
Chapter 3

Award BIOS


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

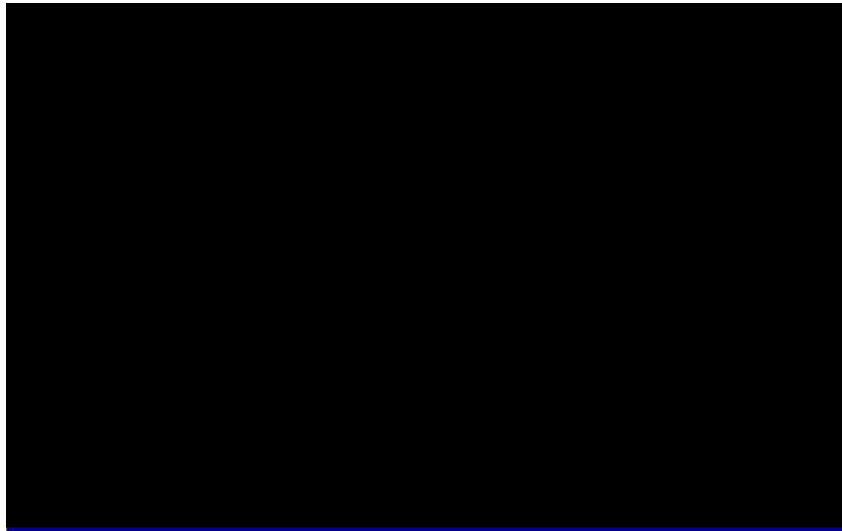


Important: Because the BIOS code is the most often changed part of the mainboard design, the BIOS information contained in this chapter (especially the Chipset Setup parameters) may be a little different compared to the actual BIOS that came with your mainboard.

AWARD BIOS

3.1 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  during POST (Power-On Self Test). The BIOS Setup Main Menu appears as follows.





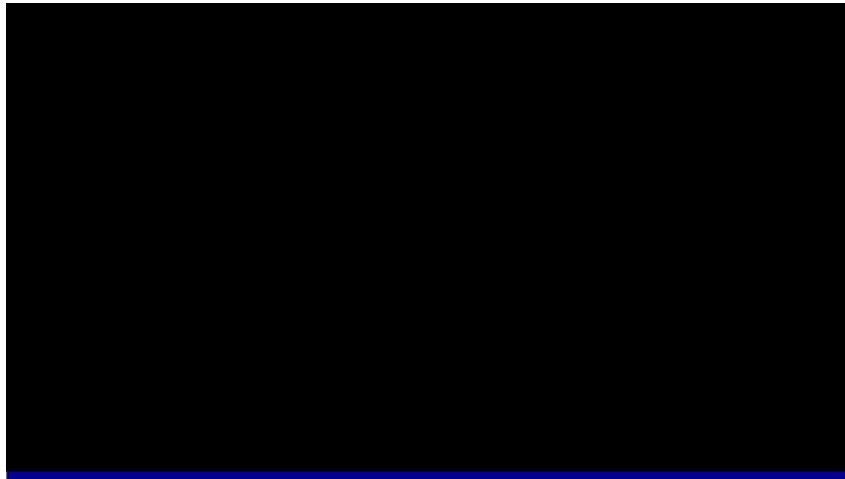
Tip: Choose "Load Setup Defaults" for recommended optimal performance. Choose "Load Turbo Defaults" for best performance with light system loading. Refer to section 3.7.

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 exiting. 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.

3.2 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  or  to select the value for each item.



Standard CMOS à Date

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

Standard CMOS à Time

To set the time, highlight the Time parameter. Press  or  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 à Primary Master à Type
Standard CMOS à Primary Slave à Type
Standard CMOS à Secondary Master à Type
Standard CMOS à Secondary Slave à 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 (Hard Disk Drive) 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 à Primary Master à Mode
Standard CMOS à Primary Slave à Mode
Standard CMOS à Secondary Master à Mode
Standard CMOS à Secondary Slave à 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 a standard feature of current IDE hard disk on the market because of its capability to support capacity larger than 528MB. Note that if a HDD is formatted with LBA On, it will not be able to boot with LBA Off.

