## Chapter 1

# INTRODUCTION

The 694 Master (MS-6309 ver 3.0) ATX mainboard is a high-performance computer mainboard based on VIA® VT82C694X chipset.  The 694 Master (MS-6309 ver 3.0) is designed for the Intel® Celeron™ or Coppermine (FC-PGA)  processor for inexpensive business/personal desktop markets.

The Apollo Pro133A (VT82C694X) is a Socket-370 system logic north bridge with the addition of 133 MHz capability for both the CPU and SDRAM interfaces. Apollo Pro133A may be used to implement both desktop and notebook personal computer systems from 66MHz to 133MHz based on Socket-370. The primary features of the Apollo Pro133A-North Bridge are: Slot-1 or Socket-370 CPU (Front Side Bus) Interface (66 / 100 / 133MHz), DRAM Memory Interface (66 / 100 / 133MHz), AGP Bus Interface (66MHz), PCI Bus Interface (33MHz), Mobile Power Management.

The VT82C686B PSIPC (PCI Super-I/O Integrated Peripheral Controller) is a high integration, high performance, power-efficient, and high compatibility device that supports Intel and non-Intel based processor to PCI bus bridge functionality to make a complete Microsoft PC99-compliant PCI/ISA system.

## Mainboard Features

**CPU**
- Socket 370 for Intel® Celeron™/ Coppermine processor.
- Supports 233MHz, 266MHz, 300MHz, 333MHz, 350MHz, 400MHz, 450MHz, 500MHZ, 533MHz to 1GHz.

**Chipset**
- VIA® 694X chipset (510 BGA)
    - AGP 4x and PCI plus Advanced ECC Memory Controller
    - Support PC100/133 SDRAM, VCM technology
- VIA® VT82C686B chipset (352 BGA)
    - Advanced Power Management Features
    - Integrated Super I/O (FDC, LPT, COM 1/2, and IR)
    - DirectSound AC97 Audio
    - Dual bus Master IDE Ultra DMA33/66/100
    - ACPI

**Clock Generator**
- 66.6MHz, 100MHz and133MHz clocks are supported.

**Main Memory**
- Support eight memory banks using four 168-pin unbuffered DIMM.
- Support a maximum memory size of 2GB (32M x 8).
- Support ECC (1-bit Error Code Correct) function.
- Support 3.3v SDRAM DIMM.

**Slots**
- One AGP (Accelerated Graphics Port) slot.
    - AGP specification compliant
    - AGP 66MHz 3.3v/1.5v for 2x/4x device support
- One CNR (Communication Network Riser) slot which support Modem only.
- Six 32-bit Master PCI Bus slots.
- Supports 3.3v/5v PCI bus Interface.

**On-Board IDE**
- An IDE controller on the VIA® VT82C686B Chipset provides IDE HDD/ CD-ROM with PIO, Bus Master and Ultra DMA 33/66/100 operation modes.
- Can connect up to four IDE devices.

**On-Board Peripherals**
- On-Board Peripherals include:
    - 1 floppy port supports 2 FDD with 360K, 720K, 1.2M, 1.44M and 2.88Mbytes.
    - 2 serial ports (COMA + COMB)
    - 1 parallel port supports SPP/EPP/ECP mode
    - 4 USB ports
    - 1 IrDA/HP connector for SIR
    - 1394 (optional)

**Audio**
- Chip Integrated (Software Audio)
    - AC'97 Compliant

**BIOS**
- The mainboard BIOS provides "Plug & Play" BIOS which detects the peripheral devices and expansion cards of the board automatically.
- The mainboard provides a Desktop Management Interface (DMI) function which records your mainboard specifications.
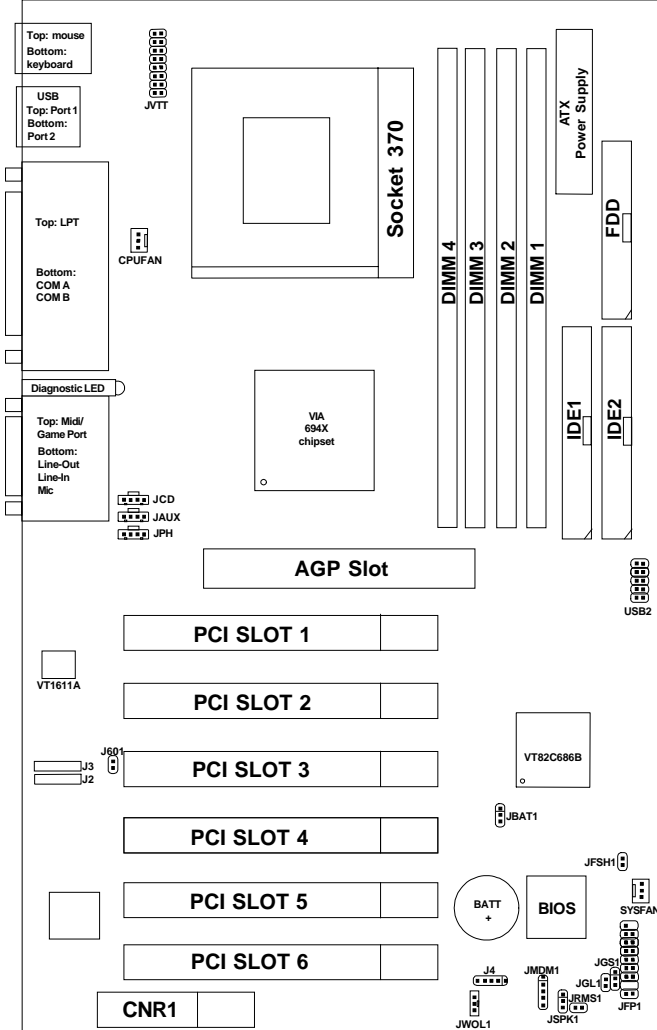
**Dimension**
- ATX Form Factor : 30.5cm (L) x 21cm (W) x 4 layers PCB

**Mounting**
- 6 mounting holes.

# Mainboard Layout



**694 Master (MS-6309 ver 3.0) Mainboard**

## Chapter 2

## HARDWARE INSTALLATION

## Central Processing Unit: CPU

The mainboard operates with **Intel® Celeron™/Pentium® III (FC-PGA) processor.** The mainboard uses a CPU socket called Socket 370 for easy CPU installation. The CPU should always have a Heat Sink and a cooling fan attached to prevent overheating.

- ● **CPU Installation Procedures**

1. Pull the lever sideways away from the socket. Then, raise the lever up to a 90-degree angle.

2. Locate Pin 1 in the socket and look for the white dot or cut edge in the CPU. Match Pin 1 with the white dot/cut edge. Then, insert the CPU. It should insert easily.

3. Press the lever down to complete the installation.
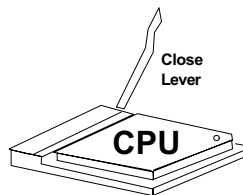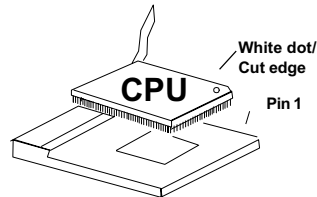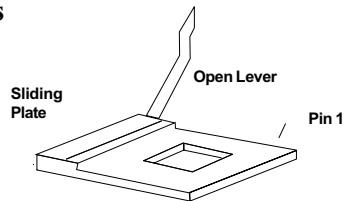
• **CPU Core Speed Derivation Procedure**

The BIOS can be used to set the CPU Host Bus  Frequency Clock.

$$
\begin{aligned}
\textbf{If} \quad & \underline{\text{CPU Clock}} \quad = 66\text{MHz} \\
& \underline{\text{Core/Bus ratio}} \quad = 3.5 \\
\textbf{then} \quad & \underline{\text{CPU core speed}} \quad = \underline{\text{Host Clock}} \text{ x } \underline{\text{Core/Bus ratio}} \\
& \qquad\qquad\qquad = 66\text{MHz x } 3.5 \\
& \qquad\qquad\qquad = 233\text{MHz}
\end{aligned}
$$

• **Fan Power Connectors:  CPUFAN & SYSFAN**

These connectors support system cooling fan with + 12V.  It supports three pin head connector.   When connecting  the wire to the connector, always take note that the red wire is the positive and should be connected to the +12V, the black wire is Ground and should be connected to GND.  If your mainboard has System Hardware Monitor chipset on-board, you must use a specially designed fan with speed sensor to take advantage of this function.

SENSOR
+12V
GND

**CPUFAN**

GND
+12V
SENSOR
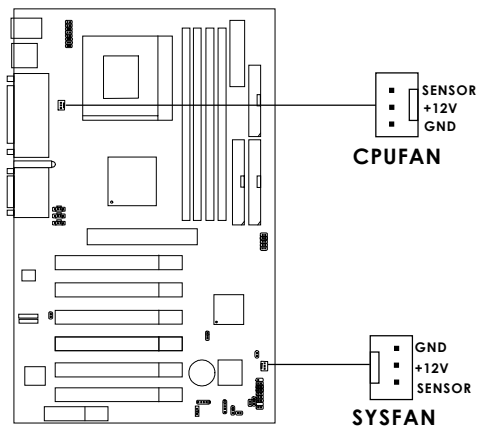
**SYSFAN**

**CPUFAN**: Processor Fan
**SYSFAN**: System Fan

For fans with fan speed sensor, every rotation of the fan will send out 2 pulses.  System Hardware Monitor will count and report the fan rotation speed.

**Note:**  Always consult your reseller for proper CPU cooling fan.

## Clear CMOS Jumper:  JBAT1

A battery must be used to retain the mainboard configuration in CMOS RAM.  Short 1-2  pins of JBAT1 to store the CMOS data.



