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## ***Chapter 1-Overview***

Thank you for using 5VPA mainboard. The 5VPA mainboard is a high performance system hardware based on the Intel Pentium processor or compatible processors from other vendors such as AMD, Cyrix and IBM. The 5VPA mainboard is provided with one AGP slot, two ISA slots, four PCI slots, memory bus speed at 66 MHz or 100 MHz, and includes connectors for both AT and ATX power supply.

### **1-1 5VPA Features**

- 100 MHz CPU bus speed for high performance
- Supports all Socket-7 processors including 64-bit Intel Pentium™/ Pentium™ with MMX™, AMD6<sub>K</sub>86™(K6™), Cyrix/IBM 6x86™/ 6x86MX™, and IDT/ Center C6 CPUs
- One Accelerated Graphics Port (AGP)
- Four PCI slots
- Two ISA slots
- Three 168 pin DIMM sockets for up to 384 MB of system memory
- VIA Apollo MVP3 AGP/PCIsset chipset
- Memory Bus speed at 66 MHz or 100 MHz, jumper selectable
- Switching Regulator Power for CPU core: Voltage is jumper selectable from 2.1V to 3.5V at 0.1 Volt steps
- 512K L2 cache memory on board
- 1M/2M Flash Memory for system BIOS
- AT Form Factor
- Includes both AT and ATX power supply connectors
- Award plug and Play BIOS

### **1-2 Package Checklist**

Please check that your package contains all the items listed below. If you find any missing or damaged item, please contact your vendor.

- (1) The 5VPA mainboard
- (2) User's manual
- (3) One driver CD
- (4) One IDE ribbon cable, one floppy drive cable, I/O cable for COM1/COM2, Parallel port cable and PS2 mouse cable

## ***Chapter 2 – Hardware Setup***

### **2-1 Mainboard Layout**

## 2-2 Setting the System Jumper

Jumpers are used to select the operation modes for your system. Choose your jumper according to the following table.

1.

### Jumper Settings

#### (1) CMOS Clear: JP2

<b>Normal</b>	1-2	<b>Default</b>
<b>Clear CMOS</b>	2-3	

#### (2) Power Supply Selection Jumper: JP3

<b>AT</b>	1-2	<b>Default</b>
<b>ATX</b>	2-3	

#### (3) Please only select either the AT or the ATX power supply connector.

##### AT Power Supply Connector: CON1

(Please insert the AT power supply plug into this header)

##### ATX Power Supply Connector: CON2

(Please insert the ATX power supply plug into this header)

#### (4) Burst Mode: JP6

<b>Intel/AMD/Cyrix</b>	1-2	<b>Default</b>
<b>Cyrix</b>	2-3	

In general, CPU's from Intel, AMD, and Cyrix should be set to the default setting "1-2"; however, some Cyrix CPUs require the "2-3" setting (for Linear Burst Mode).

If the Burst Mode setting for a Cyrix CPU is "2-3", the Linear Burst should be set to

" Enabled" under Chipset Features Setup.

#### (5) SDRAM Frequency Selection Jumper: JP7 & JP12

SDRAM frequency is the same as CPU frequency (60/66/75/83/100 MHz)	<b>JP 7</b>	<b>JP 12</b>	<b>Default</b>
	1-2	2-3	
SDRAM frequency is the same as AGP frequency (66 MHz)	<b>JP 7</b>	<b>JP 12</b>	
	2-3	1-2	

**(6) Host Bus Frequency Selection Jumper: JP11 & JP13 (for more details, please refer to section 2-4)**

CPU Frequency	JP11	JP13	
60/66/75MHz	2-3	1-2	
83MHz	1-2	1-2	
100MHz	1-2	2-3	<b>Default</b>

**(7) Jumper setting for CPU Voltage & Frequency (for more details, please refer to section 2-4)**

**Note: Some CPUs in the market use single voltage, such as the AMD K5 CPU. Some use dual voltage, such as the Intel-MMX CPU, which uses 2.8V in addition to the typical 3.5V.**

Jumper	Single/Dual (JP14)		Vcore (JP10)				
	1-2	3-4	VID0	VID1	VID2	VID3	
Single/3.5V	close	close	close	close	close	close	
Single/3.4V	close	close	open	close	close	close	
Single/3.3V	close	close	close	open	close	close	
Dual/3.2V	open	open	open	open	close	close	
Dual/3.1V	open	open	close	close	open	close	
Dual/3.0V	open	open	open	close	open	close	
Dual/2.9V	open	open	close	open	open	close	
Dual/2.8V	open	open	open	open	open	close	
Dual/2.7V	open	open	close	close	close	open	
Dual/2.6V	open	open	open	close	close	open	
Dual/2.5V	open	open	close	open	close	open	
Dual/2.4V	open	open	open	open	close	open	
Dual/2.3V	open	open	close	close	open	open	
Dual/2.2V	open	open	open	close	open	open	<b>Default</b>
Dual/2.1V	open	open	close	open	open	open	
Dual/2.0V	open	open	open	open	open	open	

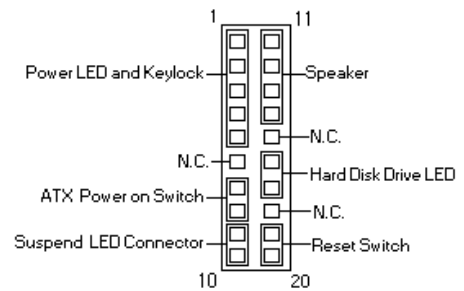
**(8) CPU Frequency (for more details, please refer to section 2-4)**

