Chapter 1: Introduction

Welcome

Congratulations on your purchase of the P6EX-MM mainboard. The P6EX-MM mainboard complies with the specifications for a microATX motherboard. MicroATX boards are no larger than 9.6" x 9.6" (244mm x 244mm). The microATX form factor permits reduced case sizes and smaller power supply units. However, the board can also be used in standard ATX cases if required. The P6EX-MM includes a SLOT1 for a Pentium-II/Celeron CPU cartridge using a 66MHz system bus. This is a compact board with integrated audio and video systems. It is ready for immediate use after the addition of memory modules and a CPU cartridge.

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.

<u>Standard Items</u>

- ✓ 1 x P6EX-MM Mainboard
- ✓ 1 x Cable/Bracket Pack
    Diskette drive ribbon cable
    IDE drive ribbon cable
    Retention Module (for Pentium-II Cartridge)
- ✓ This User's Manual
- ✓ Software Support CD-ROM Disk or diskettes

<u>Optional Items</u>

- ✓ System Hardware Monitor IC chip (W83781D)

Features

The key features of the P6EX-MM mainboard are support for the mainstream Pentium-II class processor, and the integrated audio and video sub-systems. The mainboard supports firmware configuration of the processor voltage, clock and sytem bus. Hardware monitoring can be provided by an optional monitoring chip.

Affordable Performance

The Slot1 with 66MHz system bus supports the low-cost Celeron CPU cartridge, or Pentium-II cartridges running at 233MHz, 266MHz, 300MHz, and 333MHz. These processors deliver maximum performance for minimum cost. Setting the board up for different CPUs is easily accomplished using firmware.

Integrated Design

The Slot1 with 66MHz system bus supports the low-cost Celeron CPU cartridge, or Pentium-II cartridges running at 233MHz, 266MHz, 300MHz, and 333MHz. These processors deliver maximum performance for minimum cost. Setting the board up for different CPUs is easily accomplished using firmware.

Flexible Memory Support

The board has two DIMM slots which support EDO RAM or SDRAM modules with capacities up to 256 MB.

Versatile Expansion Options

The board has 3 expansion slots. Two PCI slots can be used by 32-bit PCI expansion cards. One ISA slot can be used by an 8-bit/16-bit ISA expansion cards. Systems using this board can be easily installed with network adapters or internal modems, and still have slots free for future expansion.

Integrated I/O

The board features a full set of I/O ports – Parallel, Serial, 2 x USB, Game/MIDI, and audio jacks for stereo in, stereo out, and microphone. The ports are arranged in a two-tier array which is supported by standard ATX I/O templates. The integrated graphics system has a feature connector so that you can easily add in auxiliary video cards such as an MPEG decoder or video capture card. Optionally, you use built-in connectors to install an infrared port, and re-assign the second serial port to the IR port.

Built-in Video

The system is installed with a RIVA 128 AGP graphics system with 4 MB of video memory. This permits a high resolution XGA display with a 24-bit color depth. The RIVA graphics system includes hardware acceleration for Windows Direct Draw APIs, MPEG 1 and 2 compressed video, and Intel Indeo compressed video.

Built-in Audio

The built-in audio chip provides a full duplex, 16-bit sound system that is compatible with the Sound Blaster and Windows Sound standards. It allows simultaneous recording and playback, and can record at CD-quality sampling rates of 44 kHz.

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, (optional) LAN and Modem wake up alarms, and so on.

Chapter 2: Installation

Before You Begin

Before you begin to install your P6EX-MM 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 P6EX-MM mainboard has a power connector for an ATX power supply. Ensure that your system is installed with an ATX power unit. The mainboard complies with the specifications for the micro-ATX system case, although it can also be installed in most full-size ATX case designs. The micro-ATX specifications include a maximum size of 9.6" x 9.6" (244mm x 244mm), a reduced number of expansion slots, and support for a smaller power supply 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 P6EX-MM 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.