**JBAT1**
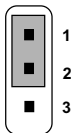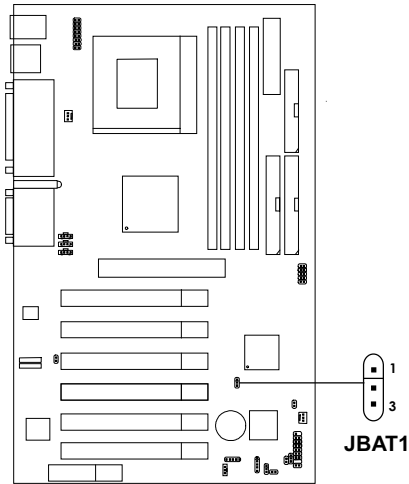


**Keep Data**
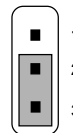


**Clear Data**

**Note:**  You can clear CMOS by shorting 2-3 pin, while the system is off. Then, return to 1-2 pin position.  Avoid clearing the CMOS while the system is on, it will damage the mainboard.  Always unplug the power cord from the wall socket.

# Memory Installation

### ● **Memory Bank Configuration**

The mainboard supports a maximum memory size of 2GB (256-bit technology) SDRAM:  It  provides four 168-pin **unbuffered** DIMMs (Double In-Line Memory Module) sockets.  It supports 8 MB to 512 Mbytes DIMM memory module.
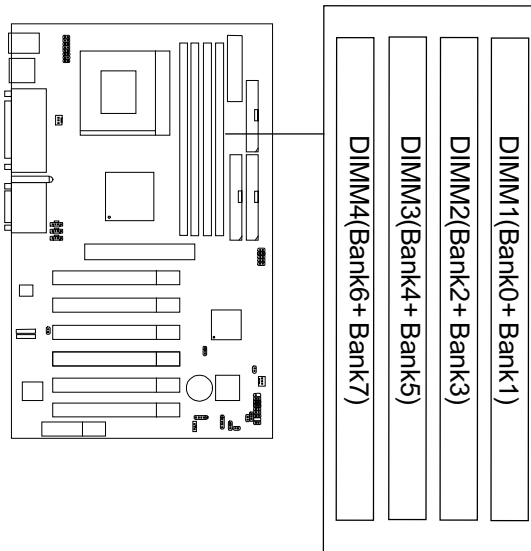


| ⚠ WARNING! | There are three kinds of DIMM specification supported by this mainboard:  PC133, PC100 and PC66.  If you use 66MHz CPU Bus Frequency, these four DIMM Specs. is supported.  If you use 100 MHz CPU Bus Frequency, only PC100 DIMM Specs. is supported.If you use 133 MHz CPU Bus Frequency, only PC133 DIMM Specs. is supported. |
|---|---|

● **Memory Installation Procedures**

   **A. How to install a DIMM Module**



**Single Sided DIMM**
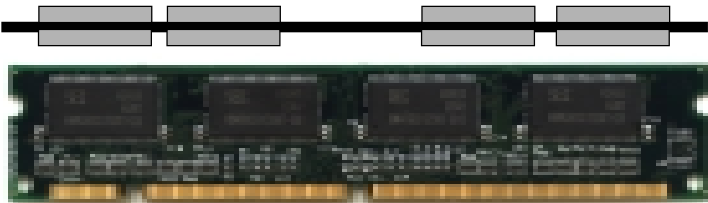


**Double Sided DIMM**

1. The DIMM slot has 2 Notch Keys "VOLT and DRAM", so the DIMM memory module can only fit in one direction.

2. Insert the DIMM memory module vertically into the DIMM slot. Then push it in.



DRAM          VOLT
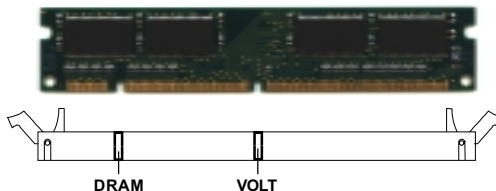
3. The plastic clip at the side of the DIMM slot will automatically close.

● **Memory Population Rules**

1. Supports only SDRAM DIMM.

2. To operate properly, at least one 168-pin DIMM module must be installed.

3. This mainboard supports Table Free memory, so memory can be installed on DIMM1, DIMM 2, DIMM 3 or DIMM4 in any order.

4. Supports 3.3 volt DIMM.

5. The DRAM addressing and the size supported by the mainboard is shown below:

### SDRAM Memory Addressing

| DRAM Tech. | DRAM Density & Width | DRAM Addressing | Address Size | | MB/DIMM | |
|---|---|---|---|---|---|---|
| | | | Row | Column | Single no. Side(S) pcs. | Double no. Side(D) pcs. |
| 16M | 1Mx16 | ASYM | 11 | 8 | 8MBx4 | 16MBx8 |
| | 2Mx8 | ASYM | 11 | 9 | 16MBx8 | 32MBx16 |
| | 4Mx4 | ASYM | 11 | 10 | 32MB | 64MB |
| 64M | 2Mx32 | ASYM | 11 | 9 | 32MBx2 | 64MBx4 |
| | 2Mx32 | ASYM | 12 | 8 | 16MBx2 | 32MBx4 |
| | 4Mx16 | ASYM | 11 | 10 | 32MB | 64MB |
| | 4Mx16 | ASYM | 13 | 8 | 32MB | 64MB |
| | 8Mx8 | ASYM | 13 | 9 | 64MB | 128MB |
| | 16Mx4 | ASYM | 13 | 10 | 128MB | 256MB |
| 64M | 2Mx32 | ASYM | 12 | 8 | 16MB | 32MB |
| | 4Mx16 | ASYM | 13 | 8 | 32MB | 64MB |
| | 8Mx8 | ASYM | 13 | 9 | 64MB | 128MB |
| | 16Mx4 | ASYM | 13 | 10 | 128MB | 256MB |

## Case Connector:  JFP1

The Keylock (reserved), Power Switch, Reset Switch,  Power LED,  Speaker, and HDD LED are all connected to the JFP1 connector block.
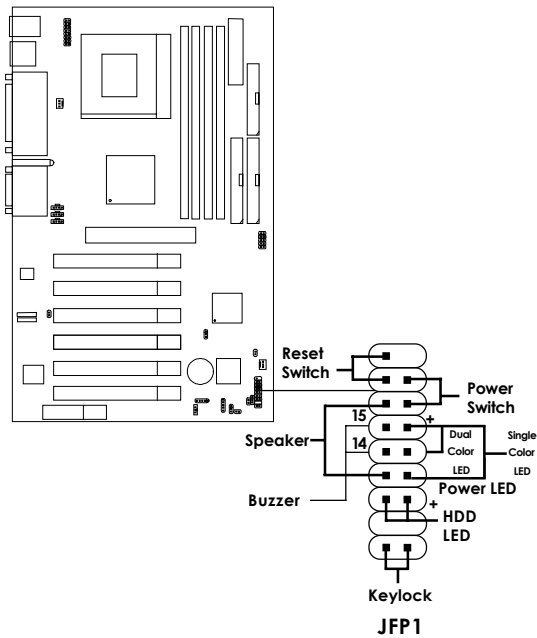
## Power Switch

Connect to a 2-pin push button switch. This switch has the same feature with JRMS1.

## Reset Switch

Reset switch is used to reboot the system rather than turning the power ON/OFF. Avoid rebooting while the HDD LED is lit. You can connect the Reset switch from the system case to this pin.

## Power LED

The Power LED is lit while the system power is on. Connect the Power LED from the system case to this pin. There are two types of LED that you can use: 3-pin single color LED or 2-pin dual color LED (ACPI request).

       **a.** 3 pin single color LED connect to pin 4, 5, & 6. This LED will lit when the system is on.

       **b.** 2 pin dual color LED connect to pin 5 & 6.

             **GREEN**Color:      Indicate the system is in full on mode.

             **ORANGE**Color:    Indicate the system is in suspend mode.

## Speaker

Speaker from the system case is connected to this pin.

If on-board Buzzer is available:

Short pin 14-15:      On-board Buzzer Enabled.

Open pin 14-15:      On-board Buzzer Disabled.

## HDD LED

HDD LED shows the activity of a hard disk drive. Avoid turning the power off while the HDD led is lit. You can connect the HDD LED from the system case to this pin.

# Floppy Disk Connector:  FDD

The mainboard also provides a standard floppy disk connector FDD that
supports 360K, 720K, 1.2M, 1.44M and 2.88M floppy disk types.  This
connector supports the provided floppy drive ribbon cables.
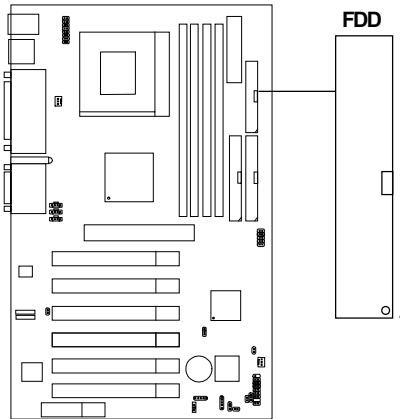
## Hard Disk Connectors:  IDE1 & IDE2

The mainboard has a 32-bit Enhanced PCI IDE and Ultra DMA/33/66/100 Controller that provides PIO mode 0~5, Bus Master, and Ultra DMA/33/66/ 100 function. It has two HDD connectors IDE1 (primary) and IDE2 (secondary).  You can connect up to four hard disk drives, CD-ROM, 120MB Floppy (reserved for future BIOS) and other devices  to IDE1 and IDE2. These connectors support the provided IDE hard disk cable.
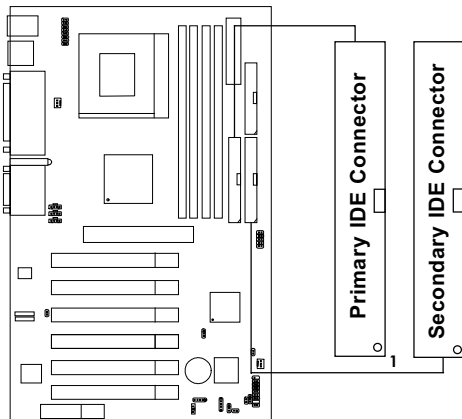


**IDE1** (Primary IDE Connector)
The first hard drive should always be connected to IDE1.  IDE1 can connect a Master and a Slave drive.  You must configure second hard drive to Slave mode by setting the jumper accordingly.