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Standard CMOS à Drive A Standard CMOS à 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 the floppy drive type. The available settings and types supported by the mainboard are listed to the left.

Standard CMOS à 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 à Halt On

Halt On

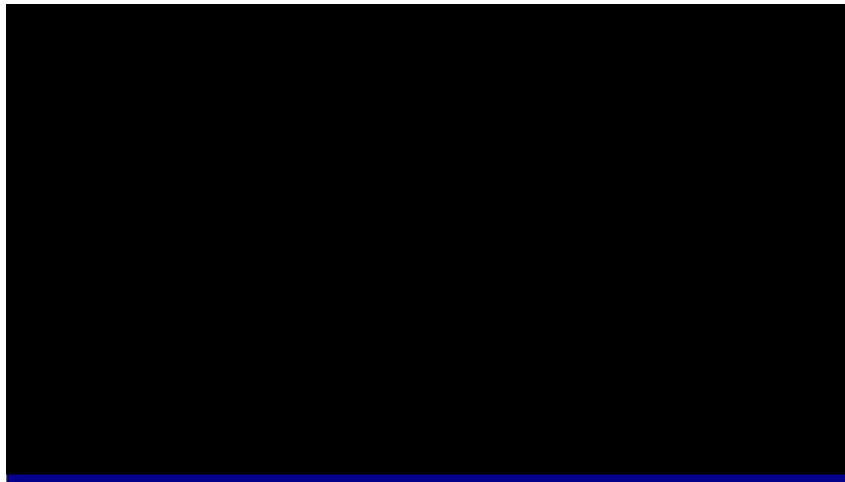
No Errors
All Errors
All, But Keyboard
All, But Diskette
All, But Disk/Key

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

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3.3 BIOS Features Setup

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



BIOS Features à Virus Warning

<u>Virus Warning</u>	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. 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.
Enabled	
Disabled	

<p style="text-align: center;">! WARNING !</p> <p style="text-align: center;">Disk Boot Sector is to be modified Type "Y" to accept write, or "N" to abort write Award Software, Inc.</p>
--

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BIOS Features à External Cache

<u>External Cache</u>

Enabled

Disabled

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

BIOS Features à CPU L2 Cache ECC Checking

<u>CPU L2 Cache ECC Checking</u>

Enabled

Disabled

This item lets you enable or disable L2 Cache ECC checking.

BIOS Features à Processor Number Feature

<u>Processor Number Feature</u>
--

Enabled

Disabled

This item is used to enable or disable Pentium III CPU Number Feature.

BIOS Features à Quick Power On Self Test

<u>Quick Power on Self test</u>
--

Enable

Disabled

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

BIOS Features à Boot From LAN First

<u>Boot From LAN First</u>

Enable

Disabled

This item is used to boot the system from a network server.

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BIOS Features à Boot Sequence

<u>Boot Sequence</u>	This parameter allows you to specify the system boot up search sequence. The hard disk ID are listed below:
A,C,SCSI	C: Primary master
C,A,SCSI	D: Primary slave
C,CDROM,A	E: Secondary master
CDROM,C,A	F: Secondary slave
CDROM,A,C	LS: LS120
D,A,SCSI	Zip: IOMEGA ZIP Drive
E,A,SCSI	
F,A,SCSI	
SCSI,A,C	
SCSI,C,A	
C only	
LS/ZIP,C	

BIOS Features à Swap Floppy Drive

<u>Swap Floppy Drive</u>	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.
Enabled	
Disabled	

BIOS Features à Boot Up NumLock Status

<u>Boot Up NumLock Status</u>	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.
On	
Off	

BIOS Features à Boot Up System Speed

<u>Boot Up System Speed</u>	Select High or Low system speed after boot.
High	
Low	

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BIOS Features à Typematic Rate Setting

<u>Typematic Rate Setting</u>
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 à Typematic Rate (Chars/Sec)

<u>Typematic Rate</u>
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.

