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> 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

4.2 Getting Help

Main Menu

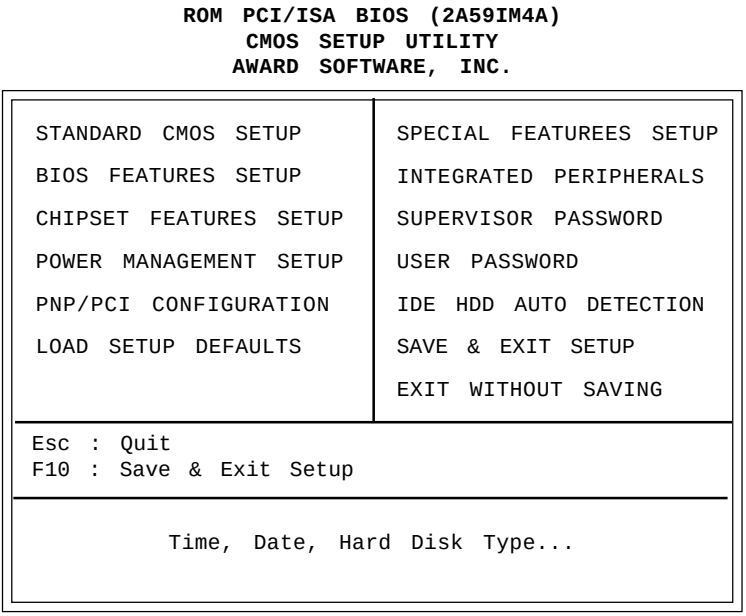
The on-line description of the highlighted setup function is displayed at the bottom of the screen.

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 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.



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.

Special Features Setup

This functions is reserved for system special function.

Integrated Peripherals

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

Supervisor Password/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.

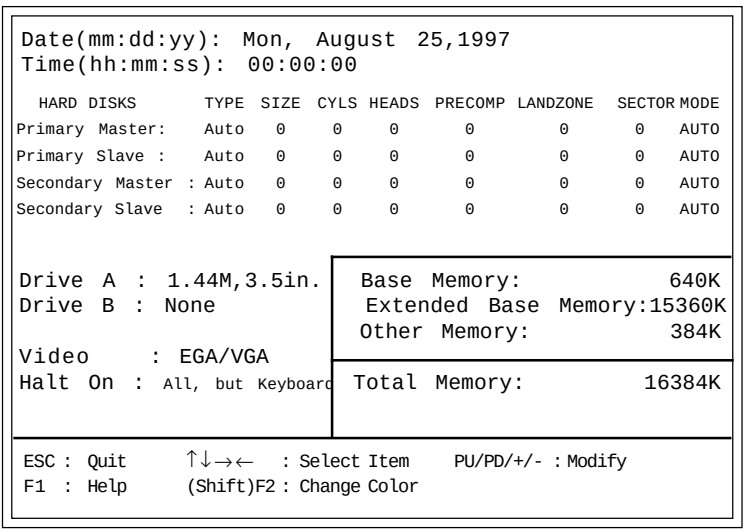
Exit Without Saving

Abandon all CMOS value changes and exit setup.

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

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

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

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

4.5 BIOS Features Setup

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ROM PCI/ISA BIOS (2A59IM4A)
BIOS FEATURES SETUP
AWARD SOFTWARE, INC.
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Virus Warning	: Disabled	
CPU Internal Cache	: Enabled	
External Cache	: Enabled	
Quick Power on Self Test	: Disabled	
Boot ROM for Onboard LAN	: Disabled	
Boot Sequence	: A,C,SCSI	
Swap Floppy Drive	: Disabled	
Boot Up Floppy Seek	: Enabled	
Floppy FIFO COntrol	: Enabled	
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 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 internal 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 ROM for Onboard LAN

When this option is enabled, the system will try to boot from the LAN boot ROM. If it cannot boot from there, only then will it search from the drives indicated in the Boot Sequence.

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 720K, 1.2M and 1.44M are all 80 tracks.

Enabled(default)	BIOS searches for floppy disk drive to determine if it is 40 or 80 tracks. Note that BIOS can not tell from 720K, 1.2M or 1.44M drive type as they are all 80 tracks.
Disabled	BIOS will not search for the type of floppy disk drive by track number. Note that there will not be any warning message if the drive installed is 360K.

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.

System	The system will not boot and access to Setup will be denied if the correct password is not entered at the prompt.
Setup(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.

Disabled (default)	Disables the function
Enabled	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 only used when you are testing SCT for Windows® 95 Logo.

4.6 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 (2A59IM4A)
CHIPSET FEATURE SETUP
AWARD SOFTWARE, INC.

