KA-6100

MAINBOARD
USER'S MANUAL

DOCUMENT No.: **16649**
MANUAL REVISION: **A0**
RELEASE DATE: **July, 1998**
PRODUCT PART No.: **25–10897–**

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Chapter 1

Installation Procedures

The KA-6100 has several user-adjustable jumpers on the mainboard that allow you to configure your system to suit your requirements. This chapter contains information on the various jumper settings on your mainboard.

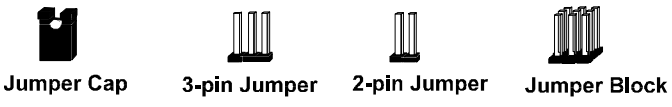
To set up your computer, you must complete the following steps:

- Step 1 –
  Set system jumpers/switches
- Step 2 –
  Install system RAM modules
- Step 3 –
  Install the Central Processing Unit (CPU)
- Step 4 –
  Install Expansion Cards
- Step 5 –
  Connect ribbon cables, cabinet wires, and power supply
- Step 6 –
  Set up BIOS software (see Chapter Two)
- Step 7 –
  Set up supporting software tools

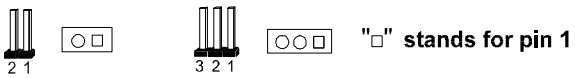
WARNING: Excessive torque may damage the mainboard. When using an electric screwdriver on the mainboard, make sure that the torque is set to the allowable range of 5.0 ~ 8.0kg/cm.
Mainboard and components contain very delicate Integrated Circuit (IC) chips. To prevent static electricity from harming any of the mainboard's sensitive components, you should follow some precautions whenever working on the computer:
1. Unplug the computer when working on the inside.
2. Hold components by the edges and try not to touch the IC chips, leads, or circuitry.
3. Wear an anti-static wrist strap which fits around the wrist.
4. Place components on a grounded anti-static pad or on the bag that came with the component whenever the components are separated from the system.

1). Set System Jumpers/Switches

Jumpers are used to select the operation modes for your system. Some jumpers on the board have three metal pins with each pin representing a different function. A "1" is written besides pin 1 on jumpers with three pins. To **set** a jumper, a black cap containing metal contacts is placed over the jumper pin/s according to the required configuration. A jumper is said to be **shorted** when the black cap has been placed on one or two of its pins. The types of jumper used in this manual are shown below:



Jumper Cap 3-pin Jumper 2-pin Jumper Jumper Block



"□" stands for pin 1

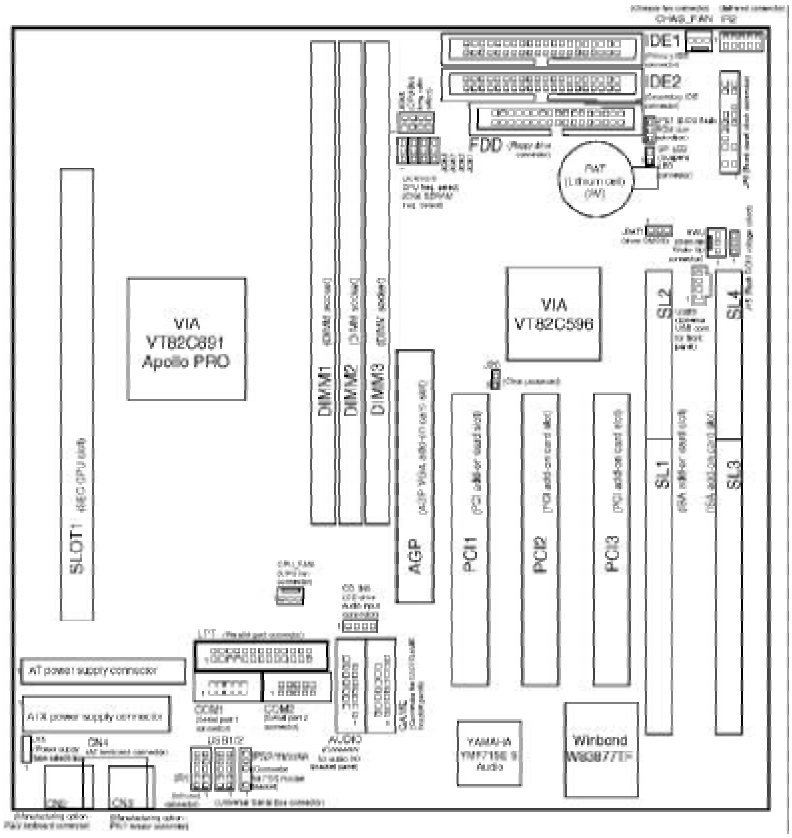
Jumper are shown like above

Jumper cap like above

Jumpers in a Block

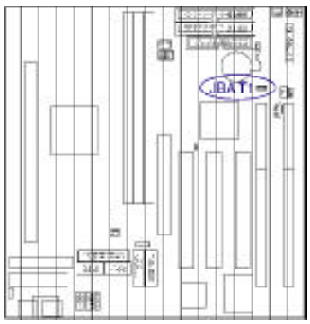
NOTE: Users are not encouraged to change the jumper settings not listed in this manual. Changing the jumper settings improperly may adversely affect system performance.

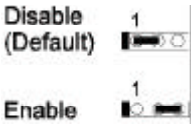
Mainboard Layout



CMOS Clear: JBAT1

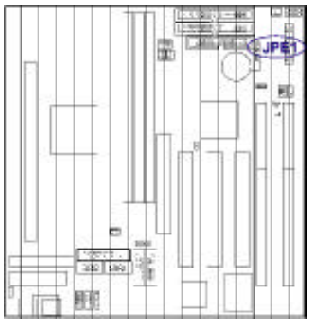
The CMOS RAM is powered by the onboard button cell battery. To clear the RTC data: (1) Turn off your computer, (2) Move this jumper to "Enable," (3) Move the jumper back to "Disable," (4) Turn on your computer, (5) Hold down the <**Delete**> key during bootup and enter BIOS Setup to re-enter user preferences.

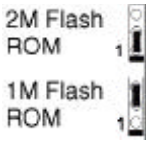




BIOS Flash ROM Size Select: JPE1

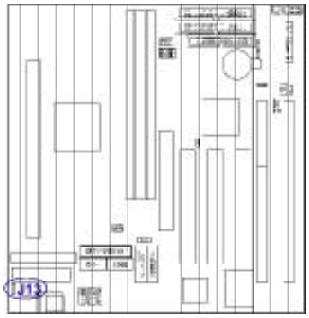
This jumper allows you to configure the flash ROM size. This jumper setting was installed with the manufacturer's default.

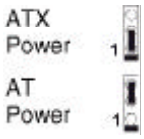




Power Supply Type Select: J13

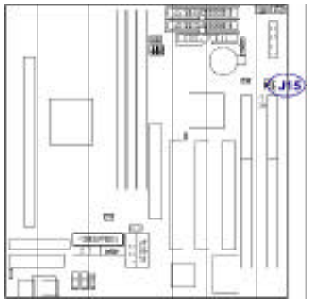
This jumper allows you to set the type of power supply to be used with the system

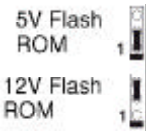




Flash ROM Voltage Select: J15

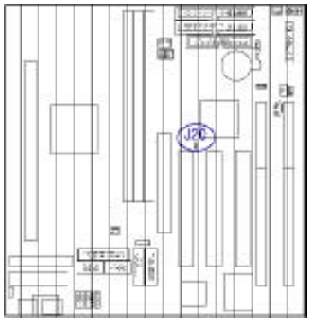
This jumper allows you to set the voltage to be used by the flash ROM chip.





