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Version 1.0

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.

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Chapter 1: Introduction

Welcome

Congratulations on your purchase of the P6BA-A+ mainboard. This mainboard delivers workstation-level performance by supporting the latest and most powerful Intel Pentium-II processors. In addition, it adopts the new Advanced Graphics Port (AGP) and can be installed with a large capacity of fast SDRAM memory modules.

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 P6BA-A+ Mainboard
- ✓ 1 x Cable/Bracket Pack
 - Diskette drive ribbon cable
 - IDE drive ribbon cable
 - Retention Module (for Pentium-II / Celeron Cartridge)
- ✓ This User's Manual
- ✓ Software Support CD-ROM Disk or diskettes

Optional Items

- ✓ System Hardware Monitor IC chip (W83871D)

Features

The key features of the P6BA-A+ mainboard are the high-level of performance and the system support for the latest technologies in personal computing. The P6BA-A+ supports the most powerful processors and graphics sub-systems so that it challenges the performance levels of UNIX-based graphics workstations.

The mainboard also supports state-of-the-art network management software and system monitoring hardware. A P6BA-A+ based system can easily provide an energy efficient workstation or client file server.

High-Performance Processing

The processor Slot-1 (plus the retention module) supports the latest high-performance Pentium-II processors from Intel. The mainboard uses the latest Pentium-II support logic chips. This chipset also supports a 100 MHz host and memory bus.

Configuration without Jumpers

The P6BA-A+ uses the system BIOS to set the processor clock and voltage so that system configuration for all supported processors can be made using firmware.

Ultra-fast Graphics

The mainboard has a built-in Advanced Graphics Port (AGP) so that you can optionally install any of the new generation of AGP cards. The system meets the AGP

1.0 standard with support for 1X/2X speed transfers and BIOS control of the memory display buffer.

High-capacity Memory Support

The P6BA-A+ has three DIMM (dual in-line memory module) sockets. The sockets can be installed with 3.3 Volt unbuffered SDRAM modules. Each memory module can have up to 128 MB of memory so a maximum of 384 MB can be installed. We recommend that you use 100 MHz SDRAMs with PC/100 specification for maximum performance.

Energy-saving Features

This mainboard uses an ATX power supply. The system BIOS supports automatic wake-up for network and modem calls. Therefore a P6BA-A+ based system can be always online for critical network and other applications yet still meet important energy saving targets.

Keyboard Power On Option

Using the system BIOS settings, you can configure the system to turn on using keyboard hot keys or password. A green keyboard is not required.

Maximum Expansion Potential

The P6BA-A+ has seven free expansion slots. Two slots are available for 16-bit ISA cards, and 5 slots support 32-bit PCI card. (one PCI slot and one ISA slot are shared. You can install an ISA card or a PCI card, but not both together.) In addition, there is an AGP slot for the optional installation of an AGP graphics card.

Full Set of I/O Ports

The mainboard has a full range of standard I/O ports;

- Two enhanced IDE channels each supporting two devices
- One floppy diskette connector supporting up to two drives
- One parallel port and two serial ports
- Two USB (universal serial bus) ports
- Two PS/2 ports, one for keyboard and one for pointing device.

Programmable Firmware

The mainboard includes Award BIOS which allows BIOS setting of CPU parameters. The fully programmable firmware enhances the system features and allows users to set power management, hardware monitoring (optional), LAN and Modem wake up alarms, and so on.

Chapter 2: Installation

Before You Begin

Before you begin to install your P6BA-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 P6BA-A+ mainboard has a power connector for an ATX power supply. Ensure that your system is installed with an ATX power unit.

