

VA-501



MAINBOARD MANUAL

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Main Features

The VA-501 mainboard comes with the following high-performance features:

- **Easy Installation**
Award BIOS with support for Plug and Play, auto detection of Hard Drive and IDE features, MS Windows 95 and Windows NT compatible.
- **Flexible Processor Support**
The onboard 321-pin ZIF socket supports Intel Pentium (P54C) CPU speed 75/90/100/120/133/150/166/180/200 MHz processors / P54CTB.
Cyrix 6x86-P120+ (100 MHz) / 6x86-P133+ (110 MHz) / 6x86-P150+ (120 MHz) / 6x86-P166+ (133 MHz) processors.
IBM 6x86-P120+ (100 MHz) / 6x86-P133+ (110 MHz) / 6x86-P150+ (120 MHz) / 6x86-P166+ (133 MHz) processors.
AMD K5-PR75 (75 MHz) / K5-PR90 (90 MHz) / K5-PR100 (100 MHz) / K5-PR120 (90 MHz) / K5-PR133 (100 MHz) / K5-PR150 (120 MHz) / K5-PR166 (133 MHz) processors.
- **Leading Edge Chipset**
VIA Apollo 580VP chipset, including a CPU interface controller, advanced cache controller, integrated DRAM controller, synchronous ISA bus controller, PCI local bus interface, integrated power management unit.
- **Ultra-fast Level II Cache**
Supports onboard 256KB/512KB synchronous PDSRAM direct-mapped write-back cache memory.
- **Versatile Main Memory Support**
Accepts up to 64MB RAM in two banks using 72-pin SIMM modules of 4, 8, 16, 32MB with support for EDO and Fast Page Mode memory.

- **ISA & PCI Expansion Slots**
Three 16-bit ISA and four 32-bit PCI expansion slots provide all the room you need to install a full range of add-on cards.

- **Enhanced PCI Bus Master IDE Controller**
Integrated Enhanced PCI local bus IDE controller with two connectors supports up to four IDE devices such as Hard Disk, CD-ROM or Tape Backup drives via two channels for high speed data throughput. This controller supports PIO Modes 3 and 4, and DMA Mode 2 for optimized system performance.

- **Super Multi I/O**
Integrated UMC 669/LGS Prime 3C chipset features two 16550A UART compatible serial ports, one EPP/ECP capable parallel port, and one Floppy Disk Drive connector.

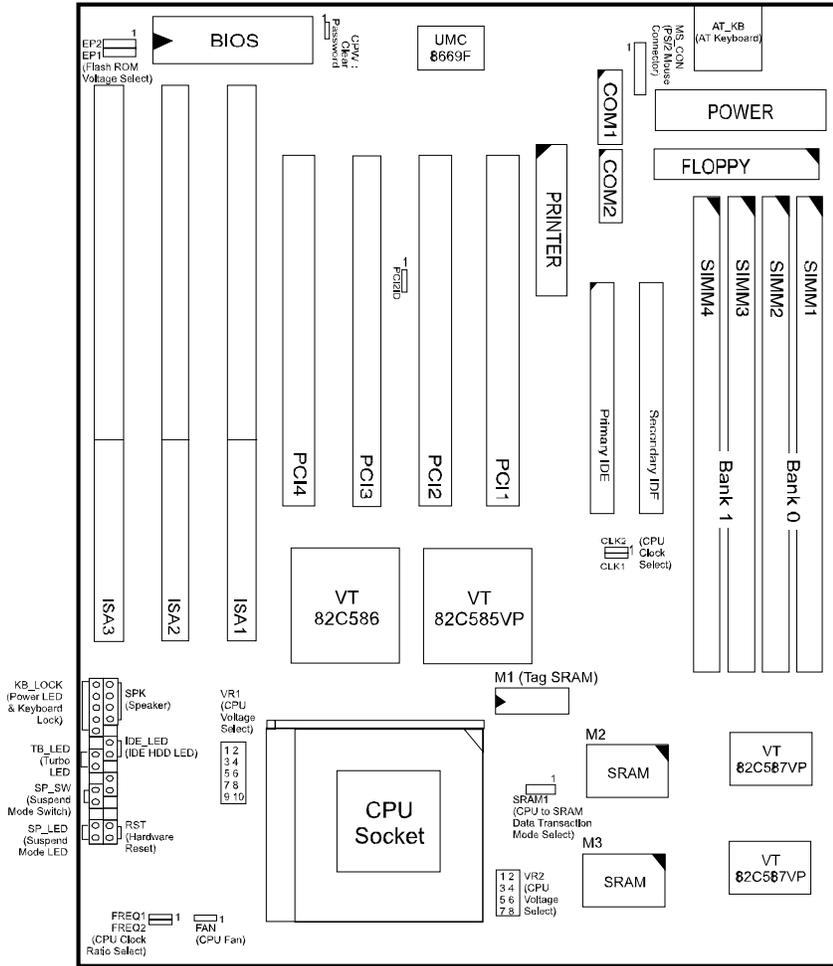
Installation Procedures

The VA-501 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.

