

Safety Compliance

Federal Communications Commission (FCC)

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- ◆ Reorient or relocate the receiving antenna.
- ◆ Increase the separation between the equipment and the receiver.
- ◆ Connect the equipment onto an outlet on a circuit different from that to which the receiver is connected.
- ◆ Consult the dealer or an experienced radio/TV technician for help.

Shielded interconnect cables and shielded AC power cable must be employed with this equipment to insure compliance with the pertinent RF emission limits governing this device. Changes or modifications not expressly approved by the system's manufacturer could void the user's authority to operate the equipment.

Declaration of Conformity

This device complies with part 15 of the FCC rules. Operation is subject to the following conditions:

- ◆ This device may not cause harmful interference, and
- ◆ This device must accept any interference received, including interference that may cause undesired operation.

Canadian Department of Communications

This class B digital apparatus meets all requirements of the Canadian Interference-causing Equipment Regulations.

Cet appareil numérique de la classe B respecte toutes les exigences du Règlement sur le matériel brouilleur du Canada.

Important Information

Copyright

This publication, including all photographs, illustrations and software, is protected under international copyright laws, with all rights reserved. Neither this manual, nor any of the material contained herein, may be reproduced without the express written consent of the manufacturer.

Disclaimer

The information in this document is subject to change without notice. The manufacturer makes no representations or warranties with respect to the contents hereof and specifically disclaims any implied warranties of merchantability or fitness for any particular purpose. Further, the manufacturer reserves the right to revise this publication and to make changes from time to time in the content hereof without obligation of the manufacturer to notify any person of such revision or changes.

Trademark Recognition

Microsoft, MS-DOS and Windows are registered trademarks of Microsoft Corp.

MMX, Pentium, Pentium-II are a registered trademarks of Intel Corporation.

VGA, OS/2, PS/2 are registered trademarks of International Business Machines.

AMD, K5 are registered trademarks of Advanced Micro Devices Inc.

Cyrix, M1 are registered trademarks of Cyrix Corporation.

Other product names used in this manual are the properties of their respective owners and are acknowledged.

Version 1.0

Table of Contents

Chapter 1: Introduction

Welcome.....	1
About the Manual	1
Checklist	2
Features.....	2

Chapter 2: Installation

Before You Begin	4
Mainboard Guide..	5
Preparing the Mainboard	6
Install the Mainboard in the System Case	10

Chapter 3: Setup

About the Setup Utility	13
Standard CMOS Setup Option..	15
BIOS Feature Setup Option.....	16
Chipset Features Option.	18
Power Management Setup Option.....	19
PNP/PCI Configuration Option..	22
Load BIOS Defaults Option	23
Load Setup Defaults Option.....	23
Integrated Peripherals Option...	24
Password Settings	26
IDE HDD Auto Detection Option	26
Save and Exit Setup Option.....	26
Exit Without Saving Option	26

Chapter 4: Software

About the Software.....	27
-------------------------	----

Appendix 1: Quick Jumper Setting Reference...	30
--	-----------

Appendix 2: CPU Settings Table	32
---	-----------

Chapter 1: Introduction

Welcome

Congratulations on your purchase of the P5VP-A+ mainboard. The P5VP-A+ is a mini-sized ATX motherboard measuring 180mm wide by 305mm long. The board includes a socket-7 for the installation of any Pentium, Pentium MMX, or Pentium-compatible processor such as the AMD K5/K6 series and the Cyrix/IBM 6X86 series. The mainboard includes an AGP slot for an accelerated graphics port display card, four 32-bit PCI slots, and two 8/16-bit ISA slots. A full suite of I/O ports are integrated on the mainboard, and a connector is provided for an optional infrared port.

This chapter contains the following information:

- **About the Manual** explains how the information in this manual is organized
- **Checklist** comprises a list of the standard and optional components that are shipped with this mainboard,
- **Features** highlights the functions and components that make this one of the best value mainboards on the market

About the Manual

The manual consists of the following chapters:

Introduction

Use the **Introduction** Chapter to learn about the features of the mainboard, and the checklist of items that are shipped with the package.

Installation

Use the **Installation** Chapter to learn how to install the mainboard and get your system up and running.

Setup

Use the **Setup** Chapter to configure the mainboard for optimum performance.

Software

Use the **Software** Chapter to learn how to use the software drivers and support programs that are provided with this mainboard.

Checklist

Compare the contents of your mainboard package with the standard checklist below. If any item is missing or appears damaged, please contact the vendor of your mainboard package.

Standard Items

- ✓ 1 x P5VP-A+ Mainboard
- ✓ 1 x Cable/Bracket Pack
 - Diskette drive ribbon cable
 - IDE drive ribbon cable
- ✓ This User's Manual
- ✓ Software Support Disks

Features

The P5VP-A+ combines the stability and economy of a socket-7 mainboard with advanced features such as an AGP slot and 32-bit PCI expansion slots.

Economical Processing

The socket-7 processor socket supports a wide range of low cost Pentium and Pentium compatible processors from a variety of vendors. The mainboard supports a full range of processor voltages, processor clocks, and system bus speeds, so the board can be configured for almost any Pentium/Pentium-pinout processor. The list includes the Intel Pentium and Pentium-MMX, the AMD K5 or K6, the Cyrix/IBM 6X86 series, and the IDT C6 series. All of these processors deliver acceptable entry-level to business-class performance. All the processors have internal level-1 cache memory, and performance is further enhanced by the 512K/1 MB of level-2 PBSRAM cache memory that is installed on the mainboard.

High-Capacity Memory Support

Unlike many competitive socket seven boards, the P5VP-A+ has three DIMM sockets for 168-pin, 3.3 volt memory modules. The mainboard supports SDRAM memory modules and ECC (error correction code) and EC (error checking) are also supported. Using standard SDRAM DIMMs, each socket can be installed with a maximum of 256 MB memory for a total maximum memory of 768 MB.

Highly Integrated Support Chipset

The system logic is provided by the two-piece VIA chipset, the VT82C598MVP and the VT82C586B. The VT82C598MVP provides support for the Rev. 1.0 AGP slot. It meets the requirements for PC97 and supports the L2 cache memory, the PCI bus arbiter and the integrated Host-to-PCI bridge. The VT82C586B includes a PCI-to-ISA

bridge, power management functions, and full peripheral support including keyboard controller, DMA controller, real time clock, USB host control, and a plug and play controller.

Versatile Expansion Options

The P5VP-A+ mainboard has a full set of expansion slots. The Rev 1.0 AGP slot supports any of today's very-high performance AGP display adapters. There are four 32-bit PCI slots for high performance expansion cards, and two ISA slots for legacy 8-bit or 16-bit expansion cards. In total then, there are seven free slots available. The system is ready to run with the addition of just a display adapter so six slots are available for expansion cards, such as a sound card, a fax/modem, and network adapter, and so on.

Basic I/O Ports Integrated

The mainboard provides a basic set of I/O ports. The I/O ports are supported by the Winbond W83877 Super I/O chip and also the VIA chipset. The board has external connectors for two serial ports (UART 16550 –compatible), two USB ports, one parallel port (bidirectional/EPP/ECP), one PS/2 mouse port and one PS/2 keyboard port. A connector is provided for an optional standard infrared port. The mainboard includes an interface for one or two floppy disk drives, and two PCI IDE channels which can support UltraDMA-33 drives.

Programmable Firmware

The mainboard includes Award BIOS firmware. The firmware is on a flash memory chip for easy upgrades. The fully programmable firmware enhances the system features and allows users to set power management, hardware monitoring, system timing, and so on.

Full Software Support

The mainboard ships with a full set of support software including Bus-Mastered UltraDMA drivers, Windows 95 patch program, and Flash BIOS utility. Optionally, the support software can include a system monitor utility, LAN desk client manager, and a Desktop Management Interface, for system administrators.

