

Chapter 3

AWARD BIOS Description

Entering BIOS Setup

Power on the computer, when the following message appears briefly at the bottom of the screen during the POST (Power On Self Test), press key or simultaneously press <Ctrl> + <Alt> + <Esc> keys.

Press to enter SETUP

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

ROM PCI/ISA BIOS (2A59IQ1D) CMOS SETUP UTILITY AWARD SOFTWARE, INC.	
STANDARD CMOS SETUP SPEEDEASY CPU SETUP BIOS FEATURES SETUP CHIPSET FEATURES SETUP POWER MANAGEMENT SETUP PNP/PCI CONFIGURATION LOAD SETUP DEFAULTS	INTEGRATED PERIPHERALS PASSWORD SETTING IDE HDD AUTO DETECTION HDD LOW LEVEL FORMAT SAVE & EXIT SETUP EXIT WITHOUT SAVING
Esc : Quit	↑ ↓ → ← : Select Item
F10 : Save & Exit Setup	(Shift) F2 : Change Color
Time, Date, Hard Disk Type...	

Figure 3-1. Main Menu

AWARD BIOS Description

Standard CMOS Setup

Use the arrow keys to highlight the item, then use the <PgUp> or <PgDn> keys to select the value you want in each item.

ROM PCI/ISA BIOS (2A59IQ1D)								
CMOS SETUP UTILITY								
AWARD SOFTWARE, INC.								
Date (mm:dd:yy)	:	Thu, Jul 17 1997						
Time (hh:mm:ss)	:	00:00:00						
HARD DISKS	TYPE	SIZE	CYLS	HEAD	PRECOMP	LANDZ	SECTOR	MODE
Primary Master	: Auto	0	0	0	0	0	0	Auto
Primary Slave	: Auto	0	0	0	0	0	0	Auto
Secondary Master	: Auto	0	0	0	0	0	0	Auto
Secondary Slave	: Auto	0	0	0	0	0	0	Auto
Drive A	:	1.44M, 3.5 in.			Base Memory : 640K			
Drive B	:	None			Extended Memory : 7168K			
					Other Memory : 384K			
Video	:	EGA/VGA			Total Memory : 8192K			
Halt On	:	All Errors						
ESC : Quit		↑ ↓ → ← : Select Item			PU/PD/+/- : Modify			
F1 : Help		(Shift)F2 : Change Color						

Figure 3-2. Standard CMOS Setup Menu

Hard Disk

Primary Master/Primary Slave/Secondary Master/Secondary Slave

The categories identify the types of 2 IDE channels that have been installed in the computer. There are 45 predefined types and 4 user definable types are used for Enhanced IDE BIOS. Type 1 to Type 45 are predefined. Type “User” is user-definable. If your hard disk drive type is not matched with drive table or listed in it, you can use Type “User” to define your own drive type manually.

If you select Type “Auto”, BIOS will Auto-Detect the HDD & CD-ROM drive at the POST stage and show the IDE for HDD & CD-ROM drive. If you select Type “User”, related information is asked to be entered into the following items. Enter the information directly from the keyboard and press <Enter>.

If an additional ESDI HDD Controller interface is ESDI, on-chip Primary and/or Secondary has to be disabled. If the controller of HDD interface is SCSI, the type shall be set to “Auto”.

CYLS	number of cylinders	HEAD	number of heads
PRECOMP	write precom	LANDZ	landing zone
SECTOR	number of sectors	MODE	HDD access mode

Video

The category selects the type of video adapter used for the primary system monitor. Although scndary monitors are supported, you do not have to select the type in Setup.

EGA/ VGA	Enhanced Graphics Adapter / Video Graphic Array. For EGA, VGA, SEGA, SVGA, or PGA monitor adapters.
CGA 40	Color Graphic Adapter, powering up in 40 column mode.
CGA 80	Color Graphic Adapter, powering up in 80 column mode.
MONO	Monochrome adapter, including high resolution monochrome adapters.

Error Halt

The category determines that whether the computer will stop or not if an error is detected during powering up.

