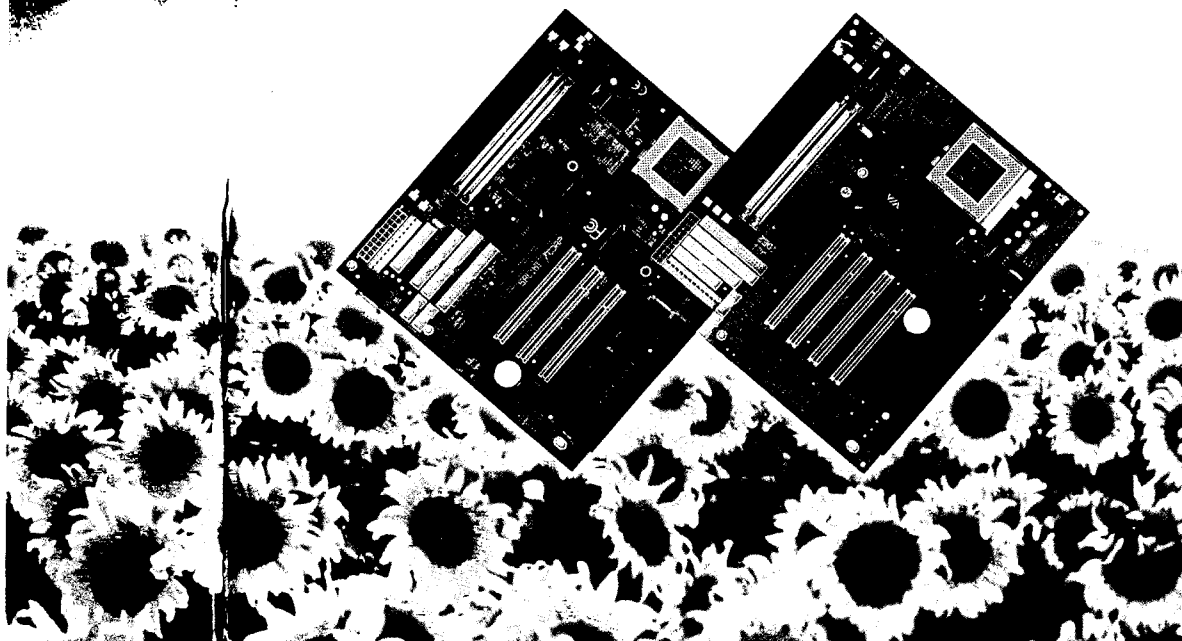
ACORP®
INTERNATIONAL

User's Manual

5VIA77



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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 numerique de la calss B respecte toutes les exigences du Reglement sur le materiel brouileur du Canada.

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Version A2

Chapter 1:Introduction

Welcome

Congratulations on your purchase of the 5VIA77 mainboard. The mainboard is the latest generation of socket-7 motherboards with support for an accelerated graphics port AGP, a high-speed system bus, and onboard PCI IDE channels with UltraDMA-33 extensions. As a socket-7 board, the 5VIA77 supports a wide range of Pentium MMX processors, the Pentium-compatible AMD K5/K6 series, the Cyrix/IBM 6X86, and the IDT C6 series CPUs. Six expansion slots are available for add-in cards as well as the AGP slot for a graphics adapter. The mainboard has dual power connectors and can run using an ATX or an AT power supply. In short, the 5VIA77 mainboard delivers powerful entry-level performance and supports a wide range of inexpensive components.

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 valued 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 time is missing or appears damaged, please contact the vendor of your mainboard package.

Standard Items

√ 1 x 5VIA77 Mainboard
√ 1 x Cable/Bracket Pack
  Diskette drive ribbon cable
  IDE drive ribbon cable
√ This User's Manual
√ Software Support Disks

Features

The main feature of the 5VIA77 mainboard is that it provides a cost effective socket-7 board that supports a wide range of inexpensive processors. However, it upgrades the socket-7 format with a 100 MHz system bus and support for AGP graphics adapters.