Auto Configuration	:Disabled	CPU to PCI Burst Mem. WR	:Disabled
		Memory Hole at 15M-16M	:Disabled
L2 (WB) Tag Bit Length	:8bits	VGA Shared Memory Size	:1MB
SRAM Back-to-Back	:Enabled	VGA Memory Clock (MHz)	:55
Starting Point of Paging	:4T		
Refresh Cycle Time (us)	:62.4		
RAS Pulse Width Refresh	:4T		
RAS Precharge Time	:4T		
RAS to CAS Delay	:4T		
CAS# Pulse Width (FP)	:2T		
CAS# Pulse Width (EDO)	:2T		
RAMW# Assertion Timing	:3T		
CAS Precharge Time (EDO)	:1T/2T		
CAS Precharge Time (FP)	:1T/2T		
SDRAM CAS Latency	:3T		
SDRAM WR Retire Rate	:X-2-2-2		
SDRAM Wait State Control	:1WS		
Enhanced Memory Write	:Disabled		
Read Prefetch Memory RD	:Enabled		
CPU to PCI Post Write	:3T		

Esc : Quit ↑↓→←: Select item
F1 : Help PU/PD/+/- : modify
F5 : Old Value(Shift) F2 : Color
F6 : Load BIOS Defaults
F7 : Load Setup Defaults

Auto Configuration

This items allows you to selects pre-deteremined 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.

L2 (WB) Tag Bit Length

Not all SRAM supports 8 tag bits. The mainboard designer should select the installed cache SRAM. If this field is set to 8 tag bits and the system reports cache memory errors, try setting the field to 7 bits. The settings are 7 bits or 8bits.

SRAM Back-to-Back

This item allows you to enable/disable SRAM Back-to-Back. A single burst cycle timing is 3-1-1-1. SRAM Back to Back is for 2 consecutive cycles timing: 3-1-1-1-1-1-1-1. The settings are Enabled or Disabled.

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.

Refesh Cycle Time(us)

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, 15.6 x 1, 15.6 x 2, 15.6 x 3. 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 for 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.

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 lost. The settings are 2T or 1T.

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.

RAMW# Assertion Timing

This items 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 (FP)

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

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.

Enhanced Memory Write

This item allows you to enable/disable the enhanced memory write. This function must disable 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 necessary hits this address, CPU can get the data from this buffer instead of DRAM. It will shorten this cycle time. The settings are Enabled or Disabled.

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.

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.

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.

VGA Shared Memory Size

This item allows you to select the VGA Shared Memory Size. The settings are 0.5MB, 1MB, 1.5MB, 2MB, 2.5MB, 3MB, 3.5MB, or 4MB.

VGA Memory Clock (MHz)

This item allows you to select the VGA Memory Clock (MHz). The settings are 40-70.

4.7 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 (2A5IISZ9)
POWER MANAGEMENT SETUP
AWARD SOFTWARE, INC.

Power Management : Disable	IRQ3 (COM 2) : Enabled
PM Control by APM : No	IRQ4 (COM 1) : Enabled
Video Off Option : Susp,Stby Off	IRQ5 (LPT 2) : Enabled
Video Off Method : V/H SYNC+Blank	IRQ6 (Floppy DIsk): Enabled
	IRQ7 (LPT 1) : Enabled
Doze Speed(div by) : 2	IRQ8 (RTC Alarm) : Enabled
Stdby Speed(div by): 3	IRQ9 (IRQ2 Redir) : Enabled
Modem Use IRQ : 3	IRQ10 (Reserved) : Enabled
	IRQ11 (Reseerved) : Enabled
** PM Timers **	IRQ12 (PS/2 Mouse) : Enabled
HDD Off After : 14 Min	IRQ13 (Coprocessor): Enabled
Doze Mode : Disable	IRQ14 (Hard Disk) : Enabled
Standby Mode : Disable	IRQ15 (Reserved) : Enabled
Suspend Mode : Disable	
** PM Events **	
COM Ports Activity : Disabled	Esc : Quit ↑↓→←: Select item
LPT Ports Activity : Disabled	F1 : Help PU/PD/+/- : modify
HDD Ports Activity : Disabled	F5 : Old Value(Shift) F2 : Color
VGA Activity : Disalbed	F6 : Load BIOS Defaults
	F7 : Load Setup Defaults

Power Management

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

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

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

Disable(default)	No power management. Disables all four modes.
Min. Power Saving	Minimum power management. Doze Mode = 20 min., Standby Mode = 20 min., Suspend Mode = 20 min., and HDD Power Down = Disabled.
Max Power Saving	Maximum power management -- **ONLY AVAILABLE FOR SL CPU'S**. Doze Mode = 20 sec., Standby Mode = 20 sec., Suspend Mode = 20sec., and HDD Power Down = Disabled.
User Defined	Allows you to set each mode individually. When not disabled, each of the ranges are from 1 min. to 1 hr. except for HDD Power Down which ranges from 1 min. to 15 min. and 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.

Video Off Option

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

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

Video Off Method

This determines the manner in which the monitor is blanked.

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

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 8~0. 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.

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.

COM Ports Activity

When set to On (default), any event occuring 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 wil awaken a system which has been powered down.

HDD Ports Activity

When set to On (default), any event occuring at a hard or floppy drive 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.