CPU				Frequency				
Frequency	JP8	JP9	JP10	Multiplier	JP15	JP16	JP17	
60 MHz	2-3	2-3	2-3	1.5/3.5x	1-2	1-2	1-2	
66 MHz	2-3	2-3	1-2	2.0x	1-2	1-2	2-3	
75 MHz	2-3	1-2	1-2	2.5x	1-2	2-3	2-3	
83 MHz	1-2	2-3	1-2	3.0x	1-2	2-3	1-2	<b>Default</b>

<b>95 MHz</b>	1-2	1-2	2-3		<b>4.0x</b>	2-3	1-2	2-3	
<b>100 MHz</b>	1-2	1-2	1-2	<b>Default</b>	<b>4.5x</b>	2-3	2-3	2-3	

### (9) J11: Front Bezel Connector

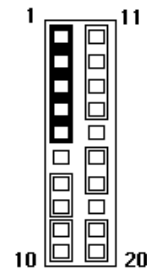
The control panel on the front bezel of the case indicates the computer activities and includes switches to change the computer status. J11 is a 20-pin header that provides interfaces for the following functions.



#### Power LED and Keylock: Pins 1, 2, 3, 4, & 5

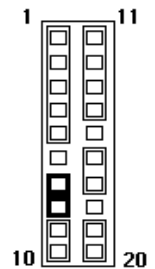
The power LED reveals the status of the main power switch. When the keylock switch is closed, it will disable the keyboard function.

J11 Pin #	Signal Name
1	Power LED
2	No connect
3	Ground
4	Keylock
5	Ground



#### ATX Power ON Switch: Pins 7 & 8

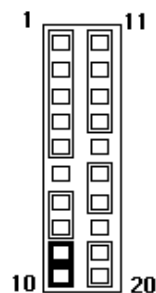
The connector is an “ATX Power Supply On/Off Switch” on the mainboard. When closed once, the power switch forces the mainboard to power on. When closed again, it forces the mainboard to power off.



#### Suspend LED Connector: Pins 9 & 10

There is a Suspend mode (Green mode) function on the mainboard. The Suspend LED is on when entering the Green mode.

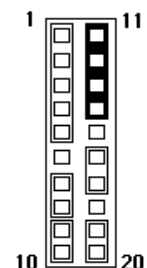
J11 Pin #	Signal Name
9	Suspend LED
10	+5V



#### Speaker: Pins 11, 12, 13, & 14

The connector provides an interface to a speaker for audio output. An 8-ohm speaker is recommended.

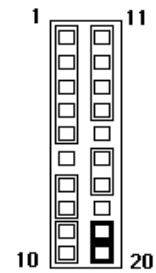
J11 Pin #	Signal Name
11	+5V



**Reset Switch: Pins 19 & 20**

The reset switch permits to reset the system without turning the main power switch off and then on. Orientation is not required when making a connection to this header.

12	Ground
13	No connect
14	Speaker out

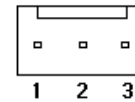


**(10) Other Connectors function:**

**(A)Chassis Fan Power Connector: Fan1**

Fan 1 is a 3-pin header for the chassis fan. The fan must be a 12V fan.

Fan 1	Signal Name
1	Ground
2	+12V
3	Ground



**(B)Plug the USB Cable into this connector: USB1**

PIN	1,2	3,4	5,6	7,8,9,10
Signal Name	VCC	USBDATA0-	USBDATA0+	GND

**(C)IrDA/ASK IR Connector: IR1**

PIN	1	2	3	4	5
Signal Name	Vcc	N.C.	IRRX	GND	TRTX

**(D)Wake on Lan connector: JP4**

PIN	1	2	3
Signal Name	RI	GND	5VSB

**2-3 Installing the CPU**

Setting	CPU Frequency													
	CPU Clock	Multiplier	CPU Clock Setting						Multiplier Setting					
			JP8		JP9		JP10		JP15		JP16		JP17	
Processor	1-2	2-3	1-2	2-3	1-2	2-3	1-2	2-3	1-2	2-3	1-2	2-3	1-2	2-3



Intel P54C P90	60 MHz	1.5x		close		close		close	close		close		close
Intel P54C P100	66 MHz	1.5x		close		close	close		close		close		close
Intel P54C P120	60 MHz	2x		close		close		close	close		close		close
Intel P54C P133	66 MHz	2x		close		close	close		close		close		close
Intel P54C/P55C P150	60 MHz	2.5x		close		close		close	close		close		close
Intel P54C/P55C P160	66 MHz	2.5x		close		close	close		close		close		close
Intel P54C/P55C P180	60 MHz	3x		close		close		close	close		close	close	
Intel P54C/P55C P200	66 MHz	3x		close		close	close		close		close	close	
Intel P55C P233	66 MHz	3.5x		close		close	close		close		close	close	
Cyrix 6x86 P150+	60 MHz	2x		close		close		close	close		close		close
Cyrix 6x86 P160+	66 MHz	2x		close		close	close		close		close		close
Cyrix 6x86 P200+	75 MHz	2x		close	close		close		close		close		close
Cyrix 6x86 PR166	66 MHz	2x		close		close	close		close		close		close
Cyrix 6x86 PR166	60 MHz	2.5x		close		close		close	close		close		close
Cyrix 6x86 PR200	66 MHz	2.5x		close		close	close		close		close		close
Cyrix 6x86 PR200	75 MHz	2x		close	close		close		close		close		close
Cyrix 6x86 PR233	75 MHz	2.5x		close	close		close		close		close		close
Cyrix 6x86 PR266	83 MHz	2.5x	close			close	close		close		close		close
IBM 6x86 PR266	83 MHz	2.5x	close			close	close		close		close		close
Cyrix MII-266	83 MHz	2.5x	close			close	close		close		close		close
Cyrix MII-300	75 MHz	3x		close	close		close		close		close	close	
Cyrix MII-300	66 MHz	3.5x		close		close	close		close		close	close	
Cyrix MII-333	100MHz	2.5x	close		close		close		close		close		close
Cyrix MII-333	83 MHz	3x	close			close	close		close		close	close	
Cyrix MII-350	100MHz	3x	close		close		close		close		close	close	

