

## **Introduction**

### **System Overview**

This manual was written to help you start using this product as quickly and smoothly as possible. Inside you will find adequate explanations to solve most problems. In order for this reference material to be of greatest use, refer to the “expanded table of contents” to find relevant topics. This board incorporates the system board, I/O, and PCI IDE into one board that provides a total PC solution. The mainboard, Intel PIII & Celeron processor base PC ATX system, support single processors with ISA Bus, PCI Local Bus, and AGP Bus to support upgrades to your system performance. It is ideal for multi-tasking and fully supports MS-DOS, Windows, Windows NT, Windows ME, Windows 2000, Novell, OS/2, Windows95/98, UNIX, SCO UNIX etc.

This manual also explains how to install the mainboard for operation, and how to setup your CMOS configuration with the BIOS setup program.

# 1.Motherboard Description

## 1.1 Features

### 1.1.1 Hardware

#### CPU

- Socket 370 for Intel PPGA/FC-PGA PII/PIII CPU 300-1G CPU or higher processor.
- CPU clock select support for 66/100/133MHz.
- Supports 66/75/83/100/103/105/124/133/140MHz system bus speeds.

#### Chipset

- North Bridge System Chipset :VIA VT82C693A
- South Bridge System Chipset :VIA VT82C686A/B

#### Biggest memory capacity

- Supports 8/16/32/64....MB DIMM module socket.
- Supports Synchronous DRAM(3.3V)
- Supports a maximum memory size of 768MB with SDRAM.

#### AGP for fast VGA solution

- AGP specification compliant.
- AGP 66 MHz 3.3v for 1X/2X device support.

#### PCI Expansion Slot

Provide one 16 bit ISA, and five 32 bit PCI slots .

#### On-Board IDE

- An IDE controller on the VIA VT82C686A/B Chipset provides IDE HDD/CD-ROM with PIO, Bus Master and Ultra DMA 33/66/100 operation modes.
- Can connect up to four IDE devices.

## **Audio**

- AC'97 CODEC on board ,support 3D sound effect.

## **I/O Bulit-in On Board**

- Supports one multi-mode Parallel Port.
  - (1)Standard & Bidirection Parallel Port
  - (2)Enhanced Parallel Port(EPP)
  - (3)Extended Capabilities Port
- Supports two serial ports,16550 UART.
- Supports one Infrared transmission(IR).
- Supports PS/2 mouse and PS/2 Keyboard.
- Supports 360KB, 720KB, 1.2MB, 1.44MB, and 2.88MB floppy disk drivers.

## **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.
- BIOS support CD-ROM, SCSI, LAN BOOT, Temperature Sensor, Wake on modem, LAN, Alarm , Bus CLK setup with BIOS.

## **Support Ring on by modem/Alarm on**

Support System power up from Modem ring up or timer of System. Required enabled in Ring on by modem and Alarm on in BIOS.

## **Support ACPI function for ATX Power.**

## **1.1.2 Software**

### **BIOS**

- AWARD legal BIOS.
- Supports APM 1.2.
- Supports USB Function.
- Supports ACPI

### **Operation System**

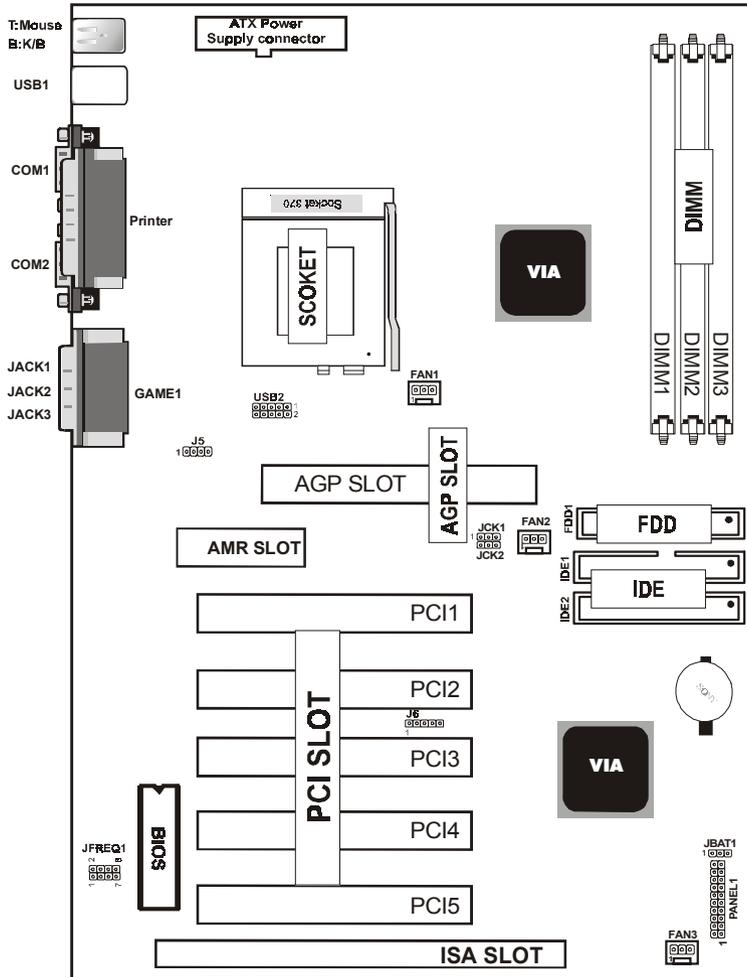
- Offers the highest performance for MS-DOS, Windows, Windows NT , Windows ME, Windows 2000, Novell, OS/2, Windows95/98, UNIX, SCO UNIX etc.

## **1.1.3 Attachments**

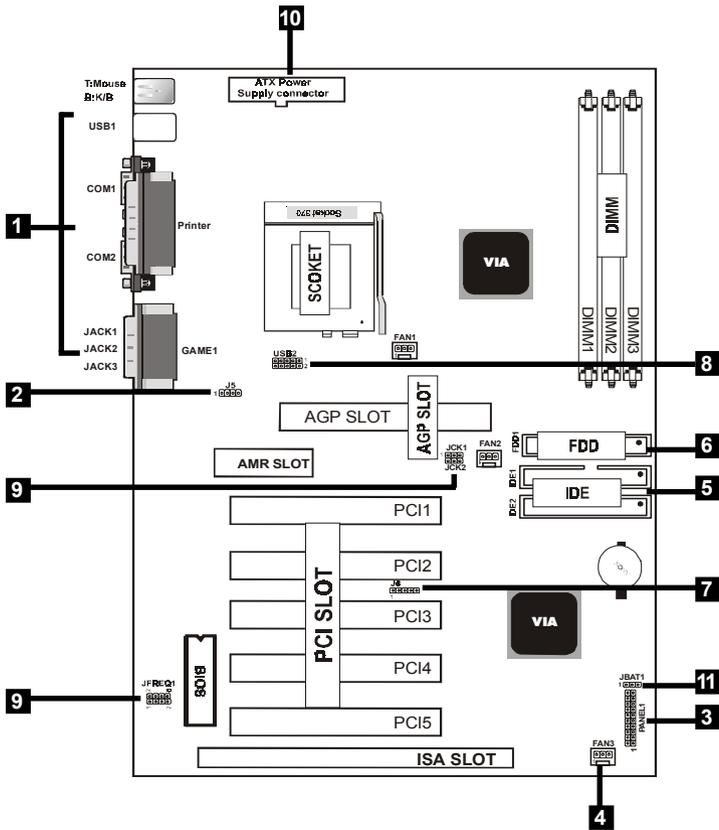
- HDD UDMA66 Cable.
- FDD Cable.
- Flash Memory Written for BIOS Update.
- Fully Setup Driver CD build in Utility(Ghost, Anitivirus, Adobe Acrobat, . .).

