

## **Chapter 3**

### **AWARD® BIOS SETUP**

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

### **3.1 Entering Setup**

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

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

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

PRESS <F1> TO CONTINUE, <CTRL-ALT-ESC>  
OR <DEL> TO ENTER SETUP

### **3.2 Getting Help**

#### **Main Menu**

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

#### **Status Page Setup Menu/Option Page Setup Menu**

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

### 3.3 The Main Menu

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

ROM PCI/ISA BIOS (2A59IM4C)  
CMOS SETUP UTILITY  
AWARD SOFTWARE, INC.

STANDARD CMOS SETUP	SPECIAL FEATURES SETUP
BIOS FEATURES SETUP	INTEGRATED PERIPHERALS
CHIPSET FEATURES SETUP	SUPERVISOR PASSWORD
POWER MANAGEMENT SETUP	USER PASSWORD
PNP/PCI CONFIGURATION	IDE HDD AUTO DETECTION
LOAD SETUP DEFAULTS	SAVE & EXIT SETUP
	EXIT WITHOUT SAVING

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Esc : Quit                      ↑↓→← : Select Item  
F10 : Save & Exit Setup        (Shift)F2 : Change Color

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Time, Date, Hard Disk Type...

## Standard CMOS Setup

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

## BIOS Features Setup

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

**Chipset Features Setup**

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

**Power Management Setup**

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

**PNP/PCI Configuration Setup**

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

**Supervisor Password/User Password**

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

**Load Setup Defaults**

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

**Special Features Setup**

This function is reserved for Special Hardware Monitor.

**IDE HDD Auto Detection**

Automatically configure hard disk parameters.

**Save & Exit Setup**

Save CMOS value changes to CMOS and exit setup.

**Exit Without Saving**

Abandon all CMOS value changes and exit setup.

3.4 Standard CMOS Setup

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

ROM PCI/ISA BIOS (2A59IM4A)

STANDARD CMOS SETUP

AWARD SOFTWARE, INC.

Date(mm:dd:yy): Fri, Feb 28,1997

Time(hh:mm:ss): 00:00:00

HARD DISKS	TYPE	SIZE	CYLS	HEADS	PRECOMP	LANDZONE	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,3.5in.

Drive B : None

Video : EGA/VGA

Halt On : All, but Keyboard

Base Memory: 640K

Extended Base Memory:15360K

Other Memory: 384K

Total Memory: 16384K

ESC : Quit

F1 : Help

↑↓→← : Select Item

(Shift)F2 : Change Color

PU/PD/+/- : Modify

**Date**

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

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

**Time**

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

**PrimaryMaster/PrimarySlave  
SecondaryMaster/Secondary Slave**

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

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

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

If the controller of HDD interface is ESDI, the selection shall be  
“Type 1”.

If the controller of HDD interface is SCSI, the selection shall be  
“None”.

If the controller of HDD interface is CD-ROM, the selection shall be  
“None”.

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

3.5 BIOS Features Setup

ROM PCI/ISA BIOS (2A59IM4A)  
BIOS FEATURES SETUP  
AWARD SOFTWARE, INC.

Virus Protection By : 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
Quick Power on Self Test : Disabled	D4000-D7FFF Shadow :Disabled
Boot From LAN First : Disabled	D8000-DBFFF Shadow :Disabled
Boot Sequence : A,C,SCSI	DC000-DFFFF Shadow :Disabled
Swap Floppy Drive : Disabled	
Boot Up Floppy Seek : Enabled	
Floppy FIFO Control : Disabled	
Boot up NumLock status : On	
Gate A20 Option : Fast	
Security Option : Setup	
PCI/VGA palette snoop : Disabled	
OS select for DRAM>64MB : Non-OS2	
Report No FDD For WIN 95 : Yes	
	Esc : Quit    ↑↓→← : Select item
	F1 : Help PU/PD/+/- : modify
	F5 : Old Value(Shift) F2 : Color
	F6 : Load BIOS Defaults
	F7 : Load Setup Defaults



**CPU Internal Cache**

The default value is Enabled.

**Enabled** (default) Enable cache

**Disabled** Disable cache

**Note:** The internal cache is built in the processor.

**External Cache**

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

**CPU L2 Cache ECC Checking**

Choose Enabled or Disabled. This option enables the level 2 cache memory ECC(error check correction). Using 66MHz CPU BUS Deschutes processor, set to Enabled or Disabled. Using 100MHz CPU BUS Deschutes processor, always set to Enabled. For Klamath processor, always set to Disabled.

