PA-2010+

MAINBOARD MANUAL

Handling Precautions

> **Warning :**
> **1.** Static electricity may cause damage to the integrated circuits on the mainboard.
> Before handling any mainboard outside of its protective packaging, ensure that there is no static electric charge in your body**.**
> **2.** There is a danger of explosion if the battery is incorrectly replaced. Replace only with the same or an equivalent type recommended by the manufacturer.
> **3.** Discard used batteries according to the manufacturer's instructions.

Observe the following basic precautions when handling the mainboard or other computer components:

■   Wear a static wrist strap which fits around your wrist and is connected to a natural earth ground.

■   Touch a grounded or anti-static surface or a metal fixture such as a water pipe.

■   Avoid contacting the components on add-on cards, boards and modules and with the "gold finger" connectors plugged into the expansion slot. It is best to handle system components by their mounting bracket.

The above methods prevent static build-up and cause it to be discharged properly.

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Table of Contents

This manual explains the most important aspects regarding the installation of your mainboard including jumper settings and BIOS Setup. For fuller information about your mainboard, please consult the English version of this manual.

Installation Procedures

The PA-2010+ has several user-adjustable jumpers on the board that allow you to configure your system to suit your requirements. This chapter contains information on the various jumper settings on your mainboard. Chapter 2 explains the various settings of your motherboard's BIOS. For more information about installing memory and connecting cables and the power supply please refer to the appropriate sections in the English manual for this motherboard.

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

- ■ Step 1 -
  Set system jumpers
- ■ Step 2 -
  Install system RAM modules. Please consult **Install System RAM Modules** in the English manual.
- ■ Step 3 -
  Install the CPU. Read this chapter for jumper settings.
- ■ Step 4 -
  Install expansion cards. Please consult **Install Expansion Cards** in English manual.
- ■ Step 5 -
  Connect cables and power supply. Please consult **Connect Cables and Power Supply** in English manual.
- ■ Step 6 -
  Set up BIOS features. Please read Chapter Two of this manual.

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

Setting the System Jumpers

Jumpers

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. 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 jumpers used in this manual are shown below:

3 2 1   ▌ stands for pin 1

Jumper cap is shown as above

stands for pin 1

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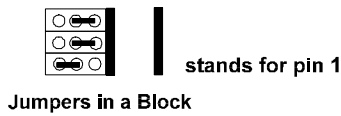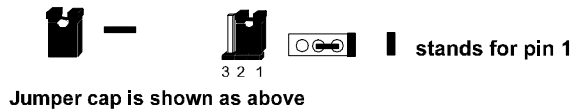
NOTE : Users are not encouraged to change the jumper settings not listed in this manual. Changing the jumper settings improperly may adversely affect system performance.
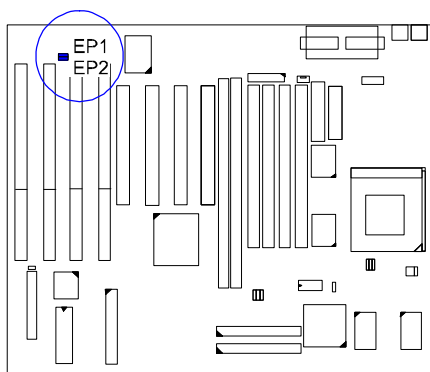

Clear Password: CPW

This jumper allows you to set the password configuration to Enabled or Disabled. You may need to enable this jumper if you forget your password.

