

P5VX-A

User's Manual (for Award BIOS)

V1.0

July, 1996

This motherboard requires correct configuration information; otherwise, a malfunction may result.



Static electricity can cause serious damage to integrated circuit motherboards. To avoid building up a static electric charging on your body, be sure you discharge any static electricity by grounding yourself before handling the motherboards. If the motherboard is handed from one person to another, they should touch hands first, then pass the motherboards.

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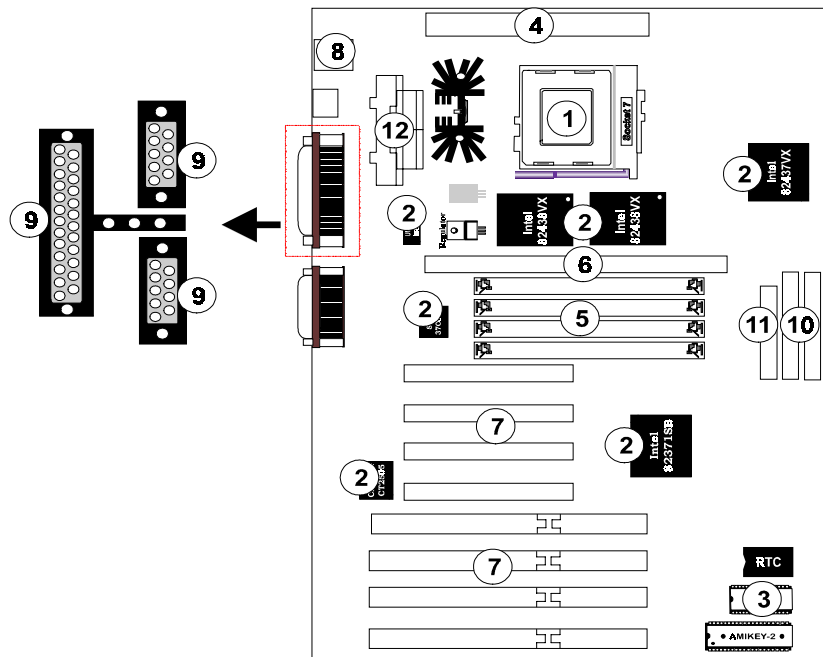
Contact your dealer for warranty details.

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1 Introduction

Mainboard Description



- | | |
|----------------------|-----------------------------|
| ① Processor | ⑦ Expansion Slots |
| ② Chipset | ⑧ PS/2 Mouse & Keyboard Set |
| ③ System BIOS | ⑨ Serial / Parallel Ports |
| ④ L2 Cache Module | ⑩ PCI IDE Connectors |
| ⑤ SIMM Socket | ⑪ FDD Connector |
| ⑥ DIMM Memory Socket | ⑫ Power Supply Connectors |

P5VX-A

P5VX-A is a Pentium PCI mainboard using Intel TVX (82437VX), TDX(82438VX) and PIIX3 (82371SB) system chipset, built in PCI IDE controller. The super I/O is SMC669. There are 4 ISA Bus slots and 4 PCI Bus slots. P5VX-A also supports 2 banks DRAM and 1 Bank Synchronous DRAM with total memory size up to 128MB. One Pipelined Burst SRAM cache module up to 512KB which is compatible with COAST 2.1 specification. The audio chipset use 16-bit full duplex Creative's "ViBRA 16C - CT2505". The USB function is included.

1. Processor:

Intel 75/90/100/120/133/150/166/200 MHz (P54C)
Intel Pentium OverDrive Processors
Intel P55C (Optional)
Non-Intel series CPUs. (e.g. : Cyrix, AMD.....)(Please refer to [Appendix](#) for detailed settings.)

2. Chipset:

| | |
|----------|--------------------------------------|
| Intel | 82437VX (System Controller) |
| | 82438VX (DATA Buffer) |
| | 82371SB (PCI IDE ISA Xcelerator) |
| SMC | 37C669 (Super I/O Controller) |
| UMC | 8667 (I/O TTL Integration) |
| Creative | ViBRA 16C-CT2505 (16-Bit Audio Chip) |

3. System BIOS:

Award BIOS with full Green function, PnP and DMI V2.0.

4. L2 Cache Module :

Support cache module connector (160 pins)

5. SIMM System Memory Socket:

Support 4MB to 128MB

6. DIMM Memory Socket:

A DIMM socket is provided in the motherboard to support up to 32MB synchronous DRAM (SDRAM). The DIMM Socket is in compliance with JEDEC specifications for 3.3V unbuffered SDRAM Module.

7. Expansion Slot:

4 ISA Bus Slots.
4 PCI Bus Slots. (One ISA-PCI Shared Slot)

8. AT K/B or PS/2 Mouse & Keyboard Set:

Provides Connectors for PS/2 Keyboards & PS/2 Mouse.

9. Serial / Parallel Port:

Provides two serial ports and one parallel port.

10. PCI IDE Connector:

2 Enhanced PCI IDE up to 4 IDE Device Connectors.

11. FDD Connector:

Provides an on-board FDD Connector which supports 360KB/720KB/1.2MB/1.44MB/2.88MB type drives.

12. Power Supply Connectors:

Provides the connectors for standard PC power supply or ATX power supply for option.

Features

θ **CPU:**

- One Socket 7 supports Pentium 75/90/100/120/133/150/166/200 MHz CPU.
- Upgradable to Intel Pentium OverDrive processors.
- Supports Pentium P55C CPU (Manufacture Optional).
- Supports Non-Intel series CPUs. (e.g.: Cyrix , AMD.....) (**Please refer to Appendix for detailed settings.**)

θ **BIOS:**

- Award BIOS with true Green Flash ROM , DMI, and CDROM boot function .
- Comply with Intel and Windows 95 PnP.
 - ⌘ PnP specification V1.0a
 - ⌘ APM specification V1.2.

θ **Cache:**

- Supports the CPU's internal first level (L1) cache and external secondary level (L2) cache.
 - > **16KB Level 1 Cache inside Pentium:**
 - ⌘ Data Cache: supports 8KB Write-Through and Write-Back policy.
 - ⌘ Code Cache: supports 8KB Write-Through policy.

> **160-pin Cache Module Socket for Level 2 Cache:**

- Supports Pipelined Burst SRAM Module with 256KB/512KB.
- Compatible with COAST2.1 specification.

⊖ **Memory:**

- Supports 4 pieces of 72-pin SIMM sockets and 1 piece of 168-pin DIMM socket with total memory size from 4MB to 128MB.
- Supports EDO/ Fast Page Mode DRAM. (6-2-2-2 Reads@66MHz Host Clock)
- Supports 3.3V unbuffered SDRAM. (x-1-1-1 @66MHz Host Clock)

⊖ **Slots:**

- 4 16-bit ISA slots with 100% ISA compatible function.
- 4 32-bit PCI slots all support PCI master.
 - PCI specification version 2.1. (5V compliant)

⊖ **IDE:**

- Build-in Intel 82371SB chip 32-bit PCI IDE interface with 2 IDE channels.
 - Supports PIO and Bus master IDE
 - Supports up to PIO mode 4 timings

⊖ **FDD:**

- Two floppy drives support 360K/720K/1.2MB/1.44MB/2.88MB and 3D mode floppy drives.

⊖ **I/O:**

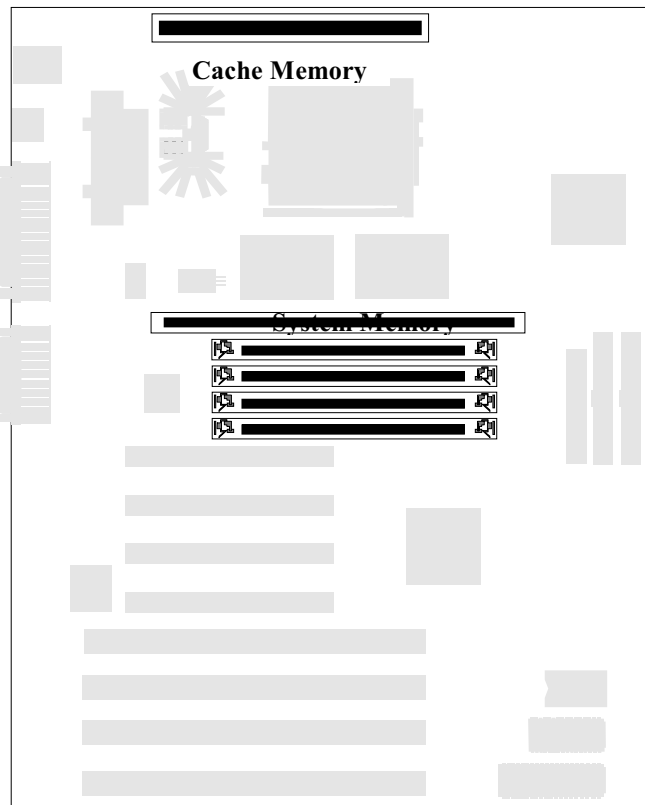
- one multi-mode parallel port with chip-protect circuitry supports standard, enhanced (EPP), high speed (ECP) mode.
- Two high speed 16550 compatible UARTS.

