MAINBOARD

Installation Guide

Rev: 1.01H

Date: April - 99

* All other product names are trademarks or copyrights of their respective owners.

* Specifications and information contained in this manual are subject to change without notice.

Table of Contents

INTRODUCTION

Product Description

Designed as a flexible, high-performance and cost-effective solution for System Integrators and End Users alike, this mainboard provides the power and expandability to meet the requirements of the most advanced operating systems and software applications.

This mainboard is designed to provide Pentium ®–based (FSB 100MHz) system by utilizing the VIA Apollo MVP4 AGPset on Micro-ATX Platform. By incorporating such advanced features as Super I/O, AC97 audio, Ultra DMA/66 Bus Mastering IDE, Universal Serial Bus (USB) and Hardware Monitoring onto the mainboard, optimum system performance is assured and system design and implementation is simplified.

Fully "Plug & Play" compatible via an Award BIOS, this mainboard facilitates easy system configuration and peripheral setup. Also, the Award BIOS supports ACPI Readiness and is compatible with the PC'98 specification. This mainboard is the ideal foundation for high-end computer systems.

Features & Specifications

Processor	ZIF socket 7 support AMD® K6-2 / K6-3 up to 500 MHz, INTEL® Pentium MMX up to 233 MHz
Chipset	VIA ® Apollo MVP4 AGPset
BIOS	Award ® BIOS, support DMI, Green PC, Plug-and-Play, ACPI, Boot from CD-ROM, LS-120 120MB F.D.D.., ZIP Devices Support Symbios® SCSI BIOS Anti-virus BIOS for prevention against boot-virus
System Memory	3×168-pin DIMM Sockets up to 768 MB SDRAM Memory Capacity Support 8/16/32/64/128/256 MB Memory Module ECC Supported
On-board I/O Features	1×Floppy Port (LS120) 2×USB Ports 1×Parallel Port (EPP, ECP Port) 1×IrDA TX/RX Header 1×Serial Port (16550 Fast UART Compatible) 1×Serial Header (16550 Fast UART Compatible) 1×Internal Keyboard Header 1×MIDI/Game port 1×Audio Jacks: Line Out, Line In, and Mic. In 1×Video Port
Advanced Features	1. AGP 3D Graphics and AC97 Audio on board 2. Wake-up on LAN 3. Modem Ring-in Remote Power on 4. Hardware Monitoring (Fan, Temperature, Voltage) 5. Xstore Pro IDE Bus Master Software Driver (*) 6. Anti-Virus PC-Cillin Software (*)
PCI Bus Master IDE	2×PCI Bus Master IDE Port UltraDMA/66 Mode up to 66MB/s transfer rate
Power Connector	3V, 5V and 12V 20-pin ATX 20-pin Power Connector
Expansion Slots	4×32-bit PCI Slots, 1×16-bit ISA Slots
Switching VR	Switching Voltage Regulator to support 1.3V to 3.5V
Form Factor	Micro-ATX Size (7.7" x 9.6" or 200mm x 245mm)

Remark:

The **XStore Pro IDE Driver** enhances memory management by working with the Windows 95/98 operating system, resulting in higher system performance by implementing "read-ahead caching after seeking". This is especially effective with the large block sizes of modern hard disks.

PC-cillin anti-virus software provides a powerful defense against viruses to protect data integrity.

Package Checklist

Your mainboard package should include the items listed below. Damaged or missing items should be reported to your vendor.

- ☑ The mainboard
- ☑ Floppy disk ribbon cable
- ☑ IDE ribbon cable
- ☑ This Installation Guide
- ☑ BIOS, Driver & Utility Guide
- ☑ CD-ROM containing the following support software:
  (The latest drivers can always be found at their respective web sites.)

   - VIA_® PCI Bridge driver,
   - VIA VxD driver,
   - VIA PCI Mini-port driver
     http://www.via.com.tw/drivers
   - Support software for updating the FLASH BIOS
   - HighPoint® XStore Pro IDE Bus Master
     http://www.highpoint-tech.com
   - Trend ® PC-cillin Anti-Virus software
     http://www.antivirus.com