Clear Password: J20

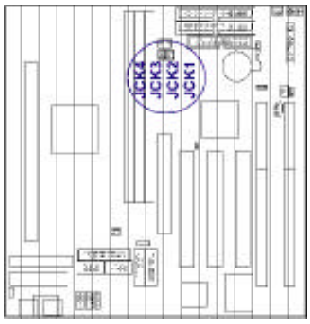
This jumper allows you to enable or to disable the password configuration. You may need to enable this jumper by shorting it with a jumper cap if you forget your password. To clear the password setting: (1) Turn off your computer, (2) Short this jumper by placing a jumper cap on it, (3) Turn on your computer and the message "Password Cleared By Jumper" will appear on screen, (4) Turn off your computer, (5) Remove the jumper cap, (6) Turn on your computer for the new settings to take effect.



Select Frequency

CPU Internal Frequency Select: JCK1, JCK2, JCK3
SDRAM Frequency Select: JCK4

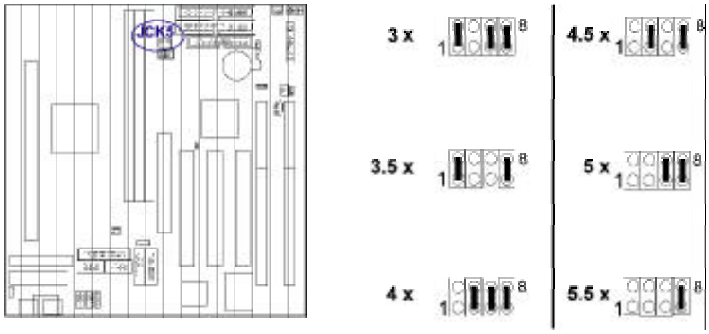
These four jumpers are used in combination to decide the internal frequency of the CPU and SDRAM.



CPU CLOCK	SDRAM CLOCK JCK4		JCK3	JCK2	JCK1
	1	1			
103.0MHz	68.7	103.0	1	1	1
100.0MHz	66.6	100.0	1	1	1
75.0MHz	75.0	75.0	1	1	1
66.8MHz	66.6	66.6	1	1	1

CPU to Bus Frequency Ratio: JCK5

This jumper is used to set the ratio of the internal frequency of the CPU to the bus clock.



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Chapter 2

Setting BIOS Feature

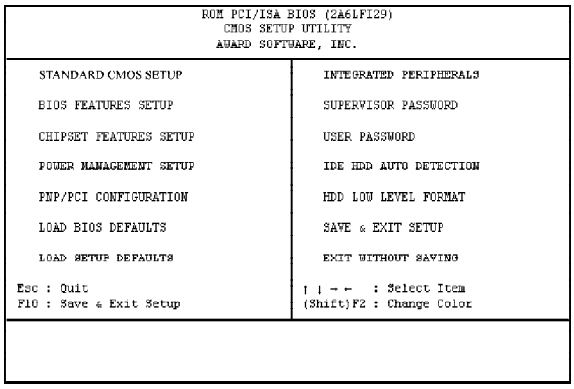
All computer mainboards provide a Setup utility program for specifying the system configuration and settings. If the mainboard came in a computer system, the proper configuration entries may have already been made. If you are installing the mainboard or reconfiguring the system or if you receive a Run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

Main CMOS Setup

When you run Setup, the "CMOS SETUP UTILITY" main program screen will



appear with the following options:

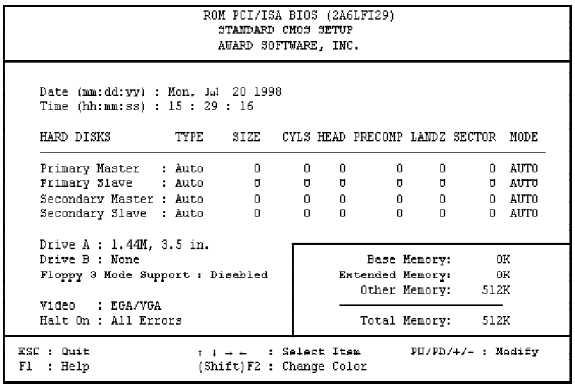
A section at the bottom of the above screen displays the control keys for this screen. Take note of these keys and their respective uses. Another section just below the control keys section displays information on the currently highlighted item in the list.