Continue

Setting	CPU Frequency													
	CPU Clock	Multiplier	CPU Clock Setting						Multiplier Setting					
			JP8		JP9		JP10		JP15		JP16		JP17	
Processor			1-2	2-3	1-2	2-3	1-2	2-3	1-2	2-3	1-2	2-3	1-2	2-3
AMD K5 PR90	60 MHz	1.5x		close		close		close	close		close		close	
AMD K5 PR100	66 MHz	1.5x		close		close	close		close		close		close	
AMD K5 PR120	60 MHz	2x		close		close		close	close		close			close
AMD K5 PR133	66 MHz	2x		close		close	close		close		close			close
AMD K5 PR150	60 MHz	2.5x		close		close		close	close			close		close
AMD K5 PR166	66 MHz	2.5x		close		close	close		close			close		close
AMD K5 PR166	66 MHz	2.5x		close		close	close		close			close		close
AMD K6 PR200	66 MHz	3x		close		close	close		close			close	close	
AMD K6 PR233	66 MHz	3.5x		close		close	close		close		close		close	
AMD K6 PR266	66 MHz	4x		close		close	close		close	close				close
AMD K6-2/266	100 MHz	2.5x	close		close		close		close			close		close
AMD K6-2/300	100 MHz	3x	close		close		close		close			close	close	
AMD K6-2/333	95 MHz	3.5x	close		close			close	close		close		close	
AMD K6-2/350	100MHz	3.5x	close		close		close		close		close		close	
AMD K6-2/400	100MHz	4x	close		close		close			close	close			close

***\*Default factory setting: AMD K6-2/300***

## 2-4 CPU Voltage and SDRAM Selection:

Setting	CPU Clock	Multiplier	Voltage	single/dual		Vcore				Bus Selection		Memory Bus Selection				
				JP14		JP10										
				Processor	1-2	3-4	VID0	VID1	VID2	VID3	JP11	JP13	JP7	JP12		
Intel P54C P90	60 MHz	1.5x	The P54C can come in different voltages. please make sure the correct voltage setting from the dealer. In general, P54C runs on 3.3V										2-3	1-2	2-3	1-2
Intel P54C P100	66 MHz	1.5x														
Intel P54C P120	60 MHz	2x														
Intel P54C P133	66 MHz	2x	3.3V	close	close	close	open	close	close	2-3	1-2	2-3	1-2			
Intel P <sup>54C</sup> /P <sup>55C</sup> P150	60 MHz	2.5x	The P55C(MMX) processors have same Voltage setting.													
Intel P <sup>54C</sup> /P <sup>55C</sup> P160	66 MHz	2.5x														
Intel P <sup>54C</sup> /P <sup>55C</sup> P180	60 MHz	3x														
Intel P <sup>54C</sup> /P <sup>55C</sup> P200	66 MHz	3x														
Intel P55C P233	66 MHz	3.5x	2.8V	open	open	open	open	open	close	2-3	1-2	2-3	1-2			
Cyrix 6x86 P150 <sup>+</sup>	60 MHz	2x	3.52V	close	close	close	close	close	close							
Cyrix 6x86 P160 <sup>+</sup>	66 MHz	2x	The Cyrix 6X86(L) and MX can come in different voltages. Please make sure the correct voltage setting from the dealer.													
Cyrix 6x86 P200 <sup>+</sup>	75 MHz	2x														
Cyrix 6x86 PR166	66 MHz	2x	2.9V	open	open	close	open	open	close	2-3	1-2	2-3	1-2			
Cyrix 6x86 PR166	60 MHz	2.5x	2.9V	open	open	close	open	open	close							
Cyrix 6x86 PR200	66 MHz	2.5x	2.9V	open	open	close	open	open	close							
Cyrix 6x86 PR200	75 MHz	2x	2.9V	open	open	close	open	open	close	1-2	1-2	1-2	2-3			
Cyrix 6x86 PR233	75 MHz	2.5x	2.9V	open	open	close	open	open	close							
Cyrix 6x86 PR266	83 MHz	2.5x	2.9V	open	open	close	open	open	close							
IBM 6x86 PR266	83 MHz	2.5x	2.9V	open	open	close	open	open	close	1-2	1-2	1-2	2-3			
Cyrix MII-266	83 MHz	2.5x	2.9V	open	open	close	open	open	close	1-2	1-2	1-2	2-3			
Cyrix MII-300	75 MHz	3x	2.9V	open	open	close	open	open	close	2-3	1-2	2-3	1-2			
Cyrix MII-300	66 MHz	3.5x	2.9V	open	open	close	open	open	close	2-3	1-2	2-3	1-2			
Cyrix MII-333	100MHz	2.5x	2.9V	open	open	close	open	open	close	1-2	2-3	1-2	2-3			

Cyrix MII-333	83 MHz	3x	2.9V	open	open	close	open	open	close	1-2	1-2	1-2	2-3
Cyrix MII-350	100MHz	3x	2.9V	open	open	close	open	open	close	1-2	2-3	1-2	2-3