# 1.2 Motherboard Installation

## 1.2.1 Layout of Motherboard

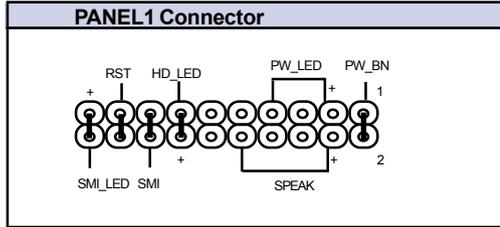


# 1.3 Motherboard Connectors



- 1.Back Panel I/O Connectors
- 2.CD Audio-In Connector(J5)
- 3.Front Panel Connector
- 4.Fan Connectors(Fan1/2/3)
- 5.IDE Connectors
- 6.Floppy Connector
- 7.IR Connector
- 8.Front USB2 Connector
- 9.CPU Clock Selection(JCK1~JCK2,JFREQ1)
- 10.ATX Power Connector
- 11.CMOS Function Selection(JBAT1)

### 1.3.1 Front Panel Connector(PANEL1)



#### **Speaker Connector (SPEAKER)**

An offboard speaker can be installed onto the motherboard as a manufacturing option. An offboard speaker can be connected to the motherboard at the front panel connector. The speaker (onboard or offboard) provides error beep code information during the Power Self-Test when the computer cannot use the video interface. The speaker is not connected to the audio subsystem and does not receive output from the audio subsystem.

#### **Hard Drive LED Connector (HD\_LED)**

This connector supplies power to the cabinet IDE activity LED. Read and write activity by devices connected to the Primary or Secondary IDE connectors will cause the LED to light up.

#### **SMI Suspend Switch Lead (SMI)**

This allows the user to manually place the system into a suspend mode or Green mode where systematic activity will be instantly decreased to save electricity and expand the life of certain components when the system is not in use. This 2-pin connector (see the figure below) connects to the case-mounted suspend switch. If you do not have a switch for the connector, you may use the Turbo Switch” instead since it does not have a function. SMI is activated when it detects a short to open moment and therefore leaving it shorted will not cause any problems. It may require one or two pushes depending on the position of the switch. Wake-up can be controlled by settings in the BIOS but the keyboard will always allow wake-up (the SMI lead cannot wake-up the system). If you want to use this connector, "Suspend Switch" in the Power Management Setup of the BIOS SOFTWARE section should be on the default setting of Enable.

### **ATX Power Switch (PW\_BN)**

The system power is controlled by a momentary switch connected to this lead. Pushing the button once will switch the system ON. The system power LED lights when the system's power is on .

### **Power LED Lead (PW\_LED)**

The system power LED lights when the system power is on.

### **SMI LED Lead (SMI\_LED)**

The system SMI LED lights when the system suspend is on.

### **Reset Switch Lead (RST)**

The connector can be connected to a momentary SPST type switch that is normally open. When the switch is closed, the motherboard resets and runs the POST.

## **1.3.2 Floppy Disk Connector(FDD1)**

This connector supports the provided floppy drive ribbon cable. After connecting the single end to the board, connect the two plug on the other end to the floppy drives.

## **1.3.3 Hard Disk Connectors(IDE1/IDE2)**

These connectors support the provided IDE hard disk ribbon cable. After connecting the single end to the board, connect the two plugs at the other end to your hard disk .

If you install two hard disks, you must configure the second drive to Slave mode by setting its jumper settings. BIOS now supports SCSI device or IDE CD-ROM boot up (see "HDD Sequence SCSI/IDE First" & "Boot Sequence" in the BIOS Features Setup of the BIOS SOFTWARE) (Pin 20 is removed to prevent inserting in the wrong orientation when using ribbon cables with pin 20 plugged) .

### 1.3.4 ATX Power Supply Connector (20-pin block) - PW1

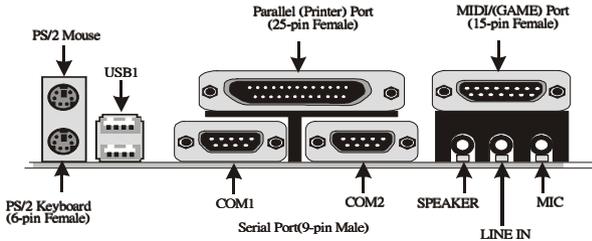
This connector supports the power button on-board. Using the ATX power supply, functions such as Modem Ring Wake-Up and Soft Power Off are supported on this motherboard. This power connector supports instant power-on functionality, which means that the system will boot up instantly when the power connector is inserted on the board.

Pin	Signal	Pin	Signal
1	3.3V	2	3.3V
3	GND	4	5V
5	GND	6	5V
7	GND	8	PW-OK
9	5VSB	10	12V
11	3.3V	12	-12V
13	GND	14	PS-ON
15	GND	16	GND
17	GND	18	-5V
19	5V	20	5V

### 1.3.5 Infrared Connector(J6)

After the IrDA interface is configured, files can be transferred from or to portable devices such as laptops, PDAS, and printers using application software.

## 1.4 Back Pannel Connectors



### 1.4.1 PS/2 Mouse /Keyboard CONN.

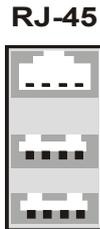
The motherboard provides a standard PS/2 mouse / Keyboard mini DIN connector for attaching a PS/2 mouse. You can plug a PS/2 mouse / Keyboard directly into this connector.

### 1.4.2 USB Connectors:USB1(RJ45+USB)

The motherboard provides a OHCI(Open Host Controller Interface)Universal Serial Bus Roots for attaching USB devices such as:keyboard, mouse and other USB devices. You can plug the USB devices directly into this connector.



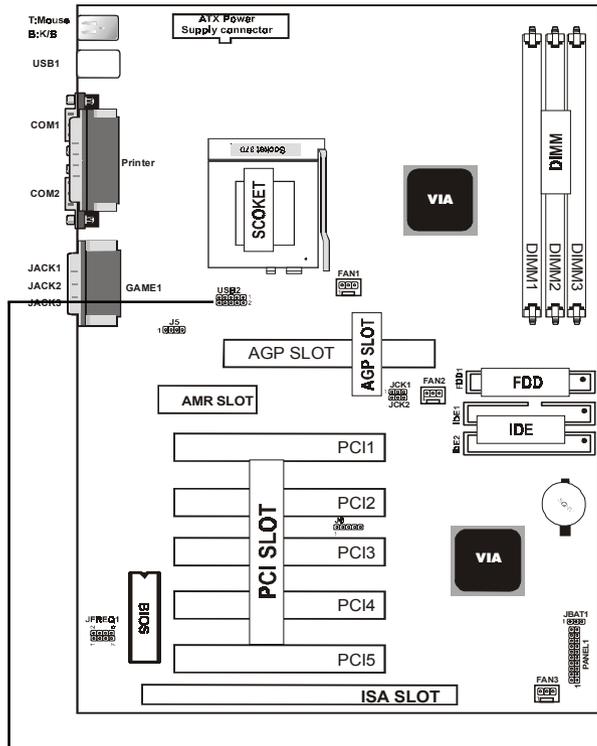
Pin	Signal
1	+5v
2	USBP0-(USBP1-)
3	USBP0+(USBP1+)
4	GND



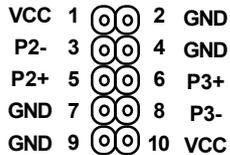
Pin	Signal
1	+5v
2	USBP0-(USBP1-)
3	USBP0+(USBP1+)
4	GND
<b>RJ45</b>	<b>10/100M LAN Port (option)</b>

1 2 3 4

## Front Two USB Connectors:USB2



### USB 2



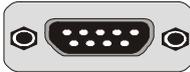
## 1.5 Serial and Parallel Interface Ports

This system comes equipped with two serial ports and one parallel port. Both types of interface ports will be explained in this chapter.

### The Serial Interfaces:COM1/COM2

The serial interface port is sometimes referred to as an RS-232 port or an asynchronous communication port. Mice, printers, modems and other peripheral devices can be connected to a serial port. The serial port can also be used to connect your computer system. If you wish to transfer the contents of your hard disk to another system it can be accomplished by using each machine's serial port.