Mainboard Guide

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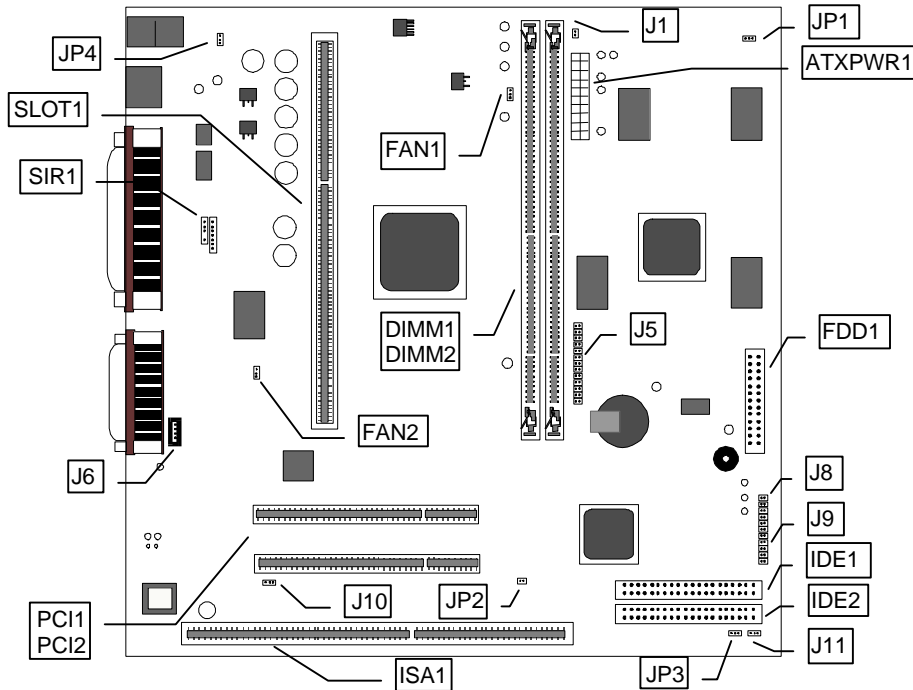
Key to Mainboard Components

Component	Description
ISA1	8/16-bit expansion slot
PCI1, PCI2	2 x 32-bit expansion slots
SLOT1	Slot for CPU cartridge
DIMM1, DIMM2	2 x slots for 168-pin memory modules
FAN1	Power for chassis/power supply cooling fan
FAN2	Power for CPU cartridge cooling fan
ATXPWR1	Connector for ATX power supply
SIR1	Connector for (optional) Standard Infrared port
FDD1	Connector for floppy disk drive
IDE1	Primary IDE channel
IDE2	Secondary IDE channel
J1	Connector for case Open/Close detect
J5	Graphics adapter feature connector
J6	Connector for CD-ROM audio output
J8	Power On/Off connector

J9	Panel Connector
J10	Connector for Modem wake up
J11	Connector for LAN wake up
JP1	Graphics enable/disable jumper
JP2	Indicator input for auxiliary (SCSI) hard disk drive
JP3	Clear CMOS Jumper
JP4	Keyboard wake up enable/disable

Side View of the I/O Ports
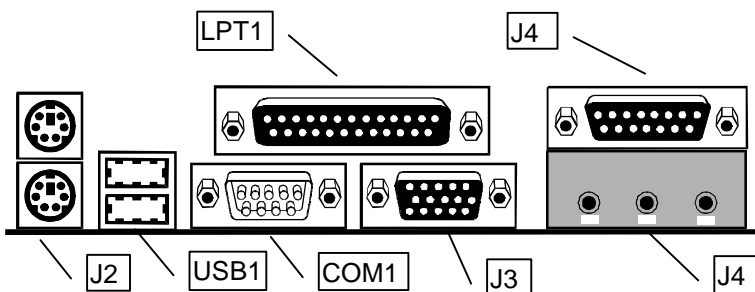
Key to I/O Port Components