Low-cost Processing
The socket-7 processor socket supports a wide range of low-cost Pentium and Pentium-compatible processors from a variety of vendors. You can install the board with an Intel Pentium or Pentium MMX, an AMD K5 or K6, a Cyrix/IBM 6X86, or an IDT C6. The board will support CPU clocks from 90 MHz through to over 300 MHz, and CPU voltages of 2.1 up to 3.5 volts. All the supported processors have internal level-1 cache memory and the mainboard is installed with 512K of PBSRAM level-2 external cache memory.

Versatile Memory Support

The board has two SIMM sockets for older 72-pint EDO or FP DRAM modules, and three DIMM sockets for newer 168-pin SDRAM modules. The SIMM sockets allow memory from older machines to be recycled into a modern, performance, socket-7 system.

AGP Graphics Support

The mainboard has an AGP slot for the optional installation of an accelerated graphics port video adapter. AGP is today's standard for high-performance 2D and 3D video processing.

Versatile Expansion Options

The board has 6 expansion slots. Four PCI slots can be used by 32-bit PCI expansion cards. Two ISA slots can be used by 8-bit/16-bit ISA expansion cards. One PCI slot is shared with one of the ISA slots. This means that you can use either of the slots, but not both. Five free slots, plus an AGP slot for a graphics adapter, allows a high degree of system expansion.

Integrated I/O

The board features a full set of standard I/O ports. An AT enhanced keyboard DIN socket is pre-installed and connectors are available for one parallel, two serial, two USB, PS/2 mouse, and infrared ports. The mainboard is installed with two PCI IDE channels which can support Ultra-DMA-33 disk drives, and a floppy disk drive interface.

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:Introduction

Before you Begin

Before you being to install your 5VIA77 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 throught 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 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 gruonded 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 5VIA77 mainboard has a power connector for an AT or an ATX power supply. The size of the board is small enough for a micro-ATX format case.

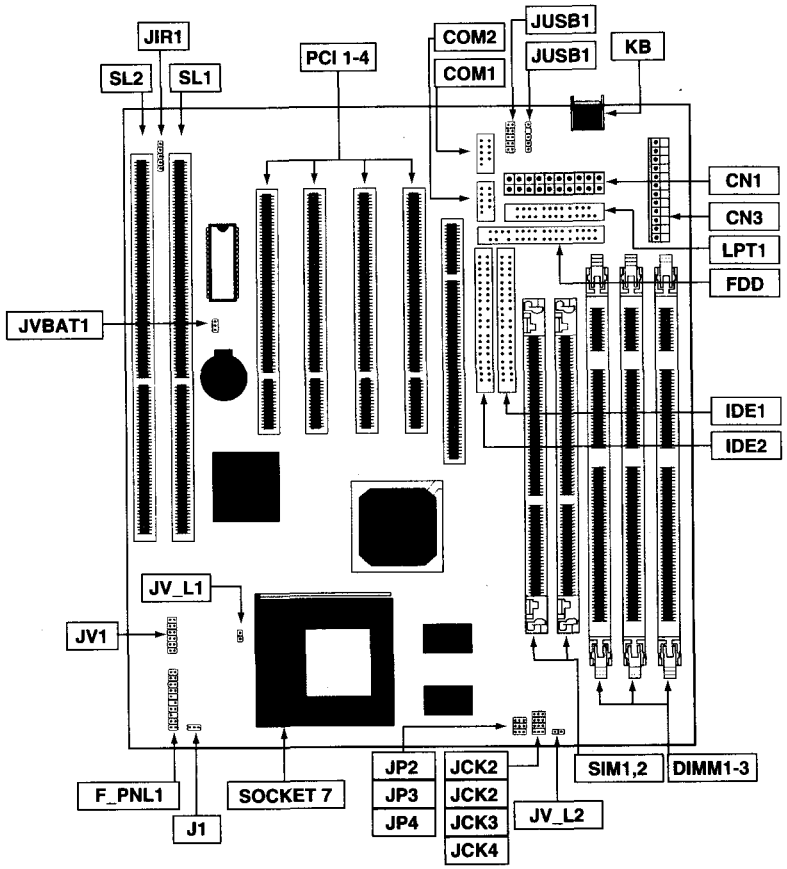
Some features on the mainboard are implemented by cabling connectors on the mainboard to indicators and switches on the system case. Ensure that your case supports all the features required.

