

# **KA-6130**



## **MOTHERBOARD MANUAL**

DOC No. : 16549

Rev. : A1

Date : 8, 1998

Part No. : 25-10885-

## **Table of Contents**

### **Chapter 1 Installation Procedures**

Clear CMOS: SW1-5 .....	2
Clear Password: SW1-6 .....	2
Flash ROM Type Selection: EP1, EP2 .....	3
DIMM and System Frequency Selection: FREQ1, FREQ2.....	3
CPU Internal Frequency: SW-1, SW-2, SW-3, SW-4.....	4

### **Chapter 2 BIOS Setup**

CMOS Setup Utility .....	5
Standard CMOS Setup.....	6
Hard Disk Configurations .....	6
Software Turbo Speed .....	7
BIOS Features Setup .....	7
Chipset Features Setup .....	11
Power Management Setup .....	15
PNP/PCI Configuration.....	19
Load BIOS Defaults.....	22
Load Setup Defaults .....	22
Integrated Peripherals.....	23
Supervisor/User Password .....	27
IDE HDD Auto Detection .....	28
Save and Exit Setup.....	29
Exit without Saving .....	29

## **Installation Procedures**

The motherboard has several user-adjustable jumpers/switches on the board that allow you to configure your system to suit your requirements. This chapter contains information on the various hardware settings on your motherboard.

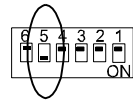
To set up your computer, you should follow these installation steps:

- **Step 1 - Set system jumpers/switches**
- **Step 2 - Install memory modules**
- **Step 3 - Install the CPU**
- **Step 4 - Install expansion cards**
- **Step 5 - Connect devices**
- **Step 6 - Set up BIOS feature**
- **Step 7 - Set up software utilities**

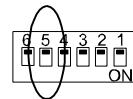
**CAUTION:** If you use an electric drill to install this motherboard on your chassis, please wear a static wrist strap. The recommended electric drill torque is from 5.0 to 8.0 kg/cm to avoid damaging the chips' pins.

**Clear CMOS: SW1-5**

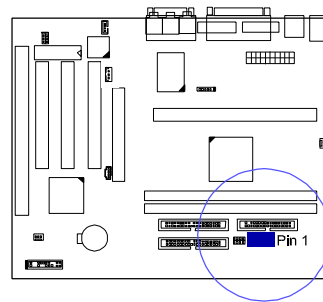
The CMOS RAM is powered by the onboard button cell battery. To clear the RTC data: (1). Turn off your computer, (2). Enable this feature by setting the SW1-5 to On position, (3). Turn on your computer, (4). Turn off the computer, (5). Disable the Clear CMOS feature, (6). Turn on the computer. (7). Hold down the Delete key when boots and enter BIOS Setup to re-enter user preferences.



Enable (Clear CMOS)

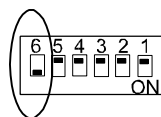


Disabled (Default)

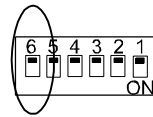


**Clear Password: SW1-6**

This switch allows you to enable or to disable the password settings. You may need to adjust switch if you forget your password. To clear the password setting: (1). Turn off your computer, (2). Enable this feature by setting the SW1-6 to On position, (3). Turn on your computer, (4). Turn off your computer, (5). Disable the Clear Password feature by setting the SW1-6 to Off position, (6). Turn on your computer, (7). Hold down the Delete key when boots and enter BIOS Setup to re-enter user preferences.



Enable (Clear Password)



Disable (Default)

**Flash ROM Type Selection: EP1, EP2**

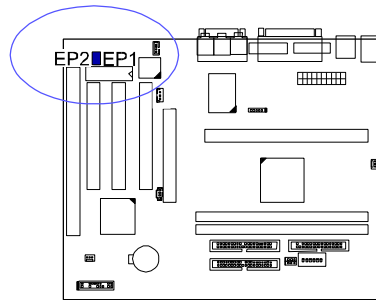
These two jumpers allow you to configure the type of flash ROM chip. This jumper setting is correct by manufactory default. If you want to know the flash ROM type installed on this motherboard, remove the sticker from the chip to see its type.

**2MB:**

MXIC 28F2000TPC 1  
INTEL 28F020






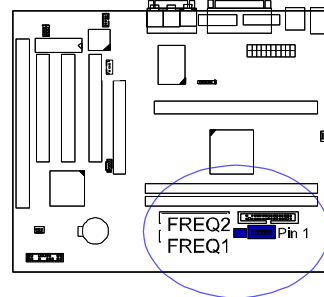
Winbond W29C020 1  
SST 29EE020  
ATMEL AT29C020  
AMD AM29F002NT



**DIMM and System Frequency Selection: FREQ1, FREQ2**

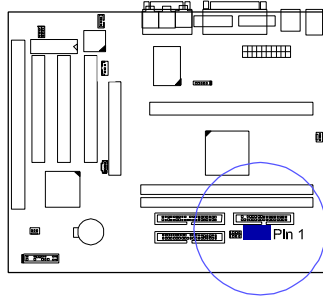
These jumpers allow users to set the frequencies of DIMMs and system.

CPU External Freq.	DIMM Freq.	
	PC-100	Non PC-100
100MHz	-7ns, -8ns 	-8ns, -10ns, -12ns, above 
66MHz	N/A	



***CPU Internal Frequency: SW1-1, SW1-2, SW1-3, SW1-4***

These four switches are used to decide the internal frequency of the CPU.

