Chapter 1

INTRODUCTION

The Baby TX8 mainboard is a high-performance personal computer mainboard. This mainboard supports Intel® Pentium® processor/Pentium® processor with MMX™ technology, Cyrix® 6x86/6x86L/6x86MX, and AMD® K5/K6 processors. The mainboard also supports four 32-bit PCI (Peripheral Component Interconnect) Local Bus standard slots.

The mainboard uses the highly integrated Intel® 82430TX chipset to support the PCI/ISA and Green standards, and to provide the Host/PCI bridge. The Intel® 82430TX chipset integrates all system control functions such as ACPI (Advanced Configuration and Power Interface). The ACPI provides more Energy Saving Features for the OSPM(OS Direct Power Management) function. The Intel® 82430TX chipset also improves the IDE transfer rate by supporting Ultra DMA/33 IDE that transfer data at the rate of 33MB/s.

The mainboard also supports the System Hardware Monitor Controller as an optional function. This function includes: CPU/power fan control, CPU temperature detect and protect, and system voltage detect .

1.1 System Board Features

CPU

- Socket 7 supports Intel® Pentium® processor/Pentium® processor with MMX™ technology.
- The Cyrix®6x86/6x86L/6x86MX and AMD®K5/K6 processors are also supported.

Chipset

- Intel®82430TX chipset

Cache Memory

- Supports 512K PB SRAM.
- 64MB DRAM cacheability.
- Direct mapped organization.
- Cache hit read/write cycle timing at 3-1-1-1.
- Back-to-Back read/write cycles at 3-1-1-1-1-1-1-1.

Main Memory

- Supports three memory banks using two 168-pin unbuffered DIMM and two 72-pin SIMM sockets .
- Supports a maximum memory size of 256 MB.
- Supports 3.3v Fast Page (FP), Extended Data Output (EDO), and SDRAM DIMM.

Slots

- Four 32-bit Master PCI Bus slots and three 16-bit ISA bus slots
- Supports 3.3v/5v PCI bus Interface.

On-Board IDE

- An IDE controller on the Intel®82371AB chipset provides IDE HDD/CD-ROM with PIO, Bus Master and Ultra DMA/33 operation modes.
- Connect up to four IDE devices.

On-Board Peripherals

- On-Board Peripherals include:
  - 1 floppy port supports 2 FDD with 360K, 720K, 1.2M, 1.44M and 2.88Mbytes.
  - 2 serial ports (COMA + COMB)
  - 1 parallel port supports SPP/EPP/ECP mode
  - 2 USB ports
  - 1 IrDA connector for SIR.

BIOS

- The mainboard BIOS provides "Plug & Play" BIOS which detects the peripheral devices and expansion cards of the board automatically.
- The mainboard provides a Desktop Management Interface(DMI) function which records your mainboard specifications.

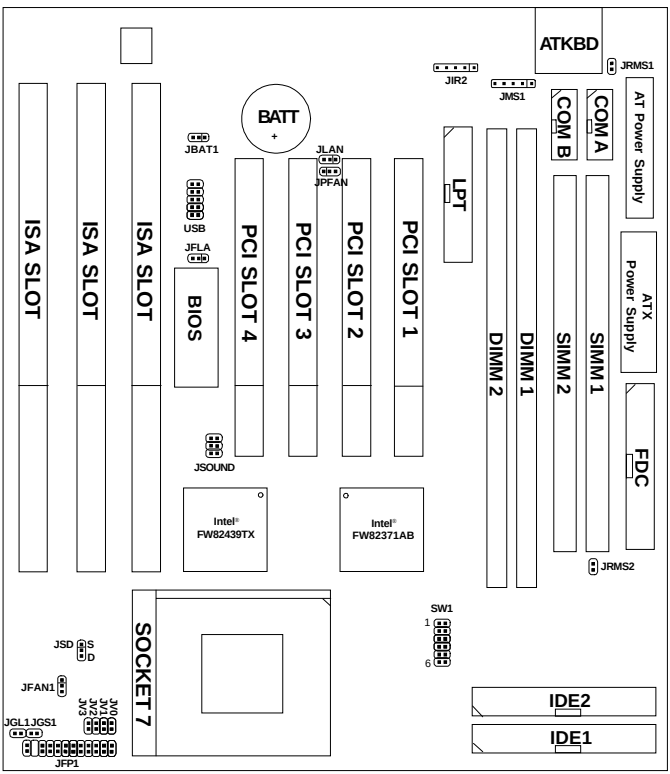
Dimension

- Baby AT : 22cm(L) x 22cm(W) x 4 layers PCB

Mounting

- 5 mounting holes.

1.3 Mainboard Layout



MS-5170

Chapter 2

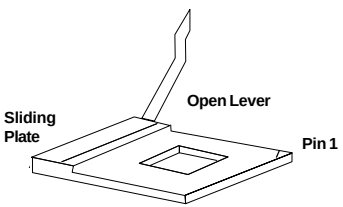
HARDWARE INSTALLATION

2.1 Central Processing Unit: CPU

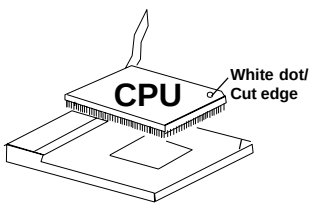
The **Baby TX8** mainboard operates with **Intel® Pentium® processors/ Pentium® processors with MMX™ technology**, **Cyrix® 6x86/6x86L/ 6x86MX** and **AMD® K5/K6** processors**.** It could operate with 2.0V to 3.5V processors. The mainboard provides a 321-pin ZIF Socket 7 for easy CPU installation, a DIP switch (SW1) to set the proper speed for the CPU and a Jumper block (JV0 - JV3, JSD) for setting the CPU voltage. The CPU should always have a cooling fan attached to prevent overheating.

2.1-1 CPU Installation Procedures

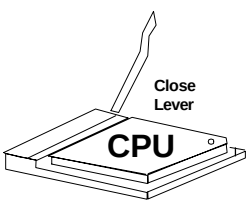
1. Pull the lever sideways away from the socket. Then raise the lever up to a 90-degree angle.



2. Locate Pin 1 in the socket and look for the white dot or cut edge in the CPU. Match Pin 1 with the white dot/cut edge. Then, insert the CPU. It should insert easily.



3. Press the lever down to complete the installation.



2.1-2 CPU Core Speed Derivation Procedure

1. The Switch SW1 (4 & 5) is used to adjust the CPU clock frequency.

SW1		CPU
4	**5**	**Clock**
ON	ON	55MHz
ON	OFF	60MHz
OFF	OFF	66MHz

ON = Short OFF = Open

2. The Switch SW1 (1, 2, and 3) is used to set the Core/Bus (Fraction) ratio of the CPU. The actual core speed of the CPU is the Host Clock Frequency multiplied by the Core/Bus ratio. For example:

If	CPU Clock	=	66MHz
	Core/Bus ratio	=	3/2
then	CPU core speed	=	Host Clock x Core/ Bus ratio
		=	66MHz x 3/2
		=	100MHz

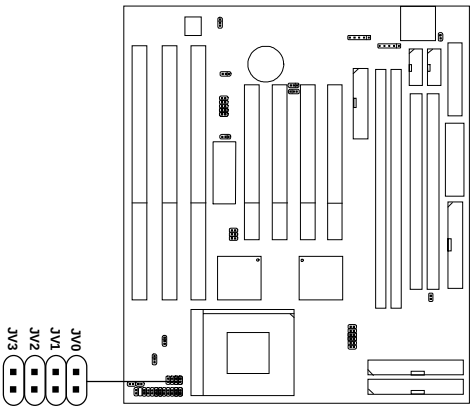
SW1			Intel	Cyrix		AMD	
				6x86	6x86MX	K5	K6
1	**2**	**3**	**Core/Bus Ratio**				
OFF	OFF	OFF	1.5	3	3.5	1.5	3.5
ON	OFF	OFF	2	2	2	2	
OFF	ON	OFF	3		3		3
ON	ON	OFF	2.5		2.5		
ON	OFF	ON					4

ON = Short OFF = Open

3. The PCI Bus Clock is the CPU Clock Frequency divided by 2.

2.1-3 CPU Voltage Setting: JV0-JV3

These jumpers is for setting the CPU voltage. While **JSD** is used to set the voltage regulator between **Single** power or **Dual** power.



V I/O	Vcore	JV0~JV3
3.5	3.5	
3.3	3.4	
3.3	3.3	
3.3	3.2	

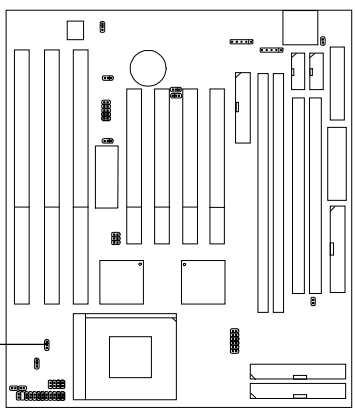
V I/O	Vcore	JV0~JV3
3.3	3.1	
3.3	3.0	
3.3	2.9	
3.3	2.8	
3.3	2.7	
3.3	2.6	
3.3	2.5	
3.3	2.4	

V I/O	Vcore	JV0~JV3
3.3	2.3	
3.3	2.2	
3.3	2.1	
3.3	2.0	

a. CPU Single or Dual Voltage Setting: JSD

This jumper is used to set the CPU single or dual voltage.

JSD	CPU
	Dual Voltage CPU
	Single Voltage CPU



2.1-4 CPU Speed and Voltage Setting: SW1 & JV0-JV3, JSD

To adjust the speed and voltage of the CPU, you must know the specifications of your CPU (*always ask the vendor for CPU specifications*). Then refer to **Table 2.1 (Intel® processors)**, **Table 2.2 (Cyrix® processors)** and **Table 2.3 (AMD® processors)** for proper setting.

