Setting BIOS Feature

All computer mainboards provide a Setup utility program for specifying the system configuration and settings. If the mainboard came in a computer system, the proper configuration entries may have already been made. If you are installing the mainboard or reconfiguring the system or if you receive a Run Setup message, you will need to enter new setup information.

The mainboard comes with the Award BIOS chip that contains the ROM Setup information of the system. This chip serves as an interface between the processor and the rest of the mainboard's components. This chapter explains the information contained in the Setup program and tells you how to modify the settings according to the system configuration.

A Setup program built into the system BIOS, is stored in the CMOS RAM. This Setup utility program allows changes to the mainboard configuration settings. It is executed when user changes system configuration; user changes system backup battery; or the system detects a configuration error and asks the user to run the Setup program. At power-on RAM testing, the message Press <**Delete**> key to enter Setup appears. If you are a little bit late pressing the mentioned key, POST (Power-On Self Test) will continue with its test routines, thus preventing you from calling up Setup. If you still need to call Setup, reset the system by simultaneously pressing the <**Ctrl**>, <**Alt**> and <**Delete**> keys, or by pushing the Reset button on the system case. You can also restart by turning the system off and then back on again. But do so only if the first two methods fail. Use the arrow keys to select and press <**Enter**> key to run the selected program.

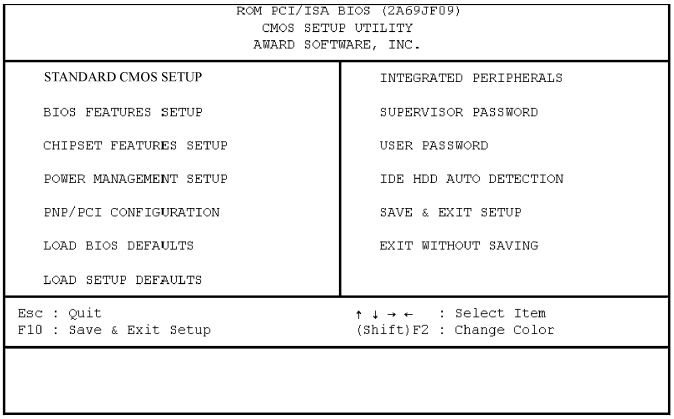
Advanced Configuration & Power Interface (ACPI)

The BIOS Setup has built-in ACPI interface which enables and supports reliable power management through improved hardware and operating system coordination. The Specification enables new power management technology to evolve independently in operating systems and hardware while ensuring that they continue to work together. An ACPI compatible BIOS could:

- lower processor clock speed when it determines that running applications do not currently need the CPU to run at full speed
- control mainboard and peripheral device power consumption by turning on devices only when needed
- regulate applications activity through a continually updated demand analysis of running software

Main CMOS Setup

When you run Setup, the CMOS SETUP UTILITY main program screen will appear with the following options:



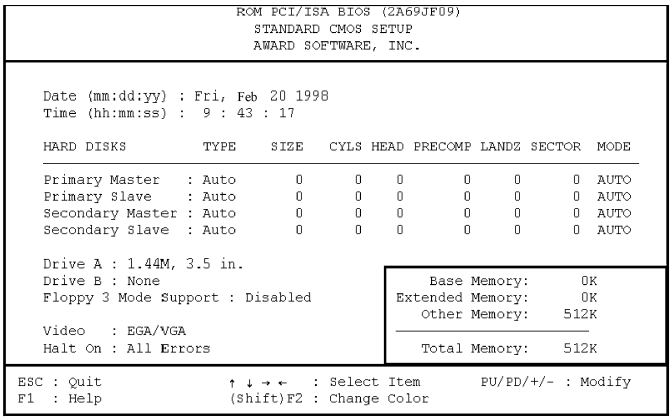
A section at the bottom of the above screen displays the control keys for this screen. Take note of these keys and their respective uses. Another section just below the control keys section displays information on the currently highlighted item in the list.

Load Defaults

The oad BIOS Defaults" option loads the minimized settings for troubleshooting. oad Setup Defaults" on the other hand, is for loading optimized defaults for regular use. Choosing defaults at this level will modify all applicable settings.

Standard CMOS Setup

The tandard CMOS Setup" option allows you to record some basic system hardware configuration and set the system clock and error handling. If the mainboard is already installed in a working system, you will not need to select this option anymore. However, if the configuration stored in the CMOS memory on the mainboard gets lost or damaged, or if you change the system hardware configuration, you will need to re-specify the configuration values. The configuration values usually get lost or corrupted when the power of the onboard CMOS battery weakens.



The above screen provides you with a list of options. At the bottom are the control keys for this screen. Take note of these keys and their respective uses. User-configurable fields appear in a different color. If you need information on the selected field, press the <**F1**> key. The help menu will then appear to provide you with the information you need. The memory display at the lower right-hand side of the screen is read-only and automatically adjusts accordingly.

Date

To set the date, highlight the ate" field and then press the page up/page down or +/– keys to set the current date. Follow the month, day and year format. Valid values for month, day and year are: Month: (1 to 12), Day: (1 to 31), Year: (up to 2079).

Time

To set the time, highlight the ime" field and then press the page up/page down or +/– keys to set the current time. Follow the hour, minute and second format. Valid values for hour, minute and second are: Hour: (00 to 23), Minute: (00 to 59), Second: (00 to 59), just press the <**Enter**> key twice if you do not want to modify the current settings.

Hard Disks

This field records the specifications for all non-SCSI hard drives installed in the system. The onboard PCI IDE connectors provide Primary and Secondary channels for connecting up to four IDE hard disks or other IDE devices. Each channel can support up to two hard disks, the first of which is the aster" and the second is the lave".

Specifications for SCSI hard disks need not be entered here since they operate using device drives and are not supported by any BIOS. If you installed a SCSI controller card, please refer to their respective documentations on how to install the required SCSI drivers.