No errors	The system boot will not stop for any error that may be detected.
All errors	Whenever the BIOS detects a non-fatal error, the system will stop and you will be prompted.
All, But Keyboard	The system boot will not stop for a keyboard error, but it will stop for all the other errors.
All, But Diskette	The system boot will not stop for a disk error; but it will stop for all the other errors.
All, But Disk/Key	The system boot will not stop for a keyboard or disk error, but it will stop for all the other errors.

Memory

The category is display-only which is determined by POST (Power On Self Test) of the BIOS.

Base Memory	The POST of the BIOS will determine the amount of base (or conventional) memory installed in the system.
Extended Memory	The BIOS determines that how much extended

AWARD BIOS Description

	memory is presented during the POST.
Other Memory	This is the memory that can be used for different applications. Most use for this area is Shadow RAM.
Total Memory	Total memory of the system is the sum of the above memory.

SpeedEasy CPU Setup

ROM PCI/ISA BIOS (2A59IQ1D) SPEEDEASY CPU SETUP QDI Innovative Technology		
CPU Model	: Intel Pentium MMX	Warning : Be sure your selection is right. CPU over speed will be dangerous! ESC: Quit ↑↓→← : Selection Item F1: Help PU/PD/+/- : Modify (Shift) F2 : Color
Speed Mode	: SpeedEasy	
CPU Speed	: 166MHz	
CPU Voltage Ctrl	: Auto	
CPU I/O Voltage	: 3.3V	
CPU Core Voltage	: 2.8V	

Figure 3-3. SpeedEasy CPU Setup

The following pages tell you the options of each item and describe the meaning of each option.

<u>Item</u>	<u>Option</u>	<u>Description</u>
CPU Model		BIOS can automatically detect known CPU model, so this item is shown only.
Speed Model	<i>SpeedEasy</i>	You should select CPU speed according to your CPU brand and type.
	<i>Jumper Emulation</i>	This item is only for the user who understand all the CPU parameter. (Such as CPU voltage, clock frequency and clock multiplier.)
Bus Clock	<i>50MHz</i>	
	<i>55MHz</i>	
	<i>60MHz</i>	
	<i>60+MHz</i>	

	66MHz 66+MHz 75MHz	
Multiplier	x1.5,BF1/BF0=1/1 x2,BF1/BF0=1/0 x2.5,BF1/BF0=0/0 x3, BF1/BF0=0/1	Left table is only for Pentium CPU. The other CPU Manufacturers' definitions of BF1/BF0 should be referred to your CPU Vendor.
CPU Speed	75MHz~200MHz P120+~P200+ PR75~PR200 M2 CPU K6 CPU	It is for Intel Pentium CPU. It is for Cyrix CPU. It is for AMD CPU.
CPU Voltage Ctrl	Auto Manual	BIOS can automatically set CPU voltage. User can set CPU voltage according to CPU brand and type.

BIOS Features Setup

ROM PCI/ISA BIOS (2A59IQ1D) 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	: Enabled	D0000~D3FFF Shadow : Disabled
Boot Sequence	: C,CDROM,A	D4000~D7FFF Shadow : Disabled
Swap Floppy Drive	: Disabled	D8000~DBFFF Shadow : Disabled
Boot Up Floppy Seek	: Disabled	DC000~DFFFF Shadow : Disabled
Boot Up Numlock Status	: On	
Typematic Rate Setting	: Disabled	
Typematic Rate (Chars/Sec)	: 6	
Typematic Delay(Msec)	: 250	ESC: Quit ↑↓→← : Select Item
Security Option	: Setup	F1 : Help PU/PD/+/- : Modify
PCI/VGA Palette Snoop	: Disabled	F5 : Old Values (Shift) F2: Color

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OS Select For DRAM>64MB : Non-OS2	F7 : Load Setup Defaults
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Figure 3-3 BIOS Features Setup Menu

The following pages tell you the options of each item and describe the meaning of each option.

