1
Auto-Detecting	Auto-Adjusting	(SW1 setting diagram)
Pentium 75~200MHz VRE, AMD-K5 PR75~PR166, Cyrix/IBM 6x86 P120+~166+	3.52V/3.52V	(SW1 setting diagram)
Pentium 75~200MHz STD, Cyrix/IBM 6x86 P120+~166+ (3.3V)	3.3V/3.3V	(SW1 setting diagram)
AMD-K6 266MHz	2.1V/3.3V	(SW1 setting diagram)
AMD-K6 233MHz	3.2V/3.3V	(SW1 setting diagram)
AMD-K6 200/166MHz, Cyrix/IBM 6x86MX PR166~PR266	2.9V/3.3V	(SW1 setting diagram)
Pentium MMX 166~233MHz, Cyrix/IBM 6x86L P150+/P166+	2.8V/3.3V	(SW1 setting diagram)
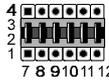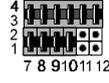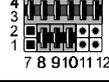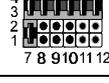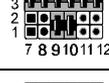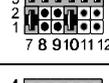
Table 2-7

Voltage Vcore/Vio	Jumper Group of SW1	Voltage Vcore/Vio	Jumper Group of SW1
3.52 V	(SW1 setting diagram)	2.7 V	(SW1 setting diagram)
3.4 V	(SW1 setting diagram)	2.6 V	(SW1 setting diagram)
3.3 V	(SW1 setting diagram)	2.5 V	(SW1 setting diagram)
3.2 V	(SW1 setting diagram)	2.4 V	(SW1 setting diagram)
3.1 V	(SW1 setting diagram)	2.3 V	(SW1 setting diagram)
3.0 V	(SW1 setting diagram)	2.2 V	(SW1 setting diagram)
2.9 V	(SW1 setting diagram)	2.1 V	(SW1 setting diagram)
2.8 V	(SW1 setting diagram)	2.0 V	(SW1 setting diagram)
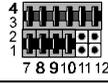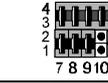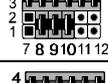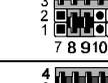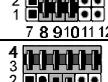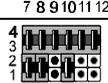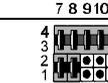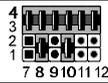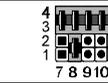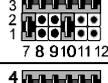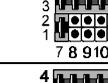
Flash EEPROM Vpp Jumper - JP19

HOT-569 mainboard supports two types of Flash EEPROM: 5 volt and 12 volt. By setting up jumper JP19, the main board can use both 5V or 12V flash EEPROM with new system BIOS files as they come available.

▣▉▉ JP19 Pin 2-3 Close for 5V Flash EEPROM
▉▉● JP19 Pin 1-2 Close for 12V Flash EEPROM
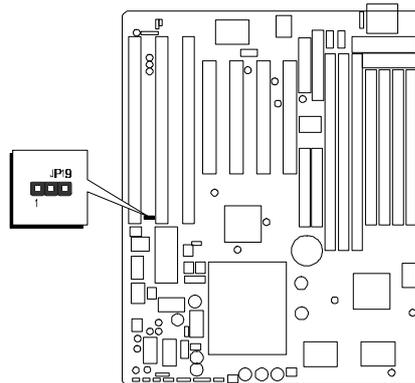
Clear CMOS - JP40

HOT-569 mainboard supports jumper**JP40** for discharging mainboard's CMOS memory.

This jumper can clear the CMOS data stored in the Intel 371AB chip. To clear the CMOS data please follow listed steps:

1) Turn off the PC,
2) Remove the jumper cap from JP40 pin 1-2,
3) Insert the jumper cap to JP40 pin 2-3 for a brief while,
4) Remove the jumper cap from JP40 pin 2-3,
5) Reinsert the jumper cap to JP40 pin 1-2,
6) Turn on the PC.
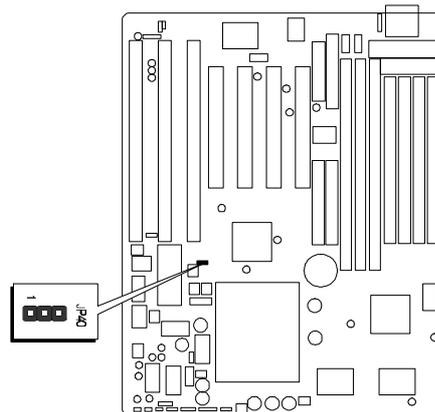
Connectors & Sockets