Enable

Disable
(Default)
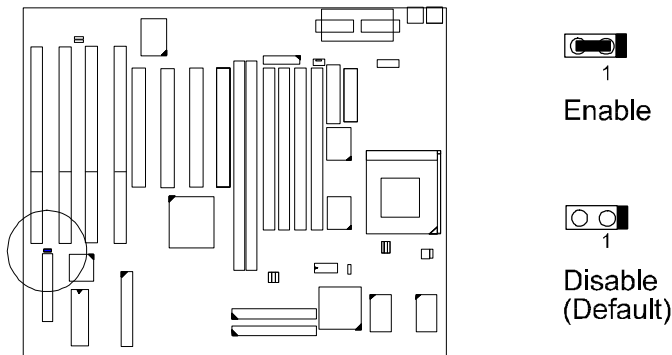
Flash EPROM Type Selection: EP1, EP2

These two jumpers allow you to configure the Flash EPROM chip

1M F-ROM	EP1	EP2
Intel 28F001	1	Normal Default 1 / Program Bootblk 1
SST 29EE010	1	1

2M F-ROM	EP1	EP2
AMD AM29F002T	1	1
SST 29EE020	1	1
ATMEL AT29C020	1	1
MXIC MX28F2000P	1	1

CPU to SRAM Data Transacting Mode Selection: SRAM

This jumper allows you to select the CPU-to-SRAM data read/write mode.
If you install a Cyrix or IBM processor on this mainboard, please set at 2-3 pin
pair and set the **Linear Burst** feature of **Chipset Features Setup**, Chapter 3.
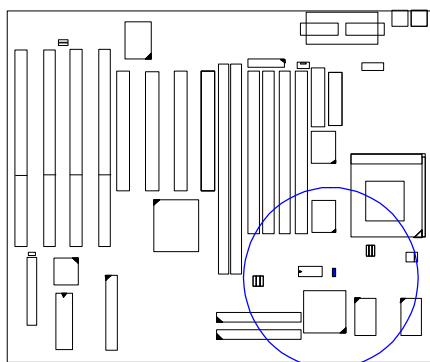
Intel Burst
(Default)
For
Intel Pentium CPUs,
AMD CPUs,
Cyrix CPUs,
IBM CPUs

Linear Burst

For
Cyrix CPUs,
IBM CPUs

Installing the CPU

The CPU module resides in the Zero Insertion Force (ZIF) socket on the mainboard. Follow the tables below to set the jumpers for your processor. For specific jumpers settings for Intel Pentium® MMX, Pentium®, AMD-K5/K6 and Cyrix/IBM 6x86MX™/6x86™ processors, please consult the English manual.

CPU External Clock (BUS) Frequency: CLK1, CLK2, CLK3

There is one of two different types of clock generators onboard, either ICW W48C67-01 or ICS914F-01. Please check your onboard clock generator before you set the CPU jumpers. The settings of ICS9147F-01 are listed in Appendix B of English manual.
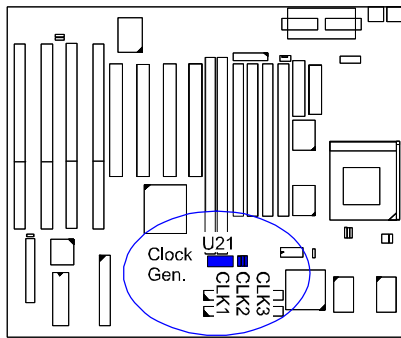
For ICW W48C67-01 Clock Generator

External (CPU/CLK)	CLK1	CLK2	CLK3
75 MHz			
66 MHz			
60 MHz			
55 MHz			

CPU to Bus Frequency Ratio: FREQ1, FREQ2, FREQ3

These three jumpers are used in combination to decide the ratio of the internal frequency of the CPU to the bus clock.

FREQ1	FREQ2	FREQ3	Ratio			
			P54C	P55C/ M2/K6	K5	M1
1	1	1	3 x	3 x	2 x	4 x
1	1	1	2.5 x	2.5 x	1.75 x	1 x
1	1	1	2 x	2 x	---	2 x
1	1	1	1.5 x	3.5 x	1.5 x	3 x