For an IDE hard disk drive setup, you can:

- Use the *Auto* setting for detection during bootup.
- Use the IDE HDD AUTO DETECTION in the main menu to automatically enter the drive specifications.
- Enter the specifications yourself manually by using the ser" option.

The entries for specifying the hard disk type include CYLS (number of cylinders), HEAD (number of read/write heads), PRECOMP (write precompensation), LANDZ (landing zone), SECTOR (number of sectors) and MODE. The SIZE field automatically adjusts according to the configuration you specified. The documentation that comes with the hard disk should provide you with the information regarding the drive specifications.

The MODE entry is for IDE hard disks only, and can be ignored for MFM and ESDI drives. This entry provides three options: *Normal*, *Large*, *LBA*, or *Auto*. Set MODE to the *Normal* for IDE hard disks smaller than 528MB; set it to *LBA* for drives over 528MB that support Logical Block Addressing (LBA) to allow large IDE hard disks; set it to *Large* for drives over 528MB that do not support LBA. *Large* type of drives can only be used with MS-DOS and is very uncommon. Most IDE drives over 528MB support the *LBA* mode.

Auto Detection of Hard Disks on Bootup

For each field: Primary Master, Primary Slave, Secondary Master, and Secondary Slave, you can select *Auto* under the TYPE and MODE fields. This will enable auto detection of your IDE drives during Bootup. This will allow you to change your hard drives (with the power off) and then power on without having to reconfigure your hard drive type. If you use older hard drives which do not support this feature, then you must configure the hard drive in the standard method as described above by the ser" option.

NOTE : After the IDE hard disk information has been entered into BIOS, new IDE hard disks must be partitioned (such as with FDISK.EXE, a DOS-based utility) and then formatted before data can be read from and written on. Primary IDE hard drives must have its partition set to *active* (also possible with FDISK).

Drive A / Drive B

These fields record the types of floppy drives installed in the system. The available options for drives A and B are: *None* (default for Drive B); *360KB, 5.25 in.; 1.2MB, 5.25 in.; 720KB, 3.5 in.; 1.44MB, 3.5 in.* (default for Drive A); *2.88MB, 3.5 in.* To enter the configuration value for a particular drive, highlight its corresponding field and then select the drive type using the left- or right-arrow key.

Floppy 3 Mode Support

This is the Japanese standard floppy drive. The standard stores 1.2MB in a 3.5inch diskette. This is normally disabled but you may choose from either: *Disabled* (default), *Drive A*, *Drive B*, and *Both*.

Video

Set this field to the type of video display card installed in the system. The options are: *EGA/VGA* (default), *Mono* (for Hercules or MDA), *CGA 40*, and *CGA 80*. If you are using a VGA or any higher resolution card, choose the GA/VGA" option.

Halt On

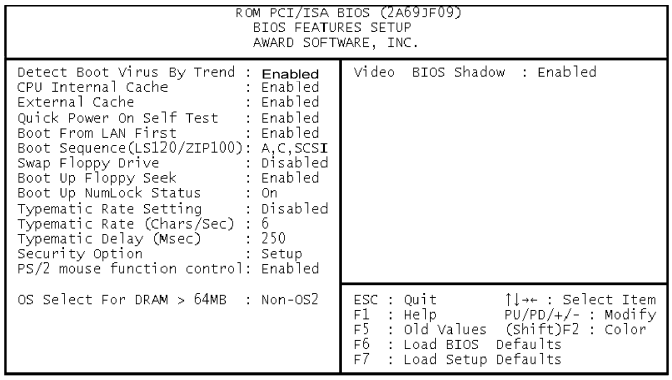
This field determines which types of errors will cause the system to halt. Choose from *All Errors* (default); *No Errors*; *All, But Keyboard*; *All, But Diskette*; and *All, But Disk/Key*.

Software Turbo Speed

BIOS supports the Software Turbo Speed feature used for adjusting the speed of play on some DOS games. Simply press the <**Ctrl**>, <**Alt**>, and <+> keys simultaneously to enable the Turbo Speed feature; pressing the <**Ctrl**>, <**Alt**>, and <–> keys simultaneously will disable this feature.

BIOS Features Setup

The IOS Features Setup" option consists of configuration entries that allow you to improve the system performance, or lets you set up some system features according to your preference. Some entries here are required by the mainboard design to remain in their default settings.



A section at the lower right of the screen displays the control keys you can use. Take note of these keys and their respective uses. If you need information on a particular entry, highlight it and press the <**F1**> key. A pop-up help menu will appear to provide you with the information you need. <**F5**> loads the last set values, <**F6**> and <**F7**> loads the BIOS default values and Setup default values, respectively.

Detect Boot Virus By Trend

When enabled, this field allows virus detection on the boot sector of the boot device (FDD/HDD) during bootup. The options are: *Enabled* (default); *Disabled*.

CPU Internal Cache / External Cache

These fields allow you to turn on or off the CPU Internal and External built-in cache. The options are *Enabled* (default); *Disabled*.

Quick Power On Self Test

This field speeds up the Power-On Self Test (POST) routine by skipping re-testing a second, third, and fourth time. A complete test of the system is done on each test. The options are *Enabled* (default); *Disabled*.

Boot From LAN First

This field allows the system to first look for an operating system on the LAN (Local Area Network) if you have a LAN card with boot ROM installed in your system that is connected to a network server which supports this function. The options are: *Enabled* (default); *Disabled*.

Boot Sequence (LS120/ZIP100)

This field determines where the system looks first for an operating system. The setup default setting is to check first the floppy drive, then the hard drive, and then the SCSI device; that is, *A, C, SCSI*. The options are *A, C, SCSI* (default); *LS/ZIP, C*; *C, only*; *SCSI, C, A*; *SCSI, A, C; F, A, SCSI; E, A, SCSI; D, A, SCSI; CDROM, C, A; C, CDROM, A; C, A, SCSI*.

Swap Floppy Drive

When enabled, it allows you to switch the order in which the operating system accesses the floppy drives during boot up. The options are: *Disabled* (default); *Enabled*.