Component	Description
LPT1	Parallel Port (Bidirectional, EPP, ECP)
J4 (Upper)	Game/MIDI port for joystick or MIDI device
J4 (Lower)	Audio Jacks for Stereo Out, Stereo In, Microphone
J2	Upper PS/2 port for mouse, lower PS/2 port for keyboard
USB1	Two Universal Serial Bus ports
COM1	Serial port for COM1 or COM3
J3	Port for display monitor

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 processor cartridge holder. Then install the cartridge according to the supplied instructions. After the processor cartridge is installed, insert your memory modules into the DIMM sockets on the

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mainboard. Finish the mainboard preparation by checking that all the jumpers are at the correct setting.

Install the Processor Cartridge

1. This mainboard 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.

Captive nut

Cartridge holder

Slot-1

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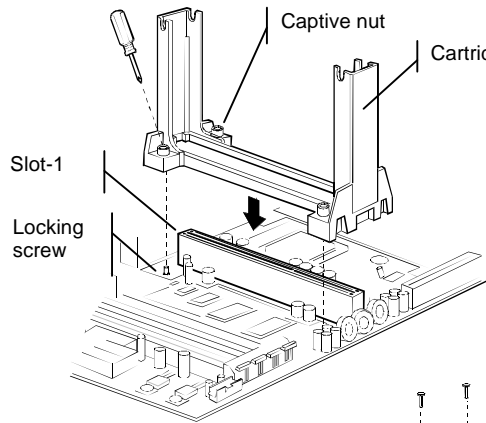
This cartridge holder is in one piece. Screw the captive nuts onto the screws inserted in the motherboard. Don't overtighten the nuts as this will stress the motherboard.

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.

Pins

Cartridge holder

Slot-1

Captive Pin

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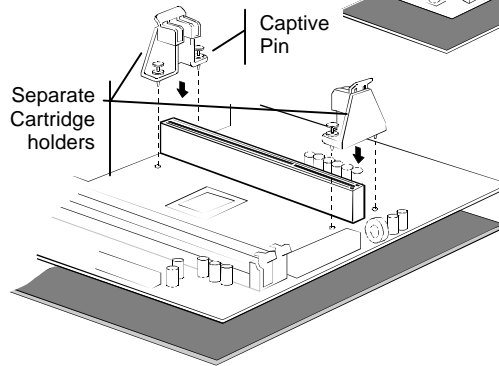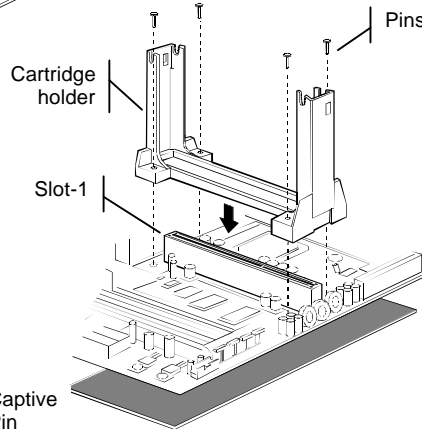
This cartridge holder is in two pieces. Place the motherboard on a foam plastic mat and then secure the holder in place by pushing the captive plastic pins through the holes in the motherboard.

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 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 P6EX-MM 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 supports 3.3 volt DRAMs operating over a 66 MHz memory bus. You can install one or two modules, and each module can have a capacity of up to 256 MB. If you only install one memory module, install it in DIMM socket 1.

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 two jumpers are at the correct setting.

1.   Locate the Graphics Enable/Disable jumper JP1. As a default, this jumper enables the built-in graphics system. If you intend installing another graphics adapter in one of the expansion slots, you must disable this jumper.

Function	Jumper Cap
Enable graphics	Short Pins 1-2
Disable graphics	Short pins 2-3

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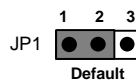
2. Locate the Clear CMOS jumper JP3. Ensure that the jumper cap is placed on pins 2-3. If you ever need to clear the system CMOS memory, you can do this by moving the jumper cap to short pins 1-2 for a few seconds. When you clear the CMOS memory, the system must be turned off and the power cord disconnected.