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

- Step 1 -
Set system jumpers
- Step 2 -
Install DRAM modules
- Step 3 -
Install the CPU
- Step 4 -
Connect cables and power supply
- Step 5 -
Set up BIOS feature (Please read Chapter Three.)

Mainboard Layout

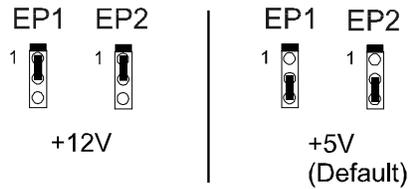


1). Set System Jumpers

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.

Flash ROM Voltage Select: EP1 and EP2

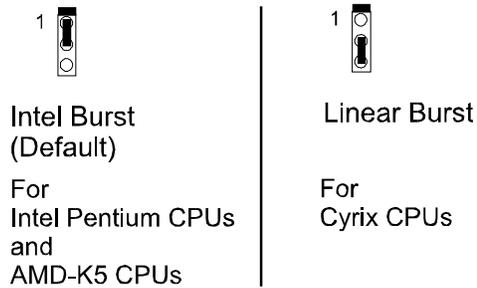
These two jumpers allow you to select the different voltages of the flash ROM.



CPU to SRAM Data Write Mode Selection: SRAM1

This jumper allows you to select the CPU to SRAM data read/write mode.

Also, you need to configure the BIOS feature, **Linear Bust Mode**, in Page 26. Please refer to it.



Clear Password: CPW

The password clear jumper lets you set the password configuration to “Enabled” or “Disabled”. You may need to enable password clear if forget your password.



1

Enable



1

Disable
(Default)

PCI 2 ID: PCI2ID

This setting is provided to allow you to install more than PCI add-on card released before the launch of the PCI Encoding Standard in 1993.



1

Enable



1

Disable
(Default)

NOTE : Please be aware that this feature is only provided for reasons of convenience and it is only in rare cases that the user needs to alter the default setting. Please consult your dealer for further information.

2). Install DRAM Modules

The VA-501 supports standard Fast Page Mode and Extended Data Out DRAM; accommodates onboard memory from 8 to 64MB using SIMMs. The mainboard has two memory banks - Bank 0 and Bank 1 which can use different types of SIMMs. However, you must populate each memory bank with the same type of SIMM.

DRAM Configuration

DRAM modules can be installed in a variety of configurations as shown below:

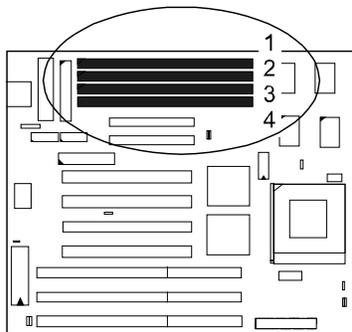
TOTAL MEMORY	BANK 0 (72-PIN X 2)	BANK 1 (72-PIN X 2)
8MB	4MB & 4MB	
16MB	8MB & 8MB	
	4MB & 4MB	4MB & 4MB
24MB	8MB & 8MB	4MB & 4MB
32MB	8MB & 8MB	8MB & 8MB
	16MB & 16MB	
64MB	16MB & 16MB	16MB & 16MB
	32MB & 32MB	

NOTE : All memory banks use 72-pin memory modules.

Installation Instructions

NOTE : Always observe static electricity precautions. See “Handling Precautions” at the start of this manual.

1. Locate the SIMM on the mainboard.



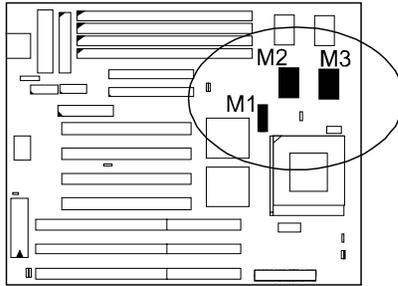
2. Carefully fit a SIMM at a 45 degree angle into each of the empty sockets to be populated. All the SIMMs should be facing the same direction.
3. Swing each SIMM into its upright, locked position. When locking a SIMM in place, push on each end of the SIMM - do not push in the middle.