Boot Up Floppy Seek

When enabled, the BIOS will seek the floppy ” drive one time. The options are *Enabled* (default); *Disabled*.

Boot Up NumLock Status

This field enables user to activate the Number Lock function upon system boot. The options are *On* (default); *Off*.

Typematic Rate Setting

When enabled, you can set the two typematic controls listed next. The options are *Disabled* (default); *Enabled*.

Typematic Rate (Chars/Sec)

This field controls the speed at which the system registers repeated keystrokes. The options are *6* (default); *8*; *10*; *12*; *15*; *20*; *24*; and *30*.

Typematic Delay (Msec)

This field sets the time interval for displaying the first and second characters. The options are *250* (default); *500*; *750*; and *1000*.

Security Option

This field determines when the system prompts for the password. The default setting is *Setup*, where the system always boots up, and prompts for the Supervisor Password only when the Setup utility is called up. The other option is *System*, where the system prompts for the User Password every time you boot up. You can specify a password by using the *Supervisor Password* or *User Password* option from the main screen as explained later in this section. The options are: *Setup* (default); *System*.

PS/2 Mouse Function Control

This item allows the PS/2 mouse to have exclusive use of IRQ12. The options are: *Enabled* (default); *Disabled*.

OS Select For DRAM > 64MB

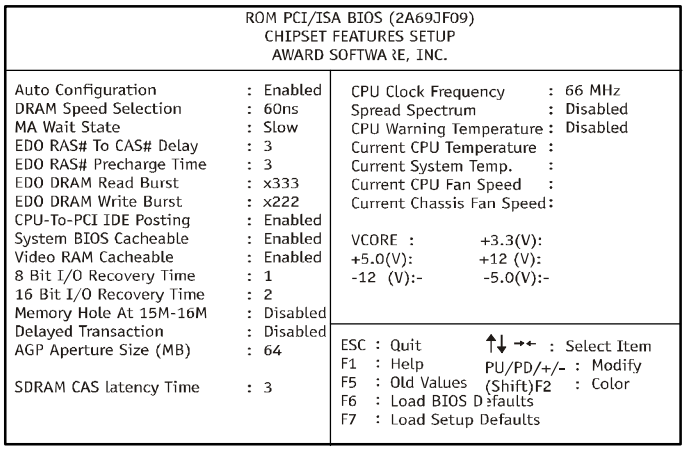
Allows you to specify which operating system you are using when installed DRAM is greater than 64MB. If the operating system you are using is IBM® OS/2™, select *OS2*, otherwise, stay with the default setting of *Non-OS2*. The options are: *Non-OS2* (default); *OS2*.

Video BIOS Shadow

This field allows you to change the video BIOS location from ROM to RAM. Relocating to RAM enhances system performance, as information access is faster than the ROM. The options are *Enabled* (default); *Disabled*.

Chipset Features Setup

The hipset Features Setup" option controls the configuration of the mainboard chipset. Control keys for this screen are the same as for the previous screen.



Auto Configuration

Allows you to set the type of DRAM used. This is to be set by a technician only. The options are: *Enabled* (default), *Disabled*.

DRAM Speed Selection

This item, which is available only when the above item Auto Configuration is set at *Enabled*, allows you to set the DRAM timing according to the type of DRAM installed in the system. The options are: *60ns* (default); *50ns*.

MA Wait State

This item, which is available only when the above item Auto Configuration is set at *Disabled*, allows you to set the memory address wait state. The options are: *Fast* (default); *Slow*.

EDO RAS# To CAS# Delay

This item, which is available only when the above item Auto Configuration is set at *Disabled*, allows you to define the time delay from DRAM CAS# active to CAS# active, depending on the CPU frequency and DRAM type used, whether 2 clocks or 3 clocks. The options are: *3* (default); *2*.

EDO RAS# Precharge Time

This item, which is available only when the above item Auto Configuration is set at *Disabled*, allows you to select the DRAM RAS# precharge time whether 3 clocks or 4 clocks. The options are: *3* (default); *4*.

EDO DRAM Read Burst

This item, which is available only when the above item Auto Configuration is set at *Disabled*, allows you to set the DRAM read burst timing depending on the CPU frequency and DRAM type used. The options are: *x333* (default); *x222*.

EDO DRAM Write Burst

This item, which is available only when the above item Auto Configuration is set at *Disabled*, allows you to set the DRAM write burst timing depending on the CPU frequency and DRAM type used. The options are: *x222* (default); *x333*.

CPU-To-PCI IDE Posting

The default setting of *Enabled* allows data and address access to internal buffer of the Intel® 82443LX chip so that the processor can be released from the wait state. The options are: *Enabled* (default); *Disabled*.

System BIOS Cacheable

When enabled, allows the ROM area of F000H-FFFFH to be cacheable when the cache controller is activated. The options are *Enabled* (default), *Disabled*.

Video RAM Cacheable

Allows the video RAM to be cached to allow for faster execution. Leave on default setting of *Enabled* for better performance, otherwise *Disabled*. The options are *Enabled* (default), *Disabled*.

8 Bit I/O Recovery Time

This item sets the timing for 8-bit ISA cards. The options are: *1* (default); *2* to *7*, *NA*, *8*.

16 Bit I/O Recovery Time

This item sets the timing for 16-bit ISA cards. The options are: *2* (default); *3*, *NA*, *4*, *1*.

Memory Hole at 15M-16M

Enabling this feature reserves between 15MB and 16MB memory address space for expansion cards that specifically require this setting. This makes the memory for 15MB to 16MB unavailable to the system. Expansion cards can only access memory above 16MB. The options are *Disabled* (default), *Enabled.*

Delayed Transaction

When enabled, it allows the current PCI bus master to retry the current PCI bus master cycle and to accept the new PCI bus master request. It re-accepts the original PCI bus master and returns data to the original PCI bus master, thereby enhancing system performance. The options are: *Disabled* (default); *Enabled*.

AGP Aperture Size (MB)

This item allows you to select the main memory frame size for use by the add-on AGP card. The options are: *64* (default); *128*; *256*; *4*; *8*; *16*; *32*.