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

JP3 **1 2 3**
Default

3. Locate the Power Option jumper JP4. This jumper can be used to set a 5V standby voltage for the mainboard. If you want to use the system BIOS to create a keyboard power on signal for the system, you must have the 5V standby voltge enabled.
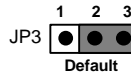
Function	Jumper Cap
5V standby (for keyboard power on)	Short Pins 1-2
Vcc (no keyboard power on)	Short pins 2-3

JP4 **1 2 3**
Default
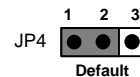
Install the Mainboard in the System Case

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. 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 J9. These connectors provide control functions to your system case. Use the illustration below and the following table to make the connections.

Function	Pins
Keylock	+11, 12, 13, 14, 15
Speaker	17, 18, 19, 20
Hard Disk Indicator	+2, 3
SMI (dual purpose power/suspend switch)	4, 5
Suspend switch	6, 7
Reset switch	9, 10

Keylock   Speaker

11 ●●●●●●●●●●● 20
1 ●●●●●●●●●●● 10

HDD SMI SP   Reset
LED   SW   SW
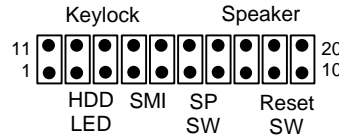
4. Connect the case power switch cable to the power on/off connector J8.
5. Locate the ATX power connector ATXPWR1. Connect the cable from your system ATX power supply into the connector. The connector is keyed so that it can only be installed correctly.
6. Install expansion cards into the expansion slots.You can use the ISA slot, and the two PCI slots to install a variety of expansion cards in your system, such as a network adapter, a SCSI host adapter, an internal modem card, and so on.

Part Two – Optional Internal Connections

You may install optional items such as an 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. Use the cable provided with the infrared device to connect to the IR 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 the Wake on LAN connector J11. 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 the Wake on Modem Connector J11. This will enable your system to resume from a power saving mode when there is modem traffic.
4. You may install extra cooling fans. Some ATX power units have a cooling fan, or you have a case mounted fan. You can connect it to the cooling fan power connector FAN1.
5. If your case supports a detector that indicates when the case is opened, you can connect the cable to the case open detect connector J1.

6. If you install a CD-ROM drive in your system, you can connect the audio output of the CD-ROM drive to the audio system integrated on the mainboard. Connect the CD-ROM drive audio cable to either J6.
7. You may have installed an auxiliary video card, such as an MPEG1/2 decoder card, or a video capture card. In some cases, these cards must be linked to the current graphics adapter by connecting them to the feature connector. Locate the feature connector J5, and use the ribbon cable provided with the auxiliary video card to connect to J5.
8. You may have installed a hard disk drive which does not operate through the primary or secondary IDE channels – for example, a SCSI hard disk drive connected to a SCSI host adapter card. In this case, you can connect the hard disk LED signal cable to JP2. This will pass the hard disk indicator signal through to the J9 panel connector so that it will be visible on the case hard disk drive indicator.

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
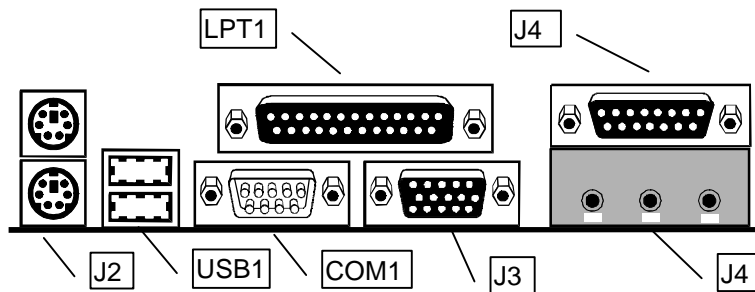
1. J2 is two stacked PS/2 ports. The upper port can be used by a PS/2 mouse or pointing device. The lower port can be used by a PS/2 keyboard.
2. USB1 is a stack of two universal serial bus (USB) ports. Some new devices now use the USB interface to take advantage of its faster transmission, and the fact that many devices can be "daisy chained" on a single cable.
3. 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 COM1/3
4. J3 is the external monitor port. Use this port to connect the system to display monitor with VGA or extended VGA resolution.
5. J4 on the lower level is a set of three audio jacks. The left jack is for Stereo Out and can be connected to speakers, headphones, and so on. The middle jack is for Stereo In and can be used to input audio from external devices such as a radio or tape player. The right jack is for a microphone.