Optional Hardware Monitoring

Optionally, the mainboard can be installed with a GL518SM system monitoring chip. The system monitor chip can track critical hardware parameters such as the processor temperature, the power supply voltages and the cooling fan speed. This option is very useful for the administration of large networked installations.

Chapter 2: Installation

Before You Begin

Before you begin to install your P5VP-A+ mainboard, take some precautions to ensure that you avoid the possibility of damage to the product from static electricity. Ensure too that you are installing the mainboard into a suitable case.

Static Electricity

In adverse conditions, static electricity can accumulate and discharge through the integrated circuits and silicon chips on this product. These circuits and chips are sensitive and can be permanently damaged by static discharge.

- ◆ If possible wear a grounding wrist strap clipped to a safely grounded device during the installation.
- ◆ If you don't have a wrist strap, discharge any static by touching the metal case of a safely grounded device before beginning the installation.
- ◆ Leave all components inside their static-proof bags until they are required for the installation procedure.
- ◆ Handle all circuit boards and electronic components carefully. Hold boards by the edges only. Do not flex or stress circuit boards.

Choosing a Case

The P5VP-A+ mainboard has a power connector for an ATX power supply.

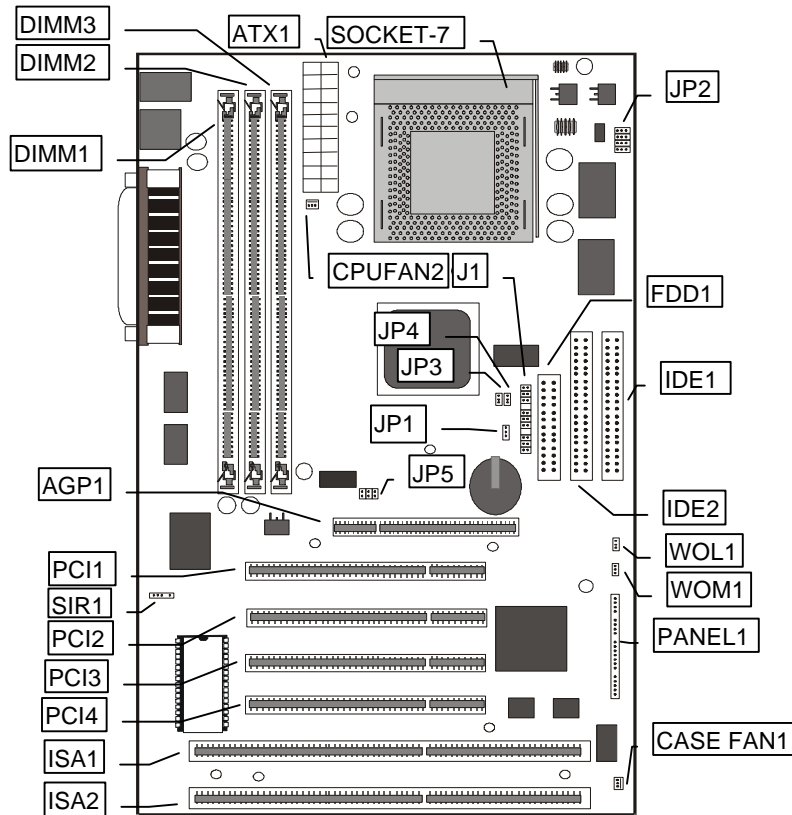
Some features on the mainboard are implemented by cabling connectors on the mainboard to indicators and switches on the system case. Ensure that your case supports all the features required.

The P5VP-A+ mainboard can support one or two floppy diskette drives and four enhanced IDE drives. Ensure that your case has sufficient power and space for all the drives that you intend to install.

The mainboard has a full set of I/O ports arranged in a standard ATX two-tier format. Ensure that your case has a suitable I/O template for the I/O ports.

Mainboard Guide

Use the following illustration and key to identify the components on your mainboard.

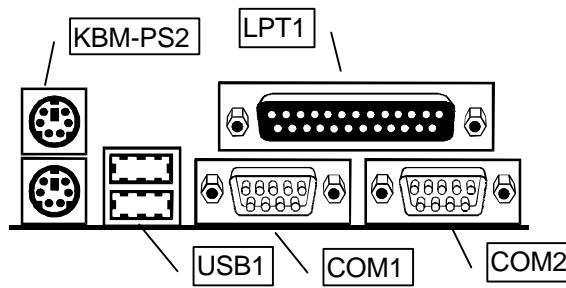


Key to Components

Component	Description
ISA2, ISA1	2 x 8/16-bit expansion slots
PCI1,2,3,4	4 x 32-bit expansion slots
SOCKET-7	Socket for Processor
DIMM1,2,3	3 x slots for 168-pin memory modules
AGP1	Slot for AGP graphics adapter
CASE FAN1	Power for case-mounted cooling fan
CPU-FAN2	Power for processor-mounted cooling fan
ATX1	Connector for ATX power supply
PANEL1	Connectors for case switches and indicators

FDD1	Connector for Floppy disk drives
IDE1	Primary IDE channel
IDE2	Secondary IDE channel
SIR1	Connector for Standard Infrared option
WOL1	LAN wake up connector
WOM1	Modem wake up connector
J1	System bus multiplier for CPU clock
JP1	Clear CMOS memory jumper
JP2	Set CPU core voltage jumper
JP3	Clock setting for AGP, PCI buses
JP4	Clock setting for AGP, PCI buses
JP5	Set CPU I/O voltage

Side View of the I/O Ports



Component	Description
LPT1	Parallel Port (Bidirectional, EPP, ECP)
KBM-PS2	Upper PS/2 port for mouse, lower PS/2 port for keyboard
USB1	Two Universal Serial Bus ports
COM1	Serial port for COM1 or COM 3
COM2	Serial port for COM2 or COM4

Preparing the Mainboard

Prepare the main board by installing the Pentium or Pentium-compatible processor and then installing memory modules. This board supports processors that run from 100MHz through to over 300 Mhz. Finally, review all the important jumper settings to ensure that the board is configured correctly.

Install the Processor

1. Locate the zero insertion force (ZIF) socket-7 for the processor. On the socket and on the processor, identify the pin 1 corner. You can identify the pin 1 corner by noting that in the rectangular matrix of pins and holes on the socket and processor, one pin and one hole is absent on the pin 1 corner.

2. Push the socket locking lever away from the socket to unhook it. Swing the lever into the upright position.
3. Insert the processor into the socket taking care that you have matched the pin 1 corners. No force is required, and the processor should seat smoothly into the socket.
4. Swing the locking lever down and hook it under the latch on the side of the socket to lock it in place.
5. If your processor includes a built-in cooling fan, connect the cable from the cooling fan to the CPU cooling fan power supply connector on the mainboard CPU-FAN2.

Install the Memory Modules

For this mainboard, you must use 168-pin Dual In-line Memory Modules (DIMMs) which are installed with SDRAM (Synchronous Dynamic Random Access Memory). This mainboard supports 3.3 volt DRAMs. The board supports memory which has ECC (Error Correction Code).

You can install one, two or three modules, and each module can have a capacity of up to 256 MB. All the memory modules that you install must be of the same kind. If you only install one memory module, install it in DIMM socket 1. If you install two modules, install them in DIMM sockets 1 and 2.

Installing DIMMs

1. The DIMM sockets are keyed with notches and the DIMMs are keyed with cut-outs so that they can only be installed correctly. Check that the cut-outs on the DIMM edge connector matches the notches in the SDRAM socket.
2. Push the latches on each side of the SDRAM socket down.
3. Install the DIMM into the socket and press it carefully but firmly down so that it seats correctly. The latches at either side of the socket will be levered upwards and latch on the edges of the DIMM when it is installed correctly.

Check all the Jumper Settings

Check all the mainboard jumpers to ensure that the board is configured correctly according to the speed and timing of your processor, the VGA sub-system you are using, and so on.