#### COM1/COM2

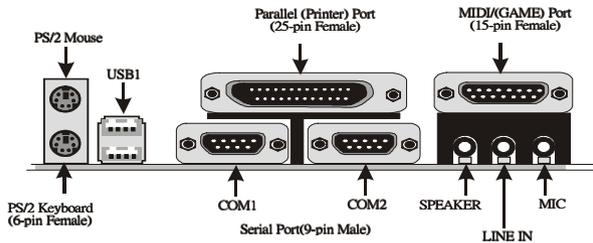


The serial port on this system has one 9-pin connector. Some older computer systems and peripherals used to be equipped with only a 25-pin connector. Should you need to connect your 9-pin serial port to an older 25-pin serial port, you can purchase a 9-to-25 pin adapter.

Signal	DB9 Pin	DB25 Pin
DCD	1	8
RX	2	3
TX	3	2
DTR	4	20
GND	5	7
DSR	6	6
RTS	7	4
CTS	8	5
RI	9	22

## Parallel Interface Port

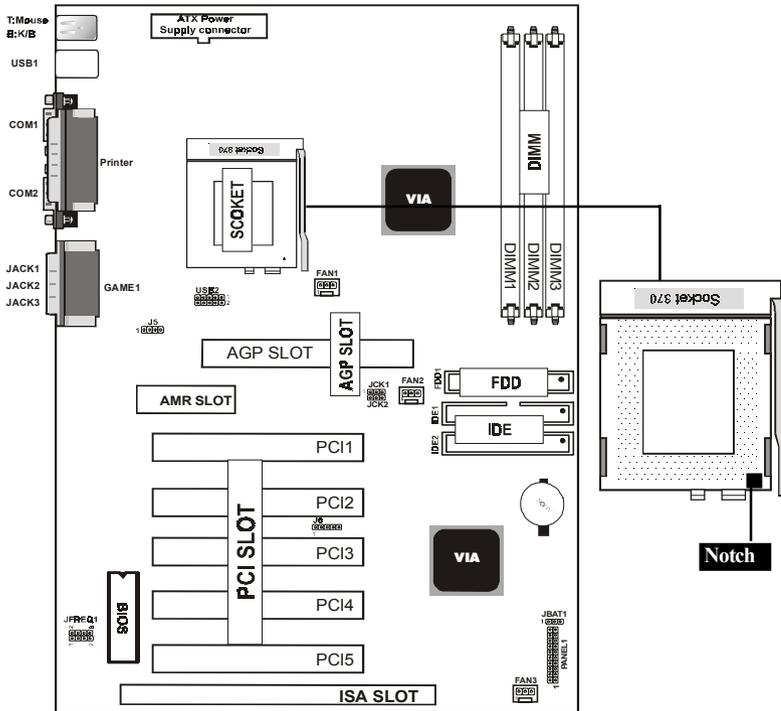
Unlike the serial ports, parallel interface port has been standardized and should not present any difficulty interfacing peripherals to your system. Sometimes called Centronics port, the parallel port is almost exclusively used with printers. The parallel port on your system has a 25-pin, DB 25 connector (see picture below).



# 1.6 CPU Installation

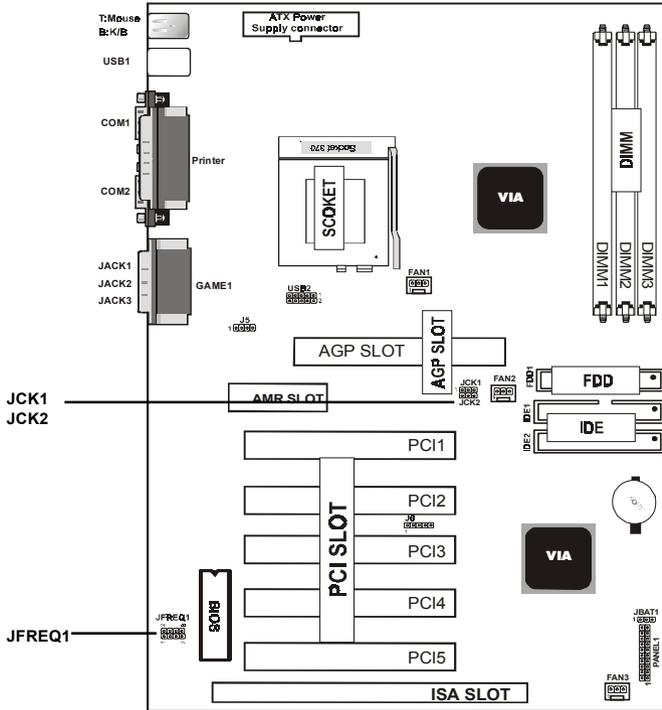
## 1.6.1 CPU Installation Procedure:Socket 370

- 1.Pull the lever sideways away from the socket then raise the lever 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.
- 3.Press the lever down to complete the installation.
- 4.**Make sure the spec of heatsink is good enough.**



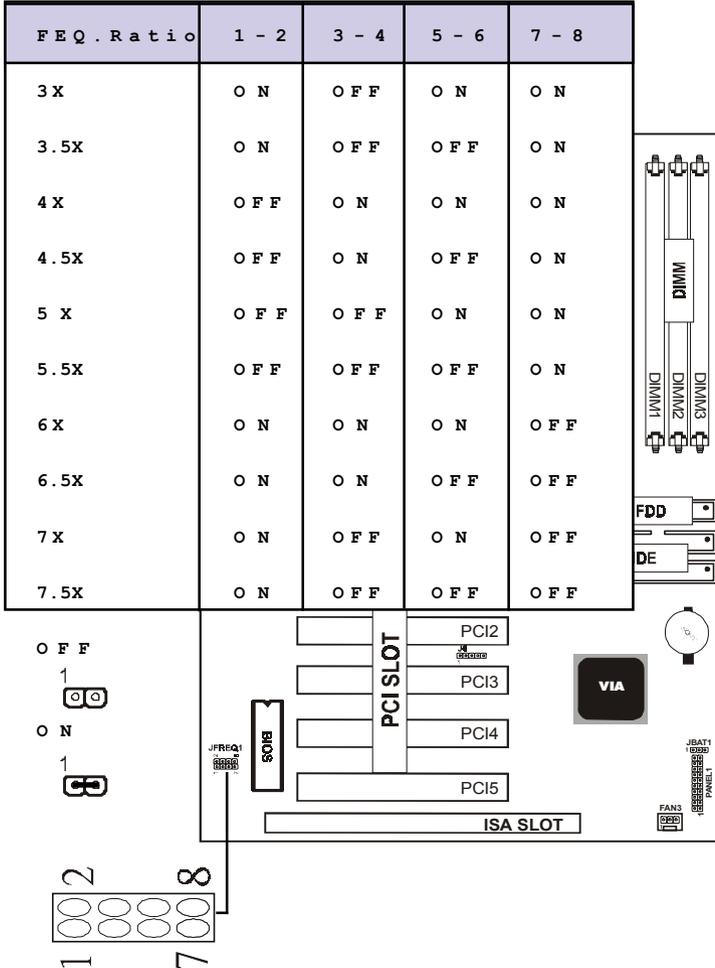
## 1.6.2 CPU Clock Selection:JCK1~JCK2

The JCK1~2 jumpers is used to set PCI and CPU external bus clock.



FEQ .	JCK1	JCK2	
Auto	1 - 2	1 - 2	1 - 2 (SHORT)
66MHz	2 - 3	2 - 3	2 - 3 (SHORT)
100MHz	Open	2 - 3	
133MHz	1 - 2	Open	

## 1.6.2 CPU Clock Selection: JFREQ1





### 1.7.2 CMOS Function Selection:JBAT1

Pin	Assignment
1-2	Normal (Default)
2-3	Clear CMOS

**NOTE:**

**(Please follow the procedure as below to clear CMOS data.)**  
(1)Remove AC power line.(2)JBAT1(2-3)Closed.(3)Wait five seconds.(4)JBAT1(1-2) Closed.(5)AC Power on.(6)Reset your desired password or clear CMOS data.