BIOS Features à 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 à 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>.

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BIOS Features à 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 à 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.

BIOS Features à Show Logo On Screen

<u>Show Logo On Screen</u>

Enabled
Disabled

This item lets you show or hide AOpen logo on the POST screen.

BIOS Features à 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.

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BIOS Features à C800-CBFF Shadow
BIOS Features à CC00-CFFF Shadow
BIOS Features à D000-D3FF Shadow
BIOS Features à D400-D7FF Shadow
BIOS Features à D800-DBFF Shadow
BIOS Features à DC00-DFFF Shadow

<u>C8000-CBFFF</u>

<u>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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3.4 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 your system to be unstable if the setting is not correct for your system configuration.

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Chipset Features à SDRAM CAS Latency Chipset Features à SDRAM RAS# to CAS# Delay

SDRAM CAS Latency

2T
3T
Auto

These are timing of SDRAM CAS Latency and RAS to CAS Delay, calculated by clocks. They are important parameters affects SDRAM performance, default is **Auto**. If you install DIMMs with SPD and set this item to Auto, BIOS will automatically detect your DIMMs and then set to a appropriate timing; If you use DIMMs without SPD and set this item to Auto, BIOS will set it to 3/3. To make sure all of these settings in BIOS are correct, it is recommended to use DIMMs with SPD.

Chipset Features à SDRAM RAS# Precharge

SDRAM RAS# precharge

2T
3T
Auto

The RAS Precharge means the timing to inactive RAS and the timing for DRAM to do precharge before next RAS can be issued. RAS is the address latch control signal of DRAM row address. The default setting is **Auto**.

Chipset Features à 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 à Video BIOS Cacheable

Video BIOS Cacheable

Enabled
Disabled

This item lets you cache Video RAM C000.

Chipset Features à Video RAM Cacheable

Video RAM Cacheable

Enabled
Disabled

This item lets you cache Video RAM A000 and B000.

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Chipset Features à 8 Bit I/O Recovery Time

<u>8 Bit I/O Recovery Time</u>	For some old I/O chips, after the execution of an I/O command, the device requires a certain amount of time (recovery time) before the execution of the next I/O command. Because of new generation CPU and mainboard chipset, the assertion of I/O command is faster, and sometimes shorter than specified I/O recovery time of old I/O devices. This item lets you specify the delay of 8-bit I/O command by count of ISA bus clock. If you find any unstable 8-bit I/O card, you may try to extend the I/O recovery time via this item. The BIOS default value is 4 ISA clock . If set to NA, the chipset will insert 3.5 system clocks.
1	
2	
3	
4	
5	
6	
7	
8	
NA	

Chipset Features à 16 Bit I/O Recovery Time

<u>16 Bit I/O Recovery Time</u>	The same as 16-bit I/O recovery time. This item lets you specify the recovery time for the execution of 16-bit I/O commands by count of ISA bus clock. If you find any of the installed 16-bit I/O cards unstable, try extending the I/O recovery time via this item. The BIOS default value is 1 ISA clocks . If set to NA, the chipset will automatically insert 3.5 system clocks.
1	
2	
3	
4	
NA	

Chipset Features à Memory Hole At 15M-16M

<u>Memory Hole At 15M-16M</u>	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.
Enabled	
Disabled	

Chipset Features à Passive Release

<u>Passive Release</u>	This item lets you control the Passive Release function of the PIIX4E chipset (Intel PCI to ISA bridge). This function is used to meet latency of ISA bus master. Try to enable or disable it, if you have ISA card compatibility problem.
Enabled	
Disabled	

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Chipset Features à Delayed Transaction

Delayed Transaction

Enabled
Disabled

This item lets you control the Delayed Transaction function of the PIIX4E 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.