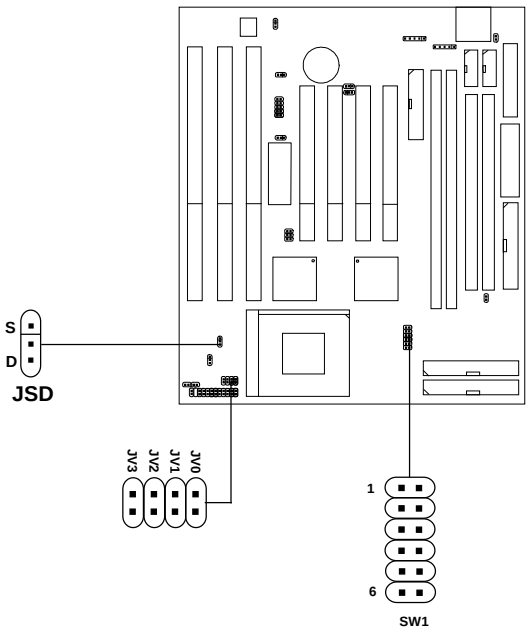
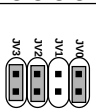
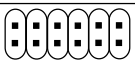
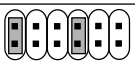
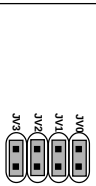
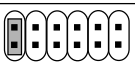
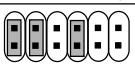
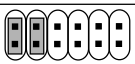
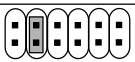
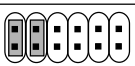
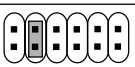


Table 2.1 Intel® processors

Intel® Pentium® processors

CPU Type	CPU Voltage				CPU Speed
	VI/O	Vcore	JSD	JV0~JV3	SW1
90MHz	3.3		S D		
	3.5				
100MHz	3.3				
120MHz	3.3				
133MHz	3.5				
150MHz	3.5				
166MHz	3.5				
200MHz	3.5				

Intel® Pentium® processors with MMX™ technology

166MHz	3.3	2.8	S D		
200MHz					
233MHz					

Note: If you encounter a CPU with different voltage, just go to Section 2.1-3 and look for the proper voltage settings.

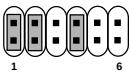
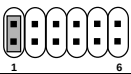
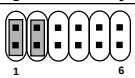
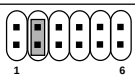
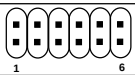
Table 2.2 Cyrix® processors

Cyrix® 6x86 processor uses PR to rate the speed of their processors based on Intel® Pentium® processor core speed. For example PR150 (120MHz) has 150MHz core speed of Intel® Pentium® processor but has 120MHz core speed in Cyrix®. Cyrix® 6x86 processor should always use a more powerful fan (ask vendor for proper cooling fan).

Cyrix® 6x86/6x86L processors

CPU Type	CPU Voltage				CPU Speed
	VI/O	Vcore	JSD	JV0~JV3	SW1
6x86 PR133	3.3		S D	JV3 JV2 JV1 JV0	1 6
6x86 PR150	3.5		S D	JV3 JV2 JV1 JV0	1 6
6x86 PR166	3.3		S D	JV3 JV2 JV1 JV0	1 6
6x86L PR166	3.3	2.8	S D	JV3 JV2 JV1 JV0	1 6

Cyrix® 6x86MX processors

CPU Type	CPU Voltage				CPU Speed
	VI/O	Vcore	JSD	JV0~JV3	SW1
PR166 (60x2.5)	2.9		S D	JV3 JV2 JV1 JV0	
(66x2)					
PR200 (66x2.5)					
PR233 (66x3)					
PR266 (66x3.5)					

Note: If you encounter a CPU with different voltage, just go to Section 2.1-3 and look for the proper voltage settings.

Table 2.3 AMD® processors

AMD® K5 processor uses PR to rate the speed of their processors based on Intel® Pentium® processor core speed . For example PR133(100MHz) has 133MHz core speed of Intel® Pentium® processor but has 100MHz core speed in AMD® K5 processor.

AMD® K5 processors

CPU Type	CPU Voltage				CPU Speed
	VI/O	Vcore	JSD	JV0~JV1	SW1
PR90	3.5		S D	JV3 JV2 JV1 JV0	1 6
PR100					1 6
PR120					1 6
PR133/PR150					1 6
PR166					1 6

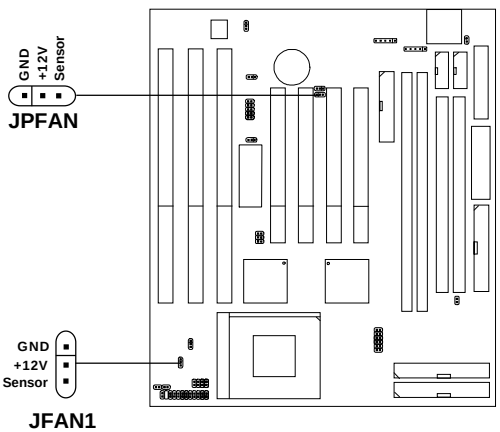
AMD® K6 processors

PR166	3.3	2.9	S D	JV3 JV2 JV1 JV0	1 6
PR200					1 6
PR233	3.3	3.2		JV3 JV2 JV1 JV0	1 6

Note: If you encounter a CPU with different voltage, just go to Section 2.1-3 and look for the proper voltage settings.

2.1-5 CPU Fan Power Connector: JFAN1/JPFAN

These connectors supports CPU cooling fan with +12V. It supports both two and three pin head connector. When connecting the wire to the connector, always take note that the red wire is the positive and should be connected to the +12V. It also supports three pin head connector. When connecting the wire to the connector, always take note that the red wire is the positive and should be connected to the +12V, the black wire is Ground and should be connected to GND, the yellow is the speed sensor. If your mainboard has LM78 on board, you need to use a specially designed fan with speed sensor to take advantage of LM78's CPU fan control function.

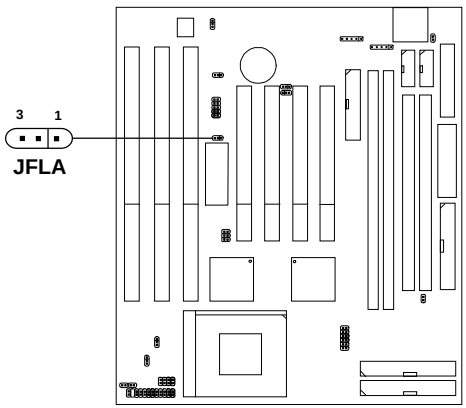


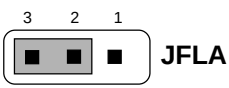
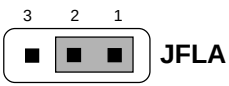
JFAN1: CPU FAN
JPFAN: POWER FAN

Note: Always consult vendor for proper CPU cooling fan.

2.2 Flash ROM Programming Voltage: JFLA

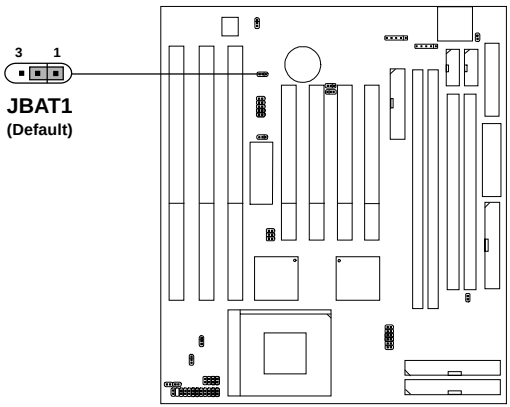
This jumper is for setting the voltage of the Flash ROM BIOS.



+12V (Default)	
+5V (Reserved)	

2.3 Battery Connector: JBAT1

A battery must be used to retain the mainboard configuration in CMOS RAM. To retain the on-board battery you must always short pins 1,2 of JBAT1.

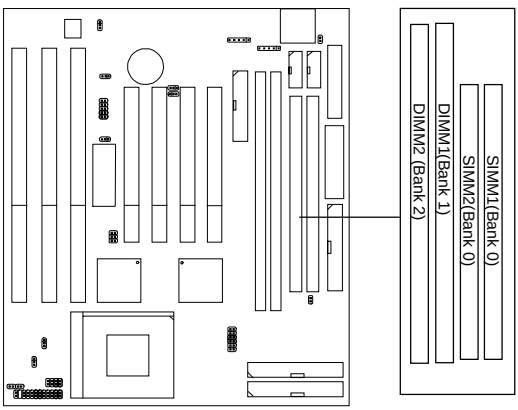


Note: You can clear CMOS by shorting 2-3 pin, while the system is off. Then, return to 1-2 pin position. Avoid clearing the CMOS while the system is on , it will damage the mainboard.

2.4 Memory Installation

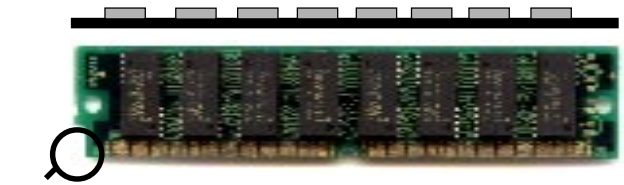
2.4-1 Memory Bank Configuration

The mainboard provides two 72-pin SIMMs (Single In-Line Memory Module) and two 168-pin DIMM(Double In-Line Memory) sockets. It supports four memory banks for a maximum of 256MB memory. Each bank supports up to 64MB memory. You can use SIMM from 4MB, 8MB, 16MB, 32MB, 64MB to 128MB, and DIMM from 8MB, 16MB, 32MB, 64MB to 128MB.