## 1.8 DRAM Installation

### 1.8.1 DIMM

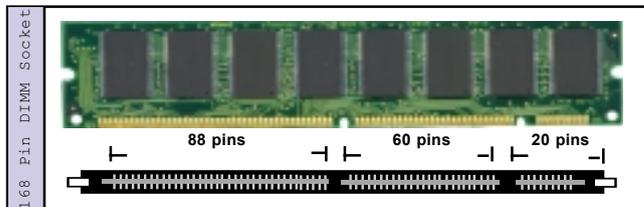
DRAM Access Time:3.3V Unbuffered SDRAM/ PC66/  
PC100 and PC133 Type required.

DRAM Type:8MB,16MB,32MB,64MB,128MB,256MB  
DIMM Module.(168 pin)

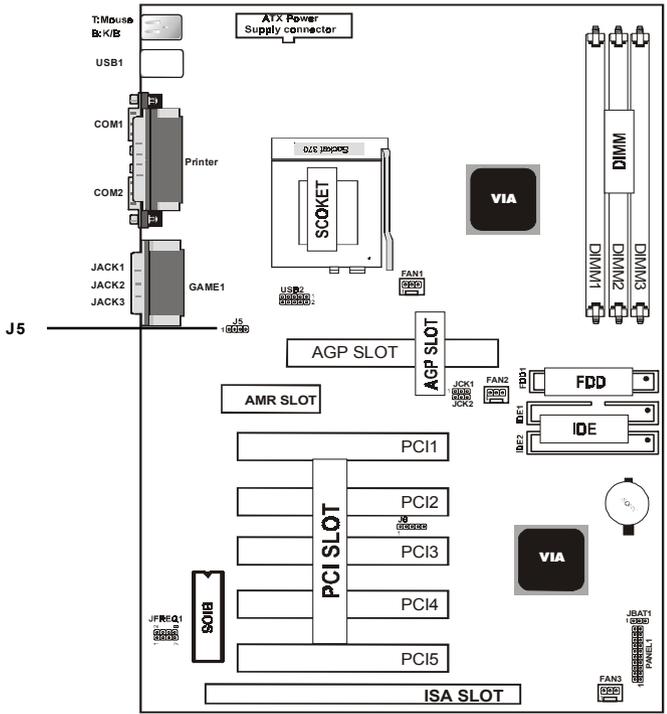
Bank	Memory module
DIMM 1 ( Bank 0-1 )	16MB,32MB,64MB,128MB,256MB 168 pin,3.3v SDRAM
DIMM 2 ( Bank 2-3 )	16MB,32MB,64MB,128MB,256MB 168 pin 3.3v,SDRAM
DIMM 3 ( Bank 4-5 )	16MB,32MB,64MB,128MB,256MB 168 pin 3.3v,SDRAM
	<b>Total System Memory(Max 768MB)</b>

### 1.8.2 How to install a DIMM Module

- 1.The DIMM socket has a “Plastic Safety Tab” and the DIMM memory module has an asymmetrical notch”, so the DIMM memory module can only fit into the slot in one direction.
- 2.Push the tabs out. Insert the DIMM memory modules into the socket at a 90-degree angle then push down vertically so that it will fit into place.
- 3.The Mounting Holes and plastic tabs should fit over the edge and hold the DIMM memory modules in place.



# 1.9 Audio Subsystem



## 1.9.1 CD Audio-In Connector: J5

Pin	CDIN1	Assignment
1		CD-L
2		GND
3		GND
4		CD-R

## **2. BIOS Setup**

### **Introduction**

This manual discussed Award Setup program built into the ROM BIOS. The Setup program allows user to modify the basic system configuration. This special information is then stored in battery-backed RAM so that it retains the setup information when the power is turned off.

The Award BIOS installed in your computer system's ROM (Read Only Memory) is a custom version of an industry standard BIOS. The BIOS provides critical low-level support for standard devices such as disk drives and serial and parallel ports.

The rest of this manual is intended to guide you through the process of configuring your system using Setup.

### **Plug and Play Support**

These AWARD BIOS supports the Plug and Play Version 1.0A specification. ESCD(Extended System Configuration Data)write is supported.

### **EPA Green PC Support**

This AWARD BIOS supports Version 1.03 of the EPA Green PC specification.

### **APM Support**

These AWARD BIOS supports Version 1.1&1.2 of the Advanced Power Management(APM) specification.Power management features are implemented via the System Management Interrupt(SMI). Sleep and Suspend power management modes are supported. Power to the hard disk drives and video monitors can be managed by this AWARD BIOS.

### **PCI Bus Support**

This AWARD BIOS also supports Version 2.1 of the Intel PCI (Peripheral Component Interconnect)local bus specification.

### **Support CPU**

This AWARD BIOS supports the Intel PIII & Celeron processor CPU.

### **Using Setup**

In general,you use the arrow keys to highlight items,press <Enter>to select,use the <PgUp>and <PgDn>keys to change entries,press<F1>for help and press <Esc>to quit.The following table provides more detail about how to navigate in the Setup program by using the keyboard.

<b>Keystroke</b>	<b>Function</b>
Up arrow	Move to previous item
Down arrow	Move to next item
Left arrow	Move to the item on the left(menu bar)
Right arrow	Move to the item on the right(menu bar)
Esc	Main Menu:Quit without saving changes Submenus:Exit Current page to the next higher level menu
Move Enter	Move to item you desired
PgUp key	Increase the numeric value or make changes
PgDn key	Decrease the numeric value or make changes
+Key	Increase the numeric value or make changes
-Key	Decrease the numeric value or make changes
Esc Key	Main menu-Quit and not save changes into CMOS Status Page Setup Menu and option Page Setup Menu -Exit Current page and return to Main Menu
F1 Key	General help on Setup navigation keys.
F5 Key	Load previous values from CMOS
F6 Key	Load the fail-safe defaults from BIOS default table
F7 Key	Load the optimized defaults
F10 Key	Save all the CMOS changes and exit

## 2.1 Main Menu

Once you enter AWARD BIOS CMOS Set up Utility, the Main Menu will appear on the screen. The Main Menu allows you to select from several setupfunction. Use the arrow keys to select among the items and press<Enter> to accept and enter the sub-menu.

*“WARNING”*

*The information about BIOS defaults on manual (Figure 1,2,3,4,5,6,7,8,9,10,11,12)is just for reference,please refer to the BIOS installed on the board for update information.*

© Figure 1. Main Menu

ROM PCI/ISA BIOS (20000718) CMOS SETUP UTILITY AWARD SOFTWARE, INC.	
STANDARD CMOS SETUP	INTEGRATED PERIPHERALS
BIOS FEATURES SETUP	SUPERVISOR PASSWORD
CHIPSET FEATURES SETUP	USER PASSWORD
POWER MANAGEMENT SETUP	IDE HDD AUTO DETECTION
PNP/PCI CONFIGURATION	SAVE & EXIT SETUP
LOAD SETUP DEFAULTS	EXIT WITHOUT SAVING
Esc : Quit	
←→↑↓: Select Item	
F10 : Save & Exit Setup (Shift)F2 : Change Color	
Time , Date , Hard Disk Type ...	

### **Standard CMOS Setup**

This setup page includes all the item in standard compatible BIOS.

### **BIOS Features Setup**

This setup page includes all the item of BIOS special enhanced features.

### **Chipset Features Setup**

This setup page includes all the item of Chipset special enhanced features.

### **Integrated Peripherals**

This selection page includes all the item of IDE hard drive and Programmed Input/Output features.

### **Power Management Setup**

This setup page includes all the item of power management features.

### **PnP/PCI Configuration**

This setup page includes IRQ Setting by user define or default.