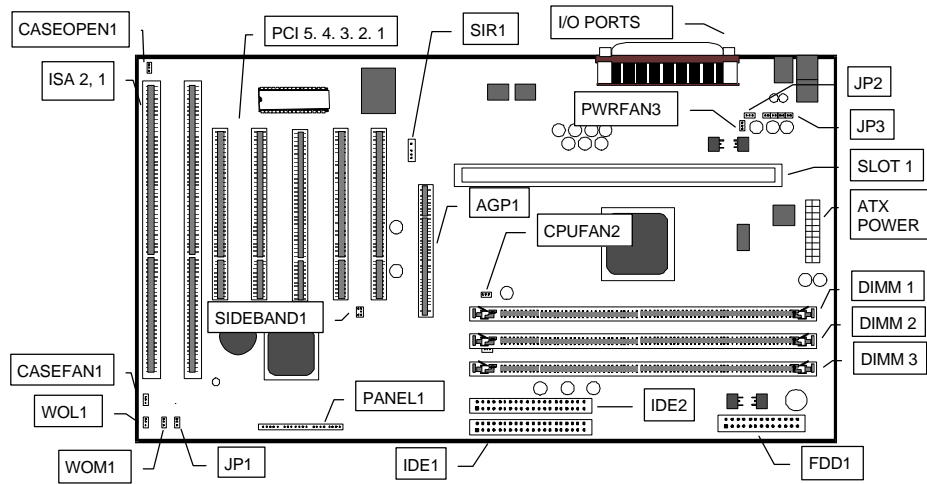
Some features on the mainboard are implemented by cabling connectors on the mainboard to indicators and switches on the system case. Ensure that your case supports all the features required.

The P6BX-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.

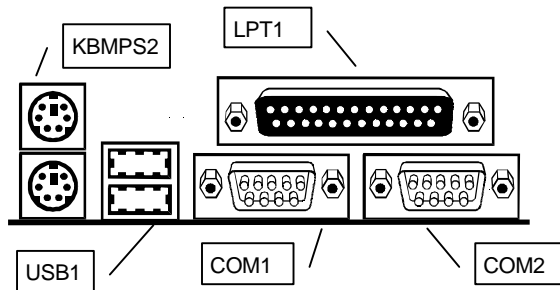
The mainboard uses a standard ATX two-level layout for the I/O ports. Ensure that your case has an I/O template that supports this arrangement of I/O ports.

Mainboard Guide

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



Side View of the I/O Ports



Key to Components

Component	Description
COM1	External serial port 1/3
COM2	External serial port 2/4
LPT1	External parallel Port
KBMPS2	External PS/2 port for keyboard (lower port)
	External PS/2 port for pointing device (upper port)
USB1	Two external universal serial bus ports
JP1	Clear CMOS memory jumper pins
JP2	Jumper pins for keyboard power on switch

JP3	Jumper pins for keyboard/mouse enable	
CASEFAN1	Power connector for internal case-mounted cooling fan	
CPUFAN2	Power connector for Pentium-II cartridge cooling fan	
PWRFAN3	Power connector for ATX power unit cooling fan	
ATX1	Power connector for ATX power supply	
SLOT 1	Slot1 for Pentium-II processor cartridge	
DIMM 1/2/3	Slots for memory modules	
IDE 1/2	Connectors for primary and secondary IDE channels	
FDD1	Connector for floppy disk drive	
AGP1	Slot for advanced graphics port (AGP) display adapter	
SIR1	Connector for standard infrared device SIR	
FIR1 (optional)	Connector for fast infrared device FIR	
SIDEBAND1	SB-Link connector (for Creative sound card use only)	
PANEL1	Case feature connectors:	
	<i>Pins 1 to 3</i>	<i>Power indicator LED</i>
	<i>Pins 4 to 5</i>	<i>Sleep switch</i>
	<i>Pins 7 to 9</i>	<i>Suspend indicator LED</i>
	<i>Pins 10 to 11</i>	<i>Case key lock</i>
	<i>Pins 12 to 13</i>	<i>System reset switch</i>
	<i>Pins 15 to 18</i>	<i>System speaker connector</i>
	<i>Pins 20 to 21</i>	<i>Hard disk drive indicator LED</i>
	<i>Pins 22 to 23</i>	<i>Power On/Off switch</i>
WOM1	Connector for modem wake-up cable	
WOL1	Connector for network wake-up cable	
CASEOPEN1	Detects when the case is opened	
ISA 1/2	Two slots for 8/16-bit ISA expansion cards	
PCI 1/2/3/4/5	Five slots for 32-bit PCI expansion cards	

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.