Chipset Features à AGP Aperture Size (MB)

AGP Aperture Size (MB)

4
8
16
32
64
128
256

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

Chipset Features à Pentium II Micro Codes

Pentium II Micro Codes

Enabled
Disabled

The micro codes are used to fix bugs of Pentium II CPU, we strongly recommend to enable this item for system reliability reason. However, this microcode may slightly reduce CPU performance. We provide this option for your convenience if you like to test it.

Chipset Features à Manufacture Frequency Default

Manufacture Frequency Default

Depends on the CPU type

This item only reminds you of the actual CPU frequency while clearing CMOS or pressing "Home" key. The default setting is 233 MHz, you can modify it to match the actual CPU frequency by using the utility - flash.exe.

Chipset Features à 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.

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Chipset Features à CPU Clock Frequency

CPU Clock Frequency

66.8 MHz
68.5 MHz
75.0 MHz
83.3 MHz
100 MHz
103 MHz
112 MHz
117 MHz
124 MHz
129 MHz
133.3 MHz
138 MHz
143 MHz
148 MHz
153 MHz

This item lets you set external clock (bus clock). The correct setting may vary because of different CPU products, refer to your CPU specification for more details.

Chipset Features à CPU Clock Ratio

CPU Clock Ratio

1.5
2.0
2.5
3.0
3.5
4.0
4.5
5.0
5.5
6.0
6.5
7.0
7.5
8.0

Intel Pentium II is designed to have different Internal (Core) and External (Bus) frequency. This item lets you select the ratio of Core/Bus frequency. The default value is 3.5x.

Chipset Features à Setup CPU Speed

Setup CPU Speed

The CPU Speed is derived from the product of "CPU Clock Frequency" and "CPU Clock Ratio".

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Chipset Features à Y2K CMOS Update

<u>Y2K CMOS Update</u>

Enabled

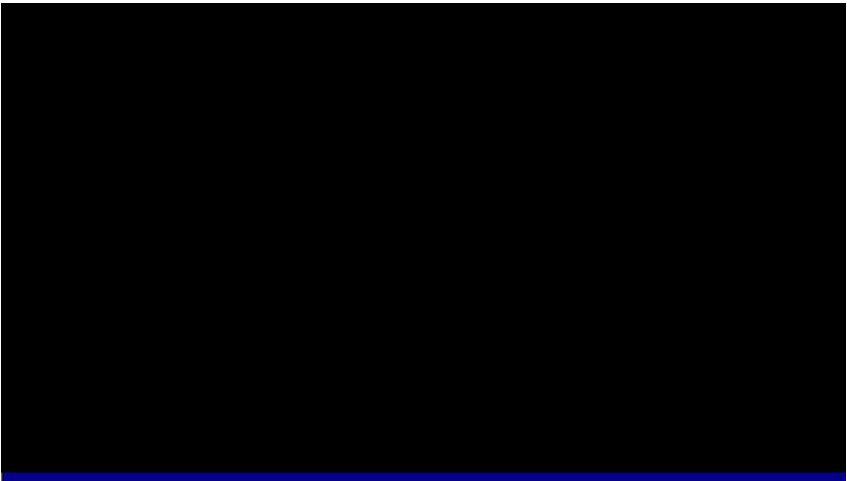
Disabled

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.

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3.5 Power Management Setup

The Power Management Setup screen enables you to control the mainboard green features. See the following screen.



Power Management à ACPI Function

<u>ACPI Function</u>
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 à Power Management

<u>Power Management</u>
Max Saving
Mix Saving
User Define
Disabled

This function allows you to set the default parameters of power-saving modes. Set to **Disable** to turn off the power management function. Set to User Define 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 à PM Controlled by APM

PM Controlled by APM

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 à Video Off Method

Video Off Method

V/H SYNC + Blank
DPMS
Blank Screen

This determines the way that the 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 functions provided by the VGA card.