⊖ **Audio:**

- Sound Blaster TM 16 compatible.
- Supports Plug and Play.
- Integrated Music Synthesis and DAC.
- Compatible with Roland MPU401 VART mode.
- Fully Compatible with MPC. MPC II .
- Supports APX (All Position Expansion) 3D-Sound.

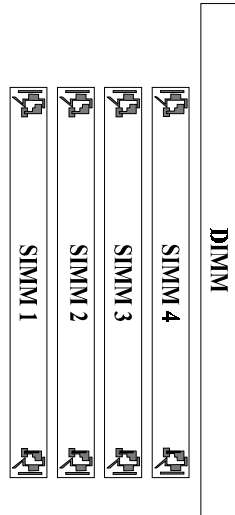
2 Memory Configurations

This chapter contains the detailed memory configuration: **System Memory and Cache Memory** .



The diagram above displays the location of SIMM Sockets, DIMM Socket and Cache Socket on P5VX-A motherboard.

System Memory



SIMM:

P5VX-A provides tremendous flexibility DRAM configurations. It accepts a maximum of 128MB memory size. The on-board DRAM can be installed with four SIMMs (Single-In-line-Memory Module), and/or one DIMM (Dual-In-line-Memory Module).

There are two memory banks which support the 2M/4M/8M/16M/32M type, single and/or double-density modules.



The type of SIMM1 and SIMM2 must be same if they exist at the same time; the type of SIMM3 and SIMM4 also must be same if they exist at the same time.

The different type of SIMM1 / SIMM2 and SIMM3 / SIMM4 can exist at the same time.

DIMM:

The DIMM Socket is in compliance with JEDEC specifications for 3.3V unbuffered SDRAM Module. A DIMM connector is provided to support up to 32MB synchronous DRAM (SDRAM).



*To populate both 5V SIMM Modules and 3.3V DIMM module at the same time on the existing Intel 430VX PCIsset-based mainboard **are not recommended**. Please also make sure the DIMM module is 3.3V and unbuffered DIMM.*



According to new JEDEC Spec. , the new 32MB DIMMs will not be compatible with the existing Intel 430VX PCIsset-based mainboards.

The following table lists a number of possible DRAM combinations.

| Bank 0 | | Bank 1 | | DIMM | Total |
|---------|--------|--------|--------|---------------|---------------|
| SIMM1 | SIMM2 | SIMM3 | SIMM4 | DIMM1 | Memory Size |
| ---- | ---- | ---- | ---- | 8MB/16MB/32MB | 8MB/16MB/32MB |
| 2MB(S)★ | 2MB(S) | ---- | ---- | ---- | 4MB |
| 2MB(S) | 2MB(S) | 2MB(S) | 2MB(S) | ---- | 8MB |
| 4MB | 4MB | ---- | ---- | ---- | 8MB |
| 4MB | 4MB | 2MB(S) | 2MB(S) | ---- | 12MB |
| 4MB | 4MB | 4MB | 4MB | ---- | 16MB |
| 8MB(S) | 8MB(S) | ---- | ---- | ---- | 16MB |
| 8MB(S) | 8MB(S) | 2MB(S) | 2MB(S) | ---- | 20MB |
| 8MB(S) | 8MB(S) | 4MB | 4MB | ---- | 24MB |
| 8MB(S) | 8MB(S) | 8MB(S) | 8MB(S) | ---- | 32MB |
| 8MB(D) | 8MB(D) | ---- | ---- | ---- | 16MB |
| 8MB(D) | 8MB(D) | 2MB(S) | 2MB(S) | ---- | 20MB |
| 8MB(D) | 8MB(D) | 4MB | 4MB | ---- | 24MB |
| 8MB(D) | 8MB(D) | 8MB(S) | 8MB(S) | ---- | 32MB |
| 8MB(D) | 8MB(D) | 8MB(D) | 8MB(D) | ---- | 32MB |
| 16MB | 16MB | ---- | ---- | ---- | 32MB |
| 16MB | 16MB | 2MB | 2MB | ---- | 36MB |
| 16MB | 16MB | 4MB | 4MB | ---- | 40MB |
| 16MB | 16MB | 8MB(S) | 8MB(S) | ---- | 48MB |
| 16MB | 16MB | 8MB(D) | 8MB(D) | ---- | 48MB |
| 16MB | 16MB | 16MB | 16MB | ---- | 64MB |

Continued.....

| Bank 0 | | Bank 1 | | DIMM | Total |
|---------|---------|---------|---------|-------|-------------|
| SIMM1 | SIMM2 | SIMM3 | SIMM4 | DIMM1 | Memory Size |
| 32MB(D) | 32MB(D) | ---- | ---- | ---- | 64MB |
| 32MB(D) | 32MB(D) | 2MB(S) | 2MB(S) | ---- | 68MB |
| 32MB(D) | 32MB(D) | 4MB | 4MB | ---- | 72MB |
| 32MB(D) | 32MB(D) | 8MB(S) | 8MB(S) | ---- | 80MB |
| 32MB(D) | 32MB(D) | 8MB(D) | 8MB(D) | ---- | 80MB |
| 32MB(D) | 32MB(D) | 16MB | 16MB | ---- | 96MB |
| 32MB(D) | 32MB(D) | 32MB(D) | 32MB(D) | ---- | 128MB |

Table 2 -1. System Memory Configurations

☆ : (S) means : Single Side

☆ : (D) means : Double Side



If DIMM Module is installed on board, users only can install single-density SIMMs on SIMM 1 and SIMM2.

Cache Memory Subsystem

Level 1 Cache

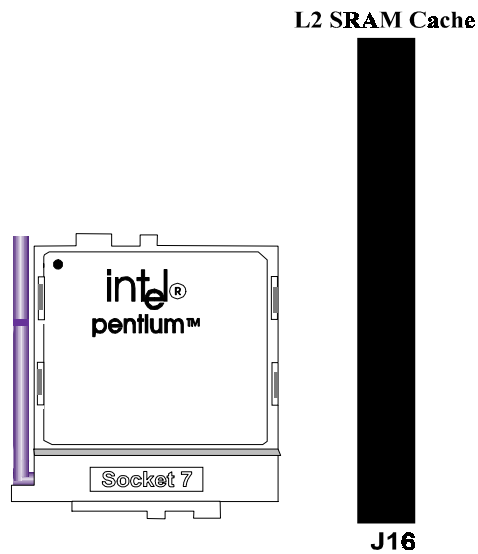
8-Kbyte, 4-way set-associative, primary instruction cache; 8-KByte, dual-ported, two-way set-associative, primary data cache; both located on the CPU die.

16KB Level 1 Cache that builds in Pentium CPU includes Data Cache and Code Cache.

- 1. Data Cache: supports 8KB Write-Through and Write-Back policy.
- 2. Code Cache: supports 8KB Write-Through policy.

Level 2 External Static RAM (SRAM) Cache

Users may either upgrade to 256KB or 512KB by inserting an ECS “CM161” or COASi (2.1 or later) upgrade cache module of 256KB or 512KB.



P5VX-A

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3 Jumpers and Connectors

Setting the Jumpers

The table below summarizes the function and jumper settings of each jumper on the P5VX-A. You can refer to the next section for the graphic descriptions.

| Function | | Jumper Settings |
|----------|----------------------|---|
| CPU Type | Intel Pentium (P54C) | Intel 75MHz (50MHz Host Clock) |
| | | Intel 90MHz (60MHz Host Clock) |
| | | Intel 100MHz (66MHz Host Clock) |
| | | Intel 120MHz (60MHz Host Clock) |
| | | JP3 open JP10 short 1-2 JP11 short 1-2 JP12 short 1-2 JP16 short 1-2 ☆ JP17 short 1-2 ☆ JP18 short 1-2 ☆ |
| | | JP3 short 1-2 JP10 short 1-2 JP11 short 1-2 JP12 short 1-2 JP16 short 1-2 ☆ JP17 short 1-2 ☆ JP18 short 1-2 ☆ |
| | | JP3 short 3-4 JP10 short 1-2 JP11 short 1-2 JP12 short 1-2 JP16 short 1-2 ☆ JP17 short 1-2 ☆ JP18 short 1-2 ☆ |
| | | JP3 short 1-2 JP10 short 1-2 JP11 short 1-2 JP12 short 2-3 JP16 short 1-2 ☆ JP17 short 1-2 ☆ JP18 short 1-2 ☆ |

Continued.....