The 5VIA77 mainboard can support one or two floppy diskette drives and four enhanced IDE drives. Ensure that your case has sufficient power and space for all the drives that you intend to install.

The mainboard has a single AT-keyboard port on the rear edge. All other ports use cables to connect to the case ports. In addition the mainboard supports 6 expansion slots. Make sure that your case supports all the I/O ports and expansion slots that you intend using.

Mainboard Guide

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



Key to Components

Component	Description
SL1, SL2	2X8/16-bit ISA expansion slots
PCI1,2,3,4	4X32-bit PCI expansion slots
AGP	Slot for AGP graphics adapter
Socket-7	Processor socket
SIM1, SIM2	Slots for 72-pin memory module
DIMM1, DIMM2,DIMM3	Slots for 168-pin memory module
FDD1	Connector for floppy disk drives
IDE1,IDE2	Primary and secondary IDE channels
COM1,COM2	Connectors for serial ports 1 & 2
LPT1	Connector for parallel port
CN2	AT-keyboard socket
JUSB1	Connector for USB ports
CN3	Connector for AT power supply
CN1	Connector for ATX power supply
JIR1	Connector for infrared port
CN4	Connector for PS/2 mouse
J1	Power connector for CPU cooling fan
JP2,3,4	Speed setting for system bus, PCI bus, AGP bus ,AGP bus jumpers
JCK2,3,4	Clock setting for memory jumper
JCK1	Clock setting for AGP and PCI jumpers
JV1	Processor core voltage setting jumper
LV-L1,LV-L2	Single for dual voltage CPU select jumper
JVBAT1	Clear CMOS memory jumper
F-PNL1	Panel Connector

Preparing the Mainboard

Prepare the main board by installing the Pentium or Pentium-compatible processor and then installing memory modules. This board supports processors that run from 90MHz through to over 300 Mhz. Finally, review all the important jumper setting to ensure that the board is configured correctly.

Install the Processor

1. Locate the zero insertion force (ZIF) socket-7 for the processor. On the socket and on the processor, identify the pin 1 corner. You can identify the pin 1 corner by noting that in the rectangular matrix of pins and holes on the socket and processor, one pin and one hole is absent on the pin 1 corner.
2. Push the socket locking lever away from the socket to unhook it. Swing the lever into the upright position.

3. Insert the processor into the socket taking care that you have matched the pin 1 corners. No fore is required, and the processor should seat smoothly into the socket.
4. Swing the locking level down and hook it under the latch on the side of the socket to lock it in place.
5. If your processor includes a built-in cooling fan, connect the cable from the cooling fan to the CPU cooling fan connector on the mainboard J1

Install the Memory Modules

On this mainboard, you can use 168-pin Dual In-line Memory Modules (DIMMs) or 72-pin Single In-Line Memory Modules (SIMMs). The memory modules can be installed with Fast Page-mode RAM (FP), EDO RAM or SDRAM.

For maxiumum performance, you should use SDRAM DIMM modules which are PC-100 compliant, i.e. they will run up to 66MHz external clock not including 66MHz. However, you can reduce cost by using older FP or EDO SIMMs or DIMMS. You may have to configure your board for a slower system/memory bus in order to use slower kinds of memory.

The DIMMs can hold memory capacities from 8 MB through to 384 MB. The SIMMs are usually installed with a maximum of 64 MB. You can install two SIMM modules (SIMM+SIMM2=BANK0), or one to There DIMM modules (DIMM1=BANK1, DIMM2=BANK0, DIMM3=BANK2. You cannot install a combination of SIMMs and DIMMs. The memory modules must be installed with the same kind of RAM. You cannot install one module using SDRAM, and another module using EDO RAM.

Installing DIMMs

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

Installing SIMMs

1. Hold the SIMM over the SIMM socket. Hold the SIMM at an angle so that you can insert the edge connector side of the module into the socket.
2. When the edge connector side fully inserted in to the socket, swing the SIMM into a vertical position. The latches at either side of the SIMM socket will snap onto the SIMM and hold it firmly in place.