Power Management à Video Off After

Video Off After

N/A
Doze
Standby
Suspend

To turn off video monitor at which power down mode.

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Power Management à Standby Mode

Standby Mode

Disabled
1 Min
2 Min
4 Min
8 Min
12 Min
20 Min
30 Min
40 Min
1 Hour

This item lets you set the period of time after which the system enters into Standby mode. In this mode, the monitor power-saving feature activates. Any activity detected returns the system to full power. The system activity (or event) is detected by monitoring the IRQ signals or other events (such as I/O).

Power Management à Suspend Mode

Suspend Mode

Disabled
1 Min
2 Min
4 Min
8 Min
12 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 à 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 à 0V Wake On Modem

0V Wake On Modem

Enabled
Disabled

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

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Power Management à Wake On LAN

Wake On LAN

Enabled
Disabled

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

Power Management à 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 Hard Drive** 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 à Throttle Duty Cycle

Throttle Duty Cycle

12.5 %
25.0 %
37.5 %
50.0 %
62.5 %
75.0 %
87.5 %

Clock Throttling means at the Doze/Standby state, the CPU clock count in a given time (not the frequency) is reduced to the ratio specified in this parameter. Actually, the period per CPU clock is not changed. For example, a 66MHz CPU clock remains the same 30ns clock period when system goes into Doze/Suspend. The chipset generates the STPCLK (stop clock) signal periodically to prevent CPU for accepting clock from clock generator. For full power on, the CPU can receive 66M count in one second. If the Slow Clock Ratio is set to 50%, the CPU will only receive 33M clock count in one second. This will effectively reduce CPU speed as well as CPU power.

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Power Management à VGA Active Monitor

VGA Active Monitor

Enabled
Disabled

To enable or disable the detection of VGA activity for power down state transition.

Power Management à 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 for less than 4 seconds during power On, the system will go into Suspend mode. If the switch is pressed for longer than 4 seconds, the system will be turned Off. The default setting is **Instant-Off**. If **Instant-Off** is selected the soft power switch is only used to control On and Off, so there is no need to press it for 4 seconds, and there is no Suspend.

Power Management à Wake On RTC Timer

Wake On RTC Timer

By Date
By Week
Disabled

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

Power Management à Date (of Month)

Date (of Month)

0
1
.....
31

This item is displayed when you enable the 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.



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

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Power Management à Time (hh:mm:ss)

Time (hh:mm:ss)

hh:mm:ss

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

Power Management à IRQ 8 Clock Event

IRQ 8 Clock Event

Enabled

Disabled

To enable or disable the detection of IRQ8 (RTC) event for power down state transition. OS2 has periodically IRQ8 (RTC) interruptions, If IRQ8 is not set to **Disabled**, OS/2 may fail to go into Doze/Standby/Suspend mode.

Power Management à IRQ [3-7,9-15],NMI

IRQ [3-7,9-15],NMI

Enabled

Disabled

To enable or disable the detection of IRQ3-7, IRQ9-15 or NMI interrupt events for power down state transition.