•

Continue

Setting	CPU Clock	Multiplier	Voltage	single/dual		Vcore				Bus Selection		Memory Bus Selection	
				JP14		JP10							
Processor				1-2	3-4	VID0	VID1	VID2	VID3	JP11	JP13	JP7	JP12
AMD K5 PR90	60 MHz	1.5x	3.52V	close	close	close	close	close	close	2-3	1-2	2-3	1-2
AMD K5 PR100	66 MHz	1.5x	The AMD K5 and K6 can come in different voltages. Before installation, please make sure the correct voltage setting from the dealer. Generally, K5 runs on 3.25V.										
AMD K5 PR120	60 MHz	2x											
AMD K5 PR133	66 MHz	2x											
AMD K5 PR150	60 MHz	2.5x											
AMD K5 PR166	66 MHz	2.5x											
AMD K6 PR166	66 MHz	2.5x	2.9V	open	open	close	open	open	close				
AMD K6 PR200	66 MHz	3x	2.9V	open	open	close	open	open	close				
AMD K6 PR233	66 MHz	3.5x	3.2V	open	open	open	open	close	close				
AMD K6 PR266	66 MHz	4x	2.2V	open	open	open	close	open	open				
AMD K6-2/266	100MHz	2.5x	2.2V	open	open	open	close	open	open	1-2	2-3	1-2	2-3
AMD K6-2/300	100MHz	3x	2.2V	open	open	open	close	open	open	1-2	2-3	1-2	2-3
AMD K6-2/333	95 MHz	3.5x	2.2V	open	open	open	close	open	open	1-2	2-3	1-2	2-3
AMD K6-2/350	100MHz	3.5x	2.2V	open	open	open	close	open	open	1-2	2-3	1-2	2-3
AMD K6-2/400	100MHz	4x	2.2V	open	open	open	close	open	open	1-2	2-3	1-2	2-3

**\*Default factory setting: AMD K6-2/300**

## 2-5 Installing the System RAM Modules

The 5VPA mainboard provides three onboard DIMM sockets that support different types of settings for the system memory. The following figures and table provides some examples of possible memory combination.

### 1. System Memory Configuration

	DIMM Bank		
	DIMM1 Bank0	DIMM2 Bank1	DIMM3 Bank2
<b>RAM Type</b>	<b>FPM/EDO SDRAM</b>	<b>FPM/EDO SDRAM</b>	<b>FPM/EDO SDRAM</b>
<b>Single RAM Module size (MB)</b>	8/16/32 64/128	8/16/32 64/128	8/16/32 64/128

### 2. 168Pin DIMM (3.3V) SDRAM or EDO DRAM

Bank0 (DIMM1)	Bank1 (DIMM2)	Bank2 (DIMM3)	Total Memory
8MB	-----	-----	8MB
16MB	-----	-----	16MB
32MB	-----	-----	32MB
64MB	-----	-----	64MB
128MB	-----	-----	128MB
8MB	8MB	-----	16MB
16MB	8MB	-----	24MB
32MB	8MB	-----	40MB
64MB	8MB	-----	72MB
128MB	8MB	-----	136MB
8MB	8MB	8MB	24MB
16MB	8MB	8MB	32MB
32MB	8MB	8MB	48MB
64MB	8MB	8MB	80MB
128MB	8MB	8MB	144MB
16MB	16MB	-----	32MB
32MB	16MB	-----	48MB
64MB	16MB	-----	80MB
128MB	16MB	-----	144MB
16MB	16MB	8MB	40MB
32MB	16MB	8MB	56MB

64MB	16MB	8MB	88MB
128MB	16MB	8MB	152MB
16MB	16MB	16MB	48MB
32MB	16MB	16MB	64MB
64MB	16MB	16MB	96MB
128MB	16MB	16MB	160MB
32MB	32MB	-----	64MB
64MB	32MB	-----	96MB
128MB	32MB	-----	160MB
32MB	32MB	8MB	72MB
64MB	32MB	8MB	104MB
128MB	32MB	8MB	168MB
32MB	32MB	16MB	80MB
64MB	32MB	16MB	112MB
128MB	32MB	16MB	176MB
32MB	32MB	32MB	96MB
64MB	32MB	32MB	128MB
128MB	32MB	32MB	192MB
64MB	64MB	-----	128MB
128MB	64MB	-----	192MB
64MB	64MB	8MB	136MB
128MB	64MB	8MB	200MB
64MB	64MB	16MB	144MB
128MB	64MB	16MB	208MB
64MB	64MB	32MB	160MB
128MB	64MB	32MB	224MB
64MB	64MB	64MB	192MB
128MB	64MB	64MB	256MB
128MB	128MB	8MB	264MB
128MB	128MB	16MB	272MB
128MB	128MB	32MB	288MB
128MB	128MB	64MB	320MB
128MB	128MB	128MB	384MB

## ***Chapter 3-Award BIOS Setup***

Power on the system and the screen will display:

Hit <Del> to enter Setup

Hit the <Del> key and screen will display the main Setup screen.

The Main Menu allows you to choose from several setup functions and two exit choices. Use the arrow keys to select the items and press <Enter> to accept and enter a sub-menu.

### **Main Menu**

ROM PCI/ISA BIOS  
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	HDD LOW LEVEL FORMAT
LOAD BIOS DEFAULTS	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...	

### 3-1 Standard CMOS Setup

The “STANDARD CMOS SETUP” allows you to configure the system settings such as the current date and time, type of hard disk installed, floppy type, and display type. 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.

ROM PCI/ISA BIOS  
STANDARD CMOS SETUP  
AWARD SOFTWARE, INC.