Check all the Jumper Settings

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

M/B Color Jumpers definition

1. Green-Clock Factor
2. Red-Voltage Adjust
3. Yellow-External Clock

CPU Setting

Internal Clock	External Clock	Ratio
300MHz	100MHz	3
	75MHz	4
	66MHz	4.5
266MHz	75MHz	3.5
	66MHz	4
233MHz	66MHz	3.5
200MHz	66MHz	3
166MHz	66MHz	2.5

Function	Jumper	Jumper Setting					
		Feq	JCK2	JCK3	JCK4	AGP	PCI
Frequency	JCK2-JCK4	66MHz	2-3	2-3	1-2	66MHz	33MHz
		75MHz	1-2	2-3	2-3	75MHz	37MHz
		83.3MHz	1-2	2-3	1-2	55MHz	27MHz
		95MHz	1-2	1-2	2-3	62MHz	31MHz
		100MHz	1-2	1-2	1-2	66MHz	33MHz
NOTE: change the Frequency, the PCI and AGP clock will be change							

Function	Jumper	Jumper Setting			
		ration	JP2	JP3	JP4
		1.5/3.5	1-2	1-2	1-2
		2	2-3	1-2	1-2
		2.5	2-3	2-3	1-2
Ratio Set	JP2-JP4	3	1-2	2-3	1-2
		4	2-3	1-2	2-3
		4.5	2-3	2-3	2-3
		5	1-2	2-3	2-3
		5.5	1-2	1-2	2-3
	Voltage	sigal	Dual		
	JV-L1	1	0		
	JV-L2	0	1		

Function	Jumper	Jumper Setting						
SDRAM	JCK1	SDRAM CLK	2-3			1-2		
		AGP CLK CPU CLK	CLOSE OPEN			OPEN CLOSE		
Function		Jumper Setting						
CPU Vcore	JV1	Vcore	1-2	3-4	5-6	7-8	9-10	11-12
		3.5V	CLOSE	OPEN	OPEN	OPEN	OPEN	OPEN
		3.3V	OPEN	CLOSE	OPEN	OPEN	OPEN	OPEN
		3.2V	OPEN	OPEN	CLOSE	OPEN	OPEN	OPEN
		2.9V	OPEN	OPEN	OPEN	CLOSE	OPEN	OPEN
		2.8V	OPEN	OPEN	OPEN	OPEN	CLOSE	OPEN
		2.2V	OPEN	OPEN	OPEN	OPEN	OPEN	CLOSE

Locate the 3-pin Clear CMOS memory jumper JV1. Ensure that the jumper cap is palced on pin 1-2. If you ever need to clear the system CMOS memory, you can do this by moving the jumper cap to short pin 2-3 for a few second. When you clear the CMOS memory, the system must be turned off and the power cord disconnected.

Jumper	Description
JVBAT1 1-2	Normal
JVBAT 1 2-3	Clear CMOS

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 optoions you are installing, and the features that are supported by your system case.

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

Internal Connections

1. Locate the floppy diskette drive connector FDD1. Use the ribbon cable to connect the one or two floppy diskettes to the mainboard.
2. Locate the Enhanced IDE connectors IDE1 (primary IDE) and IDE2 (secondary IDE). A single IDE cable is provided with the mainboard. Connect the cable to IDE1. The cable has two connectors for IDE devices. If you connect two devices, you must configure one device as Master, and one device as Slave. See the documentation provided with the devices for information on this. If you need to install more drives, obtain another IDE cable and connect one or two devices to IDE2 following the same procedure as you used with IDE1.
3. Connect the serial port connectors to the serial ports. The serial ports may be fixed on your system case, or one or two serial ports may be provided on a bracket as shown in the illustration below. Connect the cables to the connectors on the motherboard COM1 and COM2.

Note: *If you install and use both serial ports, you cannot use the infrared connector J1R1 to install an optional infrared port.*

4. Connect the parallel port connector to the parallel port. The parallel port may be fixed on your system case, or it may be provided on a barcket like the serial port bracket shown above. Connect the cable to the connector on the motherboard LPT1.

