

## **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 even when the power is turned off.

### **3.1 Entering Setup**

Power on the computer and press <Del> or <Ctrl><Alt><Esc> keys immediately to allow you to enter Setup.

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

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

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

### **3.2 Getting Help**

#### **Main Menu**

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

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

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

### 3.3 The Main Menu

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

ROM PCI/ISA BIOS (2A5IKM49)  
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 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.

**Load Setup Defaults**

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

**Integrated Peripherals**

This category specifies the I/O used by your system.

**Supervisor Password**

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

**User Password**

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

**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): Mon, Jan 12,1998							
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	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,3.5in.				Base Memory: 640K			
Drive B : None				Extended Base Memory:15360K			
Video : EGA/VGA				Other Memory: 384K			
Halt On : All, but Keyboard				Total Memory: 16384K			
ESC : Quit      ↑↓→← : Select Item      PU/PD/+/- : Modify							
F1 : Help      (Shift)F2 : Change Color							

**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 (2A51KM49)  
BIOS FEATURES SETUP  
AWARD SOFTWARE, INC.

Virus Protection By : Disabled	Video BIOS Shadow : Enabled
CPU Internal Cache : Enabled	
External Cache : Enabled	
Quick Power on Self Test : Disabled	
Boot Sequence : A,C,SCSI	
Swap Floppy Drive : Disabled	
Boot Up Floppy Seek : Enabled	
Floppy FIFO Control : Disabled	
Boot Up NumLock status : On	
Security Option : Setup	
PCI/VGA palette snoop : Disabled	
OS select For DRAM>64MB : Non-OS2	
Report No FDD For WIN95 : Yes	
	Esc : Quit    ↑↓→← : Select item
	F1 : Help PU/PD/+/- : modify
	F5 : Old Value(Shift) F2 : Color
	F6 : Load BIOS Defaults
	F7 : Load Setup Defaults

Virus Protection By

During and after the system boots up, any attempt to write to the boot sector or partition table of the hard disk drive will halt the system and the following error message will appear. For the meantime, you can run an anti-virus program to locate the problem. The settings are None, Both, Trend, or Award.

**!WARNING!**

Disk Boot Sector is to be modified

Type “Y” to accept write or “N” to abort write

Award Software, Inc.

**Disabled** (default) No warning message to appear when anything attempts to access the boot sector or hard disk partition table.

**Enabled** Activates automatically when the system boots up causing a warning message to appear when anything attempts to access the boot sector of hard disk partition table.

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

### CPU Internal Cache

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

**Enabled** (default) Enable cache

**Disabled** Disable cache

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

### External Cache

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

### Quick Power On Self Test

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

**Enabled** Enable quick POST

**Disabled** (default) Normal POST

### **Boot Sequence**

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

### **Swap Floppy Drive**

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

### **Boot Up Floppy Seek**

During POST, BIOS will determine if the floppy disk drive installed is 40 or 80 tracks. 360K type is 40 tracks while 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.

## 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 Snoop

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 WIN95**

When set to yes, BIOS will not report any IRQ for FDD when FDD is disabled in Windows®95. This function is used only when you're 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.

**Enabled** (default)

Video shadow is enabled

**Disabled**

Video shadow is disabled

3.6 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 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 need to be altered. The default settings have been chosen because they provide the best operating conditions for you system. The only time you might consider making any changes would be if you discovered that data was being lost while using your system.

ROM PCI/ISA BIOS (2A5IKM49)  
CHIPSET FEATURE SETUP  
AWARD SOFTWARE, INC.