Remove SIMMs

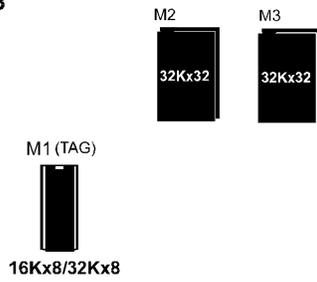
To remove the SIMMs, pull the retaining latch on both ends of the socket and reverse the procedure above.

Cache Memory

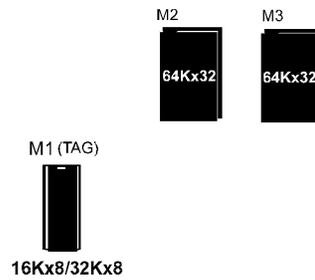
The VA-501 provides the onboard 256KB/512KB cache SRAMs. The corresponding jumper settings are shown below.



256KB

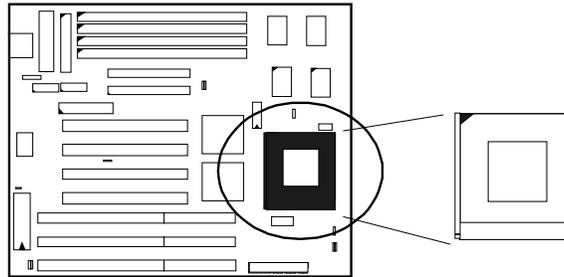


512KB



3). Install the CPUs

The VA-501 provides one onboard Zero Insertion Force (ZIF) socket for the processor.



CAUTION :

1. Always turn the system power off before installing or removing any device.
2. Always observe static electricity precautions.
3. Inserting the CPU chip incorrectly may damage the chip.

To install the CPU, do the following:

1. Lift the lever on the side of the CPU socket.
2. Handle the chip by its edges and try not to touch any of the pins.
3. Place the CPU in the socket. The chip has a notch to correctly orientate the chip. Align the notch with pin one of the socket. Pin one locates around the triangular blank area. Do not force the chip. The CPU should slide easily into the socket.
4. Swing the lever to the down position to lock the CPU in place.
5. See the following section for information on the CPU jumper settings.

To remove the CPU, simply reverse the procedures introduced above.

CPU to Bus Frequency Ratio: *FREQ1* and *FREQ2*

These two jumpers are used to configure the ratio of the CPU frequency to the bus clock.

CPU/Bus Frequency Ratio	FREQ1	FREQ2	CPU Model
1.5 x			<i>Pentium : 75, 90, 100 MHz</i> <i>AMD : K5-PR75, K5-P90, K5-P100, K5-PR120, K5-PR133*</i>
2 x			<i>Pentium : 120, 133 MHz</i> <i>AMD : K5-PR150*, K5-P166*</i> <i>Cyrix : 6x86-P120+ (100 MHz), 6x86-P133+ (110 MHz), 6x86-P150+ (120 MHz), 6x86-P166+ (133 MHz)</i>
2.5 x			<i>Pentium : 150, 166 MHz</i>
3 x			<i>Pentium : 180, 200 MHz</i>

NOTE : * This CPU had not yet been tested when this manual was printed.

CPU External Clock (Bus) Frequency: CLK1 and CLK2

The table below shows the jumper settings for the different CPU speed configurations.

External (CPU/CLK)	CLK1	CLK2	CPU Model
50 MHz			<i>Pentium</i> : 75 MHz <i>AMD</i> : K5-PR75 (75 MHz) <i>Cyrix</i> : 6x86-P120+ (100 MHz) <i>IBM</i> : 6x86-P120+ (100 MHz)
55 MHz			<i>Cyrix</i> : 6x86-P133+ (110 MHz) <i>IBM</i> : 6x86-P133+ (110 MHz)
60 MHz			<i>Pentium</i> : 90, 120, 150, 180 MHz <i>AMD</i> : K5-PR90 (90 MHz), K5-PR120 (90 MHz), K5-PR150* (120 MHz) <i>Cyrix</i> : 6x86-P120+ (100 MHz) <i>IBM</i> : 6x86-P120+ (100 MHz)
66 MHz			<i>Pentium</i> : 100, 133, 166, 200 MHz <i>AMD</i> : K5-PR100 (100 MHz), K5-PR133* (100 MHz), K5-PR166* (133 MHz) <i>Cyrix</i> : 6x86-P166+ (133 MHz) <i>IBM</i> : 6x86-P166+ (133 MHz)

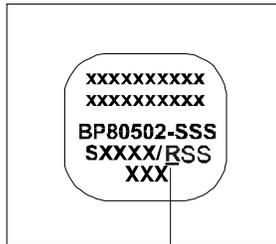
NOTE : * This CPU had not yet been tested when this manual was printed.