<u>Item</u>	<u>Option</u>	<u>Description</u>
• Virus Warning	<i>Enabled</i>	Activates automatically when the system boots up causing a warning message to appear when anything attempts to access the boot sector or hard disk partition table.
	<i>Disabled</i>	No warning message appears when anything attempts to access the boot sector or hard disk partition table. Note: This function is available only for DOS and other OS that do not trap INT13.
• CPU Internal Cache	<i>Enabled</i>	This item speeds up memory access.
	<i>Disabled</i>	However, it depends on CPU/chipset design. The default value is enabled.
• External Cache	<i>Enabled</i>	Enable external cache.
	<i>Disabled</i>	Disable external cache.
• Quick Power On Self Test	<i>Enabled</i>	Enable quick POST. BIOS will shorten or skip some check items during POST to speed up POST after you power on the computer.
	<i>Disabled</i>	Normal POST.
• Boot Sequence	<i>A,C,SCSI...</i>	You can choose any search sequence for bootup.
	<i>C, CDROM,A</i>	
• Swap Floppy Drive	<i>Enabled</i>	It will exchange the assignment of A&B floppy drives.
	<i>Disabled</i>	The assignment of A&B floppy drives are normal.
• Boot Up Floppy Seek	<i>Enabled</i>	BIOS searches for floppy disk drive to determine if drive is ready for diskette read/write during booting.
	<i>Disabled</i>	skip drive seeking to speed up system booting.
• Boot Up	<i>On</i>	Keypad is used as number keys.

Numlock Status	<i>Off</i>	Keypad is used as arrow keys.
• Gate A20 Option	<i>Normal</i>	The A20 signal is controlled by keyboard controller or chipset hardware.
	<i>Fast</i>	It is default. The A20 signal is controlled by Port 92 or chipset specific method.
• Typematic Rate Setting	<i>Enabled</i>	Enable typematic rate and typematic delay programming.
	<i>Disabled</i>	Disable typematic rate and typematic delay programming. The system BIOS will use default value of these two items.
• Typematic Rate Chars/Sec)	6 ~ 30	Set the speed of the typematic rate (characters per second).
• Typematic Delay (Msec)	250 ~ 1000	Set the time of the typematic delay.
• Security Option	<i>System</i>	The system will not boot and access to Setup will be denied if the correct password is not entered when prompting.
	<i>Setup</i>	The system will boot up, but access to Setup will be denied if the correct password is not entered when prompting.
		Note: To disable security, select Password Setting (refer to page 3-14) at Main Menu and then you will be asked to enter password. Do not type anything and just press <Enter>, it will disable security. Once the security is disabled, the system will boot and you can enter Setup freely.
• PCI/VGA Palette Snoop	<i>Enabled</i>	Enable PCI/VGA palette snoop.
	<i>Disabled</i>	Disable PCI/VGA palette snoop.
• OS Select For DRAM>64MB	<i>Non-OS2</i>	If your operating system is not OS/2, please select this item.
	<i>OS2</i>	If system DRAM is more than 64MB and operating system is OS/2, please select this item.
• Video BIOS Shadow	<i>Enabled</i>	Video BIOS will be copied to RAM. Video Shadow will increase the video speed.
	<i>Disabled</i>	Video shadow is disabled.
• C8000~CBFFF Shadow ... DC000~DFFFF	<i>Enabled</i>	Optional ROM will be copied to RAM by 16K bytes per unit.

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Shadow: Disabled The shadow function is disabled.

Chipset Features Setup

ROM PCI/ISA BIOS (2A59IQ1D) CHIPSET FEATURES SETUP AWARD SOFTWARE, INC.			
Auto Configuration	: Enabled	Pipeline Cache Timing	: Faster
DRAM Timing	: 60ns	Chipset NA# Asserted	: Enabled
		Mem Drive Str. (MA/RAS)	: Auto
DRAM Leadoff Timing	: 10/6/3		
DRAM Read Burst (EDO/FP)	: x444/x444		
DRAM Write Burst Timing	: x222		
Fast EDO Leadoff	: Disabled		
Refresh RAS# Assertion	: 4 Clks		
Fast RAS To CAS Delay	: 3		
DRAM Page Idle Timing	: 2 Clks		
DRAM Enhanced Paging	: Enabled		
Fast MA to RAS# Delay	: 2 Clks		
System BIOS Cacheable	: Disabled		
Video BIOS Cacheable	: Disabled		
8 Bit I/O Recovery Timing	: 1	ESC: Quit	↑↓→← : Select Item
16 Bit I/O Recovery Timing	: 1	F1 : Help	PU/PD/+/- : Modify
Memory Hole At 15M-16M	: Disabled	F5 : Old Values (Shift)	F2: Color
PCI 2.1 Compliance	: Enabled	F7 : Load Setup Defaults	

Figure 3-4 Chipset Feature Setup

The following pages tell you the options of each item and describe the meaning of each option.