A Note on Jumpers

A jumper consists of two or more pins mounted on the mainboard. Some jumpers might be arranged in a series with each pair of pins numbered differently. Jumpers are used to change the electronic circuits on the mainboard. When a jumper cap is placed on two jumper pins, the pins are SHORT. If the jumper cap is removed (or placed on just a single pin) the pins are OPEN.

CPU Setting

To install a CPU on this mainboard you need to set up the board for a specific CPU by doing the following:

- Set the External Clock Speed
- Set the Clock Multiplier Factor
- Set the CPU Voltage

You configure the CPU settings on the board. In order to do this, you will need to know some information about the CPU you plan to use. This should be provided by the CPU vendor. You'll need the following information:

- CPU Internal Clock Speed
- CPU Voltage

The internal clock speed is the speed the CPU operates at to process data and is the one used by CPU manufacturers to indicate the speed of the chip. The CPU also has an external clock speed which is the speed at which it interacts with the external components.

CPU voltage may either be the same internally and externally or it may be split, depending on the CPU design. Some processors use one voltage for the core (Vcore) and another for input/output (Vio).

To configure the board for a CPU's internal clock speed, you need to set the external clock speed, sometimes referred to as the bus speed, and the clock multiplier, so that the result is the internal clock speed of the CPU you are installing.

For example, if you have a system bus speed of 33 MHz and you want to run a CPU with an internal clock speed of 200 MHz, you need to set a clock multiplier of 6.

$$33\text{MHz (External Clock)} \times 6 \text{ (Clock Multiplier)} = 200\text{MHz}$$

or an effective setting of 200MHz

A table of CPU settings is provided at the end of this manual. Consult the table if you are unsure of the settings for your CPU, and you do not have access to the original documentation of the CPU.

Set the System Bus Speed, AGP and PCI clocks: J1, JP3, JP4

These jumpers are used to set the frequencies for the system bus, and also the frequencies for the AGP bus and the PCI bus.

System Bus	AGP Bus	PCI Bus	Short Pins				
			J1			JP3	JP4
124	83	41	11-13	18-20	19-21	1-2	2-3
112	75	37	11-13	19-21	20-22	1-2	2-3
100	66	33	9-11	17-19	18-20	1-2	2-3
95	64	32	11-13	17-19	18-20	1-2	2-3
83	66	33	9-11	17-19	20-22	1-2	1-2
75	75	37	9-11	18-20	19-21	2-3	1-2
66	66	33	9-11	19-21	20-22	2-3	1-2

Set Multiplier for CPU Clock (Multiplier x System Bus = CPU Clock): J1

J1 is used to set a multiplier for the system bus. The multiplier times the system bus speed produces the frequency for the CPU internal clock.

System Bus Multiplier	Short Pins		
X1.5	2-4	1-3	10-12
X2	4-6	1-3	10-12
X2.5	4-6	3-5	10-12
X3	2-4	3-5	10-12
X3.5	2-4	1-3	10-12
X4	4-6	1-3	12-14
X4.5	4-6	3-5	12-14

Clear CMOS Memory: JP1

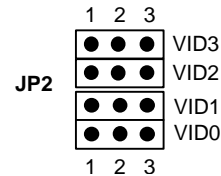
This jumper can be used to clear the contents of CMOS memory. Ensure that the jumper cap is placed on pins 1-2. If you ever need to clear the system CMOS memory, you can do this by moving the jumper cap to short pins 2-3 for a few seconds. When you clear the CMOS memory, the system must be turned off and the ATX power supply cable must be disconnected from the ATX power connector on the mainboard.

Function	Jumper Cap
Normal Operation	Short Pins 1-2
Clear CMOS memory	Short pins 2-3

Set CPU Core Voltage: JP2

This jumper is used to set the core voltage for the CPU.

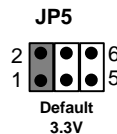
CPU Core Voltage	Short Pins			
	VID0	VID1	VID2	VID3
3.5V	1-2	1-2	1-2	1-2
3.4V	2-3	1-2	1-2	1-2
3.3V	1-2	2-3	1-2	1-2
3.2V	2-3	2-3	1-2	1-2
3.1V	1-2	1-2	2-3	1-2
3.0V	2-3	1-2	2-3	1-2
2.9V	1-2	2-3	2-3	1-2
2.8V	2-3	2-3	2-3	1-2
2.7V	1-2	1-2	1-2	2-3
2.6V	2-3	1-2	1-2	2-3
2.5V	1-2	2-3	1-2	2-3
2.4V	2-3	2-3	1-2	2-3
2.3V	1-2	1-2	2-3	2-3
2.2V	2-3	1-2	2-3	2-3
2.1V	1-2	2-3	2-3	2-3
1.2V	2-3	2-3	2-3	2-3



Set CPU I/O Voltage: JP5

Most processors use an I/O voltage of 3.3V. Some Cyrix processors need an I/O voltage of 3.52. The reserved setting is for testing purposes and cannot be used in normal operation.

Function	Jumper Cap
3.3V I/O Voltage	Short Pins 1-2
3.52V I/O Voltage	Short Pins 3-4
Reserved	Short Pins 5-6



Install the Mainboard in the System Case

Use the screws and mounting brackets supplied with your system case to install the mainboard. Follow the instructions provided by the case manufacturer.

Connect Devices, Switches and Indicators to the Mainboard

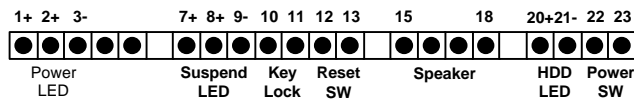
Note: You might not need to carry out every step in the following procedure. It depends on the options you are installing, and the features that are supported by your system case.

Note: Ribbon cables are usually keyed so that they can only be installed correctly on the device connector. If there is no key on a connector, you must manually ensure that the cable is installed correctly. Each connector has the pin-1 side clearly marked. The pin-1 side of each ribbon cable is always marked with a red stripe on the cable.

Internal Connections

1. Locate the floppy diskette drive connector FDD1. Use the ribbon cable to connect the one or two floppy diskettes to the mainboard.
2. Locate the Enhanced IDE connectors IDE1 (primary IDE) and IDE2 (secondary IDE). A single IDE cable is provided with the mainboard. Connect the cable to IDE1. The cable has two connectors for IDE devices. If you connect two devices, you must configure one device as Master, and one device as Slave. See the documentation provided with the devices for information on this. If you need to install more drives, obtain another IDE cable and connect one or two devices to IDE2 following the same procedure as you used with IDE1.
3. Locate the bank of switch and indicator Panel connectors PANEL1. These connectors provide control functions to your system case. Use the illustration and the table below to make the connections.

Function	Pinout
Power Indicator	+1, +2, 3
Green Indicator	+7, +8, 9
Key Lock	10, 11
Reset Switch	12, 13
Speaker	+15, 16, 17, 18
Hard Disk Indicator	+20, 21
Power Switch	+22, 23



4. Locate the power connector ATX1. Connect the power cable harness from the power supply unit to ATX1.
5. Locate the expansion slots ISA1 and ISA2 (for 8/16-bit ISA cards) and PCI 1,2,3,4 (for 32-bit PCI cards). Install any expansion cards you want to add to your system into the appropriate slot and secure the card bracket to the system case.
6. Locate the AGP slot. If you are adding an AGP display adapter to your system, insert the card into the AGP slot.
7. If you have installed an internal modem card, connect the modem to the Wake On Modem connector WOM1.
8. If you have installed a network adapter card, connect the adapter to the Wake On LAN connector WOL1.

9. As an option, you can install your system with a Standard Infrared port. If you install this option, connect the infrared port to the infrared connector SIR1.

***Note:** If you install an infrared port, it must share a COM port assignment with the second external serial port COM2. You can select which port is in use by using the setup utility.*

10. If your system case is installed with a separate cooling fan, you can connect the fan to the cooling fan power connector, CASE FAN2.