**Load Setup Defaults**

Set Defaults indicates the value of the system parameter which the system would be in the safe configuration.

**Supervisor Password**

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

**User Password**

You can specify both a User and a Supervisor password. When you select either password option, you are prompted for a 1-6 character password. Enter the password and then re-type the password when prompted.

**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.

## 2.2 Standard CMOS Setup

This item in Standard CMOS Setup Menu is 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.

© Figure 2. Standard CMOS Setup

ROM PCI/ISA BIOS (20000718)																	
STANDARD CMOS SETUP																	
AWARD SOFTWARE, INC.																	
Date (mm:dd:yy) : Fri, Sep 19 2000																	
Time (hh:mm:ss) : 17 : 46 : 26																	
HARD DISKS	TYPESIZE	CYLS	HEAD	PRECOMP	LANDZ	SECTOR	MODE										
Primary Master :	Auto	0	0	0	0	0	Auto										
Primary Slave :	Auto	0	0	0	0	0	Auto										
Secondary Master :	Auto	0	0	0	0	0	Auto										
Secondary Slave :	Auto	0	0	0	0	0	Auto										
Drive A : 1.44M, 3.5 in				<table border="1"> <tr> <td>Base Memory:</td> <td>640K</td> </tr> <tr> <td>Extended Memory:</td> <td>64515K</td> </tr> <tr> <td>Other Memory:</td> <td>384K</td> </tr> <tr> <td colspan="2"><hr/></td> </tr> <tr> <td>Total Memory:</td> <td>65536K</td> </tr> </table>				Base Memory:	640K	Extended Memory:	64515K	Other Memory:	384K	<hr/>		Total Memory:	65536K
Base Memory:	640K																
Extended Memory:	64515K																
Other Memory:	384K																
<hr/>																	
Total Memory:	65536K																
Drive B : None																	
Video : EGA/VGA																	
Halt On : All Errors																	
ESC : Quit		←→↑↓ : Select Item		PU/PD/+/- : Modify													
F1 : Help				(Shift)F2 : Change Color													

## Main Menu Selections

This table shows the selections that you can make on the Main Menu.

Item	Options	Description
Date	Month DD YYYY	Set the system,date.note that the 'Day' automatically changes when you set the data.
Primary Master	Options are in its sub menu.	Press<Enter> to enter the sub menu of detailed.
Primary Slave	Options are in its sub menu.	Press<Enter> to enter the sub menu of detailed.
Secondary Master	Options are in its sub menu.	Press<Enter> to enter the sub menu of detailed.
Secondary Slave	Options are in its sub menu.	Press<Enter> to enter the sub menu of detailed.
Drive A Drive B	None 360K,5.25in 1.2M,5.25in 720K,3.5in 1.44M,3.5in 2.88M,3.5in	Select the type of floppy disk drive installed in your system.
Video	EGA/VGA CGA 40 CGA 80 MONO	Select the default video device.

<b>Item</b>	<b>Options</b>	<b>Description</b>
Halt On	All Errors No Errors All,but Keyboard All,but Diskette All,but Disk/Key	Select the situation in which you want the BIOS to stop the POST process and notify.
Base Memory	N/A	Displays the amount of conventional memory detected during boot up.
Extended Memory	N/A	Displays the amount of conventional memory detected during boot up.
Total Memory	N/A	Displays the total memory available in the system.

## 2.3 BIOS Features Setup

© Figure 3. BIOS Features Setup

ROM PCI/ISA BIOS (20000718)			
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
CPU L2 Cache ECC Checking	: Enabled	D0000 -D3FFF Shadow	: Disabled
Processor Number Feature	: Enabled	D4000 -D7FFF Shadow	: Disabled
Quick Power On Self Test	: Disabled	D8000 -DBFFF Shadow	: Disabled
Boot Sequence	: C,A,SCSI	DC000 -DFFFF Shadow	: Disabled
Swap Floppy Drive	: Disabled		
Boot Up Floppy Seek	: Disabled		
Boot Up NumLock Status	: On		
Gate A20 Option	: Fast		
Memory Parity/ECC Check	: Disabled		
Typeomatic Rate Setting	: Disabled		
Typeomatic Rate (Chars/Sec)	: 6		
Typeomatic Delay (Msec)	: 250	ESC : Quit	←→↑↓: Select Item
Security Option	: Setup	F1 : Help	PU/PD/+/-: Modify
PCI/VGA Palette Snoop	: Disabled	F5 : Old Values	(Shift)F2 : Color
OS Select for DRAM >64MB	: Non-OS2	F7 : Load Setup Defaults	

### Virus Warning

This option allows you to choose the VIRUS Warning feature for IDE Hard Disk boot sector protection. If this function is enabled and someone attempt to write data into this area, BIOS will show a warning message on screen and alarm beep.

**The Choices:** Disabled(default), Enabled.

### CPU Internal Cache

These two categories speed up memory access. However, it depends on CPU/chipset design.

**Enabled(default)** Enabled cache.

**Disabled** Disabled cache.

## External Cache

This fields allow you to Enable or Disable the CPU'S "Level 2" secondary cache. Caching allows better performance.

**Enabled(default)** Enabled cache.  
**Disabled** Disabled cache.

## CPU L2 Cache ECC Checking

The item allows you to enable/disable CPU L2 Cache ECC Checking.

**The Choices:Enabled(default),Disabled.**

## Processor Number Feature

The item will show up when you install the Pentium III processor.

**Enabled(default)** Pentium Processor Number Feature.  
**Disabled** Disabled.

## Quick Power On Self Test

This category seeds up Power on Self-Test(POST) after you power up the computer. If it is set to Enable, BIOS will shorten or skip some check items during POST.

**Enabled** Enabled quick POST.  
**Disabled(default)** Normal POST.

## Boot Sequence

This option determines which drive to boot at first for at operating system.

**The Choices:C,A,SCSI(default).**

## Swap Floppy Drive

If the system has two floppy drives, you can swap the logical drive name assignments.

**The Choices:Enabled,Disabled(default).**

### **Boot Up Floppy Seek**

Seek disk drives during boot up. Disabled speeds boot-up.

**The Choices:**Disabled(default),Enabled.

### **Boot Up NumLock Status**

Select power on state for Numlock.

**On(default)** Numpad is number keys.

**Off** Numpad is arrow keys.

### **Gate A20 Option**

Select if chipset or keyboard controller should control Gate A20.

**Normal** A pin in the keyboard controller controls Gate A20.

**Fast(default)** Lets chipset control Gate A20.

### **Memory Parity /ECC Check**

**The Choices:**Disabled(default),Enabled.

### **Typematic Rate Setting**

**Enabled** Enabled this option to adjust the keystroke repeat rate.

**Disabled(default)** Disabled.

### **Typematic Rate (Char/Sec)**

Range between 6(**default**) and 30 characters per second.

This option controls the speed of repeating keystrokes.

### **Typematic Delay (Msec)**

This option sets the time interval for displaying the first and the second characters.

**The Choices:**250(**default**),500,750,1000

## 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 defined if the correct password is not entered in prompt.

### Setup(default)

The system will boot, but access to Setup will be defined if the correct password is not entered in prompt.

## PCI/VGA Palette Snoop

It determines whether or not the MPEG ISA cards can work with PCI/AGP.

**The Choices:** Disabled(default), Enabled.

## OS Select For DRAM >64MB

Select the operating system that is running with greater than 64MB of RAM on the system.

**The Choices:** Non-OS2(default), OS2

## Video BIOS Shadow

Determines whether video BIOS will be copied to RAM for faster execution.

### Enabled(default)

Optional ROM is enabled.

### Disabled

Optional ROM is disabled.

C8000-CFFFF Shadow / D0000-DFFFF Shadow

Determines whether video BIOS will be copied to RAM for faster execution.

### Enabled

Optional ROM is Shadowed.

### Disabled(default)

Optional ROM is not Shadowed.