☆ : Means manufacture optional.

| Function | | Jumper Settings | |
|----------|---|---------------------------------|---|
| CPU Type | Intel Pentium (P54C) | Intel 133MHz (66MHz Host Clock) | JP3 short 3-4 JP10 short 1-2 JP11 short 1-2 JP12 short 2-3 JP16 short 1-2 ☆ JP17 short 1-2 ☆ JP18 short 1-2 ☆ |
| | | Intel 150MHz (60MHz Host Clock) | JP3 short 1-2 JP10 short 1-2 JP11 short 2-3 JP12 short 2-3 JP16 short 1-2 ☆ JP17 short 1-2 ☆ JP18 short 1-2 ☆ |
| | | Intel 166MHz (66MHz Host Clock) | JP3 short 3-4 JP10 short 3-4 JP11 short 2-3 JP12 short 2-3 JP16 short 1-2 ☆ JP17 short 1-2 ☆ JP18 short 1-2 ☆ |
| | | Intel 200MHz (66MHz Host Clock) | JP3 short 3-4 JP10 short 3-4 JP11 short 2-3 JP12 short 1-2 JP16 short 1-2 ☆ JP17 short 1-2 ☆ JP18 short 1-2 ☆ |
| | Intel Pentium (P55C) (Optional) (U10 must be mounted) | Intel 150MHz (60MHz Host Clock) | JP3 short 1-2 JP10 short 1-2 JP11 short 2-3 JP12 short 2-3 JP16 short 2-3 JP17 short 2-3 JP18 short 2-3 JP20 short 3-4 |

Continued....

☆ : Means manufacture optional.

| Function | | | Jumper Settings |
|-------------------------|---|---------------------------------|---|
| CPU Type | Intel Pentium (P55C) (Optional) (U10 must be mounted) | Intel 166MHz (66MHz Host Clock) | JP3 short 3-4 JP10 short 1-2 JP11 short 2-3 JP12 short 1-2 JP16 short 2-3 JP17 short 2-3 JP18 short 2-3 JP20 short 3-4 |
| CPU Voltage | 3.3V (STD) | | JP10 short 1-2 |
| Selection | 3.525V (VRE) (default) | | JP10 short 3-4 |
| CPU Core Voltage | 2.5V | | JP20 short 1-2 |
| (for P55C only) | 2.8V | | JP20 short 3-4 |
| CMOS RAM Clear | Normal (default) | | JP13 open |
| Switch | CMOS Data Clear | | JP13 short |
| Flash ROM | Program Voltage | +5V (default) | JP8 short 2-3 |
| | | +12V | JP8 short 1-2 |
| Super I/O | Enabled (default) | | JP15 short 1-2 |
| | Disabled | | JP15 short 2-3 |
| 3D-Sound | Enabled (default) | | JP21 short |
| | Disabled | | JP21 open |

Table 3 -1. Jumper Settings



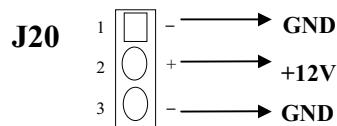
The table below presents the detailed Jumper Settings for different CPU Clock. For example, if Pentium 100MHz CPU is installed, you should set Host Clock as 66 MHz and CPU Core Clock as Host Clock *1.5.

| | | | | |
|-----------------------|-------|--------------------------|------|----------------|
| Host Clock | | 50 MHz | JP3 | open |
| | | 55 MHz | JP3 | short 1-2, 3-4 |
| | | 60 MHz | JP3 | short 1-2 |
| | | 66 MHz (default) | JP3 | short 3-4 |
| CPU Core Clock | Intel | Host Clock * 1.5 | JP11 | short 1-2 |
| | | | JP12 | short 1-2 |
| | | Host Clock * 2 (default) | JP11 | short 1-2 |
| | | | JP12 | short 2-3 |
| | | Host Clock * 2.5 | JP11 | short 2-3 |
| | | | JP12 | short 2-3 |
| | | Host Clock * 3 | JP11 | short 2-3 |
| | | | JP12 | short 1-2 |

Green Function

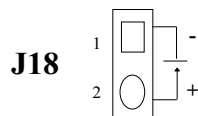
CPU Cooling Fan Control

P5VX-A provides the ability to turn the CPU cooling fan off while the system is in low-power suspend mode. Please connect the CPU cooling fan to J20 in order to make it work.

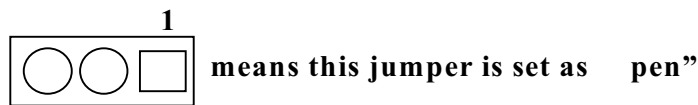


Green Function Indicator

Connect the LED to J18 to indicate the system in low-power suspend mode.



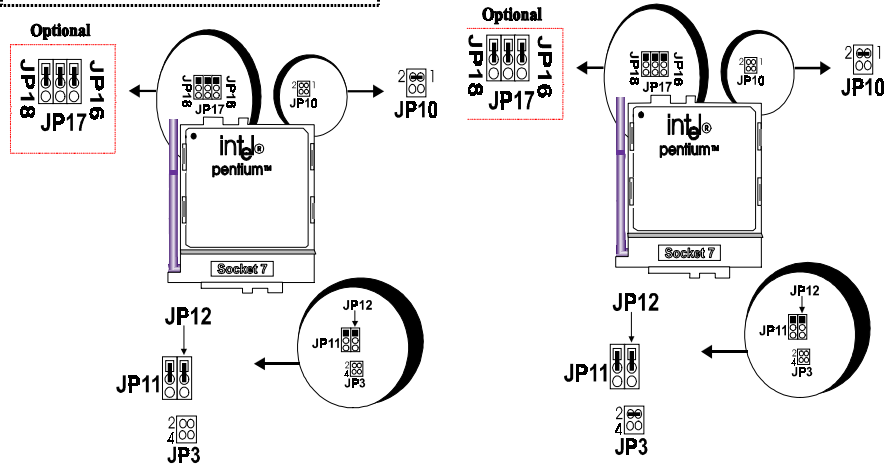
Graphic Descriptions of Jumper Settings



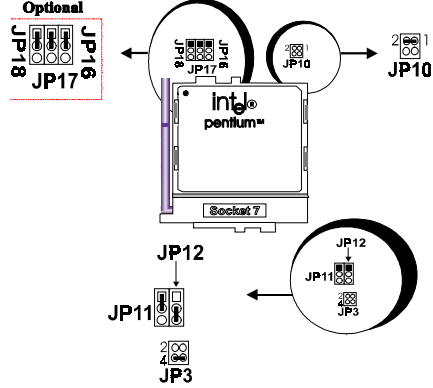
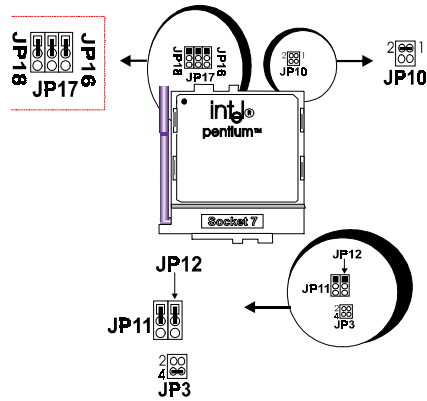
CPU Type

1. Intel Pentium 75MHz (P54C)
CPU (50MHz Host Clock)
installed on board

2. Intel Pentium 90MHz (P54C)
CPU (60MHz Host Clock)
installed on board

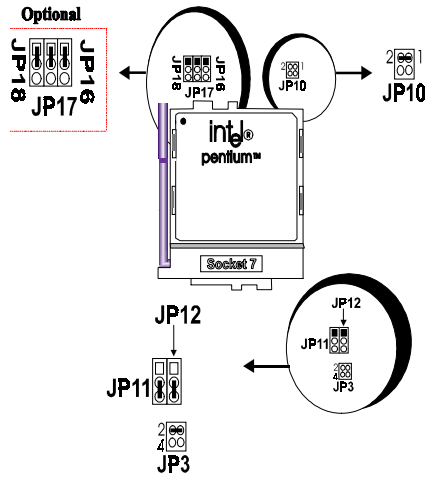
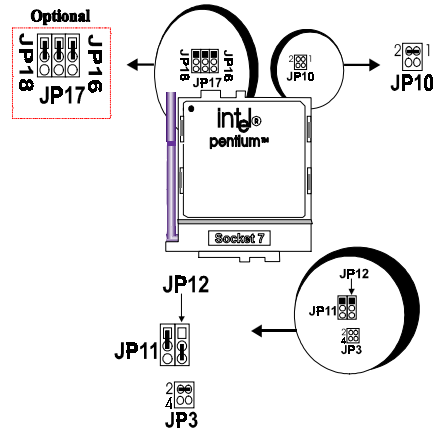