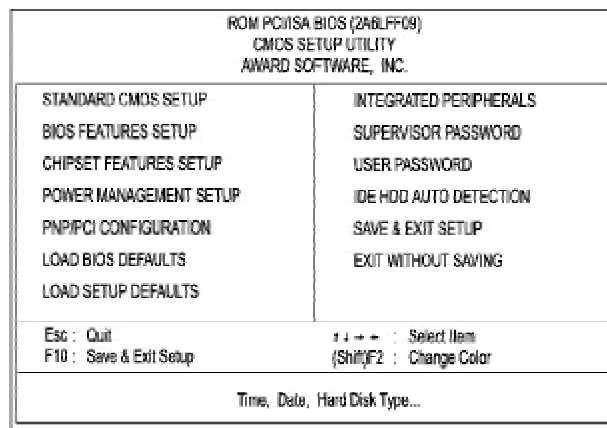


<i>Ratio</i>	<i>Bus Frequency = 100MHz</i>	<i>Bus Frequency = 66MHz</i>	<i>Switches Settings</i>
3.5 x	350MHz	233MHz	
4 x	400MHz	266MHz	
4.5 x	450MHz	300MHz	
5 x	500MHz	333MHz	

## BIOS Setup

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

### CMOS Setup Utility



A Setup program, built into the system BIOS, is stored in the CMOS RAM. This Setup utility program allows changes to the motherboard configuration settings. It is executed when the 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. Use the arrow keys to select and press Enter to run the selected program.

## Standard CMOS Setup

```

ROM BIOS (Award)
STANDARD CMOS SETUP
AWARD SOFTWARE, INC.

Date (mm/dd/yy) : Wed, Jul 8 1998
Time (hh:mm:ss) : 15 : 37 : 55

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

Drive A : 1.44M, 3.5 in.
Drive B : None

Video : EGA/VGA
Halt On : All Errors

Base Memory: 640K
Extended Memory: 31744K
Other Memory: 384K
Total Memory: 32768K

Esc : Quit      ↑ ↓ → ← : Select Item      PU/PD/+/- : Modify
F1 : Help      (Shift)F2 : Change Color
    
```

The Standard CMOS Setup screen is displayed above. Each item may have one or more option settings. The system BIOS automatically detects memory size, thus no changes are necessary. Use the arrow keys to highlight the item and then use the PgUp or PgDn keys to select the value you want in each item.

### Hard Disk Configurations

**TYPE:** Select User to fill the remaining fields. Select Auto to detect the HDD type automatically (recommended).

**SIZE:** The hard disk size. The unit is Mega Bytes.

**CYLS:** The cylinder number of the hard disk.

**HEAD:** The read/write head number of hard disk.

**PRECOMP:** The cylinder number at which the disk drive changes the write current.

**LANDZ:** The cylinder number that the disk drive heads (read/write) are seated when the disk drive is parked.

**SECTOR:** The sector number of each track defined on the hard disk.

**MODE:** Select Auto to detect the mode type automatically. If your hard disk supports the LBA mode, select LBA or Large. However, if your hard disk cylinder is more than 1024 and does not support the LBA function, set at Large. Select Normal if your hard disk supporting cylinders is below 1024.



### Software Turbo Speed

The BIOS supports Software Turbo Speed feature. Instead of pressing the Turbo Speed Button on the front panel, simply press the **Alt, Ctrl, and +** keys at the same time to enable the Turbo Speed feature; and press the **Alt, Ctrl, and -** keys at the same time to disable the feature.

### BIOS Features Setup

ROM PCI/ISA BIOS (2A8LFF09)	
BIOS FEATURES SETUP	
AWARD SOFTWARE, INC.	
Anti-Virus Protection	: Enabled
CPU Internal Cache	: Enabled
External Cache	: Enabled
CPU L2 Cache ECC Checking	: Enabled
Quick Power On Self Test	: Enabled
Boot from LAN first	: Disabled
Boot Sequence	: A, C, SCSI
Swap Floppy Drive	: Disabled
Boot Up Floppy Seek	: Enabled
Boot Up NumLock Status	: On
Gate A20 Option	: Fast
Memory Parity/ECC Check	: Disabled
Typeahead Rate Setting	: Disabled
Typeahead Rate (Chars/Sec)	: 6
Typeahead Delay (Msec)	: 250
Security Option	: Setup
IDE Second Channel Control	: Enabled
PCI/ISA Palette Snoop	: Disabled
OS Select For DRAM > 54MB	: Non-OS2
Report No. HDD For VM 95	: No
Video BIOS Shadow	: Enabled
C8000-C8FFF Shadow	: Disabled
C0000-C7FFF Shadow	: Disabled
D0000-D3FFF Shadow	: Disabled
D4000-D7FFF Shadow	: Disabled
D8000-DBFFF Shadow	: Disabled
DC000-DCFFF Shadow	: Disabled
Esc: Quit	F4 -- : Select Item
F1 : Help	PU/PD/+- : Modify
F5 : Old Values	(Shift)F2 : Color
F8 : Load BIOS Defaults	
F7 : Load Setup Defaults	

#### Anti-Virus Protection

This feature starts the virus scan tool to detect if boot virus in boot sector of the first hard disk drive when booting up.

The options are: Enabled (Default), Disabled.

#### CPU Internal Cache

When enabled, improves the system performance. Disable this item when testing or trouble-shooting. The options are: Enabled (Default), Disabled.

#### External Cache

When enabled, supports an optional cache SRAM.