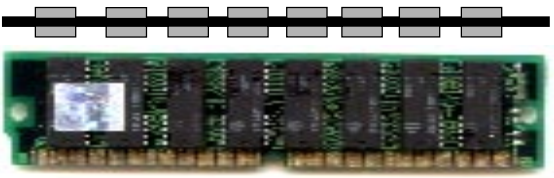
2.4-2 Memory Installation Procedures:

A. How to install SIMM Module



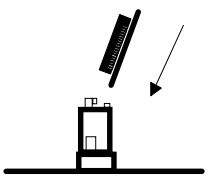
Notched End

Single Sided SIMM

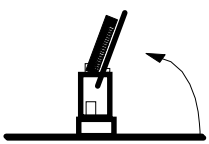


Double Sided SIMM

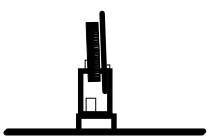
1. The SIMM slot has a "*Plastic Safety Tab*" and the SIMM memory module has a "Notched End", so the SIMM memory module can only fit in one direction.



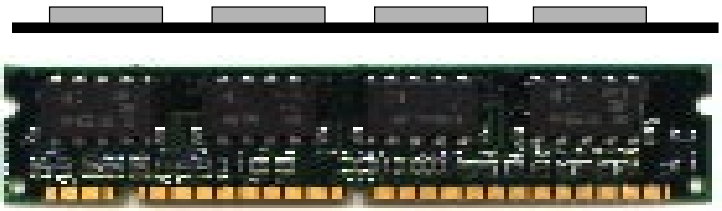
2. Insert the SIMM memory modules into the socket at 45-degree angle, then push into a vertical position so that it will snap into place.



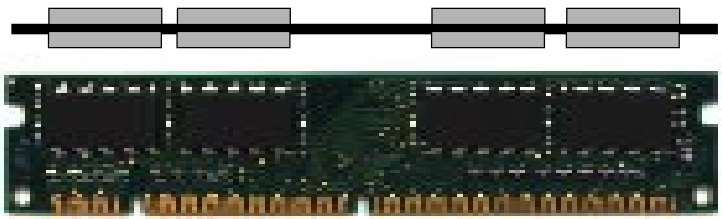
3. The Mounting Holes and Metal Clips should fit over the edge and hold the SIMM memory modules in place.



B. How to install DIMM Module



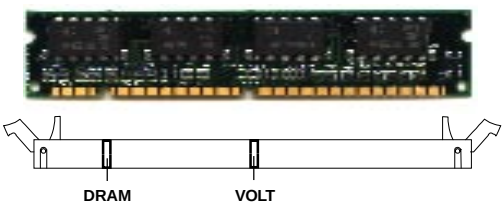
Single Sided DIMM



Double Sided DIMM

1. The DIMM slot has two keys marked “VOLT and DRAM” , so the DIMM memory module can only fit in one direction.

2. Insert the DIMM memory module vertically into the DIMM slot. Then, push it in.



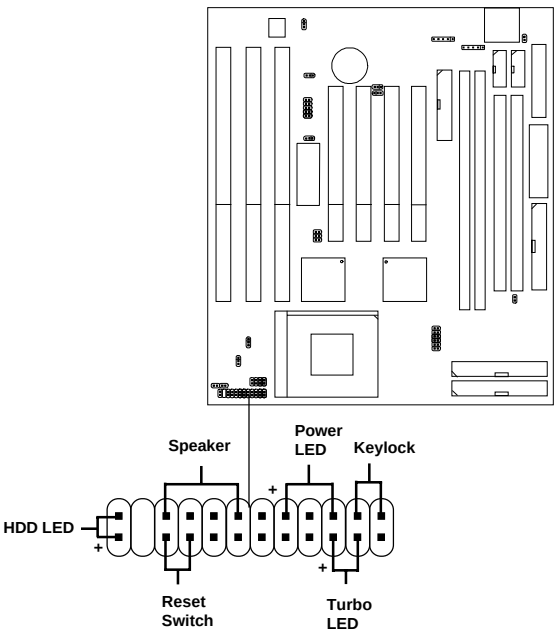
3. The plastic clip at the side of the DIMM slot will automatically close.

2.4-3 Memory Population Rules

1. Make sure that the SIMM banks are using the same type and equal size density memory.
2. To operate properly, at least two 72-pin SIMM module must be installed in the same bank or one 168-pin DIMM module must be installed. The system cannot operate with only one 72-pin SIMM module.
3. This mainboard supports Table Free memory, so memory can be installed on (SIMM1 + SIMM2), (DIMM1), or (DIMM 2), in any order.
4. Use only 5v SIMM.
5. Use only 3.3v unbuffered DIMM.
6. DIMM and SIMM cannot be used at the same time. Only one kind can be used at a time.

2.5 Case Connector: JFP1

The Turbo LED, Hardware Reset, Key Lock, Power LED, Speaker and HDD LED are all grouped in JFP1 connector block for easy installation.



JFP1

2.5-1 Turbo LED

This mainboard is always on Turbo speed. Connecting a Turbo LED will just lit the LED.

2.5-2 Hardware Reset

Reset switch are used to reboot the system rather than turning the power ON/OFF. Avoid rebooting the system when the HDD LED is lit. You can connect the Reset switch from the system case to this pin.

2.5-3 Keylock

Keylock allows you to disable the keyboard for security purposes. You can connect the keylock to this pin.

2.5-4 Power LED

The Power LED is always lit while the system power is on. You can connect the Power LED from the system case to this pin.

2.5-5 Speaker

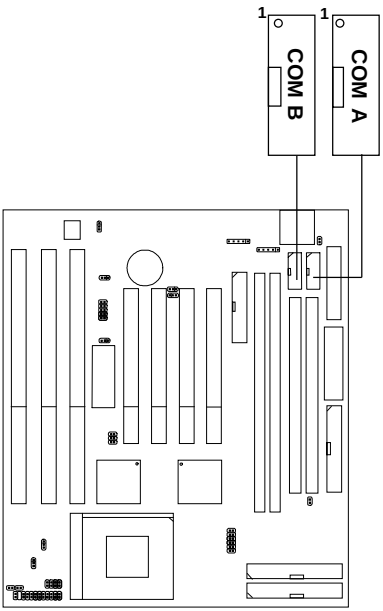
Speaker from the system case are connected to this pin. (See Figure 2.1)

2.5-6 HDD LED

HDD LED shows the activity of a hard disk drive. Avoid turning the power off while the HDD led is lit. You can connect the HDD LED from the system case to this pin.

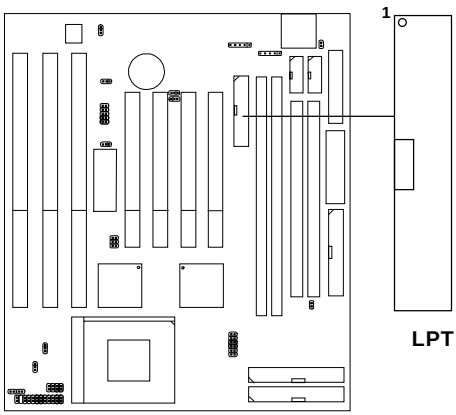
2.6 Serial Port Connectors: COM A & COM B

The mainboard has two serial ports COM A and COM B. These two ports are 16550A fully compatible high speed communication ports that send/ receive 16 bytes FIFOs. You can attach a mouse or a modem cable directly into these connectors.



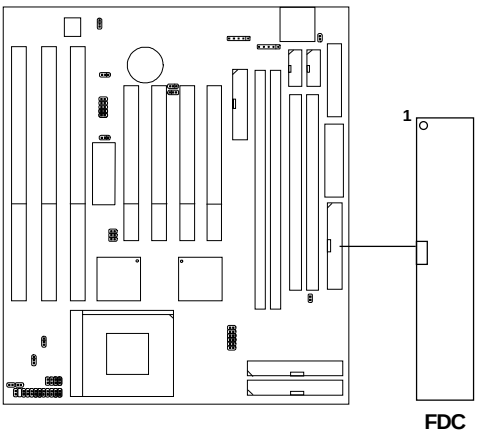
2.7 Parallel Port Connector: LPT

The mainboard provides a connector for LPT. A parallel port is a standard printer port that also supports Enhanced Parallel Port(EPP) and Extended capabilities Parallel Port(ECP).



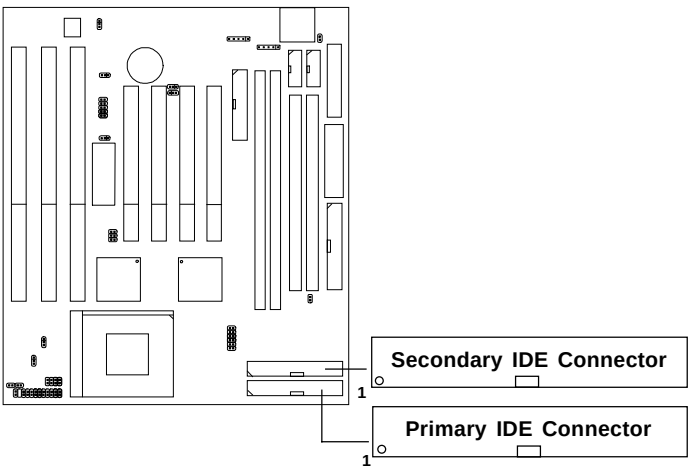
2.8 Floppy Disk Connector: FDC

The mainboard also provides a standard floppy disk connector, FDC that supports 360K, 720K, 1.2M, 1.44M and 2.88M floppy disk types. You can attach a floppy disk cable directly to this connector.



2.9 Hard Disk Connectors: IDE1 & IDE2

The mainboard has a 32-bit Enhanced PCI IDE Controller that provides for two HDD connectors IDE1 (primary) and IDE2 (secondary). You can connect up to four hard disk drives, CD-ROM, 120MB Floppy (reserved for future BIOS) and other devices to IDE1 and IDE2.