SDRAM CAS Latency Time

If the CAS latency of your installed SDRAM DIMM is 2, set it at *2* to enhance system performance. If the CAS latency is 3, stay with the default setting of *3*. The options are: *3* (default); *2*.

CPU Clock Frequency

This item shows you the ratio of the CPU external clock to the PCI bus clock. It is not user-configurable.

Spread Spectrum

This item allows you to take advantage of the center spread-type or down spread-type of spread spectrum. The options are *Disabled*; *Enabled.*

CPU Warning Temperature

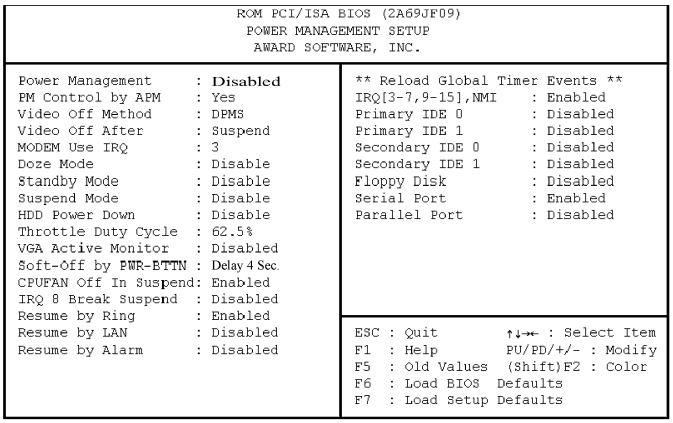
This item allows you to set the maximum allowable CPU temperature for system to perform normally. When CPU temperature exceeds this temperature, system will proceed to enter Standby Mode of operation causing system to slowdown. The options are: *Disabled* (default); *50°C/122°F; 53°C/127°F; 56°C/133°F; 60°C/140°F; 63°C/145°F; 66°C/151°F; 70°C/158°F.*

Current CPU Temperature / Current System Temp. / Current CPU Fan Speed / Current Chassis Fan Speed / VCORE: +3.3(V): / +5.0(V): +12 (V): / –12 (V):– –5.0(V):

These items allow end users and technicians to monitor data provided by the BIOS on this mainboard. It is not user-configurable.

Power Management Setup

The ower Management Setup" option allows you to reduce the power consumption of the system. This feature turns off the video display and shuts down the hard drive after a period of inactivity.



Power Management

This field acts as the master control for the power management modes. *Max Saving* puts the system into power saving mode after a brief period of system inactivity; *Min Saving* is almost the same as *Max Saving* except that this time the system inactivity period is longer; *Disabled* disables the power saving features; *User Defined* allows you to set power saving options according to your preference. The options are: *Disabled* (default); *User Defined*; *Min Saving*; *Max Saving*.

PM Control by APM

The option *No* allows the BIOS to ignore the APM (Advanced Power Management) specification. Selecting *Yes* will allow the BIOS wait for APM prompt before it enters Doze mode, Standby mode, or Suspend mode. If the APM is installed, it will prompt the BIOS to set the system into the power saving mode after all tasks are done. The options are: *Yes* (default); *No*.

Video Off Method

This field defines the video off features. *V/H SYNC + Blank* blanks the screen and turns off vertical and horizontal scanning; *DPMS Support* allows the BIOS to control the video display card if it supports the DPMS feature; *Blank Screen* only blanks the screen. Use the latter for display monitors that do not support the reen" (no power management) feature. Screensaver softwares does not work with this feature. With the CRT monitor shut off, this software cannot display. The options are *DPMS* (default); *Blank Screen*; *V/H Sync + Blank*.

Video Off After

This item allows you to activate the video off feature for the display monitor power management. The options are *Suspend* (default); *Standby*; *Doze*; *NA.*

MODEM Use IRQ

This feature allows you to select the IRQ# to match the modem IRQ#. The options are: *3* (default); *4*; *5*; *7*; *9*; *10*; *11*; *NA.*

Doze Mode/Standby Mode/Suspend Mode

Sets the period of time after which Doze/Standby/Suspend Mode activates. At *Max Saving*, Doze/Standby/Suspend Mode will activate after *1 Min*. At *Min Saving*, Doze/Standby/Suspend Mode will activate after *1 hour*. If Power Management option is set at *User Defined*, user has the option to set it at *1 Min; 2 Min; 4 Min; 8 Min; 12 Min; 20 Min; 30 Min; 40 Min; or 1 Hour*. The default value is *Disabled.*

HDD Power Down

This option shuts down any IDE hard drives in the system after a period of inactivity. At *Max Saving*, Doze/Standby/Suspend Mode will activate after *1 Min*. At *Min Saving*, Doze/Standby/Suspend Mode will activate after *15 Min*. If Power Management option is set at *User Defined*, user has the option to set it at *1 Min* to *15 Min*. This feature does not affect SCSI hard drives. The options are *Disabled* (default); *1 Min*; . . . *15 Min*.

Throttle Duty Cycle

This item allows you to set the speed at which the system clock runs during power saving mode. The settings are expressed as the ratio between the normal and power down clock speed. The options are: *62.5%* (default), *75.0%*, *12.5%*, *25.0%*, *37.5%*, *50.0%*.

VGA Active Monitor

When disabled, it allows the system to enter Power Management Mode even if the display monitor is currently active (e.g., running a screensaver program, etc.). The options are: *Disabled* (default); *Enabled*.

Soft-Off By PWR-BTTN

This item is designed for the system case that uses an ATX power supply. The option *Delay 4 Sec.* allows the system to have a power-off delay of 4 seconds upon pressing the power button. The option *Instant-Off* allows the system to shutdown immediately upon pressing the power button. The options are *Delay 4 Sec.* (default); *Instant Off.*

CPUFAN Off In Suspend

When enabled, allows the CPU fan to shutdown when system is in Suspend Mode. The options are: *Enabled* (default); *Disabled*.