Load Defaults

The “Load BIOS Defaults” option loads the minimized settings for troubleshooting. “Load 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 “Standard 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 “Date” 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 “Time” 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 “master” and the second is the “slave”.

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 “User” 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 "User" 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

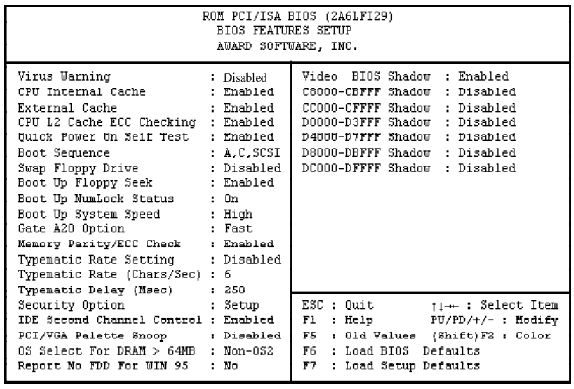
Set this field to the type of video display card installed in the system. The options are: *EGA/VGA* (default), *Mono* (for Hercules or MDA), *CGA 40*, and *CGA 80*. If you are using a VGA or any higher resolution card, choose the "EGA/VGA" option.

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. Instead of pressing the Turbo Speed button located on the front panel of your system, simply press the <**Ctrl**>, <**Alt**>, and <+> keys simul-



taneously to enable the Turbo Speed feature; pressing the <**Ctrl**>, <**Alt**>, and <**–**> keys simultaneously will disable this feature.

BIOS Features Setup

The “BIOS 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’s 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.

Virus Warning

This field protects the boot sector and partition table of the hard disk against accidental modifications. Any attempt to write to them will cause the system to halt and display a warning message. If this occurs, you can either allow the operation to continue or use a bootable virus-free floppy disk to reboot and investigate the system. The default setting is recommended because of conflicts with new operating systems. Installation of new operating systems require that you disable this feature to prevent disk write errors. The options are: *Disabled* (default); *Enabled.*

CPU Internal Cache / External Cache

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

CPU L2 Cache ECC Checking

This field allows you to activate the CPU's level 2 cache's error check andcorrection feature. 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 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 "A" 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*.

Boot Up System Speed

Set this field to *High* to instruct BIOS to boot faster upon power on. The options are: *High* (default); *Low*.

Gate A20 Option

When set at *Fast* will allow a faster access response under Protected Mode. The options are: *Fast* (default); *Normal*.

Memory Parity/ECC Check

This field enables BIOS to perform automatic memory checking upon detection of ECC or parity DRAM. The options are: *Enabled* (default); *Disabled.*

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*.

IDE Second Channel Control

The VIA Apollo PRO chipset includes a PCI IDE interface with support for two IDE channels. Select *Enabled* to activate the secondary on-chip IDE interface. Select *Disabled* to deactivate this feature if you install a secondary add-on IDE interface. The options are: *Enabled* (default); *Disabled.*

PCI/VGA Palette Snoop

Set this field to *Enabled* if any ISA adapter card installed in the system requires the VGA palette snoop function. The options are: *Disabled* (default); *Enabled.*

OS Select For DRAM > 64MB

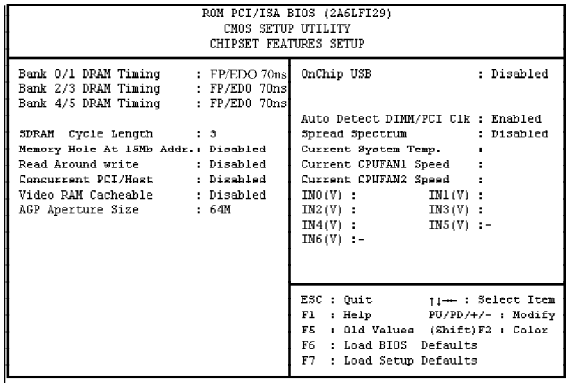
Allows you to specify which operating system you are using when installed DRAM is greater than 64MB. If the operating system you are using is IBM® OS/2™, select *OS2*, otherwise, stay with the default setting of *Non-OS2*. The options are: *Non-OS2* (default); *OS2*.