Power Management à Primary IDE 0

Power Management à Primary IDE 1

Power Management à Secondary IDE 0

Power Management à Secondary IDE 1

Power Management à Floppy Disk

Power Management à Serial Port

Power Management à Parallel Port

Primary IDE 0

Enabled

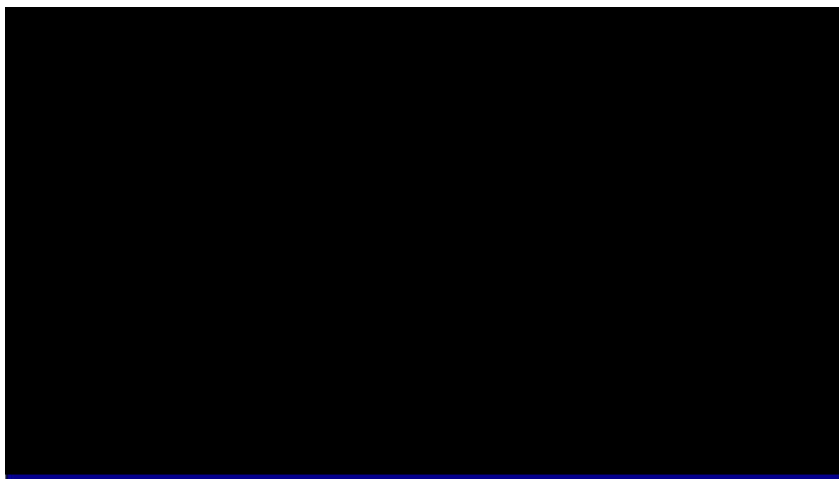
Disabled

These items enable or disable the detection of IDE, floppy, serial and parallel port activities for power down state transition. Actually it detects the read/write to/from I/O port.

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3.6 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.



PNP/PCI Configuration à PnP OS Installed

<u>PnP OS Installed</u>	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.
Yes	
No	

PNP/PCI Configuration à Resources Controlled By

<u>Resources Controlled by</u>	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.
Auto	
Manual	

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PNP/PCI Configuration à Reset Configuration Data

Reset Configuration Data

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, DMAs, and I/O address.

PNP/PCI Configuration à **IRQ3** (COM2)
PNP/PCI Configuration à **IRQ4** (COM1)
PNP/PCI Configuration à **IRQ5** (Network/Sound or Others)
PNP/PCI Configuration à **IRQ7** (Printer or Others)
PNP/PCI Configuration à **IRQ9** (Video or Others)
PNP/PCI Configuration à **IRQ10** (SCSI or Others)
PNP/PCI Configuration à **IRQ11** (SCSI or Others)
PNP/PCI Configuration à **IRQ12** (PS/2 Mouse)
PNP/PCI Configuration à **IRQ14** (IDE1)
PNP/PCI Configuration à **IRQ15** (IDE2)

IRQ 3

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).

PNP/PCI Configuration à **DMA 0**
PNP/PCI Configuration à **DMA 1**
PNP/PCI Configuration à **DMA 3**
PNP/PCI Configuration à **DMA 5**
PNP/PCI Configuration à **DMA 6**
PNP/PCI Configuration à **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.

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PNP/PCI Configuration à PCI IDE IRQ Map To

<u>PCI IDE IRQ Map To</u>

ISA
PCI-Slot1
PCI-Slot2
PCI-Slot3
PCI-Slot4
PCI-Auto

Some old PCI IDE add-on cards are not fully PnP compatible. These cards require you to specify the slot in use to enable BIOS to properly configure the PnP resources. This function allows you to select the PCI slot for any PCI IDE add-on card present in your system. Set this item to **Auto** to allow BIOS to automatically configure the installed PCI IDE card(s).

PNP/PCI Configuration à Primary IDE INT#

PNP/PCI Configuration à Secondary IDE INT#

<u>Primary IDE INT#</u>

A
B
C
D

These two items, in conjunction with item "PCI IDE IRQ Map To", specify the IRQ routing of the primary or secondary channel of the PCI IDE add-on card (not the onboard IDE). Each PCI slot has four PCI interrupts aligned as listed in the table below. You must specify the slot in the "PCI IDE IRQ Map To", and set the PCI interrupt (INTx) here according to the interrupt connection on the card.

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PCI Slot	Location 1 (pin A6)	Location 2 (pin B7)	Location 3 (pin A7)	Location 4 (pin B8)
Slot 1	INTA	INTB	INTC	INTD
Slot 2	INTB	INTC	INTD	INTA
Slot 3	INTC	INTD	INTA	INTB
Slot 4	INTD	INTA	INTB	INTC
Slot 5 (if any)	INTD	INTA	INTB	INTC

PNP/PCI Configuration à Modem Use IRQ

<u>Modem Use IRQ</u>
N/A
3
4
5
7
9
10
11

This item lets you set an IRQ for the modem.