Chapter 3: Setup

About the Setup Utility

This chapter explains how to use and modify the BIOS setup utility that is stored on the mainboard. The setup utility stores information about the mainboard components, and the configuration of other devices that are connected to it. The system uses this information to test and initialize components when it is started up, and to make sure everything runs properly when the system is operating.

The setup utility is installed with a set of default values. The default values are designed to ensure that the system will operate adequately. You will probably have to make changes to the setup utility whenever you add new components to your system such as new disk drives. You may be able to generate increased performance by changing some of the timing values in the setup, but this can be limited by the kind of hardware you are using, for example the rating of your memory chips. In certain circumstances, the system may generate an error message which asks you to make changes to the setup utility. This happens when the system finds an error during the POST (power on self test) that it carries out at start up.

Starting the Setup Utility

You can only start the setup utility shortly after the computer has been turned on. A prompt appears on the computer display which says “*Press DEL to run Setup*”. When you see this prompt, press the **Delete** key, and the system will start the setup utility and display the main menu of the utility.

Using the Setup Utility

When you press the **Delete** key to start setup, the main menu of the utility appears.

The main menu of the setup utility shows a list of the options that are available in the utility. A highlight shows which option is currently selected. You can use the cursor arrow keys to move the highlight to other options. When an option is highlighted, you can execute the option by pressing the **Enter** key.

Some options lead to dialog boxes which ask you verify that that you wish to execute that option. You usually answer these dialogs by typing **Y** for yes and **N** for no.

Some options lead to dialog boxes which ask for more information. Setting the User Password or Supervisor Password have this kind of dialog box.

ROM PCI/ISA BIOS (P5UP-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

Some options lead to tables of items. These items usually have a value on the right side. The value of the first item is highlighted, and you can use the cursor arrow keys to select any of the other values in the table of items. When an item is highlighted, you can change the value by pressing the **PageUp** or **PageDown** keys, or the **Plus** or **Minus** keys. The **PageUp** and **Plus** keys cycle forward through the available values, the **PageDown** and **Minus** keys cycle backwards through the values.

When you are in the main menu, you can exit the utility by pressing the **Escape** key. You can save the current selections and exit the utility by pressing the **F10** key. You can change the color scheme of the utility by pressing the **F2** key while holding down the **Shift** key.

When you are in one of the options that displays a dialog box, you can return to the main menu by pressing the **Escape** key.

When you are in one of the options that displays a table of items, you can return to the main menu by pressing the **Escape** key. For some items, you can display a help message by pressing the **F1** key. You can change the color scheme of the utility by pressing the **F2** key while holding down the **Shift** key. You can press **F5** to discard any changes you have made and return all items to the value that they held when the setup utility was started. You can press **F6** to load the displayed items with a standard list of default values. You can press **F7** to load the displayed items with a high-performance list of default values.

Standard CMOS Setup Option

This option displays a table of items which defines basic information about your system.

ROM PCI/ISA BIOS (P5UP-A+)
STANDARD CMOS SETUP
AWARD SOFTWARE, INC.

Date (mm:dd:yy) : Wed, Sep 9 1998 Time (hh:mm:ss) : 9 : 34 : 59								
HARD DISKS	TYPE	SIZE	CYLS	HEAD	PRECOMP	LANDZ	SECTOR	MODE
Primary Master	: Auto	0	0	0	0	0	0	NORMAL
Primary Slave	: Auto	0	0	0	0	0	0	NORMAL
Secondary Master	: Auto	0	0	0	0	0	0	NORMAL
Secondary Slave	: Auto	0	0	0	0	0	0	NORMAL
Drive A : 1.44M, 3.5 in. Drive B : None Floppy 3 Mode Support : Disabled				Base Memory : 0K Extended Memory : 0K Other Memory : 512K				
Video : EGA/UGA Halt On : All Errors				Total Memory : 512K				
ESC : Quit		↑ ↓ → ← : Select Item		PU/PD/+/- : Modify				
F1 : Help		(Shift)F2 : Change Color						

Date and Time

The Date and Time items show the current date and time held by your computer. If you are running a Windows operating system, these items will automatically be updated whenever you make changes to the Windows Date and Time Properties utility.

Hard Disks

Defaults: Auto

These items show the characteristics of any hard disk drives on the four available IDE channels. (Note that SCSI hard disk drives do not appear here.) You can automatically install most modern hard disks using the IDE HDD Auto Detect Option from the main menu. However, if you find that a drive cannot be automatically detected, you can use these items to select USER, and then manually enter the characteristics of the drive. The documentation provided with your drive provides the data you need to fill in the values for CYLS (cylinders), HEAD (read/write heads), and so on.

The documentation provided with the drive may not tell you what value to use under the MODE heading. If the drive is smaller than 528 MB, set MODE to Normal. If the drive is larger than 528 MB and it supports Logical Block Addressing, set MODE to LBA. Very few high-capacity drives do not support Logical Block Addressing. If you have such a drive, you might be able to configure it by setting the MODE to Large. If you're not sure which MODE setting is required by your drive, set MODE to Auto and let the setup utility try to determine the mode automatically.

Drive A and Drive B

Default: 1.44M, 3.5 in/None

These items define the characteristics of any diskette drive attached to the system. You can connect one or two diskette drives.

Floppy 3 Mode Support**Default: Disabled**

Floppy 3 Mode is a special mode that supports 3.5" diskettes with a capacity of 1.2 MB. Outside of Japan, very few people use this kind of diskette.

Video**Default: EGA/VGA**

This item defines the video mode of the system. This mainboard has a built-in VGA graphics system so you must leave this item at the default value.

Halt On**Default: All Errors**

This item defines the operation of the system POST (Power On Self Test) routine. You can use this item to select which kind of errors in the POST are sufficient to halt the system.

Base, Extended and Other Memory.

These items show how much memory is available on the system. They are automatically detected by the system so you cannot manually make changes to these items.

BIOS Feature Setup Option

This option displays a table of items which defines more advanced information about your system. You can make modifications to most of these items without introducing fatal errors to your system.

ROM PCI/ISA BIOS (P50P-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	: Enabled	D0000-D3FFF Shadow	: Disabled
Boot From LAN First	: Enabled	D4000-D7FFF Shadow	: Disabled
Boot Sequence	: A,C,SCSI	D8000-DBFFF Shadow	: Disabled
Swap Floppy Drive	: Disabled	DC000-DFFFF Shadow	: Disabled
Boot Up Floppy Seek	: Enabled		
Boot Up NumLock Status	: On		
Gate A20 Option	: Fast		
Memory Parity/ECC Check	: Disabled		
Security Option	: Setup		
IDE Second Channel Control	: Enabled		
PCI/UGA 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	

Virus Warning**Default: Disabled**

When this item is enabled it provides some protection against viruses which try to write to the boot sector and partition table of your hard disk drive. This item is disabled as a default so that you can install an operating system. We recommend that you enable Virus Warning as soon as you have installed your disk with an OS.

CPU Internal Cache**Default: Enabled**

All the processors that can be installed in this mainboard use internal (level 1) cache memory to improve performance. Leave this item at the default value Enabled for better performance.

External Cache**Default: Enabled**

This mainboard is installed with external (level 2) cache memory to improve performance. Leave this item at the default value Enabled for better performance.

Quick Power On Self Test**Default: Enabled**

You can enable this item to shorten the power on testing and have your system start up a little faster. You might like to enable this item after you are confident that your system hardware is operating smoothly.

Boot From LAN First**Default: Enabled**

If you enable this item, your system will try to boot from a remote server on the network, before trying to boot from a local hard disk or diskette.

Boot Sequence**Default: A,C,SCSI**

This item defines where the system will look for an operating system, and the order of priority. You can boot an operating system from many locations including a SCSI device, a ZIP drive, a floppy diskette drive or an LS-120 high-capacity diskette drive.

Swap Floppy Drive**Default: Disabled**

If you have two floppy diskette drives in your system, this item allows you to swap around the assigned drive letters so that drive A becomes drive B, and drive B becomes drive A.

