
Chapter 4

Award BIOS

This chapter tells how to configure the system parameters. You may update your BIOS via AWARD Flash Utility.

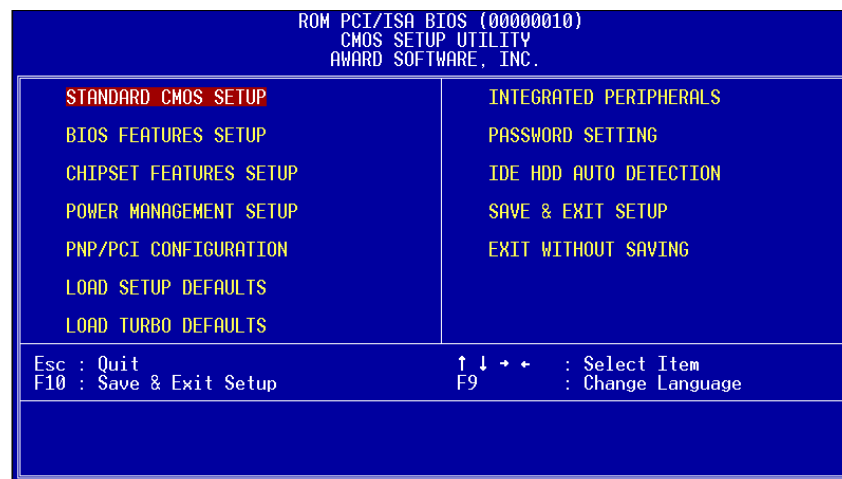


Important: *Because the BIOS code is the most often changed part of the mainboard design, the BIOS information contained in this chapter (especially the Chipset Setup parameters) may be a little different compared to the actual BIOS that came with your mainboard.*

AWARD BIOS

4.1 Entering the Award BIOS Setup Menu

The BIOS setup utility is a segment of codes/routines residing in the BIOS Flash ROM. This routine allows you to configure the system parameters and save the configuration into the 128 byte CMOS area, (normally in the RTC chip or directly in the main chipset). To enter the BIOS Setup, press **DEL** during POST (Power-On Self Test). The BIOS Setup Main Menu appears as follows.



Tip: Choose "Load Setup Defaults" for recommended optimal performance. Choose "Load Turbo Defaults" for best performance with light system loading. Refer to section 3.7.

The section at the bottom of the screen tells how to control the screen. Use the arrow keys to move between items, F9 to change language, ESC to exit, and F10 to save the changes before exit. Another section at the bottom of the screen displays a brief description of the highlighted item.

After selecting an item, press Enter to select or enter a submenu.

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4.2 Standard CMOS Setup

The "Standard CMOS Setup" sets the basic system parameters such as the date, time, and the hard disk type. Use the arrow keys to highlight an item and **PGUP** or **PGDN** to select the value for each item.

```
ROM PCI/ISA BIOS (00000010)
STANDARD CMOS SETUP
AWARD SOFTWARE, INC.

Date (mm:dd:yy) : Mon, Jan 26 1997
Time (hh:mm:ss) : 9 : 41 : 24

HARD DISKS      TYPE    SIZE    CYLS  HEAD  PRECOMP  LANDZ  SECTOR  MODE
Primary Master  : 0      0      0      0      0      0      0      0  NORMAL
Primary Slave   : 0      0      0      0      0      0      0      0  NORMAL
Secondary Master : 0      0      0      0      0      0      0      0  NORMAL
Secondary Slave : 0      0      0      0      0      0      0      0  NORMAL

Drive A : None
Drive B : None

Video : EGA/VGA
Halt On : All Errors

ESC : Quit      ↑ ↓ → ← : Select Item    PU/PD/+/- : Modify
F1  : Help      F9       : Change Language
```

Standard CMOS → Date

To set the date, highlight the Date parameter. Press **PGUP** or **PGDN** to set the current date. The date format is month, date, and year.

Standard CMOS → Time

To set the time, highlight the Time parameter. Press **PGUP** or **PGDN** to set the current time in hour, minute, and second format. The time is based on the 24 hour military clock.

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Standard CMOS → Primary Master → Type

Standard CMOS → Primary Slave → Type

Standard CMOS → Secondary Master → Type

Standard CMOS → Secondary Slave → Type

Type
Auto
User
None

This item lets you select the IDE hard disk parameters that your system supports. These parameters are Size, Number of Cylinder, Number of Head, Start Cylinder for Pre-compensation, Cylinder number of Head Landing Zone and Number of Sector per Track. The default setting is **Auto**, which enables BIOS to automatically detect the parameters of installed HDD at POST (Power-On Self Test). If you prefer to enter HDD parameters manually, select User. Select None if no HDD is connected to the system.

The IDE CDROM is always automatically detected.



Tip: For an IDE hard disk, we recommend that you use the "IDE HDD Auto Detection" to enter the drive specifications automatically. See the section "IDE HDD Auto Detection".

Standard CMOS → Primary Master → Mode

Standard CMOS → Primary Slave → Mode

Standard CMOS → Secondary Master → Mode

Standard CMOS → Secondary Slave → Mode

Mode
Auto
Normal
LBA
Large

The enhanced IDE feature allows the system to use a hard disk with a capacity of more than 528MB. This is made possible through the Logical Block Address (LBA) mode translation. The LBA is now considered as a standard feature of current IDE hard disk on the market because of its capability to support capacity larger than 528MB. Note that if HDD is formatted with LBA On, it will not be able to boot with LBA Off.