The following is a list of IRQ's(**I**nterrupt **R**e**Q**uests), 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.

IRQ3 (COM2)

IRQ4 (COM1)

IRQ5 (LPT2)

IRQ6 (Floppy Disk)

IRQ7 (LPT1)

IRQ8 (RTC Alarm)

IRQ9 (IRQ2 Redir)

IRQ10 (Reserved)

IRQ11 (Reserved)

IRQ12 (P/S 2 Mouse)

IRQ13 (Coprocessor)

IRQ14 (Hard Disk)

IRQ15 (Reserved)

4.8 PNP/PCI Configuration Setup

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

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

PnP OS Installed :No	PCI IRQ Actived By : Level
Resources Controlled By :Manual	PCI IDE 2nd Channel: Enabled
Reset Configuration Data :Disabled	PCI IDE IRQ Map To : PCI-Auto
	Primary IDE INT# : A
IRQ-3 assigned to :Legacy ISA	Secondary IDE INT#: B
IRQ-4 assigned to :Legacy ISA	Assign IRQ for VGA :Enabled
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	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 Award Plug and Play BIOS has the capacity to automatically configure all of the boot and Plug and Play compatible devices. However, this capability means absolutely nothing unless you are using a Plug and Play operating system such as Windows® 95. 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 can not 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 onthe 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. Again, you will note that the primary has a lower interrupt than the secondary as described in "Slot x Using INT#" above.

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

Assign IRQ for VGA

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

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

ROM PCI/ISA BIOS (2A69HM4D)
SPECIAL FEATURES SETUP
AWARD SOFTWARE, INC.

CPU Type: Intel Pentium-MMX CPU Vcore (Volt): Auto	Ring Power Up COntrol :Enabled Power Up by Alarm :Disable
	Esc : Quit ↑↓→←: Select item F1 : Help PU/PD/+/- : modify F5 : Old Value(Shift) F2 : Color F6 : Load BIOS Defaults F7 : Load Setup Defaults

CPU Vcore

This item allows you to select Auto or other voltage. The default settings is Auto.

Ring Power Up Control

This item allows you to enable/disable ring-in power on your computer.

Power Up by Alarm

This function is for setting date and time for you computer to boot up. During Disabled, you cannot use this function. During Enabled, Choose the date and time:

Month Alarm	Choose which month, the system will boot up. Choose "0" to indicate don't care.
Day of Month Alarm	Choose which day of the month, the system will boot up. Choose "0" to indicate don't care.
Week Alarm	Choose which week, the system will boot up. Using this function will disable both Month Alarm and Day of month alarm function.
Time(hh:mm:ss) Alarm	Choose what hour, minute, and second of the day, 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.

4.11 Integrated Peripherals

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

Internal PCI/IDE	:Both	USB Controller	:Enabled
IDE Primary Master PIO	:Auto	USB Keyboard Support	:Disabled
IDE Primary Slave PIO	:Auto		
IDE Secondary Master PIO	:Auto		
IDE Secondary Slave PIO	:Auto		
Primary Master UltraDMA	:Auto		
Primary Slave UltraDMA	:Auto		
Secondary Master UltraDMA	:Auto		
Secondary Slave UltraDMA	:Auto		
IDE Burst Mode	:Disabled		
IDE Dataport Post Write	:Enabled		
IDE HDD Block Mode	:Enabled		
Onboard FDD controller	:Enabled		
Onboard Serial Port 1	:3F8/IRQ4	Esc : Quit ↑↓→← : Select item	
Onboard Serial Port 2	:2F8/IRQ3	F1 : Help PU/PD/+/- : modify	
UART 2 Mode	:ASKIR	F5 : Old Value(Shift) F2 : Color	
IR Function Duplex	:Half	F6 : Load BIOS Defaults	
RxD , TxD Active	:Hi , Hi	F7 : Load Setup Defaults	

Onboard Parallel Port	:378H/IRQ7	
Onboard Parallel Mode	:ECP/EPP	
ECP Mode Use DMA	:3	
Parallel Port EPP Type	:EPP1.9	

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 whichare 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 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. To use a buffer to store the PCI data first then forwards the data to 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.

IR Function Duplex

This item allows you to select the IR function when you select the UART 2 Mode in ASKIR. The settings are Half or Full.

RxD, TxD Active

This item allows you to determine the active of RxD, TxD. The settings are “Hi, Hi”, “Lo, Lo”, “Lo, Hi’, or “Hi, Lo”.

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. 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.

ECP Mode Use DMA

Select a DMA channel for the parallel port for use during ECP mode. The settings are 3 or 1.

Parallel Port EPP Type

This item allows you to determine the IR transfer mode of onboard I/O chip. The settings are EPP1.9 or EPP1.7.

USB Controller

This items 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 items allows you to use USB Keyboard in DOS without the need to install any driver. If you want to use this function, you must enable USB Controller function. The settings are Enabled or Disabled.

4.12 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.

4.13 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.