**Quick Power On Self Test**

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

**Enabled** Enable quick POST

**Disabled** (default) Normal POST

### **Boot From LAN First**

During Enabled, if there's a LAN card onboard, the priority from booting will be from the LAN.

### **Boot Sequence**

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

### **Swap Floppy Drive**

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

### **Boot Up Floppy Seek**

During POST, BIOS will determine if the floppy disk drive installed is 40 or 80 tracks. 360K type is 40 tracks while 760K, 1.2M and 1.44M are all 80 tracks.

### **Floppy FIFO Control**

During Enabled, the FDD disk will perform better.

### **Boot Up NumLock Status**

The default value is On.

**On** (default)      Keypad is numeric keys.

**Off**                Keypad is arrow keys.

### **Gate A20 Option**

**Normal**            The A20 signal is controlled by keyboard controller or chipset hardware.

**Fast**(default)      The A20 signal is controlled by port 92 or chipset specific method.

### Security Option

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

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

### PCI VGA Palette Snooping

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

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

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

<b>Disabled</b> (default)	Disables the function
<b>Enabled</b>	Enables the function

### OS Selection for DRAM > 64MB

Allows OS2® to be used with > 64 MB of DRAM. Settings are Non-OS/2 (default) and OS2. Set to OS/2 if using more than 64MB and running OS/2®.

**Report No FDD For WIN 95**

This function is only used when you are testing SCT for Windows® 95 Logo.

**Video BIOS Shadow**

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

<b>Enabled</b> (default)	Video shadow is enabled
<b>Disabled</b>	Video shadow is disabled

**C8000 - CFFFF Shadow/E8000 - EFFFF Shadow**

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

<b>Enabled</b>	Optional shadow is enabled
<b>Disabled</b> (default)	Optional shadow is disabled

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

3.6 Chipset Features Setup

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

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

ROM PCI/ISA BIOS(2A59IM4A)	
CMOS SETUP UTILITY	
CHIPSET FEATURES SETUP	
SDRAM Configuration by :SPD	CPU Host/PCI clock :Default
SDRAM RAS to CAS Delay :3	
SDRAM RAS Precharge Time :3	
SDRAM CAS Latency Time :3	
DRAM Data Integrity Mode :Non-ECC	
System BIOS Cacheable :Disabled	
Video BIOS Cacheable :Disabled	
Video RAM Cacheable :Disabled	
8 Bit I/O Recovery Time :1	
16 Bit I/O Recovery Time :1	
Memory Hole at 15M-16M :Disabled	
Passive Release :Enabled	
Delayed Transaction :Disabled	
AGP Aperture Size (MB) :64	
Spread Spectrum Modulated:Enabled	
	Esc : Quit    ↑↓→← : Select item
	F1 : Help PU/PD/+/- : modify
	F5 : Old Value(Shift) F2 : Color
	F6 : Load BIOS Defaults
	F7 : Load Setup Defaults

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

### **SDRAM RAS to CAS Delay**

You can select the SDRAM RAS to CAS delay time in HCLKs of 2 or 3 (default). The system board designer should set the values in this field, depending on the SDRAM installed.

### **SDRAM RAS Precharge Time**

You can select the SDRAM RAS Precharge time in HCLKs of 2 or 3 (default). The system board designer should set the values in this field, depending on the SDRAM installed.

### **SDRAM CAS Latency Time**

You can select CAS latency time in HCLKs of 2 or 3 (default). The system board designer should set the values in this field, depending on the SDRAM installed.

### **DRAM Data Integrity Mode**

Select Non-ECC or ECC(error-correcting code), according to the type of installed DRAM. The settings are Non-ECC (default) or ECC.

### **System BIOS Cacheable**

Select Enabled allows caching of the system BIOS ROM at F000h-FFFFFh, resulting in better system performance. However, if any program writes to this memory area, a system error may result.

<b>Enabled</b>	BIOS access cached
<b>Disabled</b>	BIOS access not cached

### **Video BIOS Cacheable**

Select Enabled allows caching of the system BIOS ROM at C0000h-F7FFFh, resulting in better video performance. However, if any program writes to this memory area, a system error may result.