The options are: Enabled (Default), Disabled.

#### CPU L2 Cache ECC Checking

To set at Enabled activates the **Error Check & Correction** feature of the CPU L2 cache. The options are: Enabled (Default), Disabled.

#### Quick Power On Self Test

When enabled, allows the BIOS to bypass the extensive memory test. The options are: Enabled (Default), Disabled.

#### Boot Sequence

Allows the system BIOS to first try to boot the operating system from the selected disk drive. The options are: A, C, SCSI (Default); C, A, SCSI; C, CDROM, A; CDROM, C, A; D, A, SCSI; E, A, SCSI; F, A, SCSI; SCSI, A, C; SCSI, C, A; C Only; LS/ZIP, C.

#### Swap Floppy Drive

Allows you to switch the order in which the operating system accesses the floppy drives during boot up. The options are: Enabled, Disabled (Default).

#### Boot Up Floppy Seek

When enabled, assigns the BIOS to perform floppy diskette drive tests by issuing the time-consuming seek commands. The options are: Enabled (Default), Disabled.

#### Boot Up Numlock Status

When set to On, allows the BIOS to automatically enable the Num Lock function when the system boots up. With the NumLock enabled, numerical keypad on the keyboard can be used right after bootup. The options are: On (Default), Off.

#### Gate A20 Option

Gate A20 refers to the way the system addresses memory above 1 MB (extended memory). When set to Fast, the system chipset controls Gate A20. When set to Normal, a pin in the keyboard controller controls Gate A20. Setting Gate A20 to Fast improves system speed, particularly with OS/2 and Windows.

The options are: Fast (Default), Normal.

#### Memory Parity/ECC Check

Select Enabled, Disabled, or Auto. In Auto mode, the BIOS enables memory checking automatically when it detects the presence of ECC or parity DRAM. The options are: Disabled (Default), Enabled.

#### Typematic Rate Setting

The term typematic means that when a keyboard key is held down, the character is repeatedly entered until the key is released. When this item is enabled, you may change the typematic repeat rate. The options are: Disabled (Default), Enabled.

#### Typematic Rate (Chars/Sec)

Sets the rate of a character repeat when the key is held down. The options are: 6 (Default), 8, 10, 12, 15, 20, 24, 30.

#### Typematic Delay (Msec)

Sets the delay time before a character is repeated. The options are: 250 (Default), 500, 750, 1000 millisecond.

#### Security Option

Allows you to set the security level of the system. The options are: Setup (Default), System.

#### IDE Second Channel Control

The chipset contains 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 interface, if you install a secondary add-in IDE interface. The options are: Disabled, Enabled (Default).

#### PCI/VGA Palette Snoop

This option must be set to Enabled if any ISA adapter card installed in the computer requires VGA palette snooping. The options are: Disabled (Default), Enabled.

#### OS Select For DRAM > 64MB

Select OS2 only if you are running OS/2 operating system with greater than 64 MB of RAM on your system. The options are: Non-OS2 (Default), OS2.

---

#### Report No FDD For WIN 95

When the features of **Drive A** or/and **Drive B** set at None (on Page 30). This feature BIOS will not report to the operating system Windows 95 or Windows 98 if set at Yes. If set at No, the BIOS will report to the the operating system Windows 95 or Windows 98 the message 5.24" floppy for Win 95.

The options are: Yes, No (Default).

#### Video BIOS Shadow

Allows the BIOS to copy the video ROM code of the add-on video card to the system memory for faster access.

The options are: Enabled (Default), Disabled.

#### C8000-CBFFF to DC000-DFFFF Shadow

Allows the BIOS to copy the BIOS ROM code of the add-on card to system memory for faster access. It may improve the performance of the add-on card.

Some add-on cards will not function properly if its BIOS ROM code is shadowed. To use these options correctly, you need to know the memory address range used by the BIOS ROM of each add-on card.

The options are: Enabled, Disabled (Default).

## Chipset Features Setup

ROM PCI/ISA BIOS (246LFF09) CMOS SETUP UTILITY CHIPSET FEATURES SETUP			
Bank 0/1 DRAM Timing	: FP/EDO 70ns	Auto Detect DIMM/PCI Clk	: Enabled
Bank 2/3 DRAM Timing	: FP/EDO 70ns	Spread Spectrum Modulated	: Disabled
SDRAM Cycle Length	: 3	CPU Host Clock	: Default
Memory Hole At 15Mb Addr.	: Disabled	CPU Warning Temperature	: Disabled
Read Around write	: Disabled	Current System Temp.	:
Concurrent PCI/Host	: Enabled	Current CPU Temperature	:
Video RAM Cacheable	: Disabled	Current CPU Ext. Temp.	:
AGP Aperture Size	: 64M	Current CPU FAN Speed	:
AGP 2X Mode	: Enabled	Current Chassis FAN Speed	:
CSD Post-Write Buffer	: 4-Level	IN0 (V)	: IN2 (V)
Read DRAM Prefetch Buf	: 4-Level	+5 V	: +12 V
DRAM Read Request Rate	: 3T	+12 V	: -5 V
OnChip USB	: Disabled	VBAT(V)	: 5VSB(V)
		Shutdown Temperature	: 60°C/140°F
		Esc: Quit	F1----: Select Item
		F1 : Help	PU/PD/+-: Modify
		F5 : Old Values	(Shift)/F2 : Color
		F6 : Load BIOS Defaults	
		F7 : Load Setup Defaults	

### Bank 0/1 DRAM Timing;

### Bank 2/3 DRAM Timing

This feature allows you to select the DRAM read/write speed.