Report No FDD For WIN 95

When the field under the **Standard CMOS Setup** screen for **Drive A** and/or

Drive B is set at *None*, user must set this field **Report No Fdd For WIN 95** at *Yes* for it to function properly. Otherwise, if this field is set at *No*, even if field for **Drive A** and/or **Drive B** is set at *None*, system will still detect and recognize the presence of a floppy drive(s). The options are: *Yes* (default); *No*.

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*.

C8000-CBFFF to DC000-DFFFF Shadow

These fields are used for shadowing other expansion card ROMs. If you install other expansion cards with ROMs on them, you will need to know which addresses the ROMs use to shadow them specifically. Shadowing a ROM reduces the memory available between 640KB and 1024KB by the amount used for this purpose. The options are: *Disabled* (default); *Enabled*.

Chipset Features Setup

The “Chipset Features Setup” option controls the configuration of the mainboard’s chipset. Control keys for this screen are the same as for the previous screen.

Bank 0/1, 2/3, 4/5 DRAM Timing

This item allows you to set the DRAM read/write speed. The options are: *FP/EDO 70ns* (default); *FP/EDO 60ns*; *Fast*; *Normal*; *Turbo*.

SDRAM Cycle Length

This field will function only when SDRAM DIMM/s are installed on the mainboard (BIOS auto detection). If the CAS latency of your SDRAM DIMM is 2, set it at *2* to enhance system performance. If the CAS latency of your SDRAM DIMM is 3, stay with the default setting of *3*. The options are: *3* (default); *2*.

Memory Hole at 15M Addr.

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*.

Read Around Write

Set this field at *Enabled* to speed up data read performance. The options are: *Disabled* (default); *Enabled*.

Concurrent PCI/Host

If each bus master cycle does not take the same path, it allows for multiple bus master cycles to be activated at the same time. The options are: *Disabled* (default); *Enabled*.

Video RAM Cacheable

Allows the video RAM to be cached to allow for faster execution. 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: *64M* (default); *128M*; *256M*; *4M*; *8M*; *16M*; *32M*.

OnChip USB

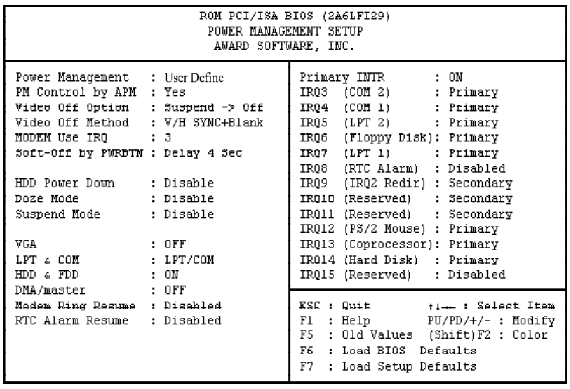
When enabled, this field allows you to use the onboard USB feature. The options are: *Disabled* (default); *Enabled*.

USB Keyboard Support

This field will appear only if the above item **OnChip USB** is set at *Enabled*. Set this field to *Enabled* to use a USB keyboard with your system. The options are: *Disabled* (default); *Enabled*.

Auto Detect DIMM/PCI Clk

Set this field at *Enabled* to allow auto detection of DIMM clock speed. The options are: *Enabled* (default); *Disabled*.



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* (default); *Enabled*.