Board Level Feature
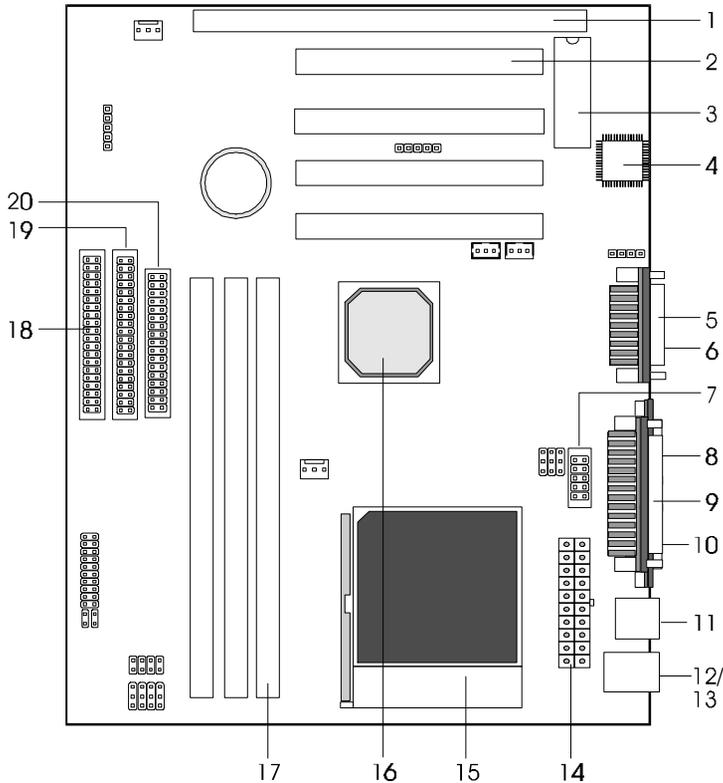
1. ISA slot	**11.** USB connectors
2. PCI slots	**12.** PS/2 mouse connector (top)
3. Mainboard BIOS	**13.** PS/2 keyboard connector (bottom)
4. AC97 codec chip	**14.** Power connector
5. MIDI/Game port	**15.** CPU socket (Socket 7)
6. Audio port	**16.** VIA® Apollo MVP4 AGPset
7. COM2 connector	**17.** DIMM sockets
8. VGA connector	**18.** Primary IDE connector
9. Printer port connector	**19.** Secondary IDE connector
10. COM1 connector	**20.** Floppy connector

* Board Size: Micro-ATX 245 mm x 200 mm (9.6" x 7.7")

1. **ISA Slot:** (1) 16-bit ISA slot.

2. **PCI Slots:** (4) 32-bit PCI slots are provided.

3. **Mainboard BIOS:** Award BIOS supporting "Plug and Play", DMI, Green PC specification, on screen setup for Enhanced IDE and Multi-I/O. The BIOS is FLASH Upgradeable via the AWDFLASH Utility.

4. **AC97 Codec Chip**: AC97 audio codec chip.

5. **MIDI/Game Port**: 15-pin female MIDI/Joystick connector.

6. **Audio Port**: Three 1/8" female jacks for Line Out, Line In and MIC.

7. **COM2 Connector:** Connects to High-speed UART compatible serial port bracket. COM2 can be directed to the Infrared Module for wireless connection capability.

8. **VGA Connector:** 9-pin VGA connector.

9. **Printer Port Connector:** EPP and ECP compatible 25-pin D-Sub parallel port.

10. **COM1 Connector:** High-speed UART compatible serial port.

11. **USB Connectors:** These connectors permit the connection of two USB peripheral devices directly to the port without an external hub. USB is a new technology supporting printers, fax modems and other telephony device.

12. **PS/2 Mouse Connector:** Supports PS/2 style mice.

13. **PS/2 Keyboard Connector:** Supports PS/2 style keyboards.

14. **Power Connector:** 20-Pin ATX Power Connector.

15. **CPU Socket:** ZIF Socket 7 for AMD® K6-2 / K6-3 up to 450 MHz, Cyrix® up to MII-500, Intel® Pentium MMX up to 233 MHz.

16. **VIA® Apollo MVP4 AGPset:** Supports Socket 7 CPUs, UDMA66 and AGP 2x.

17. **DIMM Sockets:** (3) 168-pin DIMM sockets are provided to support a maximum RAM memory capacity of 768 MB. DIMM types of 3.3 Volt true SDRAM is supported and automatically detected by the BIOS.

18. **Primary IDE Connector:** Connector for first IDE channel. The on-board PCI Bus Mastering IDE controller features support for DMA Mode 2 and PIO Modes 3 and 4 for faster data transfer rates. (2) Connectors are provided for support of up to (4) IDE devices on two channels. ATAPI Tape Drives and CD-ROMs are also supported.

19. **Secondary IDE Connector:** Connector for second IDE channel.

20. **Floppy Connector:** Built-in floppy controller supports (2) 5.25" or 3.5" (1.44MB or 2.88MB) floppy drives.

Comprehensive Mainboard View
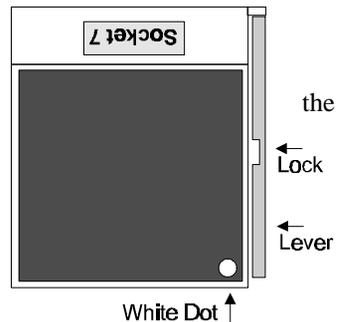
INSTALLATION

Static Precautions

Static electricity can be a serious danger to the electronic components on this mainboard. To avoid damage caused by electrostatic discharge, observe the following precautions:

✓ Don't remove the mainboard from its anti-static packaging until you are ready to install it into a computer case. Also, handle add-in cards and modules by the edges or mounting bracket.