IDE1(primary IDE connector)

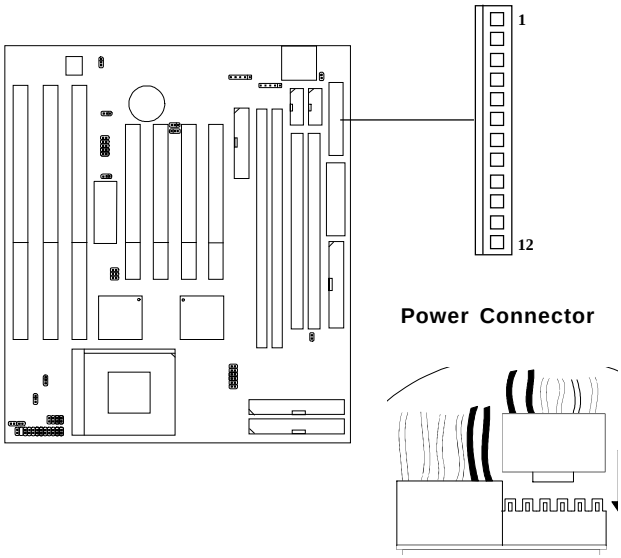
The first hard disk should always be connected to IDE1. IDE1 can connect a Master and a Slave drive.

IDE2(secondary IDE connector)

IDE2 can connect a Master and a Slave drive.

2.10 AT Power Supply Connector

This is a standard 12-pin AT® or PS/2® connector. Be sure to attach the connectors with the two black wires at the center.

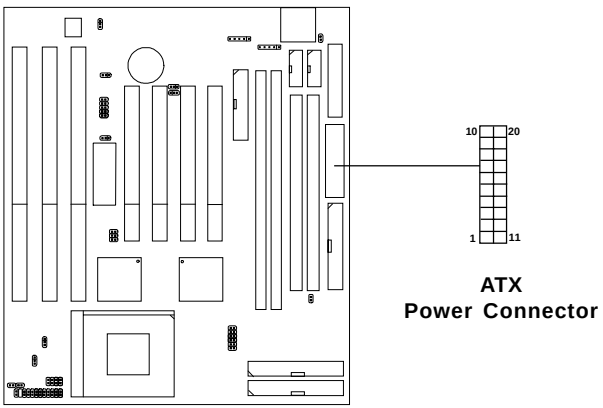


PIN DEFINITION

Pin	Description	Pin	Description
1	Power Good	7	Ground
2	+5V DC	8	Ground
3	+12V DC	9	-5V DC
4	-12V DC	10	+5V DC
5	Ground	11	+5V DC
6	Ground	12	+5V DC

2.11 ATX 20-pin Power Connector

This type of connector already supports the remote ON/OFF function. You don't need to connect the JRMC1. However, you need to connect the **Remote Power On/OFF switch (JRMS1 or JRMS2)**.

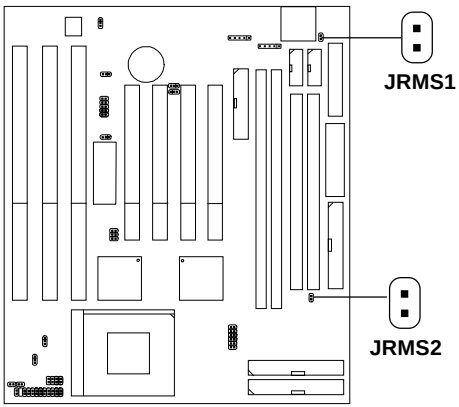


PIN DEFINITION

PIN	SIGNAL	PIN	SIGNAL
1	3.3V	11	3.3V
2	3.3V	12	-12V
3	GND	13	GND
4	5V	14	PS_ON
5	GND	15	GND
6	5V	16	GND
7	GND	17	GND
8	PW_OK	18	-5V
9	5V_SB	19	5V
10	12V	20	5V

2.12 Remote Power On/Off Switch: JRMS1/JRMS2

Connect to a 2-pin push button switch to JRMS1 or JRMS2. Every time the switch is shorted by pushing it once, the power supply will change its status from OFF to ON and ON to OFF. This is used for ATX type power supply. You can program this through BIOS. Refer to Soft-Off by PWR-BTTN in BIOS.



2.13 Power On Mode Jumper: J2

The mainboard supports two kinds of system boot up: the Boot-Up by switch and the Immediate Boot-Up. With the Boot-Up by Switch, the system will boot up only when the power on switch is pressed. For Immediate Boot-Up, the system will boot up instantly when the power connector is connected into the system.

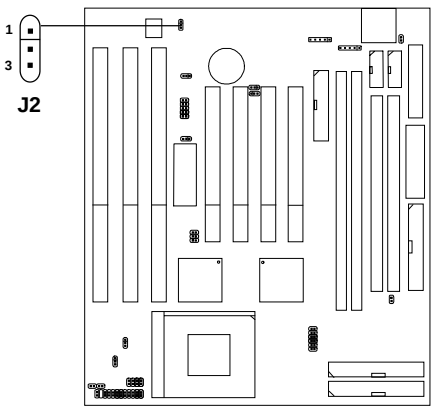
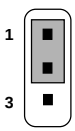
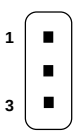


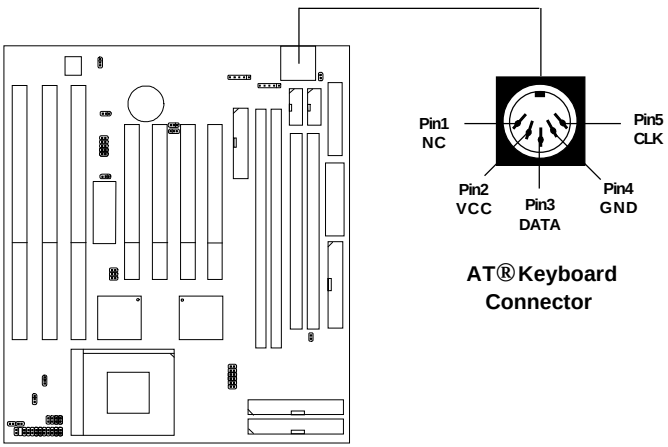
Table 2.13: Power On Mode Feature

J2	Feature
	Select Boot-Up by Swtich
	Select Immediate Boot-Up

Note: Short **J2 1-2**, when using Boot-Up by Switch feature. Open **J2**, to enable Immediate Boot-Up.

2.14 Keyboard Connector: ATKBC

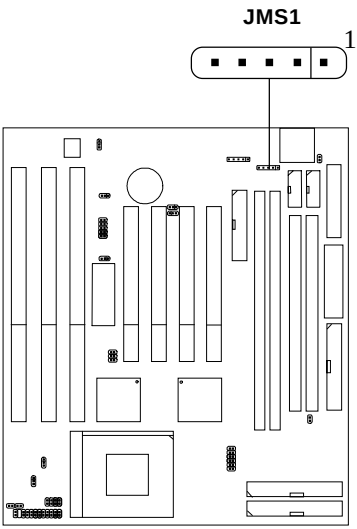
The mainboard provides a standard AT® keyboard DIN connector for attaching a keyboard. You can plug a keyboard cable directly to this connector.



AT® Keyboard Connector

2.15 Mouse Connector: JMS1

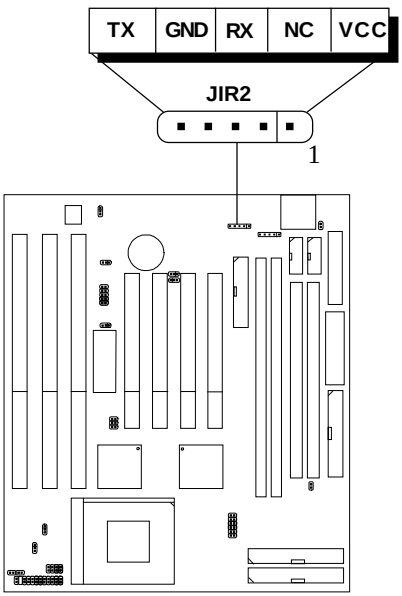
The mainboard provides a 5-pin connector for PS/2® mouse cable (optional). You can plug a PS/2® mouse to PS/2® mouse cable. The connector location as shown below.



Pin 1	**VCC**
Pin 2	**-**
Pin 3	**GND**
Pin 4	**CLK**
Pin 5	**DATA**

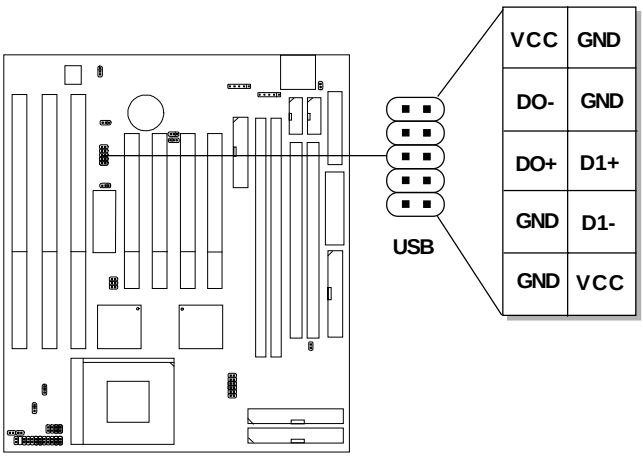
2.16 Infrared Module Connector: JIR2

The mainboard provides a 5-pin infrared connector(IR) for IR module. This connector is for optional wireless transmitting and receiving infrared module. If you want to use this function, you must configure the setting through BIOS setup.