<u>Item</u>	<u>Option</u>	<u>Description</u>
• Auto Configuration	Enabled	Automatically configure DRAM Timing according to the value of “DRAM Speed Selection”.
	Disabled	Manually configure. Warning: You’d better not set DRAM timing too fast which may affect your system stability.

• DRAM Timing	60ns, 70ns	This item is of selected DRAM read/write timing. You must ensure that your SIMMs are as fast as 60ns, otherwise you have to select 70ns.
• DRAM Leadoff Timing ... Fast MA to RAS# Delay		All these items are about DRAM Timing configuration
• System BIOS Cacheable	Enabled	Besides conventional memory, the system BIOS area is also cacheable.
	Disabled	The system BIOS area is not cacheable.
• Video BIOS Cacheable	Enabled	Besides conventional memory, video BIOS area is also cacheable.
	Disabled	Video BIOS area is not cacheable.
• 8 Bit I / O Recovery Time	1 ~ 8	Defines the ISA Bus 8 bit I/O operating recovery time.
	NA	8 bit I/O recovery time is not exist.
• 16 Bit I / O Recovery Time	1 ~ 4	Defines the ISA Bus 16 bit I/O operating recovery time.
	NA	16 bit I/O recovery time is not exist.
• Memory Hole At 15M-16M	Enabled	Memory Hole at 15-16M is reserved for expanded PCI card.
	Disabled	Do not set this memory hole.
• Pipeline Cache Timing	Faster Fastest	This item allows you to select two timing of pipeline cache, faster and fastest
• Chipset NA# Asserted	Enabled Disabled	This item allows you to select between two methods of chipset NA# asserted during CPU with cycles/CPU line fills Enabled or Disabled
• Mem Drive Str. (MA/RAS)	10mA/16mA 10mA/10mA 16mA/16mA 16mA/10mA	This item allows you to select memory drive Strength. If high loading SIMM RAM used (the number of memory Chips are more than 64), you should select 16mA/16mA

Power Management Setup

ROM PCI/ISA BIOS (2A59IQ1D) POWER MANAGEMENT SETUP AWARD SOFTWARE, INC.		
Power Management	: Disabled	** Reload Global Timer Events **
PM Control by APM	: Yes	IRQ [3-7, 9-15], NMI : Enabled
Video Off Method	: VHSYNC+Blank	Primary IDE 0 : Disabled

AWARD BIOS Description

Video Off After : Suspend	Primary IDE 1 : Disabled
Doze Mode : Disabled	Secondary IDE 0 : Disabled
Standby Mode : Disabled	Secondary IDE 1 : Disabled
Suspend Mode : Disabled	Floppy Disk : Disabled
HDD Power Down : Disabled	Serial Port : Enabled
Throttle Duty Cycle : 62.5%	Parallel Port : Disabled
VGA Active Monitor : Disabled	
Power Button Override : Enabled	
ESC: Quit ↑↓→← : Select Item	
F1 : Help PU/PD/+/- : Modify	
F5 : Old Values (Shift)F2: Color	
F7 : Load Setup Defaults	
** Wake up Events Form Suspend **	
IRQ8 Clock Event : Disabled	

Figure 3-5 Power Management Setup Menu

The following pages tell you the options of each item and describe the meanings of each option.