The options are: FP/EDO 70ns (Default), FP/EDO 60ns, Fast, Normal, Turbo.

### SDRAM Cycle Length

This feature appears only when SDRAM DIMM/s is installed (BIOS auto detection). If the CAS latency of your SDRAM DIMM is 2, set at 2 to enhance the system performance. If the CAS latency of your SDRAM DIMM is 3, stay with the default setting, 3.

The options are: 2, 3 (Default).

### Memory Hole At 15M Addr.

When you install a Legacy ISA card, this features allows you to select the memory hole's address range of the ISA cycle when the processor accesses the selected address area. Please read your card manual for detail information. When disabled, the memory hole at the 14MB (or 15MB) address will be treated as a DRAM cycle when the processor accesses the 14~16MB (or 15~16MB) address area.

The options are: 15M-16M, 14M-16M, Disabled (Default).

#### Read Around write

This feature speeds up data read performance when it stays Enabled.  
The options are: Enabled, Disabled (Default).

#### Concurrent PCI/Host

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

#### Video RAM Cacheable

When stay at the default setting, Enabled, it will set the video region A000-BFFF cacheable. The options are: Enabled, Disabled (Default).

#### AGP Aperture Size (MB)

This option specifies the amount of system memory that can be used by the Accelerated Graphics Port (AGP).  
The options are: 4, 8, 16, 32, 64 (Default), 128, 256.

#### AGP-2X Mode Support

This feature allows user to select the AGP mode be to 1x or 2x when an AGP add-in card installed. However, when set at Enabled and the AGP card only support 1x mode, the system will fall back 1x mode automatically. The options are: Enabled (Default), Disabled.

#### C2D Post -Write Buffer

When CPU write to DRAM will keep in the chipset buffer first. The cycle is quick than direct write to DRAM. The 4-Level will get more buffer than the 1-Level does. The options are: 4-Level (Default), 1-Level.

#### Read DRAM Prefetch Buf

The chipset will give different priority for DRAM blocks. If the access is more frequently. The chipset will prefetch the DRAM data automatically. The 4-Level will get more buffer than the 1-Level does.  
The options are: 4-Level (Default), 1-Level.

#### DRAM Read Request Rate

When the CPU asserts a cycle to the chipset, the chipset will delay 2T or 3T to assert to DRAMs.

The options are: 3T (Default), 2T.

#### OnChip USB

If you do not use the onboard USB feature, it allows you to disable it.

The options are: Enabled, Disabled (Default).

#### BIOS Support USB Keyboard

If Enabled is selected in the above feature, this feature will appear.

If your USB devices cannot be detected automatically by the system BIOS or some driver diskettes came with your USB devices, please set at DOS for allowing you to install the driver.

The options are: Setup (Default), DOS.

#### Auto Detect DIMM/PCI Clk

Keeping this feature at Enabled will allow the system to detect the DIMM clock automatically. The options are: Enabled (Default), Disabled.

#### Spread Spectrum Modulated

This feature is used to set the spread spectrum to be center spread type or down spread type. The options are: Enabled, Disabled (Default).

#### CPU Host Clock

This feature allows you to set the CPU clock frequency. When set at Default and run over-frequency, it may cause the system can not boot. If so, keeping press Insert key while restart the system until the screen appears. The options are: Default (Default), 68 MHz, 112 MHz, 90 MHz, 100 MHz, 83 MHz, 75 MHz, 60 MHz, 66 MHz.

---

#### CPU Warning Temperature

This feature allows you to set the temperature to slow down the CPU clock frequency.

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 System Temp.

This field displays the current system temperature, if your computer contains a monitoring system.

#### Current CPU Ext. Temp.

If your CPU internal frequency is 333MHz or above, it supports the internal thermal diode. This feature will report temperature of the thermister.

#### Current CPU FAN Speed

These fields display the current speed of up to the CPU fan, if your computer contains a monitoring system.

#### Current Chassis FAN Speed

These fields display the current speed of up to the chassis fan, if your computer contains a monitoring system.

#### IN0-IN2 (V)

The IN0 is Vcore, the CPU Core Voltage. The IN2 is 3.3V.

These fields display the current voltage of up to seven voltage input lines, if your computer contains a monitoring system.

#### +5V; +12V; -12V; -5V; VBAT(V); 5VSB(V);

This fields display the power supply voltages.

#### Shutdown Temperature

When Windows 98 installed, this feature helps to shutdown the system when the system temperature is as high as the selected temperature to prevent from the overheat problem.

The options are: 60°C/140°F (Default), 65°C/149°F, 70°C/158°F, 75°C/167°F.