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Award BIOS Setup

The mainboard comes with the 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 mainboard's 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

```
              ROM PCI/ISA BIOS  (2A5L9F09)
                    CMOS SETUP UTILITY
                  AWARD SOFTWARE,  INC.

  STANDARD CMOS SETUP          PNP CONFIGURATION SETUP
  BIOS FEATURES SETUP          SUPERVISOR PASSWORD
  CHIPSET FEATURES SETUP       USER PASSWORD
  POWER MANAGEMENT SETUP       IDE HDD AUTO DETECTION
  PCI CONFIGURATION SETUP      SAVE & EXIT SETUP
  LOAD BIOS DEFAULTS           EXIT WITHOUT SAVING
  LOAD SETUP DEFAULTS

  ESC : Quit                  ↑ ↓ → ←   : Select Item
  F10 : Save & Exit Setup     (ShIft) F2  : Change Color

              Time, Date, Hard Disk Type...
```

A Setup program, built into the system BIOS, is stored in the CMOS RAM that allows the configuration settings to be changed. This program is executed when the user changes system configuration; the 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 DEL to enter Setup** appears. Use the arrow keys to select and press Enter to run the selected program.

Standard CMOS Setup

The Standard CMOS Setup screen is displayed above. System BIOS automatically detects memory size, thus no changes are necessary. It has a few items for setting. Each item may have one or more option settings. It allows you to change the system Date and Time, IDE hard disk, floppy disk drive types for drive A: and B:, boot up video display mode, and POST error handling selection. 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 from 1 to 45 to fill remaining fields with predefined values of disk drives. Select User to fill the remaining fields. Select Auto to detect the HDD type automatically.

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. The range is from 1 to 16.

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

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. The range is from 1 to 64.

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, you have to 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 (2A5L9F09)
                    BIOS FEATURES SETUP
                    AWARD SOFTWARE, INC.

Virus Warning            : Disabled    Video BIOS Shadow        : Enabled
CPU Internal Cache       : Enabled     C8000 - CBFFF Shadow : Disabled
External Cache           : Enabled     CC000 - CFFFF Shadow : Disabled
Quick Power On Self Test : Disabled    D0000 - D3FFF Shadow : Disabled
Boot Sequence            : A, C        D4000 - D7FFF Shadow : Disabled
Swap Floppy Drive        : Disabled    D8000 - DBFFF Shadow : Disabled
Boot Up Floppy Seek      : Enabled     DC000 - DFFFF Shadow : Disabled
Boot Up NumLock Status   : On
Port 92H Fast A20G       : Fast
Typematic Rate Setting   : Disabled
Typematic Rate (Chars/Sec) : 6
Typematic Delay (Msec)   : 250         ESC : Quit          ↑↓→← : Select Item
Security Option          : Setup       F1  : Help          PU/PD/+/- : Modify
PCI/VGA Palette Snoop    : Disabled    F5  : Old Values    (Shift) F2 : Color
OS Select For DRAM > 64MB : Non-OS2    F6  : Load BIOS Defaults
                                       F7  : Load Setup Defaults
```

Virus Warning

When enabled, assigns the BIOS to monitor the master boot sector and the DOS boot sector of the first hard disk drive.

The options are: Enabled, Disabled (Default).

CPU Internal Cache

When enbled, 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.

Quick Power On Self Test

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

Boot Sequence

Allows the system BIOS to first try to boot the operating system from the selected disk drive.
The options are: A, C (Default); C, A; C, CDROM, A; CDROM, C, A.

Swap Floppy Drive

When enabled, 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.
The options are: On (Default), Off.

Port 92H Fast A20G

When enabled, allows the A20G bus line signal generated from the chipset 82C586 PC/AT to directly pass to port 92H, instead of the keyboard controller. It will speed up the system performance.
The options are: Fast (Default), Normal.

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.

PCI/VGA Palette Snoop

When enabled, allows you install an enhanced graphics adapter card. If your graphics adapter card does not support the Pallete Snoop function, please set at Disable to avoid system malfunctions.
The options are: Enabled, Disabled (Default).

OS Select For DRAM > 64MB

If your operating system (OS) is OS2, select the options OS2; otherwise, stay with the default setting Non-OS2.
The options are: Non-OS2 (Default), OS2.

Video BIOS Shadow

When enabled, 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

When enabled, 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 (2A5L9F09)
                        CMOS SETUP UTILITY
                       CHIPSET FEATURES SETUP

Video BIOS Cacheable      : Enabled    Onboard FDD Controller  : Enabled
System BICS Cacheable     : Disabled   Onboard Serial Port 1   : 3F8/IRQ4
Memory Hole At 15Mb Addr. : Disabled   Onboard Serial Port 2   : 2F8/IRQ3
                                       UART 2 Mode             : Standard
Sustained 3T write        : Enabled
CPU Pipeline              : Enabled    Onboard Parallel Port   : 378H/IRQ7
DRAM Timing Control       : Fast       Onboard Parallel Mode   : SPP
Enhanced Page Mode        : Enabled
SDRAM Cycle Length        : 3          OnChip USB              : Disabled
SRRAM Bank Interleave     : Enabled
Linear Burst Mode         : Disabled

OnChip IDE first channel  : Enabled
OnChip IDE second channel : Enabled
IDE Prefetch Mode         : Enabled
IDE HDD Block Mode        : Enabled    ESC : Quit           ↑↓→←      : Select Item
IDE Primary Master PIO    : Auto       F1  : Help           PU/PD/+/- : Modify
IDE Primary Slave PIO     : Auto       F5  : Old Values    (Shift) F2 : Color
IDE Secondary Master PIO  : Auto       F6  : Load BIOS Defaults
IDE Secondary Slave PIO   : Auto       F7  : Load Setup Defaults
```