PNP/PCI Configuration à Used MEM Base Addr

<u>Used MEM Base Addr</u>
N/A
C800
CC00
D000
D400
D800
DC00

This item, in conjunction with the "Used MEM Length", lets you set a memory space for non-PnP compatible ISA card. This item specifies the memory base (start address) of the reserved memory space. The memory size is specified in the "Used MEM Length".

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PNP/PCI Configuration → Used MEM Length

<u>Used MEM Length</u>
8K
16K
32K
64K

If your ISA card is not PnP compatible and requires special memory space to support its function, specify the memory size in this parameter to inform the PnP BIOS to reserve the specified memory space for installed legacy ISA card.

PNP/PCI Configuration → PCI Slot1 IRQ (Right)

PNP/PCI Configuration → PCI Slot2 IRQ

PNP/PCI Configuration → PCI Slot3 IRQ

<u>PCI Slot1 IRQ</u>
3
4
5
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.

3.7 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 you to 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.

3.8 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

3.9 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.

ROM PCI/ISA BIOS (00000006) INTEGRATED PERIPHERALS AWARD SOFTWARE, INC.			
IDE HDD Block Mode	: Disabled	Onboard FDC Controller	: 3F8/IRQ4
IDE Primary Master PIO	: Auto	Onboard Serial Port 1	: 3F8/IRQ4
IDE Primary Slave PIO	: Auto	Onboard Serial Port 2	:
IDE Secondary Master PIO	: Auto	UART Mode Select	:
IDE Secondary Slave PIO	: Auto	RxD , TxD Active	: Hi,Lo
IDE Primary Master UDMA	: Auto	IR Transmission delay	: Enabled
IDE Primary Slave UDMA	: Auto	Onboard Parallel Port	:
IDE Secondary Master UDMA	: Auto	Parallel Port Mode	:
IDE Secondary Slave UDMA	: Auto	ECP Mode Use DMA	: 3
On-Chip Primary PCI IDE	: Enabled	EPP Mode Select	: EPP1.9
On-Chip Secondary PCI IDE	: Enabled	Onboard Sound Chip	: Enabled
USB Keyboard Support	: Disabled		
Init Display First	: AGP		
POWER ON Function	:	ESC : Quit	↑↓←→ : Select Item
KB Power ON Password	: Enter	F1 : Help	PU/PD/+/- : Modify
Hot Key Power ON	: Ctrl-F1	F5 : Old Values	F9 : Language
AC PWR Auto Recovery	: On	F6 : Load Setup Defaults	
		F7 : Load Turbo Defaults	

Integrated Peripherals à 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.

AWARD BIOS

Integrated Peripherals à IDE Primary Master UDMA

Integrated Peripherals à IDE Primary Slave UDMA

Integrated Peripherals à IDE Secondary Master UDMA

Integrated Peripherals à IDE 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.

Integrated Peripherals à On-Chip Primary PCI IDE

Integrated Peripherals à On-Chip Secondary PCI IDE

**On-Chip Primary
PCI IDE**

Enabled

Disabled

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

Integrated Peripherals à USB Keyboard Support

**USB Keyboard
Support**

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.

Integrated Peripherals à 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.

AWARD BIOS

Integrated Peripherals à Power On Function

Power On Function	This item is used to select Wake on Keyboard/Mouse mode.
Button Only	Button Only: Disable Wake on KB/MS function. You can boot up your system by power button only.
Keyboard 98	Keyboard 98: If selecting this option, you can boot up the system by power button and the "Wake" key on keyboard which complies to Keyboard 98 standard.
Password	Password: Disable the function of power button and let the system can only be powered on through the preset keys (like a password).
Hot Key	Hot Key: If selecting this option, you also need to specify the hot key from "Hot Key Power On" item.
Mouse Left	Mouse Left: This function allows you wake up the system by clicking left mouse button twice successively. Note that the mouse can't be moved while double clicking.
Mouse Right	Mouse Right: This function allows you wake up the system by clicking right mouse button twice successively. Note that the mouse can't be moved while double clicking.