<u>Item</u>	<u>Option</u>	<u>Description</u>
• Power Management	<i>Disabled</i>	Global Power Management (PM) will be disabled.
	<i>User Define</i>	Users can configure their own Power Management Timer.
	<i>Min Saving</i>	Pre - defined timer value are used such that all timers are in their MAX values
	<i>Max Saving</i>	Pre - defined timer value are used such that all timers are in their MIN value
• PM Control by APM	<i>No</i>	System BIOS will ignore APM when Power Management is enabled.
	<i>Yes</i>	System BIOS will wait for APM's prompt before it enter any PM mode e.g. Standby or Suspend.
• Video Off Method	<i>Blank</i>	The system BIOS will only blank off the screen when disabling video.
	<i>Screen</i>	
	<i>V / H SYNC</i>	In addition to Blank Screen, BIOS will also turn off the V-SYNC & H - SYNC signals from VGA cards to monitor.
	<i>+ Blank</i>	
	<i>DPMS</i>	This function is enabled only for the VGA card supporting DPMS.
• Video Off After	<i>N/A</i>	System BIOS will never turn off the screen.

	<i>Suspend</i>	Screen off when system is in Suspend mode.
	<i>Standby</i>	Screen off when system is in Standby mode.
	<i>Doze</i>	Screen off when system is in Doze mode.
• Doze mode	<i>Disabled</i>	The system will never enter Doze mode.
	<i>1Min ~ 1 Hr</i>	Defines the continuous idle time before the system entering Doze mode. If any item defined in “Wake Up Events In Doze & Suspend” is On and activated, the system will be waken up.
• Standby Mode	<i>Disabled</i>	The system will never enter Standby mode.
	<i>1 Min ~ 1Hr</i>	Defines the continuous idle time before the system entering Standby mode. If any item defined in “Wake Up Events In Doze & Suspend” is On and activated, the system will be waken up.
• Suspend Mode	<i>Disabled</i>	The system will never enter Suspend mode.
	<i>1 Min ~ 1Hr</i>	Defines the continuous idle time before the system entering Suspend mode. If any item defined in “Wake Up Events In Suspend” is On and activated, the system will be waken up.
• HDD Power Down	<i>Disabled</i>	HDD’s motor will not be off.
	<i>1 ~15 Min</i>	Defines the continuous HDD idle time before the HDD entering power saving mode (motor off).
• Throttle Duty Cycle	<i>12.5%</i>	Enable clock throttling
	<i>25%</i>	
	<i>37.5%</i>	
	<i>50%</i>	
	<i>62.5%</i>	
	<i>75%</i>	
	<i>87.5%</i>	
* • Power Button Override	<i>Enabled</i>	If the user presses the power button for more than four seconds while the system is in the working state, a hardware event is generated and the system will transition to the self off state.
	<i>Disabled</i>	If the user presses the power button, the system will power off immediately.
• IRQ8 Clock Event	<i>Enabled</i>	Generate a clock event.
	<i>Disabled</i>	Does not generate a clock event.

Note: IRQ8 Clock Event must be enabled when you want to use Resume By Ring and Alarm.

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• IRQ3~7, 9~15), NMI	<i>Enabled</i> <i>Disabled</i>	Reload global timer. No influence to global timer.
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PNP/PCI Configuration Setup

ROM PCI/ISA BIOS (2A59IQ1D) 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
Force Update ESCD	: Disabled	Secondary IDE INT#	: B
IRQ-3 assigned to	: Legacy ISA	Used MEM base addr	: N/A
IRQ-4 assigned to	: Legacy ISA		
IRQ-5 assigned to	: PCI/ISA PnP		
IRQ-7 assigned to	: PCI/ISA PnP		
IRQ-9 assigned to	: PCI/ISA PnP		
IRQ-10 assigned to	: PCI/ISA PnP		
IRQ-11 assigned to	: PCI/ISA PnP		
IRQ-12 assigned to	: PCI/ISA PnP		
IRQ-14 assigned to	: Legacy ISA		
IRQ-15 assigned to	: Legacy ISA		
DMA-0 assigned to	: PCI/ISA PnP		
DMA-1 assigned to	: PCI/ISA PnP		
DMA-3 assigned to	: PCI/ISA PnP		
DMA-4 assigned to	: PCI/ISA PnP	ESC: Quit	↑↓→← : Select Item
DMA-5 assigned to	: PCI/ISA PnP	F1 : Help	PU/PD/+/- : Modify
DMA-6 assigned to	: PCI/ISA PnP	F5 : Old Values	(Shift)F2: Color
DMA -7 assigned to	: PCI/ISA PnP	F7 : Load Setup Defaults	

Figure 3-6 PNP/PCI Configuration Setup Menu

The following pages will tell you the options of each item and describe the meaning of each option.