3. Intel Pentium 100MHz (P54C)
CPU (66MHz Host Clock)
installed on board



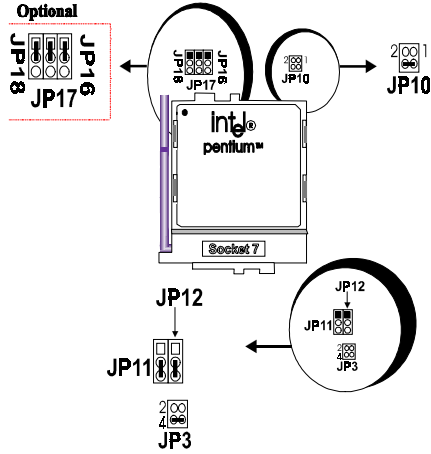
6. Intel Pentium 150MHz (P54C)
CPU (60MHz Host Clock)
installed on board

4. Intel Pentium 120MHz (P54C)
CPU (60MHz Host Clock)
installed on board

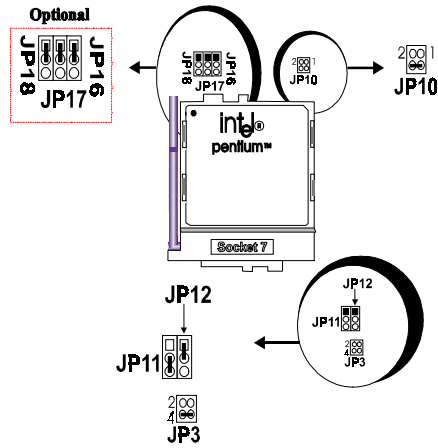


7. Intel Pentium 166MHz (P54C)
CPU (66MHz Host Clock)
installed on board

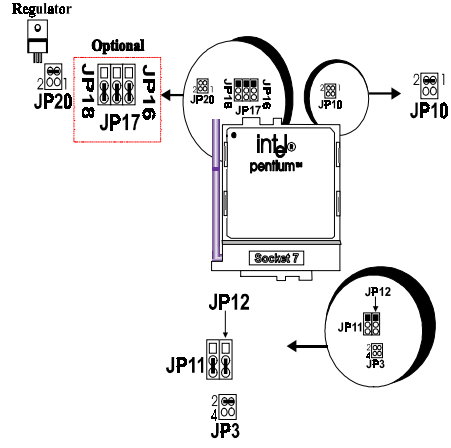
5. Intel Pentium 133MHz (P54C)
CPU (66MHz Host Clock)
installed on board



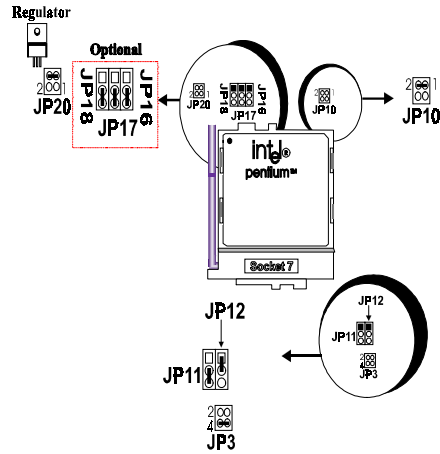
8. Intel Pentium 200MHz (P54C) CPU (66MHz Host Clock) installed on board



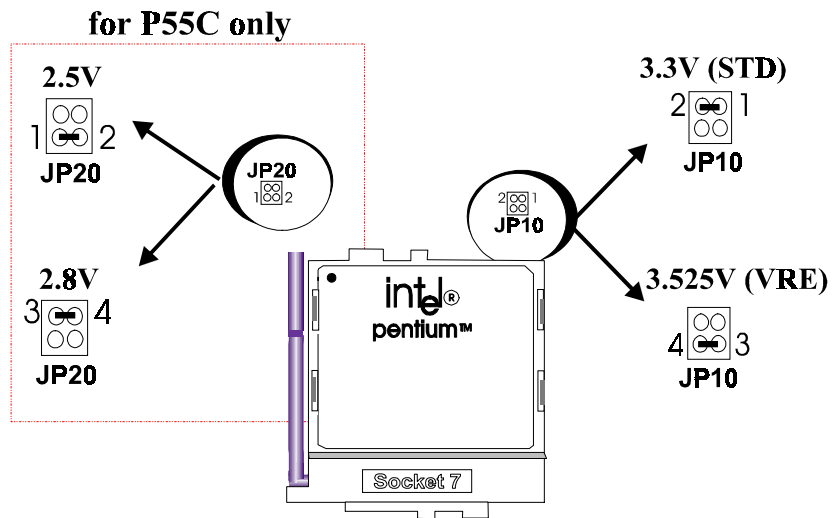
9. Intel Pentium 150MHz (P55C) (Optional) CPU (60MHz Host Clock) installed on board



10. Intel Pentium 166MHz (P55C) (Optional) CPU (66MHz Host Clock) installed on board

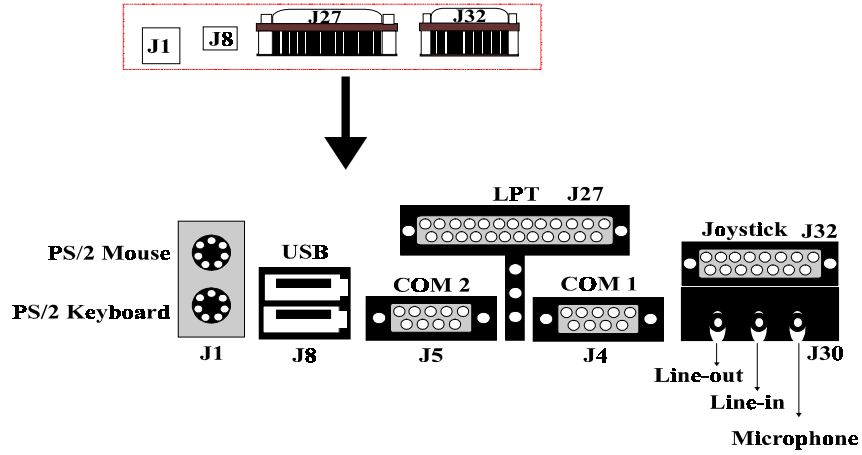


CPU Voltage Selection



Connectors

There are several connectors located on the P5VX-A. Users can refer to the following diagram for the clear figure of connectors.

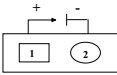
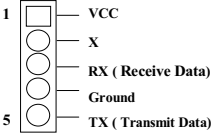
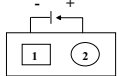
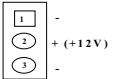
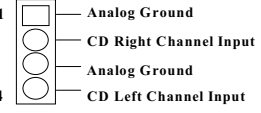


Their function is listed below.

| Connector | Function | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--------------|--|--------------|----|--------------|---------------|--------------|----|----|----|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|---|---|---|---|---|---|---|---|---|---|---------|--|--|--|--|---------------|--|--|--|--|
| J1 | PS/2 Keyboard & Mouse Connector | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| J4 | COM1 Port | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| J5 | COM2 Port | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| J8 | Dual USB Port | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| J9 | FDD Connector | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| J10 | Primary IDE Connector | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| J11 | Secondary IDE Connector | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| J12 | <table border="1"> <tr> <td colspan="2">Reset Switch</td> <td colspan="2">SMI Switch</td> <td colspan="2">Power On LED</td> <td></td> </tr> <tr> <td>10</td><td>9</td><td>8</td><td>7</td><td>6</td><td>5</td><td>4</td><td>3</td><td>2</td><td>1</td> </tr> <tr> <td>G</td><td>I</td><td>X</td><td>G</td><td>X</td><td>G</td><td>I</td><td>G</td><td>+</td><td>■</td> </tr> <tr> <td>20</td><td>19</td><td>18</td><td>17</td><td>16</td><td>15</td><td>14</td><td>13</td><td>12</td><td>11</td> </tr> <tr> <td>I</td><td>G</td><td>G</td><td>P</td><td>X</td><td>G</td><td>I</td><td>G</td><td>X</td><td>+</td> </tr> <tr> <td colspan="5">Speaker</td> <td colspan="5">Keyboard Lock</td> </tr> </table> | Reset Switch | | SMI Switch | | Power On LED | | | 10 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | G | I | X | G | X | G | I | G | + | ■ | 20 | 19 | 18 | 17 | 16 | 15 | 14 | 13 | 12 | 11 | I | G | G | P | X | G | I | G | X | + | Speaker | | | | | Keyboard Lock | | | | |
| Reset Switch | | SMI Switch | | Power On LED | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| G | I | X | G | X | G | I | G | + | ■ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 20 | 19 | 18 | 17 | 16 | 15 | 14 | 13 | 12 | 11 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| I | G | G | P | X | G | I | G | X | + | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Speaker | | | | | Keyboard Lock | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

X: Reserved P: Power
I: Input G: Ground

Continued.....

| Connector | Function |
|-----------|--|
| J13 | HDD LED |
| |  |
| J14 | PS/1 Power Connector |
| J15 | Fast IR Header (Reserved) |
| J16 | COAST Module Slot |
| J17 | IRDA Header with Intel Spec |
| |  |
| J18 | Green LED |
| |  |
| J20 | CPU Fan Header |
| |  |
| J21 | ATX Power Connector |
| J27 | Parallel Port |
| J28 | CD-ROM Input Header |
| |  |