<b>Enabled</b>	Video BIOS access cached
<b>Disabled</b>	Video BIOS access not cached

### **Video RAM Cacheable**

Select Enabled allows caching of the video RAM, resulting in better system performance. However, if any program writes to this memory area, a system error may result.

### **8 Bit I/O Recovery Time**

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

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

### **16 Bit I/O Recovery Time**

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

### **Memory Hole At 15M-16M**

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

Enabled	Memory hole supported.
Disabled	Memory hole not supported.

### **Passive Release**

When Enabled, CPU to PCI bus accesses are allowed during passive release. Otherwise, the arbiter only accepts another PCI master access to local DRAM. The settings are Enabled or Disabled.

### **Delayed Transaction**

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

**AGP Aperture Size (MB)**

Select the size the 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.

**Spread Spectrum Modulated**

This item allows you to select the clock generator Spread Spectrum function. The default is enabled. This item should always be set to Disabled, if you over-clock the processor.

**CPU Host/PCI Clock**

This items allows you to select the CPU host frequency and PCI clock frequency. The settings are 66/33Mhz or 100/33MHz (default), 100/33MHz, 133/44MHz, 112/33MHz, and 103/34MHz.



3.7 Power Management Setup

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

ROM PCI/ISA BIOS (2A59IM4A)		
POWER MANAGEMENT SETUP		
AWARD SOFTWARE, INC.		
Power Management	:User Define	Wake Up on LAN : Disable
PM Control by APM	:Yes	Restore AC/Power Loss :Power On
Video Off Method	:DPMS	IRQ 8 Break Suspend :Disabled
Video Off After	:Standby	
Modem Use IRQ	:3	** Reload Global Timer Events **
Reserve IRQ9	:Yes	IRQ [3-7,9-15],NMI : Disabled
Doze Mode	:Disable	Primary IDE 0 : Enabled
Standby Mode	:Disable	Primary IDE 1 : Enabled
Suspend Mode	:Disable	Secondary IDE 0 : Disabled
HDD Power Down	:Disable	Secondary IDE 1 : Disabled
Throttle Duty Cycle	:62.5%	Floppy Disk : Disabled
VGA Active Monitor	:Disabled	Serial Port : Enabled
Soft-Off by PWR-BTTN	:Instant-Off	Parallel Port : Disabled
CPUFAN off in Suspend	:Enabled	
Resume by Ring	:Disabled	
Resume by Alarm	:Disabled	
Date(of Month) Alarm	:2	
Time(hh:mm:ss) Alarm	: 0:0:0	
Power status LED	:Dual Color	
		Esc : Quit ↑↓→← : Select item
		F1 : Help PU/PD/+/- : modify
		F5 : Old Value(Shift) F2 : Color
		F6 : Load BIOS Defaults
		F7 : Load Setup Defaults

Power Management

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

**Power Management**

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

**PM Control by APM**

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

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

**Video Off Method**

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

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

**Video Off After**

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

**N/A** Always turn on.

**Doze** During Doze mode, the monitor will be turned off.

**Standby** During Standby mode, the monitor will be turned off.

**Suspend** During Suspend mode, the monitor will be turned off.

The default setting is Standby.

**MODEM Use IRQ**

Name the interrupt request (IRQ) line assigned to the modem (if any) on your system. Activity of the selected IRQ always awakens the system. The settings are NA, 3, 4, 5, 7, 9, 10, or 11.

**Reserve IRQ 9**

This item is reserved for Windows® 98 ACPI mode. Choose yes, if you use Windows® 98 ACPI mode. Otherwise, set to no.

**Doze Mode**

**Disable** System will never enter DOZE mode.

**1 Min/2 Min/** Defines the continuous idle time before the  
**4 Min/6 Min/** system enters DOZE mode.

**8 Min/10 Min/** If any item defined in the options of “Power  
**20 Min/30 Min/** Down and Resume events” is enabled & active,  
**40 Min/1 Hr** DOZE timer will be reloaded. When the system  
have entered Doze mode, any of the items  
enabled in “Wake Up Events in Doze and  
Standby” will trigger the system to wake up.

**Standby Mode****Disable**

System will never enter STANDBY mode.

**1 Min/2 Min/**

Defines the continuous idle time before the system enters STANDBY mode.