6. J4 on the upper level is a Game/MIDI port. You can use this port to connect to a joystick device or a MIDI device such as a MIDI keyboard or synthesizer. The port will auto detect which kind of device is connected.
7. LPT1 is a parallel port which can be used by printers or other parallel communications devices. Your system identifies the parallel port as LPT1.

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 (P6EX-MM )
                  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 (P6EX-MM )
                       STANDARD CMOS SETUP
                       AWARD SOFTWARE, INC.

   Date (mm:dd:yy) : Wed, Jun 10 1998
   Time (hh:mm:ss) : 13 : 30 : 11

   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                      ┌─────────────────────────────┐
                                       │      Base Memory:      0K    │
                                       │  Extended Memory:      0K    │
   Video   : EGA/VGA                   │     Other Memory:    512K    │
   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.

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 (P6EX-MM )
                            BIOS FEATURES SETUP
                            AWARD SOFTWARE, INC.

  CPU Internal Core Speed   : 233Mhz     Video  BIOS Shadow   : Enabled
                                         C8000-CBFFF Shadow   : Disabled
                                         CC000-CFFFF Shadow   : Disabled
  Virus Warning             : Disabled   D0000-D3FFF Shadow   : Disabled
  CPU Internal Cache        : Enabled    D4000-D7FFF Shadow   : Disabled
  External Cache            : Enabled    D8000-DBFFF Shadow   : Disabled
  Quick Power On Self Test  : Enabled    DC000-DFFFF Shadow   : Disabled
  Boot Sequence             : A,C,SCSI
  Swap Floppy Drive         : Disabled
  Boot Up NumLock Status    : On
  Gate A20 Option           : Fast
  Security Option           : Setup
  PCI/VGA Palette Snoop     : Disabled
  OS Select For DRAM > 64MB : Non-OS2

                                         ESC : Quit        ↑↓→← : Select Item
                                         F1  : Help        PU/PD/+/- : Modify
                                         F5  : Old Values  (Shift)F2 : Color
                                         F6  : Load BIOS  Defaults
                                         F7  : Load Setup Defaults
```

CPU Internal Core Speed   **_Default: 233 MHz_**

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.*

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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***

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

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 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.

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 is designed to overcome some problems that can be caused by some non-standard VGA cards.

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 (P6EX-MM )
                 CHIPSET FEATURES SETUP
                  AWARD SOFTWARE, INC.

 ┌─────────────────────────────────┬──────────────────────────────────┐
 │ Auto Configuration   : Enabled  │                                  │
 │ DRAM Speed Selection : 50ns     │                                  │
 │ MA Wait State        : Slow     │                                  │
 │ EDO RAS# To CAS# Delay  : 3     │                                  │
 │ EDO RAS# Precharge Time : 3     │                                  │
 │ EDO DRAM Read Burst  : x222     │                                  │
 │ EDO DRAM Write Burst : x222     │                                  │
 │ CPU-To-PCI IDE Posting  : Enabled│                                 │
 │ System BIOS Cacheable : Enabled │                                  │
 │ Video  BIOS Cacheable : Enabled │                                  │
 │ Video RAM Cacheable  : Disabled │                                  │
 │ 8 Bit I/O Recovery Time  : 1    │                                  │
 │ 16 Bit I/O Recovery Time : 1    │                                  │
 │ Memory Hole At 15M-16M : Disabled│                                 │
 │ Passive Release      : Enabled  │                                  │
 │ Delayed Transaction  : Enabled  │ ESC : Quit      ↑↓→← : Select Item│
 │ AGP Aperture Size (MB)  : 64    │ F1  : Help      PU/PD/+/- : Modify│
 │ SDRAM RAS-to-CAS Delay  : Slow  │ F5  : Old Values (Shift)F2 : Color│
 │ SDRAM RAS Precharge Time : Slow │ F6  : Load BIOS  Defaults        │
 │ SDRAM CAS latency Time  : 3     │ F7  : Load Setup Defaults         │
 └─────────────────────────────────┴──────────────────────────────────┘
```