Auto Configuration	: Enabled	DRAM Integrity Mode	: ECC
Refresh Cycle Time	: 1040clks	AGP Aperture Size	: 64MB
RAS Pulse Width Refresh	: 6T	System BIOS Cacheable	: Enabled
RAS Precharge Time	: 4T	Video BIOS Cacheable	: Enabled
RAS to CAS Delay	: 4T	Memory Hole at 15M-16M	: Disabled
CPU to PCI Post Write	: 4T	Spread Spectrum	: Disabled
ISA Bus Clock Frequency	: PCICLK/4		
Starting Point of Paging	: 1T	Shutdown Temperature	: Disabled
NA# Enabled	: Enabled	Current System Temp	: 52°C/125°F
SDRAM CAS Latency	: 3T	Current CPU Fan	: 4987 rpm
SDRAM WR Retire Rate	: X-2-2-2	Current System Fan	: 0 rpm
SDRAM Wait State Control	: 1WS	Vcore: 3.19v	Vio: 3.40v
RAMW# Assertion Timing	: 3T	+5v : 4.98v	+12v: 11.93v
CAS Precharge Time (EDO)	: 2T		
CAS# Pulse Width for EDO	: 1T		
CAS Precharge Time (FP)	: 2T		
CAS# Pulse Width for FP	: 2T		
Enhanced Memory Write	: Disabled	Esc : Quit	↑↓←→: Select item
Read Prefetch Memory RD	: Enabled	F1 : Help PU/PD/+/-	: modify
CPU to PCI Burst Mem. WR	: Enabled	F5 : Old Value(Shift)	F2 : Color
		F6 : Load BIOS Defaults	
		F7 : Load Setup Defaults	

### **Auto Configuration**

This item allows you to select pre-determined optimal values of chipset parameters. When Disabled, chipset parameters revert to setup information stored in CMOS. Many fields in this screen are not available when Auto Configuration is Enabled. The settings are Enabled or Disabled.

**Note:** When this item is enabled, the pre-defined items will become SHOW-ONLY.

### **Refresh Cycle Time**

DRAM needs data refresh; otherwise the data will be lost. The normal refresh rate is 15.6us. However the progress of DRAM technology makes the DRAM be able to suffer longer refresh time, such as 15.6 x 1, 15.6 x 2, 15.6 x 3, and so on. The settings are 15.6, 62.4, 124.8, or 187.2.

### **RAS Pulse Width Refresh**

Select the number of CPU clock cycles for RAS DRAM refresh. Fewer clock cycles give faster performance, and more cycles give more stable performance. The settings are 4T, 5T, 6T, or 7T.

### **RAS Precharge Time**

Defines the length of time the Row Address Strobe is allowed to precharge. The settings are 2T, 3T, 4T, or 5T.

### **RAS to CAS Delay**

This sets the relative delay between the row and column address strobes. The settings are 2T, 3T, 4T, or 5T.

### **CPU to PCI Post Write**

Select enabled to use a fast buffer for posting writes to memory. Using a fast buffer releases the CPU before completion of a write cycle to DRAM.

### **Starting Point of Paging**

This item allows you to select the “Starting Point of Paging” function cycle of DRAM. The settings are 1T, 2T, 4T, or 8T.

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### **SDRAM CAS Latency**

This item allows you to select the SDRAM Latency Time. The setting are 2T or 3T.

### **SDRAM WR Retire Rate**

Chipset has a post write buffer. The buffer will store the data of all CPU write cycle first, and then forward the data to DRAM. “Retire rate” is the speed of buffer to DRAM. The settings are X-1-1-1 or X-2-2-2.

### **SDRAM Wait State Control**

This item allows you to select SDRAM wait state control function during Precharge command. The settings are 1WS or 0WS.

### **RAMW# Assertion Timing**

This item allows you to select the RAMW# assertion timing. RAMW# is internal DRAM control signal of chipset. The settings are 3T or 2T.

### **CAS Precharge Time (EDO)**

This item allows you to select CAS precharge time for EDO RAM. The settings are 1T, 1T/2T, or 2T.

### **CAS Precharge Time (FP)**

This item allows you to select CAS precharge time for FP RAM. The settings are 1T, 1T/2T, or 2T.

### **CAS # Pulse Width (EDO)**

Determines number of CPU clock cycles the CAS signal pulses during EDO DRAM reads and writes, when memory is not interleaved. The settings are 2T or 1T.