Boot Up Floppy Seek**Default: Enabled**

If this item is enabled, the system will check the number of tracks on any floppy disk drives that are installed. This is required in order to detect 360 KB floppy diskette drives. If you don't have this kind of drive, we recommend that you disable this item so that the system boots in a shorter time.

Boot Up NumLock Status**Default: On**

This item defines if the keyboard Num Lock key is active when your system is started.

Gate A20 Option**Default: Fast**

This option provides compatibility with older software written for the 286 processor. Leave this item at the default value Fast.

Memory Parity/ECC Check**Default: Disabled**

This mainboard supports memory with a parity bit or memory with error correction code. If you have installed this kind of memory, you can set this item to Enabled..

Security Option**Default: Setup**

If you have installed password protection, this item defines if the password is required at system start up, or if it is only required when a user tries to enter the setup utility.

IDE Second Channel Control**Default: Enabled**

If you have more than one hard disk connected to the IDE channel, set this item to enabled to improve the access time to the disks. If you only have one hard disk drive installed, disable this item.

PCI/VGA Palette Snoop**Default: Disabled**

This item is designed to overcome some problems that can be caused by some non-standard VGA cards. This board includes a built-in VGA system that does not require palette snooping so you must leave this item disabled.

OS Select For DRAM > 64 MB**Default: Non-OS2**

This item is only required if you have installed more than 64 MB of memory and you are running the OS/2 operating system. Otherwise, leave this item at the default Non-OS2.

Video BIOS Shadow**Default: Enabled**

This item allows the video BIOS to be copied to system memory for faster performance.

XXXXX-XXXXX Shadow**Default: Disabled**

These items allow the BIOS of other devices to be copied to system memory for faster performance.

Chipset Features Option

This option displays a table of items that define critical timing parameters of the mainboard components including the CPU, the memory, and the system logic.

As a general rule, you should leave the items on this page at their default values unless you are very familiar with the technical specifications of your system hardware. If you change the values, or load the optimum settings, you may introduce fatal errors or recurring instability into your system. The item list below shows only the default values for some items.

ROM PCI/ISA BIOS (P50P-A+)
CMOS SETUP UTILITY
CHIPSET FEATURES SETUP

Bank 0/1 DRAM Timing : Normal	CPU Warning Temperature : Disabled
Bank 2/3 DRAM Timing : Normal	Current CPU Temperature :
Bank 4/5 DRAM Timing : Normal	CPUFAN :
SDRAM Cycle Length : 3	SYSPAN :
DRAM Read Pipeline : Enabled	Current Vin3(V) :
Sustained 3T Write : Enabled	Current Vin1(V) :
Cache Rd+CPU Wt Pipeline : Enabled	Current Vin2(V) :
Cache Timing : Fast	Current Vdd(V) :
Video BIOS Cacheable : Enabled	
System BIOS Cacheable : Enabled	
Memory Hole At 15Mb Addr. : Disabled	
AGP Aperture Size : 64M	
	ESC : Quit F4+* : Select Item
	F1 : Help PU/PD/+/- : Modify
	F5 : Old Values (Shift)F2 : Color
	F6 : Load BIOS Defaults
	F7 : Load Setup Defaults

Bank 0/1 DRAM Timing**Default: Normal****Bank 2/3 DRAM Timing****Default: Normal****Bank 4/5 DRAM Timing****Default: Normal**

These items define the timing parameters for the system memory. We recommend that you leave these items at the default values Normal.

SDRAM Cycle Length**Default: 3**

This item sets the number of CPU cycles between SDRAM refresh. If insufficient time is allowed, refresh may be incomplete and data can be lost. We recommend that you leave this item at the default value.

DRAM Read Pipeline**Default: Enabled**

When this item is enabled, the performance of the DRAM bus speed is faster. We recommend that you leave this item at the default value enabled.

Sustained 3T Write**Default: Enabled**

This item controls the timing of writes to memory. We recommend that you leave this item at the default value Enabled.

Cache Rd+CPU Wt Pipeline**Default: Enabled**

When this item is enabled, the transfer speed from cache to RAM is faster. We recommend that you leave this item at the default value Enabled.

Cache Timing**Default: Fast**

This item controls the timing of the cache memory scheme. We recommend that you leave this item at the default value Fast.

Video BIOS Cacheable**Default: Enabled****System BIOS Cacheable****Default: Enabled**

These two items allow the system and video BIOS to be cached for faster performance. We recommend that you leave these items at the default value Enabled.

Memory Hole at 15M-16Mb Addr.**Default: Disabled**

This item can be used to reserve memory space for some ISA cards that require it. We recommend that you leave this item at the default value Disabled.

AGP Aperture Size**Default: 64M**

This item defines the size of the aperture for the Accelerated Graphics Port. The aperture is a portion of the PCI memory address range dedicated for graphics memory address space.

Right Side Items

The items on the right side of the Chipset Features option are concerned with monitoring certain temperatures, voltages, and so on in your system. These items do not function unless you have installed an optional system monitoring chip on your mainboard.

Power Management Setup Option

This option displays a table of items which lets you control the power management of the system. Modern operating systems take care of much of the routine power management.

This system supports three levels of power-saving modes; doze mode, standby mode, and suspend mode. Standby mode uses less power than doze mode and suspend mode uses the least power.

The power management in the setup utility lets you specify a timeout for each of the power-saving modes, and a timeout for a hard disk drive power down. A timeout,

means a period of time when the system (or the hard disk drive) is inactive. If the timeout completes, the system power-saving mode will execute, or the hard disk drive will power down.

You can resume from the power-saving modes by carrying out any of the activities which are enabled in the list ***PM Events***. If the hard disk has been powered down it will automatically resume to full power when an access to the hard disk is required (this takes just a few seconds).

ROM PCI/ISA BIOS (P5UP-A+)
POWER MANAGEMENT SETUP
AWARD SOFTWARE, INC.

Power Management : User Define	Primary INTR : ON
PM Control by APM : Yes	IRQ3 (COM 2) : Primary
Video Off Option : Suspend -> Off	IRQ4 (COM 1) : Primary
Video Off Method : DPMS Support	IRQ5 (LPT 2) : Primary
MODEM Use IRQ : 3	IRQ6 (Floppy Disk) : Primary
Soft-Off by PWRBTN : Delay 4 Sec	IRQ7 (LPT 1) : Primary
** PM Timers **	IRQ8 (RTC Alarm) : Disabled
HDD Power Down : Disable	IRQ9 (IRQ2 Redir) : Secondary
Doze Mode : Disable	IRQ10 (Reserved) : Secondary
Suspend Mode : Disable	IRQ11 (Reserved) : Secondary
** PM Events **	IRQ12 (PS/2 Mouse) : Primary
UGA : OFF	IRQ13 (Coprocesor) : Primary
LPT & COM : LPT/COM	IRQ14 (Hard Disk) : Primary
HDD & FDD : OFF	IRQ15 (Reserved) : Disabled
HDD Down In Suspend : Disabled	
Modem Ring Resume : Disabled	ESC : Quit F10+ : Select Item
RTC Alarm Resume : Disabled	F1 : Help PU/PD/+/- : Modify
	F5 : Old Values (Shift) F2 : Color
	F6 : Load BIOS Defaults
	F7 : Load Setup Defaults

Power Management

Default: User Define

This item acts like a master switch for the power-saving modes and hard disk timeouts. If this item is set to Disabled, all the power-saving modes are disabled. If this item is set to Max Saving, doze, standby, and suspend mode, will occur after a timeout of 20 seconds. If this item is set to Min Saving, doze, standby, and suspend mode will occur after a timeout of 40 minutes. If the item is set to User Define, you can insert your own timeouts for the power-saving modes.

PM Control by APM

Default: Yes

Windows 95 and 98 have built-in power management capabilities called APM (advanced power management). When you enable this item, you allow the APM routines in Windows to operate on your system.

Video Off Option

Default: Suspend -> Off

This option defines which level of power-saving mode is required in order to power down the video display. As a default, the video powers down in suspend mode but not standby mode.