Date (mm:dd:yy) : Fri, Apr 16 1998															
Time (hh:mm:ss) : 11 : 9 : 4															
HARD DISKS	TYPE	SIZE	CYLS	HEAD	PRECOMP	LANDZ	SECTOR	MODE							
Primary Master	: Auto	0	0	0	0	0	0	AUTO							
Primary Slave	: Auto	0	0	0	0	0	0	AUTO							
Secondary Master	: Auto	0	0	0	0	0	0	AUTO							
Secondary Slave	: Auto	0	0	0	0	0	0	AUTO							
Drive A : 1.44M, 3.5 in.															
Drive B : None															
Video : EGA/VGA															
Halt On : All Errors															
<table border="1"> <tr> <td>Base Memory:</td> <td>640K</td> </tr> <tr> <td>Extended Memory:</td> <td>31744K</td> </tr> <tr> <td><del>Other Memory:</del></td> <td><del>384K</del></td> </tr> </table>										Base Memory:	640K	Extended Memory:	31744K	<del>Other Memory:</del>	<del>384K</del>
Base Memory:	640K														
Extended Memory:	31744K														
<del>Other Memory:</del>	<del>384K</del>														

		Total Memory: 32768K
ESC : Quit	↑ ↓ → ← : Select Item	PU/PD/+/- : Modify
F1 : Help	(Shift)F2 : Change	
Color		

### 3-2 BIOS Features Setup

This section allows you to configure your system for basic operation. You have the opportunity to select the system default speed, boot-up sequence, keyboard operation, shadowing and security.

ROM PCI/ISA BIOS  
 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	: Off		
Gate A20 Option	: Fast		
Memory Parity/ECC Check	: Enabled		
Typematic Rate Setting	: Disabled		
Typematic Rate (Chars/Sec)	: 6		

Typematic Delay (Msec) : 250 Security Option : Setup IDE Second Channel Control: Enabled PCI/VGA Palette Snoop : Disabled OS Select For DRAM > 64MB : Non-OS2 Report No FDD For WIN 95 : No	ESC : Quit                    ↑ ↓ → ← : Select Item F1 : Help                    PU/PD/+/- : Modify F5 : Old Values (Shift)F2 : Color F6 : Load BIOS Defaults F7 : Load Setup Defaults
------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

### Virus Warning

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

<p><b>! WARNING !</b></p> <p>Disk boot sector is going to be modified</p> <p>Type "Y" to accept writing or "N" to abort</p> <p>Award Software, Inc.</p>
---------------------------------------------------------------------------------------------------------------------------------------------------------

Enabled	Activates automatically when the system boots up and displays a warning message if anything attempts to access the boot sector or the hard disk partition table.
Disabled	No warning message will appear if anything attempts to access the boot sector or the hard disk partition table.

**NOTE: Many disk diagnostic programs, which attempt to access the boot sector table, can cause the display of the above warning message. If you are running such a program, we recommend that you disable the Virus Protection beforehand.**

### CPU Internal Cache/External Cache

These two categories speed up the memory access. However, it depends on the CPU/chipset design. The default value is Enabled.

Enabled	Enables the cache
Disabled	Disables the cache

### Quick Power On Self Test

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

Enabled	Enables quick POST
Disabled	Normal POST

### Boot Sequence

This category determines which drive to search first for the disk operating system (i.e., DOS). The default value is A, C.

C, A, SCSI	System searches first for hard disk drive, then floppy disk drive, then SCSI.
A,C, SCSI	System searches first for floppy disk drive, then hard disk drive, then SCSI.
CDROM, C, A	System searches first for CDROM drive, then hard disk drive, then floppy disk drive.
C, CDROM, A	System searches first for hard disk drive, then CDROM drive, then floppy disk drive.
SCSI, A, C	System searches first for SCSI drive, then A, then C.

### Swap Floppy Drive

This item allows you to determine whether to enable the swap floppy drive or not.

Choices: Enabled/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 760K, 1.2M and 1.44M are all 80 tracks.

Enabled	BIOS searches for the floppy disk drive to determine if it is 40 or 80 tracks. Note that BIOS cannot tell from 720K, 1.2M or 1.44M drive types, as they are all 80 tracks.
Disabled	BIOS does not search for the type of floppy disk drive by track number. Note that there is no warning message if the drive installed is 360K.

### **Boot Up NumLock Status**

This allows you to determine the default state of the numeric keypad. By default, the system boots up with NumLock on.

On	NumLock ON
Off	NumLock OFF

### **Gate A20 Option**

This entry allows you to select how the gate A20 is handled. The gate A20 is a device used to address memory above 1 Mbytes. Initially, the gate A20 was handled via a pin on the keyboard. Today, while keyboards still provide this support, it is more common, and much faster, for the system chipset to provide support for gate A20.

Normal	Keyboard
Fast	Chipset

### **Typematic Rate Setting**

This determines if the typematic rate is to be used. When disabled, continually holding down a key on your keyboard generates only one keying instance. In other words, the BIOS will only report that the key is down. When the typematic rate is enabled, the BIOS will report as before, but it will then wait a moment, and, if the key is still down, it will begin to report that the key has been depressed repeatedly. For example, you can use that feature to accelerate cursor movements with the arrow keys.

Enabled	Enables the typematic rate
Disabled	Disables the typematic rate

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

When the typematic rate is enabled, this field allows you select the rate at which the keys are accelerated.

6	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 (Msec)

When the typematic rate is enabled, this field allows you to select the delay between when the key was first depressed and when the acceleration begins.

250	250 msec
500	500 msec
750	750 msec
1000	1000 msec

### Security Option

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

System	The system does not boot and access to Setup is denied if the correct password is not entered at the prompt.
Setup	The system does boot, but access to Setup is denied if the correct password is not entered at the prompt.

Note: To disable the security option, select PASSWORD SETTING on the Main Menu; you will be asked to enter a password. Type nothing; just press <Enter> to disable the security. Once the security is disabled, the system will boot and you can enter Setup freely.