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Standard CMOS → Drive A

Standard CMOS → Drive B

Drive A

None
360KB 5.25"
1.2MB 5.25"
720KB 3.5"
1.44MB 3.5"
2.88MB 3.5"

These items select floppy drive type. The available settings and types supported by the mainboard are listed on the left.

Standard CMOS → Video

Video

EGA/VGA
CGA40
CGA80
Mono

This item specifies the type of video card in use. The default setting is VGA/EGA. Since current PCs use VGA only, this function is almost useless and may be disregarded in the future.

Standard CMOS → Halt On

Halt On

No Errors
All Errors
All, But Keyboard
All, But Diskette
All, But Disk/Key

This parameter enables you to control the system stops in case of Power-On Self Test (POST) error.

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4.3 BIOS Features Setup

This screen appears when you select the option "BIOS Features Setup" from the main menu.

ROM PCI/ISA BIOS (00000010) BIOS FEATURES SETUP AWARD SOFTWARE, INC.		
Virus Warning	: Enabled	Video BIOS Shadow : Disabled
CPU Internal Cache	: Disabled	C8000-CBFFF Shadow : Disabled
External Cache	: Disabled	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	: Off	DC000-DFFFF Shadow : Disabled
Gate A20 Option	: Normal	
Memory Parity/ECC Check	: Disabled	
Typematic Rate Setting	: Disabled	
Typematic Rate (Chars/Sec)	: 6	
Typematic Delay (Msec)	: 250	
Security Option	: Setup	
PCI/VGA Palette Snoop	: Disabled	
OS Select For DRAM > 64MB	: Non-OS2	
Show Logo On Screen	: Enabled	
		ESC : Quit ↑↓←→ : Select Item
		F1 : Help PU/PD/+/- : Modify
		F5 : Old Values F9 : Language
		F6 : Load Setup Defaults
		F7 : Load Turbo Defaults

BIOS Features → Virus Warning

Virus Warning	Set this parameter to Enabled to activate the warning message. This feature protects the boot sector and partition table of your hard disk from virus intrusion.
Enabled	
Disabled	Any attempt during boot up to write to the boot sector of the hard disk drive stops the system and the following warning message appears on the screen. 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.

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BIOS Features → CPU Internal Cache

External Cache

Enabled

Disabled

Enabling this parameter activates CPU internal cache. Disabling the parameter slows down the system. Therefore, we recommend that you leave it enabled unless you are troubleshooting a problem.

BIOS Features → External Cache

External Cache

Enabled

Disabled

Enabling this parameter activates the secondary cache (currently, PBSRAM cache). Disabling the parameter slows down the system. Therefore, we recommend that you leave it enabled unless you are troubleshooting a problem.

BIOS Features → Quick Power On Self Test

Quick Power-on

Self-test

Enable

Disabled

This parameter speeds up POST by skipping some items that are normally checked.

BIOS Features → Boot Sequence

Boot Sequence

A,C,SCSI

C,A,SCSI

C,CDROM,A

CDROM,C,A

CDROM,A,C

D,A,SCSI

E,A,SCSI

F,A,SCSI

SCSI,A,C

SCSI,C,A

C only

LS/ZIP,C

This parameter allows you to specify the system boot up search sequence. The hard disk ID are listed below:

C: Primary master

D: Primary slave

E: Secondary master

F: Secondary slave

LS: LS120 drive

ZIP: IOMEGA ZIP drive

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BIOS Features → Swap Floppy Drive

Swap Floppy Drive

Enabled
Disabled

This item allows you to swap floppy drives. For example, if you have two floppy drives (A and B), you can assign the first drive as drive B and the second drive as drive A or vice-versa.

BIOS Features → Boot Up NumLock Status

Boot up NumLock Status

On
Off

Setting this parameter to On enables the numeric function of the numeric keypad. Set this parameter to Off to disregard the function. Disabling the numeric function allows you to use the numeric keypad for cursor control.

BIOS Features → Memory Parity/ECC Check

Memory Parity/ECC Check

Enabled
Disabled

This item is used to enable or disable parity/ECC check function.

BIOS Features → Typematic Rate Setting

Typematic Rate Setting

Enabled
Disabled

Set this parameter to Enable/Disable the keyboard repeat function. When enabled, continually holding down a key on the keyboard will generate repeatedly keystrokes.

BIOS Features → Typematic Rate (Chars/Sec)

Typematic Rate

6
8
10
12
15
20
24
30

This item allows you to control the speed of repeated keystrokes. The default is 30 characters/sec.

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BIOS Features → Typematic Delay (Msec)

<u>Typematic Delay</u>
250
500
750
1000

This parameter allows you to control the delay time between the first and the second keystroke (where the repeated keystrokes begin). The typematic delay settings are 250, 500, 750, and 1000 msec.

BIOS Features → Security Option

<u>Security Option</u>
Setup
System

The **System** option limits access to both the System boot and BIOS setup. A prompt asking you to enter your password appears on the screen every time you boot the system.

The **Setup** option limits access only to BIOS setup.

To disable the security option, select Password Setting from the main menu, don't type anything and just press <Enter>.