Item

Option

Description

• Resources Controlled By	<i>Manual</i>	Assigns system resources (IRQ and DMA) manually by user.
	<i>Auto</i>	Assigns system resources (IRQ and DMA) automatically by BIOS.
• Force Updating ESCD	<i>Enabled</i>	The system BIOS will force updating ESCD once, then automatically set this item disabled.
	<i>Disabled</i>	Disable force update ESCD function.
• IRQ-3 ~ IRQ-15 assigned to	<i>Legacy ISA</i>	The specified IRQ-x will be assigned to ISA only.
	<i>PCI/ISA PnP</i>	The specified IRQ-x will be assigned to ISA or PCI.
	<i>Legacy ISA</i>	The specified DMA-x will be assigned to ISA only.
• DMA-0 ~ DMA-7 assigned to	<i>PCI/ISA PnP</i>	The specified DMA-x will be assigned to ISA or PCI.
	<i>PCI-AUTO</i>	The BIOS will scan for PCI IDE devices and determine the location of the PCI IDE device.
	<i>PCI - SLOT 1~4</i>	The BIOS will scan IRQ14 for primary IDE INT# and IRQ15 for secondary IDE INT# at the specified slot.
• PCI IDE IRQ Map To	<i>ISA</i>	The BIOS will not assign any IRQs even if PCI IDE card is found. Because some IDE cards connect the IRQ14&15 directly from ISA slot through a card.
	<i>A ~ D</i>	Tells which INT# the PCI IDE card uses for its interrupt of 1st IDE channel.
	<i>A ~ D</i>	Tells which INT# the PCI IDE card uses for its interrupt of 2nd IDE channel.

Load Setup Defaults

The Setup Defaults is common and efficient setting.

Integrated Peripherals

AWARD BIOS Description

ROM PCI/ISA BIOS (2A59IQ1D) INTEGRATED PERIPHERALS AWARD SOFTWARE, INC.		
IDE HDD Block Mode	: Enabled	InfraRed Duplex Type : Disabled
IDE Primary Master PIO	: Auto	
IDE Primary Slave PIO	: Auto	
IDE Secondary Master PIO	: Auto	
IDE Secondary Slave PIO	: Auto	
IDE Primary Master UDMA	: Auto	
IDE Primary Slave UDMA	: Auto	
IDE Secondary Master UDMA	: Auto	
IDE Secondary Slave UDMA	: Auto	
On-Chip Primary PCI IDE	: Enabled	
On-Chip Secondary PCI IDE	: Enabled	
USB Keyboard Support	: Disabled	
Onboard FDC Controller	: Enabled	
Onboard Serial Port 1	: Auto	ESC: Quit ↑↓→← : Select Item F1 : Help PU/PD/+/- : Modify F5 : Old Values (Shift)F2: Color F7 : Load Setup Defaults
Onboard Serial Port 2	: Auto	
Onboard Parallel Port	: 378/IRQ7	
Parallel Port Mode	: Compatible	

Figure 3-7 Integrated Peripherals Menu

The following pages tell you the options of each item and describe the meaning of each option.

<u>Item</u>	<u>Option</u>	<u>Description</u>
• IDE HDD Block Mode	<i>Enabled</i>	Allows IDE HDD read/write several sectors one time.
	<i>Disabled</i>	IDE HDD only reads/writes a sector one time.
• IDE Primary/Secondary Master/Slave PIO/UDMA	<i>Mode 0 - 4</i>	Defines the IDE primary/secondary master/slave PIO mode.
	<i>Auto</i>	The IDE PIO mode is defined according to auto - detect
• On-chip Primary/Secondary PCI IDE	<i>Enabled</i>	On-chip primary/secondary PCI IDE port is enabled.
	<i>Disabled</i>	On-chip primary/secondary PCI IDE port is disabled.
• Onboard FDC	<i>Enabled</i>	Onboard floppy disk controller is enabled.