Continued.....

| Connector | Function |
|-----------|---|
| J29 | Hardware Volume Control Header |
| | |
| J30 | Microphone/ Stereo Line-in / Stereo Line-out Connector |
| J32 | Joystick Connector |
| J35 | Wave Table Connector (support Creative wave table solution) |
| | |
| J36 | Modem/ Phone Speaker Header (support Creative modem Blaster Pro solution) |
| | |
| J37 | ATX Power ON/ OFF Connector |
| | |

Table 3 -2. Connectors

Board Layout

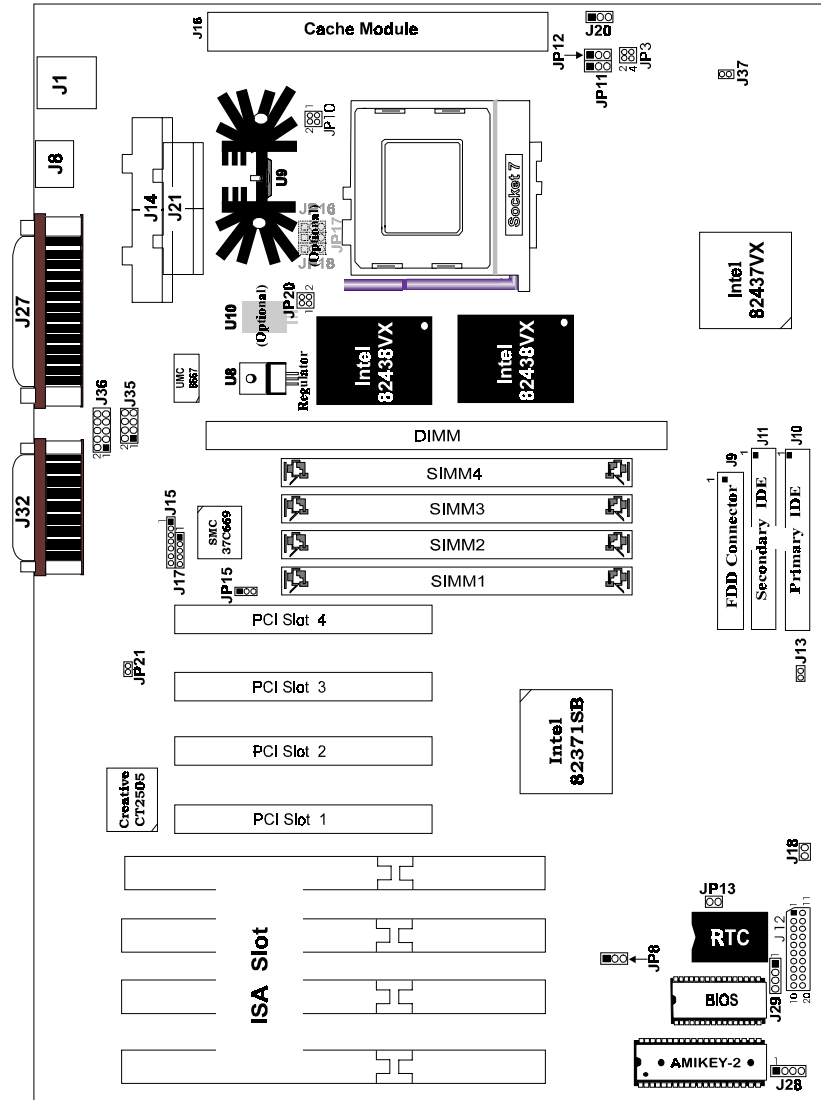


Figure 3 -1. P5VX-A Mainboard Layout

4 Built-in BIOS Setup Program

SETUP Program

This chapter describes the Award BIOS setup for P5VX-A. The setup program uses a number of menus that you can specify changes to your hardware and turn the special features on or off.

To enter the BIOS setup program, users can turn on or reboot the system. Press the key when the system displays "Press DEL to enter SETUP".

The following screen will be displayed.

| ROM PCI/ISA BIOS (P5VX-A) CMOS SETUP UTILITY AWARD SOFTWARE, INC. | |
|---|--------------------------|
| STANDARD CMOS SETUP | INTEGRATED PERIPHERALS |
| BIOS FEATURES SETUP | SUPERVISOR PASSWORD |
| CHIPSET FEATURES SETUP | USER PASSWORD |
| POWER MANAGEMENT SETUP | IDE HDD AUTO DETECTION |
| PNP/PCI CONFIGURATION | 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 ... | |

Figure 4 -1. SETUP Main Menu



The instructions at the bottom of Main Menu Screen show the items of each option.

- STANDARD CMOS SETUP** - This option allows users to check or modify the basic system configuration.
- BIOS FEATURES SETUP** - This option can be used to set the various system options for the users, including the virus warning, external cache, security option, boot operations, and video BIOS shadow, etc.
- CHIPSET FEATURES SETUP** - This option allows users to control the features of chipset.
- POWER MANAGEMENT SETUP** - This option allows users to set the power saving status for reducing the power consumption.

- PNP/PCI CONFIGURATION** - This option can be used to set the various system functions and internal addresses of the PCI devices . Allows users to configure system IRQ and DMA to PCI/ISA PnP or Legacy ISA.
- LOAD BIOS DEFAULTS** - Users can load the BIOS default values to boot the system safely.
- LOAD SETUP DEFAULTS** - This option supports the better performance for the system. It is recommended to choose **SETUP Defaults** for the setup.
- INTEGRATED PERIPHERALS** - This option allows users to decide how many kinds peripherals need to change their I/O type , mode and use or not. This option also allows user to set the various system function and onboard PCI IDE controller.
- SUPERVISOR PASSWORD** - Pasword is required when entering and changing all of the SETUP option or booting your system. Users can change the current password stored in the CMOS by accessing this option.
- USER PASSWORD** - Password is required when booting your system and entering to change only the USER PASSWORD. Users can change the current password stored in the CMOS by accessing this option.
- IDE HDD AUTO DETECTION** - This option can automatic detect the hard disk drive type(s) including the number of cylinders and heads, write pre-compensation time, read/write head landing zone, and number of sectors per track.
- SAVE & EXIT SETUP** - After saving the changes what you have made in the SETUP program, then exit and reboot the system.
- EXIT WITHOUT SAVING** - Abandons all previous settings, then exit and reboot the system.

After choosing an item from the SETUP main menu, move the cursor by using the ↑,↓,→,← arrow keys and press <Enter>. To modify the setting of an option, simply press the <PgUp> or <+> and the <PgDn> or <-> keys. Press the <F2> key when changing the color setting, <F1> for a context sensitive help function, and the <ESC> key when quitting SETUP.

Standard CMOS Setup

```

ROM PCI/ISA BIOS (P5VX-A)
STANDARD CMOS SETUP
AWARD SOFTWARE, INC

Data (mm:dd:yy) : Mon, June 17 1996
Time (hh:mm:ss) : 17 : 58 : 42

HARD DISKS          TYPE  SIZE  CYLS HEAD PRECOMP LANDZ SECTOR  MODE
-----
Primary Master   : Auto   0     0   0   0     0   0   0 Auto
Primary Slave   : Auto   0     0   0   0     0   0   0 Auto
Secondary Master: Auto   0     0   0   0     0   0   0 Auto
Secondary Slave : Auto   0     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: 7168K
Other Memory:   384K
-----
Total Memory:  8192K

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

```

Figure 4 -2. Standard CMOS SETUP Screen

Date - Allows manual setting of the electronic calendar on the mainboard.

Time - Sets the internal clock of the system which includes hour, minutes, and seconds.

Primary Master - Specifies the physical and electronic properties of the standard hard disk drives installed. Relevant specifications include the type, number of cylinders (CYLS), heads (HEAD), write pre-compensation time (PRECOMP), read/write head landing zone (LANDZ), number of sectors per track (SECTOR), and HDD mode (MODE). Selecting "**AUTO**" in the hard disk type item avoids the necessity of loading the HDD specifications and the function of the IDE HDD Auto Detection option in the main menu. The system BIOS will automatically detect the hard drive installed on the system upon bootup.

Drive A/B: - Specifies the capacity and format of the floppy drive installed in your system.

Video - Specifies the display adapter installed.

Halt On - Enables the system to halt on several conditions/options. The default value is set as "**All Errors**."

Base/Extended/Other Memory - A small section in the lower right corner of the screen displays the important information about your system which includes the base, extended, and other memory sizes. They are updated automatically by the

SETUP program according to the status detected by the BIOS self-test. This section of the Standard CMOS SETUP screen is for viewing purpose only; therefore, manual modifications are not allowed.