BIOS Features → PCI/VGA Palette Snoop

<u>PCI/VGA Palette Snoop</u>
Enabled
Disabled

Enabling this item informs the PCI VGA card to keep silent (and to prevent conflict) when palette register is updated (i.e., accepts data without responding any communication signals). This is useful only when two display cards use the same palette address and plugged in the PCI bus at the same time (such as MPEQ or Video capture). In such case, PCI VGA is silent while MPEQ/Video capture is set to function normally.

BIOS Features → OS Select for DRAM > 64MB

<u>OS Select for DRAM > 64MB</u>
OS/2
Non-OS/2

Set to OS/2 if your system is utilizing an OS/2 operating system and has a memory size of more than 64 MB.

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BIOS Features → Show Logo On Screen

<u>Show Logo On Screen</u>

Enabled
Disabled

This item lets you decide if our logo will appear in the POST screen.

BIOS Features → Video BIOS Shadow

<u>Video BIOS Shadow</u>

Enabled
Disabled

VGA BIOS Shadowing means to copy video display card BIOS into the DRAM area. This enhances system performance because DRAM access time is faster than ROM.

BIOS Features → C800-CBFF Shadow

BIOS Features → CC00-CFFF Shadow

BIOS Features → D000-D3FF Shadow

BIOS Features → D400-D7FF Shadow

BIOS Features → D800-DBFF Shadow

BIOS Features → DC00-DFFF Shadow

<u>C800-CBFF Shadow</u>

Enabled
Disabled

These six items are for shadowing ROM code on other expansion cards. Before you set these parameters, you need to know the specific addresses of that ROM code. If you do not know this information, enable all the ROM shadow settings.

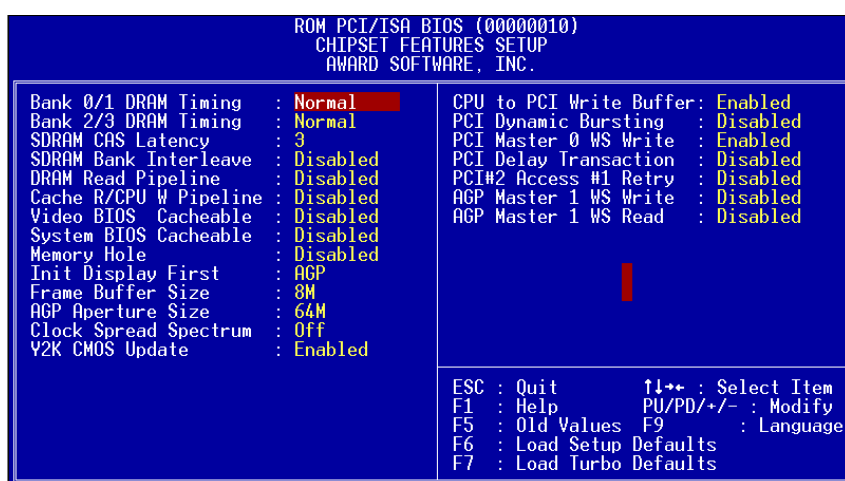


Note: The F000 and E000 segments are always shadowed because BIOS code occupies these areas.

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4.4 Chipset Features Setup

The "Chipset Features Setup" includes settings for the chipset dependent features. These features are related to system performance.



Caution: Make sure you fully understand the items contained in this menu before you try to change anything. You may change the parameter settings to improve system performance. However, it may cause system unstable if the settings are not correct for your system configuration.

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Chipset Features → Bank 0/1 Timing

Chipset Features → Bank 2/3 Timing

<u>DRAM Timing</u>

60 ns

70 ns

This item is used to set DRAM timing parameters which can be automatically set by BIOS, 60ns and 70ns.

Chipset Features → SDRAM CAS Latency

<u>SDRAM CAS Latency</u>

2T

3T

This is an important parameter that affects SDRAM performance, the default setting is 2 clocks. If your system has unstable problem, change 2T to 3T.

Chipset Features → SDRAM Bank Interleave

<u>SDRAM Bank Interleave</u>

Enabled

Disabled

This item allows pages of different banks to be active.

Chipset Features → DRAM Read Pipeline

<u>DRAM Read Pipeline</u>

Enabled

Disabled

This item is used to enable or disable DRAM read pipeline.

Chipset Features → Cache R/W CPU Pipeline

<u>Cache R/W CPU Pipeline</u>
--

Enabled

Disabled

This item is used to enable or disable both cache read and CPU write pipeline.

Chipset Features → Video BIOS Cacheable

<u>Video BIOS Cacheable</u>
--

Enabled

Disabled

Allows the video BIOS to be cached to allow faster video performance.

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Chipset Features → System BIOS Cacheable

**System BIOS
Cacheable**

Enabled
Disabled

Enabling this item allows you to cache the system BIOS to further enhance system performance.

Chipset Features → Memory Hole

Memory Hole

Enabled
Disabled

This option lets you reserve system memory area for special ISA cards. The chipset accesses code/data of these areas from the ISA bus directly. Normally, these areas are reserved for memory mapped I/O card.

Chipset Features → Init Display First

Init Display First

PCI
AGP

If you installed a PCI VGA card and an AGP card at the same time, this item lets you decide which one is the initial display card.

Chipset Features → Frame Buffer Size

Frame Buffer Size

2M
4M
8M

The onboard AGP need to share a memory size with the system memory. You may set a larger size for getting better performance. The shared memory size is up to 8MB.