IRQ 8 Break Suspend

IRQ8 (Real Time Alarm) is usually set to *Disabled* so that any software alarm clock or event calendar can wake up the system. The options are *Disabled* (default); *Enabled.*

Resume By Ring

If an ATX power supply is installed in your system and this feature is enabled, the system can be turned on from the power-off state by remote phone call via the modem. The options are *Enabled* (default); *Disabled*.

Resume By LAN

If an ATX power supply is installed in your system and this feature is enabled, the system can be turned on from the power-off state by a remote computer via the LAN. The options are *Disabled* (default); *Enabled*.

Resume By Alarm

If an ATX power supply is installed in your system and this feature is enabled, BIOS allows you to set the time the system will be turned back on from the power-off state. The options are: *Disabled* (default); *Enabled.*

Date (of Month) Alarm

This item, which is available only if the above item Resume By Alarm is set at *Enabled*, allows you to set the date when system will be turned back on from the power-off state. The options are: *0* (default); *1* to *31*.

Time (hh:mm:ss) Alarm

This item, which is available only if the above item Resume By Alarm is set at *Enabled*, allows you to set the specific hour, minute, and second of the day when system will be turned back on from the power-off state. The options are: hh: *7* (default), *0* to *23*; mm: *0* (default), *1* to *59*; ss: *0* (default), *1* to *59.*

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

When enabled, this item allows the system to reset power management timer when system activity at IRQ3 to 7 or IRQ9 to 15 is detected. The options are: *Enabled* (default); *Disabled*.

Primary IDE 0

When enabled, this item allows the system to reset power management timer when system activity at the primary (master) IDE is detected. The options are: *Disabled* (default); *Enabled*.

Primary IDE 1

When enabled, this item allows the system to reset power management timer when system activity at the primary (slave) IDE is detected. The options are: *Disabled* (default); *Enabled*.

Secondary IDE 0

When enabled, this item allows the system to reset power management timer when system activity at the secondary (master) IDE is detected. The options are: *Disabled* (default); *Enabled*.

Secondary IDE 1

When enabled, this item allows the system to reset power management timer when system activity at the secondary (slave) IDE is detected. The options are: *Disabled* (default); *Enabled*.

Floppy Disk

When enabled, this item allows the system to reset power management timer when system activity at the floppy disk drive is detected. The options are: *Disabled* (default); *Enabled*.

Serial Port

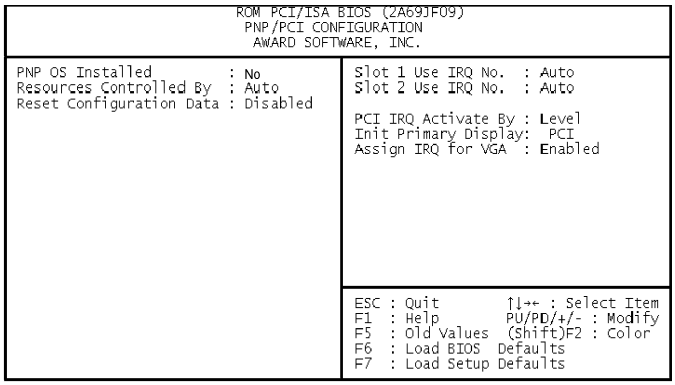
When enabled, this item allows the system to reset power management timer when system activity at the serial port is detected. The options are: *Enabled* (default); *Disabled*.

Parallel Port

When enabled, this item allows the system to reset power management timer when system activity at the parallel port is detected. The options are: *Disabled* (default); *Enabled*.

PNP and PCI Configuration Setup

The NP and PCI Configuration" option configures the PCI bus slots. All PCI bus slots on the system use INTA#, thus all installed PCI cards must be set to this value.



PNP OS Installed

When Plug and Play operating systems (OS) are installed, interrupts may be reassigned by the OS when *Yes* is selected. When a non-Plug and Play OS is installed or to prevent reassigning of interrupt settings, select *No* here. The options are: *No* (default), *Yes*.

Resources Controlled By

If set at *Auto*, BIOS automatically arranges all system resources for you. If there are conflicts or you are not satisfied with the configuration settings, simply set all the resources by selecting *Manual*. The options are: *Auto* (default); *Manual*.

Reset Configuration Data

When enabled, this feature allows the system to clear the last BIOS configuration data and reset them with the default BIOS configuration data. The options are: *Disabled* (default); *Enabled*.

Slot 1 Use IRQ No. / Slot 2 Use IRQ No.

Allows you to set the Interrupt Request (IRQ) number to be used by both 32-bit PCI1 and PCI2 bus expansion slots. The options are: *Auto* (default)*; 3; 4; 5; 7; 9; 10; 11; 12; 14; 15.*

PCI IRQ Activated By

If the IDE card you are using is triggered by edge, set it at *Edge*. The options are: *Level* (default); *Edge*.

Init Primary Display

When a display card is installed in both the 32-bit PCI bus expansion slot and the 32-bit AGP bus slot, it allows you to set the priority for VGA display. The options are: *PCI* (default); *AGP*.

Assign IRQ for VGA

If the PCI VGA card you are using does not need an IRQ, select *Disabled*, thereby releasing an IRQ for system use. The options are: *Enabled* (default); *Disabled*.