Video Off Method

Default: DPMS Support

This item defines how the video is powered down to save power. As a default, this is set to DPMS Support (display power management software).

Modem Use IRQ**Default: 3**

If you would like an incoming call on a modem to automatically resume the system from suspend mode, use this item to specify the interrupt request line (IRQ) that is used by the modem.

Soft-Off by PWRBTN**Default: Delay 4 sec**

Under ACPI (advanced configuration and power interface) the system can be turned off mechanically (by the power button) or it can undergo a software power off. If the system has been turned off by software, the system can be resumed by a LAN, MODEM or ALARM wake up signal. This item allows you to define a software power off using the power button. If the value is set to Instant-Off, the power button will automatically cause a software power off. If the value is set to Delay 4 Sec. the power button must be held down for a full four seconds to cause a software power off.

HDD Power Down**Default: Disabled**

You can use this item to set a timeout for a hard disk powerdown. You can set a time from 1 to 15 minutes. If the hard disk is inactive for the time specified, it will power down. It will automatically return to full power when it is next accessed.

Doze Mode**Default: Disabled**

If you have selected User Define for the Power Management item, you can set this item to a selection of timeouts from 20 seconds to 40 minutes.

Suspend Mode**Default: Disabled**

If you have selected User Define for the Power Management item, you can set this item to a selection of timeouts from 20 seconds to 40 minutes.

VGA**Default: Off**

When this item is enabled, any activity on the graphics system can reset power-saving mode timeouts to zero, or resume the system from a power saving mode.

LPT & COM**Default: LPT/COM**

When this item is enabled, it defines system activities which can reset power-saving mode timeouts to zero, or resume the system from a power saving mode. This item is for transmissions through the serial or parallel ports.

HDD & FDD**Default: Off**

When this item is enabled, it defines system activities which can reset power-saving mode timeouts to zero, or resume the system from a power saving mode. This item is for hard disk and/or diskette drive activity.

HDD Down in Suspend**Default: Disabled**

This item determines if the hard disk drive is powered down when the system is placed in suspend mode.

Modem Ring Resume**Default: Disabled**

This item allows you to enable or disable the modem wakeup function which is a feature of this motherboard. When enabled, it will resume the system from any of the power-saving modes.

RTC Alarm Resume**Default: Disabled**

This item lets you install a wakeup alarm, which resumes the system from a power saving mode at a fixed date and time. When the item is enabled, new items appear which allow you to set the date and time of the alarm.

Primary INTR**Default: On**

This item acts like a master switch for all the interrupt items that follow. If this item is set to ON, the all the following interrupts can be manually configured to act as resets for the power saving timeouts. If this item is set to OFF, then all the following interrupt items cannot be used to reset the power saving timeouts.

IRQX

These interrupt events can act as triggers to reset the power saving timeouts or other system maintenance tasks. If you set an interrupt event to Primary, any activity on that interrupt will reset the timeouts that use the primary timer (e.g. the power saving modes). If you set an interrupt to Secondary, then any activity on the interrupt will reset those timeouts that use the secondary timer (usually background maintenance tasks). If you set an interrupt event to Disabled, any activity on the interrupt will not reset the timeouts.

PNP/PCI Configuration Option

This option displays a table of items that configures how PNP (Plug and Play) and PCI expansion cards operate in your system. If you have not installed a riser card with expansion slots, you do not need to make any changes to this option.

ROM PCI/ISA BIOS (P50P-A+)
PNP/PCI CONFIGURATION
AWARD SOFTWARE, INC.

PNP OS Installed : No	Assign IRQ For USB : Enabled
Resources Controlled By : Auto	Assign IRQ For VGA : Enabled
Reset Configuration Data : Disabled	
ACPI I/O Device Node : Enabled	
	ESC : Quit ↑↓←→ : Select Item
	F1 : Help PU/PD/+/- : Modify
	F5 : Old Values (Shift)F2 : Color
	F6 : Load BIOS Defaults
	F7 : Load Setup Defaults

PNP OS Installed**Default: No**

If you have installed a Plug and Play operating system such as Windows 95 or 98, you can change this item to Yes. When the item is set to Yes you can use the Device Manager utility in the operating system to make changes to the configuration of expansion cards.

Resources Controlled By**Default: Auto**

You should leave this item at the default Auto. If you find that you cannot get a particular expansion card to work properly, you might be able to solve the problem by changing this item to Manual, and defining the characteristics of the card in the new items which appear.

If you change this item to Manual, the display will list a series of items that allow you to define the assignments of the system interrupt lines (IRQs) and Direct Memory Access (DMA) channels. As a default, these items are set to PCI/ISA PnP. If you install an ISA-bus card that does not support PNP, and it requires a special IRQ and DMA, you can modify the list of assignments. Change the values of the IRQ and DMA that are required to Legacy ISA.

Reset Configuration Data**Default: Disabled**

If you enable this item and restart the system, any PNP configuration data stored in the BIOS setup will be cleared from memory. New updated configuration data will be created.

ACPI I/O Device Mode**Default: Enabled**

This item is used for system development and diagnostics. Leave this item at the default value Enabled.

Assign IRQ for USB**Default: Enabled**

When this item is enabled, the system will assign an IRQ to the USB ports.

Assign IRQ for VGA**Default: Enabled**

When this item is enabled, the system will assign an IRQ to the VGA system

Load BIOS Defaults Option

This option displays a dialog box which allows you to install BIOS defaults for all appropriate items in the whole setup utility. Press the **Y** key and then the **Enter** key to install the defaults. Press the **N** key and then **Enter** to not install the defaults. The BIOS defaults do not place great demands on the system and are generally very stable. If your system is not functioning correctly, you might like to install the BIOS defaults as a first step in getting your system working properly again. If you only want to install BIOS defaults for a specific option, select and display that option, and then press the **F6** key.

Load Setup Defaults Option

This option displays a dialog box which allows you install optimum defaults for all appropriate items in the whole setup utility. Press the **Y** key and then the **Enter** key to install the defaults. Press the **N** key and then **Enter** to not install the defaults. The optimum defaults can place some demands on the system that are greater than the performance level of the components, such as the processor and the memory. You could cause fatal errors or recurring instability if you install the optimum defaults when your hardware does not support it. If you only want to install optimum settings defaults for a specific option, select and display that option, and then press the **F7** key.

Integrated Peripherals Option

This option displays a list of items which defines the operation of some peripheral items on the system's input/output ports.

ROM PCI/ISA BIOS (P5VP-A+)
INTEGRATED PERIPHERALS
AWARD SOFTWARE, INC.

OnChip IDE First Channel : Enabled	Onboard Parallel Port : 378/IRQ7
OnChip IDE Second Channel: Enabled	Onboard Parallel Mode : SPP
IDE Prefetch Mode : Enabled	ECP Mode Use DMA : 3
IDE HDD Block Mode : Enabled	Parallel Port EPP Type : EPP1.9
IDE Primary Master PIO : Auto	USB Controller : Enabled
IDE Primary Slave PIO : Auto	USB Keyboard Support : Disabled
IDE Secondary Master PIO : Auto	
IDE Secondary Slave PIO : Auto	
IDE Primary Master UDMA : Auto	
IDE Primary Slave UDMA : Auto	
IDE Secondary Master UDMA: Auto	
IDE Secondary Slave UDMA: Auto	
Init Display First : PCI Slot	
Onboard FDD Controller : Enabled	ESC : Quit ↑↓←→ : Select Item
Onboard Serial Port 1 : 3F8/IRQ4	F1 : Help PU/PD/+/- : Modify
Onboard Serial Port 2 : 2F8/IRQ3	F5 : Old Values (Shift)F2 : Color
UART 2 Mode : Standard	F6 : Load BIOS Defaults
IR Function Duplex : Half	F7 : Load Setup Defaults
RxD , TxD Active : Hi,Hi	

OnChip IDE First Channel **Default: Enabled**

OnChip IDE Second Channel **Default: Enabled**

You can use this item to enable or disable the primary and secondary IDE channels that are built into this mainboard. When one or both channels are enabled (the default value is Both) items appear which allow you to set the PIO (programmable input/output) mode and the UltraDMA mode for master and slave devices on the channels. We recommend that you leave these items at the default value Auto. The system will then automatically use the best performance PIO mode and UltraDMA mode for each device.