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

## 2.4 Chipset Features Setup

This section allows you to configure the system based on the specific features of the installed chipset. This chipset manages bus speeds and access to system memory resources, such as DRAM and external cache. It also coordinates communications the PCI bus. It must be stated that these items should never need to be altered. The default settings have been chosen because they provide the best operating conditions for your system. The only time you might consider making any changes would be if you discovered that data was lost while using your system.

© Figure 4. Chipset Features Setup

ROM PCI/ISA BIOS (20000718)		
CHIPSET FEATURES SETUP		
AWARD SOFTWARE, INC.		
Bank 0/1 DRAM Timing	: 8/10ns	Auto Detect DIMM/PCI CLK : Enabled
Bank 2/3 DRAM Timing	: 8/10ns	Spread Spectrum : Disabled
Bank 4/5 DRAM Timing	: 8/10ns	CPU Host Clock(CPU/PCI) : Default
SRAM Cycle Length	: 3	CPU Warning Temperature :
DRAM Clock	: Host CLK	Current CPU Temperature :
Memory Hole	: Disabled	Current System Temp. :
Read Around Write	: Disabled	Current CPUFAN1 Speed :
Concurrent PCI/HOST	: Disabled	Current CPUFAN2 Speed :
System BIOS Cacheable	: Disabled	Vcore : 2.5V
Video RAM Cacheable	: Disabled	3.3V : 5V
AGP Aperture Size	: 64M	12V :
AGP-2X Mode	: Enabled	
OnChip USB1	: Enabled	
OnChip USB2	: Enabled	
USB Keyboard Support	: Disabled	
OnChip Sound	: Auto	
OnChip Modem	: Auto	
		ESC : Quit ←→↑↓: Select Item
		F1 : Help PU/PD/+/- : Modify
		F5 : Old Values (Shift)F2 : Color
		F7 : Load Setup Defaults

### Bank 0/1,2/3,4/5 DRAM Timing

This item allows you to select the value in this field, depending on whether the board has paged DRAMs or EDO (extended data output) DRAMs.

**The Choices:** EDO 50ns, EDO 60ns, Slow, Medium, Fast, Turbo, **8/10ns**(default).

### **SDRAM Cycle Length**

When synchronous DRAM is installed, the number of clock cycle of CAS latency depends on the DRAM timing. Do not reset this field from the default value specified by the system designer.

**The Choices:**3(default),2,Auto.

### **DRAM Clock**

This item determines DRAM Clock following the CPU

**Host Clock**(default),or HCLK-33M,HCLK+33M.

### **Memory Hole**

In order to improve performace, certain space in memory can be reserved for ISA cards. This memory must be mapped into the memory's space below 16MB.

**The Choices:**Diablded(default),Enabled.

### **Read Around Write**

DRAM optimization feature: If a memory read is address to a location whose latest write is being held in a buffer before being written to memory, the read is satisfied throught the buffer contents, and the read is not sent to the DRAM.

**The Choices:**Diablded(default),Enabled.

### **Cocurrent PCI/Host**

When disabled, CPU bus will be occupied during the entire PCI operations period.

**The Choices:**Diablded(default),Enabled.

### **System BIOS Cacheable**

When enabled, the access to the system BIOS ROM address at F0000H-FFFFFFH is cached.

**The Choices:**Diablded(default),Enabled.

### **Video RAM Cacheable**

When enabled, the access to the system VGA RAM address is cached.

**The Choices:**Disabled(default),Enabled.

### **OnChip Sound**

The default setting of this item utilizes an onboard sound chip for audio output. There is no need to buy and insert a sound card. If sound card is installed, disable this item.

**The Choices:**Auto(default),Disabled

### **OnChip Modem**

The item allows you to control the onboard MC97 Modem controller.

**The Choices:**Auto(default),Disabled.

### **OnChip USB1/USB2**

This should be enabled if your system has a USB installed on the system board and you wish to use it. Even when so equipped, if you add a higher performance controller, you will need to disable this feature.

**The Choices:**Enabled(default),Disabled.

### **USB Keyboard Support**

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

**The Choices:**Disabled(default),Enabled.

### **AGP Aperture Size**

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

**The Choices:**64MB(default),32M,16M,8M,4M,128M

### **AGP-2X Mode**

The item allows you to enable/disable the AGP-2X Mode.

**The Choices:**Enabled(default),Disabled.

### **Auto Detect DIMM /PCI CLK**

The clock generator will turn off the DIMM clock if this slot is empty.

**The Choices:**Enabled(default),Disabled.

### **Spread Spectrum**

This function is designed to EMI test only.

**The Choices:**Disabled(default),Enabled.

### **CPU Host Clock (CPU/PCI)**

Select the CPU Host Clock.

**The Choices:**default, 66/33MHz, 75/37MHz, 83/41MHz, 100/133MHz, 103/34MHz, 112/37MHz, 124/41MHz, 133/44MHz.

### **Current CPU/System Temperature(°C /°F)**

This field displays the current CPU temperature, if your computer contains a monitoring system.

### **Current CPU Fan1/CPU Fan2 Speed**

This field displays the current speed of up to System Fans, if your computer contains a monitoring system.

### **Voltage**

Shows power supply actual voltage value.

## 2.5 Integrated Peripherals

© Figure 5. Integrated Peripherals

ROM PCI/ISA BIOS (20000718)		
INTEGATED PERIPHEALS		
AWARD SOFTWARE, INC.		
OnChip IDE Channel 0	: Enabled	Onboard Parallel Port : 378/IRQ7
OnChip IDE Channel 1	: Enabled	Onboard Parallel Mode : Normal
IDE Prefetch Mode	: Enabled	ECP Mode Use DMA : 3
IDE HDD Block Mode	: Enabled	Parallel Port EPP Type : EPP1.9
Primary Master PIO	: Auto	Onboard Legacy Audio : Enabled
Primary Slave PIO	: Auto	Sound Blaster : Enabled
Secondary Master PIO	: Auto	SB I/O base Address : 220H
Secondary Slave PIO	: Auto	SB IRQ Select : IRQ 5
Primary Master UDMA	: Auto	SB DMA Select : DMA1
Primary Slave UDMA	: Auto	MPU-401 : Disabled
Secondary Master UDMA	: Auto	MPU-401 I/O Address : 330H-333H
Secondary Slave UDMA	: Auto	Game Port (200H-207H) : Enabled
Init Display First	: PCI Slot	
Onboard FDC Controller	: Enabled	ESC : Quit ←→↑↓: Select Item
Onboard Serial Port 1	: Auto	F1 : Help PU/PD/+/- : Modify
Onboard Serial Port 2	: Auto	F5 : Old Values (Shift)F2 : Color
UART 2 Mode	: Standard	F7 : Load Setup Defaults
IR Function Duplex	: Half	
TX,RX inverting enable	: No, Yes	

### OnChip IDE Channel 0

**Enabled(default)**

Enabled onboard 1st channel IDE port.

**Disabled**

Disabled onboard 1st channel IDE port.

### OnChip IDE Channel 1

**Enabled(default)**

Enabled onboard 2nd channel IDE port.

**Disabled**

Disabled onboard 2nd channel IDE port.

**Primary Master PIO(for onboard IDE 1st channel)**

**Auto(default)** BIOS will automatically detect the IDE HDD Accessing mode.  
**Mode 0~4** Manually set the IDE Accessing mode.

**Primary Slave PIO(for onboard IDE 2nd channel)**

**Auto(default)** BIOS will automatically detect the IDE HDD Accessing mode.  
**Mode 0~4** Manually set the IDE Accessing mode.

**Secondary Master PIO(for onboard IDE 1st channel)**

**Auto(default)** BIOS will automatically detect the IDE HDD Accessing mode.  
**Mode 0~4** Manually set the IDE Accessing mode.

**Secondary Slave PIO(for onboard IDE 2nd channel)**

**Auto(default)** BIOS will automatically detect the IDE HDD Accessing mode.  
**Mode 0~4** Manually set the IDE Accessing mode.