ITEM	FUNCTION	ITEM	FUNCTION
J2, 3, 4, 5	On-board SIMM sockets	J10, 11	Universal Serial Bus (USB) Connectors
DIM1, 2, 3	On-board 3.3V DIMM sockets	JP3	Infra-red Communication Port Connector
J23, 17, 18, 19	On-board PCI Slots	JP4, JP5	CPU and System Cooling Fan Connectors
J20, 21, 22	On-board ISA Slots	JP33	Green LED
J6	On-board PCI Primary IDE Connector	JP15	EPMI Connector
J7	On-board PCI Secondary IDE Connector	JP22	On-board Enhanced IDE R/W LED Connector
CN1	On-board Floppy Controller Connector	JP12	Hardware Reset Switch Connector
CN4	On-board Parallel Port Connector	J14	Power LED and Keylock Connector
CN2	On-board Serial port-1 Connector	J12	PC Speaker Connector
CN3	On-board Serial Port-2 Connector	JP2	ATX Power Switch
J99	On-board PS/2 Mouse Port Connector	PW1	ATX Power Supply Connector
JP6	EISCA Cooler Connector	J15	AT Power Supply Connector
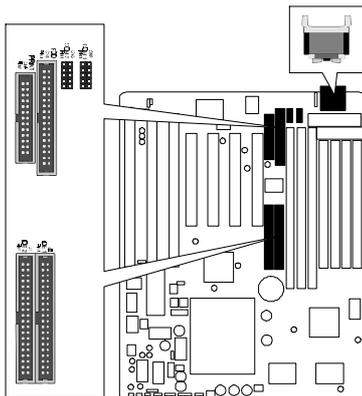
IDE, Floppy, Parallel and Serial port connectors

The main board shipped with one 40-pin ribbon cable for IDE H.D.D , one 34-pin ribbon cable for F.D.D, one 25-pin ribbon cable for printer and two 9-pin ribbon cable for COM port devices. Ribbon cables should always be connected with the red stripe on the Pin 1 side of the connector.
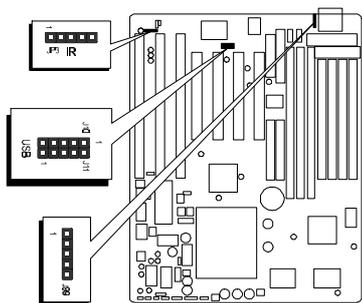
J99- PS/2 Mouse 5 pins connector

The main board provides a 5 pins PS/2 mouse connector for an optional PS/2 mouse cable. Diagram on the right side indicates the pinout of the connector.

HOT-569 mainboard supplies two types of optional PS/2 mouse adapter cable, type 1 have 6-holes plug with hole 2 and hole 6 wireless; type 2 have 5-holes plug with hole 2 wireless.

Caution : When a PS/2 mouse is used, make sure connect PS/2 mouse adapter cable hole 1 to the pin 1 of onboard PS/2 connector (J99). Reversed connecting may cause damage to your PS/2 mouse.
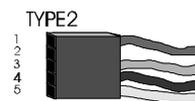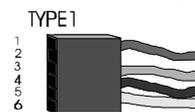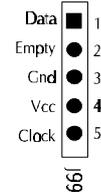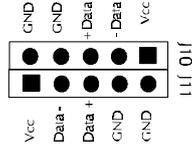
J10, J11 - USB connectors

The main board provides two sets USB (Universal Serial Bus) connectors - J10 and J11 for USB devices use.

JP3 - Infrared module connector

The main board provides a 5-pin infrared connector - JP3 as an optional infrared module for wireless transmitting and receiving.
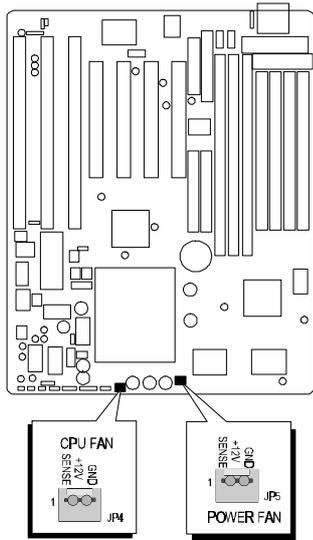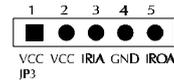
JP4, JP5 12V cooling fan power connector

The main board provides two onboard 12V cooling fan power connector which provide **maximum 100mAMP(1.2W) current** each for CPU and System 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), and the yellow wire should be connected to sense signal.
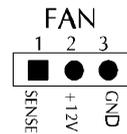
JP15 - EPMI connector