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

If any item defined in the options of “Power Down and Resume events” is enabled & active, STANDBY timer will be reloaded. When the system has entered Standby mode , any of the items that are enabled in “Wake Up Events of Doze and Standby” will trigger the system to wake up.

**Suspend Mode****Disable**

System will never enter SUSPEND mode.

**1 Min/2 Min/**

Defines the continuous idle time before the system enters SUSPEND mode.

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

If any item defined in the options of “Power Down & Resume Events” is enabled & active, SUSPEND timer will be reloaded. When the system has entered SUSPEND mode, any of the items enabled in the “Power Down & Resume Events” will trigger the system to wake up.

**HDD Power Down****Disable**

HDD’s motor will not shut off.

**1 Min/2 Min/**

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

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

### Throttle Duty Cycle

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

### VGA Active Monitor

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

### Soft-Off by PWR-BTTN

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

### CPUFAN Off in Suspend

During Enabled, if the system goes into suspend mode, the CPU fan will stop. During Disabled, if the system goes into suspend mode the CPU fan will resume.

### Resume by Ring

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

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

### Resume by Alarm

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

**Date(of month) Alarm**      You can choose which month the system will boot up. Set to 0, to boot every month.

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

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

### **Power LED**

This item determines which state the Power LED will use. The settings are Blink, Dual color, and Single color. During blink, the power LED will blink when the system enters the suspend mode. When the mode is in Dual Color, the power LED will change its color. Choose the single color and the power LED will always remain lit.

### **Wake Up On LAN**

To use this function, you need a LAN add-on card which support power on functions. It should also support the wake-up on LAN jumper (JWOL1).

<b>Enabled</b>	Wake up on LAN supported.
<b>Disabled</b>	Wake up on LAN not supported.

### **Restore on AC/Power Loss**

The settings are power on or last status. During power on, after every AC power loss, the system will be turned on. During last status, after every AC power loss, whatever the system status, it will be the same when the AC power returns.

**Note:** a. If you set this option to last status, jumper JP1 must be open or this function will not work.

### **IRQ 8 Clock Event**

You can Enable or Disable monitoring of IRQ 8 so it does not awaken the system from suspend mode.

**IRQ 8 Clock Event**

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

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

3.8 PNP/PCI Configuration Setup

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

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

PnP OS Installed	:No	Assign IRQ for VGA	: Enabled
Resources Controlled By	:Manual	Assign IRQ for USB	: Enabled
Reset Configuration Data	:Disabled	Used MEM base addr	: N/A
IRQ-3 assigned to	:Legacy ISA		
IRQ-4 assigned to	:Legacy ISA		
IRQ-5 assigned to	:PCI/ISA PnP		
IRQ-7 assigned to	:PCI/ISA PnP		
IRQ-9 assigned to	:PCI/ISA PnP		
IRQ-10assigned to	:PCI/ISA PnP		
IRQ-11assigned to	:PCI/ISA PnP		
IRQ-12assigned to	:PCI/ISA PnP		
IRQ-14assigned to	:PCI/ISA PnP		
IRQ-15assigned to	:PCI/ISA PnP		
DMA-0assigned to	:PCI/ISA PnP		
DMA-1assigned to	:PCI/ISA PnP		
DMA-3assigned to	:PCI/ISA PnP		
DMA-5assigned to	:PCI/ISA PnP		
DMA-6assigned to	:PCI/ISA PnP		
DMA-7assigned to	:PCI/ISA PnP		
		Esc : Quit	↑↓→← : Select item
		F1 : Help PU/PD/+/-	: modify
		F5 : Old Value(Shift)	F2 : Color
		F6 : Load BIOS Defaults	
		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 or 98. When set to NO, BIOS will initialize all the PnP cards. So, for non-PnP operating system (DOS, Netware®), this option must set to NO.