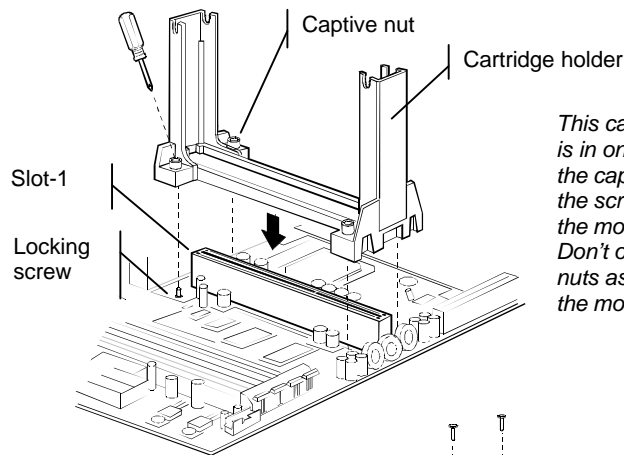
Preparing the Mainboard

Prepare the mainboard by installing the supplied Pentium-II retention module. Then install the Pentium-II cartridge according to the instructions supplied with the cartridge. Complete the processor installation by installing the supplied heat-sink support, and connecting the heat sink power cable to the mainboard connector.

After the processor cartridge is installed, insert your memory modules into the DIMM sockets on the mainboard. Finish the mainboard preparation by checking that all the mainboard jumpers are at the correct setting.

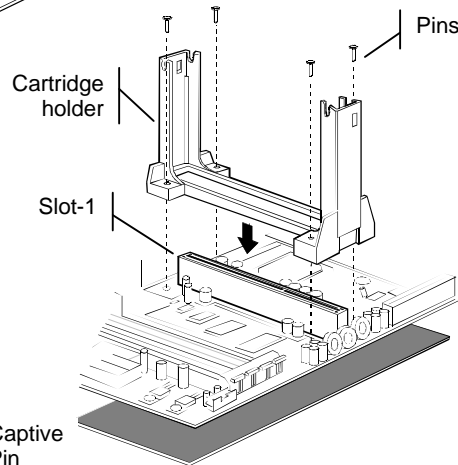
Install the Pentium-II Processor

1. This motherboard is supplied with a cartridge holder for the Pentium-II or Celeron processor cartridge. Several different kinds of cartridge holders are available. The illustration below shows how three of the most typical holders are installed.

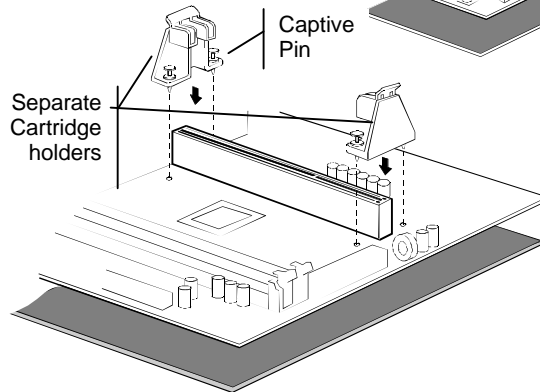


This cartridge holder is in one piece. Screw the captive nuts onto the screws inserted in the motherboard. Don't overtighten the nuts as this will stress the motherboard.

This cartridge holder is in one piece. Place the motherboard on a foam plastic mat and then secure the holder in place by pushing the plastic pins through the holder and through the holes in the motherboard.



This cartridge holder is in two pieces. Place the motherboard on a foam plastic mat and then secure the holder in place by pushing the captive plastic pins through the holes in the motherboard.



2. Some cartridge holders also include a support bar for the heat sink. This bar installs to the side of the cartridge holder. Some Pentium-II processors have support struts for the heat sink which lock into the support bar. The documentation with the Pentium-II processor shows how to do this.
3. Follow the instructions given with your Pentium cartridge to install the processor cartridge into the cartridge holder.
4. If necessary, connect the power cable from the cartridge cooling fan to the mainboard CPU fan power supply CPUFAN.