## Power Management Setup

ROM PC/ISA BIOS (2A0LFF08)		POWER MANAGEMENT SETUP	
AWARD SOFTWARE, INC.			
Power Management	: User Define	Primary INTR	: ON
PM Control by APM	: Yes	IRQ3 (COM2)	: Primary
Video Off Option	: Suspend -> Off	IRQ4 (COM1)	: Primary
Video Off Method	: WIN SYNC+Blank	IRQ5 (LPT2)	: Primary
MODEM Use IRQ	: 3	IRQ7 (LPT1)	: Primary
Soft-Off by PWRBTN	: Delay 4 Sec	IRQ8 (RTC Alarm)	: Disabled
HDD Power Down	: Disable	IRQ8 (IRQ Redir)	: Disabled
Doze Mode	: Disable	IRQ10 (Reserved)	: Disabled
Suspend Mode	: Disable	IRQ11 (Reserved)	: Disabled
VGA	: OFF	IRQ12 (PS/2 Mouse)	: Primary
LPT & COM	: LPT/COM	IRQ14 (Hard Disk)	: Primary
HDD & FDD	: ON	IRQ15 (Reserved)	: Disabled
DMA/master	: OFF		
Wakeup On LAN	: Enabled	Esc: Quit	+---: Select Item
Modem Ring Resume	: Enabled	F1: Help	PUPD/+: Modify
RTC Alarm Resume	: Disabled	F5: Old Values (Shift/F2)	: Color
		F6: Load BIOS Defaults	
		F7: Load Setup Defaults	

### Power Management

This item allows you to adjust the power management features. Select Disable for disabling global power management features. Select User Defined for configuring your own power management features. MIN Saving initiates all predefined timers in their minimum values. MAX Saving, on the other hand, initiates maximum values. The options are: Disabled, User Defined (Default), 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 power saving mode when all tasks are done.

The options are: No, Yes (Default).

#### Video Off Option

This feature provides the selections of the video display power saving mode. The option Suspend - Off allows the video display to go blank if the system enters Suspend mode. The option All Modes - Off allows the video display to go blank if the system enters Doze mode or Suspend mode. The option Always On allows the video display to stay in Standby mode even when the system enters Doze or Suspend mode.

The options are: Suspend - Off (Default), All Modes - Off, Always On.

#### Video Off Method

The option V/H SYNC+Blank allows the BIOS to blank off screen display by turning off the V-Sync and H-Sync signals sent from the video adapter card. DPMS Supported allows the BIOS to blank off screen display by your video adapter card which supports DPMS (Display Power Management Signaling function). Blank Screen allows the BIOS to blank off screen display by turning off the red-green-blue signals.

The options are: V/H SYNC+Blank (Default), DPMS, Blank Screen.

#### MODEM Use IRQ

This feature allows you to select the IRQ# of the system that is the same IRQ# as the modem use.

The options are: NA, 3 (Default), 4, 5, 7, 9, 10, 11.

#### Soft-Off by PWR-BTTN

The selection Delay 4 Sec. will allow the system shut down after 4 seconds after the power button is pressed. The selection Instant-Off will allow the system shut down immediately once the power button is pressed. The settings are Delay 4 Sec. (Default) or Instant-Off.

#### HDD Power Down

The option lets the BIOS turn the HDD motor off when system is in Suspend mode. Selecting 1 Min..15 Min allows you define the HDD idle time before the HDD enters the Power Saving Mode.

The options 1 Min..15 Min will not work concurrently. When HDD is in the Power Saving Mode, any access to the HDD will wake the HDD up.

The options are: Disable (Default), 1 Min..15 Min.

#### Doze Mode

When disabled, the system will not enter Doze mode. The specified time option defines the idle time the system takes before it enters Doze mode. The options are: Disable (Default), 1, 2, 4, 8, 12, 20, 30, 40 Min, 1 Hr.

#### Suspend Mode

When disabled, the system will not enter Suspend mode. The specified time option defines the idle time the system takes before it enters Suspend mode. The options are: Disable (Default), 1, 2, 4, 8, 12, 20, 30, 40 Min, 1 Hr.

#### VGA

*ON* enables the power management timers when a no activity events is detected in the VGA. *OFF* disables the PM timer even if a no activity event is detected. The options are: OFF (Default), ON.

#### LPT & COM

*LPT/COM* enables the power management timers when a no activity event is detected in the LPT and COM ports. *LPT (COM)* enables the power management timers when a no activity event is detected in the LPT (COM) ports. *NONE* to disable the PM timer even if a no activity event is detected. The options are: LPT/COM (Default), LPT, COM, NONE.

#### HDD & FDD

*ON* will enable the power management timers when no activity event is detected in the hard drive and floppy drive. *OFF* disables the PM timer even if no activity event is detected. The options are: OFF, ON (Default).

#### DMA/master

To set this feature at ON activates that Power Management feautre (PM) wake-up event for the DMA or bus master (of the LAN card or/and SCSI card). The options are: OFF (Default), ON.

#### Wake Up On LAN

When set at Enabled, an input signal comes from the other client/server on the LAN awakes the system from a soft off state if connected over LAN. The options are Disabled or Enabled (Default).

### Modem Ring Resume

An input signal on the serial Ring Indicator (RI) line (in other words, an incoming call on the modem) awakens the system from a soft off state. The options are: Enabled, Disabled (Default).

### RTC Alarm Resume

*Enabled* allows you to set the time the system will be turned on from the system power-off status. The options are: Enabled, Disabled (Default).

### Primary INTR

When the Primary interrupt (the Primary option in the feature of IRQ# Activity) generates will make the Power Management feature (PM) wake-up event on. If set at OFF, all the primary interrupt will not wake-up the system. The options are: OFF, ON (Default).

### IRQ# Activity

After the time period which you set at in Suspend Mode Feature, the system advances from Doze Mode to Suspend Mode in which the CPU clock stops and the screen display is off. At this moment, if the IRQ activity which is defined as Primary occurs, the system goes back to Full-on Mode directly.

If the IRQ activity which is defined as Secondary takes place, the system enters another low power state, Dream Mode, in which the system will act as Full-on Mode except that the screen display remains off until the corresponding IRQ handler finishes, then back to Suspend Mode.