Chipset Features → AGP Aperture Size

AGP Aperture Size

4M
8M
16M
32M
64M
128M
256M

This item lets you determine the effective size of the AGP Graphic Aperture.

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Chipset Features → Clock Spread Spectrum

Clock Spread Spectrum

On
Off

This item is used to set clock spread spectrum for EMI testing. Normally, you don't need to change the default setting.

Chipset Features → Y2K CMOS Update

Y2K CMOS Update

Enabled
Disabled

This item is designed for some Y2K testing programs, for example, Check It 98. If you are using this kind of program to test your system and fails, enable this item and redo the test again.

PNP/PCI Configuration → CPU to PCI Write Buffer

CPU to PCI Write Buffer

Disabled
Enabled

This item is used to enable or disable CPU to PCI write buffer.

PNP/PCI Configuration → PCI Dynamic Bursting

PCI Dynamic Bursting

Disabled
Enabled

This item is used to enable or disable PCI dynamic bursting.

PNP/PCI Configuration → PCI Master 0 WS Write

PCI Master 0 WS Write

Disabled
Enabled

This item is used to control the PCI master write cycle. If enabled, there is no wait state. If disabled, there will be one wait state for PCI master write.

PNP/PCI Configuration → PCI Delay Transaction

PCI Delay Transaction

Disabled
Enabled

This item lets you control the Delayed Transaction function of the VIA 586A chipset (Intel PCI to ISA bridge). This function is used to meet latency of PCI cycles to or from ISA bus. Try to enable or disable it, if you have ISA card compatibility problem.

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PNP/PCI Configuration → PCI#2 Access #1 Retry

<u>PCI#2 Access #1</u>

<u>Retry</u>

Disabled

Enabled

This item is used to enable or disable AGP master retry disconnect. If enabled, AGP master will be disconnected if max retries are attempted without success. PCI#2 means AGP.

PNP/PCI Configuration → AGP Master 1 WS Write

<u>AGP Master 1 WS</u>

<u>Write</u>

Disabled

Enabled

This item is used to enable or disable AGP master 1 wait state write.

PNP/PCI Configuration → AGP Master 1 WS Read

<u>AGP Master 1 WS</u>

<u>Read</u>

Disabled

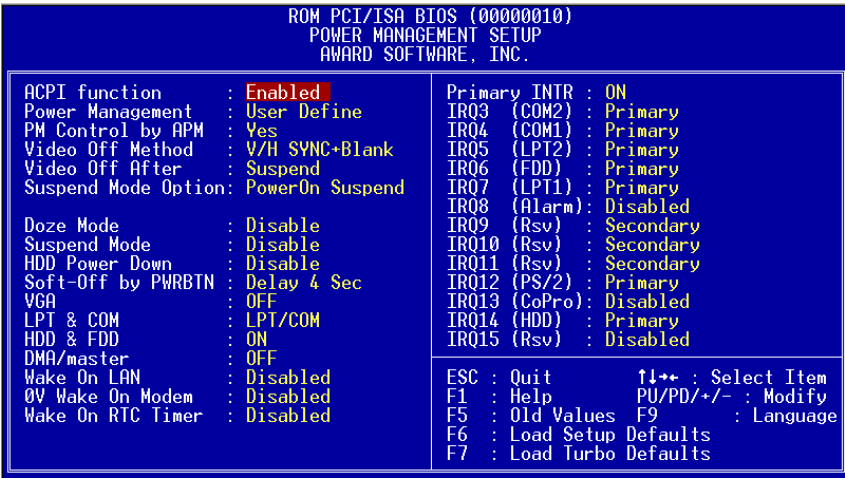
Enabled

This item is used to enable or disable AGP master 1 wait state read.

AWARD BIOS

4.5 Power Management Setup

The Power Management Setup screen enables you to control the motherboard's green features.



Power Management → ACPI Function

ACPI Function

Enabled

Disabled

If your OS is ACPI enabled you have to set this item to Enabled, or there may be unexpected errors. If your OS is APM mode, you can remain the Disabled setting.

Power Management → Power Management

Power Management

Max Saving

Mix Saving

User Defined

Disabled

This function allows you to set the default parameters of power-saving modes. Set to **Disable** to turn off power management function. Set to User Defined to choose your own parameters.

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Mode	Doze	Standby	Suspend	HDD Power Down
Min Saving	1 hour	1 hour	1 hour	15 min
Max Saving	1 min	1 min	1 min	1 min

Power Management → PM Controlled by APM

<u>PM Controlled by APM</u> Yes No	If "Max Saving" is selected, you can turn on this item, transfer power management control to APM (Advanced Power Management) and enhance power saving function. For example, stop CPU internal clock.
---	---

Power Management → Video Off Method

<u>Video Off Method</u> V/H SYNC + Blank DPMS Blank Screen	This determines the way that monitor is off. Blank Screen writes blanks to video buffer. V/H SYNC+Blank allows BIOS to control VSYNC and HSYNC signals. This function applies only for DPMS (Display Power Management Standard) monitor. The DPMS mode uses DPMS function provided by VGA card.
--	---

Power Management → Video Off After

<u>Video Off After</u> N/A Doze Standby Suspend	To turn off video monitor at which power down mode.
--	---

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Power Management → Suspend Mode Option

Suspend Mode Option

PowerOn Suspend
Suspend to Disk

You can select suspend mode by this item. **Power On Suspend** is the traditional Green PC suspend mode, the CPU clock is stop, all other devices are shut off. But power must be kept On to detect activities from modem, keyboard/mouse and returns the system to full power. The system activities is detected by monitoring the IRQ signals or I/O. **Suspend to Disk** saves system status, memory and screen image into hard disk, then the power can be totally Off. Next time, when power is turned On, the system goes back to your original work within just few seconds, which depending on your memory size. You need utility AOZVHDD to reserve disk space.