**IDE2** (Secondary IDE Connector)
IDE2 can also connect a Master and a Slave drive.

# Power Supply

### ● ATX 20-pin Power Connector:  JWR1

This connector supports the power button on-board.  Using the ATX power supply, functions such as Modem Ring Wake-Up and Soft Power Off are supported by this mainboard.  This power connector supports instant power on function which means that system will boot up instantly when the power connector is inserted on the board.



**JWR1**
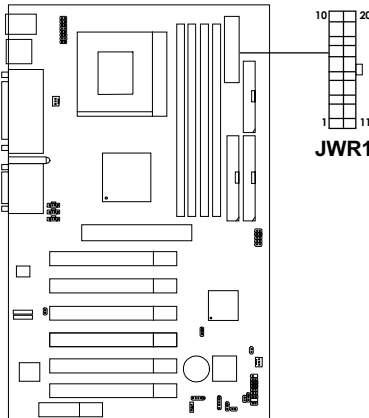
**PIN DEFINITION**

| PIN | SIGNAL | PIN | SIGNAL |
|-----|--------|-----|--------|
| 1   | 3.3V   | 11  | 3.3V   |
| 2   | 3.3V   | 12  | -12V   |
| 3   | GND    | 13  | GND    |
| 4   | 5V     | 14  | PS_ON  |
| 5   | GND    | 15  | GND    |
| 6   | 5V     | 16  | GND    |
| 7   | GND    | 17  | GND    |
| 8   | PW_OK  | 18  | -5V    |
| 9   | 5V_SB  | 19  | 5V     |
| 10  | 12V    | 20  | 5V     |

**Warning:** Since the mainboard has the instant power on function, make sure that all components are installed properly before inserting the power connector to ensure that no damage will be done.

● **Remote Power On/Off Switch:  JRMS1**

Connect to a 2-pin push button switch.  During OFF state, press once and the system turns on.  **During ON stage, push once and the system goes to sleep mode:  pushing it more than 4 seconds will change its status from ON to OFF**. If  you want to change the setup, you could go to the BIOS Power Management Setup.  This is used for ATX type power supply only.



**JRMS1**
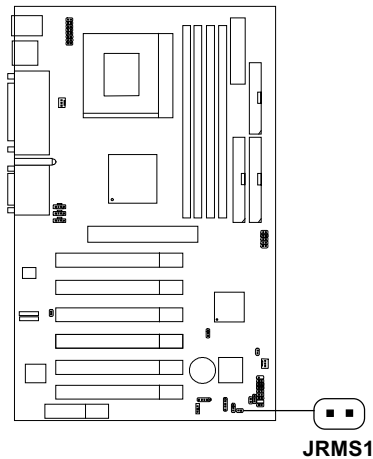
## IrDA Infrared Module Connector:  J4

The mainboard provides one infrared (J4) connector for IR modules.  This connector is for optional wireless transmitting and receiving infrared module. You should configure the setting through the BIOS setup to use the IR function.
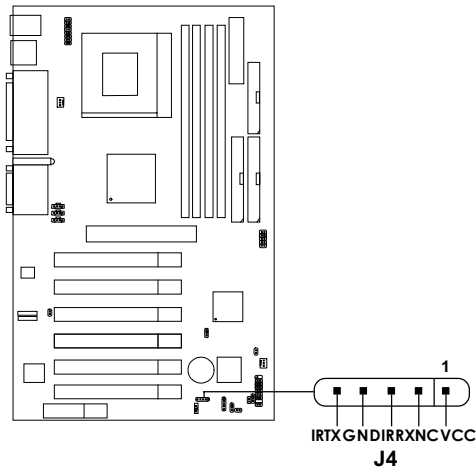
# Serial Port Connectors:  COM A and COM B

The mainboard provides two 9-pin male DIN connectors for serial port COM
A & COM B.  These port are 16550A  high speed communication port that
send/receive 16 bytes FIFOs.  You can attach a mouse or a modem cable
directly into this connector.
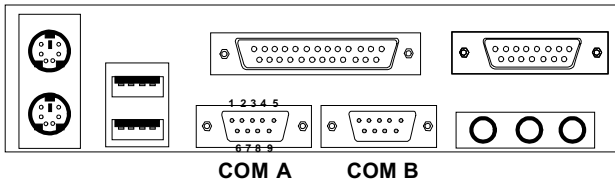


**Serial Port (9-pin Male)**

## PIN  DEFINITION

| PIN | SIGNAL |
|:---:|:---|
| 1 | **DCD** (Data Carry Detect) |
| 2 | **SIN** (Serial In or Receive Data) |
| 3 | **SOUT** (Serial Out or Transmit Data) |
| 4 | **DTR** (Data Terminal Ready) |
| 5 | **GND** |
| 6 | **DSR** (Data Set Ready) |
| 7 | **RTS** (Request To Send) |
| 8 | **CTS** (Clear To Send) |
| 9 | **RI** (Ring Indicate) |

# Parallel Port Connector: LPT1

The mainboard provides a 25 pin female centronic connector for LPT. A parallel port is a standard printer port that also supports Enhanced Parallel Port (EPP) and Extended capabilities Parallel Port (ECP). See connector and pin definition below:

**Parallel Port (25-pin Female)**

**LPT 1**
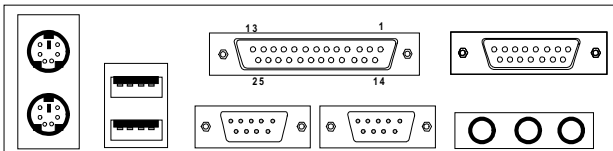


## PIN  DEFINITION

| PIN | SIGNAL | PIN | SIGNAL |
|-----|--------|-----|--------|
| 1 | STROBE | 14 | AUTO FEED# |
| 2 | DATA0 | 15 | ERR# |
| 3 | DATA1 | 16 | INIT# |
| 4 | DATA2 | 17 | SLIN# |
| 5 | DATA3 | 18 | GND |
| 6 | DATA4 | 19 | GND |
| 7 | DATA5 | 20 | GND |
| 8 | DATA6 | 21 | GND |
| 9 | DATA7 | 22 | GND |
| 10 | ACK# | 23 | GND |
| 11 | BUSY | 24 | GND |
| 12 | PE | 25 | GND |
| 13 | SELECT | | |

## Mouse Connector:  JKBMS1

The mainboard provides a standard PS/2® mouse mini DIN connector for attaching a PS/2®  mouse.  You can plug a PS/2® mouse directly into this connector.  The connector location and pin definition are shown below:
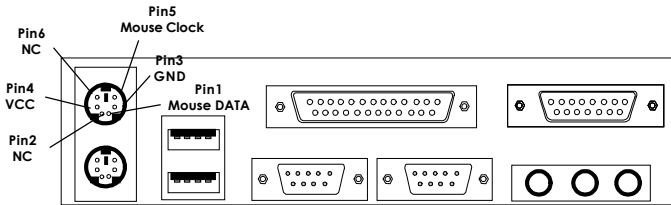
**PS/2 Mouse (6-pin Female)**

## Keyboard Connector:  JKBMS1

The mainboard provides a standard PS/2® keyboard mini DIN connector for attaching a keyboard.  You can plug a keyboard cable directly to this connector.
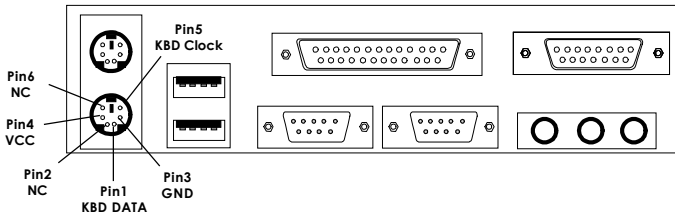
**PS/2 Keyboard (6-pin Female)**

# Joystick/Midi Connectors

You can connect a joystick or game pad to this connector.

**Joystick/MIDI**
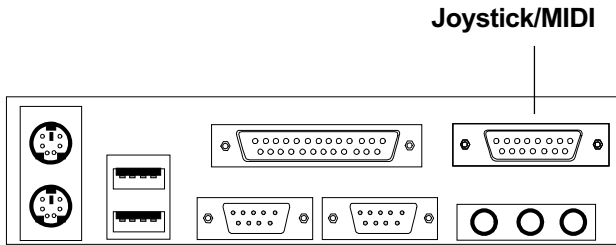


# Audio Port Connectors

**Line Out** is a connector for Speakers or Headphones.  **Line In** is used for external CD player, Tape player, or other audio devices.  **Mic** is a connector for the microphones.



**Line Out   Line In   Mic**
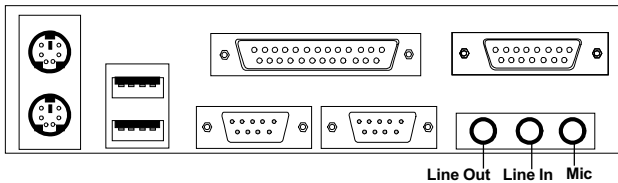
**1/8" Stereo Audio Connectors**

## USB Connectors

The mainboard provides a **UHCI (Universal Host Controller Interface) Universal Serial Bus root** for attaching USB devices like: keyboard, mouse and other USB devices. You can plug the USB device directly to this connector.