Caution: Whenever you change this item, it will only take effect after you restart the system and successfully boot the Windows or DOS.

Caution: To implement Wake On Keyboard/Mouse function, you must set JP28 to Enabled.

Caution: Wake On Mouse function applies to PS/2 mouse only.

Caution: If you set a Password but forget it, please clear CMOS.

Caution: If you want to use Wake On Mouse function in DOS, it is necessary to install the DOS driver of the mouse.

AWARD BIOS

Integrated Peripherals à KB Power On Password

<u>KB Power On Password</u>

You can specify 1-5 keys as a password.



Note: Before setting a password you have to make sure JP28 has been enabled, or your system cannot be boot up properly any more. Under this situation, the only solution is to clear CMOS.

Integrated Peripherals à Hot Key Power On

<u>Hot Key Power On</u>

Ctrl-F1
Ctrl-F2
Ctrl-F3
Ctrl-F4
Ctrl-F5
Ctrl-F6
Ctrl-F7
Ctrl-F8
Ctrl-F9
Ctrl-F10
Ctrl-F11
Ctrl-F12

If you select "Hot Key" option in "Power On Function" Item, you need to specify a hot key here.

AWARD BIOS

Power Management à 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 à 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 à Onboard Serial Port 1 Integrated Peripherals à Onboard Serial Port 2

Onboard Serial Port 1

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

This item allow you to assign address and interrupt for the board serial port. Default is **Auto**.



Note: If you are using a network card, make sure that the interrupt does not conflict.

AWARD BIOS

Integrated Peripherals à UART Mode Select

UART Mode Select

Standard
HPSIR
ASKIR

This item is configurable only if the "Onboard UART 2" is enabled. This allows you to specify the mode of serial port2. The available mode selections are:

- **Standard** – 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 à RxD, TxD Active

RxD, TxD Active

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

This item is used to select RxD (Receive Data) and TxD (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.

Integrated Peripherals à IR Transmission Delay

IR Transmission Delay

Enabled
Disabled

If Enabled is selected, there will be a 4 character delay when SIR is changed from TX mode to RX mode.

AWARD BIOS

Integrated Peripherals à Onboard Parallel Port

Onboard Parallel Port

3BC/IRQ7
378/IRQ7
278/IRQ5
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 à Parallel Port Mode

Parallel Port Mode

SPP
EPP
ECP
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 à ECP Mode Use DMA

ECP Mode Use DMA

3
1

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

Integrated Peripherals à EPP Mode Select

EPP Mode Select

EPP1.7
EPP1.9

This item lets you select EPP mode.

AWARD BIOS

Integrated Peripherals à Onboard Sound Chip

<u>Onboard Sound Chip</u>

Enabled
Disabled

This item lets you enable or disable the onboard sound chip.

AWARD BIOS

3.10 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.
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.

3.11 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.

3.12 Save & Exit Setup

This function automatically saves all CMOS values before leaving Setup.

3.13 Load EEPROM Default

Except "Load Setup Default" and "Load Turbo Default", you may also use "Save EEPROM Default " to save your own settings into EEPROM, and reload by using this item. Note that you must make sure you've already executed "Save EEPROM Default" before choosing this command, otherwise, the system is likely to boot improperly.

3.14 Save EEPROM Default

You may use this item to save your own settings into EEPROM. Then, if the data in CMOS is lost or you forget the previous settings, you may use "Load EEPROM Default " to reload.

3.15 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.

3.16 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.

AWARD BIOS

3.17 How to Upgrade the BIOS

AOpen 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 AOpen's web site. For example, 6BC200.EXE. It is recommended to save it to a bootable DOS floppy diskette for error recovery.
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:> 6BC200
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: If you encounter BIOS flash fail, use PCI VGA card to check if it can be boot from floppy and flash again.

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.