5. Connect the USB port connectors to the USB ports. The USB ports may be fixed on your system case, or they may be provided on a bracket like the serial port bracket shown above. Connect the cable to the connector on the motherboard JUSB1.
6. Connect the PS/2 mouse connectors to the PS/2 mouse port. The PS/2 mouse port may be fixed on your system case, or it may be provided on a bracket like the serial port bracket shown above. Connect the cable to the connector on the motherboard CN4.
7. Locat the bank of switch and indicator Panel connectors F_PNL1. These connectors provide control functions to your system case. Use the illustration below to make the connections. The SMI connector functions as a suspend switch on systems with an AT power supply and ATX power supply, besides it must be delayed up to 4 sec., then SMI will function. When the system is on, push the power button rapidly to switch the system to suspend mode. When the system is in suspend mode, push the power button rapidly to turn the system on.
8. Locate the power connectors CN1 and CN3. If your are using an AT power unit, connect the power cable harness to CN3. If you are using an ATX power unit, connect the power cable harness to CN1.
9. Locate the expansion slots SL1, SL2, (for 8/16-bit ISA cards) and PCI 1, 2, 3, 4 (for 32-bit PCI cards). Install any expansion cards you want to add to your system into the appropriate slot and secure the card bracket to the system case.
10. Locate the AGP slot. If you are adding an AGP display adapter to your system, insert the card into the AGP slot.
11. If you have installed an infrared port, connect the port to the Standard Infrared connector. JIR1.

Note: *if you install and use an infrared port, you cannot use both of the serial ports COM1 and COM2.*

12. Finally, complete the installation by connecting a keyboard to the AT-enhanced keyboard connector.

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 you wish to execute that options. You usually answer these dialogs by typing **Y** for yes and **N** for no.

Some optinos 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 (2A5LEX39)
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 dispalys 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 (2A5LEX39)
STAND CMOS SETUP
AWARD SOFTWARE, INC.

Date (mm:dd:yy): Thu, Jul 2 1998
Time (hh:mm:ss): 11:1:8

HARD DISKS	TYPE	SIZE	CYLS	HEAD	PRECOMP	LANDZ	SECTOR	MODE
Primary Master:	None	0	0	0	0	0	0	-----
Primary Slave	None	0	0	0	0	0	0	-----
Secondary Master:	None	0	0	0	0	0	0	-----
Secondary Slave:	None	0	0	0	0	0	0	-----

Drive A:None
Drive B:None
Video : EGA\VGA
Halt On : All Errors

Base Memory: OK
Extended Memory: OK
Other Memory: 512K
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 system, these items will automatically be updated whenever you make changes to the Windows Date and Time Properties utility.

Hard Disks ***Defaults: None***

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 HADD 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: 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 define 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 Test0 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 erros to your system.

ROM PCI/ISA BIOS (2A5LEX39)
BIOS FEATURES SETUP
AWARD SOFTWARE, INC.

Virus Warning	: Disabled	Video BIOS	Shadow: Enabled
CPU Internal Cache	: Enabled	C8000-CBFFF:	Shadow: Disabled
External Cache	: Enabled	CC000-CFFFF:	Shadow: Disabled
Quick Power On Self Test	: Enabled	D0000-D3FFF:	Shadow: Disabled
Boot From LAN First	: Enabled	D4000-D7FFF:	Shadow: Disabled
Boot Sequence	: A, C, SCSI	D8000-DBFFF:	Shadow: Disabled
Swap Floppy Drive	: Disabled	DC000-DFFFF:	Shadow: Disabled
Boot Up NumLock Status	: On		
Gate A20 Option	: Fast		
Memory Parity/ECC Check	: Enable		
Security Option	: Setup		
IDE Second Channel Control	: Enabled		
PCI/VGA Palettet Snoop	: Disabled		
OS Select For DRAM>64MB	: Non-OS2		

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

Virus Warning ***Default: Disabled***

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

CPU Internal Cache ***Default: Enabled***

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

External Cache ***Default: Enabled***

This mainboard is installed with 512K of external (level 2) cache memory to improve perforamnce. Leave this item at the default value Enabled for better performance.

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

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

Boot 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 to 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: Enabled***

This mainboard supports memory with a parity bit or memory with error correction code, so leave this item at the default value of Enabled so that potential memory errors can be eliminated.