**USB Port 2**

**USB Port 1**
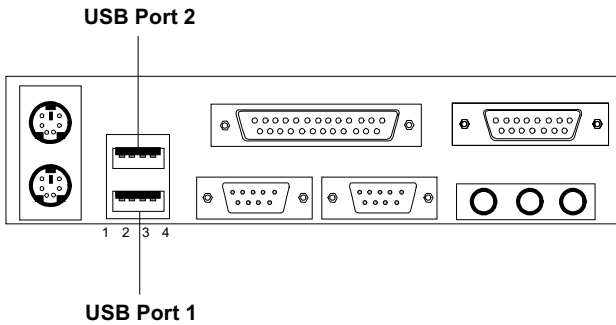
| PIN | SIGNAL |
|-----|--------|
| 1   | VCC    |
| 2   | -Data  |
| 3   | +Data  |
| 4   | GND    |

# Wake-Up on LAN Connector: JWOL1

The JWOL1 connector is use with LAN add-on cards that supports Wake Up on LAN function. To use this function, set the "Wake-Up on LAN" to enable located at the BIOS Power Management Setup.



**JWOL1**
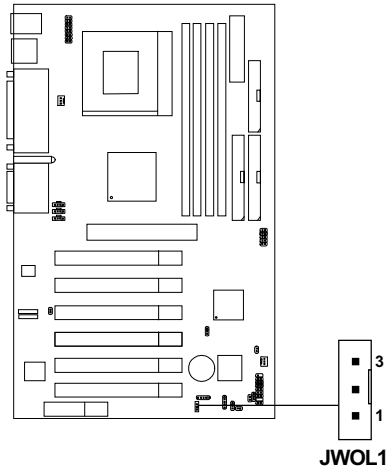
| PIN | SIGNAL |
|-----|-----------|
| 1 | 5VSB |
| 2 | GND |
| 3 | MP_WAKEUP |

**Note:** LAN wake-up signal is active "high".

**Note:** To be able to use this function, you need a power supply that provide enough power for this feature.
(Power supply with 750mA 5V Stand-by)

# Modem Wake Up Connector: JMDM1

The JMDM1 connector is used for Modem add-on card that supports the Modem Wake Up function.

**JMDM1**
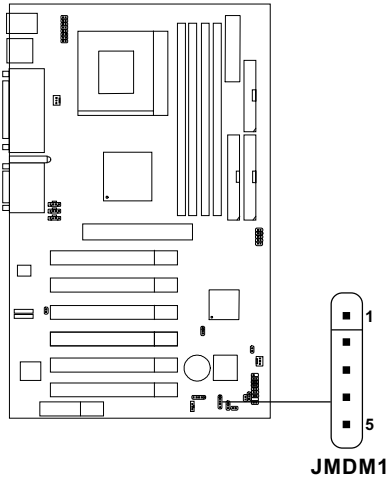
| PIN | SIGNAL |
|-----|--------|
| 1 | NC |
| 2 | GND |
| 3 | MDM_WAKEUP |
| 4 | NC |
| 5 | 5VSB |

**Note:** Modem wake-up signal is active "low".

**Note:** To be able to use this function, you need a power supply that provide enough power for this feature.
(Power supply with 750mA 5V Stand-by)

# Power Saving Switch Connector: JGS1
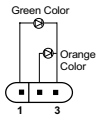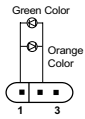
Attach a power saving switch to **JGS1**. When the switch is pressed, the system immediately goes into suspend mode. Press any key and the system wakes up.



JGS1
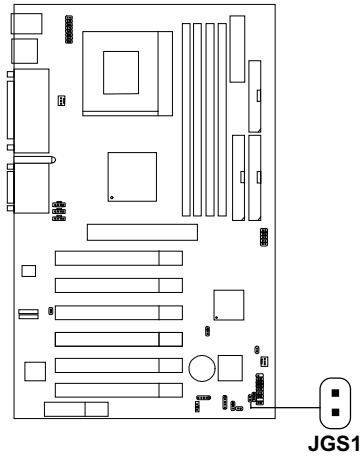
# Power Saving LED Connector:  JGL1

JGL1 can be connected with two-color LED.  There are two types of LED that can be use:  3-pin LED or 2-pin LED. When the 2-pin LED is connected to JGL1, the light will turn green, when the system is On.  During sleep mode, the 2-pin LED will change its color from Green to Orange. For 3-pin LED, when LED is connected to JGL1, this will light when the system is On and blinks when it is in suspend/sleep mode.



JGL1
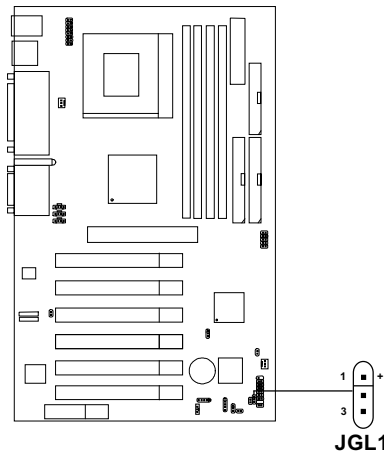
| 3-pin LED | 2-pin LED |
|---|---|
|  |  |
| 1-2   Single Color<br>1-3   Blink | 1-2 Dual Color |

# CPU Termination Voltage Jumper: JVTT (reserved)

This jumper is a reserved function for future Coppermine CPU.
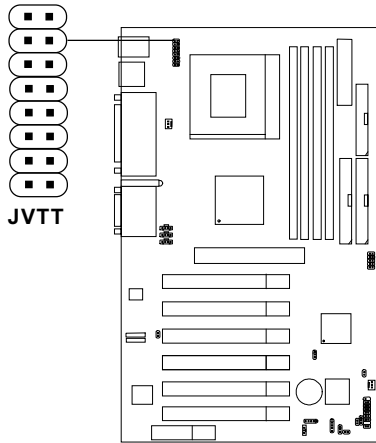


| JVTT | Function |
|---|---|
|  | **For Celeron** |
|  | **For Coppermine** |

# CNR1 (Communication Network Riser)

The Communication Network Riser specification is an open industry-standard specification that defines a hardware scalable Original Equipment Manufacturer (OEM) mainboard riser board and interface, **which supports audio and modem only**.



**CNR1**
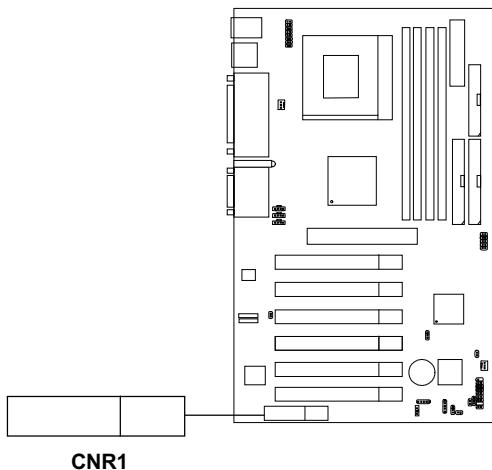
# Diagnostic LED

The mainboard provides a Special Diagnostic LED for users to be aware
of their mainboard conditions.  The LED helps user determine the
problem of the mainboard.  Refer to chapter 2-29 for Diagnostic LED &
Smart D-LED voice function table.



**Diagnostic
LED**
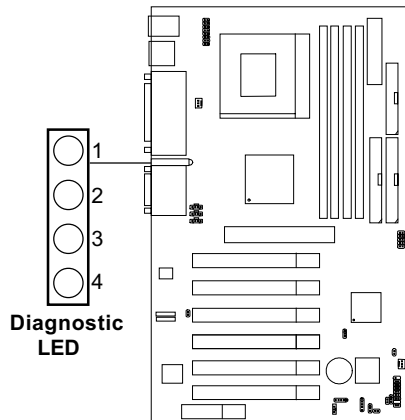
## Smart D-LED
## Voice Speaker Select Output Jumper:  JSPK

The mainboard provides a Smart D-LED voice function which help users be aware of their mainboard conditions.  This jumper will enable the Smart D-LED voice through the case speaker/buzzer and transferred it to the audio speaker.  Refer to chapter 2-29 for Diagnostic LED & Smart D-LED voice function table.



**JP4**

Enable
Buzzer
(Default)

Enable
Speaker
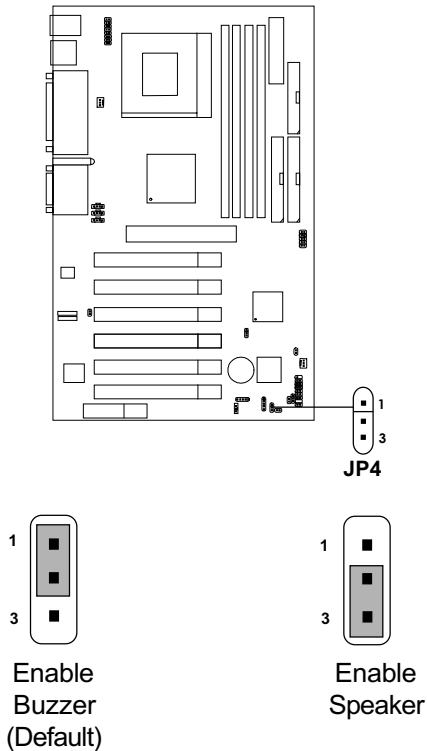
## Smart D-LED Voice Mode Tool:  J601

This jumper works through a recorded voice which helps user identify the cause of any possible failure.  The recorded voice can either be in English or Chinese language.  Refer to chapter 2-29 for Diagnostic LED & Smart D-LED voice function table.