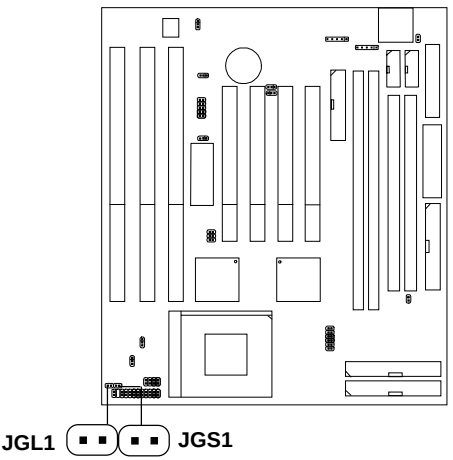
2.17 USB Connector: USB

Connect a USB cable to support USB device, such as keyboard and mouse.



2.18 Power Saving Switch Connector: JGS1/ Power Saving LED Connector: JGL1

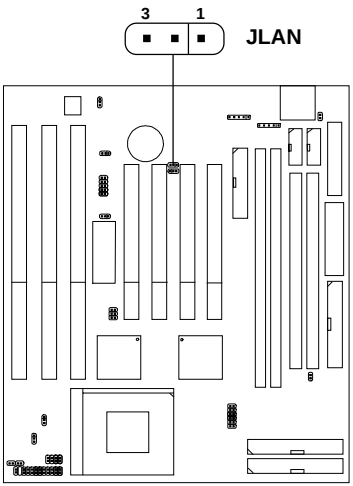
Attach a power saving switch to JGS1. When the switch is pressed, the system immediately goes into suspend mode. Press any key and the system wakes up. JGL1 can be connected with LED to monitor the JGS1. This will lit while the system is in suspend mode.



Note: To make JGS1 function, you must go to the BIOS power management and enable it there.

2.19 Wake-Up on LAN Connector: JLAN

This connector is for use with LAN add-on cards that supports Wake Up on LAN function.



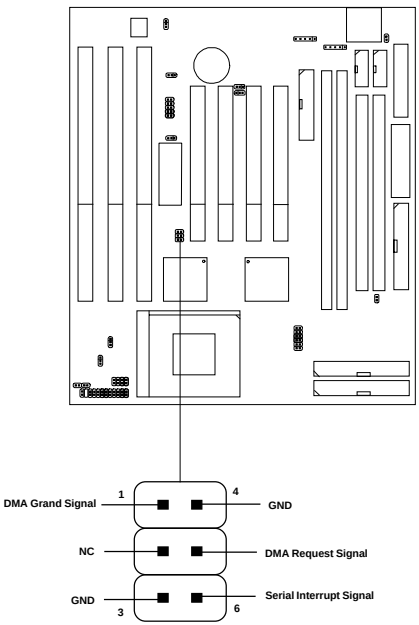
PIN	SIGNAL
1	5VSB
2	GND
3	MP_WAKEUP

Note: LAN wake-up signal is active “high”.

Note: To be able to use this function, you need a power supply that provide enough power for this feature.
(750 mA power supply with 5V Stand-by)

2.21 Add-On Card Sound Connector: JSOUND

The mainboard provides a distributed DMA connector for PCI sound card with this feature, such as Creative® PCI 3D sound card.



JSOUND

Chapter 3

AWARD® BIOS SETUP

Award®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 (CMOS RAM), so that it retains the Setup information when the power is turned off.

3.1 Entering Setup

Power on the computer and press <Del> immediately to allow you to enter Setup. The other way to enter Setup is to power on the computer. When the below message appears 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.

TO ENTER SETUP BEFORE BOOT PRESS <CTRL-ALT-ESC>
OR <DEL> KEY

If the message disappears before you respond and you still wish to enter Setup, restart the system to try again by turning it OFF then ON or pressing the "RESET" button on the system case. You may also restart by simultaneously pressing <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, <CTRL-ALT-ESC>
OR <DEL> TO ENTER SETUP

3.2 Getting Help

Main Menu

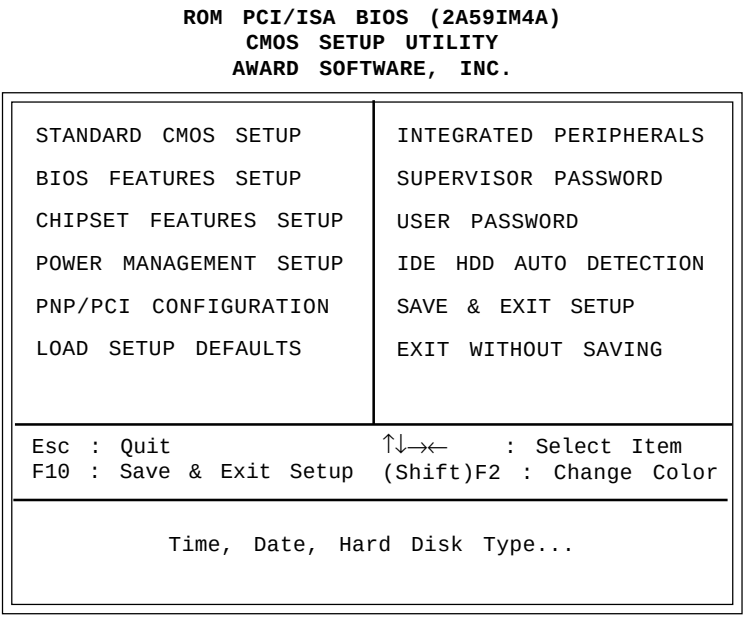
The on-line description of the highlighted setup function is displayed at the bottom of the screen.

Status Page Setup Menu/Option Page Setup Menu

Press F1 to pop up a small help window that describes the appropriate keys to use and the possible selections for the highlighted item. To exit the Help Window press <F1> or <Esc>.

3.3 The Main Menu

Once you enter Award® BIOS CMOS Setup Utility, the Main Menu (Figure 1) will appear on the screen. The Main Menu allows you to select from ten setup functions and two exit choices. Use arrow keys to select among the items and press <Enter> to accept or enter the sub-menu.



Standard CMOS Setup

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

BIOS Features Setup

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

Chipset Features Setup

This setup page includes all the items of chipset special features.

Power Management Setup

This category determines the power consumption for system after setting the specified items. Default value is Disable.

PCI Configuration Setup

This category specifies the IRQ level for PCI and ISA devices.

Supervisor Password/User Password

Change set or disable password. This function allows the user access to the system and setup or just setup.

Load Setup Defaults

Chipset defaults indicates the values required by the system for the maximum performance.

IDE HDD Auto Detection

Automatically configure hard disk parameters.

Save & Exit Setup

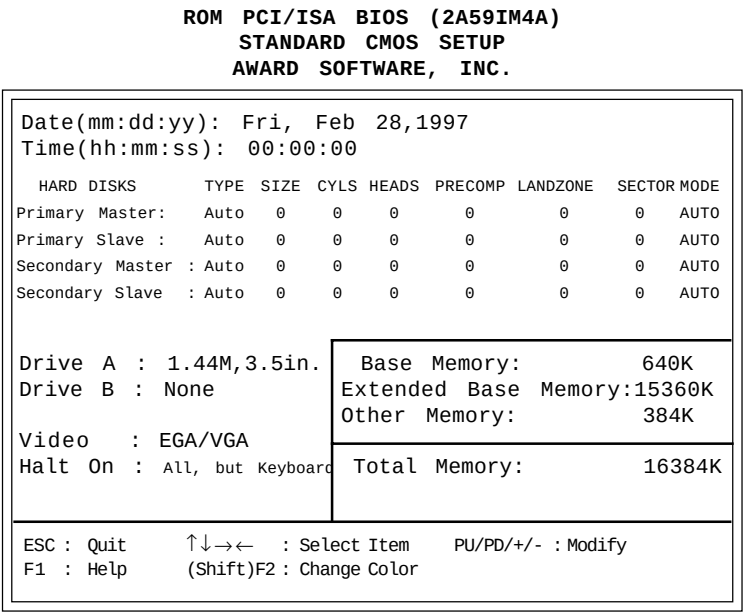
Save CMOS value changes to CMOS and exit setup.

Exit Without Saving

Abandon all CMOS value changes and exit setup.

3.4 Standard CMOS Setup

The items in Standard CMOS Setup Menu are divided into 10 categories. Each category includes no, one or more than one setup items. Use the arrow keys to highlight the item and then use the <PgUp> or <PgDn> keys to select the value you want in each item.



Date

The date format is <day><month> <date> <year>.

Day	Day of the week, from Sun to Sat, determined by BIOS. Read-only.
month	The month from Jan. through Dec.
date	The date from 1 to 31 can be keyed by numeric function keys.
year	The year, depends on the year of the BIOS

Time

The time format is <hour> <minute> <second>.

PrimaryMaster/PrimarySlave
SecondaryMaster/Secondary Slave

These categories identify the types of 2 channels that have been installed in the computer. There are 45 pre-defined types and 4 user definable types for Enhanced IDE BIOS. Type 1 to Type 45 are pre-defined. Type User is user-definable.

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 category. 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>. This information should be provided in the documentation from your hard disk vendor or the system manufacturer.

If the controller of HDD interface is ESDI, the selection shall be "Type 1".
If the controller of HDD interface is SCSI, the selection shall be "None".
If the controller of HDD interface is CD-ROM, the selection shall be "None".