Power Management → Operating System

Operating System

DOS
Win 9x

To implement suspend function, you have to specify an operating system. Currently, only DOS and Win95/98 support this function.

Power Management → Doze Mode

Doze Mode

Disabled
10 Sec
20 Sec
30 Sec
40 Sec
1 Min
2 Min
4 Min
6 Min
8 Min
10 Min
20 Min
30 Min
40 Min
1 Hour

This item lets you set the period of time after which the system enters into Doze mode. In this mode, the CPU clock slows down. The ratio is specified in the "Throttle Duty Cycle". Any activity detected returns the system to full power. The system activity (or event) is detected by monitoring the IRQ signals.

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Power Management → Suspend Mode

Suspend Mode

Disabled
10 Sec
20 Sec
30 Sec
40 Sec
1 Min
2 Min
4 Min
6 Min
8 Min
10 Min
20 Min
30 Min
40 Min
1 Hour

This item lets you set the period of time after which the system enters into Suspend mode. The Suspend mode can be Power On Suspend or Suspend to Hard Drive, selected by "Suspend Mode Option".

Power Management → HDD Power Down

HDD Power Down

Disabled
1 Min
.....
15 Min

This option lets you specify the IDE HDD idle time before the device enters the power down state. This item is independent from the power states previously described in this section (Standby and Suspend).

Power Management → Soft-Off by PWR-BTTN

Soft-Off by PWR-BTTN

Delay 4 sec.
Instant-Off

This is a specification of ACPI and supported by hardware. When **Delay 4 sec.** is selected, the soft power switch on the front panel can be used to control power On, Suspend and Off. If the switch is pressed less than 4 sec during power On, the system will go into Suspend mode. If the switch is pressed longer than 4 sec, the system will be turned Off. The default setting is **Instant-Off**, soft power switch is only used to control On and Off, there is no need to press 4 sec, and there is no Suspend.

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Power Management → VGA

Power Management → LPT & COM

Power Management → HDD & FDD

Power Management → DMA/Master

<u>COM Ports Activity</u>
ON
OFF

To enable or disable the detection of COM port, LPT, HDD, VGA, and DMA activities for power down state transition.

Power Management → Wake On LAN

<u>Wake On LAN</u>
Enabled
Disabled

This option lets you specify enable or disable Wake On LAN function.

Power Management → 0V Wake On Modem

<u>0V Wake On Modem</u>
Disabled
Enabled

This motherboard implements a special circuit to detect modem ring signal and wakeup from soft power off. The most possible applications are automatic answering machine and fax send/receive. It does not like traditional green PC suspend mode, the system can be true power off, (identified by the fan of your power supply is off). You can use an external box modem or an internal modem card for modem ring-on.

Power Management → Wake On RTC Timer

<u>Wake On RTC Timer</u>
Disabled
Enabled

This option lets you enable or disable the Wake on RTC Timer function.

Power Management → Date (of Month)

<u>Date (of Month)</u>
0
1
.....
31

This item is displayed when you enable Wake on RTC Timer option. Here you can specify what date you want to wake up the system. For Example, setting to 15 will wake up the system on the 15th day of every month.

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Note: Setting this item to 0 will wake up the system on the specified time (which can be set in the next item) every day.

Power Management → Timer (hh:mm:ss)

Timer (hh:mm:ss)

hh:mm:ss

This item is displayed when you enable Wake on RTC Timer option. Here you can specify what time you want to wake up the system.

Power Management → Primary INTR

Primary

ON

OFF

This item is used to enable or disable the detection of IRQ3-15 or NMI interrupt events for power down state transition. Normally, this is applied to network card.

Power Management → IRQ [3-15]

IRQ [3-15],NMI

Primary

Secondary

Disabled

Select Primary or Disabled option to enable or disable the detection of specified IRQ. If the Secondary option was selected, the system will wake up for 2ms after detecting the interrupt, and then return to power down status.

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4.6 PNP/PCI Configuration Setup

The PNP/PCI Configuration Setup allows you to configure the ISA and PCI devices installed in your system. The following screen appears if you select the option "PNP/PCI Configuration Setup" from the main menu.

```
ROM PCI/ISA BIOS (00000010)
PNP/PCI CONFIGURATION
AWARD SOFTWARE, INC.

PNP OS Installed      : No
Resources Controlled By : Manual
Reset Configuration Data : Disabled

IRQ-3 assigned to : PCI/ISA PnP
IRQ-4 assigned to : PCI/ISA PnP
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
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

MODEM Use IRQ      : 3
PCI-Slot 1 IRQ(Right) : Auto
PCI-Slot 2 IRQ      : Auto
PCI-Slot 3 IRQ      : Auto
PCI-Slot 4 IRQ(Left) : Auto

ESC : Quit      ↑↓←→ : Select Item
F1  : Help      PU/PD/+/=: Modify
F5  : Old Values F9 : Language
F6  : Load Setup Defaults
F7  : Load Turbo Defaults
```

PNP/PCI Configuration → PnP OS Installed

PnP OS Installed
Yes
No

Normally, the PnP resources are allocated by BIOS during POST (Power-On Self Test). If you are using a PnP operating system (such as Windows 95), set this item to Yes to inform BIOS to configure only the resources needed for booting (VGA/IDE or SCSI). The rest of system resources will be allocated by PnP operating system.