The options of IRQ 3, 4, 5, 6, 7, 8, 9, 10, 11, 14, 15 are: Primary, Secondary, Disabled. The options of IRQ 12 are: Primary, Secondary.

The default values of IRQ 8, 9, 10, 11, 15 are: Disabled.

The default value of IRQ 3, 4, 5, 7, 12, 14 are: Primary.

## PNP/PCI Configuration

ROM PC/ISA BIOS (2A6LFF09)			
PNP/PCI CONFIGURATION			
AWARD SOFTWARE, INC.			
PNP OS Installed	: No	CPU to PCI Write Buffer	: Enabled
Resources Controlled By	: Auto	PCI Dynamic Bursting	: Enabled
Reset Configuration Data	: Disabled	PCI Master 0 WS Write	: Enabled
		PCI Delay Transaction	: Enabled
		PCI#2 Access #1 Retry	: Disabled
		AGP Master 1 WS Write	: Enabled
		AGP Master 1 WS Read	: Disabled
		PCI IRQ Activated By	: Level
		Assign IRQ For USB	: Disabled
		Assign IRQ For VGA	: Enabled
		Assign IRQ For ACPI	: IRQ10
Esc : Quit		+ - - - : Select Item	
F1 : Help		PU/PD/+/- : Modify	
F5 : Old Values		(Shift)/F2 : Color	
F6 : Load BIOS Defaults			
F7 : Load Setup Defaults			

### PNP OS Installed

If your operating system is a Plug-and-Play one, such as Windows 95, select Yes. The options are: No (Default), Yes.

### Resources Controlled By

If set at Auto, the BIOS arranges all system resources. If there exists conflict, select Manual. The options are: Auto (default), Manual. The manual options of **IRQ-** / **DMA-** assigned to are: Legacy ISA, PCI/ISA PnP.

### Reset Configuration Data

When enabled, allows the system to clear the last BIOS configuration data and reset with the default data.

The options are: Enabled, Disabled (default).

### CPU to PCI Write Buffer

When enabled, allows data and address access to the internal buffer of the system controller; so the processor can be released from the waiting 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 same 1KB space. This improves the 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

Enable this feature to abort the current CPI master cycle and to accept the new PCI master request, it reaccepts the original PCI master and returns the PCI data phase to the original PCI master. The options are: Disabled, Enabled (Default).

#### PCI#2 Access #1 Retry

If set at Enabled, the AGP (PCI#2) access to PCI (PCI#1) will be retried until the maximal count. The options are: Enabled, Disabled (Default).

#### AGP Master 1 WS Write

When set at Enabled, the AGP bus master write access to the DRAMs will add one-waite-state cycle. The options are: Enabled (Default), Disabled.

#### AGP Mater 1 WS Read

When set at Enabled, the AGP bus master read access to the DRAMs will add one-waite-state cycle. The options are: Enabled, Disabled (Default).

#### PCI IRQ Activated By

We suggest that you set this to its default configuration unless you are a qualified technician. The options are: Level (Default), Edge.

#### Assign IRQ For USB

If the USB devices were installed on your system, please set at Enabled for the operating system which support USB functions (such as Windows 95 and Windows 98).

The options are: Enabled, Disabled (Default).

#### Assign IRQ For VGA

If your PCI VGA card does not need an IRQ, select Disabled; therefore, an IRQ can be released for the system use.

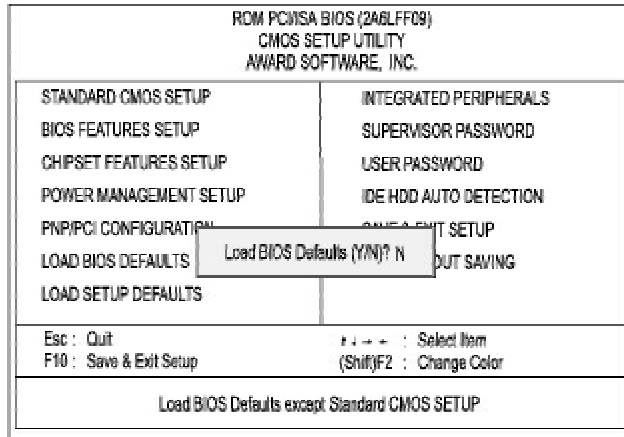
The options are: Enabled, Disabled (Default).

#### Assign IRQ For ACPI

This feature is provided users with the selection when their operating systems support the ACPI functions (such as Windows 98).

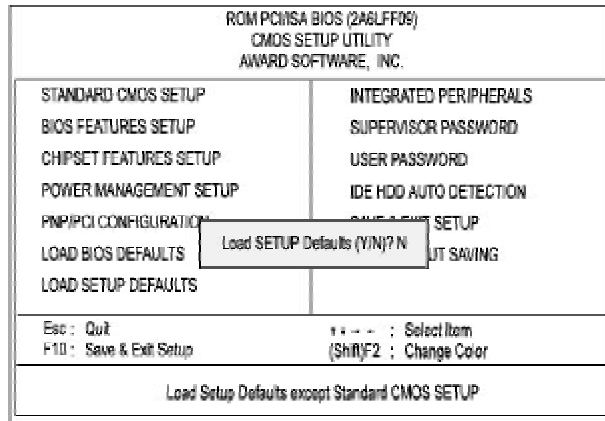
The options are: IRQ10 (Default), IRQ9, IRQ11.