The main board provides an EPMI connector-JP15, this allows the user to manually place the system into suspend mode. This 2-pin connector connects to the case-mounted suspend switch. If you do not have a switch for the connector, you may use the "Turbo Switch" since it does not have a function.
If you want to use this connector, "Power Management" in the Power Management Setup of the BIOS section should be enabled.
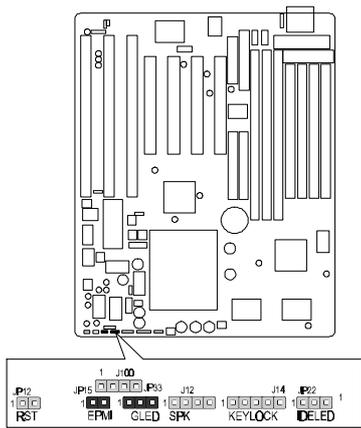
JP33 - Green LED connector

JP33 is a 3-pin Green LED connector, the user can connect LED on pin 1-2(setting 1) or pin 2-3(setting 2). Setting 1 will turn off LED during normal operation and turn on LED during suspend mode. On the contrary, setting 2 will turn on LED during normal operation and turn off LED during suspend mode.

17
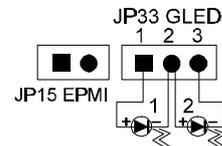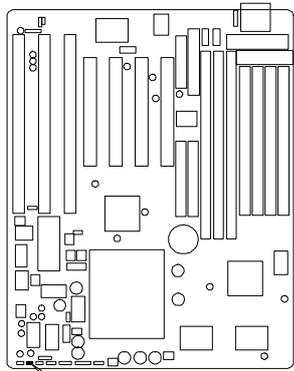
JP2 - ATX Power Switch Button Connector

(Available when ATX power supply is used).

When "**Soft-off by PWR-BTTN**" is set to **Delay 4 sec.** in Power management setup of BIOS program. The system power can be controlled by a momentary switch connector. Pushing the switch button for less than 4 seconds will switch the system between ON and SUSPEND. Pushing the switch button for more than 4 seconds will turn off the system.

When "**Soft-off by PWR-BTTN**" is set to **Instant-Off** in Power management setup of BIOS program. Pushing the switch button will turn the system off directly.

Note:
When a AT Power Supply is used to HOT-569, please do not connect any switch to JP2.
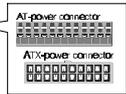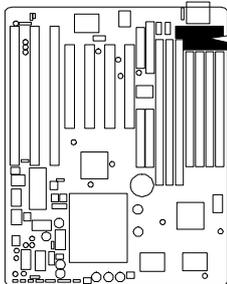
AT and ATX Power connectors

The main board provides AT and ATX Power connectors on board. None of hardware jumper settings are required except the user need to set power supply type from "AT" to "ATX" in **Chipset Setup Feature** of BIOS program.
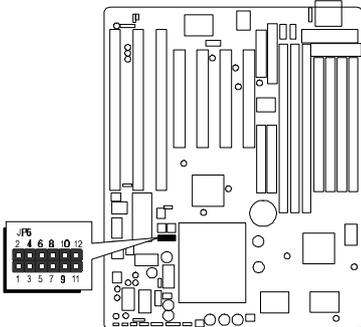
EISCA cooler connectors

The EISCA (Enhanced Intelligent System Cooler Architecture) cooler is a off-board device which serves as a hardware monitor of cooling fans at any microprocessor based system. Via a 12-pin connector JP6 from mainboard to cooler, the host can query the cooler at any time to read CPU temperature, power supply voltages, fan speeds and interrupt status.

3 | Memory Configuration

The HOT-569 mainboard provides four 72-pin SIMM sockets and three 168-pin DIMM sockets that make it possible to install up to 256MB of RAM. The SIMM socket support 4MB, 8MB, 16MB, 32MB and 64MB 5V single- or double-side fast page or EDO DRAM modules, and DIMM socket support 8MB, 16MB, 32MB, 64MB, and 128MB 3.3V single- or double-side SDRAM, fast page, or EDO modules.

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

Note:
□ **Maximum memory size is 256MB total for all SIMM or DIMM sockets.**
□ **If using SIMM modules, each bank must be filled with a pair of same modules.**
□ **The user should not populate both 5V SIMM modules & 3.3V DIMM modules at the same time.**
□ **DIM 3 will not support 64MB or 128MB DIMMs with 64Mbit SDRAM cells.**
□ **If DIM 1 and/or DIM 2 has 64MB or 128MB DIMMs with 64Mbit SDRAM cells, DIM 3 must be empty.**

DIMMs with 64Mbit cells are e.g. 64MB with 8 chips and 128MB with 16 Chips.