### **CAS # Pulse Width (FP)**

Determines the number of CPU clock cycles allocated for the CAS to accumulate its charge before Fast Page mode DRAM is allowed to precharge. If insufficient time is allowed, refresh may be incomplete and data may be lost. The settings are 2T or 1T.

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### **Enhanced Memory Write**

This item allows you to enable/disable the enhanced memory write. This function must be disabled if using 512K cache size and TAG address is set to 8 bits. The settings are Enabled or Disabled.

### **Read Prefetch Memory RD**

Chipset has a prefetch buffer. It will prefetch the DRAM data of next address in buffer. Then when next access hits this address, CPU can get the data from this buffer instead of DRAM. It will shorten the cycle time. The settings are Enabled or Disabled.

### **CPU to PCI Burst Mem. WR**

Select enabled permits PCI burst memory write cycles, for faster performance. When disabled, performance is slightly slower, but more reliable. The settings are 3T or 2T.

### **DRAM Integrity Mode**

Set this option to ECC, if your using a DIMM that support ECC (1-bit Error Code Correct). The setting are ECC or NON-ECC.

### **AGP Aperture Size**

This option determines the effective size of the graphics aperture used in the particular PAC configuration. The AGP aperture is memory-mapped, while graphics data structure can reside in a graphics aperture. The aperture range should be programmed as not cacheable in the processor cache, accesses with the aperture range are forwarded to the main memory, then PAC will translate the original issued address via a translation table that is maintained on the main memory. The option allows the selection of an aperture size of 4MB, 8MB, 16MB, 32MB, 64MB, 128MB, and 256MB.

### **System BIOS Cacheable**

Choose Enabled or Disabled. Enabling this will cause the system BIOS to be shadowed in both the DRAM and the Cache memory, otherwise, it's only shadowed in the DRAM.

### **Video BIOS Cacheable**

Same as system BIOS cacheable.

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

You can reserve this area of system memory for ISA adapter ROM. When this area is reserved, it can be cached. The user information of peripherals that need to use this area of system memory usually discusses their memory requirements.

Enabled	Memory hole supported.
Disabled	Memory hole not supported.

### **Spread Spectrum**

This function is used to get the best outcome for EMI testing. During Enabled, this will support the EMI testing.

### **Shutdown Temperature**

This support the ACPI specification. Whenever the system temperature reach a critical level. During Enabled, the system will automatically shutdown.

### **Current System Temp/Current CPU Fan/Current System Fan/Vcore/Vio/+5v/+12v**

These items will show the current system temp, CPU/system Fan rotation & sytem voltage, if the System Hardware Monitor is present.

3.7 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.

ROM PCI/ISA BIOS (2A5IKM49)  
POWER MANAGEMENT SETUP  
AWARD SOFTWARE, INC.

ACPI Function : Enable	** PM Timers **
Power Management : User Define	HDD Off After : Disable
PM Control by APM : Yes	Doze Mode : Disable
Video Off Option : Susp,Stby Off	Standby Mode : Disable
Video Off Method : DPMS Supported	Suspend Mode : Disable
Switch Function : Break/Wake	
Doze Speed(div by) : 2/8	** PM Events **
Stdby Speed(div by) : 1/8	Primary Activity : Enabled
Modem Use IRQ : 3	Secondary Activity : Disabled
(Ctrl-Alt-Backspace): Power Off	COM Ports Activity : Enabled
Soft-off by PWR-BTTN: Instant Off	LPT Ports Activity : Enabled
Ring Power UP : Enable	VGA Activity : Disabled
LAN Power Up : Enable	IRQ [3-7, 9-15],NMI: Disabled
Power Up by Alarm : Disable	IRQ8 Break Suspend : Disabled
Restore AC/Power Loss: Last State	
	Esc : Quit    ↑↓→←: Select item
	F1 : Help PU/PD/+/- : modify
	F5 : Old Value(Shift) F2 : Color
	F6 : Load BIOS Defaults
	F7 : Load Setup Defaults

## ACPI Function

During Enabled, this will support ACPI function.