Note: The P6BA-A+ does not use jumpers to set the parameters for your processor, such as the core voltage, the clock multiplier, and so on. You can set the parameters for the processor in firmware using the system BIOS. After your system is installed, the BIOS will automatically detect the kind of processor that is installed and implement the correct setting for it. See the next chapter for details.

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) (SDRAM). This mainboard can support 100MHz SDRAM and also 66MHz SDRAM. We recommend that you use 100MHz SDRAM with PC/100 compatibility so that your system can run at the maximum speed.

The DIMMs can hold memory capacities from 8 MB through to 128 MB. You can install one, two or three DIMMs in any combination. up to 384 MB of standard SDRAM. Install the first DIMM in the DIMM1 socket. If you install a second or third DIMM, install them in DIMM2 and DIMM3 respectively.

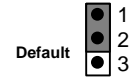
1. The SDRAM sockets are keyed with notches and the DIMMs are keyed with cut-outs so that they can only be installed correctly. Check that the cut-outs on the DIMM edge connector matches the notches in the SDRAM socket.
2. Push the latches on each side of the SDRAM socket down.
3. Install the DIMM into 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 the Jumper Settings

This mainboard only has three jumpers. For most systems the factory defaults will be the correct configuration. Before you install the mainboard, take a moment to check that the three jumpers are at the correct setting.

1. Locate the Clear CMOS jumper JP1. 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 power cord disconnected.

Function	Jumper Cap Position
Normal Operation	Short pins 1-2
Clear CMOS Memory	Short pins 2-3



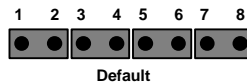
2. Locate the Keyboard Power On Switch jumper JP2. When this jumper is enabled, it allows you to create “hot keys” on your system keyboard that will act as a power On/Off switch. See the Integrated Peripherals Option in the Setup chapter for information on installing this function. As a default, the keyboard power switch is enabled. When you have enabled Keyboard Power On, you must ensure that the 5V standby current of the power supply is more than 200 mA.

Function	Jumper Cap Position
Disable keyboard power switch	Short pins 1-2
Enable keyboard power switch	Short pins 2-3



3. Locate the Keyboard/Mouse jumper JP3. This jumper can be used to disable the external PS/2 ports. As a default, the PS/2 ports are enabled.

Function	Jumper Cap Position			
	Pins 1-2	Pins 3-4	Pins 5-6	Pins 7-8
Keyboard/Mouse Enable	Short	Short	Short	Short
Keyboard/Mouse Disable	Open	Open	Open	Open



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

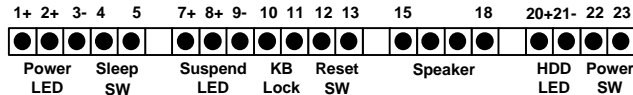
Note: You might not need to carry out every step in the following procedure. It depends on the options you are installing, and the features that are supported by your system case.

Note: Ribbon cables are usually keyed so that they can only be installed correctly on the device connector. There is no key on the mainboard connector however, so 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.

Part One – Internal Connections

1. Locate the floppy diskette drive connector FDD1. Use the ribbon cable to connect the floppy diskette drive to the mainboard.
2. Locate the Enhanced IDE connectors IDE1 (primary) and IDE2 (secondary). 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 connectors PANEL1. These connectors provide control functions to your system case. Use the table below to make the connections.

Pins	Function
1 to 3	Power indicator LED
4 to 5	Sleep switch
7 to 9	Suspend indicator LED
10 to 11	Keyboard lock
12 to 13	System reset switch
15 to 18	System speaker connector
20 to 21	Hard disk drive indicator LED
22 to 23	Power On/Off switch



4. Locate the ATX POWER connector. Connect the cable from your system ATX power supply into the connector. The connector is keyed so that it can only be installed correctly.
5. Install expansion cards into the expansion slots. The system will not operate without a display adapter. If you have an AGP display adapter, you can use the dedicated AGP slot. You can use the two ISA slots, and the five PCI slots to install a variety of expansion cards in your system, such as a sound card, a network adapter, a SCSI host adapter, an internal modem card, and so on. ISA slot 1 and PCI slot 5 are shared. This means that you can use one of these slots, but not both of them at the same time.