Current System Temp. / Current CPUFAN1 Speed / Current CPUFAN2 Speed / IN0(V): to IN6(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 “Power 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: *User Defined* (default); *Disabled*; *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's 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 Option

This field allows you to activate the video off feature for the display monitor power management. The options are: *Suspend -> Off* (default); *Always On*; *All Modes -> Off*.

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 "Green" (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 *V/H Sync + Blank* (default); *Blank Screen*; *DPMS*.

MODEM Use IRQ

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

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.* (de-

fault); *Instant Off*.

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*.

Doze Mode/Suspend Mode

Sets the period of time after which Doze/Suspend Mode activates. At *Max Saving*, Doze/Suspend Mode will activate after *10 Sec*. At *Min Saving*, Doze/Suspend Mode will activate after *1 hour*. If Power Management option is set at *User Defined*, user has the option to set it at *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; or 1 Hour*. The default value is *Disabled*.

VGA

Selecting *ON* will enable the power management timer when a no activity event is detected in the VGA. Select *OFF* to disable the power management timer even if a no activity event is detected. The options are: *OFF* (default); *ON*.

LPT & COM

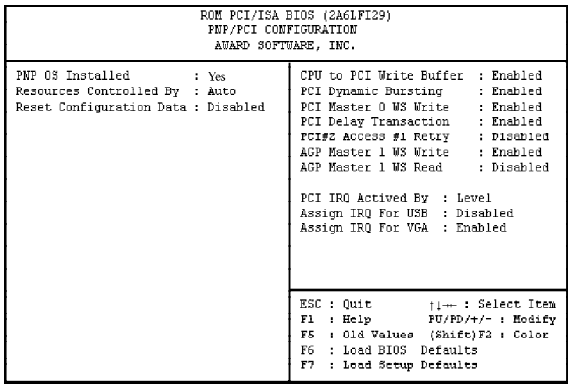
Selecting *LPT/COM* will enable the power management timer when a no activity event is detected in the LPT and COM ports. Selecting *LPT* or *COM* will enable the power management timer when a no activity event is detected in the LPT or COM port. Selecting *NONE* will disable the power management timer even if a no activity event is detected. The options are: *LPT/COM* (default); *NONE*; *LPT*; *COM*.

HDD & FDD

Selecting *ON* will enable the power management timer when a no activity event is detected in the hard disk drive and floppy disk drive. Selecting *OFF* will disable the power management timer even if a no activity event is detected. The options are: *ON* (default); *OFF*.

DMA/master

Set this field at *ON* to activate power management wake-up event function for the DMA or bus master of the LAN or SCSI card. The options are: *OFF* (default); *ON*.



Modem Ring Resume

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.*

RTC Alarm Resume

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.*

Primary INTR

This field, when set at *ON*, allows you to set the following IRQ# fields. The options are: *ON* (default); *OFF.*

IRQ3 (COM 2), . . . , IRQ7 (LPT 1), IRQ12 (PS/2 Mouse), . . . , IRQ14 (Hard Disk)

You can individually set each IRQ to be included in the sleep function. The options are*: Primary* (default); *Secondary*; *Disabled*.

IRQ8 (RTC Alarm), IRQ15 (Reserved)

You can individually set each IRQ to be included in the sleep function. 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); *Primary*; *Secondary*.

IRQ9 (IRQ2 Redir), . . . , IRQ11 (Reserved)

You can set IRQ9, IRQ10, and IRQ14 to be included in the sleep function. The options are*: Secondary* (default); *Primary; Disabled*.

PNP and PCI Setup

The "PNP and PCI Setup" 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: *Yes* (Default), *No*.

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*.

CPU to PCI Write Buffer

When enabled, allows data and address access to the internal buffer of the system controller so that the processor can be released from the wait state. The options are: *Enabled* (default); *Disabled*.