CPU Voltage Selection: VR1 and VR2

Voltage	VR1 & VR2	Model
Core : 3.4V-3.6V IO : Same	VR1 2 4 6 8 10  1 3 5 7 9 VR2 2 4 6 8  1 3 5 7	P54C VRE Cyrix 6x86-016 AMD K5 - B IBM 6x86-016
Core : 3.3V IO : Same	VR1 2 4 6 8 10  1 3 5 7 9 VR2 2 4 6 8  1 3 5 7	P54C STD Cyrix 6x86-028 AMD K5 - C, F IBM 6x86-028
Core : 2.7V-2.9V IO : 3.3V	VR1 2 4 6 8 10  1 3 5 7 9 VR2 2 4 6 8  1 3 5 7	AMD K5 - H, J
Core : 2.5V IO : 3.3V	VR1 2 4 6 8 10  1 3 5 7 9 VR2 2 4 6 8  1 3 5 7	AMD K5 - K

CPU Voltage Markings

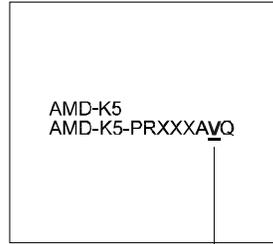
Intel Pentium CPU Bottom Side Marking



R (Identifier for Voltage Range) :

V for VRE Voltage Range
or
S for Standard Voltage Range

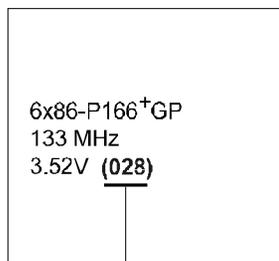
AMD-K5 CPU Top Side Marking



V (Identifier for Operation Voltage) :

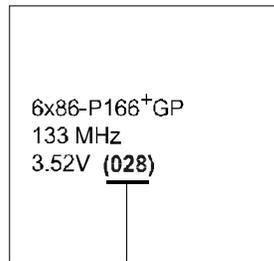
B
C
F
H
J
K
Please refer to
the left-hand-side table

Cyrix 6x86 CPU Top Side Marking



(016) : 3.3V
(028) : 3.52V

IBM 6x86 CPU Top Side Marking



(016) : 3.3V
(028) : 3.52V

Installation of Cyrix (or IBM) 6x86 CPU Fan

CAUTION : When you install a Cyrix (or IBM) 6x86 CPU fan, please pay attention to the direction of the air flow. Make sure the air flow is in the direction of the regulator; otherwise, the system may overheat.

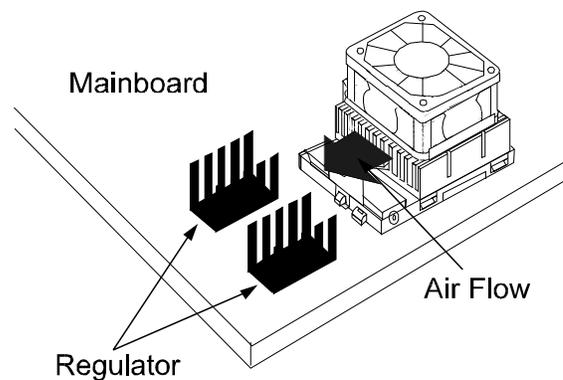
We recommended that you use one of the following two CPU fans for the Cyrix (or IBM) 6x86 CPU when install the fan on the mainboard.

- 1). Supplier : BIRCHTECK, Taiwan (Phone : 886-2-7935677).
Model Number - BEC6x86B1.
- 2). Supplier : Thermalloy, USA (Phone : 214-243-4321).
Model Number : 20832 (customer should request NMB-B50 Fan).

This is a 90-degree rotated fan and is recommended for installation on the mainboard.

For further information, please contact your local dealer.