The memory configuration tables on next page list the SIMMs and DIMMs memory configuration.
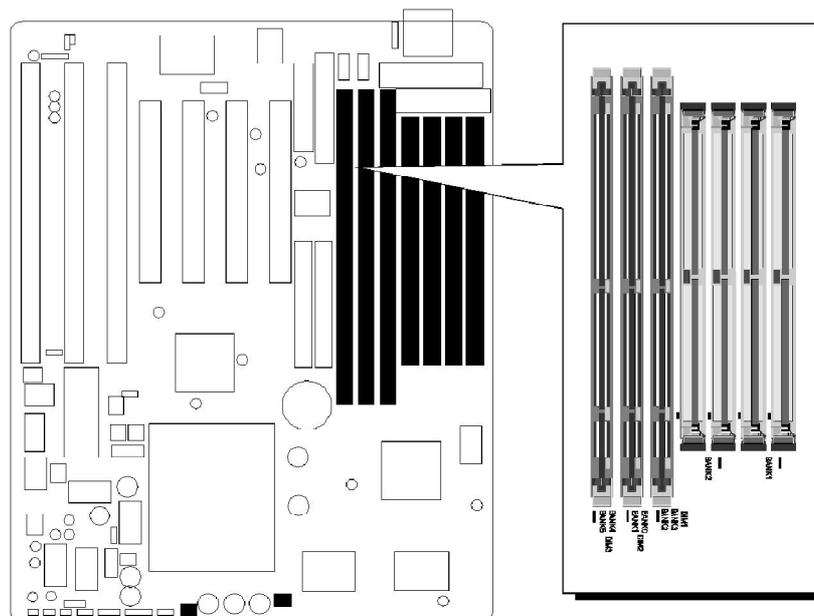
Table 3-1. Memory Configuration Table

SIM 1	SIM 2	SIM 3	SIM 4	DIM 1	DIM 2	DIM 3	TOTAL
4 MB	4 MB	——	——	——	——	——	8 MB
4 MB	4 MB	4 MB	4 MB	——	——	——	16 MB
8 MB	8 MB	——	——	——	——	——	16 MB
4 MB	4 MB	8 MB	8 MB	——	——	——	24 MB
8 MB	8 MB	8 MB	8 MB	——	——	——	32 MB
16 MB	16 MB	——	——	——	——	——	32 MB
4 MB	4 MB	16 MB	16 MB	——	——	——	40 MB
8 MB	8 MB	16 MB	16 MB	——	——	——	48 MB
16 MB	16 MB	16 MB	16 MB	——	——	——	64 MB
32 MB	32 MB	——	——	——	——	——	64 MB
4 MB	4 MB	32 MB	32 MB	——	——	——	72 MB
8 MB	8 MB	32 MB	32 MB	——	——	——	80 MB
16 MB	16 MB	32 MB	32 MB	——	——	——	96 MB
32 MB	32 MB	32 MB	32 MB	——	——	——	128 MB
64 MB	64 MB	——	——	——	——	——	128 MB
4 MB	4 MB	64 MB	64 MB	——	——	——	136 MB
8 MB	8 MB	64 MB	64 MB	——	——	——	144 MB
16 MB	16 MB	64 MB	64 MB	——	——	——	160 MB
32 MB	32 MB	64 MB	64 MB	——	——	——	192 MB
64 MB	64 MB	64 MB	64 MB	——	——	——	256 MB
——	——	——	——	8 MB	——	——	8 MB
——	——	——	——	8 MB	8 MB	——	16 MB
——	——	——	——	8 MB	8 MB	8 MB	24 MB
——	——	——	——	16 MB	——	——	16 MB
——	——	——	——	16 MB	16 MB	——	32 MB
——	——	——	——	16 MB	16 MB	16 MB	48 MB
——	——	——	——	32 MB	——	——	32 MB
——	——	——	——	32 MB	32 MB	——	64 MB
——	——	——	——	32 MB	32 MB	32 MB	96 MB
——	——	——	——	64 MB	——	——	64 MB
——	——	——	——	64 MB	64 MB	——	128 MB
——	——	——	——	128 MB	——	——	128 MB
——	——	——	——	128 MB	128 MB	——	256 MB
——	——	——	——	8 MB	16 MB	——	24 MB
——	——	——	——	8 MB	16 MB	16 MB	40 MB
——	——	——	——	8 MB	32 MB	——	40 MB
——	——	——	——	8 MB	32 MB	32 MB	72 MB
——	——	——	——	8 MB	64 MB	——	72 MB
——	——	——	——	8 MB	128 MB	——	136 MB
——	——	——	——	16 MB	32 MB	——	48 MB
——	——	——	——	16 MB	16 MB	32 MB	64 MB
——	——	——	——	16 MB	32 MB	32 MB	80 MB
——	——	——	——	16 MB	64 MB	——	80 MB
——	——	——	——	16 MB	128 MB	——	144 MB
——	——	——	——	32 MB	64 MB	——	96 MB
——	——	——	——	32 MB	128 MB	——	160 MB
——	——	——	——	64 MB	128 MB	——	192 MB