### OS Select for DRAM > 64

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

Choices: Non-OS2, OS2.

### PCI / VGA Palette Snoop

Determines whether MPEG ISA/VESA VGA cards can work with PCI/VGA or not.

Enabled	When PCI/VGA works with MPEG ISA/VESA VGA Card.
Disabled	When PCI/VGA does not work with MPEG ISA/VESA VGA Card.

### Video BIOS Shadow

Determines whether the video BIOS is copied to RAM. However, it is optional depending on the chipset design. Video Shadow will increase the video speed.

Enabled	Video shadow is enabled
Disabled	Video shadow is disabled

### **C8000 - CBFFF Shadow/DC000 - DFFFF Shadow**

These categories determine whether option ROMs is copied to RAM. An example of such option ROM would be the support of on-board SCSI.

Enabled	Optional shadow is enabled
Disabled	Optional shadow is disabled

### **3-3 Supervisor/User Password Setting**

You can set either the supervisor or the user password, or both. The differences are:

Supervisor password: can enter and change the options of the setup menus.

User password: can only enter, do not have the right to change the options of the setup menus.

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 typed now will clear any previously entered password from the 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 a password, just press <Enter> when you are prompted to enter the password. A message will confirm that the password will be disabled. Once the password is disabled, the system will boot and you can enter Setup freely.

## PASSWORD DISABLED.

When a password has been enabled, you will be prompted to enter it every time you try to enter Setup. This prevents any unauthorized user from changing any part of your system configuration.

Additionally, when a password is enabled, you can also require the BIOS to request a password every time your system is rebooted. This would prevent any unauthorized use of your computer.

You determine when the password is required within the BIOS Features Setup Menu and its Security option. If the Security option is set to “**System**”, the password will be required both at boot and at entry to Setup. If set to “**Setup**”, the prompting only occurs when trying to enter Setup.

### 3-4 Chipset Features Setup

ROM PCI/ISA BIOS  
CMOS SETUP UTILITY  
CHIPSET FEATURES SETUP

Bank 0/1 DRAM Timing	: 70 ns	OnChip USB	: Disabled
Bank 2/3 DRAM Timing	: 70 ns		
Bank 4/5 DRAM Timing	: 70 ns		
SDRAM Cycle Length	: 2		
DRAM Read Pipeline	: Disabled		



Cache Rd+CPU Wt Pipeline : Disabled	
Read Around write : Disabled	
Cache Timing : Fast	
Video BIOS Cacheable : Disabled	
System BIOS Cacheable : Disabled	
Memory Hole At 15Mb Addr.: Disabled	
AGP Aperture Size : 256 M	
	ESC : Quit           ↑ ↓ → ← : Select Item
	F1 : Help            PU/PD/+/- : Modify
	F5 : Old Values   (Shift)F2 : Color
	F6 : Load BIOS Defaults
	F7 : Load Setup Defaults

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 the external cache. It also coordinates communications between the conventional ISA bus and the PCI bus. It must be stated that these items should never 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 discover some loss of data while using your system.

### **DRAM Settings**

The first chipset settings deal with the CPU access to the dynamic random access memory (DRAM). The default timings have been carefully chosen and should only be altered if data is being lost. Such a scenario might well occur if your system had mixed speed DRAM chips installed, so that greater delays may be required to preserve the integrity of the data held in the slower memory chips.

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

The value in this field is set by the system board manufacturer, depending on whether the board has paged DRAMs or EDO (extended data output) DRAMs.

Choices: Bank 0/1, 2/3, 4/5.

#### **SDRAM Cycle Length**

This field sets the CAS latency timing.

Choices: 2, 3.

### **Cache Rd+CPU Wt Pipeline**

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

Choices: Enabled, Disabled.

### **Read Around write**

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

Choices: Enabled, Disabled.

### **Video BIOS Cacheable**

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

Choices: Enabled, Disabled.

### **System BIOS Cacheable**

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

Choices: Enabled, Disabled.

### **Memory Hole At 15Mb Addr**

In order to improve performances, certain spaces in the memory are reserved for ISA cards. This memory must be mapped into the memory space below 16MB.

Choices: Disabled, 15M-16M, 14M-16M.

### **AGP Aperture Size**

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

Choices: 4M, 8M, 16M, 32M, 65M, 128M, 256M.

### **OnChip USB**

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

Choices: Enabled, Disabled.

### **3-5 Power Management Setup**

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

ROM PCI/ISA BIOS  
POWER MANAGEMENT SETUP

Power Management : Disabled	Primary INTR : ON
PM Control by APM : No	IRQ3 (COM 2) : Primary
Video Off Option : Suspend -> Off	IRQ4 (COM 1) : Primary
Video Off Method : V/H SYNC+Blank	IRQ5 (LPT 2) : Primary
MODEM Use IRQ : 3	IRQ6 (Floppy Disk) : Primary
Soft-Off by PWRBTH: Instant-Off	IRQ7 (LPT 1) : Primary
**PM Timers**	IRQ8 (RTC Alarm) : Disabled
HDD Power Down : Disabled	IRQ9 (IRQ2 Redir) : Secondary
Doze Mode : Disabled	IRQ10 (Reserved) : Secondary
Suspend Mode : Disabled	IRQ11 (Reserved) : Secondary
**PM Events**	IRQ12 (PS/2 Mouse) : Primary
VGA : Off	IRQ13 (Coprocessor): Disabled
LPT & COM : LPT/COM	IRQ14 (Hard Disk) : Primary
HDD & FDD : ON	IRQ15 (Reserved) : Disabled
DMA/master : Off	
Modem Ring Resume : Disabled	ESC : Quit           ↑ ↓ → ← : Select
RTC Alarm Resume : Disabled	Item
	F1 : Help            PU/PD/+/- : Modify
	F5 : Old Values (Shift)F2 : Color
	F6 : Load BIOS Defaults
	F7 : Load Setup Defaults

### Power Management

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

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

There are four selections for Power Management, three of which have fixed mode settings.

