

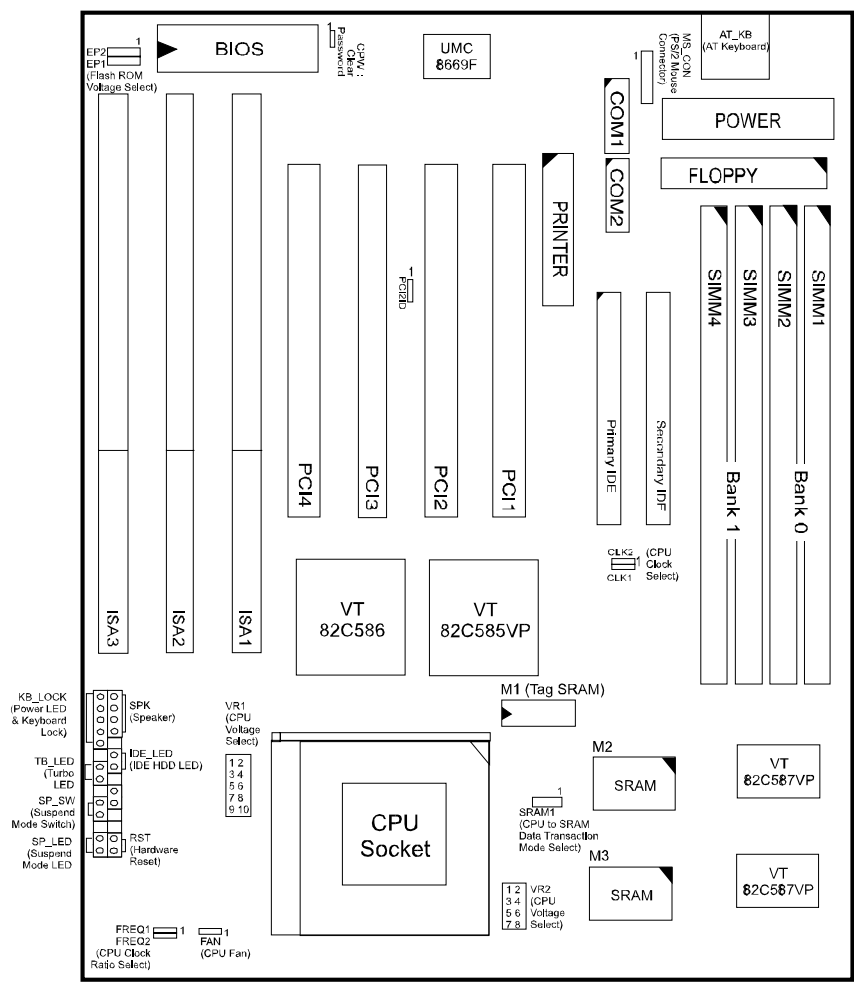
Installation Procedures

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

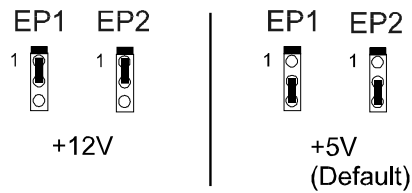


1). Set System Jumpers

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

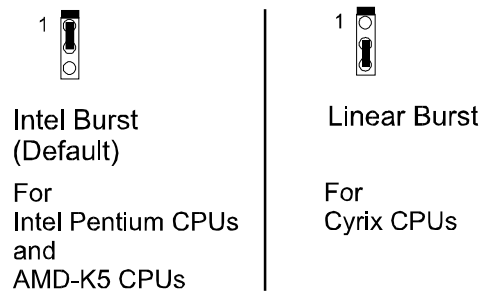
These two jumpers allow you to select the different voltages of the flash ROM.



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)

<p>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.</p>

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:

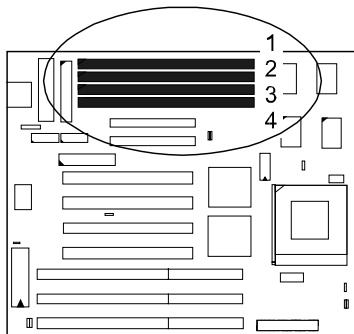
TOTAL MEMORY	BANK 0 (72-PIN X 2)	BANK 1 (72-PIN X 2)
8MB	4MB & 4MB	
16MB	8MB & 8MB	
	4MB & 4MB	4MB & 4MB
24MB	8MB & 8MB	4MB & 4MB
32MB	8MB & 8MB	8MB & 8MB
	16MB & 16MB	
64MB	16MB & 16MB	16MB & 16MB
	32MB & 32MB	

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.



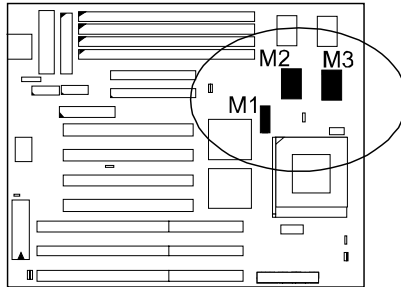
2. Carefully fit a SIMM at a 45 degree angle into each of the empty sockets to be populated. All the SIMMs should be facing the same direction.
3. Swing each SIMM into its upright, locked position. When locking a SIMM in place, push on each end of the SIMM - do not push in the middle.

