

## **Chapter 4**

### **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.

## **4.1 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

## **4.2 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>.

## 4.3 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.

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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

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.

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**Chipset Features Setup**

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

**Power Management Setup**

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

**PCI Configuration Setup**

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

**Supervisor Password/User Password**

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

**Load Setup Defaults**

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

**Special Features Setup**

This function is reserved for LM78.

**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.

## 4.4 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	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			
<div style="display: flex; justify-content: space-between; padding: 5px;"> <span>ESC : Quit</span> <span>↑↓→← : Select Item</span> <span>PU/PD/+/- : Modify</span> </div> <div style="display: flex; justify-content: space-between; padding: 5px;"> <span>F1 : Help</span> <span>(Shift)F2 : Change Color</span> </div>							

**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

## 4.5 BIOS Features Setup

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

Virus Warning	: Disabled	Video BIOS Shadow	: Enabled
CPU Internal Cache	: Enabled	C8000-CBFFF Shadow	: Disabled
External Cache	: Enabled	CC000-CFFFF Shadow	: Disabled
Quick Power on Self Test	: Disabled	D0000-D3FFF Shadow	: Disabled
Boot Sequence	: A,C,SCSI	D4000-D7FFF Shadow	: Disabled
Swap Floppy Drive	: Disabled	D8000-DBFFF Shadow	: Disabled
Boot up NumLock status	: On	DC000-DFFFF Shadow	: Disabled
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	

### Virus Warning

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

#### **!WARNING!**

Disk Boot Sector is to be modified  
 Type "Y" to accept write or "N" to abort write  
 Award Software, Inc.



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

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

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

### **CPU Internal Cache**

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

**Enabled** (default) Enable cache

**Disabled** Disable cache

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

### **CPU External Cache**

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

### **Quick Power On Self Test**

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

**Enabled** Enable quick POST

**Disabled** (default) Normal POST

### **Boot Sequence**

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

### **Swap Floppy Drive**

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

### **Boot Up NumLock Status**

The default value is On.

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

### **PCI VGA Palette Snooping**

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

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

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

<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 use 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.

## 4.6 Chipset Features Setup

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

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

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

Auto Configuration	: Enabled	
DRAM Timing	: 60ns	
DRAM Leadoff Timing	: 10/6/4	
DRAM Read Burst (EDO/FP)	: x222/x333	
DRAM Write Burst Timing	: x222	
Fast EDO Lead Off	: Enabled	
Refresh RAS# Assertion	: 4	
Fast RAS to CAS Delay	: 3	
DRAM Page IDLE Timer	: 2	
DRAM Enhanced Paging	: Enabled	
Fast MA to RAS# Delay	: 2 Clks	
SDRAM (CAS Lat/RAS-to-CAS)	: 3/3	
SDRAM Speculative Read	: Disabled	
System BIOS Cacheable	: Enabled	
Video BIOS Cacheable	: Enabled	
8 Bit I/O Recovery Time	: NA	Esc : Quit    ↑↓→← : Select item
16 Bit I/O Recovery Time	: NA	F1 : Help PU/PD/+/- : modify
Memory Hole at 15M-16M	: Disabled	F5 : Old Value(Shift) F2 : Color
PCI 2.1 compliance	: Enabled	F6 : Load BIOS Defaults
		F7 : Load Setup Defaults

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

### **Auto Configuration**

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

### **DRAM Timing**

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

### **DRAM Leadoff Timing**

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

### **DRAM Read Burst (EDO/FP)**

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

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

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

### **DRAM Write Burst Timing**

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

**Fast EDO Lead Off**

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

**Refresh RAS# Assertion**

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

**Fast RAS to CAS Delay**

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

**DRAM Page IDLE Timer**

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

**DRAM Enhanced Paging**

Choose Enable(default) or Disable.