Video BIOS Cacheable
When enabled, allows the system to use the video BIOS codes from SRAMs, instead of the slower DRAMs or ROMs.
The options are: Enabled (Default), Disabled.

System BIOS Cacheable
When enabled, allows the ROM area F000H-FFFFH to be cacheable when cache controller is activated. The recommended setting is Disabled especially for high speed CPUs (200 MHz and above).

Memory Hole At 15MB Addr.
When enabled, the memory hole at the 15MB address will be relocated to the 15~16MB address range of the ISA cycle when the processor accesses the 15~16MB address area.
When disabled, the memory hole at the 15MB address will be treated as a DRAM cycle when the processor accesses the 15~16MB address.
The options are: Enabled, Disabled (Default).

Sustained 3T Write
When enabled, allows the CPU to compele the memory writes in 3 clocks.
The options are: Enabled (Default), Disabled.

CPU Pipeline

When enabled, allows the CPU to execute the pipeline function.
The options are: Enabled (Default), Disabled.

DRAM Timing Control

Allows you to speed up the data access of 82C586.
The options are: Normal, Fast (Default), Turbo.

Enhanced Page Mode

When enabled, it allows the system BIOS to pre-determine the next access is on or off page. This leads the start of precharge time if off page.
The options are: Enabled (Default), Disabled.

SDRAM Cycle Length

This feature appears only when SDRAM DIMM/s is installed (BIOS auto dection). 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).

SDRAM Bank Interleave

This feature appears only when SDRAM DIMM/s is installed (BIOS auto dection). When the bank interleave fucntion of the SDRAM is enabled, its the data transacting performance is better than when it is disabled.
The options are: Enabled (Default), Disabled.

Linear Burst Mode

When enabled, allows you to configure the CPU to SRAM data read/wirte mode. If you use a Cyrix CPU, select Enabled; if you use an Intel CPU or AMD-K5 CPU, please stay with the default value, Disabled. Please refer to SRAM.

OnChip IDE First Channel

When enabled, allows the IDE drive to use the first channel of the primary IDE.
The options are: Enabled (Default), Disabled.

OnChip IDE Second Channel

When enabled, allows the IDE drive to use the second channel of the primary IDE.
The options are: Enabled (Default), Disabled.

IDE Prefetch Mode

When enabled, allows the system BIOS to utilize the prefetch buffer of the onboard IDE controller to prefetch the next sequential data of the current access.
The options are: Enabled (Default), Disabled.

IDE HDD Block Mode

When enabled, allows the system to execute read/write requests to hard disk in block mode.
The options are: Enabled (Default), Disabled.