Part Two – Optional Internal Connections

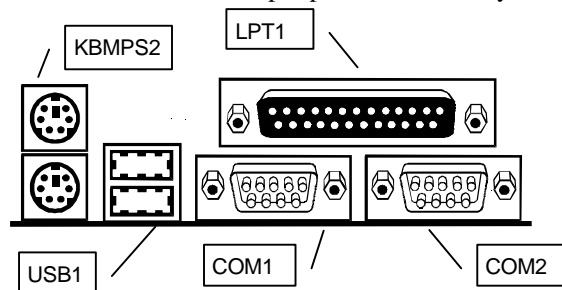
You may install optional items such as a serial or fast infrared port. If you have installed a network adapter or an internal modem, you can use the wake-up connectors so that your system will automatically resume from a power-saving mode when there is incoming network or modem traffic.

1. Locate the infrared connector SIR1 (Standard Infrared) and FIR1 (Fast Infrared). Determine if your infrared port is SIR or FIR and use the cable provided with the

- infrared device to connect to the correct connector. Secure the infrared device to the appropriate space in the system case.
2. If you have installed a network adapter, connect the cable from the network adapter to WOL1. This will enable your system to resume from a power saving mode when there is network traffic. When you use the LAN wake up function, you must make sure that the 5V standby current from the power supply is more than 700mA.
 3. If you have installed an internal modem, connect the cable from the internal modem to WOM1. This will enable your system to resume from a power saving mode when there is modem traffic.
 4. If you have installed a Creative PCI Sound Blaster card, you can cable it to the SB-Link connector SIDEBAND1. The SB-Link connector provides a PCI-compatible solution that allows your Sound Blaster to run real-mode DOS game applications.
 5. You may install extra cooling fans. Some ATX power units have a cooling fan. You can connect this to the ATX cooling fan power connector PWRFAN3. If you have a case mounted fan, you can connect it to the case cooling fan power connector CASEFAN1.
 6. If your case supports a detector that indicates when the case is opened, you can connect the cable to the case open detect connector CASEOPEN1.

Part Three – External Connections

After you have installed the mainboard and completed the internal connections, you can use the external connectors to attach peripheral devices to your system



1. COM1 is a serial port which can be used by serial devices such as a mouse, a fax/modem and so on. Your system identifies this serial port as COM1
2. COM2 is a second serial port. Your system identifies this serial port as COM2.
3. LPT1 is a parallel port which can be used by printers or other parallel communications devices. Your system identifies the parallel port as LPT1
4. USB1 is a stack of two universal serial bus (USB) ports. Some new devices now use the USB interface to take advantage of its faster transmission, and the fact that many devices can be “daisy chained” on a single cable.
5. KBMPS2 is a stack of two mini-DIN PS/2 ports. The lower port is for the use of a keyboard. The upper port can be used by any PS/2 pointing device such as a mouse or a trackball.

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 (P6BA-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 (P6BA-A+)
STANDARD CMOS SETUP
AWARD SOFTWARE, INC.

Date (mm:dd:yy) : Mon, Sep 14 1998							
Time (hh:mm:ss) : 14 : 35 : 38							
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.				Base Memory: 0K			
Drive B : None				Extended Memory: 0K			
Floppy 3 Mode Support : Disabled				Other Memory: 512K			
Video : EGA/UGA				Total Memory: 512K			
Halt On : All Errors							
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 refers to a 3.5" diskette with a capacity of 1.2 MB. Floppy 3 mode is sometimes used in Japan.

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 (P6BA-A+)
BIOS FEATURES SETUP
AWARD SOFTWARE, INC.