Auto Configuration	**Default: Enabled**

Leave this item at the default value Enabled. This will automatically install the correct values for the EDO RAM memory timing in the following items; *MA Wait State, RAS to CAS Delay, RAS Precharge time, DRAM Read Burst,* and *DRAM Write Burst.*

DRAM Speed Selection	**Default: 50ns**

This item sets the timing for the system DRAM in the DRAM timing registers. The alternate value of 60ns ensures reliability if slower DRAM is installed.

CPU-To-PCI IDE Posting	**Default: Enabled**

If you enable this item, the system will use a fast buffer for posting writes to memory. This allows release of the CPU before completion of the write cycle.

System BIOS Cacheable	*Default: Enabled*
Video 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 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.

8 Bit I/O Recovery Time	*Default: 1*
16 Bit I/O Recovery Time	*Default: 1*

These two items set timing parameters for 8-bit and 16-bit ISA expansion cards. We recommend that you leave these items at the default value 1.

Memory Hole at 15M-16M	*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.

Passive Release	*Default: Enabled*

When Enabled, CPU to PCI bus accesses are allowed during passive release.

Delayed Transaction	*Default: Disabled*

This chipset has an embedded 32-bit write buffer to support delay transaction cycles. Enable this item to provide compliance with the PCI Ver. 2.1 specification.

AGP Aperture Size (MB)	*Default: 64*

This item defines the size of the aperture if you use an AGP graphics adapter. It refers to a section of the PCI memory address range dedicated for graphics memory.

SDRAM RAS-to-CAS Delay	*Default: Slow*

For SDRAM, this item defines the relative delay between the row and column address strobes.

SDRAM RAS Precharge Time	*Default: Slow*

For SDRAM, this item defines the length of time for the Row Address Strobe to precharge.

SDRAM CAS latency Time	*Default: 3*

For SDRAM, this item defines the latency time for the Column Address Strobe.

Clock Spread Spectrum	*Default: Disabled*

When this item is enabled, it can significantly reduce the EMI (electrical magnetic interference) that your system generates.

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 (P6EX-MM )
                      POWER MANAGEMENT SETUP
                      AWARD SOFTWARE, INC.