Controller	<i>Disabled</i>	Onboard floppy disk controller is disabled.
• Onboard Serial Port 1/2	<i>3F8/IRQ4, 2F8/IRQ3, 3E8/IRQ4, 2E8/IRQ3, Disabled, Auto</i>	Defines onboard serial port address and required interrupt number.
• Onboard Parallel Port	<i>378/IRQ7, 278/IRQ5, 3BC/IRQ7 Disabled</i>	Onboard serial port is disabled. Set address and interrupt number automatically. Defines onboard parallel port address and IRQ channel.
• ECP Mode Use DMA	<i>1</i>	Onboard parallel port is disabled. Define channel 1 used for DMA.
• EPP Version	<i>1.7 1.9</i>	Defines EPP version.
• USB Controller	<i>Enabled Disabled</i>	Enable for using USB peripheral devices. Disable for using no USB peripheral devices.

Password Setting

When you select this function, the following message will appear at the center of the screen to assist you in creating a password.

ENTER PASSWORD

Type the password, up to eight characters, and press <Enter>. The password typed now will clear any previously entered password from CMOS memory. You will be asked to confirm the password. Type the password again and press <Enter>. You may also press <Esc> to abort the selection and not enter a password.

To disable password, just press <Enter> when you are prompted to enter password. A message will confirm the password being disabled. Once the password is disabled, the system will boot and you can enter Setup freely.

PASSWORD DISABLED

If you select “**System**” at “Security Option” of “BIOS Features Setup” Menu, you will be prompted for the password every time the system is rebooted or any time you try to enter “CMOS Setup”.

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If you select “**Setup**” at “Security Option” of “BIOS Features Setup” Menu, you will be prompted for the password only when you try to enter “CMOS Setup”.

IDE HDD Auto Detection

The Enhanced IDE features was included in all Award BIOS. Below is a brief description of this features.

ROM/PCI/ISA BIOS (2A59IQ1D) IDE HDD AUTO DETECTION AWARD SOFTWARE, INC.																																							
<div style="border: 1px solid black; padding: 2px; margin-bottom: 5px;">HARD DISKS TYPE SIZE CYLS HEAD PRECOMP LANDZ SECTOR MODE</div> <div>Primary Master:</div> <div style="border: 1px solid black; padding: 5px; margin-top: 5px;"><div style="border: 1px solid black; padding: 2px; margin-bottom: 5px; text-align: center;">Select Primary Master Option (N=Skip): N</div><table style="width: 100%; border-collapse: collapse;"><tr><th style="text-align: left;">OPTION</th><th>SIZE</th><th>CYLS</th><th>HEADS</th><th>PRECOMP</th><th>LANDZ</th><th>SECTORS</th><th>MODE</th></tr><tr><td>2(Y)</td><td>541</td><td>525</td><td>32</td><td>0</td><td>1049</td><td>67</td><td>LBA</td></tr><tr><td>1</td><td>541</td><td>1050</td><td>16</td><td>65535</td><td>1049</td><td>63</td><td>NORMAL</td></tr><tr><td>3</td><td>541</td><td>525</td><td>32</td><td>65535</td><td>1049</td><td>63</td><td>LARGE</td></tr></table></div>								OPTION	SIZE	CYLS	HEADS	PRECOMP	LANDZ	SECTORS	MODE	2(Y)	541	525	32	0	1049	67	LBA	1	541	1050	16	65535	1049	63	NORMAL	3	541	525	32	65535	1049	63	LARGE
OPTION	SIZE	CYLS	HEADS	PRECOMP	LANDZ	SECTORS	MODE																																
2(Y)	541	525	32	0	1049	67	LBA																																
1	541	1050	16	65535	1049	63	NORMAL																																
3	541	525	32	65535	1049	63	LARGE																																

Figure 3-9 IDE HDD Auto Detection Menu

3.11.1 Setup **Changes**

With auto-detection

- BIOS setup will display all possible modes that is supported by the HDD including NORMAL, LBA and LARGE.
- If HDD does not support LBA modes, no “LBA” option will be shown.
- If number of physical cylinders is less than or equal to 1024, “LARGE” option may not be shown.
- Users can select a mode which is appropriate for them.