## Load BIOS Defaults



BIOS defaults contain the most appropriate values of the system parameters that allow minimum system performance. The OEM manufacturer may change the defaults through MODBIN before the binary image burns into the ROM.

## Load Setup Defaults



Selecting *this field* loads the factory defaults for BIOS and Chipset Features which the system automatically detects.

---



## Integrated Peripherals

ROM PCI/ISA BIOS (2A6LFF(9)) INTEGRATED PERIPHERALS AWARD SOFTWARE, INC.			
OnChip IDE First Channel	: Enabled	Onboard Parallel Port	: 376IRQ7
OnChip IDE Second Channel	: Enabled	Onboard Paralle Mode	: SPP
IDE Prefetch Mode	: Enabled	ECP Mode Use DMA	: 3
IDE HDD Block Mode	: Enabled	Parallel Port EPP Type	: EPP1.9
IDE Primary Master PIO	: Auto		
IDE Primary Slave PIO	: Auto		
IDE Secondary Master PIO	: Auto		
IDE Secondary Slave PIO	: Auto		
IDE Primary Master UDMA	: Auto		
IDE Primary Slave UDMA	: Auto		
IDE Secondary Master UDMA	: Auto		
IDE Secondary Slave UDMA	: Auto		
Init Display First	: PCI Stst		
Onboard FDD Controller	: Enabled	Esc: Quit	+1 -- : Select Item
Onboard Serial Port 1	: 3F8/IRQ4	F1 : Help	PU/PC/+/- : Modify
Onboard Serial Port 2	: 2F8/IRQ3	F5 : Old Values	(Shift)F2 : Color
UART 2 Mode	: Standard	F6 : Load BIOS Defaults	
IR Function Duplex	: Half	F7 : Load Setup Defaults	
RsD , TxO Active	: HI, HI		

### OnChip IDE First/Second Channel

The chipset contains a PCI IDE interface with support for two IDE channels. Select Enabled to activate the first and/or second IDE interface. Select Disabled to deactivate an interface, if you install a primary and/or secondary add-in IDE interface.

The options are: Enabled (Default), Disabled.

### IDE Prefetch Mode

The onboard IDE drive interfaces supports IDE prefetching, for faster drive accesses. If you install a primary and/or secondary add-in IDE interface, set this field to Disabled if the interface does not support prefetching.

The options are: Enabled (Default), Disabled.

### IDE HDD Block Mode

Block mode is also called block transfer, multiple commands, or multiple sector read/write. If your IDE hard drive supports block mode (most new drives do), select Enabled for automatic detection of the optimal number of block read/writes per sector the drive can support.

The options are: Enabled (Default), Disabled.

#### IDE Primary Master PIO

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

#### IDE Primary Slave PIO

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

#### IDE Secondary Master PIO

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

#### IDE Secondary Slave PIO

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

#### IDE Primary Master UDMA

Allows you to select the first PCI IDE channel of the first master hard disk mode or to detect it by the BIOS if the hard disk supports UDMA (Ultra DMA, faster than DMA). The options are: Auto (Default), Disabled.

#### IDE Primary Slave UDMA

Allows you to select the first PCI IDE channel of the first slave hard disk mode or to detect it by the BIOS if the hard disk supports UDMA (Ultra DMA, faster than DMA). The options are: Auto (Default), Disabled.

#### IDE Secondary Master UDMA

Allows you to select the second PCI IDE channel of the secondary master hard disk mode or to detect it by the BIOS if the hard disk supports UDMA (Ultra DMA, faster than DMA).  
The options are: Auto (Default), Disabled.

#### IDE Secondary Slave UDMA

Allows you to select the second PCI IDE channel of the secondary slave hard disk mode or to detect it by the BIOS if the hard disk supports UDMA (Ultra DMA, faster than DMA). The options are: Auto (Default), Disabled.

#### Init Primary Display

When you install an AGP VGA card and/or a PCI VGA card on the board, this feature allows you to select the initiation of the monitor display from which card. The options are: PCI Slot (Default), AGP.

#### Onboard FDD Controller

When enabled, the floppy diskette drive (FDD) controller is activated. The options are: Enabled (Default), Disabled.

#### Onboard Serial Port 1

If the serial port 1 uses the onboard I/O controller, you can modify your 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 the serial port 2 uses the onboard I/O controller, you can modify your 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.

#### UART 2 Mode

Allows you to select the IR modes if the serial port 2 is used as an IR port. Set at Standard, if you use COM2 as the serial port as the serial port, instead as an IR port. The options are: HPSIR, ASKIR, Standard (Default).

#### IR Function Duplex

This feature is available only if the above item, UART 2 Mode, is set at ASKIR or HPSIR. It allows you to select the infrared data transaction way. The options are: Half (Default), Full.

#### RxD, TxD Active

This feature is available only if the item, UART 2 Mode, is set at ASKIR or HPSIR. The feature allows you to select the active signals of the reception end and the transmission end. This is for technician 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.

#### Onboard Parallel Mode

Allows you to connect with an advanced printer. Select SPP for standard parallel port (SPP) used on IBM PC/XT, PC/AT and bi-directional parallel port found on PS/2 system. Select EPP/SPP mode for enhanced parallel port and the standard parallel port. Select ECP mode for Microsoft and HP Extended Capabilities Parallel Port. Select ECP/EPP mode for both ECP and EPP modes. The options are: SPP (Default), EPP/SPP, ECP, ECP/EPP.