CYLS.	number of cylinders
HEADS	number of heads
PRECOMP	write precom
LANDZONE	landing zone
SECTORS	number of sectors
MODE HDD	access mode

3.5 BIOS Features Setup

ROM PCI/ISA BIOS (2A59IM4A)
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	: Disabled	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(char/sec)	: 6		
Typematic Delay(Msec)	: 250		
Security Option	: Setup		
PCI/VGA palette snoop	: Disabled		
OS select for DRAM>64MB	: Non-OS2		

Esc : Quit ↑↓→←: Select item
F1 : Help PU/PD/+/- : modify
F5 : Old Value(Shift) F2 : Color
F6 : Load BIOS Defaults
F7 : Load Setup Defaults

Virus Warning

During and after the system boots up, any attempt to write to the boot sector or partition table of the hard disk drive will halt the system and the following error message will appear. For the meantime, you can run an anti-virus program to locate the problem.

!WARNING!
Disk Boot Sector is to be modified
Type “Y” to accept write or “N” to abort write
Award Software, Inc.

Disabled (default)	No warning message to appear when anything attempts to access the boot sector or hard disk partition table.
Enabled	Activates automatically when the system boots up causing a warning message to appear when anything attempts to access the boot sector of hard disk partition table.

Note: *This function is available only for DOS and other OS that do not trap INT13.*

CPU Internal Cache

The default value is Enabled. If your CPU is without Internal Cache then this item "CPU Internal Cache" will not be shown.

Enabled (default)	Enable cache
Disabled	Disable cache

Note: The internal cache is built in the processor.

CPU External Cache

Choose Enabled or Disabled. This option enables the level 2 cache memory.

Quick Power On Self Test

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

Enabled	Enable quick POST
Disabled (default)	Normal POST

Boot Sequence

This category determines which drive the computer searches first for the disk operating system (i.e., DOS). The settings are A,C,SCSI/C,A,SCSI/C,CD-ROM,A/CD-ROM,C,A/D,A,SCSI/E,A,SCSI/F,A,SCSI/SCSI,A,C/SCSI,C,A/C only. Default value is A,C,SCSI.

Swap Floppy Drive

Switches the floppy disk drives between being designated as A and B. Default is Disabled.

Boot Up Floppy Seek

During POST, BIOS will determine if the floppy disk drive installed is 40 or 80 tracks. 360K type is 40 tracks while 720K, 1.2M and 1.44M are all 80 tracks.

Enabled(default)	BIOS searches for floppy disk drive to determine if it is 40 or 80 tracks. Note that BIOS can not tell from 720K, 1.2M or 1.44M drive type as they are all 80 tracks.
Disabled	BIOS will not search for the type of floppy disk drive by track number. Note that there will not be any warning message if the drive installed is 360K.

Boot Up NumLock Status

The default value is On.

On (default)	Keypad is numeric keys.
Off	Keypad is arrow keys.

Boot Up System Speed

This selects the speed that the system will run at immediately after power up.

High (default)	Sets the speed to high.
Low	Sets the speed to low.

Gate A20 Option

Normal	The A20 signal is controlled by keyboard controller or chipset hardware.
Fast(default)	Default : Fast. The A20 signal is controlled by Port 92 or chipset specific method.

Typematic Rate Setting

This determines the typematic rate.

Enabled	Enable typematic rate and typematic delay programming.
Disabled(default)	Disable typematic rate and typematic delay programming. The system BIOS will use default value of this 2 items and the default is controlled by keyboard.

Typematic Rate (Chars/Sec)

6 (default)	6 characters per second
8	8 characters per second
10	10 characters per second
12	12 characters per second
15	15 characters per second
20	20 characters per second
24	24 characters per second
30	30 characters per second

Typematic Delay

Choose the length of delay from the time you press a key and the character starts repeating. (Units are mil-secs)

Security Option

This category allows you to limit access to the system and Setup, or just to Setup.

System	The system will not boot and access to Setup will be denied if the correct password is not entered at the prompt.
Setup(default)	The system will boot, but access to Setup will be denied if the correct password is not entered at the prompt.

PCI VGA Palette Snooping

Choose Disabled or Enabled. Some graphic controllers which are not VGA compatible, take the output from a VGA controller and map it to their display as a way to provide the boot information and the VGA compatibility.

However, the color information coming from the VGA controller is drawn from the palette table inside the VGA controller to generate the proper colors, and the graphic controller needs to know what is in the palette of the VGA controller. To do this, the non-VGA graphic controller watches for the Write access to the VGA palette and registers the snoop data. In PCI based systems, where the VGA controller is on the PCI bus and a non-VGA graphic controller is on an ISA bus, the Write Access to the palette will not show up on the ISA bus if the PCI VGA controller responds to the Writes.

In this case, the PCI VGA controller should not respond to the Write. It should only snoop the data and permit the access to be forwarded to the ISA bus. The non-VGA ISA graphic controller can then snoop the data on the ISA bus. Unless you have the above situation, you should disable this option.

Disabled (default)	Disables the function
Enabled	Enables the function

OS Selection for DRAM > 64MB

Allows OS/2® to be used with > 64 MB of DRAM. Settings are Non-OS/2® (default) and OS/2®. Set to OS/2® if using more than 64MB and running OS/2®.

Video BIOS Shadow

Determines whether video BIOS will be copied to RAM for faster execution. Video shadow will increase the video performance.

Enabled (default)	Video shadow is enabled
Disabled	Video shadow is disabled

C8000 - CFFFF Shadow/E8000 - EFFFF Shadow

Determines whether the optional ROM will be copied to RAM for faster execution.

Enabled	Optional shadow is enabled
Disabled (default)	Optional shadow is disabled

Note: For C8000-DFFFF optional-ROM on PCI BIOS , BIOS will automatically enable the shadow RAM. User does not have to select the item.

3.6 Chipset Features Setup

The Chipset Features Setup option is used to change the values of the chipset registers. These registers control most of the system options in the computer.

Choose the "CHIPSET FEATURES SETUP" from the Main Menu and the following screen will appear.

ROM PCI/ISA BIOS(2A59IM4A)
CMOS SETUP UTILITY
CHIPSET FEATURES SETUP

Auto Configuration	:Enabled	
DRAM Timing	:70ns	
DRAM Leadoff Timing	:10/6/4	
DRAM Read Burst (EDO/FP)	:x333/x444	
DRAM Write Burst Timing	:x333	
Fast EDO Lead Off	:Disabled	
Refresh RAS# Assertion	:3	
Fast RAS to CAS Delay	:3	
DRAM Page IDLE Timer	:2	
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	
8 Bit I/O Recovery Time	:1	Esc : Quit ↑↓→←: Select item
16 Bit I/O Recovery Time	:2	F1 : Help PU/PD/+/- : modify
Memory Hole at 15M-16M	:Disabled	F5 : Old Value(Shift) F2 : Color
PCI 2.1 compliance	:Disabled	F6 : Load BIOS Defaults
		F7 : Load Setup Defaults

Note: Change these settings only if you are familiar with the chipset.

Auto Configuration

Choosing Enabled (default) will automatically configure chipset features using default settings. Choose Disable to customize setup.

DRAM Timing

Sets the DRAM speed at 70ns (default) or 60ns. It will set the speed of the EDO/FP DRAM.

DRAM Leadoff Timing

To be able to change the setting, Auto configuration must be disable. If the Bus Clock is 75MHz set it to 11/7/4, and if the Bus Clock is 66/60/55 MHz set it to 10/6/4. Default setting is 10/6/4.

DRAM Read Burst (EDO/FP)

Under Auto config. the BIOS will identify which type of DRAM is being used. Choose the setting accordingly. To customize, use this option which sets the Read Burst time for accessing the DRAM. The timing used depends on the type of DRAM and access time being used. The settings are x222/x333, x333/x444, or x444/x444.

Note: If the user chooses DRAM Read Burst (EDO/FP): x333/x444 it signifies that:

- **a.** 60ns EDO with 75 MHz Bus Clock is set at x333, if the Bus Clock is 66/60/55 MHz, then it is set at x222.
- **b.** 60ns FP with 75 MHz is set at x444, if the Bus Clock is 66/60/55, then it is set at x333.
- **c.** 70ns EDO and FP DRAM must increase the burst time. So you must set x222 to x333 and x333 to x444.

DRAM Write Burst Timing

This option chooses the Write Burst Timing for accessing DRAM. See: DRAM Read Burst Option. Choose x222/x333/x444.

Fast EDO Lead Off

Under Auto config. the BIOS will identify which type of DRAM is being used. Choose the setting accordingly. To customize, use this option. Choose Enable or Disable. If the system is using EDO DRAM, choose enable. But if the system is using both EDO and FP DRAM, choose Disable.

Refresh RAS# Assertion

The settings are 4 Clks or 5 Clks. Using 60 ns DRAM at 75 Mhz Bus Clock must be set to 5 Clks, while 66/60/55 Mhz Bus Clock must be set to 4 Clks. But if you use 70 ns DRAM, it must be set to 5 Clks.

Fast RAS to CAS Delay

The settings are 2 or 3. 2 RAS to CAS delay is set to 2 clock, while 3 RAS to CAS delay is set to 3 clock. The clock is dependent with the DRAM Timing and Bus Clock.

DRAM Page IDLE Timer

The settings are 2 Clks, 4 Clks, 6Clks, or 8 Clks. Default settings is 2 Clks.

DRAM Enhanced Paging

Choose Enable(default) or Disable.

Fast MA to RAS# Delay

The settings are 1 Clks or 2 Clks(default). During 1T, one bus clock is allowed, while 2T allows two bus clock for MA address setup time to RAS assertion. This is also dependent on DRAM Timing.

SDRAM (CAS Lat/RAS-to-CAS)

The settings are 3/3 or 2/2. This option is for SDRAM CAS latency time and RAS# to CAS# delay time. The default setting is 3/3.

SDRAM Speculative Read

The settings are enable or disable. If you only use One Bank for SDRAM and there's no EDO or FP mix together, the setting is Enable. If two banks are used by SDRAM, it will automatically be set to disable. The default setting is enable.

System BIOS Cacheable

By choosing Disabled (default) the system BIOS will be shadowed into DRAM only. Enabled will have the system BIOS shadowed and cacheable.