CPU Internal Core Speed	: 233Mhz	Video BIOS Shadow	: Enabled
Virus Warning	: Disabled	C8000-CBFFF Shadow	: Disabled
CPU Internal Cache	: Enabled	CC000-CFFFF Shadow	: Disabled
External Cache	: Enabled	D0000-D3FFF Shadow	: Disabled
CPU L2 Cache ECC Checking	: Enabled	D4000-D7FFF Shadow	: Disabled
Quick Power On Self Test	: Enabled	D8000-DBFFF Shadow	: Disabled
Boot From LAN First	: Enabled	DC000-DFFFF Shadow	: Disabled
Boot Sequence	: A,C,SCSI		
Swap Floppy Drive	: Disabled		
Boot Up NumLock Status	: On		
Gate A20 Option	: Fast		
Memory Parity/ECC Check	: Disabled		
Security Option	: Setup		
PCI/UGA Palette Snoop	: Disabled	ESC : Quit	↑↓←→ : Select Item
OS Select For DRAM > 64MB	: Non-OS2	F1 : Help	PU/PD/+/- : Modify
HDD S.M.A.R.T. capability	: Disabled	F5 : Old Values (Shift)F2 : Color	
		F6 : Load BIOS Defaults	
		F7 : Load Setup Defaults	

CPU Internal Core Speed**Default: 233 MHz or 350MHz**

This item should be installed with the rated internal core speed of the Pentium-II class processor that is installed in your system. The setup utility will then automatically configure the system with the correct host bus speed, and bus frequency multiplier.

If you set this item to Manual, two new items will appear: *CPU Host BUS Frequency* and *CPU Core:Bus Freq. Multiple*. You can use these two items to manually configure the mainboard for the speed of the processor. The values available in these two items will vary, according to the kind of Pentium-II processor that is installed.

Note: Using the three items above, you can configure the mainboard so that it runs a processor faster than the rated clock speed. We strongly recommend that you do not overclock the processor. Overclocking can introduce excess heat, recurring instability, or even complete failure in your system.

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.

Note: You must disable this item when creating new partitions on a hard disk.

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**

Most of the processor cartridges that can be installed in this mainboard have (level 2) external cache memory (the Celeron-266 MHz is an exception). Only enable this item if your processor cartridge has external cache memory.

CPU L2 Cache ECC Checking**Default: Enabled**

This item can be used to enable ECC (Error Checking Code) for the level-2 cache memory. We recommend that you leave this item at the default value Enabled.

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.

Boot from LAN First**Default: Enabled**

This item lets you specify that the system will try to load an operating system from a network server first, before booting from any of the local drives.

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 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 modules that have error checking using a parity bit, or using ECC (Error Correction Code). If your memory modules have this function, you can enable this feature for greater reliability.

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.

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

This item can help overcome problems that are caused by some non-standard VGA cards. We recommend that you leave this item at the default value Disabled.

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

This item is 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

HDD S.M.A.R.T Capability**Default: Disabled**

S.M.A.R.T is an industry acronym for Self-monitoring, Analysis and Reporting Technology. If the documentation of your hard disk states that S.M.A.R.T. is supported, you can enable this item.

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 which define timing parameters of the mainboard components including the graphics system, the memory, and the system logic. In general rule, you should leave the items on this page at the default values unless you are very familiar with the technical specifications of your hardware. If you change the values, you may introduce fatal errors or recurring instability into your system.

ROM PCI/ISA BIOS (P6BA-A+)
 CMOS SETUP UTILITY
 CHIPSET FEATURES SETUP

Bank 0/1 DRAM Timing : EDO 60ns	CPU Warning Temperature : Disabled
Bank 2/3 DRAM Timing : EDO 60ns	Current System Temp. :
Bank 4/5 DRAM Timing : EDO 60ns	Current CPU Temperature :
SDRAM Cycle Length : 3	Current CHASSIS FAN Speed:
Memory Hole : Disabled	Current CPU FAN Speed :
Read Around write : Disabled	Current POWER FAN Speed :
Concurrent PCI/Host : Disabled	CPUcore: CPUi/o :
Video RAM Cacheable : Disabled	+3.4V : + 5 V :
AGP Aperture Size : 64M	+12 V : -12 V :-
AGP-2X Mode : Enabled	- 5 V :-
ESC : Quit F10+ : 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: EDO 60ns**

Bank 2/3 DRAM Timing **Default: EDO 60ns**

Bank 4/5 DRAM Timing **Default: EDO 60ns**

These items define the timing parameters for the system memory. We recommend that you leave these items at the default values EDO 60ns.

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.

Memory Hole **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.