## 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. Standby Mode
3. Suspend Mode
4. HDD Power Down

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

<b>Disable</b> (default)	No power management. Disables all four modes.
<b>Min. Power Saving</b>	Minimum power management. Doze Mode = 20 min., Standby Mode = 20 min., Suspend Mode = 20 min., and HDD Power Down = Disabled.
<b>Max Power Saving</b>	Maximum power management -- <b>ONLY AVAILABLE FOR SL(Green Mode) CPU'S</b> . Doze Mode = 20 sec., Standby Mode = 20 sec., Suspend Mode = 20sec., and HDD Power Down = Disabled.
<b>User Defined</b>	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.

## PM Control by APM

When enabled, an Advanced Power Management device will be 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.

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### Video Off Option

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

<b>Always On</b>	Monitor will remain on during power saving modes.
<b>Suspend--&gt;Off</b>	Monitor blanked when the system enters the Suspend mode.
<b>Susp,Stby--&gt;Off</b>	Monitor blanked when the system enters either Suspend or Standby modes.
<b>All Modes--&gt;Off</b>	Monitor blanked when the system enters any power saving mode.

### Video Off Method

This determines the manner in which the monitor is blanked.

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

### Switch Function

Choose Break/Wake to use the TURBO button as a Suspend switch. Choose Deturbo to use it as Turbo Switch.

### Doze Speed (div by)

Sets the CPU's speed during Doze mode. The speed is reduced to a fraction of the CPU's normal speed. The divisors range from 1 to 8. The settings are from 1 to 8.

**Stdby Speed (div by)**

Sets the CPU's speed during Doze mode. The speed is reduced to a fraction of the CPU's normal speed. The divisors range from 1 to 8. The settings are from 1 to 8.

**MODEM Use IRQ**

This determines the IRQ in which the MODEM can use. The settings are 3, 4, 5, 7, 9, 10, 11, or NA.

**(Ctrl-Alt-Backspace)**

During Power off, whenever the Ctrl-Alt-Back Space key is press simultaneously, this will turned off the system. During Suspend, whenever the Ctrl-Alt-Back Space key is press simultaneously, to suspend the system. During Disabled, this key will not function.

**Soft-Off by PWR-BTTN**

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

**Ring Power Up**

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.

**LAN Power Up**

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(JWOL).

### Power up by Alarm

This function is for setting the Date, Hour, Minute, and Second for your computer to boot up. During Disabled, you cannot use this function. During Enabled, Choose the Date, Hour, Minute, and Second:

<b>RTC Alarm Date</b>	Choose which day the system will boot up.
<b>RTC Alarm Hour</b>	Choose which hour the system will boot up.
<b>RTC Alarm Minute</b>	Choose which minute the system will boot up.
<b>RTC Alarm Second</b>	Choose which 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. Then, power off the system. This function will work the next time you power on.

### Restore 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, the Power Button Function must be set to On/Off, or this function will not work.  
b. Jumper JP1 must always be open, for this function to work properly.

### 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 Off After

By default, this item is Disabled, meaning that no matter the mode the rest of the 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 of the system goes into a Suspend mode.

### **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.

### **Standby Mode**

When enabled and after the set time of system inactivity, the fixed disk drive and the video would be shut off while all other devices still operate at full speed.

### **Suspend Mode**

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

### **PM Events**

Power Down Activities events are I/O events whose occurrence can prevent the system from entering a power saving mode or can awaken the system from such a mode. In effect, the system remains alert for anything which occurs to a device which is configured as On, even when the system is in a power down mode.

### **Primary Activity/Secondary Activity**

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

### **COM Ports Activity**

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

### **LPT Ports Activity**

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



### **VGA Activity**

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

### **IRQ [3-7, 9-15], NMI/IRQ 8 Break Suspend**

The following is a list of IRQ's(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 interrupts itself and performs the service.