4 Flash Utility

This chapter briefly discusses Award Flash utility in order 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 569.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 "awdflash" 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 i430TX,ITE8680-2A59IH2HC   DATE: 06/20/97
         Flash Type - MXIC 28F1000AP /12V

   File Name to Program : test.bin




   Error Message:  Do You Want To Save Bios (Y/N)
```

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 "N" if you do not want to program, and then it will exit.

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

           For i430TX,ITE8680-2A59IH2HC  DATE: 06/20/97
               Flash Type - MXIC 28F1000AP /12V

        File Name to Program : test.bin

        File Name to Save :     569.old




        Error Message:  Are you sure to program (y/n)
```
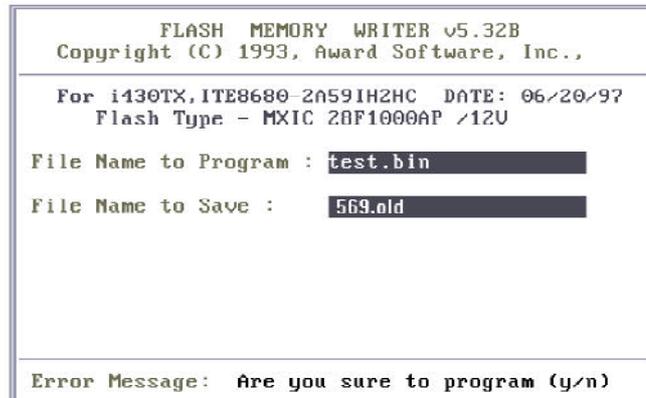
If "Yes"

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 "569.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, 569.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 "awdflash /?" 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 "awdflash", an error message will appear:

"Error Message: Fail — Due to EMM386 or QEMM !"

5 BIOS Setup

HOT-569 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 <Del> 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 <Del> key or simultaneously press <Ctrl>,<Alt>, and <Esc> keys.

"TOENTERSETUPBEFOREBOOTPRESSCTRL-ALT-ESCORDELKEY"

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,

"PRESSF1TOCONTINUE,CTRL-ALT-ESCORDELTOENTERSETUP"

Main Menu

```
                  ROM PCI/ISA BIOS (2A59IH2E)
                       CMOS SETUP UTILITY
                      AWARD SOFTWARE, INC.
  ┌──────────────────────────────┬──────────────────────────────┐
  │  STANDARD CMOS SETUP          │  INTEGRATED PERIPHERALS       │
  │                               │                               │
  │  BIOS FEATURES SETUP          │  IDE HDD AUTO DETECTION       │
  │                               │                               │
  │  CHIPSET FEATURES SETUP       │  SUPERVISOR PASSWORD          │
  │                               │                               │
  │  POWER MANAGEMENT SETUP       │  USER PASSWORD                │
  │                               │                               │
  │  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 setup

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 normal performance. However, you can change the parameter through each Setup Menu.

Integrated Peripherals

This setup page includes all items of peripheral features.

IDE HDD auto detection

Automatically configure IDE hard disk drive parameters.

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.

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 (2A59IH2H)
                       STANDARD CMOS SETUP
                       AWARD SOFTWARE, INC.

   Date (mm:dd:yy) : Thu, Jun 26 1997
   Time (hh:mm:ss) : 14 : 36 : 30

   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                    ┌──────────────────────────────┐
                                     │    Base Memory:       0K     │
   Video   : EGA/VGA                 │  Extended Memory:     0K     │
   Halt On : All Errors              │     Other Memory:    512K    │
                                     │                              │
                                     │    Total Memory:     512K    │
                                     └──────────────────────────────┘

  ESC : Quit              ↑ ↓ → ←   : Select Item      PU/PD/+/- : Modify
  F1  : Help              (Shift)F2 : Change Color
```

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 Type

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.

Error halt

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 (2A59IH2G)
                   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
Boot Up System Speed    : High
Typematic Rate Setting  : Disabled
Typematic Rate (Chars/Sec) : 6
Typematic Delay (Msec)  : 250
Security Option         : Setup
PCI/UGA Palette Snoop   : Disabled
OS Select For DRAM > 64MB : Non-OS2
                                      ESC : Quit       ↑↓→← : Select Item
                                      F1  : Help       PU/PD/+/- : Modify
                                      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.

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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.

Boot Up System Speed

This option sets the speed of CPU at system boot time. The settings are *High* or *Low*.

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.

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.