Remove SIMMs

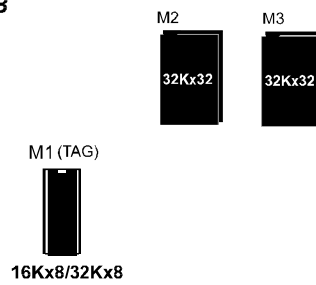
To remove the SIMMs, pull the retaining latch on both ends of the socket and reverse the procedure above.

Cache Memory

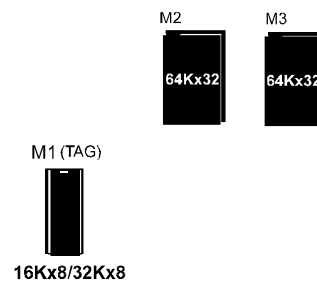
The VA-501 provides the onboard 256KB/512KB cache SRAMs. The corresponding jumper settings are shown below.



256KB

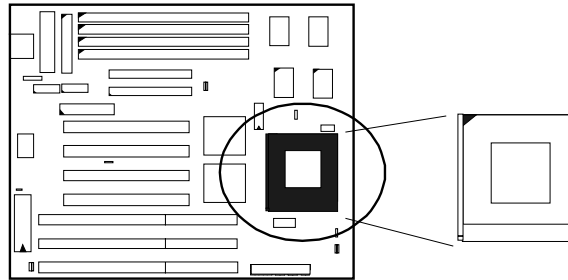


512KB



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,</i> <i>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),</i> <i>6x86-P133+ (110 MHz),</i> <i>6x86-P150+ (120 MHz),</i> <i>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)

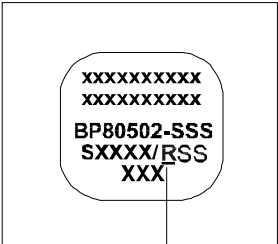
NOTE : * This CPU had not yet been tested when this manual was printed.

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.

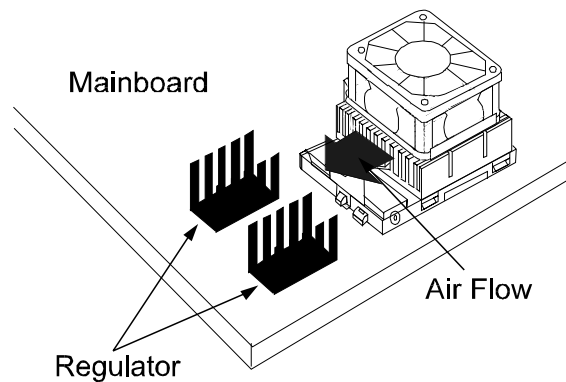
We recommended that you use one of the following two CPU fans for the Cyrix (or IBM) 6x86 CPU when install the fan on the mainboard.

- 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.

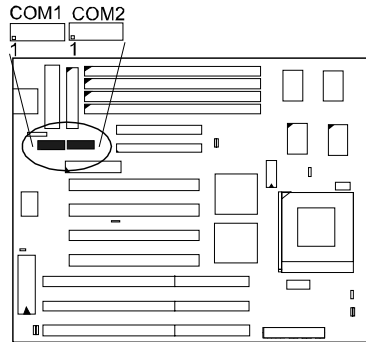
For stable system performance, make sure that the air flow blows directly, as shown below, toward the regulator so as to lower the temperature of the regulator.



4). Connect Cables and Power Supply

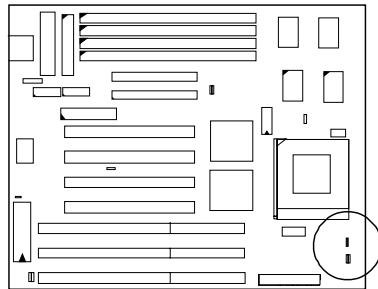
Serial Port Connectors: COM1 and COM2

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.



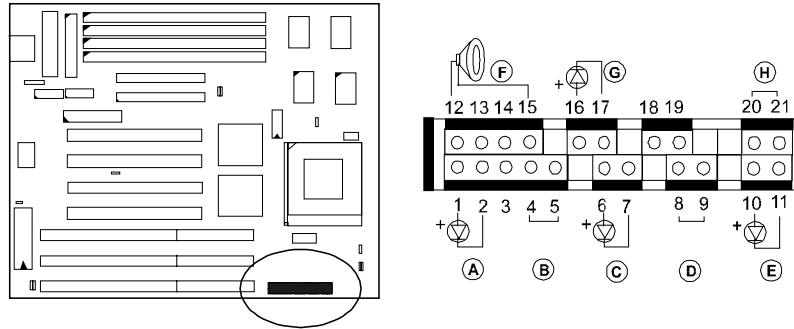
CPU Fan Connector: FAN

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.