As above, the choices are On and Off.

When set On, activity will neither prevent the system from going into a power management mode nor awaken it.

3.8 PNP/PCI Configuration Setup

This section describes configuring the Plug & play and IRQ functions of the system.

ROM PCI/ISA BIOS (2A5IISZ9)  
PNP/PCI CONFIGURATION SETUP  
AWARD SOFTWARE, INC.

PNP OS Installed :No	PCI IRQ Activied By : Level
Resources Controlled By :Manual	PCI IDE IRQ Map To : PCI-Auto
Reset Configuration Data :Disabled	Primary IDE INT# : A
	Secondary IDE INT# : B
IRQ-3 assigned to :Legacy ISA	
IRQ-4 assigned to :Legacy ISA	
IRQ-5 assigned to :PCI/ISA PnP	
IRQ-7 assigned to :Legacy ISA	
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 :Legacy ISA	
IRQ-15assigned to :Legacy ISA	
DMA-0assigned to :PCI/ISA PnP	
DMA-1assigned to :PCI/ISA PnP	Esc : Quit ↑↓→← : Select item
DMA-3assigned to :PCI/ISA PnP	F1 : Help PU/PD/+/- : modify
DMA-5assigned to :PCI/ISA PnP	F5 : Old Value(Shift) F2 : Color
DMA-6assigned to :PCI/ISA PnP	F6 : Load BIOS Defaults
DMA-7assigned to :PCI/ISA PnP	F7 : Load Setup Defaults

### **PnP OS Installed**

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

### **Resources Controlled By**

The 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. The settings are Auto or Manual.

### **Reset Configuration Data**

Normally, you 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 cannot boot. The settings are Enabled or Disabled.

### **IRQ 3/4/5/7/9/10/11/12/14/15**

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. The settings are Legacy ISA or PCI/ISA PnP.

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

When resources are controlled manually, assign each system DMA channel as one of the following types, depending on the type of 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. The settings are Legacy ISA or PCI/ISA PnP.

**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's manufacturer. The settings are Level or Edge.

**PCI IDE 2nd Channel**

The IDE standard supports two channels (interfaces) with two devices on each channel. Enable the second channel if your system has two PCI IDE connectors in use, either on the system board or on expansion boards. Disable the second channel if a second IDE connector is not present or not in use. The settings are Enabled or Disabled.

**PCI IDE IRQ Map to**

This allows you to configure your system to the type of IDE disk controller in use. By default, Setup assumes that your controller is an ISA (Industry Standard Architecture) device rather than a PCI controller. The more apparent difference is the type of slot being used.

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

Remember that this settings refers to the hard disk drive itself, rather than individual partitions. Since each IDE controller supports two separate hard drives, you can select the INT# for each.

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

### 3.9 Load Setup Defaults

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

“ Load Setup Defaults (Y / N) ? N “

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

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

3.10 Integrated Peripherals

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

Internal PCI/IDE :Both	Onboard Parallel Mode :SPP
IDE Primary Master PIO :Auto	
IDE Primary Slave PIO :Auto	
IDE Secondary Master PIO :Auto	USB Controller :Enabled
IDE Secondary Slave PIO :Auto	USB Keyboard Support :Disabled
Primary Master UltraDMA :Auto	KB Power ON Password :Enter
Primary Slave UltraDMA :Auto	
Secondary Master UltraDMA:Auto	
Secondary Slave UltraDMA :Auto	
IDE Burst Mode :Enabled	
IDE Data Port Post Write :Disabled	
IDE HDD Block Mode :Enabled	
Onboard FDD controller :Enabled	
Onboard Serial Port 1 :Auto	
Onboard Serial Port 2 :Auto	Esc : Quit ↑↓←→: Select item
UART 2 Mode :Standard	F1 : Help PU/PD/+/- : modify
	F5 : Old Value(Shift) F2 : Color
Onboard Parallel Port :378H/IRQ7	F6 : Load BIOS Defaults
	F7 : Load Setup Defaults

## **Internal PCI/IDE**

This chipset contains an internal PCI IDE interface which supports two IDE channels. The settings are Primary, Secondary, Both, or Disabled.