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 (2A59IH2G)
                       CHIPSET FEATURES SETUP
                        AWARD SOFTWARE, INC.
  ┌──────────────────────────────────────────────────────────────────────┐
  │ Auto Configuration       : Enabled    Power-Supply Type       : AT    │
  │ DRAM Timing              : 70ns       Spread Spectrum Modulated: Disabled│
  │                                       CPU Core Voltage         : Auto  │
  │ DRAM Leadoff Timing      : 10/6/3                                      │
  │ DRAM Read Burst (EDO/FP) : x222/x333                                   │
  │ DRAM Write Burst Timing  : x222                                        │
  │ Fast EDO Lead Off        : Disabled                                    │
  │ Refresh RAS# Assertion   : 1 Clks                                      │
  │ Fast RAS To CAS Delay    : 3                                           │
  │ DRAM Page Idle Timer     : 2 Clks                                      │
  │ DRAM Enhanced Paging     : Enabled                                     │
  │ Fast MA to RAS# Delay    : 2 Clks                                      │
  │ SDRAM(CAS Lat/RAS to CAS): 3/3                                         │
  │ SDRAM Speculative Read   : Disabled                                    │
  │ System BIOS Cacheable    : Disabled                                    │
  │ Video  BIOS Cacheable    : Disabled   ESC : Quit       ↑↓→← : Select Item│
  │ 8 Bit I/O Recovery Time  : 1          F1  : Help     PU/PD/+/- : Modify│
  │ 16 Bit I/O Recovery Time : 2          F5  : Old Values (Shift)F2 : Color│
  │ Memory Hole At 15M-16M   : Disabled   F6  : Load BIOS  Defaults        │
  │ PCI 2.1 Compliance       : Disabled   F7  : Load Setup Defaults        │
  └──────────────────────────────────────────────────────────────────────┘
```

Auto Configuration

This item auto configures the following items: DRAM Leadoff Timing, DRAM Read Burst, DRAM Write Burst Timing, Fast EDO Lead off and Refresh RAS# Assertion.

DRAM Timing

This item set the DRAM Read/Write timings that the system uses. When item, "Auto Configuration", is disabled, this item will not show up.

DRAM Leadoff Timing

This item sets the number of CPU clocks allowed before DRAM Read and Write are performed.

DRAM Read Burst (EDO/FP)

This item set the EDO/FP DRAM Read Burst Timing. The timing used depends on the type of DRAM (EDO burst mode or standard fast page mode) on each bank basis. The options are *x222/x333*, *x333/x444*, and *x444/x444*.

DRAM Write Burst Timing

This item set the DRAM Write Burst Timing. The timing used depends on the type of DRAM (standard page mode or EDO burst mode) on each bank basis. The options are *x4444*, *x3333*, and *x2222*.

Fast EDO Lead off

This item is used to defined which fast path is selected for CPU to DRAM read cycles for the leadoff, the options are "*Enable*" or "*Disable*".

Refresh RAS# Assertion

This item is used to set the number of clocks RAS# is asserted for Refresh cycles.

Fast RAS To CAS Delay

When DRAM is refreshed, both rows and columns are address separately. This setup item allows you to determine the timing of the transition from Row Address Strobe (RAS) to Column Address Strobe (CAS). The options are *3* and *2* CLKs.

Fast MA to RAS# Delay CLK

This item is used to set Fast MA (Memory Address) to RAS# Delay which control DRAM Row Miss timings.

DRAM Page Idle Timer

This item determine the amount of time in HCLKs the 430TX DRAM controller will wait to close a DRAM page after CPU becomes idle.

DRAM Enhanced Paging

If this item set to *Enabled*, the 430TX DRAM controller will keep the page open until a page or row miss occurs. If set to *Disabled*, the DRAM page is kept open when CPU host bus is non-idle, or PCI interface owns the bus.

SDRAM (CAS Lat/RAS-to-CAS)

This item is used to set CAS# Latency and RAS# to CAS# clock for SDRAM. If SDRAMs absent, this item will not show up.

SDRAM Speculative Read

This item is used to set the SDRAM speculative read logic is enabled or disabled. (Leave on default settings of Disabled)

System BIOS Cacheable

This item allows the user to set the system BIOS F000~FFFF areas that are cacheable or non-cacheable.

Video BIOS Cacheable

This item allows the user to set the video BIOS C000~C7FF areas that are cacheable or non-cacheable.

8 Bit I/O Recovery Time

The recovery time is the length of time, measured in CPU clocks, that the system will delay after the completion of an input/output request. This delay takes place because CPU is operating more than the input/output bus that CPU must be delayed to allow for the completion of the I/O.

This item allows you to determine the recovery time allowed for 8 bit I/O. Choices are from NA, 1 to 8 CPU clocks.

16-Bit I/O Recovery Time

This item allows you to determine the recovery time allowed for 16 bit I/O. Choices are from NA, 1 to 4 CPU clocks.

Memory Hole At 15M-16M

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.

PCI 2.1 Compliance

Since the 2.1 revision of the PCI specification requires much tighter controls on target and master latency. PCI cycles to or from ISA typically take longer. When enabled, the chipset provides a programmable delayed completion mechanism to meet the required target latencies.

Power-Supply Type

This item allows the user to set the type of power supply. ATX power supply support Soft-off function. The options are AT and ATX.

Spread Spectrum Modulated

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

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 2.0V to 3.5V.

Power Management Setup

```
                    ROM PCI/ISA BIOS (2A59IH2H)
                       POWER MANAGEMENT SETUP
                        AWARD SOFTWARE, INC.