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PNP/PCI Configuration → Resources Controlled By

<u>Resources Controlled by</u>

Auto Manual

Setting this option to Manual allows you to individually assign the IRQs and DMAs to the ISA and PCI devices. Set this to **Auto** to enable the auto-configuration function.

PNP/PCI Configuration → Reset Configuration Data

<u>Reset Configuration Data</u>
--

Enabled Disabled

In case conflict occurs after you assign the IRQs or after you configure your system, you can enable this function, allow your system to automatically reset your configuration and reassign the IRQs.

PNP/PCI Configuration → IRQ3 (COM2)

PNP/PCI Configuration → IRQ4 (COM1)

PNP/PCI Configuration → IRQ5 (Network/Sound or Others)

PNP/PCI Configuration → IRQ7 (Printer or Others)

PNP/PCI Configuration → IRQ9 (Video or Others)

PNP/PCI Configuration → IRQ10 (SCSI or Others)

PNP/PCI Configuration → IRQ11 (SCSI or Others)

PNP/PCI Configuration → IRQ12 (PS/2 Mouse)

PNP/PCI Configuration → IRQ14 (IDE1)

PNP/PCI Configuration → IRQ15 (IDE2)

<u>IRQ 3</u>

Legacy ISA PCI/ISA PnP

If your ISA card is not PnP compatible and requires a special IRQ to support its function, set the selected IRQ to **Legacy ISA**. This setting informs the PnP BIOS to reserve the selected IRQ for the installed legacy ISA card. The default is **PCI/ISA PnP**. Take note that PCI cards are always PnP compatible (except old PCI IDE card).

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PNP/PCI Configuration → DMA 0
PNP/PCI Configuration → DMA 1
PNP/PCI Configuration → DMA 3
PNP/PCI Configuration → DMA 5
PNP/PCI Configuration → DMA 6
PNP/PCI Configuration → DMA 7

DMA 0

Legacy ISA
PCI/ISA PnP

If your ISA card is not PnP compatible and requires a special DMA channel to support its function, set the selected DMA channel to **Legacy ISA**. This setting informs the PnP BIOS to reserve the selected DMA channel for the installed legacy ISA card. The default is **PCI/ISA PnP**. Take note that PCI card does not require DMA channel.

Power Management → Modem Use IRQ

Modem Use IRQ

3
4
5
7
9
10
11
N/A

This item lets you set an IRQ for the modem.

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PNP/PCI Configuration → PCI-Slot1 IRQ (Right)

PNP/PCI Configuration → PCI-Slot2 IRQ

PNP/PCI Configuration → PCI-Slot3 IRQ

PNP/PCI Configuration → PCI-Slot4 IRQ (Left)

<u>PCI-Slot1 IRQ</u>
3
4
5
6
7
9
10
11
12
14
15
Auto

This item is reserved for engineering purpose to let you assign an IRQ manually to the add-on card on each PCI slot. If you select Auto, system will automatically assign an available value to the device.

It is suggested to use default setting, which is Auto, in order to comply with PnP specification completely.

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4.7 Load Setup Defaults

The "Load Setup Defaults" option loads optimized settings for optimum system performance. Optimal settings are relatively safer than the Turbo settings. All the product verification, compatibility/reliability test report and manufacture quality control are based on "Load Setup Defaults". We recommend that you use this settings for normal operation. "Load Setup Defaults" is not the slowest setting for this motherboard. If you need to verify an unstable problem, you may manually set the parameter in the "BIOS Features Setup" and "Chipset Features Setup" to get slowest and safer setting.

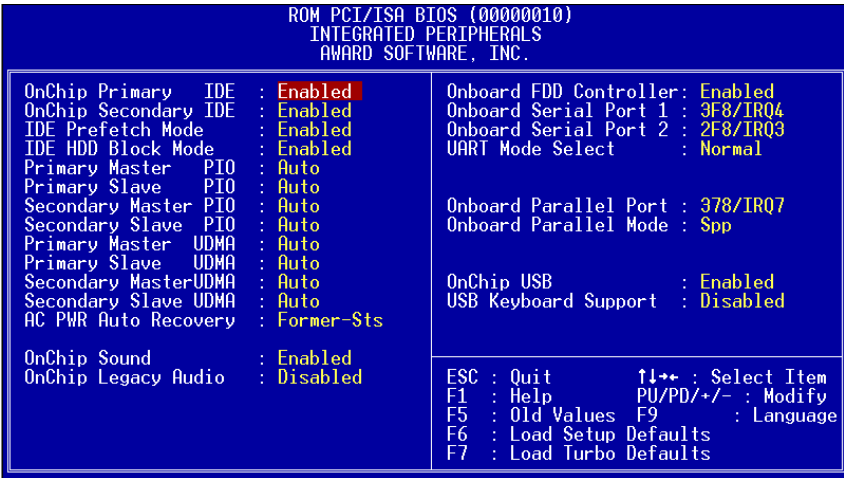
4.8 Load Turbo Defaults

The "Load Turbo Defaults" option gives better performance than "Load Setup Defaults". It is provided for the convenience of power user who wants to push the motherboard to get better performance. Turbo setting does not go through all the detail reliability and compatibility test, it is tested only with limited configuration and loading (for example, a system that contains only a VGA card and two DIMMs). Use Turbo setting only when you fully understand the items in Chipset Setup menu. The performance improvement of Turbo setting is normally around 3% to 5%, depending on the chipset and the application.