Used MEM Base Addr (available only if Resoirces Controlled By is set at Manual)

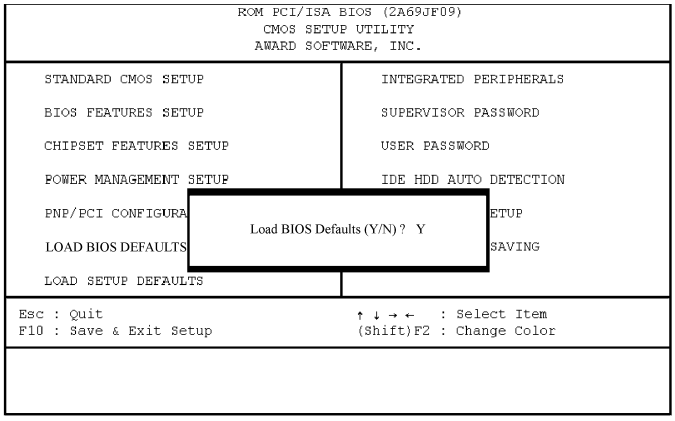
This field allows you to set the base address and block size of a Legacy ISA card that uses any memory segment within the *C800*, *CC00*, *D000*, *D400*, *D800*, and *DC00* address range. If you have such a card, and you are not using an ICU to specify its address range, select a base address from the six available options and the next field will then appear for selecting the block size. The options are: *N/A* (default); *C800*; *CC00*; *D000*; *D400*; *D800*; *DC00*.

Used MEM Length (available only if Used MEM Base Addr is not set at N/A)

If you have more than one Legacy ISA card in the system that requires to use the above address range, you can increase the block size to either *8K*, *16K*, *32K*, or *64K*. If you are using an ICU to accomplish this task, leave the above option Used MEM Base Addr at *N/A*. The options are :*8K* (default); *16K*; *32K*; *64K*.

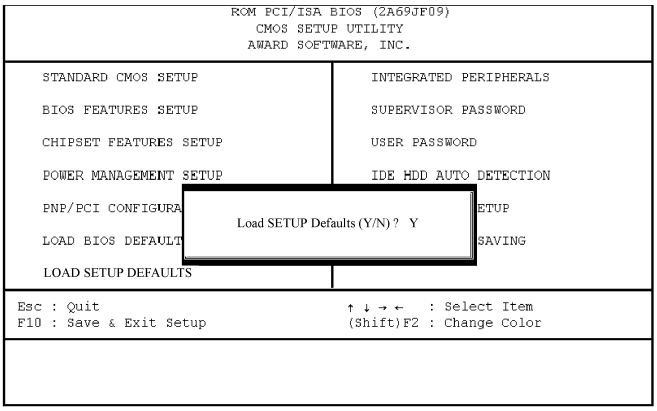
Load BIOS Defaults

The oad BIOS Defaults" option allows you to load the troubleshooting default values permanently stored in the BIOS ROM. These default settings are non-optimal and disables all high performance features. To load these default settings, highlight oad BIOS Defaults" on the main screen and then press the <**Enter**> key. The system displays a confirmation message on the screen. Press the <**Y**> key and then the <**Enter**> key to confirm. Press the <**N**> key and then the <**Enter**> key to abort. This feature does not affect the fields on the Standard CMOS Setup screen.

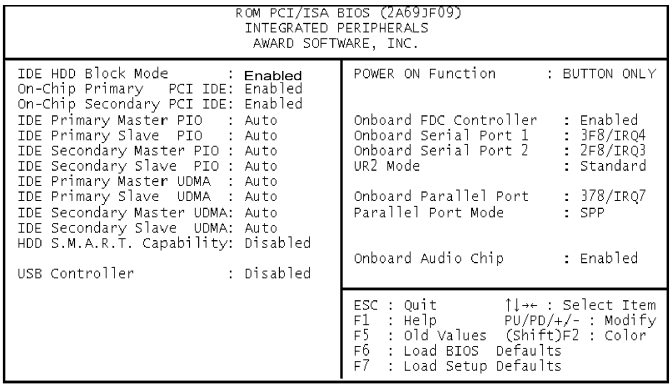


Load Setup Defaults

The oad Setup Defaults" option allows you to load the default values to the system configuration fields. These default values are the optimized configuration settings for the system. To load these default values, highlight oad Setup Defaults" on the main screen and then press the <**Enter**> key. The system displays a confirmation message on the screen. Press the <**Y**> key and then the <**Enter**> key to confirm. Press the <**N**> key and then the <**Enter**> key to abort. This feature does not affect the fields on the Standard CMOS Setup screen.



Integrated Peripherals



IDE HDD Block Mode

When enabled, the system executes read/write requests to hard drive in Block Mode. The options are: *Enabled* (default); *Disabled*.

On-Chip Primary PCI IDE

When enabled, it allows you to use the onboard primary PCI IDE. The options are: *Enabled* (default); *Disabled*.

On-Chip Secondary PCI IDE

When enabled, it allows you to use the onboard secondary PCI IDE. The options are: *Enabled* (default); *Disabled*.

IDE Primary Master PIO (available only when On-Chip Primary PCI IDE is enabled)

Allows an automatic or a manual configuration of the PCI primary IDE hard drive (master) mode. The options are: *Auto* (default); *Mode 0*; *Mode 1*; *Mode 2*; *Mode 3*; *Mode 4*.

IDE Primary Slave PIO (available only when On-Chip Primary PCI IDE is enabled)

Allows an automatic or a manual configuration of the PCI primary IDE hard drive (slave) mode. The options are: *Auto* (default); *Mode 0*; *Mode 1*; *Mode 2*; *Mode 3*; *Mode 4*.

IDE Secondary Master PIO (available only when On-Chip Secondary PCI IDE is enabled)

Allows an automatic or a manual configuration of the PCI secondary IDE hard drive (master) mode. The options are: *Auto* (default); *Mode 0*; *Mode 1*; *Mode 2*; *Mode 3*; *Mode 4*.

IDE Secondary Slave PIO (available only when On-Chip Secondary PCI IDE is enabled)

Allows an automatic or a manual configuration of the PCI secondary IDE hard drive (slave) mode. The options are: *Auto* (default); *Mode 0*; *Mode 1*; *Mode 2*; *Mode 3*; *Mode 4*.

IDE Primary Master UDMA (available only when On-Chip Primary PCI IDE is enabled)

Allows an automatic configuration of the PCI primary IDE hard drive (master) mode if Ultra DMA is supported both on the mainboard and the hard disk. The options are: *Auto* (default); *Disabled*.