**Primary Master UDMA**

**Auto(default)** BIOS will automatically detect the IDE HDD Accessing mode.  
**Disabled** Disabled.

**Primary Slave UDMA**

**Auto(default)** BIOS will automatically detect the IDE HDD Accessing mode.  
**Disabled** Disabled.

## **Secondary Master UDMA**

**Auto(default)**

BIOS will automatically detect the IDE HDD Accessing mode.

**Disabled**

Disabled.

## **Secondary Slave UDMA**

**Auto(default)**

BIOS will automatically detect the IDE HDD Accessing mode.

**Disabled**

Disabled.

## **Init Display First**

**PCI Slot(default)**

Set Init Display First to PCI Slot.

**Onboard AGP**

Set Init Display First to onboard AGP.

## **IDE HDD Block Mode**

**Enabled(default)**

Enabled.

**Disabled**

Disabled.

## **Onboard FDC Controller**

**Enabled(default)**

Enabled.

**Disabled**

Disabled.

## **Onboard Serial Port1/Port2**

Selecting address and corresponding interrupt for the first and second serial ports.

**The Choices:Auto(default), (3E8/IRQ4), (2E8/IRQ3), (3F8/IRQ4),(2F8/IRQ3).**

## **UART 2 Mode**

This item allows you decide which Infra Red(IR) function of the onboard I/O chip, you wish to use.

**The Choices:Standard (default),SCR,ASKIR.**

### **IR Function Duplex**

This item allows you decide which Infra Red(IR) function of the onboard I/O chip.

**The Choices:**Half (default),Full.

### **Onboard Parallel Mode**

**SPP** Using Parallel port as Standard Parallel Port.

**EPP** Using Parallel port as Enhanced Parallel Port.

**ECP** Using Parallel port as Extended Capabilities Port.

**ECP+EPP** Using Parallel port as ECP+EPP mode.

**Normal(default)**

### **Onboard Parallel Port**

This item allows you decide access onboard parallel port controller with which I/O address.

**The Choices:**378/IRQ7

### **Onboard Legacy Audio**

**The Choices:**Enabled(default),Disabled.

### **Sound Blaster**

For DOS mode compatibility, this option must be enabled.

In Windows system, this option must be disabled.

**The Choices:**Enabled(default),Disabled.

### **MPU -401**

**The Choices:**Disabled(default),Enabled.

### **MPU -401 I/O Address(330-333H)**

Change the Sound Blaster Pro MPU-401 I/O address.

### **Game Port (200-270H)**

Change the joystick connect address.

**The Choices:**Enabled(default),Disabled.

## 2.6 Power Management Setup

The Power Management Setup allows you to configure your system to most effectively save energy while operating in a manner consistent with your own style of computer use.

© Figure 6. Power Management Setup

ROM PCI/ISA BIOS (20000718)			
POWER MANAGEMENT SETUP			
AWARD SOFTWARE, INC.			
ACPI Function	: Enabled	Primary INTR	: ON
Power Management	: User Define	IRQ 3(COM2)	: Primary
PM Control by APM	: Yes	IRQ 4(COM1)	: Primary
Video off After	: Standby	IRQ 5(LPT2)	: Primary
Video off Method	: DPMS Support	IRQ 6(Floppy Disk)	: Primary
Modem UseIRQ	: 3	IRQ 7(LPT1)	: Primary
Soft-off by PWR-BTTN	: Instant-Off	IRQ 8(RTC Alarm)	: Disabled
HDD Power Down	: Disabled	IRQ 9(IRQ2 Redir)	: Secondary
Doze Mode	: Disabled	IRQ 10(Reserved)	: Secondary
Standby Mode	: Disabled	IRQ 11(Reserved)	: Secondary
**PM Events**		IRQ 12(PS/2 Mouse)	: Primary
VGA	: OFF	IRQ 13(Coprocessor)	: Primary
LPT&COM	: LPT/COM	IRQ 14(Hard Disk)	: Primary
HDD&FDD	: ON	IRQ 15 (Reserved)	: Disabled
PCI Master	: OFF		
Modem Ring Resume	: Disabled		
RTC Alarm Resume	: Disabled		
		ESC : Quit	←→↑↓: Select Item
		F1 : Help	PU/PD/+/- : Modify
		F5 : Old Values	(Shift)F2 : Color
		F7 : Load Setup Defaults	

### ACPI Function

This item display status of the Advanced Configuration and Power Management (ACPI).

### Power Management

This category allows you to select the type (or degree) of power saving and is directly related to the following modes.

- 1.HDD Power Down.
- 2.Doze Mode.
- 3.Suspend Mode.

If you highlight the literal “Press Enter” next to the “Power Management” label and then press the enter key, it will take you a submenu with the following options:

## **Power Management**

This option allows you to set each mode individually. When not disabled, each of the ranges are from 1 min. to 1 hr. except for HDD Power Down which ranges from 1 min. to 15 min. and disable.

**The Choices:**User Define (default), Min Saving, Max Saving.

### **HDD Power Down**

By default,this is “Disabled”, meaning that no matter the mode the rest of system, the hard drive will remain ready. Otherwise,you have a range of choices from 1 to 15 minutes or Suspend. This means that you can select to have your hard disk drive be turned off after a selected number of minutes or when the rest or the system goes into a suspend mode.

**Disabled**(default).

### **Doze Mode/Suspend Mode**

The **Doze Mode** , and **Suspend Mode** fields set the Period of time after each of these modes actives. At Max Saving, these modes activate sequentially (in the given order) after one minute; at Min Saving after one hour.

## **PM Control by APM**

**No**

System BIOS will ignore APM when Power Management is on.

**Yes**(default)

System BIOS will wait for APM’S prompt before it enters any PM mode.

## **Video Off After**

This field determines when to activate the video off feature for monitor power management.

## 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 Support(default)

Initial display power management signaling.

## Modem Use IRQ

This determines the IRQ, which can be applied in Modem use.

3(default)

4/5/7/9/10/11/NA

## Soft-Off by PWRBTN

Pressing the power button for more than 4 seconds forces the system to enter the Soft-Off state when the system has “hung”.

**The Choices:**Instant-Off(default),Delay 4 Sec.

## PM Events

If you highlight the literal “Press Enter” next to the “Wake Up Events” label and then press the enter key, it will take you a submenu with the following options:

### VGA

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

### LPT & COM

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

### **HDD & FDD**

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

### **PCI Master**

When set to On,any event occurring at a PCI port will awaken a system which has been powered down.

### **Modem Ring Resume**

To use this function, you need a LAN add-on card which support power on function. It should also support the wake-up on LAN jump.**The Choices:Disabled**(default).

### **RTC Alarm Resume**

When “Enabled”, you can set the date and time at which the RTC (real-time clock) alarm awakens the system from Suspend mode

## Primary INTR

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

The following is a list of IRQ, Interrupt ReQuests, which can be exempted much as the COM ports and LPT ports above can. When an I/O device wants to gain the attention of the operating system, it signals this by causing an IRQ to occur. When the operating system is ready to respond to the request,it interrupt itself and performs the service. As above, the choices are On and Off.Off is the default. When set On, activity will neither prevent the system from going into a power management mode nor awaken it.

IRQ3	(COM1)
IRQ4	(COM2)
IRQ5	(LPT2)
IRQ6	(Floppy Disk)
IRQ7	(LPT1)
IRQ8	(RTC Alarm)
IRQ9	(IRQ2 Redir)
IRQ10	(Reserved)
IRQ11	(Reserved)
IRQ12	(PS/2 Mouse)
IRQ13	(Coprocessor)
IRQ14	(Hard Disk)
IRQ15	(Reserved)

## 2.7 PnP/PCI Configurations

This section describes configuring the PCI bus system. PCI or Personal Computer Interconnect, is a system which allows I/O devices to operate at speeds nearing the speed of the CPU itself uses when communicating with its own special components. This section covers some very technical items and it is strongly recommended that only experienced user should make any changes to the default settings.