With Standard CMOS Setup

	CYL	HEAD	PRECOMP	LAND	SECTOR	MODE
				ZONE		
Drive C: User(516MB)	1120	16	65535	1119	59	Normal
Drive D: None(203MB)	684	16	65535	685	38	-----

When HDD type is in “user” type, the “MODE” option will be opened for user to select their own HDD mode.

2 HDD Modes

The Award BIOS supports 3 HDD modes: NORMAL, LBA and LARGE, and Auto detect.

NORMAL

Generic access mode in which neither the BIOS nor the IDE controller will make any transformation during accessing. The maximum number of cylinders, heads and sectors for NORMAL mode are 1024,16 and 63.

If user sets his HDD to NORMAL mode, the maximum accessible HDD size will be 528 megabytes even though its physical size may be greater than that.

LBA (Logical Block Addressing) mode

A new HDD accessing method to overcome the 528 Megabyte bottleneck. The number of cylinders, heads and sectors shown in setup may not be the number physically contained in the HDD.

During HDD accessing, the IDE controller will transform the logical address described by sector, head and cylinder number into its own physical address inside the HDD. The maximum HDD size supported by LBA mode is 8.4 Ggabytes.

LARGE mode

Some IDE HDDs contain more than 1024 cylinder without LBA support (in some cases, user do not want LBA). The Award BIOS provides another alternative to support these kinds of HDD.

BIOS tricks DOS (or other OS) that the number of cylinders is less than 1024 by dividing it by 2. At the same time, the number of heads is multiplied by 2. A reverse transformation process will be made inside INT13h in order to access the right HDD address.

AWARD BIOS Description

Auto detect

If using Auto detect, the BIOS will automatically detect IDE hard disk mode and set it to one kind of HDD modes.

3 Remark

To support LBA or LARGE mode of HDDs, there must be some software involved which are located in Award HDD Service Routine (INT13h).It maybe fail to access a HDD with LBA (LARGE) mode selected if you are running under an Operating System which replaces the whole INT 13h.

Hard Disk Low Level Format Utility

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

Shown below is the Main Menu after you enter into the Award Low-Level-Format Utility.

Format Utility							
Hard Disk Low-Level-Format Utility				NO. CYLS HEAD			
SELECT DRIVE							
BAD TRACK LIST							
PREFORMAT							
Current select drive is : C							
DRIVE : C CYLINDER : 0 HEAD : 0							
SIZE CYL HEAD PRECOMP LANDZ SECTORS MODE							
Primary Master : 40MB 977 5 300 977 17 NORMAL							
Primary Slave : None 0 0 0 0 0 AUTO							
Secondary Master: None 0 0 0 0 0 AUTO							
Secondary Slave : None 0 0 0 0 0 AUTO							
Up/Down - Select item				Enter - Accept		ESC - Exit/Abort	
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Figure 3-10 Hard Disk Low Level Format Utility Menu

Select Drive

Select from installed hard disk drive C or D. List at the bottom of the screen is the drive detected automatically by the utility.

Bad Track List

Auto scan bad track

The utility will automatically scan bad tracks and list the bad tracks in the window at the right side of the screen.

Add bad track

Directly type in the information of the known bad tracks in the window at the right side of the screen.

Modify bad track

Modifies the information of the added bad tracks in the window at the right side of the screen.

Delete bad track

Deletes the added bad tracks in the window at the right side of the screen.

Clear bad track table

Clears the whole bad track list in the window at the right side of the screen.

Preformat

Interleave

Selects the interleave number of the hard disk drive you wish to perform low level format. You must select from 1 to 8. Check the documentation that came with the drive for the correct interleave number, or select 0 for utility automatic detection.

Auto scan bad track

This allows the utility to scan bad track or not.

Start

Press < Y > to start low level format.

Power - On Boot

If you have made all the changes to CMOS values and the system can not boot with the CMOS values selected in Setup, restart the system by turning it OFF then ON or press the “RESET” button on the system case. You may also restart the system by simultaneously pressing < Ctrl >, < Alt > and < Del > keys.