J601
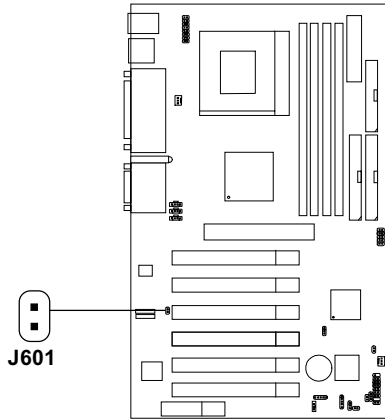


**Chinese Mode**

**English Mode**

**Note:**      Smart D-LED voice mode tool cannot be Disabled.

## Diagnostic LED & Smart D-LED Voice Function Table

| D-LED 1 2 3 4 | DESCRIPTION | POSSIBLE PROBLEM/VOICE CONTEXT |
|---|---|---|
| 0 0 0 0 | System Power ON<br>This will start the BIOS Initialization | *The processor might be damaged or not installed properly*\*\* |
| 1 0 0 0 | Early Chipset Initialization | *Please check local vendor*\*\* |
| 0 1 0 0 | Memory Detection Test<br>Testing Onboard memory size | *The memory module might be damaged or not installed properly*\*\* |
| 1 1 0 0 | Decompressing BIOS image to RAM for fast booting | *Please check local vendor*\*\* |
| 0 0 1 0 | Initializing Keyboard Controller | *The keyboard might be damaged or not plug-in properly*\*\* |
| 1 0 1 0 | Test shadow memory | *Please check local vendor*\*\* |
| 0 1 1 0 | Processor Initialization<br>This will show information regarding the processor e.g. brand name, system bus, etc., | *Please check local vendor*\*\* |
| 1 1 1 0 | Testing RTC (Real Time Clock) | *Low lithium battery*\*\* |
| 0 0 0 1 | Initializing Video Interface<br>This will start detecting CPU clock, checking type of video onboard. Then detect and initialize the video adapter | *The VGA card might be damaged or not installed properly*\*\* |
| 1 0 0 1 | BIOS sign ON<br>This will start showing information about logo, processor, brand name, etc., | *Please check local vendor*\*\* |
| 0 1 0 1 | Testing base and Extended memory<br>Testing base memory from 240K to 640K and extended memory above 1MB using various patterns | *Please check local vendor*\*\* |
| 1 1 0 1 | Assign Resources to all ISA | *Please check local vendor*\*\* |
| 0 0 1 1 | Initializing Hard Drive Controller<br>This will initialize IDE drive and controller | *Check IDE cable for proper installation*\*\* |
| 1 0 1 1 | Initializing Floppy Drive Controller<br>This will initialize Floppy Drive and controller | The Floppy Drive Cable might not be installed\* |
| 0 1 1 1 | Assign IRQs to PCI devices | Stop |
| 1 1 1 1 | Operating System Booting | *System Available*\*\* |

**1 = GREEN  0 = RED**                                          **\*\* Smart D-LED voice context**
                                                                 **\* No Smart D-LED voice context**

**Note:** The system D-LED will hang when problem occurs during operation

# CD-In Connector: JCD

This connector is used for CD-ROM audio connector.
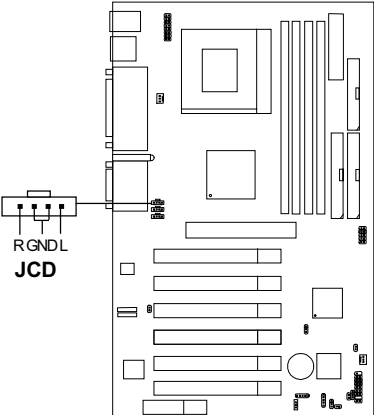
# AUX Line In Connector: JAUX

This connector is for DVD Add on Card with Line In connector.
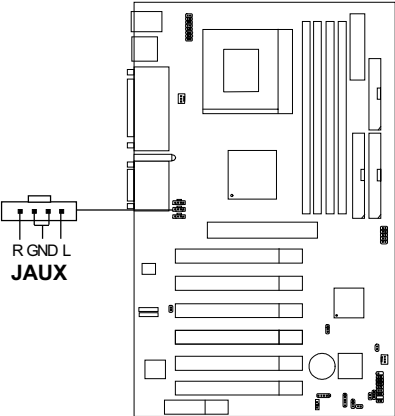
## Modem-In:  JPH

This connector is for Modem with internal voice connector.
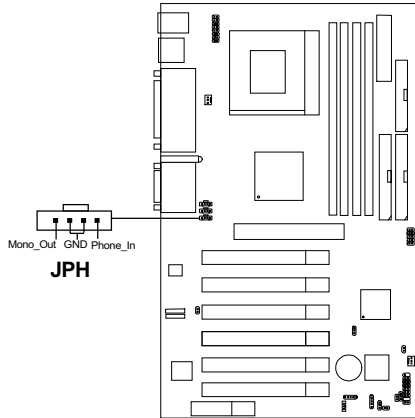
Mono_Out is connected to the Modem Speaker Out connector.
Phone_In is connected to the Modem Microphone In connector.

# IEEE 1394 Connector (optional)

The IEEE 1394 high-speed serial bus complements USB by providing enhanced PC connectivity for a wide range of devices, including consumer electronics audio/video (A/V) appliances, storage peripherals, other PCs, and portable devices.
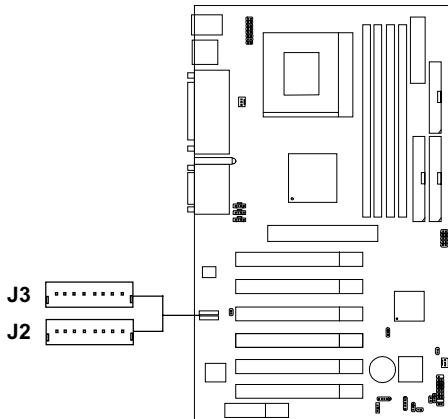


### Software Support

IEEE 1394 Driver is provided by Windows® 98 SE and Windows® 2000.  Just plug in the IEEE 1394 connector into J3 & J2.  These Operating System will install the driver for IEEE 1394.

# BIOS Flash Jumper:  JFSH1

This jumper is used to locked/unlocked BIOS Flash. The BIOS flash jumper should be unlock when flashing/programming  the BIOS.



JFSH1
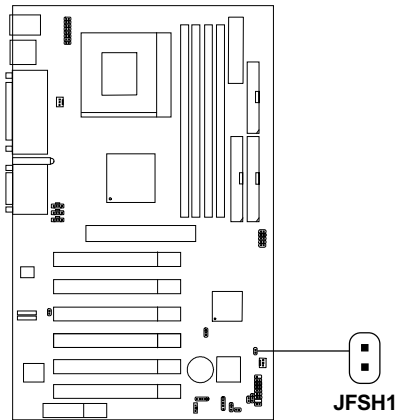


**BIOS Flash
Locked**

**BIOS Flash
Unlocked**

# USB Front Connector: USB2

The mainboard provides a **front Universal Serial Bus connector**.  This is an optional USB connector for Front Panel.
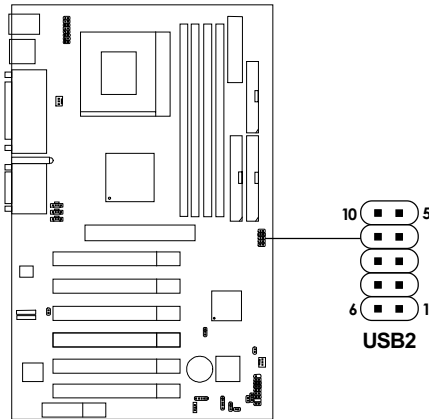


| Pin | Description | Pin | Description |
|-----|-------------|-----|-------------|
| 1 | VCC | 6 | GND |
| 2 | D1- | 7 | GND |
| 3 | D1+ | 8 | D0+ |
| 4 | GND | 9 | D0- |
| 5 | GND | 10 | VCC |

## Chapter 3

## AMI® BIOS USER'S GUIDE

The system configuration information and chipset register information is stored in the CMOS RAM. This information is retained by a battery when the power is off. Enter the BIOS setup (if needed) to modify this information.

The following pages will describe how to enter BIOS setup, and all about options.

## Enter BIOS Setup

**Enter the AMI® setup Program's Main Menu as follows:**

1. Turn on  or reboot the system.  The following screen appears with
   a series of diagnostic check.

```
AMIBIOS (C) 1999 American Megatrends  Inc.
A6309  VXXX  XXXXXX

Hit <DEL> if you want to run setup




(C) American Megatrends Inc.
61-XXXX-001169-00111111-071592-i82440FX-H
```

2. When the "Hit <DEL>" message appears, press <DEL> key to
   enter the BIOS setup screen.

3. After pressing <DEL> key, the BIOS setup screen will appear.

**Note:** *If you don't want to modify CMOS original setting, then don't press any
   key during the system boot.*

```
        AMIBIOS SIMPLE SETUP UTILITIES - VERSION 1.21f
     (C) 1998 American Megatrends, Inc. All Rights Reserved

  Standard  CMOS  Setup        Integrated  Peripherals

  BIOS  Features  Setup        Hardware  Monitor  Setup

  Chipset  Features  Setup     Supervisor  Password

  Power  Management  Setup     User  Password

  PNP/PCI  Configuration       IDE  HDD  Auto  Detection

  Load  BIOS  Defaults         Save  and  Exit  Setup

  Load  Setup  Defaults        Exit  Without  Saving

 Esc :Quit          ↑↓→←   : Select Item  (Shift)F2: Change Color F5: Old Values
 F6  :Load BIOS Defaults      F7 :Load Setup Defaults      F10: Save & Exit


    Standard CMOS Setup for changing time, date , hard disk, etc.
```

4.  Use the <Up> and <Down> key to move the highlight scroll up or down.

5.  Use the <ENTER> key to select the option.

6.  To exit, press <ESC>.  To save and exit, press <F10>.

## Standard CMOS Setup

1. Press <ENTER> on "Standard CMOS Setup" of the main menu screen .

```
              AMIBIOS SETUP - STANDARD CMOS SETUP
        (C)1999 American Megatrends,Inc.All Rights Reserved

Date (mm/dd/yyyy):      Fri Oct 29, 1999
Time (hh/mm/ss):        17:09:25

             Type  Size  CYLS  HEAD  PRECOMP  LANDZ  SECTOR  MODE
Pri Master :Auto
Pri Slave  :Auto
Sec Master :Auto
Sec Slave  :Auto


Floppy Drive A:         1.44 MB 3 1/2
Floppy Drive B:         Not Installed        Base Memory : 0 Kb
                                            Other Memory : 384 Kb
Boot Sector Virus Protection  Disabled   Extended Memory : 0 Mb
                                            Total Memory : 1 Mb

Available  Options:                      ESC:Exit
Disabled                                 ↑↓:Select Item
Enabled                                  PU/PD/+/-:Modify
                                         (Shift)F2:Color
```