© Figure 7. PnP/PCI Configurations

ROM PCI/ISA BIOS (20000718) PNP/PCI CONFIGURATION AWARD SOFTWARE, INC.	
PNP OS Installed : No Resources controlled by : Auto Reset configuration Data : Disabled	CPU to PCI Write Buffer : Enabled PCI Dynamic Bursting : Enabled PCI Master 0 WS Write : Enabled PCI Delay Transaction : Enabled PCI#2 Access #1 Retry : Disabled AGP Master 1 WS Write : Enabled AGP Master 1 WS Read : Disabled  Assign IRQ For USB : Enabled Assign IRQ FOR VGA : Enabled
ESC : Quit ←→↑↓: Select Item F1 : Help PU/PD/+/- : Modify F5 : Old Values (Shift)F2 : Color 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. Therefore for non-PnP operating system (DOS, Netware), this option must set to No.

## Reset Configuration Data

The system BIOS supports the PnP feature so the system needs to record which resource is assigned and proceeds 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 is forced to update ESCDs and then is automatically set to the "Disabled" mode.

IRQ3	assigned to:PCI/ISA PnP
IRQ4	assigned to:PCI/ISA PnP
IRQ5	assigned to:PCI/ISA PnP
IRQ6	assigned to:PCI/ISA PnP
IRQ7	assigned to:PCI/ISA PnP
IRQ8	assigned to:PCI/ISA PnP
IRQ9	assigned to:PCI/ISA PnP
IRQ10	assigned to:PCI/ISA PnP
IRQ11	assigned to:PCI/ISA PnP
IRQ12	assigned to:PCI/ISA PnP
IRQ13	assigned to:PCI/ISA PnP
IRQ14	assigned to:PCI/ISA PnP
IRQ15	assigned to:PCI/ISA PnP
DMA-0	assigned to:PCI/ISA PnP
DMA-1	assigned to:PCI/ISA PnP
DMA-2	assigned to:PCI/ISA PnP
DMA-3	assigned to:PCI/ISA PnP
DMA-4	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 cards. PCI/ISA PnP signifies that a resource is assigned to the PCI Bus or provides for ISA PnP add-on cards and peripherals.

### **Resources Controlled By**

By Choosing “Auto” (default), the system BIOS will detect the system resources and automatically assign the relative IRQ and DMA channel for each peripheral. By Choosing “Manual”, the user will need to assign IRQ & DMA for add-on cards. Be sure that there are no IRQ/DMA and I/O port conflicts.

### **PCI Delayed Transaction**

**Enabled(default)**                      Slow speed ISA device in system.

**Disabled**                                      Disabled.

### **AGP Master IWS Write**

When Enabled, write to the AGP (Accelerated Graphic Port) are executed with one wait states.

**The Choices: Enabled(default), Disabled.**

### **AGP Master IWS Read**

When Enabled, read to the AGP (Accelerated Graphic Port) are executed with one wait states.

**The Choices: Disabled(default), Enabled.**

### **Assign IRQ For VGA**

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

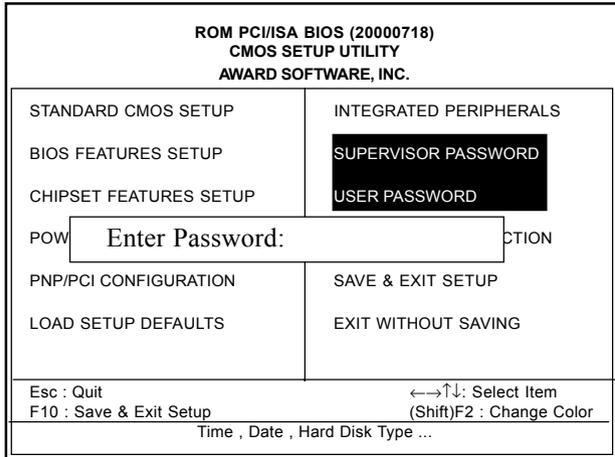
### **Assign IRQ For USB**

Lets the user choose which IRQ to assign for the USB.



## 2.9 Supervisor Password / User Password

© Figure 9. Supervisor Password / User Password



When you select this function, the following message will appear at the center of the screen to assist you in creating a password.

### Enter Password

Type the password, up to eight characters, and press <Enter>. The password you type now will clear any previously entered password from CMOS memory. You will be asked to confirm 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 that you wish to disable the password. Once the password is disabled, the system will boot and you can enter setup freely.

## Password Disabled

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

## 2.10 IDE HDD Auto Detection

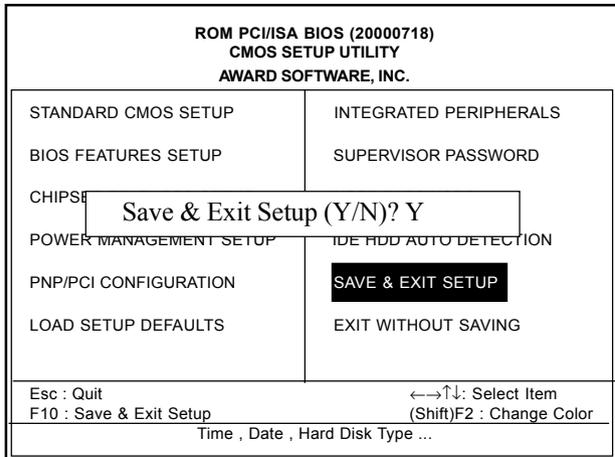
© Figure 10. IDE HDD Auto Detection

ROM PCI/ISA BIOS (20000718)								
IDE HDD Auto Detection								
AWARD SOFTWARE, INC.								
HEAD DISK	TYPE	SIZE	CYLS	HEADS	PRECOMP	LANDZONE	SECTORS	MODE
Primary Master		343	665	16	65535	664	63	NORMAL
Primary Slave								
Secondary Master								
Secondary Slave								

Type “Y” will accept the H.D.D. parameter reported by BIOS. Type “N” will keep the old H.D.D. parameter setup. If the hard disk cylinder number is over 1024, then the user can select LBA mode or LARGER mode for DOS partition larger than 528MB.

## 2.11 Save & Exit Setup

© Figure 11. Save & Exit Setup

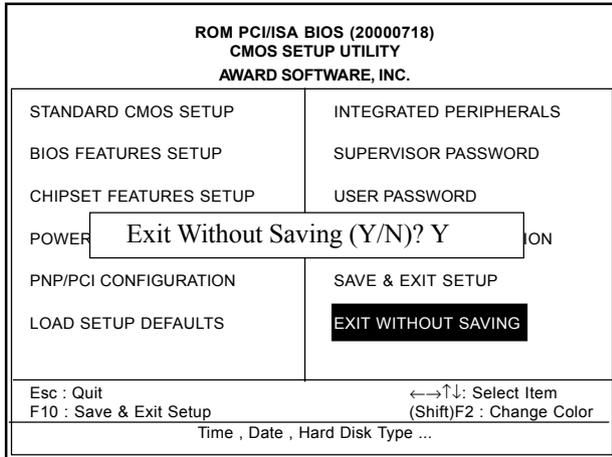


Type “Y” will quit the Setup Utility and save the user setup value to RTC CMOS RAM.

Type “N” will return Setup Utility.

## 2.12 Exit Without Saving

© Figure 12. Exit Without Saving



Type “Y” will quit the Setup Utility without saving to RTC CMOS RAM.

Type “N” will return Setup Utility.

Date :    /    /

## Guarantee Sheet/Technical Fault Report

M/B Model No.: \_\_\_\_\_ Vender \_\_\_\_\_  
Serial No. : \_\_\_\_\_  
Date of Purchasing: \_\_\_\_\_  
Hardware Configuration Used :

CPU	
RAM	
Video Card	
Hard Drive	
Other Card	

Diagnostic Software Used :

--

Fault Description :

--