Read Around write **Default: Disabled**

This item optimizes the cache memory. If the system needs to read data from an address in memory, and the write buffer holds fresh data that has not yet been written to that address, the read can be made directly from the write buffer, instead of the address in the main memory.

Concurrent PCI/Host **Default: Disabled**

This item allows other PCI devices to work concurrently with the host PCI IDE channel. We recommend that you leave this item at the default value Disabled.

Video RAM Cacheable **Default: Disabled**

This item permits the video memory to be cached for faster performance. 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.

AGP-2x Mode**Default: Enabled**

This item allows the AGP graphics adapter to operate in 2x Mode. We recommend that you leave this item at the default value Enabled.

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 mainboard supports ACPI (advanced configuration and power interface).

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 Reload Global Timer 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 (P6BA-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 **			
HDD Power Down	: Disable	IRQ8 (RTC Alarm)	: Disabled
Doze Mode	: Disable	IRQ9 (IRQ2 Redir)	: Secondary
Suspend Mode	: Disable	IRQ10 (Reserved)	: Secondary
** PM Events **			
UGA	: OFF	IRQ11 (Reserved)	: Secondary
LPT & COM	: LPT/COM	IRQ12 (PS/2 Mouse)	: Primary
HDD & FDD	: OFF	IRQ13 (Coprocesor)	: Primary
DMA/master	: OFF	IRQ14 (Hard Disk)	: Primary
Wake Up On LAN	: Disabled	IRQ15 (Reserved)	: Disabled
Modem Ring Resume	: Disabled		
RTC Alarm Resume	: Disabled		
		ESC	: Quit
		F1	: Help
		F5	: Old Values (Shift)
		F6	: Load BIOS Defaults
		F7	: Load Setup Defaults
		↑↓←→	: Select Item
		PU/PD/+/-	: Modify
			: Color

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: ON**

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.

DMA/master**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 activity through the system DMA controller.

Wake Up On LAN**Default: Disabled**

This item allows you to enable or disable the LAN wake up function that is a feature of this mainboard. When enabled, traffic through a network will resume the system from any of the power-saving modes.

Modem Ring Resume**Default: Disabled**

This item allows you to enable or disable the modem wakeup function that is a feature of this mainboard. When enabled, traffic through a fax/modem 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.

ROM PCI/ISA BIOS (P6BA-A+)
 PNP/PCI CONFIGURATION
 AWARD SOFTWARE, INC.

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

Assign IRQ for USB **Default: Enabled**

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

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 running 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 the option, and press the **F6** key.

Load Setup Defaults Option

This option displays a dialog box which allows you install setup 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 setup 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 (P6BA-A+)
 INTEGRATED PERIPHERALS
 AWARD SOFTWARE, INC.

OnChip IDE Channel0 : Enabled	UART Mode Select : Normal
OnChip IDE Channel1 : Enabled	RxD , TxD Active : Hi,Lo
IDE Prefetch Mode : Enabled	IR Transmittiion delay: Enabled
IDE HDD Block Mode : Enabled	Onboard Parallel Port : 378/IRQ7
Primary Master PIO: Auto	Parallel Port Mode : ECP+EPP
Primary Slave PIO: Auto	ECP Mode Use DMA : 3
Secondary Master PIO: Auto	EPP Mode Select : EPP1.7
Secondary Slave PIO: Auto	OnChip USB : Enabled
Primary Master UDMA: Auto	USB Keyboard Support: Disabled
Primary Slave UDMA: Auto	
Secondary MasterUDMA: Auto	
Secondary Slave UDMA: Auto	
Init Display First : PCI Slot	
POWER ON Function : Hot Key	
Hot Key Power ON : Ctrl-F12	ESC : Quit
KBC input clock : 8 MHz	F1 : Help
Onboard FDC Controller: Enabled	F5 : Old Values (Shift)F2 : Color
Onboard Serial Port 1 : 3F8/IRQ4	F6 : Load BIOS Defaults
Onboard Serial Port 2 : 2F8/IRQ3	F7 : Load Setup Defaults
	F1+ : Select Item
	PU/PD/+/- : Modify

OnChip IDE Channel0

Default: Enabled

OnChip IDE Channel1

Default: Enabled

You can use these items to enable or disable the primary (0) and secondary (1) IDE channels that are built into this mainboard. When one or both channels are enabled, 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 alternative 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.