  ACPI function        : Enabled    ** Reload Global Timer Events **
  Power Management     : Disable    IRQ[3-7,9-15],NMI   : Enabled
  PM Control by APM    : Yes        Primary IDE 0       : Disabled
  Video Off Method     : DPMS       Primary IDE 1       : Disabled
  Video Off After      : Standby    Secondary IDE 0     : Disabled
  MODEM Use IRQ        : 3          Secondary IDE 1     : Disabled
  Doze Mode            : Disable    Floppy Disk         : Disabled
  Standby Mode         : Disable    Serial Port         : Enabled
  Suspend Mode         : Disable    Parallel Port       : Disabled
  HDD Power Down       : Disable
  Throttle Duty Cycle  : 62.5%
  VGA Active Monitor   : Disabled
  Soft-Off by PWR-BTTN : Instant-Off
  CPUFAN Off In Suspend: Enabled
  Resume by Ring       : Enabled
  Wake Up On LAN       : Enabled    ESC : Quit        ↑↓→← : Select Item
  IRQ 8 Break Suspend  : Disabled   F1  : Help        PU/PD/+/- : Modify
                                    F5  : Old Values  (Shift)F2 : Color
                                    F6  : Load BIOS  Defaults
                                    F7  : Load Setup Defaults
```

ACPI function   Default: Enabled
ACPI stands for Advanced Configuration and Power Interface. This mainboard supports this function so leave this item at the default value Enabled.

Power Management   Default: Disabled
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-savings modes are disabled. If this item is set to Max Saving, doze, standby, and suspend mode, will occur after a very short timeout. If this item is set to Min Saving, doze, standby, and suspend mode will occur after a long timeout. 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 Method   Default: DPMS

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

Video Off Option   Default: Standby

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 both suspend mode and standby mode.

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.

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.

Standby 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.

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.

Throttle Duty Cycle   Default: 62.5%

This item defines what percentage of time the system will halt the processor clock when it is in power-saving mode.

VGA Active Monitor   Default: Disabled

When this item is enabled, it means that any activity on the active monitor will restart the Standby mode timeout.

Soft-Off by PWR-BTTN   Default: Instant-Off

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.

CPUFAN Off In Suspend   Default: Enabled

This item allows you to program the CPU cooling fan to turn off whenever the system is placed in suspend mode.

Resume By Ring	**Default: Enabled**

When this item is enabled, the system will wake up or power up when an incoming call to an internal modem is detected.

IRQ 8 Break Suspend	**Default: Disabled**

When this item is enabled, the system will resume from suspend mode when any activity on the Interrupt Request Line 8 is detected.

IRQ[3-7, 9-15],NMI	**Default: Enabled**

When this item is enabled, the system will restart the power-saving timeout counters when any activity is detected on the system interrupts (IRQs) and the non-masked interrupt (NMI).

Primary IDE 0	**Default: Disabled**
Primary IDE 1	**Default: Disabled**
Secondary IDE 0	**Default: Disabled**
Secondary IDE 1	**Default: Disabled**

When these items are enabled, the system will restart the power-saving timeout counters when any activity is detected on any of the drives or devices on the primary or secondary IDE channels, or any of the drives connected to the floppy disk drive controller

Serial Port	**Default: Enabled**
Parallel Port	**Default: Disabled**

When these items are enabled, the system will restart the power-saving timeout counters when any activity is detected through the system's serial ports, or the parallel port.

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 (P6EX-MM )
                       PNP/PCI CONFIGURATION
                       AWARD SOFTWARE, INC.
 ┌──────────────────────────────────┬──────────────────────────────────┐
 │ PNP OS Installed        : No     │ PCI IDE IRQ Map To  : PCI-AUTO    │
 │ Resources Controlled By : Auto   │  Primary   IDE INT# : A           │
 │ Reset Configuration Data : Disabled │  Secondary IDE INT# : B        │
 │                                  │                                  │
 │                                  │                                  │
 │                                  │                                  │
 │                                  │                                  │
 │                                  │                                  │
 │                                  │                                  │
 │                                  │                                  │
 │                                  │ 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.

PCI IDE IRQ Map To	*Default: PCI-Auto*
Primary IDE INT#	*Default: A*
Primary IDE INT#	*Default: B*

These items tell the system to detect which PCI slot is installed with an IDE card, and assigns the appropriate interrupts to the IDE channels. Leave these items at the default values.

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 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 of you install the setup 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 (P6EX-MM )
                  INTEGRATED PERIPHERALS
                  AWARD SOFTWARE, INC.
 ╔════════════════════════════════════════════════════════════════╗
 ║ IDE HDD Block Mode     : Enabled │ Onboard Parallel Port  : 378/IRQ7 ║
 ║ IDE Primary Master PIO : Auto    │ Parallel Port Mode     : SPP      ║
 ║ IDE Primary Slave  PIO : Auto    │                                   ║
 ║ 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  │                                   ║
 ║ On-Chip Primary   PCI IDE: Enabled │                                 ║
 ║ On-Chip Secondary PCI IDE: Enabled │                                 ║
 ║ USB Keyboard Support    : Disabled │                                 ║
 ║ Init Display First      : PCI Slot │                                 ║
 ║ KBC input clock         : 8 MHz    ├──────────────────────────────── ║
 ║ Onboard FDC Controller  : Enabled  │                                 ║
 ║ Onboard Serial Port 1   : 3F8/IRQ4 │ ESC : Quit       ↑↓→← : Select Item ║
 ║ Onboard Serial Port 2   : 2F8/IRQ3 │ F1  : Help       PU/PD/+/- : Modify ║
 ║ UART Mode Select        : Normal   │ F5  : Old Values  (Shift)F2 : Color ║
 ║                                    │ F6  : Load BIOS  Defaults          ║
 ║                                    │ F7  : Load Setup Defaults          ║
 ╚════════════════════════════════════════════════════════════════╝
```