Video RAM Cacheable

Same as system BIOS Cacheable

8-bit I/O recovery time: 1/2/3/4/5/6/7/NA
16-bit I/O recovery time: 1/2/3/NA

Choose the recovery time for 8-bit and 16-bit I/O cycles respectively.

Note: NA is not available and so the recovery time of 3.5 SYSCLK will be inserted.

Memory Hole At 15M-16M

Choosing Enabled will enable a memory hole in the DRAM space. The CPU cycle matching the enabled hole will be passed on to the PCI. PCI cycles matching an enabled hole are ignored. Disabled (default) will disable this function.

Note: A selected (Enabled) hole is not remapped.

PCI 2.1 Compliance

The Settings are Enable or Disable. During Enable, those PCI add-on cards with PCI 2.1 compliance will perform better. But some PCI card does not meet PCI 2.1 compliance, so the default setting is Disabled.

3.7 Power Management Setup

The Power Management Setup will appear on your screen like this:

```
ROM PCI/ISA BIOS (2A59IM4A)
POWER MANAGEMENT SETUP
AWARD SOFTWARE, INC.
```

Power Management	:User Define	** Reload Global Timer Events **	
PM Control by APM	:Yes	IRQ [3-7,9-15],NMI	: Enabled
Video Off Method	:DPMS	Primary IDE 0	: Enabled
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	: Enabled
HDD Power Down	:Disabled	Serial Port	: Enabled
Throttle Duty Cycle	:62.5%	Parallel Port	: Enabled
VGA Active Monitor	:Enabled		
Soft-Off by PWR-BTTN	:Delay 4sec		
CPUFAN Off In Suspend	:Enabled		
Resume by Ring	:Disabled		
Resume by Alarm	:Disalbed		
Date(of Month) Alarm	:5		
Time(hh:mm:ss) Alarm	:11:00:00		
** Break Event From Suspend **		Esc : Quit	↑↓→←: Select item
IRQ 8 Clock Event	: Disabled	F1 : Help	PU/PD/+/- : modify
		F5 : Old Value(Shift)	F2 : Color
		F6 : Load BIOS Defaults	
		F7 : Load Setup Defaults	

Power Management

This category determines the power consumption for system after selecting below items. Default value is Disable. The following pages tell you the options of each item & describe the meanings of each options.

Power Management

Disable	Global Power Management will be disabled.
User Define	Users can configure their own power management.
Min Saving	Pre-defined timer values are used such that all timers are in their MAX value.
Max Saving	Pre-defined timer values are used such that all timers are in their MIN value.

PM Control by APM

No	System BIOS will ignore APM when power managing the system.
Yes	System BIOS will wait for APM's prompt before it enter any PM mode

Note : Enable this for O.S. with APM like Windows®95, Windows®NT, etc.

Video Off Method

Blank Screen	The system BIOS will only blank off the screen when disabling video.
V/H SYN C+Blank	In addition to (1), BIOS will also turn off the V-SYNC & H-SYNC signals from VGA card to monitor.
DPMS	This function is enabled only for VGA card supporting DPMS.

Note: Green monitors detect the V/H SYNC signals to turn off its electron gun.

Video Off After

The settings are N/A, Standby, Doze, or Suspend. This option is for choosing the setting in which the monitor will turn off.

N/A Always turn on.
Doze During Doze mode, the monitor will be turned off.
Standby During Standby mode, the monitor will be turned off.
Suspend During Suspend mode, the monitor will be turned off.
The default setting is Standby.

Doze Mode

Disable System will never enter DOZE mode.

1 Min/2 Min/ 4 Min/6 Min/ 8 Min/10 Min/ 20 Min/30 Min/ 40 Min/1 Hr Defines the continuous idle time before the system enters DOZE mode. If any item defined in the options of "Power Down and Resume events" is enabled & active, DOZE timer will be reloaded. When the system have entered Doze mode, any of the items enabled in "Wake Up Events in Doze and Standby" will trigger the system to wake up.

Standby Mode

Disable System will never enter STANDBY mode.

1 Min/2 Min/ 4 Min/6 Min/ 8 Min/10 Min/ 20 Min/30 Min/ 40 Min/1 Hr Defines the continuous idle time before the system enters STANDBY mode. If any item defined in the options of "Power Down and Resume events" is enabled & active, STANDBY timer will be reloaded. When the system has entered Standby mode , any of the items that are enabled in "Wake Up Events of Doze and Standby" will trigger the system to wake up.

Suspend Mode

Disable System will never enter SUSPEND mode.

1 Min/2 Min/
4 Min/6 Min/
8 Min/10 Min/
20 Min/30 Min/
40 Min/1 Hr

Defines the continuous idle time before the system enters SUSPEND mode. If any item defined in the options of "Power Down & Resume Events" is enabled & active, SUSPEND timer will be reloaded. When the system has entered SUSPEND mode, any of the items enabled in the "Power Down & Resume Events" will trigger the system to wake up.

HDD Power Down

Disable HDD's motor will not shut off.

1 Min/2 Min/
3 Min/4 Min/
5 Min/6 Min/
7 Min/8 Min/
9 Min/10 Min/
11 Min/12 Min/
13 Min/14 Min/
15 Min

Defines the continuous HDD idle time before the HDD enters the power saving mode (motor off). BIOS will turn off the HDD's motor when time is out.

Throttle Duty Cycle

This option will determine how much power will be used by the CPU , if the system goes into suspend mode.

VGA Active Monitor

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

Soft-Off by PWR-BTTN

The settings are Delay 4 sec or Instant-off. During Delay 4 sec, if you push the switch one time, the system goes into suspend mode and if you push it more than 4 second, the system will be turned off. During instant-off, the system will turn off once you push the switch.

CPUFAN Off In Suspend

During Enabled, if the system goes into suspend mode, the CPU fan will stop. During Disabled, if the system goes into suspend mode the CPU fan will not stop.

Note: Only JFAN1 has this function.

Resume by Ring

During Disabled, the system will ignore any incoming call from the modem. During Enabled, the system will boot up if there's an incoming call from the modem.

Note: If you have change the setting, you must let the system boot up until it goes to the operating system, before this function will work.

Resume by Alarm

This function is for setting date and time for your computer to boot up. During Disabled, you cannot use this function. During Enabled, choose the Date and Time Alarm:

Date(of month) Alarm	You can choose which month the system will boot up.
Time(hh:mm:ss) Alarm	You can choose what hour, minute and second the system will boot up.

Note: If you have change the setting, you must let the system boot up until it goes to the operating system, before this function will work.

IRQ 8 Clock Event

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

During Enabled, if any interrupt event occurs, the system will wake-up from suspend mode. During Disabled, the system will not monitor any interrupt event.

3.8 PNP/PCI Configuration Setup

You can manually configure the PCI Device's IRQ. The following pages tell you the options of each item & describe the meanings of each options.

ROM PCI/ISA BIOS (2A69HM4D)
PNP/PCI CONFIGURATION SETUP
AWARD SOFTWARE, INC.

PnP OS Installed :No	PCI IDE IRQ Map To : PCI-Auto
Resources Controlled By :Auto	Primary IDE INT# : A
Reset Configuration Data :Disabled	Secondary IDE INT# : B
IRQ-3 assigned to :Legacy ISA	Assign IRQ for VGA : Disabled
IRQ-4 assigned to :Legacy ISA	
IRQ-5 assigned to :PCI/ISA PnP	Used MEM base addr : C800
IRQ-7 assigned to :PCI/ISA PnP	Used MEM Length : 8K
IRQ-9 assigned to :PCI/ISA PnP	
IRQ-10assigned to :PCI/ISA PnP	
IRQ-11assigned to :PCI/ISA PnP	
IRQ-12assigned to :PCI/ISA PnP	
IRQ-14assigned to :PCI/ISA PnP	
IRQ-15assigned to :PCI/ISA PnP	
DMA-0assigned to :PCI/ISA PnP	
DMA-1assigned to :PCI/ISA PnP	Esc : Quit ↑↓→←: Select item
DMA-3assigned to :PCI/ISA PnP	F1 : Help PU/PD/+/- : modify
DMA-5assigned to :PCI/ISA PnP	F5 : Old Value(Shift) F2 : Color
DMA-6assigned to :PCI/ISA PnP	F6 : Load BIOS Defaults
DMA-7assigned to :PCI/ISA PnP	F7 : Load Setup Defaults

PnP OS Installed

When set to YES, BIOS will only initialize the PnP cards used for booting (VGA, IDE, SCSI). The rest of the cards will be initialized by the PnP operating system like Windows®95. When set to NO, BIOS will initialize all the PnP cards. So, for non-PnP operating system (DOS, Netware®), this option must set to NO.

Resources Controlled By

By Choosing "Auto", the system BIOS will detect the system resource and automatically assign the relative IRQ and DMA Channel for each peripheral.

By Choosing "Manual"(default), the user will need to assign IRQ & DMA for add-on cards. Be sure that there is no conflict for IRQ/DMA and I/O ports.

Note: When choosing "Auto" you must be sure that all of the system add-on cards are PnP type.

Reset Configuration Data

The system BIOS supports the PnP feature so the system needs to record which resource is assigned and protect resources from conflict. Every peripheral device has a node which is called ESCD. This node records which resources are assigned to it. The system needs to record and update ESCD to the memory locations. These locations (4K) are reserved at the system BIOS.

If Disabled (default) is chosen the system's ESCD will update only when the new configuration varies from the last one.

If Enabled is chosen the system will be forced to update the system's ESCD. Then, this option willbe auto-set to Disable.