Security Option ***Default: Setup***

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

IDE Second Channel Control ***Default: Enabled***

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

PC/NGA Palette Snoop ***Default: Disabled***

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

OS Select For DRAM>64MB ***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 familar 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 (2A5LEX39)
CMOS SETUP UTILITY
CHIPSET FAATURES SETUP

Bank 0/1 DRAM Timing	: FP/EDO 70ns	CPU Warning Temperature: Disabled	
Bank 2/3 DRAM Timing	: FP/EDO 70ns	Current CPU Temperature:	
Bank 4/5 DRAM Timing	: FP/EDO 70ns	CPUFAN:	
SDRAM Cycle Length	: 3	Current Vin3(V):	
DRAM Read Pipeline	: Enabled		
Cache Rd+CPU Wt Pipeline	: Enabled		
Cache Timing	: Fast		
Video BIOS Cacheable	: Enabled		
System BIOS Cacheable	: Enabled		
Memory Hole At 15Mb Addr.	: Disabled		
AGP Aperture Size	: 64M		
		ESC: Quit	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: FP/EDO 70ns***
BANK 2/3 DRAM Timing ***Default: FP/EDO 70ns***
BANK 4/5 DRAM Timing ***Default: FP/EDO 70ns***

These items define the timing parameters for Fast page-mode and EDO RAM. We recommend that you leave these items at the default values. The default value ensures reliability if slower memory is used.

SDRAM Cycle Length ***Default: 3***

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

DRAM Read Pipeline ***Default: Enabled***

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

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

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

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

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

Memory Hole at 15M-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.

AGP Aperture Size ***Default: 64M***

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

Right Side Items

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

Power Management Setup Option

This option displays a table of items which lets you control the power management of the system. Modern operating systems take care of much of the routine power management. This 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 **PM Events**. If the hard disk has been powered down it will automatically resume to full power when an access to the hard disk is required (this takes just a few seconds).

ROM PCI/ISA BIOS (2A5LEX39)
POWER MANAGEMENT SETUP

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

Power Management ***Default: User Define***

this item acts like a master switch for the power-saving modes and hard disk timeouts.If this item is set to Disabled, all the power-saving modes are disabled. If

this item is set to Max Saving, doze, standby, and suspend mode, will occur after a timeout of 20 seconds. If this item is set to Min Saving, doze, standby, and suspend mode will occur after a timeout of 40 minutes. If the item is set to User Define, you can insert your own timeouts for the power-saving modes.

PM Control by APM ***Default: Yes***

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

Video Off Option ***Default: Suspend->Off***

This option defines which level of power-saving mode is required in order to power down the video display. As a default, the video powers down in both suspend mode and 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.

Modem Ring Resume ***Default: Disabled***

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

RTC Alarm Resume ***Default: Disabled***

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

Primary INTR ***Default: On***

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

IRQX

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

PNP/PCI Configuration Option

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

ROM PCI/ISA BIOS (2A5LEX39)
PNP/PCI CONFIGURATION
AWARD SOFTWARE, INC.

PNP OS Installed: Yes Resources Controlled By: Auto Reset Configuration Data: Disabled ACPI I/O Device Node: Enabled	Assign IRQ For USB: Enabled Assign IRQ For USB: Enabled
	ESC: Quit Select Item F1:Help PU/PD/+/-: Modify F5:Old Values (Shift)F2: Color F6: Load BIOS Defaults F7: Load Setup Defaults

PNP OS Installed ***Default: Yes***

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

Resources Controlled By ***Default: Auto***

You should leave this item at the default Auto. If you find that you cannot get a particular expansion card to work properly, you might be able to solve the problem by

changing this item to Manual, and defining the characteristics of the card in the new items which appear.

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

Reset Configuration Data ***Default: Disabled***

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

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

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

Assign IRQ for USB ***Default: Enabled***

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

Assign IRQ for VGA ***Default: Enabled***

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

Load BIOS Defaults Option

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

Load Setup Defaults Option

This option displays a dialog box which allows you install optimum defaults for all appropriate items in the whole setup utility. Press the **Y** key and then the **Enter** key to install the defaults. Press the **N** key and then **Enter** to not install the defaults. The optimum defaults can place some demands on the system that are greater than the performance level of the components, such as the processor and the memory. You could cause fatal errors or recurring instability of 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 (2A5LEX39)
INTEGRATED PERIPHERALS
AWARD SOFTWARE, INC.