IDE Prefetch Mode **Default: Enabled**

The built-in IDE drive interfaces support IDE prefetching for faster drive accesses. If you use an alternate IDE interface (on an expansion card, disable this field if the alternate IDE interface does not support prefetching.

IDE HDD Block Mode **Default: Enabled**

IDE hard disks can deliver better performance if they use block mode transfer. Most modern hard disk drives support block mode transfers so this item is Enabled as a default.

IDE Primary Master PIO **Default: Auto**

IDE Primary Slave PIO **Default: Auto**

IDE Secondary Master PIO **Default: Auto**

IDE Secondary Slave PIO **Default: Auto**

Each IDE channel supports a master device and a slave device. These four items let you assign which kind of PIO (Programmed Input/Output) is used by IDE devices. You can choose Auto, to let the system auto detect which PIO mode is best, or you can install a PIO mode from 0-4.

IDE Primary Master UDMA	Default: Auto
IDE Primary Slave UDMA	Default: Auto
IDE Secondary Master UDMA	Default: Auto
IDE Secondary Slave UDMA	Default: Auto

Each IDE channel supports a master device and a slave device. This motherboard supports UltraDMA. UltraDMA technology provides faster access to IDE devices. If you install a device which supports UltraDMA, change the appropriate item on this list to Auto. You may have to install the UltraDMA driver supplied with this motherboard in order to use an UltraDMA device.

Init Display First	Default: PCI Slot
---------------------------	--------------------------

Use this item to define if your graphics adapter is installed in one of the PCI slots, or if you have installed an AGP graphics adapter into the AGP slot.

Onboard FDC Controller	Default: Enabled
-------------------------------	-------------------------

This item enables or disables the floppy diskette drive controller built into this mainboard.

Onboard Serial Port 1	Default: 3F8/IRQ4
------------------------------	--------------------------

This item lets you disable the built-in serial port 1, or enable it by assigning an I/O address and an Interrupt Request Line (IRQ).

Onboard Serial Port 2	Default: 2F8/IRQ3
------------------------------	--------------------------

This item lets you disable the built-in serial port 2, or enable it by assigning an I/O address and an Interrupt Request Line (IRQ).

UART 2 Mode	Default: Standard
--------------------	--------------------------

This item defines the operation of serial port 2. In the default Standard setting, serial port 2 is assigned to the connector on the mainboard. If you have installed an optional infrared port, you must change the setting of this item to either HPSIR, or ASKIR. These settings will disable the mainboard serial port connector and assign serial port 2 to the infrared device. HPSIR prepares the port to receive infrared communications using the IrDA serial infrared standard. ASKIR prepares the port to receive infrared communications using the ASK serial infrared standard. The ASK standard is supported by many devices made by the Sharp Corporation. If you have selected an IR mode, you can use the following two items IR Function Duplex, and RxD, TxD Active to set the parameters of the infrared port. See the documentation for the infrared port for information on these items.

Onboard Parallel Port	Default: 378/IRQ7
------------------------------	--------------------------

This item lets you disable the built-in parallel port, or enable it by assigning an I/O address and an Interrupt Request Line (IRQ).

Onboard Parallel Mode	Default: SPP
------------------------------	---------------------

This item defines the operation of the parallel port. As a default it is set to SPP (standard parallel port). If you are connected to a parallel device that supports the higher-performance EPP (enhanced parallel port) or the ECP (extended capabilities port) make the appropriate changes to this item. If you change the parallel port to EPP or ECP, new items appear to let you configure the EPP and ECP modes.

USB Controller	Default: Enabled
-----------------------	-------------------------

This mainboard has a built-in USB (universal serial bus) port. If you connect an optional USB port to your system, use this item to enable the port.

USB Keyboard Support**Default: Disabled**

If you connect a USB keyboard to your system, enable this item.

Password Settings

This item can be used to install a password. To install a password, follow these steps:

1. Highlight the item Password Settings on the main menu and press **Enter**.
2. The password dialog box will appear.
3. If you are installing a new password, carefully type in the password. You cannot use more than 8 characters or numbers. The password will differentiate between upper case and lower characters. Press **Enter** after you have typed in the password. If you are deleting a password that is already installed just press **Enter** when the password dialog box appears.
4. The system will ask you to confirm the new password by asking you to type it in a second time. Carefully type the password again and press **Enter**, or just press **Enter** if you are deleting a password that is already installed.
5. If you typed the password correctly, the password will be installed.

IDE HDD Auto Detection Option

This item automatically detects and installs any hard disk drives installed on the primary and secondary IDE channel. Most modern drives can be detected. If you are using a very old drive that can't be detected, you can install it manually using the Standard CMOS Setup option.

Setup will check for two devices on the primary IDE channel and then two devices on the secondary IDE channel. At each device, the system will flash an N in the dialog box. Press **Enter** to skip the device and proceed to the next device. Press **Y**, then **Enter** to tell the system to auto-detect the device.

Save And Exit Setup Option

Highlight this item and press **Enter** to save the changes that you have made in the setup utility and exit the setup program. When the Save and Exit dialog box appears, press **Y** to save and exit, or press **N** to return to the setup main menu.

Exit Without Saving Option

Highlight this item and press **Enter** to discard any changes that you have made in the setup utility and exit the setup program. When the Exit Without Saving dialog box appears, press **Y** to discard changes and exit, or press **N** to return to the setup main menu.

Chapter 4: Software

About the Software

The support software for this mainboard may be supplied on a CD-ROM, or it may be supplied on a diskette or diskettes. All the support programs are stored in separate folders, so you can find the program you need easily enough. The support software contains the following programs:

- Power Management Patch (for WIN 95/98 only)
- Award Flash Memory Utility
- Bus Master IDE Drivers (for WIN 95/98 and WIN NT)
- IRQ Routing Driver (for WIN 95/98 only)
- VxD Driver for AGP (for WIN 95/98 only)

Most of the support software folders have README files. Always read these files before beginning an installation. They may contain important information not listed in this manual.

Installing the IDE Bus Master Driver

The IDE Bus Master Drivers are stored in a folder named IDE.

Windows 95/98 Installation

1. Click the Windows Start button, and then click on Run.
2. Browse to the folder IDE and select the program called SETUP.EXE.
3. Click on the Install button on the setup screen.
4. Follow the instructions on the screen to complete the installation of the Bus Mastering IDE drivers.

Installing the VxD Driver

The VxD driver provides support for an AGP graphics adapter. You only need to install this driver if you are running Windows 95, and you have installed the mainboard with an AGP graphics adapter.

The VIA VxD driver is for use in Windows 95 version OSR 2.1 (4.00.950 B) or later.

Windows 95 Installation

You need the following files installed on your system before beginning the installation:

1. Get the file "USBSUPP.EXE" from Microsoft, which includes the USB supplement and a new memory manager (VMM32.VxD) needed for the AGP DIME (Direct Memory Execute) feature.
2. Get DirectX 5.0 from Microsoft. DirectX 5.0 is the first DirectX version that supports AGP's DIME.
3. Get AGP Master (i.e., AGP VGA) Driver from the vendor of your AGP graphics adapter.
4. Get "VIAGART.VXD", a virtual device manager which usually will be installed in the following installation procedure of the Windows 95 card driver.

Installation Instructions

1. Click the Windows Start button, and then click on Run.
2. Browse to the correct folder and select the program called SETUP.EXE.
3. Follow the instructions on the screen to complete the installation.

Installing the Power Management Patch

This patch allows Win 95/98 to recognize the VIA chipset in the system device manager.