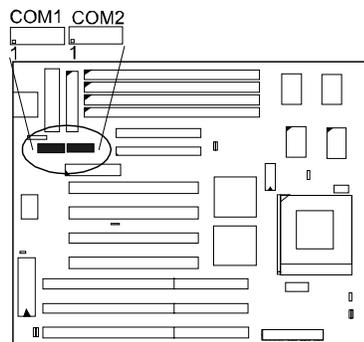
For stable system performance, make sure that the air flow blows directly, as shown below, toward the regulator so as to lower the temperature of the regulator.



4). Connect Cables and Power Supply

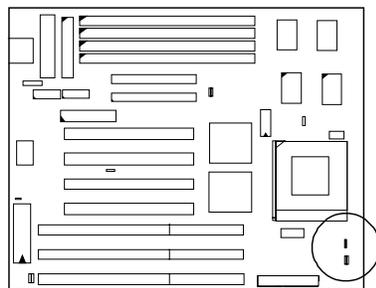
Serial Port Connectors: COM1 and COM2

This two 9 pin D-Sub male connectors allow you to connect with your devices that take serial ports, such as a serial mouse or a modem. Usually, the serial mouse is connected to COM1, and the modem is connected to COM2.



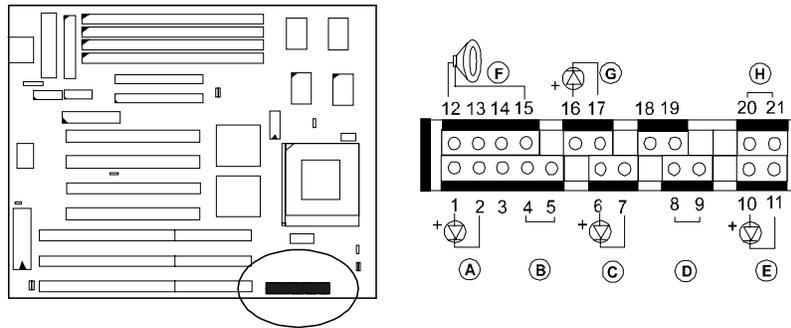
CPU Fan Connector: FAN

This two 3-pin connector is connected to the CPU fan.



Block Connector

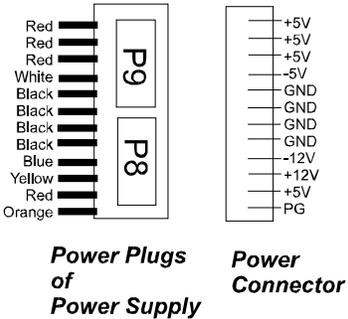
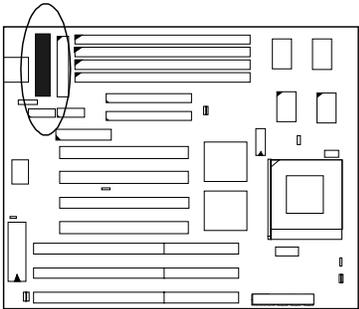
This block connector includes: PW_LED, KB_LOCK, TB_LED, SP_SW, SP_LED, SPK, IDE_LED, RST connectors.

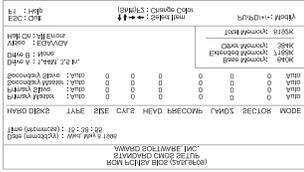


Item	Connector	Pin Type	Feature
A	PW_LED	2-pin male	indicates the system power status
B	KB_LOCK	2-pin male	allows the keyboard to access the system
C	TB_LED	2-pin male	indicates the system speed is in normal or turbo speed
D	SP_SW	2-pin male	Suspend Mode switch
E	SP_LED	2-pin male	indicates the system into Suspend Mode when LED lit
F	SPK	4-pin male	connects to speaker
G	IDE_LED	2-pin male	indicates the IDE HDD I/O access LED lit
H	RST	2-pin male	allows you to reset the system

Power Connector: POWER

This 12-pin block connector is used for connecting to your standard 5V power supply. In the figure below, notice that, in most cases, there are two marks “P8” and “P9” on the surface of the connector. You have to insert the “P8” plug into the “P8” section of the connector; and so forth for “P9”. Two black wires must be in the middle.