Disable (default)	No power management. Disables all four modes.
Min. Power Saving	Minimum power management. Doze Mode = 1 hr. Standby Mode = 1 hr., Suspend Mode = 1 hr., and HDD Power Down = 15 min.
Max. Power Saving	Maximum power management – <b>ONLY AVAILABLE FOR SL CPU</b> – Doze Mode = 1 min., Standby Mode = 1 min., Suspend Mode = 1 min., and HDD Power Down = 1 min.
User Defined	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 disabled.

### PM Control APM

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

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

### Video Off Option

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

Always On	Monitor remains on during power saving modes.
Suspend --> Off	Monitor becomes blank when the system enters the Suspend mode.
Susp,Stby --> Off	Monitor becomes blank when the system enters either Suspend or Standby modes.
All Modes --> Off	Monitor becomes blank when the system enters any power saving mode.

### Video Off Method

This determines the manner in which the monitor becomes blank.

V/H SYNC+Blank	This selection causes the system to turn off the vertical and horizontal synchronization ports and writes blanks to the video buffer.
Blank Screen	This option only writes blanks to the video buffer.
DPMS	Select this option if your monitor supports the Display Power Management Signaling (DPMS) standard of the Video Electronics Standards to select the video power management values.

### MODEM Use IRQ

This determines the IRQ that the MODEM can use.

Choices: 1, 3, 4, 5, 7, 9, 10, 11, NA.

### Soft-Off by PWRBTN

When Enabled, turning the system off with the on/off button places the system in a very low-power-usage state, with only enough circuitry receiving power to detect power button activity or Resume by Ring activity.

Choices: Delay 4 Sec, Instant Off.

### PM Timers

---

The following four modes are Green PC power saving functions which are only user configurable when *User Defined* Power Management has been selected. See above for available selections.

#### HDD Power Down

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

#### Doze Mode

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

#### Suspend Mode

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

## **PM Events**

---

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

### **VGA**

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

### **LPT & COM**

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

### **HDD & FDD**

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

### **DMA/master**

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

### **Modem Ring Resume**

When set to *Enabled*, any event occurring to the Modem Ring will awake a system that has been powered down.

### **RTC Alarm Resume**

When set to *Enable RTC Alarm Resume*, you can set the date (of month) and the time (hh:mm:ss): any event occurring at the time you set awakes a system that has been powered down.

### **Primary INTR**

When primary INTR sets to *On* (default), the items which you set (primary & secondary) will be powered down after you enter suspend mode.

The following is a typical list of IRQs, **I**nterrupt **R**e**Q**uests, which can be exempted, much like the COM ports and LPT ports above. When an I/O device wants to gain the attention of the operating system, it signals this by causing an IRQ to occur. When the operating system is ready to respond to the request, it interrupts itself and performs the service.

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

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

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



### 3-6 PNP/PCI Configuration Setup

This section describes configuring the PCI bus system. PCI, or **P**ersonal **C**omputer **I**nterconnect, is a system which allows I/O devices to operate at speeds nearing the speed 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 users should make any changes to the default settings

ROM PCI/ISA BIOS  
PNP/PCI CONFIGURATION  
AWARD SOFTWARE, INC.

PNP OS Installed	: Yes	CPU to PCI Write Buffer	: Enabled
Resources Controlled By	: Manual	PCI Dynamic Bursting	: Enabled
Reset Configuration Data	: Disabled	PCI Master 0 WS Write	: Enabled
ACPI I/O Device Mode	: Enabled	PCI Delay Transaction	: Enabled
IRQ-3 assigned to	: Legacy ISA	PCI Master Read Prefetch	: Enabled
IRQ-4 assigned to	: Legacy ISA	PCI #2 Access #1 Retry	: Disabled
IRQ-5 assigned to	: PCI/ISA PnP	AGP Master 1 WS Write	: Enabled
IRQ-7 assigned to	: Legacy ISA	AGP Master 1 WS Read	: Enabled
IRQ-9 assigned to	: PCI/ISA PnP		
IRQ-10 assigned to	: PCI/ISA PnP	PCI IRQ Activated By	: Level
IRQ-11 assigned to	: PCI/ISA PnP	Assign IRQ For USB	: Disabled
IRQ-12 assigned to	: PCI/ISA PnP	Assign IRQ For VGA	: Enabled
IRQ-14 assigned to	: Legacy ISA		
IRQ-15 assigned to	: Legacy ISA		
DMA-0 assigned to	: PCI/ISA PnP		
DMA-1 assigned to	: PCI/ISA PnP	ESC : Quit	↑ ↓ → ← : Select Item
DMA-3 assigned to	: PCI/ISA PnP	F1 : Help	PU/PD/+/- : Modify
DMA-5 assigned to	: PCI/ISA PnP	F5 : Old Values (Shift)	F2 : Color
DMA-6 assigned to	: PCI/ISA PnP	F6 : Load BIOS Defaults	
DMA-7 assigned to	: PCI/ISA PnP	F7 : Load Setup Defaults	

#### PCI Slot Configuration

##### PNP OS Installed

Select Yes if the system-operating environment is Plug-and-Play aware (e.g., Windows 95).

Choices: Yes and No

### **Resource Controlled by**

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

Choices are *Auto* and *Manual*.

### **Reset Configuration Data**

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

Choices: Enabled and Disabled.

### **IRQ3/4/5/7/9/10/11/12/14/15 assigned to**

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

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

Choices: Legacy ISA and PCI/ISA PnP.