### **Resources Controlled By**

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

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

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

### **Reset Configuration Data**

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

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

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

IRQ-3 assigned to : Legacy ISA  
IRQ-4 assigned to : Legacy ISA  
IRQ-5 assigned to : PCI/ISA PnP  
IRQ-7 assigned to : Legacy ISA  
IRQ-9 assigned to : PCI/ISA PnP  
IRQ-10 assigned to : PCI/ISA PnP  
IRQ-11 assigned to : PCI/ISA PnP  
IRQ-12 assigned to : PCI/ISA PnP  
IRQ-14 assigned to : PCI/ISA PnP

IRQ-15 assigned to : PCI/ISA PnP  
DMA-0 assigned to : PCI/ISA PnP  
DMA-1 assigned to : PCI/ISA PnP  
DMA-3 assigned to : PCI/ISA PnP  
DMA-5 assigned to : PCI/ISA PnP  
DMA-6 assigned to : PCI/ISA PnP  
DMA-7 assigned to : PCI/ISA PnP

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

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

### **Assign IRQ for VGA**

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

### **Assign IRQ for USB**

Set to Enabled when USB port will be used. Set to Disable if the USB port will not be used.

### **Used MEM base addr**

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

### **Used MEM base addr**

Lets the user choose the Legacy ISA addr. memory length. The settings are 8K, 16K, 32K, or 64K.

### **3.9 Load BIOS/Setup Defaults**

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

“ Load Setup Defaults (Y / N) ? N “

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

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

3.10 Special Features Setup (optional)

This Special Features Setup is used by System Hardware Monitor chipset. You can manually change the value of each option.

ROM PCI/ISA BIOS (2A69HM4C)	
INTEGRATED PERIPHERALS	
AWARD SOFTWARE, INC.	
***** POST SHOWING *****	***** SYSTEM MONITOR *****
Chassis Fan Detected :Disabled	Chassis FAN RPM :0
Power Fan Detected :Disabled	Power FAN RPM :0
CPU Fan Detected :Enabled	CPU Fan RPM :6367
Chassis Intrusion Detect :Disabled	System Temperature :26°C/78°F
Voltage Detected :Enabled	CPU Temperature :28°C/82°F
Vcore Voltage Detected :Enabled	CPU Critical Temp :Disabled
+2.5V Voltage Detected :Enabled	Shutdown Temp :Disabled
+3.3V Voltage Detected :Enabled	
+5.0V Voltage Detected :Enabled	
+12V Voltage Detected :Enabled	
-12V Voltage Detected :Enabled	
-5.0V Voltage Detected :Enabled	
*****CPU PLUG & PLAY *****	
CPU Speed :350MHz (100x3.5)	Esc : Quit ↑↓→← : Select item
CPU Ratio : x3	F1 : Help PU/PD/+/- : modify
CPU Frequency : 68MHz	F5 : Old Value(Shift) F2 : Color
	F6 : Load BIOS Defaults
	F7 : Load Setup Defaults

**Chassis Fan Detected/Power Fan Detected/CPU Fan Detected/Voltage Detected/Vcore Voltage Detected/+2.5V Voltage Detected/+3.3V Voltage Detected/+5.0 Voltage Detected/+12V Voltage Detected/-12V Voltage Detected/-5.0 Voltage Detected**

During Enabled, this will show the CPU/FAN voltage chart during system boot up. During Disabled, this will not show.

### Chassis Intrusion Detect

Set this option to Enabled, Reset, or Disabled the chassis intrusion detector. During Enabled, any intrusion on the system chassis will be recorded. The next time you turn on the system, it will show a warning message. To be able to clear those warning, choose Reset. After clearing the message, it will go back to Enabled.

### CPU Speed

Check you processor and set this function accordingly. If you set this to Manual, you can set the CPU Ratio and CPU Frequency accordingly. CPU Frequencies are: 66, 68, 75, 83 and 100, 103, 112. **Though 68, 75, 83, 103, and 112 frequencies are available, it is advised that you use these only for testing since this might cause instability as the CPU is not designed for these frequencies.** CPU ratio are: 3, 3.5, 4, 4.5, 5, 5.5, 6, 6.5, 7, 7.5, or 8.

Note: If you set the CPU Ratio and CPU Frequency to be too high, and the system will not turn on, restart the system. Press “F10” until bootup. This will set the default setting.

### Chassis/Power/CPU Fan RPM

During Enabled, this will monitor the RPM of your CPU/Chassis/Power fan.

### System Temperature/CPU Temperature

This will show the System and CPU temperature.

### CPU Critical Temp

This option is for setting the critical temperature level for the processor. When the processor reach the temperature you set, this will reduce the load on the processor.

### Shutdown Temp

This option is for setting the Shutdown temperature level for the processor. When the processor reach the temperature you set, this will shutdown the system. This function only works with Windows® 95 operating system.