### **IDE PIO**

IDE hard drive controllers can support up to two separate hard drives. These drives have a master/slave relationship which are determined by the cabling configuration used to attach them to the controller. Your system supports two IDE controllers--a primary and a secondary --so you have to ability to install up to four separate had disks.

PIO means Programmed Input/Output. Rather than have the BIOS issue a series of commands to effect a transfer to or from the disk drive, PIO allows the BIOS to tell the controller what it wants and then let the controller and the CPU perform the complete task by themselves. This is simpler and more efficient (and faster).

Your system supports five modes, numbered from 0 (default) to 4, which primarily differ in timing. When Auto is selected, the BIOS will select the best available mode. This is true for the next four setup items:

1. IDE Primary Master PIO
2. IDE Primary Slave PIO
3. IDE Secondary Master PIO
4. IDE Secondary Slave PIO

### **Ultra DMA 33**

IDE hard drive controllers can support Ultra DMA 33 Hard Drive. If you use Ultra DMA hard drive, then you will get a better performance. The settings are Auto, Enabled, and Disabled.

1. Primary Master UltraDMA
2. Primary Slave UltraDMA
3. Secondary Master UltraDMA
4. Secondary Slave UltraDMA

### **IDE Data Port Post Write**

PCI speed is faster than the speed of a physical hard disk or CD-ROM. With post write, a buffer is used to store the PCI data first before forwarding the data to the hard disk. The settings are Enabled or Disabled.

### **IDE HDD Block Mode**

This item allows you to increase IDE HDD performance, which is dependent on HDD block size. The settings are Enabled or 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. The settings are Enabled or Disabled.

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

This item allows you to determine access onboard serial port 1/port 2 controller with I/O address. The settings are 3F8/IRQ4, 2E8/IRQ3, 3E8/IRQ4, 2F8/IRQ3, Disabled, or Auto.

### **UART 2 Mode**

This item allows you to determine which Infra Red (IR) function of onboard I/O chip. The settings are Standard, ASKIR, or HPSIR.

### **Onboard Parallel Port**

This item allows you to determine access onboard parallel port controller with I/O address. The settings are 378H/IRQ7, 278H/IRQ5, 3BCH/IRQ7, or Disabled.



### **Onboard Parallel Mode**

Select an operating mode for the onboard parallel (printer) port as Normal EPP (Extended Parallel Port) ECP (Extended Capabilities Port) CEP+EPP PC AT parallel port Bidirectional port Fast, buffered port Fast, buffered, bidirectional port.

Select Normal unless you are certain your hardware and software both support EPP or ECP mode. The settings are SPP, ECP/EPP, ECP, or EPP/SPP.

### **USB Controller**

This item allows you to determine, whether to enable the USB(Universal Serial Bus) function or not. The settings are Enabled or Disabled.

### **USB Keyboard Support**

This item allows you to use USB Keyboard without installing any driver on some OS. If you want to use this function, you must enable USB Controller function. The settings are Enabled or Disabled.

### **KB Power ON Password**

To use this function, you need a keyboard which support this power on functions. During Enter, if you push the ENTER key, the system will change from ON to OFF, and OFF to ON. During Disabled, this function will not work.

## **Power Up 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:

- |                             |                                                                      |
|-----------------------------|----------------------------------------------------------------------|
| <b>Date(of month) Alarm</b> | You can choose which month the system will boot up.                  |
| <b>Time(hh:mm:ss) Alarm</b> | 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.

### 3.11 Supervisor/User Password Setting

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

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

"Enter Password:"

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

"Confirm Password:"

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

3.12 IDE HDD Auto Detection

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

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

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	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

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]