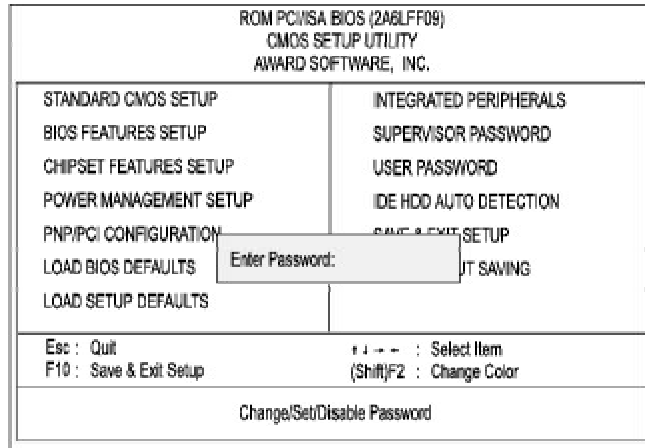
#### ECP Mode Use DMA

If you set the above item, Onboard Parallel Mode, to be ECP or ECP/EPP, this feature allows you to select Direct Memory Access (DMA) channel. The options are: 3 (Default), 1.

#### Parallel Port EPP Type

If you set the above item, Onboard Parallel Mode, to be EPP/SPP or ECP/EPP, this feature allows you to select the EPP type version. The options are: EPP1.9 (Default), EPP1.7.

## Supervisor/User Password



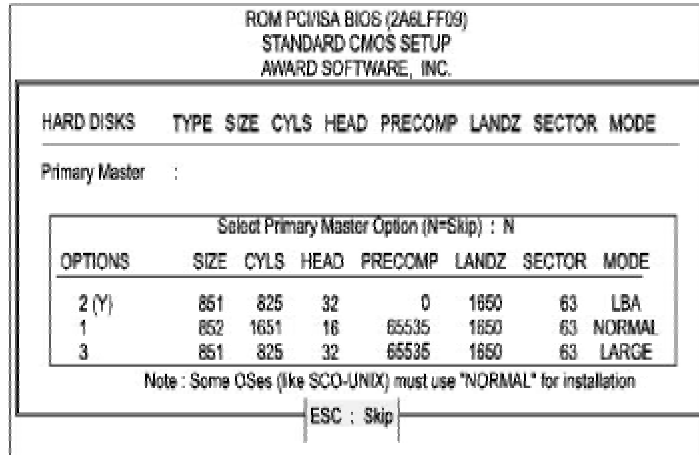
To enable the Supervisor/User passwords, select the item from the Standard CMOS Setup. You will be prompted to create your own password. Type your password up to eight characters and press Enter. You will be asked to confirm the password. Type the password again and press Enter. To disable password, press Enter when you are prompted to enter password. A message appears, confirming the password is disabled.

Under the BIOS Feature Setup, if System is selected under the Security Option field and the Supervisor Password is enabled, you will be prompted for the Supervisor Password every time you try to enter the CMOS Setup Utility. If System is selected and the User Password is enabled, you will be requested to enter the User Password every time you reboot the system. If Setup is selected under the Security Option field and the User Password is enabled, you will be prompted only when you reboot the system.

### Clear Password

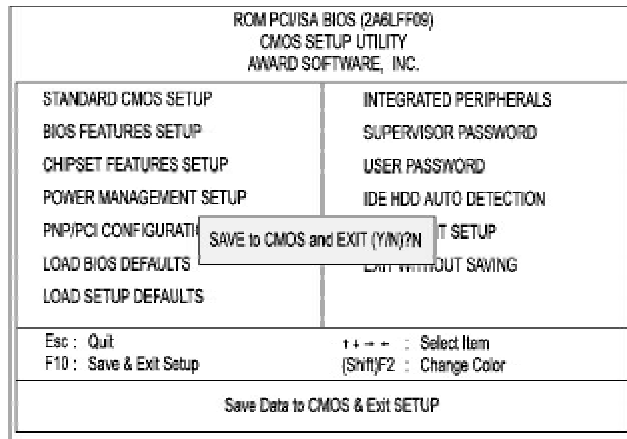
If you forget your password, turn off the system power first and remove the system unit cover. Please refer to Page 2-4, **Clear Password**, on how to clear the password and then reset the system. At this point, you will not be asked for the password to enter Setup.

## IDE HDD Auto Detection



The IDE Hard Disk Drive Auto Detection feature automatically configures your new hard disk. Use it for a quick configuration of new hard drives. This feature allows you to set the parameters of up to four IDE HDDs. The option with (Y) are recommended by the system BIOS. You may also keys in your own parameters instead of setting by the system BIOS. After selecting settings, press Esc key to return the main menu. For confirmation, enter the Standard CMOS Setup feature.

## Save and Exit Setup



After you have made changes under Setup, press Esc to return to the main menu. Move cursor to Save and Exit Setup or press F10 and then press Y to change the CMOS Setup. If you did not change anything, press Esc again or move cursor to Exit Without Saving and press Y to retain the Setup settings. The following message will appear at the center of the screen to allow you to save data to CMOS and exit the setup utility:

**SAVE to CMOS and EXIT (Y/N)?**

## Exit without Saving

If you select this feature, the following message will appear at the center of the screen to allow you to exit the setup utility without saving CMOS modifications:

**Quit Without Saving (Y/N)?**

---

**NOTE :** Default values of the various Setup items on this chapter may not necessarily be the same ones.

---

**This Page Left Blank for Note**