BIOS Features Setup

ROM PCI/ISA BIOS (P5VX-A)
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 NumLock Status | : On | DC000-DFFFF Shadow | : Disabled |
| Gate A20 Option | : Fast | | |
| Security Option | : Setup | | |
| PCI/VGA Palette Snoop | : Disabled | | |
| OS Select For DRAM > 64MB | : Non-OS2 | | |
| | | ESC : Quit | ↑↓←→: Select Item |
| | | F1 : Help | PU/PD/+/- : Modify |
| | | F5 : Old Values | (Shift)F2 : Color |
| | | F6 : Load BIOS Defaults | |
| | | F7 : Load Setup Defaults | |

Figure 4 -3. BIOS Features Setup Screen

Virus Warning - Allows the virus warning feature for the hard disk boot sector to display a warning message and produce a beep sound whenever an attempt is made to write on the hard disk's boot sector. The default value for this option is **"Disabled."**

CPU Internal Cache - Enables the internal 16KB code/data cache of the Intel Pentium CPU when set to **"Enabled"** (default).

External Cache - Enables the on-board secondary cache (either standard non-burst or burst cache) when it is set to **"Enabled"** (default).

Quick Power On Self Test - Allows the power on self test to run at either a fast or a normal speed. The available options are:

- Disabled (default)
- Enabled

Boot Sequence - Selects the drive where the system would search for the operating system to run with. The available options are:

- A,C (default)
- C,A
- C,CDROM, A
- CDROM,C,A

Swap Floppy Drive - "**Enabled**" will effectively change the A: drive to B: and the B: to A: drive. "**Disabled**" (default) sets the floppy drives in their default states.

Boot Up NumLock Status - Sets the <Num Lock> key to either on or off during system boot-up. The available options are:

- On (default)
- Off

Gate A20 Option - Boosts the performance of system with softwares by using the protected mode such as OS/2 or UNIX. This option determines the accessibility of the extended memory. The available options are:

- Fast (default)
- Normal

Security Option - Determines whether the password will be asked for in every boot (**System**), or when entering into the SETUP program (**Setup** - default). Refer to the section entitled SUPERVISOR PASSWORD for the password setting procedure.

PCI/VGA Palette Snoop - Selects "**Enabled**" to solve the abnormal color in Windows while using ISA MPEG and PCI VGA card. The available options are:

- Disabled (default)
- Enabled

OS Select For DRAM > 64MB - Selects the OS if DRAM > 64MB. This option allows you to access the memory that over 64MB in OS/2. The available options are:

- Non-OS2 (default)
- OS2

Video BIOS Shadow - Enables the system shadowing and achieve the best performance of the system. The available options are:

- Enabled (default)
- Disabled

C8000-CBFFF, CC000-CFFFF, D0000-D3FFF, D4000-D7FFF, D8000-DBFFF, DC000-DFFFF Shadow - If you have a shadowing of the BIOS at any of the above segments, you may set the appropriate memory cacheable function to "**Enabled**". Otherwise, select "**Disabled**" (default).

Chipset Features Setup

¢ROM PCI/ISA BIOS (P5VX-A)
 CHIPSET FEATURES SETUP
 AWARD SOFTWARE, INC.

| | |
|--------------------------------------|---|
| Auto Configuration : Enabled | System BIOS Cacheable : Enabled |
| DRAM Timing : 70ns | Video BIOS Cacheable : Enabled |
| DRAM RAS# Precharge Time : 4 | Memory Hole At 15M-16M : Disabled |
| DRAM R/W Leadoff Timing : R10/W6 | Chipset NA# Asserted : Enabled |
| Fast RAS To CAS Delay : 3 | Peer Concurrency : Enabled |
| DRAM Read Burst <EDO/FP> : x222/x333 | |
| DRAM Write Burst Timing : x333 | |
| Fast MA to RAS# Dealy CLK: 1 | |
| Fast EDO Path Select : Disabled | |
| Refresh RAS# Assertion : 5 Clks | ESC : Quit ¤↕↔ : Select Item |
| ISA Bus Clock : PCICLK/4 | F1 : Help PU/PD/+/- : Modify |
| | F5 : Old Values (Shift) F2 : Color |
| | F6 : Load BIOS Defaults |
| | F7 : Load Setup Defaults |

Figure 4 -4. Chipset Features Setup Screen

Auto Configuration - The default values of this options is “**Enabled**” (default). When enabled, this options is for the following DRAM and cache options. Otherwise, “**Disabled**” allows you to program each option .

- Enabled (default)
- Disabled



*The following items are controlled by **Auto Configuration** when users selecte “Enabled”. For this reason, their default values will be changed by the speed of CPU. These items are :*

“DRAM RAS# Precharge Time”, “DRAM R/W Leadoff Timing”, “Fast RAS# to CAS# Delay”, “DRAM Read Burst <EDO/FP>”, “DRAM Write Burst Timing” “DRAM Speculative Leadoff”, “Turn-Around Insertion” and “ISA Clock”.

DRAM Timing - Configures the DRAM read/write timing for the maximum performance. The available options are:

- 70ns (default)
- 60ns

DRAM RAS# Precharge Time - Selects RAS# precharge time for DRAM access. The available options are:

- 4 (default)
- 3

DRAM R/W Leadoff Timing -Determines the leadoff time for R/W to the Cache. The available options are:

- R10/W6 (default)
- R11/W7

Fast RAS To CAS Delay - Selects the RAS-to-CAS delay time for DRAM access. The available options are:

- 3 (default)
- 2

DRAM Read Burst <EDO/FP> - Determines the timing for burst read to the cache. If your DRAM type is EDO DRAM, we suggest you to select x222 (EDO) timing to get a better performance. The available options are:

- x222/ x333 (default)
- x322/ x333
- x444/ x444
- x333/ x444

DRAM Write Burst Timing - Determines the timing for burst write to the cache. If your DRAM type is EDO DRAM, we suggest you to select x222 (EDO) timing to get a better performance. The available options are:

- x333 (default)
- x222
- x444

Fast MA to RAS# Delay CLK - Selects the option for DRAM access. The available options are:

- 1 (default)
- 2

Fast EDO Path Select - This is the selection of the EDO fast path for read cycles. The available options are:

- Disabled (default)
- Enabled

Refresh RAS# Assertion -Determines the number of clocks RAS# to assert for Refresh cycles. The available options are:

- 5 Clks (default)
- 4 Clks

ISA Bus Clock - ISA clock divide by 4 or 3 depending on PCI bus clock. Users can refer to the formula for clear figure. (**ISA Clock = PCI Clock /3 or ISA Clock = PCI Clock/4**) The available options are:

- PCICLK/4 (default)
- PCICLK/3

SDRAM(CAS Lat/RAS-to-CAS) - Configs the SDRAM CAS latency time/ RAS to CAS delay. The available options are :

- 3/3 (default)
- 2/2
- 3/2



“SDRAM (CAS Lat/RAS-to-CAS)” will be shown only when users plug the SDRAM module.

System BIOS Cacheable - Allows system BIOS to be cacheable. The available options are:

- Enabled (default)
- Disabled

P5VX-A

Video BIOS Cacheable - Allows video BIOS to be cacheable. The available options are:

- Enabled (default)
- Disabled

Memory Hole At 15M-16M - Enables this option to reserve the certain space in memory for ISA cards. The available options are:

- Disabled (default)
- Enabled

Chipset NA# Asserted - Determines to enable the Next Address (NA#) cycle or not. The available options are:

- Enabled (default)
- Disabled

Peer Concurrency - Determines the CPU to run DRAM/L2 cycles when non-PHLD PCI master devices are targeting peer device. The available options are:

- Enabled (default)
- Disabled

Power Management Setup

ROM PCI/ISA BIOS (P5VX-A)
Power MANAGEMENT SETUP
AWARD SOFTWARE, INC.

| | | |
|--|------------|----------------------------------|
| Power Management | : Disabled | ** Power Down & Resume Events ** |
| PM Control by APM | : Yes | IRQ3 (COM 2) : ON |
| Video Off Method | : DPMS | IRQ4 (COM 1) : ON |
| MODEM Use IRQ | : NA | IRQ5 (LPT 2) : ON |
| CPU Fan Power Green | : Disabled | IRQ6 (Floppy Disk) : ON |
| | | IRQ7 (LPT 1) : ON |
| Doze Mode | : Disabled | IRQ8 (RTC Alarm) : OFF |
| Standby Mode | : Disabled | IRQ9 (IRQ2 Redir) : ON |
| Suspend Mode | : Disabled | IRQ10 (Reserved) : ON |
| HDD Power Down | : Disabled | IRQ11 (Reserved) : ON |
| | | IRQ12 (PS/2 Mouse) : ON |
| | | IRQ13 (Coprocessor) : ON |
| | | IRQ14 (Hard Disk) : ON |
| | | IRQ15 (Reserved) : ON |
| **Wake Up Events In Doze & Standby ** | | |
| IRQ3 (Wake-Up Event) | : ON | |
| IRQ4 (Wake-Up Event) | : ON | |
| IRQ8 (Wake-Up Event) | : OFF | |
| IRQ12 (Wake-Up Event) | : ON | |
| ESC : Quit ↑↓←→: Select Item | | |
| F1 : Help PU/PD/+/- : Modify | | |
| F5 : Old Values (Shift)F2 : Color | | |
| F6 : Load BIOS Defaults | | |
| F7 : Load Setup Defaults | | |