Power Management    : Disabled      ** Reload Global Timer Events **
PM Control by APM   : Yes           IRQ[3-7,9-15],NMI   : Enabled
Video Off Method    : V/H SYNC+Blank Primary IDE 0      : Disabled
Video Off After     : Standby       Primary IDE 1       : Disabled
Doze Mode           : Disabled      Secondary IDE 0     : Disabled
Standby Mode        : Disabled      Secondary IDE 1     : Disabled
Suspend Mode        : Disabled      Floppy Disk         : Disabled
HDD Power Down      : Disabled      Serial Port         : Enabled
Throttle Duty Cycle : 62.5%         Parallel Port       : Disabled
VGA Active Monitor  : Enabled
Soft-Off by PWR-BTTN : Instant-Off
CPUFAN Off In Suspend: Enabled
Resume by Ring      : Enabled
Resume by Alarm     : Disabled

                                    ESC : Quit        ↑↓→← : Select Item
                                    F1  : Help        PU/PD/+/- : Modify
** Break Event From Suspend **      F5  : Old Values  (Shift)F2 : Color
IRQ 8 Clock Event   : Disabled      F6  : Load BIOS  Defaults
                                    F7  : Load Setup Defaults
```

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

If this item set to *No*, system BIOS will be ignored and APM calls the power to manage the system.

If this item setup to *Yes*, system BIOS will wait for APM's prompt before it enter any PM mode e.g. *DOZE, STANDBY* or *SUSPEND*.

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..

Video Off After

This item define when to activate the video off feature for monitor power management. The settings are N/A, Doze, Standby and Suspend.

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Doze Mode, Standby Mode, Suspend Mode

These items set the period of time after which each of these mode activate, the periods are from 1 min 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.
Standby Mode When enabled and after the set time of system inactivity, the fixed disk drive and the video would be shut off 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.

HDD Power Down

This item defines the continuous HDD idle time before the HDD enters power saving mode (motor off). The options are from 1 min to 15 min and *Disabled.*

Throttle Duty Cycle

This item determines the duty cycle for the clock control thermal throttling mode. The duty cycle indicates the percentage of time while in the thermal throttle mode. The settings between 12.5% and 87.5%.

VGA Active Monitor

If this item is set to Enabled, the VGA activity event will be monitored to reload global timer.

Soft-Off by PWR-BTTN

(This feature is available for ATX power only)
The setting of **Instant-Off** allows the ATX switch to function as a normal system power off button when pressed for less than 4 seconds. The setting of **Delay 4 Sec.** allows the button to have a dual function where to press the button for less than 4 seconds will place the system in suspend mode, and pressing the button for more than 4 seconds will shut place the system off.

CPU FAN Off In Suspend

This item determine CPU fan status when the system enters suspend mode. The options *Enabled* and *Disabled.*

Resume by Ring

This item determine the system will resume by activating of modem ring.

Resume by Alarm

(This feature is available for ATX power only)
This item determine the system will resume by activity of R.T.C. If enabled this feature and enter resume date and time. When date and time expire, system will power-on itself from power off.

Listed two items will shown up when enabled **Resume by Alarm**",

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Date (of month) Alarm:

This item determine the date when system will resume from power-off.

Time (hh:mm:ss) Alarm:

This item determine the time when system will resume from power-off.

IRQ 8 Clock Event

You can turn On or Off monitoring of IRQ8 (the Real Time Clock) so it does not awaken the system from Suspend mode.

** Reload Global Timer Events **

If any of these items is set to Disabled, that system activity event will not be monitored to reload global timer.

If these items is set to Enabled, that system activity event will be monitored to reload global timer.

These items include IRQ[3-7, 9-15], NMI, Primary IDE0/1, Secondary IDE 0/1, Floppy Disk, Serial Port and Parallel Port.

PCI Configuration Setup

```
                ROM PCI/ISA BIOS (2A59IH2H)
                  PNP/PCI CONFIGURATION
                   AWARD SOFTWARE, INC.