2. Use <Up> and <Down> to choose the item and <PgUp> and <PgDn> keys to modify the highlighted item.

3. After you have finished with the Standard CMOS Setup, press <ESC> to go back to the main menu.

## BIOS Features Setup

1. Press <ENTER> on "BIOS Features Setup" of the main menu screen.

```
          AMIBIOS SETUP - BIOS FEATURES SETUP
    (C) 1999 American Megatrends, Inc. All Rights Reserved

Quick Boot                :Enabled    D800, 16K Shadow              :Disabled
1st Boot Device           :Floppy     DC00, 16K Shadow              :Disabled
2nd Boot Device           :IDE-0
3rd Boot Device           :CDROM
Initial Display Mode      :BIOS
S.M.A.R.T. For Hard Disk  :Disabled
Boot Num-Lock             :On
Floppy Drive Swap         :Disabled
Floppy Drive Seek         :Disabled
Password Check            :Setup
Boot to OS/2 > 64M        :No
CPU Serial Number         :Enabled
L2 Cache                  :Write Back
Cache Bus ECC             :Disabled
System BIOS Cacheable     :Enabled    ESC:Exit        ↑↓→←:Select  Item
C000, 32k Shadow          :Disabled   F1 :Help        PU/PD/+/-:Modify
C800, 16K Shadow          :Disabled   F5 :Old Values (Shift)F2:Color
CC00, 16K Shadow          :Disabled   F6 :Load BIOS Defaults
D000, 16K Shadow          :Disabled   F7 :Load Setup Defauls
D400, 16K Shadow          :Disabled
```

2. Use <Up> and <Down> to choose the item and <PgUp> and <PgDn> keys to modify the highlighted item.

3. After you have finished with the BIOS Features Setup, press <ESC> to go back to the main menu.

## Description of the item on screen follows:

### Quick Boot

Set this option to Enabled to permit AMI® BIOS to boot within 5 seconds. This option replaces the old ABOVE 1 MB Memory Test option. The Setup default setting is Enabled. The BIOS default setting is Disabled.

### 1st Boot Device/2nd Boot Device/3rd Boot Device

This option sets the sequence of boot drives.

The settings are:

| | |
|---|---|
| Disabled | Disable this sequence |
| IDE-0 | The system will boot from the first HDD. |
| IDE-1 | The system will boot from the Second HDD. |
| IDE-2 | The system will boot from the Third HDD. |
| IDE-3 | The system will boot from the Fourth HDD. |
| Floppy | The system will boot from Floppy. |
| ZIP A:/LS120 | The system will boot from LS-120 (120M Floppy). |
| Atapi ZIP C: | The system will boot from the ZIP. |
| CDROM | The system will boot from the CD-ROM |
| SCSI | The system will boot from the SCSI. |
| Network | The system will boot from the Network drive. |

### Initial Display Mode

Set this option to BIOS mode for normal boot-up. Silent mode to show the MSI logo during system boot-up. The settings are BIOS or Silent.

### S.M.A.R.T. for Hard Disks

This option sets the SMART Function for the hard disk. The hard disk need to have SMART function for this feature to work.

### Boot up Num Lock

When this option is set to Off, AMI® BIOS turns off the Num Lock key when the system is powered on. The end user can then use the arrow keys on both the numeric keypad and the keyboard. The settings are On or Off. The Setup default and BIOS default setting are On.

### Floppy Drive Swap

Set this option to Enabled to specify that floppy drives A: and B: are swapped. The setting are Enabled and Disabled. The Setup and BIOS default settings are Disabled.

### Floppy Drive Seek

When this option is set to Enabled, AMI® BIOS performs a Seek command on floppy drive A: before booting the system. The settings are Enabled and Disabled. The Setup and BIOS default settings are Disabled.

### Password Check

This option specifies the type of AMI® BIOS password protection that is implemented. The Setup and BIOS default settings are Setup.

### Boot To OS/2® > 64MB

Set this option to Enabled to permit the BIOS to run properly, if OS/2® is to be used with > 64MB of DRAM. The settings are Enabled or Disabled. The Setup and BIOS default settings are Disabled.

### L2 Cache

This option enables the Level 2 Cache memory.

### Cache Bus ECC

This option enables the Level 2 Cache memory ECC (Error Check Correction).

### System BIOS Cacheable

AMI® BIOS always copies the system BIOS from ROM to RAM for faster execution. Set this option to Enabled to permit the contents of the F0000h RAM memory segment to be written to and read from cache memory. The settings are Enabled or Disabled. The Setup default setting is Enabled. The BIOS default setting is Disabled.

### C000, 32K Shadow

These options specify how the contents of the video ROM are handled. The settings are:

**Disabled** - the Video ROM is not copied to RAM.
**Cached** - the contents of the video ROM from C0000h - C7FFFh are not only copied from ROM to RAM; it can also be written to or read from cache memory.
**Enabled** - the Contents of the video ROM from C0000h - C7FFFh are copied (shadowed) from ROM to RAM for faster execution.

The Setup and BIOS default setting is Enabled.

## Chipset  Features Setup

1. Press <ENTER> on "Chipset Features Setup" of the main menu screen.

```
           AMIBIOS SETUP - CHIPSET FEATURES SETUP
     (C) 1999 American Megatrends, Inc. All Rights Reserved

 Set SDRAM Timing by SPD      :Disabled
 DRAM Frequency               :HCLK
 SDRAM CAS# Latency           :3
 DRAM Integrity Mode          :Disabled
 CPU In Order Queue           :4-Level
 Memory Hole                  :Disabled
 AGP Mode                     :Auto
 AGP Driving                  :Auto
 AGP Driving Manual           :CB
 AGP Aperture Size            :64MB




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

2. Use <Up> and <Down> to choose the item and <PgUp> and <PgDn> keys to modify the highlighted item.

3. After you have finished with the Chipset Features Setup, press <ESC> to go back to the main menu.

## Description of the item on screen follows:

### Set SDRAM Timing By SPD

Choose Enabled, will automatically configure the DRAM Timing depending on the "DRAM Speed" selection. Choose Disabled, to customize the setup.

### DRAM Frequency

This item specify the DRAM frequency of the system. The settings are HCLK-33 (FSB-33), HCLK (FSB) and HCLK+33 (FSB+33).

### SDRAM CAS# Latency

When synchronous DRAM is installed, the number of clock cycles of CAS latency depends on the DRAM timing. The settings are: 2 and 3.

### DRAM Integrity Mode

This item will automatically detect your DIMM for ECC. The setup and BIOS default setting is Disabled.

### AGP Mode

This setting automatically detect if graphics card is available or not.

### AGP Driving

This setting allows you to adjust the AGP driving. It is recommended you leave this set to Auto.

### Memory Hole

This option allows the end user to specify the location of a memory hole (15MB-16MB). The cycle matching the selected memory hole will be passed to the ISA bus.

## AGP Aperture Size

This option determines the effective size of the graphics aperture used in the particular MCM configuration. The AGP aperture is memory - mapped, while graphics data structure can reside in a graphics aperture. The aperture range should be programmed as not cacheable in the processor cache,accesses with the aperture range are forwarded to the main memory, then MCM will translate the original issued address via a translation table that is maintained on the main memory. The option allows the selection of an aperture size of 4MB, 8MB, 16MB, 32MB, 64MB, 128MB and 256MB.

## Power Management Setup

1. Press <ENTER> on "Power Management Setup" of the main menu screen.