AWARD BIOS

4.9 Integrated Peripherals

The following screen appears if you select the option "Integrated Peripherals" from the main menu. This option allows you to configure the I/O features.



Integrated Peripherals → OnChip Primary IDE
Integrated Peripherals → OnChip Secondary IDE

OnChip Primary IDE
Enabled
Disabled

This parameter lets you enable or disable the IDE device connected to the primary IDE connector.

Integrated Peripherals → IDE Prefetch Mode

IDE Prefetch Mode
Enabled
Disabled

This item is used to enable and disable IDE prefetch mode.

AWARD BIOS

Integrated Peripherals → IDE HDD Block Mode

IDE HDD Block

Mode

Enabled

Disabled

This feature enhances disk performance by allowing multisector data transfers and eliminates the interrupt handling time for each sector. Most IDE drives, except with old designs, can support this feature.

Integrated Peripherals → Primary Master PIO

Integrated Peripherals → Primary Slave PIO

Integrated Peripherals → Secondary Master PIO

Integrated Peripherals → Secondary Slave PIO

IDE Primary Master

PIO

Auto

Mode 1

Mode 2

Mode 3

Mode 4

Setting this item to **Auto** activates the HDD speed auto-detect function. The PIO mode specifies the data transfer rate of HDD. For example: mode 0 data transfer rate is 3.3MB/s, mode 1 is 5.2MB/s, mode 2 is 8.3MB/s, mode 3 is 11.1MB/s and mode 4 is 16.6MB/s. If your hard disk performance becomes unstable, you may manually try the slower mode.



Caution: It is recommended that you connect the first IDE device of each channel to the endmost connector of the IDE cable. Refer to section 2.3 "Connectors" for details on how to connect IDE device(s).

Integrated Peripherals → Primary Master UDMA

Integrated Peripherals → Primary Slave UDMA

Integrated Peripherals → Secondary Master UDMA

Integrated Peripherals → Secondary Slave UDMA

IDE Primary Master

UDMA

Auto

Disabled

This item allows you to set the Ultra DMA/33 mode supported by the hard disk drive connected to your primary IDE connector.

AWARD BIOS

Power Management → AC PWR Auto Recovery

AC PWR Auto Recovery

Former-Sts
On
Off

A traditional ATX system should remain at power off stage when AC power resumes from power failure. This design is inconvenient for a network server or workstation, without an UPS, that needs to keep power-on. This item is used to solve this problem. Selecting On lets the system can automatically power-on after AC power resumes; in the other hand, the system will power-off if you select Off. If Former-Sts option is selected, the system will power-on or power-off based on the original state.

Integrated Peripherals → OnChip Sound

OnChip Sound

Disabled
Enabled

This item is used to enable or disable the onboard audio.

Integrated Peripherals → OnChip Legacy Audio

OnChip Legacy Audio

Disabled
Enabled

This motherboard has a Sound Blaster Pro compatible onchip audio. This item should be set to Enabled under DOS mode.

Integrated Peripherals → SB I/O Base Address

SB I/O Base Address

220-22fh
240-24fh
260-26fh
280-28fh

This item is used to select SB I/O base address.

Integrated Peripherals → SB IRQ Select

SB IRQ Select

IRQ5
IRQ7
IRQ9
IRQ10

This item is used to select IRQ for the onboard audio.

AWARD BIOS

Integrated Peripherals → SB DMA Select

SB DMA Select

DMA0
DMA1
DMA2
DMA3

This item is used to select DMA for the onboard audio.

Integrated Peripherals → MPU-401 I/O Address

MPU-401 I/O Address

300-303h
310-313h
320-323h
330-333h

This item is used to select I/O base address for the MIDI port.

Integrated Peripherals → Onboard FDC Controller

Onboard FDC Controller

Enabled
Disabled

Setting this parameter to **Enabled** allows you to connect your floppy disk drives to the onboard floppy disk connector instead of a separate controller card. Change the setting to Disabled if you want to use a separate controller card.

Integrated Peripherals → Onboard Serial Port 1 Integrated Peripherals → Onboard Serial Port 2

Onboard Serial Port 1

Auto
3F8/IRQ4
2F8/IRQ3
3E8/IRQ4
2E8/IRQ3
Disabled

This item allows you to assign address and interrupt for the board serial port. The default setting is **Auto**.

AWARD BIOS

Integrated Peripherals → UART Mode Select

UART Mode Select

Normal
HPSIR
ASKIR

This allows you to specify the mode of serial port2.
The available mode selections are:

- **Normal** – Sets serial port 2 to operate in normal mode. This is the default setting.
- **HPSIR** – Select this setting if you installed an Infrared module in your system via IrDA connector (refer to section 2.3 "Connectors"). This setting allows infrared serial communication at a maximum baud rate of 115K baud.
- **ASKIR** – Select this setting if you installed an Infrared module via IrDA connector (refer to section 2.3 "Connectors"). This setting allows infrared serial communication at a maximum baud rate of 19.2K baud.