 PNP OS Installed       : No      PCI IDE IRQ Map To  : PCI-AUTO
 Resources Controlled By : Manual   Primary   IDE INT# : A
 Reset Configuration Data : Disabled Secondary IDE INT# : B

 IRQ-3  assigned to : Legacy ISA
 IRQ-4  assigned to : Legacy ISA
 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
 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) to control the system resources except PCI devices and PnP boot devices.
Default setting is *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.

Reset Configuration Data

This item allows you to determine whether to reset the configuration data or not.

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

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

Choices are *Legacy ISA* and *PCI/ISA PnP*.

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

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

Choices are *Legacy ISA* and *PCI/ISA PnP*.

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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. Choices are *Level* (default) and *Edge*.

PCI IDE IRQ Map to

This items allows you to configure your system to the type of IDE disk controller in use. By default, Setup assumes that your controller is an ISA device rather than a PCI controller.

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

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

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

Integrated Peripherals

```
              ROM PCI/ISA BIOS (2A59IH2H)
                 INTEGRATED PERIPHERALS
                   AWARD SOFTWARE, INC.

 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
 On-Chip Primary   PCI IDE: Enabled
 On-Chip Secondary PCI IDE: Enabled

 Onboard FDC Controller   : Enabled
 Onboard Serial Port 1    : Auto
 Onboard Serial Port 2    : Auto      ESC : Quit         ↑↓→← : Select Item
 UR2 Mode                 : Standard  F1  : Help         PU/PD/+/- : Modify
                                      F5  : Old Values   (Shift)F2 : Color
 Onboard Parallel Port    : 378/IRQ7  F6  : Load BIOS  Defaults
 Parallel Port Mode       : SPP       F7  : Load Setup Defaults
```

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/Secondary Master/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 mode. Auto* is the default settings for on board Primary/Secondary Master/Slave PIO timing.

IDE Primary/Secondary Master/Slave UDMA

On this mainboard, Intel 430TX PCIset improves IDE transfer rate using Bus Master UltraDMA/33 IDE which can handle data transfer up to 33MB/sec. The options are *Disabled, Enabled and Auto, Auto* is the default settings for on board Primary/Secondary Master/Slave *UltraDMA33*.
Note : Your hard drive must also support UDMA for this feature to work.

On-Chip Primary/Secondary PCI IDE

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

Onboard FDC Control

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 *Dis-abled*" settings if you have a separate controller card.

Onboard UART1/2

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 COM 2 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.

IR 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 in the Supervisor Password and User Password.

```
                     ROM PCI/ISA BIOS (2A59GH2B)
                         CMOS SETUP UTILITY
                        AWARD SOFTWARE, INC.
  ┌─────────────────────────────────┬─────────────────────────────────┐
  │  STANDARD CMOS SETUP             │    INTEGRATED PERIPHERALS        │
  │                                  │                                  │
  │  BIOS FEATURES SETUP             │    IDE HDD AUTO DETECTION         │
  │                                  │                                  │
  │  CHIPSET FEATURES SETUP          │    SUPERVISOR PASSWORD            │
  │                                  │                                  │
  │  POWER MANAGEMENT SETUP          │    USER PASSWORD                  │
  │                                  │                                  │
  │  PNP/PCI CONFIGURATION           │    SAVE & EXIT SETUP              │
  │                        ┌──────────────────────────┐                │
  │  LOAD BIOS DEFAULTS     │ Enter Password:          │ UT SAVING      │
  │                        └──────────────────────────┘                │
  │  LOAD SETUP DEFAULTS             │                                  │
  ├─────────────────────────────────┴─────────────────────────────────┤
  │  Esc : Quit                      ↑ ↓ → ←    : Select Item          │
  │  F10 : Save & Exit Setup        (Shift)F2 : Change Color           │
  ├────────────────────────────────────────────────────────────────────┤
  │                  Change/Set/Disable Password                        │
  └────────────────────────────────────────────────────────────────────┘
```

Supervisor Password and User Password

The options on the Password screen menu make it possible to restrict access to the Setup program by enabling you to set passwords for two different access modes: Supervisor mode and User mode.

In general, Supervisor mode has full access to the Setup options, whereas User mode has restricted access to the options. By setting separate Supervisor and User password, a system supervisor can limit who can change critical Setup values.

Enter Password

Type the password, up to eight characters, and press <Enter>. The password typed now will clear any previously entered password from CMOS memory. You will be asked to reconfirm the password. Type the password again and press <Enter>. You may also press <Esc> to abort the selection and not enter a password.

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

Password Disable

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 is to clear CMOS memory, please refer to "Clear CMOS" or "Clear Password" section.

HOT-569
Pentium™ processor
Based PCI MAIN BOARD

User's Manual