IDE Primary Master PIO

Allows you to select first PCI IDE channel of the primary master hard disk mode or to detect it by the BIOS.
The options are: Auto (Default), Mode 0, Mode 1, Mode 2, Mode 3, Mode 4.

IDE Primary Slave PIO

Allows you to select the first PCI IDE channel of the primary slave hard disk mode or to detect it by the BIOS.
The options are: Auto (Default), Mode 0, Mode 1, Mode 2, Mode 3, Mode 4.

IDE Secondary Master PIO

Allows you to select first PCI IDE channel of the primary master hard disk mode or to detect it by the BIOS.
The options are: Auto (Default), Mode 0, Mode 1, Mode 2, Mode 3, Mode 4.

IDE Secondary Slave PIO

Allows you to select the first PCI IDE channel of the primary slave hard disk mode or to detect it by the BIOS.
The options are: Auto (Default), Mode 0, Mode 1, Mode 2, Mode 3, Mode 4.

Onboard FDD Controller

When enabled, the floppy diskkette 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), 3F8/IRQ4, 2E8/IRQ3, 2F8/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, instead as an IR port.

The options are: HPSIR, ASKIR, Standard (Default).

IR Function Duplex

If the option ASKIR of UART 2 Mode is selected, this feature will be shown in your monitor for allowing you to select the infrared transmaction modes.

The options are: Half (Default), Full.

RxD , TxD Active

If the option ASKIR of UART 2 Mode is selected, this feature will be shown in your monitor for allowing you to select the active level of the reception end (RxD) and tranmission end (TxD). The Hi stands for Active, the Lo stands for Non-active.

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: 378H/IRQ7 (Default), 278H/IRQ5, 3BCH/IRQ7, Disabled.

Onboard Parallel Mode

Allows you to connect with an advanced printer I/O mode.

The options are: SPP (Default), EPP/SPP, ECP, ECP/EPP.

ECP Mode Use DMA 3

Allows you to select the DMA channel number 3 or 1 for the ECP printer mode.

The optoions are: 1, 3 (Default).

Parallel Port EPP Type

Allows you to select the EPP version.

The options are: EPP1.7, EPP1.9 (Default).

OnChip USB

If you connect an external USB device, please set at Enabled.

The options are: Disabled (default), Enabled.

BIOS Support USB Keyboard

This item appears after the above item is set at Enabled. If your USB keyboard cannot be detected automatically by the system BIOS or some driver diskettes came with your USB keyboard, please set at DOS for allowing your to install the driver.

The options are: Setup (default), DOS.

Power Management Setup

Power Management

When enabled, allows you to use Power Management features.
The options are: Enabled, Disabled (Default).

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 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 add-on VGA card. DPMS Support allows the BIOS to blank off screen display by your add-on

VGA card which supports DPMS (Display Power Management Signaling function.) Blank Screen allows the BIOS to blank screen display by turning off the red-green-blue signals.
The options are: DPMS Support (Default), V/H SYNC+Blank, Blank Screen.

MODEM Use IRQ

This feature allows you to select the IRQ# to meet your modem's IRQ#.
The options are: NA, 3 (Default), 4, 5,7, 9, 10, 11.

HDD Power Management

Selecting Disabled will turn off the hard disk drive (HDD) motor. Selecting 1 Min..15Min allows you to define the HDD idle time before the HDD enters Power Saving Mode. The option When Suspend lets the BIOS turn the HDD motor off when the system is in Suspend mode.
The options 1 Min..15Min and When Suspend will not work concurrently. When HDD is in Power Saving Mode, any access to the HDD will wake the HDD up.
The options are: Disabled (Default), 1 Min..15 Min, When Suspend.

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: Disabled (Default), 10, 20, 30, 40 sec, 1, 2, 4, 6, 8, 10, 20, 30, 40 min, 1h.

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: Disabled (Default), 10, 20, 30, 40 sec, 1, 2, 4, 6, 8, 10, 20, 30, 40 min, 1h.