**Fast MA to RAS# Delay**

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

**SDRAM (CAS Lat/RAS-to-CAS)**

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

### **SDRAM Speculative Read**

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

### **System BIOS Cacheable**

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

### **Video RAM Cacheable**

Same as system BIOS Cacheable

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

### **16-bit I/O recovery time: 1/2/3/NA**

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

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

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

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

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

### **PCI 2.1 Compliance**

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



### 4.7 Power Management Setup

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

ROM PCI/ISA BIOS (2A59IM4A)		
POWER MANAGEMENT SETUP		
AWARD SOFTWARE, INC.		
Power Management	:User Define	** Reload Global Timer Events **
PM Control by APM	:Yes	IRQ [3-7,9-15],NMI : Enabled
Video Off Method	:DPMS	Primary IDE 0 : Enabled
Video Off After	:Standby	Primary IDE 1 : Disabled
		Secondary IDE 0 : Disabled
Doze Mode	:Disabled	Secondary IDE 1 : Disabled
Standby Mode	:Disabled	Floppy Disk : Enabled
Suspend Mode	:Disabled	Serial Port : Enabled
HDD Power Down	:Disabled	Parallel Port : Enabled
Throttle Duty Cycle	:62.5%	
VGA Active Monitor	:Disabled	
Soft-Off by PWR-BTTN	:Instant-Off	
Resume by Ring	:Disabled	
Resume by Alarm	:Disabled	
** Break Event From Suspend **		
IRQ 8 Clock Event : Disabled		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 Disable. 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.

**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  
**4 Min/6 Min/** system enters STANDBY 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** 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.

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

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

**Throttle Duty Cycle**

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

**VGA Active Monitor**

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

**Soft-Off by PWR-BTTN**

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

**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:

<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.

**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.

## 4.8 PNP/PCI Configuration Setup

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

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

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

### PnP OS Installed

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

### **Resources Controlled By**

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

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

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

### **Reset Configuration Data**

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

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

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

### **PCI IDE IRQ Map To**

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

**PCI-Slot 1-4:** This setting is used if off-board PCI IDE card is not fully compatible with PCI specifications. You must specify which PCI slot the PCI IDE Card is installed in.

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

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

**Assign IRQ for VGA**

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

**Used MEM base addr**

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

**4.9 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.

**4.10 Special Features Setup**

This Special Features Setup are use by LM78 chipset. You can manually change the value of each option.

ROM PCI/ISA BIOS (2A69HM4C)  
INTEGRATED PERIPHERALS  
AWARD SOFTWARE, INC.

CPU Type: Intel Pentium	System Temperature : 29°C/84°F
CPU Voltage : Auto	CPU Temperature : 30°C/86°F
Voltage Detected : Enabled	
Power Fan Detected : Disabled	
CPU FAN Detected : Enabled	
	Esc : Quit    ↑↓→← : Select item
	F1 : Help PU/PD/+/- : modify
	F5 : Old Value(Shift) F2 : Color
	F6 : Load BIOS Defaults
	F7 : Load Setup Defaults

**CPU Voltage**

This is for setting the voltage of the CPU you are using, so that LANDesk® application can monitor your CPU voltage.

**Voltage Detected**

During Enabled, this will show the CPU voltage chart during bott up. And during Diabled, this will not show the CPU voltage chart.

**Power Fan Detected**

During Enabled, this will monitor your power fan.

**CPU Fan Detected**

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

**System Temperature/CPU Temperature**

This will show the System and CPU temperature.

4.11 Integrated Peripherals

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

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

IDE HDD Block Mode

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

IDE Primary Master PIO

**Auto/Mode0/Mode1-4**

IDE Primary Slave PIO

**Auto/Mode0/Mode1-4**

IDE Secondary Master PIO

**Auto/Mode0/Mode1-4**

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

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

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

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

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

**On-Chip Primary PCI IDE****Enabled/Disabled****On-Chip Secondary PCI IDE****Enabled/Disabled**

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

**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:

**Disabled**

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

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

**Onboard IR Controller****Enabled/Disabled**

The system has an on-board Super I/O chip with an IR controller. Choose “Enabled” to use the on-board IR controller for accessing the IR devices. Otherwise choose “Disabled” to use the off-board IR controller.

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

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

**Disable**

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

**Onboard Parallel Mode**

SPP : Standard Parallel Port

EPP : Enhanced Parallel Port

ECP : Extended Capability Port

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

To operate the onboard parallel port as StandardParallel Port only, choose “SPP.” To operate the onboard parallel port in the ECP and SPP modes simultaneously choose “ECP/SPP.” By choosing “ECP”, the onboard parallel port will operate in ECP mode only. Choosing “ECP/EPP” will allow the onboard parallel port to support both the ECP and EPP modes simultaneously. The ECP mode has to use the DMA channel, so choose the onboard parallel port with the ECP feature. After select-



ing 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.

## 4.11 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.

## 4.12 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]