OnChip IDE First Channel	: Enabled	Onboard parallel port: 378/IRQ7
OnChip IDE Second Channel	: Enabled	Onboard Parallel Mode: SPP
IDE Prefetch Mode	: Enabled	
IDE HDD Block Mode	: Enabled	
IDE Primary Master PIO	: Auto	USB Controller: Enabled
IDE Primary Slave PIO	: Auto	USB Keyboard Support: Disabled
IDE Secondary Master PIO	: Auto	
IDE Secondary Slave UDMA	: Auto	
IDE Primary Master UDMA	: Auto	
IDE Primary Slave UDMA	: Auto	
IDE Secondary Master UDMA	: Auto	
IDE Secondary Slave UDMA	: Auto	
Init Display First		
Onboard FDD Controller	: Enabled	
Onboard Serial port 1	: 3F8/IRQ4	
Onboard Serial port 2	: 2F8/IRQ3	
UART 2 Mode		

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

Onchip IDE First Channel ***Default: Enabled***
Onchip IDE Second Channel ***Default: Enabled***

You can use this item to enable or disable the primary and secondary IDE channels that are built into this mainboard. When one or both channels are enabled (the default value is Both) items appear which allow you to set the PIO (programmable input/output) mode and the UltraDMA mode for maaster and slave device 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 aleterative IDE interface (on an expansion card, disable this field if the alternate IDE interface does not support prefetching.)

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

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

IDE Primary Master PIO ***Default: Auto***
IDE Primary Slave PIO ***Default: Auto***
IDE Secondary Master PIO ***Default: Auto***
IDE Secondary Slave PIO ***Default: Auto***

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

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

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

Init Display First ***Default: PCI Slot***

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

Onboard FDC Controller ***Default: Enabled***

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

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

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

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

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

UART 2 Mode ***Default: Standard***

This item defines the operation of serial port 2. In the default Standard setting, serial port 2 is assigned to the connector on the mainboard. If you have installed an optional infrared port, you must change the setting of this item to either HPSIR, or ASKIR. These settings will disable the mainboard serial port connector and assign serial port 2 to the infrared device. HPSIR prepares the port to receive infrared communications using the IrDA serial infrared standard. ASKIR prepares the port to receive infrared communications using the ASK serial infrared standard. The ASK standard is supported my many devices made by the Sharp Corporation. If you have selected an IR mode, a new item appears, Use IR Pins. Set this item according to the kind of IR port you have installed.

Onboard parallel Port ***Default: 378/IRQ7***

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

Onboard parallel Mode ***Default: SPP***

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

USB Controller ***Default: Enabled***

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

USB Keyboard Support ***Default: Disabled***

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

Password Settings

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

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

IDE HDD Auto Detection Option

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

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

Save And Exit Setup Option

Highlight this item and press **Enter** to save the changes that you have made in the setup utility and exit the setup program. When the Save and Exit dialog box appears, press **Y** to save and exit, or press **N** to return to the setup 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 two diskettes. One diskette has the installation program and drivers for a Bus Master IDE controller. The second disketter has the installation program and drivers for an AGP graphics adpater, and ACPI (advanced power management and configuration interface) utilities.

Installing the IDE Bus Master Driver

The IDE Bus Master Drivers will run under Windows 95 or Windows NT.

Windows 95 Installation

1. Place the diskette in the floppy disk drive.
2. Click the Windows Start button, and then click on Run.
3. Browse to the diskette drive and select the program called SETUP.EXE.
4. Follow the instructions on the screen to complete the installation of the Bus Mastering IDE Drives.

Windows NT Installation

1. Carry out the installation instructions for Windows 95 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 Direct X.50 from Microsoft. Idrect X.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. Place the diskette in the floppy disk drive.
2. Click the Windows Start button, and then click on Run.
3. Browse to the diskette drive and select the program called VXD_INST.BAT.
4. Follow the instructions on the screen to complete the installation.

Installing the ACPI Driver

This patch allows Win95 to recognize the VIA chipset in the system device manager.

Windows 95 Installation

5. Place the diskette in the floppy disk drive.
6. Click the Windows Start button, and then click on Run.
7. Browse to the diskette drive and select the program called ACP_INST.BAT.
8. Follow the instructions on the screen to complete the installation.