IDE Primary Slave UDMA (available only when On-Chip Primary PCI IDE is enabled)

Allows an automatic configuration of the PCI primary IDE hard drive (slave) mode if Ultra DMA is supported both on the mainboard and the hard disk. The options are: *Auto* (default); *Disabled*.

IDE Secondary Master UDMA (available only when On-Chip Secondary PCI IDE is enabled)

Allows an automatic configuration of the PCI secondary IDE hard drive (master) mode if Ultra DMA is supported both on the mainboard and the hard disk. The options are: *Auto* (default); *Disabled*.

IDE Secondary Slave UDMA (available only when On-Chip Secondary PCI IDE is enabled)

Allows an automatic configuration of the PCI secondary IDE hard drive (slave) mode if Ultra DMA is supported both on the mainboard and the hard disk. The options are: *Auto* (default); *Disabled*.

HDD S.M.A.R.T. Capability

Enable this option if the hard disk drive you are currently using supports the S.M.A.R.T. function. The options are: *Disabled* (default), *Enabled*.

USB Controller

Disable this option if you are not using the onboard USB feature. The options are: *Disabled* (default); *Enabled*.

BIOS Support USB Keyboard (available only when USB Controller is enabled)

When the USB devices cannot be detected automatically by the system BIOS or some driver diskettes came with the USB devices, set it at *DOS* to allow for the installation of the drivers. The options are: *Setup* (default); *DOS*.

POWER ON Function

Allows you to set the method for powering-on the system. The default option of *BUTTON-ONLY* allows system power-on using the standard system case mounted ON/OFF switch. The option *Password* allows you to set up to 5 alphanumeric characters to power-on the system. The option *Hot KEY* allows you to set which of the 12 keyboard function keys (<**F1**> to <**F12**>) in combination with the <**Ctrl**> key to power-on the system. The option *Mouse Click* allows you to use the PS/2 mouse to power-on the system by double-clicking on the mouse button. The options are: *BUTTON ONLY* (default); *Password*; *Hot KEY*; *Mouse Click*.

KB Power ON Password (available only if POWER ON Function is set at Password)

Allows you to set up to 5 alphanumeric characters use in powering-on the system. To set password, set the above item POWER ON Function to *Password*, then using the keyboard down arrow key <fl > move cursor to this item KB Power ON Password and press the <**Enter**> key. A box will appear asking you to input the password desired to power-on the system.

Hot Key power ON (available only if POWER ON Function is set at Hot KEY)

Allows you to set which of the 12 keyboard function keys (<**F1**> to <**F12**>) in combination with the <**Ctrl**> key will be used to power-on the system. The options are: *Ctrl-F1* (default) up to *Ctrl-F12*.

NOTE: When using *Password*, *Hot KEY*, or *Mouse Click* options for the item ***POWER ON Function*** will render the power button on the system case ineffective. In case user forgets password or hot key setting, use the CMOS_CLR jumper to clear RTC data (refer to section ***CMOS Clear: CMOS_CLR*** on Chapter 2). Another method is to unplug system power from the AC power outlet and then re-insert the power cord. Previous password and hot key settings will be disabled allowing user to set a new one.

Onboard FDC Controller

When enabled, the floppy disk drive (FDD) controller is activated. The options are *Enabled* (default); *Disabled*.

Onboard Serial Port 1

If Serial Port 1 uses the onboard I/O controller, you can modify the serial port parameters. If an I/O card needs to be installed, COM3 and COM4 may be needed. The options are: *3F8/IRQ4* (default); *3E8/IRQ4*; *2F8/IRQ3*; *2E8/IRQ3*; *Disabled*.

Onboard Serial Port 2

If Serial Port 2 uses the onboard I/O controller, you can modify the serial port parameters. If an I/O card needs to be installed, COM3 and COM4 may be needed. The options are: *2F8/IRQ3* (default); *3E8/IRQ4*; *2E8/IRQ3*; *3F8/IRQ4*; *Disabled*.

UR2 Mode (available only when Onboard Serial Port 2 is not set at Disabled)

Allows you to select the IR modes if the serial port 2 is used as an IR port. Set it at *Standard* when you use COM2 as a serial port instead of an IR port. The options are: *Standard* (default); *IrDA 1.0*; *ASK IR*; *MIR 0.57M*; *MIR 1.15M*; *FIR*..

UR2 Duplex Mode (available only when UR2 Mode is not set at Standard)

This feature allows you to select the infrared data transaction method. The options are: *Half* (default); *Full*.

Onboard Parallel Port

Allows you to select from a given set of parameters if the parallel port uses the onboard I/O controller. The options are: *378/IRQ7* (default); *278/IRQ5*; *3BC/IRQ7*; *Disabled*.

Onboard Parallel Mode (available only when Onboard Parallel Port not set at Disabled)

Allows you to connect with an advanced printer. The options are *SPP* (default); *EPP*; *ECP*; *ECP+EPP*.

ECP Mode Use DMA (available only when Parallel Port Mode set at ECP or ECP+EPP)

This feature allows you to select the Direct Memory Access (DMA) channel. The options are *3* (default); *1*.

Onboard Audio Chip

This feature allows you to disable the onboard audio chip if you want to use an add-on audio card on the system. The options are: *Enabled* (default); *Disabled*.

Supervisor Password and User Password

These two options set the system passwords. upervisor Password" sets a password that will be used to protect the system and the Setup utility; ser Password" sets a password that will be used exclusively on the system. By default, the system comes without any passwords. To specify a password, highlight the type you want and then press the <**Enter**> key. A password prompt appears on the screen. Taking note that the password is case sensitive, and can be up to 8 alphanumeric characters long, type in your password and then press the <**Enter**> key. The system confirms your password by asking you to type it again. After setting a password, the screen automatically reverts to the main screen. If you want to disable either the Supervisor or User password, press the <**Enter**> key instead of re-typing the new password when the nter Password" prompt appears the second time. A message confirms the password has been disabled.