IRQ-3 assigned to : Legacy ISA
IRQ-4 assigned to : Legacy ISA
IRQ-5 assigned to : PCI/ISA PnP
IRQ-7 assigned to : Legacy ISA
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
DMA-3 assigned to : PCI/ISA PnP
DMA-5 assigned to : PCI/ISA PnP
DMA-6 assigned to : PCI/ISA PnP
DMA-7 assigned to : PCI/ISA PnP

The above settings will be shown on the screen only if "Manual" is chosen for the *Resources Controlled By* function.

Legacy is the term which signifies that a resource is assigned to the ISA Bus and provides for non PnP ISA add-on card. PCI/ISA PnP signifies that a resource is assigned to the PCI Bus or provides for ISA PnP add-on cards and peripherals.

PCI IDE IRQ Map To

PCI-Auto: This setting is for off-board PCI IDE card and is fully compatible with PCI specifications.

PCI-Slot 1-5: This setting is used if off-board PCI IDE card is not fully compatible with PCI specifications. You must specify which PCI slot the PCI IDE Card is installed in.

ISA: This setting is used if the off-board PCI IDE card uses an edge trigger and IRQ routes directly to the ISA Bus.

Note: The user will need to disable the on-board on-chipset PCI IDE controller when installing off-board PCI IDE add-on cards. (See the INTEGRATED PERIPHERALS SETUP) These two options choose the primary and secondary IDE Channel interrupts when the user installs off-board PCI IDE add-on cards.

Assign IRQ for VGA

Lets the user choose which IRQ to assign for VGA card.

Used MEM base addr

Lets the user choose the Legacy ISA addr. The settings are NA#, C800, CC00, D000, D400, D800 OR DC00.

Used MEM Length

Choose 8K, 16K, 32K, or 64K MEM length for the MEM used by the Legacy ISA address.

3.9 Load BIOS/Setup Defaults

This Main Menu item loads the default system values. If the CMOS is corrupted the defaults are loaded automatically. Choose this item and the following message appears:

" Load Setup Defaults (Y / N) ? N "

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

Note: The Setup defaults can be customized to increase performance. However the BIOS defaults can always be used as a back up if there is some problem with the mainboard operation.

3.10 Integrated Peripherals

ROM PCI/ISA BIOS (2A69HM4D)
INTEGRATED PERIPHERALS
AWARD SOFTWARE, INC.

IDE HDD Block Mode	:Enabled	Onboard Parallel Mode	:ECP/EPP
IDE Primary Master PIO	:Auto	ECP Mode Use DMA	:3
IDE Primary Slave PIO	:Auto	Parallel Port EPP Type	:EPP1
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 Primary PCI IDE	:Enabled		
USB Keyboard Controller	:Disabled		
Onboard FDD controller	:Enabled		
Onboard Serial Port 1	:3F8/IRQ4		
Onboard Serial Port 2	:2F8/IRQ3	Esc : Quit	↑↓→←: Select item
UART 2 Mode	:ASKIR	F1 : Help	PU/PD/+/- : modify
IR Function Duplex	:Half	F5 : Old Value(Shift)	F2 : Color
RxD , TxD Active	:Hi , Hi	F6 : Load BIOS Defaults	
Onboard Parallel Port	:378H/IRQ7	F7 : Load Setup Defaults	

IDE HDD Block Mode

Enabled/Disabled Enabled allows the Block mode access for the IDE HDD.

IDE Primary Master PIO

Auto/Mode0/Mode1-4

IDE Primary Slave PIO

Auto/Mode0/Mode1-4

IDE Secondary Master PIO

Auto/Mode0/Mode1-4

IDE Secondary Slave PIO

Auto/Mode0/Mode1-4

For these 4 IDE options, choose "Auto" to have the system BIOS auto detect the IDE HDD operation mode for PIO access.

Note: Some IDE HDD can not operate at the responding HDD's mode. When the user has selected "Auto" and the system BIOS has accepted the HDD response mode, the user may degrade the HDD's operation mode. Ex: IF the HDD reported it can operate in mode 4 but it is not operating properly, the user will have to manually change the operation mode to mode 3.

Choosing Mode 1-4 will have the system ignore the HDD's reported operation mode and use the selected mode instead.

Note: According to ATA specs. Mode 4 transfer rate is > Mode 3 > Mode 2 > Mode 1 > Mode 0. If the user' s HDD can operate at Mode 3 the user can also select a slower Mode (i.e. Mode 0-2) but not a faster Mode (ie Mode 4).

On-Chip Primary PCI IDE

Enabled/Disabled

On-Chip Secondary PCI IDE

Enabled/Disabled

The system provides for a On-Board On-Chipset PCI IDE controller that supports Dual Channel IDE (Primary and Secondary). A maximum of 4 IDE devices can be supported. If the user install the Off-Board PCI IDE controller (i.e. add-on cards), the user must choose which channels will be disabled. This will depend on which channel will be used for the Off-Board PCI IDE add-on card.

PCI Slot IDE 2nd Channel

Enabled/Disabled Choosing Enabled will allow the system to access the 2nd IDE channel without a device driver. If the Off-Board PCI IDE add-on card is installed, the 2nd IDE channel will need to be used.

Onboard FDD Controller

Enabled/Disabled The system has an on-board Super I/O chip with a FDD controller that supports 2 FDDs for 360K/720K/1.2M/1.44M/ 2.8M. Choose "Enabled" to use the on-board FDD controller for accessing the FDD. Otherwise choose "Disabled" to use the off-board FDD controller.

Onboard Serial Port 1

Disabled/(3F8/IRQ4)/(2F8/IRQ3)/ (3E8/IRQ4)/(2E8/IRQ3)

Onboard Serial Port 2

Disabled/(3F8/IRQ4)/(2F8/IRQ3)/(3E8/IRQ4)/(2E8/IRQ3)

The system has an On-board Super I/O chipset with 2 serial ports. The On-board serial ports can be selected as:

Disabled	
3F8/IRQ4	COM 1 uses IRQ4
2F8/IRQ3	COM 2 uses IRQ3
3E8/IRQ4	COM 3 uses IRQ4
2E8/IRQ3	COM 4 uses IRQ4

Note: Because the ISA Bus Interrupt accepts low to high edge trigger, the interrupt request line cannot be shared by multiple sources. If an off-board ISA add-on card with a serial port is installed the user may have to disable the on-board serial port because it will conflict with IRQ request line for the off-board serial port.

UART 2 MODE

Standard/ASKIR/

The system's built-in IR (Infrared) is on the on-board Super I/O chipset and it shares serial port 2 with UART 2. Only one option can be selected for serial port 2, either the IR or UART. Selecting the IR mode will prompt the following message:

IR Function Duplex

Half/Full

Users can choose between operating the IR in Half duplex or Full duplex mode. Half duplex designates one IR as a receiver and one as a transmitter. Full duplex mode designates that the two IRs receive and transmit data together simultaneously.

RxD , TxD Active

Hi-Hi/Hi-Lo/
Lo-Hi/Lo-Lo

The user can choose between the preceding RxD (Receive Data), TxD (Transmit Data) activity levels.

Onboard Parallel Port

Disabled/
(3BCH/IRQ7)/
(278H/IRQ5)/
(378H/IRQ5)

There is a built-in parallel port on the on-board Super I/O chipset that provides Standard, ECP, and EPP features. It has the following options:

Disable	
3BCH/IRQ7	Line Printer port 0
278H/IRQ5	Line Printer port 2
378H/IRQ5	Line Printer port 1

Onboard Parallel Mode

SPP : Standard Parallel Port
EPP : Enhanced Parallel Port
ECP : Extended Capability Port

SPP/(EPP/SPP)/ ECP(ECP/EPP)

To operate the onboard parallel port as StandardParallel Port only, choose "SPP." To operate the onboard parallel port in the ECP and SPP modes simultaneously choose "ECP/SPP." By choosing "ECP", the onboard parallel port will operate in ECP mode only. Choosing "ECP/EPP" will allow the onboard parallel port to support both the ECP and EPP modes simultaneously. The ECP mode has to use the DMA channel, so choose the onboard parallel port with the ECP feature. After selecting it, the following message will appear: "ECP Mode Use DMA" At this time the user can choose between DMA channels 3 or 1. The onboard parallel port is EPP Spec. compliant, so after the user chooses the onboard parallel port with the EPP function, the following message will be displayed on the screen: "Parallel Port EPP Type." At this time either EPP 1.7 spec. or EPP 1.9 spec. can be chosen.

USB Controller

Enabled/Disabled

Choosing Enabled, will enable the onboard USB port.

3.11 Supervisor/User Password Setting

This Main Menu item lets you configure the system so that a password is required each time the system boots or an attempt is made to enter the Setup program. Supervisor Password allows you to change all CMOS settings but the User Password setting doesn't have this function. The way to set up the passwords for both Supervisor and User are as follow:

1. Choose "Change Password" in the Main Menu and press <Enter>. The following message appears:

   "Enter Password:"

2. The first time you run this option, enter your password up to only 8 characters and press <Enter>. The screen does not display the entered characters. For no password just press <Enter>.

3. After you enter the password, the following message appears prompting you to confirm the password:

   "Confirm Password:"

4. Enter exactly the same password you just typed in to confirm the password and press <Enter>.

5. Move the cursor to Save & Exit Setup to save the password.

6. If you need to delete the password you entered before, choose the Supervisor Password and press <Enter>. It will delete the password that you had before.

7. Move the cursor to Save & Exit Setup to save the option you did. Otherwise, the old password will still be there when you turn on your machine next time.

3.12 IDE HDD Auto Detection

You can use this utility to automatically detect the characteristics of most hard drives.

When you enter this utility, the screen asks you to select a specific hard disk for Primary Master. If you accept a hard disk detected by the BIOS, you can enter "Y" to confirm and then press <Enter> to check next hard disk. This function allows you to check four hard disks and you may press the <Esc> after the <Enter> to skip this function and go back to the Main Menu.