Power On Function **Default: Hot KEY**

KB Power ON Password **Default: [Enter]**

Hot Key Power ON **Default: Ctrl-F12**

The Power On Function item allows you to power on the system by pressing hot-keys, or typing in a password. If you choose Password, you can use the item KB Power On Password to install a power on password. If you set this item to Hot Key, you can then use the item Hot Key Power On to choose which hot keys are installed.

KBC input clock **Default: 8 MHz**

This item lets you set a frequency for the input clock of the keyboard controller. Leave this item at the default value 8 MHz.

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 Mode Select**Default: Normal**

This item defines the operation of serial port 2. In the default Normal 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 IrDA, or ASKIR. These settings will disable the mainboard serial port connector and assign serial port 2 to the infrared device. IrDA 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 RxD, TxD Active, and IR transmission delay 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).

Parallel Port Mode**Default: ECP + EPP**

This item defines the operation of the parallel port. As a default it is set to ECP + EPP. 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 that let you configure the EPP and ECP modes.

OnChip USB**Default: Enabled**

This mainboard has a built-in USB (universal serial bus) port so you should leave this item at the default value Enabled.

USB Keyboard Support**Default: Disabled**

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

Supervisor Password and User Password

These two items can be used to install a Supervisor Password and a User Password. If you log on as Supervisor, you have full access to the system, and you can restrict the permissions granted to someone who logs on as User. For example, a Supervisor can restrict a User from entering the setup utility.

To install a Supervisor or User Password, follow these steps:

1. Highlight the item Supervisor/User password 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:

- ◆ Flash Memory Utility
- ◆ IDE Bus master drivers for WIN 95/98/NT
- ◆ IRQ Routing Driver For WIN 95/98
- ◆ VxD driver for AGP V. 2.9 display adapter for WIN 95

Most of the software folders have README files. 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.

Windows NT Installation

1. Carry out the installation instructions for Windows 95/98 steps 1 to 4.
2. In the Control Panel, select the icon SCSI adapters.
3. Select the Add button on the drivers sheet.
4. Select the item "*VIA Bus Master PCI IDE Driver*" and click OK.
5. Reboot the system.

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 IRQ Routing Driver

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

Windows 95 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.

Windows 98 Installation

1. In the Integrated Peripherals page of the system setup utility, enable the item OnChip USB.
2. In the PNP/PCI Configuration page of the system setup utility, enable the item Assign IRQ for USB.
3. Restart the system and continue with steps 1, 2, and 3 of the Windows 95 installation instructions.

Award Flash Memory Utility

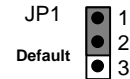
This utility lets you erase the system BIOS that is stored on the system motherboard on a Flash Memory chip, and lets you write a new or updated BIOS onto the chip. Take care how you use this program. If you erase the current BIOS and fail to write a new BIOS, or write a new BIOS that is unsuitable,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

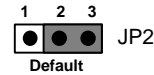
JP1: Clear CMOS memory jumper

Function	Jumper Cap Position
Normal Operation	Short pins 1-2
Clear CMOS Memory	Short pins 2-3



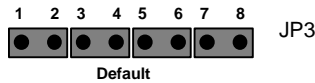
JP2: Keyboard Power On jumper

Function	Jumper Cap Position
Disable keyboard power switch	Short pins 1-2
Enable keyboard power switch	Short pins 2-3



JP3: Mouse & Keyboard enable/disable jumper

Function	Jumper Cap Position			
	Pins 1-2	Pins 3-4	Pins 5-6	Pins 7-8
Keyboard/Mouse Enable	Short	Short	Short	Short
Keyboard/Mouse Disable	Open	Open	Open	Open



PANEL1: Connectors for Case Switches and LEDs

Pins	Function
1 to 3	Power indicator LED
4 to 5	Sleep switch
7 to 9	Suspend indicator LED
10 to 11	Keyboard lock
12 to 13	System reset switch
15 to 18	System speaker connector
20 to 21	Hard disk drive indicator LED
22 to 23	Power On/Off switch