PCI Dynamic Bursting

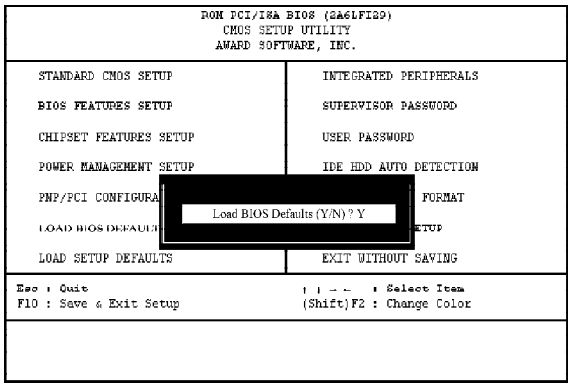
When enabled, the PCI controller allows bursting PCI transfer if the consecutive PCI cycles come with the address falling in the same 1KB space. This helps improve PCI bus throughput. The options are: *Enabled* (default); *Disabled*.

PCI Master 0 WS Write

When enabled, allows a zero-wait-state cycle delay when the PCI master drive writes data to DRAM. The options are: *Enabled* (default); *Disabled*.

PCI Delay Transaction

Set this field to *Enabled* to abort the current PCI master cycle and to accept the new PCI master request. It re-accepts the original PCI master and returns the PCI



data phase to the original PCI master. The options are: *Enabled* (default); *Disabled*.

PCI#2 Access #1 Retry

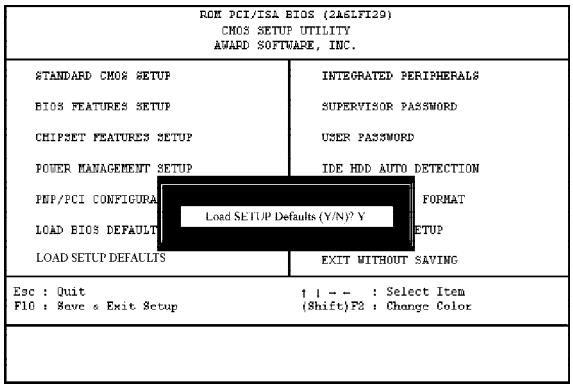
When enabled, the AGP (PCI#2) access to PCI (PCI#1) will be retried until the maximum count. The options are: *Disabled* (default); *Enabled*.

AGP Master 1 WS Write

When enabled, the AGP bus master write access to DRAMs will add one wait-state cycle. The options are: *Enabled* (default); *Disabled*.

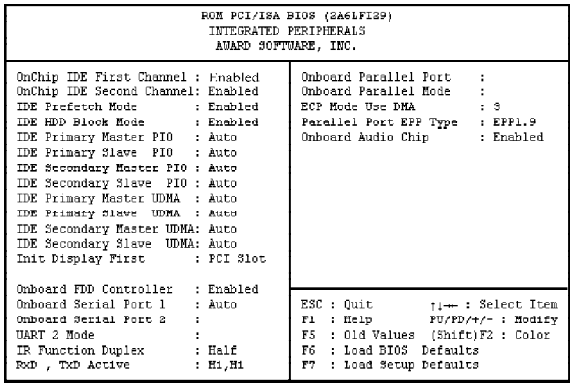
AGP Master 1 WS Read

When enabled, the AGP bus master read access to the DRAMs will add one wait-state cycle. The options are: *Disabled* (default); *Enabled*.



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*.



Assign IRQ For USB

If the onboard USB is enabled and it does not need an IRQ, select *Disabled*, thereby releasing an IRQ for system use. The options are: *Disabled* (default); *Enabled*.

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*.

Load BIOS Defaults

The "Load 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 "Load 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 "Load 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 "Load 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

OnChip IDE First Channel

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

OnChip IDE Second Channel

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

IDE Prefetch Mode

When enabled, it allows data to be posted to and prefetched from the primary IDE data ports. Data prefetching is initiated when a data port read occurs. The read prefetch eliminates latency to the IDE data ports and allows them to be performed back to back for the highest possible PIO data transfer rates. The first data port

read of a sector is called the demand read. Subsequent data port reads from the sector are called prefetch reads. The demand read and all prefetch reads must be of the same size (16- or 32-bit). The options are: *Enabled* (default); *Disabled*.