VGA

Selecting ON will enable the power management timers when a no activity events is detected in the VGA. Selecting OFF to disable the PM 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 timers when a no activity event is detected in the LPT and COM ports. Selecting LPT

(COM) will enable the power management timers when a no activity event is detected in the LPT (COM) ports. Selecting 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

Selecting ON will enable the power management timers when a no activity event is detected in the hard disk drive and floppy disk drive. Selecting OFF to disable the PM timer even if a no activity event is detected.
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.

For instance, if the system connects to a LAN and receives an interruption from its file server, the system will enter the dreaming mode to execute the corresponding calling routine.

The options are: Primary, Secondary.
The default values of IRQ3, 4, 5, 7, 9, 10, 11, 12, 14, 15 are: Primary.
The default value of IRQ8 is: Secondary.

NOTE : Under certain operating system such as Windows NT 4.0 (Build 1381), the CD auto-insertion feature might have some effect on the power management. It is recommended that the CD-ROM drive to use the secondary channel, and set the following features in the feature Power Management Setup. - HDD & FDD : Off ; IRQ15 (Reserved) : Secondary

---

PCI Configuration Setup

```
                ROM PCI/ISA BIOS (2A5L9F09)
                  PCI CONFIGURATION SETUP
                   AWARD SOFTWARE, INC.

PCI IRQ Actived By      : Level       CPU to PCI Write Buffer   : Enabled
                                      PCI Dynamic Bursting      : Enabled
IDE Primary Master UDMA    : Auto     PCI Burst                 : Enabled
IDE Primary Slave UDMA     : Auto     PCI Master 0 WS Write     : Enabled
IDE Secondary Master UDMA : Auto      Quick Frame Generation    : Enabled
IDE Secondary Slave UDMA  : Auto




                                      ESC: Quit          ↑↓→←    : Select Item
                                      F1  : Help         PU/PD/+/- : Modify
                                      F5  : Old Values   (Shift) F2 : Color
                                      F6  : Load BIOS Defaults
                                      F7  : Load Setup Defaults
```

PCI IRQ Actived By
If your IDE card is triggered by edge, set it at Edge.
The options are: Level (Default), Edge.

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.

CPU to PCI Write Buffer

When enabled, allows data and address access to the internal buffer of 82C586 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 Burst

When enabled, data transfer on PCI Buses will improve. Disable this item during trouble-shooting.
The options are: Disabled, Enabled (Default).

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.

Quick Frame Generation

When enabled, allows the system to start the PCI Bus (by asserting frame) as soon as possible when the bus cylce is going to forward to the PCI Bus.
The options are: Disabled, Enabled (Default).

PnP Configuration Setup

```
                    ROM PCI/ISA BIOS (2A5L9F09)
                       PNP CONFIGURATION SETUP
                        AWARD SOFTWARE, INC.

Resources Controlled By  : Auto      PNP OS Installed      : No
Reset Configuration Data : Disabled  Assign IRQ For VGA    : Enabled




                                    ESC : Quit        ↑ ↓ → ←     : Select Item
                                    F1  : Help        PU/PD/+/-   : Modify
                                    F5  : Old Values  (Shift) F2  : Color
                                    F6  : Load BIOS Defaults
                                    F7  : Load Setup Defaults
```

Resources Controlled By
If you set at Auto, the BIOS automatically arranges all system resources for you. If there are conflicts or you are not satisfy with the configuration, simply set all the resources listed in the above figure by selecting 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, this feature allows the system to clear the last BIOS configration data and reset them with the default BIOS configuraton data.
The options are: Enabled, Disabled (default).

PNP OS Installed
If the operating system (OS) you installed supports PNP (Plug-and-Play), such as Windows 95, please select Yes; otherwise, stay with the default value, Disabled.
The options are: No, Yes (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 (Default), Disabled.

Load BIOS Defaults

The 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.

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**. You may also press **Esc** to abort the selection and not enter a password. 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.

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)** is recommended by the system BIOS. You may also key in your own parameters instead of setting by the system BIOS. After all settings, press Esc key to 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 be the same ones shown on your screen.

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