3.11 Integrated Peripherals

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

IDE HDD Block Mode : Enabled	Parallel Port Mode :SPP
IDE Primary Master PIO :Auto	
IDE Primary Slave PIO :Auto	
IDE Secondary Master PIO :Auto	
IDE Secondary Slave PIO :Auto	
IDE Primary Master UDMA :Auto	
IDE Primary Slave UDMA :Auto	
IDE Secondary Master UDMA:Auto	
IDE Secondary Slave UDMA :Auto	
On-Chip Primary PCI IDE :Enabled	
On-Chip Primary PCI IDE :Enabled	
Init Dislay First :PCI slot	
USB Keyboard support :Disabled	
Onboard Sound :Enable	
Onboard FDC controller :Enabled	Esc : Quit ↑↓→←: Select item
Onboard Serial Port 1 :3F8/IRQ4	F1 : Help PU/PD/+/- : modify
Onboard Serial Port 2 :2F8/IRQ3	F5 : Old Value(Shift) F2 : Color
UART Mode Select :Normal	F6 : Load BIOS Defaults
Onboard Parallel Mode :378/IRQ7	F7 : Load Setup Defaults

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

**IDE Primary Master PIO**  
Auto/Mode0/Mode1-4

**IDE Primary Slave PIO**  
Auto/Mode0/Mode1-4

**IDE Secondary Master PIO**  
Auto/Mode0/Mode1-4

## **IDE Secondary Slave PIO**

### **Auto/Mode0/Mode1-4**

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

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

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

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

## **On-Chip Primary PCI IDE**

### **Enabled/Disabled**

## **On-Chip Secondary PCI IDE**

### **Enabled/Disabled**

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

**USB Keyboard Support**

**Enabled/Disabled**

Choosing Enabled will allow the system to use USB keyboard without a device driver.

**Onboard FDC Controller**

**Enabled/Disabled**

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

**Onboard Serial Port 1**

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

**Onboard Serial Port 2**

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

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

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

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



### UART Mode Select

This item allow you to determine which Infra Red (IR) function of onboard I/O chip.

### Onboard Parallel Port

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

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

**Disable**

3BCH/IRQ7    Line Printer port 0

278H/IRQ5    Line Printer port 2

378H/IRQ5    Line Printer port 1

### Onboard Parallel Mode

SPP : Standard Parallel Port

EPP : Enhanced Parallel Port

ECP : Extended Capability Port

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

To operate the onboard parallel port as Standard Parallel Port only, choose “SPP.” To operate the onboard parallel port in the ECP and SPP modes simultaneously, choose “ECP/SPP.” By choosing “ECP”, the onboard parallel port will operate in ECP mode only. Choosing “ECP/EPP” will allow the onboard parallel port to support both the ECP and EPP modes simultaneously. The ECP mode has to use the DMA channel, so choose the onboard parallel port with the ECP feature. After selecting it, the following message will appear: “ECP Mode Use DMA” At this time, the user can choose between DMA

channels 3 or 1. The onboard parallel port is EPP Spec. compliant, so after the user chooses the onboard parallel port with the EPP function, the following message will be displayed on the screen: “EPP Mode Select.” At this time either EPP 1.7 spec. or EPP 1.9 spec. can be chosen.

## **3.12 Supervisor/User Password Setting**

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

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

"Enter Password:"

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

"Confirm Password:"

4. Enter exactly the same password you just typed in to confirm the password and press <Enter>.
5. Move the cursor to Save & Exit Setup to save the password.
6. If you need to delete the password you entered before, choose the Supervisor Password and press <Enter>. It will delete the password that you had before.
7. Move the cursor to Save & Exit Setup to save the option you did. Otherwise, the old password will still be there when you turn on your machine next time.

3.13 IDE HDD Auto Detection

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

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

ROM ISA BIOS  
CMOS SETUP UTILITY  
AWARD SOFTWARE, INC.

HARD DISKS	TYPE	SIZE	CYLS	HEADS	PRECOMP	LANDZONE	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

Select Primary Master      Option (N=Skip) : N

OPTIONS	SIZE	CYLS	HEAD	PRECOMP	LANDZ	SECTOR	MODE
2	2112	1023	64	0	4094	63	LBA
1	2113	4095	16	65535	4094	63	NORMAL
3	2113	2047	32	65535	4094	63	LARGE

[ESC: Skip]