```
             AMIBIOS SETUP - POWER MANAGEMENT SETUP
        (C) 1999 American Megatrends, Inc. All Rights Reserved
─────────────────────────────────────────────────────────────────
IPCA Function              :Yes      Restore on AC/Power Loss    :Last State
Green PC LED Status        :Dual Color  Resume On Ring/LAN        :Enabled
Video Power Down Mode      :Suspend   Resume On PME#              :Disabled
Hard Disk Power Down Mode  :Stand-by  Resume On RTC Alarm         :Disabled
Suspend Time Out (Minute)  :Disabled  RTC Alarm Date              :15
Throttle Slow Clock Ratio  :50%-56.25%  RTC Alarm Hour            :12
Display Activity           :Ignore    RTC Alarm Minute            :30
IRQ3                       :Monitor   RTC Alarm Second            :30
IRQ4                       :Monitor
IRQ5                       :Ignore
IRQ7                       :Monitor
IRQ9                       :Ignore
IRQ10                      :Ignore
IRQ11                      :Ignore
IRQ13                      :Ignore    ┌──────────────────────────────────┐
IRQ14                      :Monitor   ESC:Exit        ↑↓→←:Select Item
IRQ15                      :Ignore    F1 :Help      PU/PD/+/-:Modify
System Thermal             :Ignore    F5 :Old Values (Shift)F2:Color
Thermal Slow Clock Ratio   :50%-56.25%  F6 :Load BIOS Defaults
Power Button Function      :On/Off    F7 :Load Setup Defauls
```

2. Use <Up> and <Down> to choose the item and <PgUp> and <PgDn> keys to modify the highlighted item.

3. After you have finished with the Power Management Setup, press <ESC> to go back to the main menu.

## Description of the item on screen follows:

### IPCA Function
This item allows you to Enabled/Disabled the Advanced Configuration and Power Management (ACPI). The settings are Yes and No.

### Green PC LED Status
This item determines which state the Power LED will use. The settings are Blinking, Dual, and Single. During blinking, the power LED will blink when the system enters the suspend mode. When the mode is in Dual, the power LED will change its color. Choose the single and the power LED will always remain lit.

### Video Power Down Mode
This option specifies the power conserving state that the VESA VGA video subsystem enters after the specified period of display inactivity has expired. The settings are Disabled, Standby or Suspend. The default setting is Suspend.

### Hard Disk Power Down Mode
This option specifies the power conserving state that the hard disk drive enters after the specified period of hard drive inactivity has expired. The settings are Disabled, Standby or Suspend. The setup and BIOS default setting is Standby.

### Suspend Time Out (Minute)
This option specifies the length of a period of system inactivity while in Suspend state. When this length of time expires, the computer enters Suspend power state. The settings are Disabled, 1 min, 2 min, 4 min, 8 min, 10 min, 20 min, 30 min, 40 min, 50 min or 60 min. The default setting is Disabled.

### Throttle Slow Clock Ratio

This option specifies the speed at which the system clock runs in power saving states. The settings are expressed as ratio between the normal CPU clock speed and the CPU clock speed when the computer is in the power-conserving state.

### Display Activity/IRQ 3/IRQ 4/IRQ 5/IRQ 7/IRQ 9/IRQ1 0/ IRQ 11/IRQ 13/IRQ 14/IRQ 15

When set to Monitor, these options enable event monitoring on the specified hardware interrupt request line. If set to Monitor and the computer is in a power saving state, AMI® BIOS watches for activity on the specified IRQ line. The computer enters the full on power state if any activity occurs.

AMI® BIOS reloads the Standby and Suspend timeout timers if activity occurs on the specified IRQ line.

### Thermal Slow Clock Ratio

Set the System Thermal to Monitor to be able to choose the clock ratio.

### Power Button Function

During Suspend, if you push the switch once, the system goes into suspend mode and if you push it more than 4 seconds, the system will be turned off. During On/Off, the system will turn off once you push the switch.

## Restore on AC/Power Loss

The settings are power on, power off or last state. During power on, after every AC power loss, the system will be turned on. During last status, after every AC power off, whatever the system status, it will be the same when the AC power returns. During power off, after every AC power loss, the system will remain shut down.

## Resume On Ring/LAN

During Disabled, the system will ignore any incoming call from the modem/LAN network card. During Enabled, the system will boot up if there's an incoming call from the modem/LAN network card.

**Note:** If you have change the setting, you must let the system boot up until it goes to the operating system. Then, power off the system. This function will work the next time you power on.

## Resume On PME#

During Disabled, the system will ignore any event on PME (Power Management Event). During Enabled, the system wull boot up if there's an event on PME. The default setting is Disabled.

## Resume On RTC Alarm

This function is for setting the Date, Hour, Minute, and Second for your computer to boot up. During Disabled, you cannot use this function. During Enabled, Choose the Date, Hour, Minute, and Second:

| | |
|---|---|
| **RTC Alarm Date** | Choose which day the system will boot up. |
| **RTC Alarm Hour** | Choose which hour the system will boot up. |
| **RTC Alarm Minute** | Choose which minute the system will boot up. |
| **RTC Alarm Second** | Choose which second the system will boot up. |

**Note:** If you have change the setting, you must let the system boot up until it goes to the operating system. Then, power off the system. This function will work the next time you power on.

## PNP/PCI Configuration

1.  Press <ENTER> on "PNP/PCI Configuration" of the main menu screen.

```
              AMIBIOS SETUP - PNP/PCI CONFIGURATION
        (C) 1999 American Megatrends, Inc. All Rights Reserved

PnP Aware O/S                :No
Clear NVRAM                  :No
PCI Latency Timer            :64
Primary Graphics Adapter     :PCI
PCI VGA Palette Snoop        :Disabled
DMA Channel 0                :PnP
DMA Channel 1                :PnP
DMA Channel 3                :PnP
DMA Channel 5                :PnP
DMA Channel 6                :PnP
DMA Channel 7                :PnP
IRQ3                         :PCI/PnP
IRQ4                         :PCI/PnP
IRQ5                         :PCI/PnP
IRQ7                         :PCI/PnP   ESC:Exit      ↑↓→← :Select Item
IRQ9                         :PCI/PnP   F1 :Help       PU/PD/+/-:Modify
IRQ10                        :PCI/PnP   F5 :Old Values (Shift)F2:Color
IRQ11                        :PCI/PnP   F6 :Load BIOS Defaults
IRQ14                        :PCI/PnP   F7 :Load Setup Defauls
IRQ15                        :PCI/PnP
```

2.  Use <Up> and <Down> to choose the item and <PgUp> and <PgDn> keys to modify the highlighted item.

3.  After you have finished with the PNP/PCI Configuration, press <ESC> to go back to the main menu.

## Description of the item on screen follows:

### Plug and Play Aware O/S

Set this option to Yes if the operating system in this computer is aware of and follows the Plug and Play specification. The settings are Yes or No. The default setting No.

### Clear NVRAM

During Yes, this will clear NVRAM data on every boot.

### PCI Latency Timer

This option specifies the latency timings (in PCI clocks) for all PCI devices on the PCI bus. The settings are 32, 64, 96, 128, 160, 192, 224 or 248. The Setup and BIOS default settings is 64.

### Primary Graphics Adapter

This option is for selecting which VGA card is to be your primary display graphics adapter.

### PCI VGA Palette Snoop

When this option is set to Enabled, multiple VGA devices operating on different buses can handle data from the CPU on each set of palette registers on every video device. Bit 5 of the command register in the PCI device configuration space is the VGA Palette Snoop bit (0 is disabled). For example, if there are two VGA devices in the computer (one PCI and ISA) and the bit settings are:

**Disabled** - Data read and written by the CPU is only directed to the PCI VGA device's palette registers.

**Enabled** - Data read and written by the CPU is directed to both the PCI VGA device's palette registers and the ISA VGA device palette registers, permitting the palette registers of both devices to be identical.

This option must be set to Enabled if an ISA adapter card requires VGA palette snooping. The settings are Enabled or Disabled. The default setting is Disabled.

### DMA  Channel 0/1/3/5/6/7

These options specify the bus that the specified DMA channel is used.  These options allow you to reserve DMAs for legacy ISA adapter cards.

These options determine if AMI® BIOS should remove a DMA from the available DMAs passed to devices that are configurable by the system BIOS.  The available DMA pool is determined by reading the ESCD NVRAM.  If more DMAs must be removed from the pool, the end user can use these options to reserve the DMA by assigning an ISA/EISA setting to it.

### IRQ3/IRQ4/IRQ5/RQ7/IRQ9/IRQ10/IRQ11/IRQ14/IRQ15

These options specify the bus that the specified IRQ line is used on. These options allow you to reserve IRQs for legacy ISA adapter cards.

These options determine if AMI® BIOS should remove an IRQ from the pool of available IRQs passed to devices that are configurable by the system BIOS.  The available IRQ pool is determined by reading the ESCD NVRAM.  If more IRQs must be removed from the pool, the end user can use these options to reserve the IRQ by assigning an ISA/EISA setting to it. Onboard I/O is configured by AMI® BIOS.  All IRQs used by onboard I/O are configured as PCI/PnP.  If all IRQs are set to ISA/EISA and IRQ14 and 15 are allocated to the onboard PCI IDE, IRQ9 will still be available for PCI and PnP devices, because at least one IRQ must be available for PCI and PnP devices.  The settings are ISA/EISA or PCI/PnP.  The default setting is PCI/PnP.

## Integrated Peripherals

1. Press <ENTER> on "Integrated Peripherals" of the main menu screen.

```
          AMIBIOS SETUP - INTEGRATED PERIPHERALS
    (C) 1999 American Megatrends, Inc. All Rights Reserved

Onchip IDE             :Both
Floppy Controller      :Auto
Serial Port A          :Auto
Serial Port B          :Auto
  Serial Port B Mode   :Normal
    Duplex Mode        :N/A
Parallel Port          :Auto
  Parallel Port Mode   :ECP
  EPP Version          :N/A
  Parallel Port DMA    :Auto
  Parallel Port IRQ    :Auto
AC'97 Audio            :Auto
MC'97 Modem            :Disabled
USB Controller         :USB Port 0&1
USB Legacy Support     :Disabled    ESC:Exit       ↑↓→← :Select Item
                                    F1 :Help       PU/PD/+/-:Modify
                                    F5 :Old Values (Shift)F2:Color
                                    F6 :Load BIOS Defaults
                                    F7 :Load Setup Defauls
```

2. Use <up> and <down> to choose the item and <PgUp> and <PgDn> keys to modify the highlighted item.

3. After you have finished with the Integrated Peripherals, press <ESC> to go back to the main menu.

## Description of the item on screen follows:

### Onchip IDE

This item allows you to set the Onchip IDE controller.

### Floppy Controller

This item allows you to Enabled or Disabled the onboard FDC. Choose Auto to allow the BIOS to automatically detect the device. The default setting is Auto.

### Serial Port A/Serial Port B

Choose Auto, for the BIOS to automatically detect the device.

### Serial PortB Mode

This item allows the user to determine which InfraRed (IR) function of the onboard I/O chip. The settings are Normal, IRDA and ASK IR. The default setting is Normal.

### Parallel Port

Choose Auto, the BIOS automatically assigned onboard parallel port to the available parallel port or disabled.

### Parallel Port Mode

This option allows user to choose the operating mode of the onboard parallel port. The settings are Normal, SPP/EPP or ECP mode.

### EPP Version

This option is for setting which EPP version will be used. The settings are 1.7 and 1.9.

## Parallel Port IRQ

If the onboard parallel mode is not on auto mode, the user can select the interrupt line for onboard parallel port. We suggest that the user select the interrupt for the onboard parallel port as shown below:

| Onboard parallel port set at | Parallel Port IRQ |
|---|---|
| LPT1(378H) | 7 |
| LPT2(278H) | 5 |
| LPT3(3BCH) | 5 |

## Parallel Port DMA

This option allows user to choose DMA channel 1 to 3 for the onboard parallel port on ECP mode.

## AC'97 Audio

This item allows you to decide to enable/disable the VIA chipset family to support AC97 Audio. The settings are Auto, Enabled or Disabled.

## MC'97 Modem

This item allows you to decide to enable/disable the VIA chipset family to support MC97 Modem. The settings are Auto, Enabled or Disabled.

## USB Controller

This option allows you to select the on-chip USB controller. The settings are USB Port 0 & 1, USB Port 2 & 3 or All USB Port. The default setting is USB Port 0 & 1.

## Hardware Monitor Setup

1.  Press <ENTER> on "Hardware Monitor Setup" of the main menu screen.