IDE HDD Auto Detection

The DE HDD Auto Detection" option detects the parameters of an IDE hard drive and automatically enters them into the Standard CMOS Setup screen. Up to four IDE drives can be detected, with parameters for each listed inside the box. To accept the optimal entries, press the <**Y**> key or else select from the numbers displayed under the OPTIONS field; to skip to the next drive, press the <**N**> key. If you accept the values, the parameters will appear listed beside the drive letter on the screen. The process then proceeds to the next drive letter. Pressing the <**N**> key to skip rather than to accept a set of parameters causes the program to enter zeros after that drive letter.

Remember that if you are using another IDE controller that does not feature Enhanced IDE support for four devices, you can only install two IDE hard drives. The IDE controller must support the Enhanced IDE features in order to use Drive E and Drive F.

When auto-detection is completed, the program automatically enters all entries you accepted on the field for that drive in the Standard CMOS Setup screen. Skipped entries are ignored and are not entered in the screen.

If you are auto-detecting a hard drive that supports the LBA mode, three lines will appear in the parameter box. Choose the line that lists LBA for an LBA drive. Do not select *Large* or *Normal*.

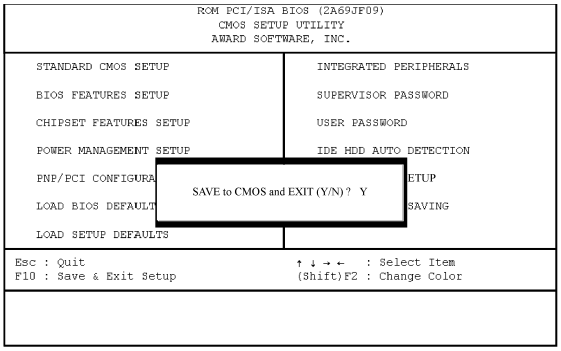
The auto-detection feature can only detect one set of parameters for a particular IDE hard drive. Some IDE drives can use more than one set. This is not a problem if the drive is new and there is nothing on it.

NOTE : If your hard drive was already formatted on an older previous system, incorrect parameters may be detected. You will need to enter the correct parameters manually or use low-level format if you do not need the data stored on the hard drive.

If the parameters listed differ from the ones used when the drive was formatted, the drive will not be readable. If the auto-detected parameters do not match the ones that should be used for your drive, do not accept them. Press the <**N**> key to reject the presented settings and enter the correct ones manually from the Standard CMOS Setup screen.

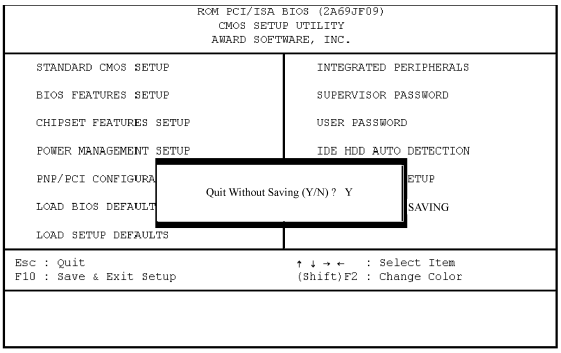
Save & Exit Setup

Select this option to save into the CMOS memory all modifications you specified during the current session. To save the configuration changes, highlight the ave & Exit Setup" option on the main screen and then press the <**Enter**> key.



Exit Without Saving

Select this option to exit the Setup utility without saving the modifications you specified during the current session. To exit without saving, highlight the xit Without Saving" option on the main screen and then press the <**Enter**> key.



BIOS Flash Software

The mainboard package provides a BIOS flash software tool in the software utility CD-ROM disc. This software is used for upgrading the current BIOS used.

1. Run the CD-ROM disc and click on *Browse CD.*
2. Select *Flash* and choose the BIOS vendor that provided the BIOS chip on this mainboard.
3. Print the related README file and read it first.

Update BIOS File

1. Please contact your vendor to get the BIOS file which you need.
2. Format a bootable system floppy diskette by typing the command ormat a:/s" in command mode.
3. Select the BIOS file you need and copy it to your bootable floppy diskette.
4. Insert the bootable diskette containing the BIOS file into the floppy diskette drive.
5. Assuming that the floppy diskette drive is A, reboot the system by using the A: drive. At the A: > prompt, run the BIOS upgraded file by executing the Flash BIOS utility and the BIOS file with its appropriate extension.

Command: *{flash tool file}{space}{downloaded BIOS file} / cc <Enter>*
Example: *flashxxx 109cd12.awd /cc*

Parameter *CC* stands for **Clear CMOS.** It is most frequently used. You can obtain the list of other parameter switches by adding "/?" after the flash utility filename and pressing the <**Enter**> key.

6. Upon pressing the <**Enter**> key, a FLASH MEMORY WRITER menu will appear onscreen. Enter the new BIOS file name with its extension filename into the text box after **File Name to Program**.
7. If you want to save the old BIOS file (perform as soon as system is operational, this is recommended), select **Y** to **Do You Want To Save BIOS,** then type the old BIOS filename and the extension after **FILENAME TO SAVE:**. This option allows you to copy the contents of the Flash memory chip onto a diskette, giving you a backup copy of the original mainboard BIOS in case you need to re-install it. Select **N** to **Do You Want To Save BIOS**, if you do not want to save the old BIOS file.
8. After the decision to save the old BIOS or not is made, select **Y** to **Are you sure to program** when the next menu appears; wait until a message showing **Power Off or Reset the system** appears. Then turn off your system.

NOTE : Do not turn off or reset the computer during the flash process or if there is a problem.

If you encounter problems while downloading the new BIOS, DO NOT turn off the system since this might prevent your system from booting up. Just repeat the process and if the problem still persists, upload the original BIOS file you saved to disk.

WARNING: If the Flash utility was not able to successfully write to Flash ROM a complete BIOS file, the system may not be able to boot up. If this happens, the system will require service from your dealer.

9. Remove the diskette and restart your computer.
10. Hold down <**Delete**> key to enter BIOS setup. You must select OAD SETUP DEFAULTS" to activate the new BIOS, then you may set other items from the Main Menu.

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