IDE HDD Block Mode

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

IDE Primary Master PIO (available only when OnChip IDE First Channel 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 OnChip IDE First Channel 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 OnChip IDE Second Channel 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 OnChip IDE Second Channel 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 OnChip IDE First Channel 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 OnChip IDE First Channel 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 OnChip IDE Second Channel 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 OnChip IDE Second Channel 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*.

Init Display First

If both the AGP VGA card and a PCI VGA card is installed onboard at the same time, this field allows you to set which takes first priority in usage. The options are: *PCI Slot* (default); *AGP*.

Onboard FDD 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: *Auto* (default)*; 3F8/IRQ4*; *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: *Auto* (default)*; 2F8/IRQ3*; *3E8/IRQ4*; *2E8/IRQ3*; *3F8/IRQ4*; *Disabled*.

UART 2 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.*.

IR Function Duplex (available only when UART 2 Mode is not set at Standard)

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

RxD, TxD Active

This feature allows you to select the active signals of the reception end and transmission end. This is mainly for technician's use only. The options are: *Hi, Hi* (default); *Hi, Lo*; *Lo, Hi*; *Lo, Lo*.

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*.

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

Allows you to connect with an advanced printer. The options are: *Normal* (default); *EPP1.7*; *SPP*; *EPP1.9; ECP.*

ECP Mode Use DMA (available only when Parallel Port Mode is set at ECP)

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

Parallel Port EPP Type

This field allows you to set the EPP version. The options are: *EPP1.9* (default); *EPP1.7*.

Onboard Audio Chip

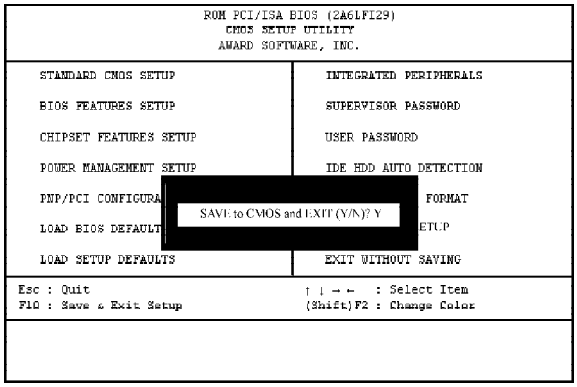
This feature allows you to disable the onboard audio chip is you want to use an add-on audio card on the system. The options are: *Enabled* (default); *Disabled.*

Supervisor Password and User Password

These two options set the system passwords. “Supervisor Password” sets a password that will be used to protect the system and the Setup utility; “User 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. To implement the password protection, specify in the “Security Option” field of the BIOS Features Setup screen when the system will prompt for the password. If you want to disable either password, press the <**Enter**> key instead of entering a new password when the “Enter Password” prompt appears. A message confirms the password has been disabled.

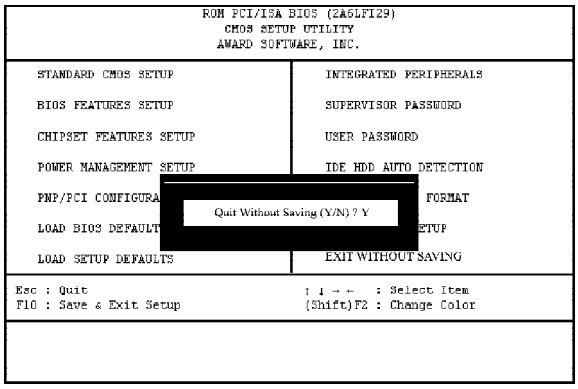
IDE HDD Auto Detection

The “IDE 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.The data shown above may not be the same as yours. They would depend on your system.

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 “Save & 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 “Exit Without Saving” option on the main menu screen and then press the <**Enter**> key.