IDE HDD Block Mode   ***Default: Enabled***

Block mode transfers can improve the access to IDE devices. Enable this item if your IDE devices support block mode transfers.

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.

On-Chip Primary PCI IDE   ***Default: Enabled***
On-Chip Secondary PCI IDE   ***Default: Enabled***

These items allow you to enable or disable the primary and secondary IDE channels built into this mainboard.

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USB Keyboard Support	**Default: Disabled**

Enable this item if you are using a keyboard connected through the USB interface.

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.

KBC input clock	**Default: 8 MHz**

This item sets the clock speed for the keyboard controller. Leave this item at the default value of 8 MHz.

Onboard FDC Controller	**Default: Enabled**

Use this item to turn on or off the floppy disk controller that is 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 one of the Infrared settings (usually IrDA or FIR). These settings will disable the mainboard serial port connector and assign serial port 2 to the infrared device. If you have selected an IR mode, two items appear, *RxD, TxD Active* and *IR Transmission delay,* which let you set the duplex and transmission parameters for the Infrared port. See the documentation of your infrared port for help 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: 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.

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 is supplied on a CD-ROM disc. The disc is created for the use of several different boards and board configurations so you might not need to install every driver or utility that is on the disc. The disc contains the following:

- ♦ Bus master IDE drivers
- ♦ Flash BIOS utilities
- ♦ Windows 95 Patch program
- ♦ ESS Audio Driver
- ♦ VGA Driver

This motherboard does not have an integrated graphics system onboard so you must not use the VGA drivers. Use the VGA drivers that are supplied with your graphics adapter expansion card.

General Installation Guide

1. Place the CD-ROM in the CD-ROM drive.
2. If you are running Windows with the Autoplay feature enabled, the install program will start automatically. If Autoplay is not enabled, use explorer to log on to the disc, and then log on to the directory named SETUPITM. Double click the file SETUPITM.EXE to start the installation program.
3. When the installation program starts, you can click on the MORE buttons top see a full list of the software on the disc. You can click on any item to get more information on the item, or to start the installation program for the item. If there is a README file available, we recommend that you read it in case it has updated information.
4. After you have finished installing the software that you need, you can click on the Exit button to quit the installation utility.

Bus master IDE drivers
The Bus master IDE drivers are located in the directory \IDEDRV\TRIONES.

Flash BIOS Utility
The flash BIOS utility can be used to erase the BIOS from the flash BIOS EEPROM on the motherboard, and install an updated version of the BIOS. There are two Flash BIOS utilities on the CD-ROM. One utility is located in \FLASH\ECS, and the other utility is located in \FLASH\AWARD.

DMI Utility

The DMI utility allows system integrators and administrators to make changes to the Desktop Management Interface. It is located in \DMI.

ESS Audio Drivers

These files are stored in the directory SOLO1 with sub-directories for different operating systems. They are for use by systems which have an integrated audio system using the SOLO1 audio chip.