Integrated Peripherals → IR Function Duplex

IR Function Duplex

Full
Half

This item lets you set the duplex mode for the IR communication. Full - Allows IR communication in bidirectional mode. Half - Allows IR communication in single direction only.



Note: This option appears only if the IR function is activated and the Onboard UART 2 Mode parameter is NOT set to Standard.

Integrated Peripherals → Rx/D, Tx/D Active

RxD, Tx/D Active

Hi, Lo
Lo, Hi
Lo, Lo
Hi, Hi

This item is used to select RxD (Receive Data) and Tx/D (Transmit Data) mode for UART, for instance, IR device, modem, etc. Normally, we suggest you keep the default setting. Please see the documentation that comes with your device.

AWARD BIOS

Integrated Peripherals → Onboard Parallel Port

Onboard Parallel Port

3BC/IRQ7
378/IRQ7
278/IRQ7
Disabled

This item controls the onboard parallel port address and interrupt.



Note: If you are using an I/O card with a parallel port, make sure that the addresses and IRQ do not conflict.

Integrated Peripherals → Onboard Parallel Mode

Onboard Parallel Mode

SPP
ECP
EPP
ECP+EPP

This item lets you set the parallel port mode. The mode options are SPP (Standard and Bidirection Parallel Port), EPP (Enhanced Parallel Port) and ECP (Extended Parallel Port). SPP is the IBM AT and PS/2 compatible mode. EPP enhances the parallel port throughput by directly writing/reading data to/from parallel port without latch. ECP supports DMA and RLE (Run Length Encoded) compression and decompression.

Integrated Peripherals → ECP Mode Use DMA

ECP Mode Use DMA

3
1

This item lets you set the DMA channel of ECP mode.

Integrated Peripherals → EPP Mode Select

EPP Mode Select

EPP1.7
EPP1.9

This item lets you select EPP mode.

Integrated Peripherals → OnChip USB

OnChip USB

Disabled
Enabled

This item lets you enable or disable onboard USB.

AWARD BIOS

Integrated Peripherals → USB Keyboard Support

<u>USB Keyboard</u>
<u>Support</u>
Enabled
Disabled

This item lets you enable or disable the USB keyboard driver within the onboard BIOS. The keyboard driver simulates legacy keyboard command and let you use USB keyboard during POST or after boot if you don't have USB driver in the operating system.



Caution: You can not use both USB driver and USB legacy keyboard at the same time. Disable "USB Keyboard Support" if you have USB driver in the operating system.

AWARD BIOS

4.10 Password Setting

Password prevents unauthorized use of your computer. If you set a password, the system prompts for the correct password before boot or access to Setup.

To set a password:

1. At the prompt, type your password. Your password can be up to 8 alphanumeric characters. When you type the characters, they appear as asterisks on the password screen box.
2. After typing the password, press Enter.
3. At the next prompt, re-type your password and press again to confirm the new password. After the password entry, the screen automatically reverts to the main screen.

To disable the password, press when prompted to enter the password. The screen displays a message confirming that the password has been disabled.

4.11 IDE HDD Auto Detection

If your system has an IDE hard drive, you can use this function to detect its parameters and enter them into the "Standard CMOS Setup" automatically.

This routine only detects one set of parameters for your IDE hard drive. Some IDE drives can use more than one set of parameters. If your hard disk is formatted using different parameters than those detected, you have to enter the parameters manually. If the parameters listed do not match the ones used to format the disk, the information on that disk will not be accessible. If the auto-detected parameters displayed do not match those that used for your drive, ignore them. Type N to reject the values and enter the correct ones manually from the Standard CMOS Setup screen.

4.12 Save & Exit Setup

This function automatically saves all CMOS values before leaving Setup.

AWARD BIOS

4.13 Exit without Saving

Use this function to exit Setup without saving the CMOS value changes. Do not use this option if you want to save the new configuration.

4.14 NCR SCSI BIOS and Drivers

The NCR 53C810 SCSI BIOS resides in the same flash memory chip as the system BIOS. The onboard NCR SCSI BIOS is used to support NCR 53C810 SCSI control card without BIOS code.

The NCR SCSI BIOS directly supports DOS, Windows 3.1 and OS/2. For better system performance, you may use the drivers that come with the NCR SCSI card or with your operating system. For details, refer to the installation manual of your NCR 53C810 SCSI card.

4.15 BIOS Flash Utility

The Easy Flash is more user friendly than traditional flash method. The BIOS binary file and flash routine are combined together and you simply run a single file to complete the flash process.

1. Get new BIOS upgrade program from our web site. For example, MX59P200.EXE.
2. Reboot the system to DOS mode without loading any memory handler (such as EMM386) or device driver. It needs around 520K free memory space.
3. Execute A:> MX59P200

DO NOT turn off the power during FLASH PROCESS.

4. Reboot the system by turn off the power after flash is completed.
5. Reload the "BIOS SETUP DEFAULT" and reconfigure other items as previous set. Save & Exit. Done!

Note: The upgrade of new BIOS will permanently replace your original BIOS content after flashing. The original BIOS setting and Win95/Win98 PnP information will be refreshed and you probably need to re-configure your system.