```
            AMIBIOS SETUP - Hardware Monitor Setup
      (C) 1999 American Megatrends, Inc. All Rights Reserved

Spread Spectrum              :Enabled
CPU FSB Clock (MHz)          :Auto
CPU Ratio Selection          :3.0X
CPU Vcore Selection (V)      :Auto
      -= System Monitor =-
Current CPU Temperature      :45°C/113°F
Current System Temperature   :32°C/89°F
Current CPU Fan Speed        :5200 RPM
Current Chassis Fan Speed    :0 RPM
      Vcore                  :2.112V
      +2.500V                :2.575V
      +3.300V                :3.373V
      +5.000V                :4.946V
      +12.000V               :11.986V

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

2.  Use <up> and <down> to choose the item and <PgUp> and <PgDn> keys to modify the highlighted item.

3.  After you have finished with the Peripheral Setup, press <ESC> to go back to the main menu.

## Description of the item on screen follows:

### Spread Spectrum
This item allows you to select the clock generator Spread Spectrum function.  When overclocking the processor, always set this item to Disabled.  The default setting is Enabled.

### CPU FSB Clock (Mhz)
Check your processor and set this function accordingly.  If you set this to Manual, you can set the CPU FSB Clock accordingly.
CPU Frequencies are:  66.8, 79, 85, 87.5, 90, 92.5, 95, 100, 110, 115, 120, 124, 129, 133, 138.

### CPU Voltage Selection (V)
Check your processor and set this function accordingly.

## IDE HDD Auto Detection

You can use this utility to automatically detect the characteristics of most hard drives.

```
              AMIBIOS SETUP - STANDARD CMOS SETUP
        (C)1999 American Megatrends,Inc.All Rights Reserved

Date (mm/dd/yyyy):     Fri Oct 29, 1999
Time (hh/mm/ss):       17:09:25

            Type  Size  CYLS  HEAD  PRECOMP  LANDZ  SECTOR  MODE
Pri Master :Auto
Pri Slave  :Auto
Sec Master :Auto
Sec Slave  :Auto


Floppy Drive A:          1.44 MB 3 1/2
Floppy Drive B:          Not Installed        Base Memory : 0 Kb
                                             Other Memory : 384 Kb
Boot Sector Virus Protection  Disabled    Extended Memory : 0 Mb
                                             Total Memory : 1 Mb

Available  Options:                       ESC:Exit
Disabled                                  ↑↓:Select Item
Enabled                                   PU/PD/+/-:Modify
                                          (Shift)F2:Color
```

## Supervisor/User   Password

This Main Menu item lets you configure the system so that a password is required each time the system boots or an attempt is made to enter the Setup program. Supervisor Password allows you to change all CMOS settings but the User Password setting doesn't have this function. The way to set up the passwords for both Supervisor and User are as follow:

1. Choose "Supervisor/User Password" in the Main Menu and press <Enter>. The following message appears:

   "Enter New Supervisor/User Password:"

2. The first time you run this option, enter your password up to 6 characters only and press <Enter>. The screen will  not display the entered characters. For no password, just press <Enter>.

3. After you enter the password, the following message appears prompting you to confirm the password:

   "Retype New Supervisor/User Password:"

4. Enter exactly the same password you just typed in to confirm the password and press <Enter>.

5. Move the cursor to Save and Exit Setup to save the password.

6. If  you need to delete the password you entered before, choose the Supervisor/User Password and press <Enter>. It will delete the password that you had before.

7. Move the cursor to  Save and Exit Setup to save the option you did. Otherwise, the old password will still be there when you turn on your machine next time.

# Chapter 4

# VIA CHIPSET DRIVER

## Overview

The 694 Master (MS-6309 ver 3.0) is paired with the VIA VT82C686B south
bridge. Highly advanced, the south bridge combines an integrated 2D/3D
engine with DVD hardware acceleration, AC-97 audio support for
SoundBlaster Pro and FM synthesis legacy audio.

### Audio Features

- AC'97 audio support for SoundBlaster Pro
- FM synthesis legacy audio

### System Requirements

This section describes system requirements for the VIA Chipset Driver
installation and Usage.

| | |
|---|---|
| **Computer** | Intel® Celeron™/Pentium® III (FC-PGA) |
| **Monitor** | VGA Support, mimimum 640x480 resolu-tion |
| **Operating system** | DOS 5.0 or higher, Windows® 95/98, Windows® NT 3.51 or 4.0, or OS/2® |
| **CD-ROM** | Double Speed or Higher |
| **Chipset** | VIA® 694X/VT82C686B chipset |

## Driver Setup & Usage Procedures  for Windows® 98

Insert the CD-title into your CD-ROM drive.  The CD will auto-run and will display the four icons in the monitor  "VIA Chipset Drivers", "VIA AC97 PCI Sound Drivers" and "Download VIA Drivers".  In order to install the drivers correctly, you must install the "Via Chipset Drivers" first, and then install the "VIA AC97 PCI Sound Drivers".

### VIA  Chipset  Drivers  installation  procedure:

**Step 1:**  Insert the provided CD_ROM disk into the CD-ROM drive.

**Step 2:**  Look for the CD_ROM drive, double click on the CD_ROM icon.  This will show the setup screen.

**Step 3:**  Click on "Via Chipset Drivers" icon and the screen will show "VIA Service Pack".

**Step 4:**  Click "Next" and the screen will show four drivers "VIA Atapi Vendor Support Driver", "AGP VxD Driver",  "VIA Chipset Function's Registry" and "IRQ Routing Miniport Driver".  Select all four drivers and click on "Next".

**Step 5:**  The setup program will request you to choose "Install VIA Atapi Vendor Support Driver".  Please select "Install" and click "Next" to continue.

**Step 6:**  Click to enabled DMA Mode, Please select "Install" and click "Next" to continue.

**Step 7:**  The setup program will request you to choose "Install VIA AGP VxD in turbo mode", "Install VIA AGP VxD in normal mode" or "Uninstall VIA AGP VxD".  Please select "Install VIA AGP VxD in turbo mode" and click on "Next".

**Step 8:**  The setup program will let you choose between "Install VIA
Chipset Functions Registry" or "Uninstall VIA Chipset Functions
Registry".  Please select "Install VIA Chipset Functions Registry"
and then click "Next".

**Step 9:**  The setup program will let you choose between "Install VIA IRQ
Routing  Miniport Driver" or "Uninstall VIA IRQ Routing Miniport
Driver".  Please select "Install VIA IRQ Routing Miniport Driver"

**Step 10:**  The setup program will request you to choose whether to restart
the computer or not.  Please select "Yes, I want to restart my
computer now" and click Finish.  The computer will restart and
finish the VIA Chipset Drivers installation.

### VIA AC97 PCI Sound Drivers installation procedure:

**Step 1:**  Insert the provided CD_ROM disk into the CD-ROM drive.
**Step 2:**  Look for the CD_ROM drive, double click on the CD_ROM
                 icon.  This will show the setup screen.
**Step 3:**  Click on "VIA AC97 PCI Sound Drivers" icon and the screen
                 will show "VIA AC97 PCI Sound Drivers".
**Step 4:**  Click "Next" to proceed and the screen will show "Install",
                 or "Remove".  Select "Install" and then click  on "Next".
**Step 5:**  The setup program will request you to choose whether to
                 restart the computer or not.  Please select "Yes, I want to restart
                 my computer now" and click Finish.  The computer will restart
                 and finish the AC97 Audio Drivers Installation.

## Windows® NT 4.0

Install Windows® NT 4.0 Service Pack 6 or the latest version before installing the VIA drivers.

Insert the CD-title in the CD-ROM drive.  The CD will auto-run and will display four icons on the screen "VIA Chipset Drivers", "VIA AC97 PCI Sound Drivers"and "Download VIA Drivers".  In order to install the drivers properly, install the "VIA Chip Drivers" first and then install the "VIA AC97 PCI Sound Drivers".

### VIA Chipset Drivers Installation Procedure:

**Step 1:** Insert the provided CD_ROM disk into the CD-ROM drive.
**Step 2:** Look for the CD_ROM drive, double click on the CD_ROM icon.  This will show the setup screen.
**Step 3:** Click on "VIA Chipset Drivers" icon and the screen will show "VIA Service Pack".
**Step 4:** Click "Next" to proceed and the screen will show "Install", "Uninstall" or "Enable/Disable Ultra DMA for IDE Driver". Select "Install" and then click on "Next".
**Step 5:** Please click on "Yes, I want to restart my computer".

**VIA AC97 PCI Sound Drivers Installation Procedure:**

**Step 1:** Insert the provided CD_ROM disk into the CD-ROM drive.

**Step 2:** Look for the CD_ROM drive, double click on the CD_ROM icon. This will show the setup screen.

**Step 3:** Click on "VIA AC97 PCI Sound Drivers" icon and the screen will show  the "VIA PCI Audio Drivers" setup screen.  Click "Next" to continue

**Step 4:** The setup program will show "Install" or "Remove" in the screen. Select "Install" and click "Next"

**Step 5:** The setup program will show the following on the screen:

> Please choose "Add" from the next window and add the following device:
>     VIA AC97 PCI Audio Device
>     VIA MIDI External Port

Then click "OK".

**Step 6:** Follow the steps shown in **Step 5** to finish the VIA AC97 PCI Audio Drivers Installation.