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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 (2A59GF09) BIOS FEATURES SETUP AWARD SOFTWARE, INC.		
Virus Warning	: Disabled	Video BIOS Shadow : Enabled
CPU Internal Cache	: Enabled	C8000 - CBFFF : Disabled
External Cache	: Enabled	CC000 - CFFFF : Disabled
Quick Power On Self Test	: Disabled	D0000 - D3FFF : Disabled
Boot Sequence	: A, C	D4000 - D7FFF : Disabled
Swap Floppy Drive	: Disabled	D8000 - DBFFF : Disabled
Boot Up Floppy Seek	: Enabled	DC000 - DFFFF : Disabled
Boot Up NumLock Status	: On	
Port 92H Fast A20G	: Fast	
Typematic Rate Setting	: Disabled	
Typematic Rate (Chars/Sec)	: 6	
Typematic Delay (Msec)	: 250	
Security Option	: Setup	ESC : Quit ↑ ↓ → ← : Select Item
PCI/VGA Palette Snoop	: Disabled	F1 : Help PU/PD +/- : Modify
OS Select For DRAM > 64MB : Non-OS2		(Shift) F2 : Color
		F5 : Old Values
		F6 : Load BIOS Defaults
		F7 : Load Setup Defaults

Moving around the BIOS and Chipset Features (refer to the next section) Setup programs shown works the same way as moving around the Standard CMOS Setup program. Users are not encouraged to run the BIOS and Chipset Features Setup programs. Your system should have been fine-tuned before shipping. Improper Setup may cause the system to fail, consult your dealer before making any changes.

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 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.

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 Palette 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, MS Windows NT, or MS Windows 95, 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 Control	: Enabled
System BIOS Cacheable	: Disabled	Onboard Serial Port 1	: 3F8/IRQ4
Memory Hole At 15Mb Addr.	: Disabled	Onboard Serial Port 2	: 2F8/IRQ3
		Onboard Parallel Port	: 378H/IRQ7
Sustained 3T write	: Enabled	Onboard Parallel Mode	: SPP
CPU Pipeline	: Enabled		
DRAM Timing Control	: Fast		
Enhanced Page Mode	: Enabled		
Linear Burst Mode	: Disabled		
OnChip IDE first channel	: Enabled		
OnChip IDE second channel	: Enabled		
IDE Prefetch	: 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: Enabled, Disabled (Default).

Sustained 3T Write

When enabled, allows the CPU to complete the memory writes in 3 clocks.
The options: Enabled (Default), Disabled.

CPU Pipeline

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

DRAM Timing Control

Allows you to speed up the data access of 82C586.
The options: 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: Enabled (Default), Disabled.

Linear Burst Mode

When enabled, allows you to configure the CPU to SRAM data read/write 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 Page 5, **SRAM1**.

OnChip IDE First Channel

When enabled, allows the IDE drive to use the first channel of the primary IDE.
The options: 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

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 Control

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), 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.

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, ECP, ECP/EPP.

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 (Page 3 - 13), 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.

PCI IDE 1st Channel : 0 PCI IDE 2nd Channel : 0 PCI IDE IRQ Map To : PCI-SLOT1 PCI IDE Write Buffer : Disabled PCI IDE Dynamic Bursting : Disabled	PCI IDE 1st Channel : 0 PCI IDE 2nd Channel : 0 PCI IDE IRQ Map To : PCI-SLOT1 PCI IDE Write Buffer : Disabled PCI IDE Dynamic Bursting : Disabled
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PCI Configuration Setup

PCI IRQ Activated By

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

PCI IDE 2nd Channel

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

PCI IDE IRQ Map To

Set to Auto to allow the system BIOS to automatically detect which interrupt is used by the PCI master drive.
 The options are: PCI-AUTO (Default), PCI-SLOT1, PCI-SLOT2, PCI-SLOT3, PCI-SLOT4, ISA.

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 cycle 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 Reset Configuration Data : Disabled	PNP OS Installed : No 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 configuration 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(s) 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 return the main menu. For confirmation, enter the Standard CMOS Setup feature.

ROM PCI/ISA BIOS (2A5L9F09) STANDARD CMOS SETUP AWARD SOFTWARE, INC.								
HARD DISKS	TYPE	SIZE	CYLS	HEAD	PRECOMP	LANDZ	SECTOR	MODE
Primary Master :								
Select Primary Master Option (N=Skip) : N								
OPTIONS	SIZE	CYLS	HEAD	PRECOMP	LANDZ	SECTOR	MODE	
2 (Y)	851	825	32	0	1650	63	LBA	
1	852	1651	16	65535	1650	63	NORMAL	
3	851	825	32	65535	1650	63	LARGE	

Note : Some OSes (like SCO-UNIX) must use "NORMAL" for installation



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.