Figure 4 -5. Power Management Setup Screen

Power Saving Mode - Allows user to determine how often the Power Saving actives. The available options are:

- Disable (default)
- Max Saving
- Min Saving
- User Define

PM Control by APM - Sets the power management (PM) control by the APM. The available options are:

- Yes (default)
- No

Video Off Method - Sets the video power green method . The available options are:

- DPMS (default)
- V/H SYNC+Blank
- Blank Screen

MODEM Use IRQ - In order to support resume on ring and to pass APM 1.2, this option is required to be set same IRQ as the modem add-in-card used. The available options are:

- NA (default)
- 3/4/5/7/9/10/11

CPU Fan Power Green - Determines whether CPU Fan Power to be turned off at suspend mode or not . The available options are:

- Disabled (default)
- Enabled

Doze Mode - Sets the time interval when the system enters DOZE mode. The available options are:

- Disabled (default)
- 1 Hour
- 1/2/4/6/8/10/20/30/40 Min

Standby Mode - Sets the timer interval when the system enters STANDBY mode. The available options are:

- Disabled (default)
- 1 Hour
- 1/2/4/6/8/10/20/30/40 Min

Suspend Mode -Sets the time interval when the system enters SUSPEND mode. The available options are:

- Disabled (default)
- 1 Hour
- 1/2/4/6/8/10/20/30/40 Min

HDD Power Down - Sets the timer of the HDD when to enter the Standby mode. The available options are:

- Disabled (default)
- 1....15 Min

Wake Up Events In Doze & Standby

IRQ 3/4/8/12 (Wake-Up Event) - Sets the wake-up event to “ON” or “OFF” when system enters the suspend mode.

Power Down & Resume Events

Power Down Activities - The manual also lists the Power Management SETUP (PM) events by which the system wakes up from STANDBY or SUSPEND modes. Switch the following parameters to “ON” or “OFF”:

- COM Ports Accessed
- LPT Ports Accessed
- Drive Ports Accessed
- IRQ3 (COM2)
- IRQ4 (COM1)
- IRQ5 (LPT2)
- IRQ6 (Floppy Disk)
- IRQ7 (LPT 1)
- IRQ8 (RTC Alarm)
- IRQ9 (IRQ2 Redir)
- IRQ10 (Reserved)
- IRQ11 (Reserved)
- IRQ12 (PS/2 Mouse)
- IRQ13 (Coprocessor)
- IRQ14 (Hard Disk)
- IRQ15 (Reserved)

PNP/PCI CONFIGURATION Setup

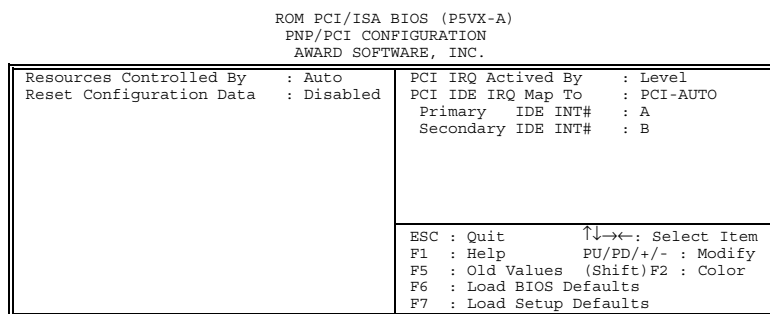


Figure 4 -6. PNP/PCI CONFIGURATION SETUP Screen

Resources Controlled By - Allows users to use what kind IRQs assignment . The available options are:

- Auto (default)
- Manual



The default of "Resources Controlled By" is Auto. If users set Manual option for the setting, "IRQ-3 / IRQ-4 / IRQ-5 / IRQ-7 / IRQ-9 / IRQ-10 / IRQ-11 / IRQ-12 / IRQ-14 / IRQ-15 / DMA-0 / DMA-1 / DMA-3 / DMA-5 / DMA-6 / DMA-7 assigned to" options below will be shown on the screen.

Reset Configuration Data -Clears the data in ESCD area. (Extended System Configuration Data). After ESCD be cleared, this option will return to "Disabled". The available options are:

- Disabled (default)
- Enabled

IRQ-3 / IRQ-4 / IRQ-5 / IRQ-7 / IRQ-9 / IRQ-10 / IRQ-11 / IRQ-12 / IRQ-14 / IRQ-15 / DMA-0 / DMA-1 / DMA-3 / DMA-5 / DMA-6 / DMA-7 assigned to - Users can select resources controlled by “**manual**” method to fix legacy ISA card IRQ & DMA in Plug & Play problem . Legacy card has the highest priority to use someone IRQ# & DMA# which one assigned by manual . The available options are:

- Legacy ISA (default of IRQ-3 / IRQ-4 / IRQ-7 / IRQ-14 / IRQ-15 assigned to)
- PCI/ISA PnP (default of IRQ-5 / IRQ-9 / IRQ-10 / IRQ-11 / IRQ-12 / DMA-0 / DMA-1 / DMA-3 / DMA-5 / DMA-6 / DMA-7 assigned to)

PCI IRQ Activated By - Programs the PCI IRQ to single edge or logic level. Level/Edge sensitivity is programmed per controller. Every IRQ input for a given bank is either “**EDGE**” or “**LEVEL**” (default) triggered.

PCI IDE IRQ Map To - Defines the IRQ Routing either from the PCI Bus or the ISA Bus. The available options are:

- PCI-AUTO (default)
- PCI-SLOT1
- PCI-SLOT3
- ISA
- PCI-SLOT2
- PCI-SLOT4



If user sets this option to “ISA”, both the “Primary IDE INT#” and “Secondary IDE INT#” options below will not be shown on the screen.

Primary/Secondary IDE INT# - Defines the primary/secondary IDE INT# of the PCI IDE card. The available options are:

- A (default of Primary IDE INT#)
- B (default of Secondary IDE INT#)
- C
- D

Load BIOS Defaults

In the event of a loss in memory on the configuration SETUP, the user can restore the information on the BIOS by loading its default values. Loading the BIOS defaults provides safety booting of the system.

Load Setup Defaults

SETUP defaults are considered default values with which the system will be enabled to perform better. This is due to the enabling of some options within the SETUP program. However, if problems are encountered after loading the SETUP defaults, reboot the system and load the BIOS defaults instead.

INTEGRATED PERIPHERALS

ROM PCI/ISA BIOS (P5VX-A)
INTEGRATED PERIPHERALS
AWARD SOFTWARE, INC.

| | |
|---|--|
| <pre> IDE HDD Block Mode : Enabled On-Chip Primary PCI IDE : Enabled On-Chip Secondary PCI IDE : Enabled IDE Primary Master PIO : Auto IDE Primary Slave PIO : Auto IDE Secondary Master PIO : Auto IDE Secondary Slave PIO : Auto Onboard FDD Controller : Enabled Onboard Serial Port 1 : 3F8/IRQ4 Onboard Serial Port 2 : 2F8/IRQ3 UART 2 Mode : Standard Onboard Parallel Port : 378H/IRQ7 Parallel Port Mode : Normal </pre> | <pre> ESC : Quit ↑↓←→ : Select Item F1 : Help PU/PD/+/- : Modify F5 : Old Values (Shift)F2 : Color F6 : Load BIOS Defaults F7 : Load Setup Defaults </pre> |
|---|--|

Figure 4 -7. PNP CONFIGURATION SETUP Screen

IDE HDD Block Mode - Determines the block transfer will be used or not . The available options are:

- Enabled (default)
- Disabled

On-Chip Primary/Secondary PCI IDE - **Enables or Disables** the primary/secondary PCI IDE of Intel IDE controller. Selecting “*Disabled*” can release IRQ14.

- Enabled (default)
- Disabled

IDE Primary/Secondary Master/ Slave PIO - Sets the advanced hard disk PIO transfer mode which effects your hard disk transfer rate. The program will auto detect the mode of this option when users select “*Auto*”. Otherwise, you must set this option by yourself. The available options are:

- Auto (default)
- Mode 0
- Mode 1
- Mode 2
- Mode 3
- Mode 4

Onboard FDD Controller - Enables or Disables the FDD controller or on-board I/O chip. The available options are:

- Enabled (default)
- Disabled

Onboard Serial Port 1/2 - Sets the I/O address for serial port 1/2.