### **DMA0/1/3/5/6/7 assigned to**

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

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

Choices: Legacy ISA and PCI/ISA PnP.

### **CPU to PCI Write Buffer**

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

Choices: Enabled, Disabled.

### **PCI Dynamic Bursting**

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

Choices: Enabled, Disabled.

### **PCI Master 0 WS Write**

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

Choices: Enabled, Disabled.

### **PCI Delay Transaction**

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

Choices: Enabled, Disabled.

### **PCI IRQ Activated by**

This sets the method by which the PCI bus recognizes that an IRQ service is being requested by a device. Under all circumstances, you should retain the default configuration unless advised otherwise by your system manufacturer.

Choices are *Level* and *Edge*.

### **PCI Master Read Prefetch**

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

Choices: Enabled, Disabled.

### **PCI #2 Access #1 Retry**

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

Choices: Enabled, Disabled.

## **3-7 Load BIOS Defaults**

The BIOS defaults have been set by the manufacturer and represent settings that provide the minimum requirements for your system to operate.

## **3-8 Load Setup Defaults**

The chipset defaults are settings that provide for maximum system performance. While Award has designed the custom BIOS to maximize performance, the manufacturer has the right to change these defaults to meet their needs.

### 3-9 Integrated Peripherals

ROM PCI/ISA BIOS  
INTEGRATED PERIPHERALS  
AWARD SOFTWARE, INC.

OnChip IDE First Channel : Enabled	Onboard Parallel Mode :SPP
OnChip IDE Second Channel : Enabled	
IDE Prefetch Mode : Disable	
IDE HDD Block Mode : Disable	
IDE Primary Master PIO : Auto	
IDE Primary Slave PIO : Auto	
IDE Secondary Master PIO : Auto	
IDE Secondary Slave PIO : Auto	
IDE Primary Master UDMA : Disabled	
IDE Primary Slave UDMA : Disabled	
IDE Secondary Master UDMA : Disabled	
IDE Secondary Slave UDMA : Disabled	
Onboard FDD Controller : Enabled	ESC : Quit                   ↑ ↓ → ← : Select
Onboard Serial Port 1 : Auto	Item
Onboard Serial Port 2 : Auto	F1 : Help                   PU/PD/+/- : Modify
UART 2 Mode : Standard	F5 : Old Values (Shift)F2 : Color
	F6 : Load BIOS Defaults
Onboard Parallel Port : 378/IRQ 7	F7 : Load Setup Defaults

#### OnChip First Channel

This chipset contains a PCI IDE interface with support for two IDE channels. Select Enabled to activate the first and/or second IDE interface. Select Disabled to deactivate this interface, if you install a first and/or second add-in IDE interface

Enabled	First HDD controller used – Default
Disabled	First HDD controller not used.

#### OnChip Second Channel

This chipset contains a PCI IDE interface with support for two IDE channels. Select Enabled to activate the first and/or second IDE interface. Select Disabled to deactivate this interface, if you install a first and/or second add-in IDE interface

Enabled	Second HDD controller used
Disabled	Second HDD controller not used.

### **IDE Prefetch Mode**

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

Choices: Enabled, Disabled.

### **IDE HDD Block Mode**

This allows your hard disk controller to use the fast block mode to transfer data to and from your hard disk drive (HDD).

Enabled	IDE controller uses block mode.
Disabled	IDE controller uses standard mode.

### **IDE Primary/Secondary Master/Slave PIO**

The four IDE PIO (Programmed Input/Output) fields let you set a PIO mode (0-4) for each of the four IDE devices that the onboard IDE interface supports. Modes 0 through 4 provide successively increased performance. In Auto mode, the system automatically determines the best mode for each device.

### **IDE Primary/Secondary Master/Slave UDMA**

Ultra DMA/33 implementation is possible only if your IDE hard drive supports it and the operating environment includes a DMA driver (Windows 95 OSR2 or a third-party IDE bus master driver). If your hard drive and your system software both support Ultra DMA/33, select Auto to enable BIOS support.

Choices: Auto, Disabled

### **Onboard FDD Controller**

This should be enabled if your system has a floppy disk drive (FDD) 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.

Choices: Enabled, Disabled.

### **Onboard Serial Port 1/Port 2**

This item allows you to determine the I/O address of onboard serial port 1/port2.

Choices: 3F8/IRQ4, 2E8/IRQ3, 3E8/IRQ4, 2F8/IRQ3, Disabled.

### **UART 2 Mode**

This item allows you to determine the Infra-Red (IR) function of onboard I/O chip.

Choices: Standard, ASKIR, HPSIR.

### **Onboard Parallel Port**

This item allows you to determine the I/O address of onboard parallel port.

Choices: 378/IRQ7, 278/IRQ5, 3BC/IRQ7, Disabled.

### **Onboard Parallel Mode**

Select an operating mode for the onboard parallel (printer) port. Normal EPP (Extended Parallel Port), ECP (Extended Capabilities Port), CEP+EPP PC AT parallel port, Bi-directional port, Fast, buffered port, Fast, buffered, bi-directional port.

Select Normal unless you are certain your hardware and software both support EPP or ECP mode.

Choices: SPP, ECP/EPP, ECP, EPP/SPP.

### **3-10 Low-Level Format Utility**

This Award Low-Level-Format Utility is designed as a tool to save time formatting your hard disk. The Utility automatically looks for the necessary information of the drive you selected. The Utility also searches for bad tracks and lists them for reference.

### **3-11 Save & Exit Setup**

Saves the CMOS value changes to CMOS and exit setup.

### **3-12 Exit Without Save**

Cancels all the CMOS value changes and exit setup.