Windows 95/98 Installation

1. Click the Windows Start button, and then click on Run.
2. Browse to the correct folder and select the program called SETUP.EXE.
3. Follow the instructions on the screen to complete the installation.

Installing the IRQ Routing Driver

This driver is for Windows 95/98. This driver solves some issues regarding the IRQ assignment of PCI devices.

Windows 95/98 Installation

1. Click the Windows Start button, and then click on Run.
2. Browse to the correct folder and select the program called SETUP.EXE.
3. Follow the instructions on the screen to complete the installation.

Award Flash Memory Utility

This utility lets you erase the system BIOS that is stored on the system motherboard on a Flash Memory chip, and lets you write a new or updated BIOS onto the chip. Take care how you use this program. If you erase the current BIOS and fail to write a new BIOS, or write a new BIOS that is unsuitable, your system will malfunction.

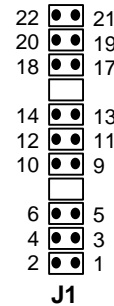
The flash memory utility is called AWDFLASH.EXE. To use this utility, you must be in real-mode DOS (not the DOS box that is available in Windows 95/98/NT). If you are using WINDOWS 95/98, shut down your computer and select the option Restart in DOS in the shut-down dialog box. If you are running Windows NT, shut down your

computer and boot from a DOS diskette temporarily in order to run the flash memory utility.

Appendix 1: Quick Jumper Setting Reference

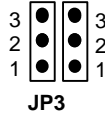
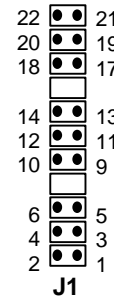
J1: Set Multiplier for CPU Clock (Multiplier x System Bus = CPU Clock)

System Bus Multiplier	Short Pins		
X1.5	2-4	1-3	10-12
X2	4-6	1-3	10-12
X2.5	4-6	3-5	10-12
X3	2-4	3-5	10-12
X3.5	2-4	1-3	10-12
X4	4-6	1-3	12-14
X4.5	4-6	3-5	12-14



J1, JP3, JP4: Set Frequencies for System Bus, AGP Bus, PCI Bus (MHz)

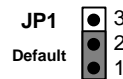
System Bus	AGP Bus	PCI Bus	Short Pins				
			J1		JP3	JP4	
124	83	41	11-13	18-20	19-21	1-2	2-3
112	75	37	11-13	19-21	20-22	1-2	2-3
100	66	33	9-11	17-19	18-20	1-2	2-3
95	64	32	11-13	17-19	18-20	1-2	2-3
83	66	33	9-11	17-19	20-22	1-2	1-2
75	75	37	9-11	18-20	19-21	2-3	1-2
66	66	33	9-11	19-21	20-22	2-3	1-2



JP1: Clear CMOS Memory

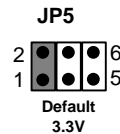
This jumper can be used to clear the contents of CMOS memory.

Function	Jumper Cap
Normal Operation	Short Pins 1-2
Clear CMOS memory	Short pins 2-3



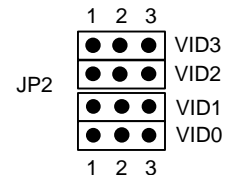
JP5: Set CPU I/O Voltage

Function	Jumper Cap
3.3V I/O Voltage	Short Pins 1-2
3.52V I/O Voltage	Short Pins 3-4
Reserved	Short Pins 5-6



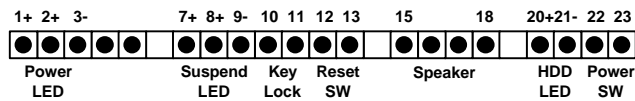
JP2: Set CPU Core Voltage

CPU Core Voltage	Short Pins			
	VID0	VID1	VID2	VID3
3.5V	1-2	1-2	1-2	1-2
3.4V	2-3	1-2	1-2	1-2
3.3V	1-2	2-3	1-2	1-2
3.2V	2-3	2-3	1-2	1-2
3.1V	1-2	1-2	2-3	1-2
3.0V	2-3	1-2	2-3	1-2
2.9V	1-2	2-3	2-3	1-2
2.8V	2-3	2-3	2-3	1-2
2.7V	1-2	1-2	1-2	2-3
2.6V	2-3	1-2	1-2	2-3
2.5V	1-2	2-3	1-2	2-3
2.4V	2-3	2-3	1-2	2-3
2.3V	1-2	1-2	2-3	2-3
2.2V	2-3	1-2	2-3	2-3
2.1V	1-2	2-3	2-3	2-3
1.2V	2-3	2-3	2-3	2-3



PANEL1: Connectors for Case Switches and LEDs

Function	Pinout
Power Indicator	+1, +2, 3
Green Indicator	+7, +8, 9
Key Lock	10, 11
Reset Switch	12, 13
Speaker	+15, 16, 17, 18
Hard Disk Indicator	+20, 21
Power Switch	+22, 23



Appendix 2: CPU Settings Table

The table below shows the parameters for a range of socket-7 CPUs

Intel Pentium CPUs (including MMX)

<i>Internal Clock MHz</i>	<i>External Clock MHz</i>	<i>Clock Multiplier</i>
100	66	X 1.5
133	66	X 2.0
166	66	X 2.5
200	66	X 3.0
233	66	X 3.5

Cyrix/IBM CPUs 6X86 & 6X86L Series

<i>Internal Clock MHz</i>	<i>External Clock MHz</i>	<i>Clock Multiplier</i>
P166+ (133)	66	X 2.0
P200+ (150)	75	X 2.0

Cyrix/IBM CPUs MII/6X86MX Series

<i>Internal Clock MHz</i>	<i>External Clock MHz</i>	<i>Clock Multiplier</i>
PR166 (133)	66	X 2.0
PR200 (166)	66	X 2.5
PR233 (200)	66	X 3.0
PR200 (150)	75	X 2.0
PR233 (188)	75	X 2.5
PR300 (225)	75	X 3.0
PR233 (166)	83	X 2.0
PR266 (108)	83	X 2.5
PR333 (250)	83	X 3.0

AMD K5 Series

<i>Internal Clock MHz</i>	<i>External Clock MHz</i>	<i>Clock Multiplier</i>
PR100 (100)	66	X 1.5
PR133 (133)	66	X 2.0
PR166 (166)	66	X 2.5

AMD K6 Series

<i>Internal Clock MHz</i>	<i>External Clock MHz</i>	<i>Clock Multiplier</i>
PR166 (166)	66	X 2.5
PR200 (200)	66	X 3.0
PR233 (233)	66	X 3.5
PR266 (266)	66	X 4.0
PR300 (300)	66	X 4.5

AMD K6/2 Series

<i>Internal Clock MHz</i>	<i>External Clock MHz</i>	<i>Clock Multiplier</i>
PR333 (333)	95	3.5
PR300 (300)	100	3.0
PR350 (350)	100	3.5

Notes on the Table

- ❑ The internal clock speed of the CPU is supposed to be fixed, so always treat the other two factors, the external clock and the clock multiplier as the variable items which have to be changed to produce the desired internal clock. The CPU manufacturer or vendor should provide information on the settings of these items.
- ❑ Cyrix, IBM, and AMD all make Pentium-class CPUs. Sometimes, when they name a CPU, they do not use the actual internal clock speed. Instead, they name the CPU according to its performance, using standard Pentium CPUs as a benchmark. Therefore the Cyrix P166 is rated as 166 MHz performance, but its actual internal clock is 133 MHz. For all non-Intel CPUs in the table, the name of the CPU is followed by a figure in brackets. The figure in brackets is the true internal clock speed of the CPU, and it is not always the same as the figure in the name of the CPU. Always use the figure in brackets when calculating the CPU settings.
- ❑ The CPU settings table will be revised at every opportunity. If you have a new CPU which does not appear on the table, check with the manufacturer or vendor for the CPU settings information.