- 3F8/IRQ4 (default of Onboard serial Port 1)
- 2F8/IRQ3(default of Onboard serial Port 2)
- 3E8/IRQ4
- 2E8/IRQ3
- Disabled

UART 2 Mode - Determines which type IR module to be used . The available options are:

- Standard (default)
- ASKIR
- HPSIR



If user sets this option to "Standard", the "IR Duplex Mode" option below will not be shown on the screen.

IR Duplex Mode - Allows users to control the infrared communication duplex mode. The available options are:

- Half (default)
- Full

Onboard Parallel Port - Sets the I/O address for the parallel port. The available options are:

- 378H/IRQ7 (default)
- Disabled
- 278H/IRQ5
- 3BCH/IRQ7



If users set this option to "Disabled", the "Onboard Parallel Mode" option below will not be shown on the screen.

Parallel Port Mode - Selects the working mode of parallel port. The available options are:

- Normal (default)
- EPP
- ECP
- ECP+EPP



1. If users set this option to "Normal" and "EPP", the "ECP Mode Use DMA" option below will not be shown on the screen.

2. If users set this option to "Normal" and "ECP", the "Parallel Port EPP Type" option below will not be shown on the screen.

ECP Mode Use DMA - Selects the DMA channel of ECP Mode to transfer your data. The available options are:

- 3 (default)
- 1

Parallel Port EPP Type - Determines what version of EPP protocol to be supported. The available options are:

- EPP 1.7(default)
- EPP 1.9

SUPERVISOR PASSWORD

The SUPERVISOR PASSWORD utility allows you to set, change, and disable the password which is stored in the BIOS. To change the password setting, press <Enter> on the SUPERVISOR PASSWORD option of the main menu and then type the new password.

Configure the Security Option within the BIOS Features Setup corresponding to the setting in this utility. SUPERVISOR PASSWORD access right higher than USER PASSWORD .

The password can be at most 8 characters long. The program will require you to confirm the new password before it exits and enables the utility. To disable the SUPERVISOR PASSWORD, press the <F1> once the program asks you to enter the new password.

USER PASSWORD

USER PASSWORD only can be used when the system is booting . Users only can enter SETUP screen to change the USER PASSWORD.

The password can be at most 8 characters long. The program will require you to confirm the new password before it exits and enables the utility. To disable the USER PASSWORD, press the <F1> as the program asks you to enter the new password.

IDE HDD Auto Detection

The IDE HDD Auto Detection provides auto configuration of the hard drive installed in the system. It supports LBA, Large, and Normal modes. If the system's hard disk drive has a capacity of over 528MB and supports LBA functions, you may enable either the LBA mode or the Large mode. On the other hand, if the hard disk drive's capacity is over 528MB but does not support LBA functions, you may enable the Large mode in order to use over 528MB.



- a. *The LBA and Large modes will only appear on the screen when the installed hard disk drive is specified to support the LBA mode.*
- b. *In the case when a hard disk drive's cylinder specification exceeds 1024, and does not support the LBA functions, only the Large mode will be displayed on the screen.*
- c. *With a hard disk drive supporting cylinders below 1024, only the Normal mode will appear on the screen. The Normal mode will also be shown on the screen under conditions a & b above.*

- d. Hard disk drives with less than 528MB total capacity must be set to Normal mode when combined with either old BIOS versions or the Award BIOS.



LBA and Large modes are new specifications which may not be fully supported by all operating systems. An example of which is the current version of UNIX System (R3.2.4) which is still unable to support the LBA function. Therefore, determine the specifications of your hard disk drive and operating system before selecting the drive's mode.

After pressing the <Enter> key on this item of the main menu, the display screen will show the following screen.

```

ROM PCI/ISA BIOS (P5VX-A)
CMOS SETUP UTILITY
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
  -----
    1           0    0    0    0    0    0  NORMAL

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

```

Figure 4 -8. IDE HDD Auto Detection Screen

Once the program detects the type of hard disk installed, it will display the relative information such as the type, cylinders, heads, write pre-compensation, landing zone, number of sectors per track, size and mode. A message asking you to accept the IDE HDD detected will also be flashed on the screen.

Quitting SETUP

After making all modifications in the SETUP program, go to the option "Save & Exit SETUP" then press the <Enter> key.

Press <Y> to confirm the changes made, and the <N> or the <ESC> keys if further modifications are still necessary before exiting the SETUP program. Once the <Y> key is pressed, the system will automatically exit the program and reboot. However, if you want to cancel all changes made under the SETUP program, go to the option "Exit Without Saving".

Press <Y> and the system will exit the SETUP program then reboot without saving any of the changes made.

P5VX-A



You may also use the <F10> key to save the new settings.

5 Install Sound Blaster Drivers and Applications

The set of Installation Diskettes is as follows:

- ① **Driver for Windows 3.1**
- ① **Accessories for Windows 3.1**
- ① **Driver for Windows 95**
- ① **Applications for Windows 95**
- ① **Driver for Windows NT**

Driver and Accessories for Windows 3.1

Installation Instructions

1. Insert Driver for Windows 3.1 diskette in a drive, say drive A.
2. Type **A:\install /n** at DOS prompt.
3. Click O.K. button.

Driver and Applications for Windows 95

Installation Instructions

1. Insert Driver for Windows 95 diskette in a drive, say drive A.
2. Click "Start" button on task bar.
3. Choose "Run" item on popup menu.
4. Type **A:\setup** in open command line.
5. Click O.K. button.

Driver for Windows NT

Installation Instructions

1. Start Control Panel.

2. Activate Drivers application in the Control Panel.
3. Choose the “Add...” button.
4. Select “Unlisted or Updated Driver” from the “List of Drivers” list box and choose “O.K.”
5. Insert the diskette of Driver for Windows NT in a drive, ex. drive A, and type **A:\nt351** in command line, then click “O.K.” button.
6. Choose the “O.K.” button on the popup dialog box with “Creative Tech. Sound Blaster 16” entry in a list box.



If users already have Sound Blaster 16 drivers installed, you have to uninstall them before installing the new drivers. For instructions on uninstalling the drivers, turn to the next section.

7. Choose the appropriate IRQ, DMA, and I/O address values on the displayed “Sound Blaster 16 Configuration” dialog box and press “O.K.” button to complete installation.
8. Restart the system after the drivers are installed.

Uninstalling the Drivers

1. Start Control Panel and activate the drivers.
2. Choose “Creative Tech. Sound Blaster 16” from “Installed Drivers” and select the “Remove” button.
3. Answer “Yes” on the prompted confirmation dialog box.

Appendix

This Appendix describes the detailed settings for non-Intel series CPUs. If there are any modifications about non-Intel series CPUs, please contact with your suppliers or vendors.

According to the voltage specification of **Cyrix**, there are multiple voltage combinations. Users need to contact with your CPU suppliers or **Cyrix** corporation to know the correct voltage settings.

If Cyrix updates any information, please contact with your CPU suppliers or Cyrix corporation to get the newest information.

The Settings of Cyrix CPU

| Cyrix 6x86 Voltage Setting | | |
|----------------------------|--------------|----------------|
| Version | Spec. | Jumper Setting |
| 6x86 Full Spec. | 3.15V~3.6V | JP10 short 3-4 |
| 6x86 Cspec. 016 | 3.3V+ / -5% | JP10 short 1-2 |
| 6x86 Cspec. 028 | 3.52V+ / -5% | JP10 short 3-4 |

***** Table 1.*****

| Function | | Jumper Settings |
|----------|------------|---------------------|
| CPU Type | Cyrix 6x86 | 6x86-P120+ (100MHz) |
| | | 6x86-P133+ (110MHz) |

| | |
|------|-------------------------|
| JP3 | open |
| JP10 | refer to Table 1 |
| JP11 | short 1-2 |
| JP12 | short 2-3 |
| JP16 | short 1-2 (Optional) |
| JP17 | short 1-2 (Optional) |
| JP18 | short 1-2 (Optional) |

| | |
|------|-------------------------|
| JP3 | short 1-2 , 3-4 |
| JP10 | refer to Table 1 |
| JP11 | short 1-2 |
| JP12 | short 2-3 |
| JP16 | short 1-2 (Optional) |
| JP17 | short 1-2 (Optional) |
| JP18 | short 1-2 (Optional) |

Continued.....

| Function | | Jumper Settings | |
|----------|------------|------------------------|--|
| CPU Type | Cyrix 6x86 | 6x86-P150+ (120MHz) | JP3 short 1-2 JP10 refer to Table 1 JP11 short 1-2 JP12 short 2-3 JP16 short 1-2 (Optional) JP17 short 1-2 (Optional) JP18 short 1-2 (Optional) |
| | | 6x86-P166+ (133MHz) | JP3 short 3-4 JP10 refer to Table 1 JP11 short 1-2 JP12 short 2-3 JP16 short 1-2 (Optional) JP17 short 1-2 (Optional) JP18 short 1-2 (Optional) |