✓ Before you handle the mainboard in any way, touch a grounded, anti-static surface, such as an unpainted portion of the system chassis, for a few seconds to discharge any built-up static electricity.

Installing the CPU

✓ **WARNING**: Use of a CPU Cooling Fan is required to prevent CPU from overheating. The Fan should be installed first before inserting the CPU into its socket.

1. Locate the ZIF (Zero Insertion Force) Socket 7.

2. First open the socket by pulling the lever sideways, then upwards. Notice how the lever locks in place when pressed all the way down.

3. The CPU must be inserted with the correct orientation. One corner of the CPU has a "Notch" and looks different that the other three. This corner is also missing a pin unlike the other three and is marked with a white dot on top of the CPU. Align this corner towards the end of the lever as shown in the figure here. Insert the CPU, press it down, and close the lever until it locks into place.
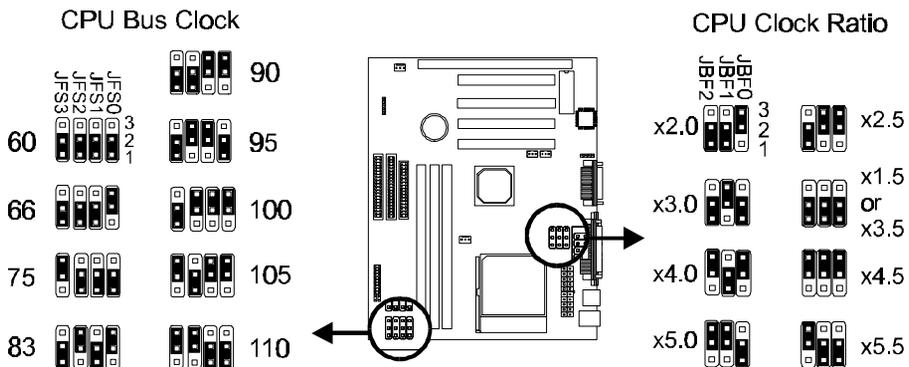
Setting the Jumpers

Jumpers are used on this mainboard to select various settings and features. A 2-pin jumper has two settings: Open and Short (or Closed). The jumper is closed by placing the Jumper Cap across the two pins, thereby connecting them. 3-pin jumpers can be set to pins 1-2 or 2-3 connected. Pin-1 is labeled on the circuit board.

3-pin Jumper

Pin 1-2

Pin 2-3

2-pin Jumper

Open

Short
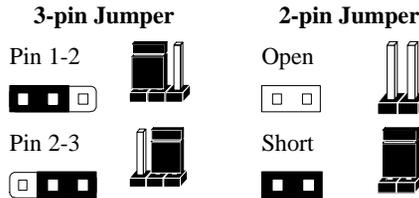
CPU Clock Selection Jumper (JBF0-2 and JFS0-3)

After installing the CPU, you must set the clock selection jumpers to match the frequency of the CPU. Find the Jumper Blocks labeled JBF0-2 and JFS0-3. Set the jumpers according to your particular CPU type (a list of current available CPU settings is provided on the following page).

CPU Bus Clock

JFS0 JFS1 JFS2 JFS3

60   66   75   83   90   95   100   105   110

CPU Clock Ratio

JBF0 JBF1 JBF2

x2.0   x2.5   x3.0   x1.5 or x3.5   x4.0   x4.5   x5.0   x5.5

Jumper setting for CPU:

| CPU Model	CPU Clock	Bus Clock (JFS0-3)	Ratio (JBF0-2)
AMD-K6-III-450MHz	450MHz	100MHz	x4.5
AMD-K6-III-400MHz	400MHz	100MHz	x4.0
AMD-K6-2-450MHz	450MHz	100MHz	x4.5
AMD-K6-2-400MHz	400MHz	100MHz	x4.0
AMD-K6-2-350MHz	350MHz	100MHz	x3.5
AMD-K6-2-300MHz	300MHz	100MHz	x3.0
AMD-K6-2-266MHz	250MHz	100MHz	x2.5
AMD-K6-2-380MHz	380MHz	95MHz	x4.0
AMD-K6-2-333MHz	333MHz	95MHz	x3.5
AMD-K6-300MHz	300MHz	66MHz	x4.5
AMD-K6-266MHz	266MHz	66MHz	x4.0
AMD-K6-233MHz	233MHz	66MHz	x3.5
AMD-K6-200MHz	200MHz	66MHz	x3.0
AMD-K6-166MHz	166MHz	66MHz	x2.5
AMD-K5-PR200		66MHz	x3.0
AMD-K5-PR166		66MHz	x2.5
AMD-K5-PR133		66MHz	x1.5
Intel Pentium MMX-233	233MHz	66MHz	x3.5
Intel Pentium MMX-200	200MHz	66MHz	x3.0
Intel Pentium MMX-166	166MHz	66MHz	x2.5
Intel Pentium MMX-150	150MHz	60MHz	x2.5
Intel Pentium -200	200MHz	66MHz	x3.0
Intel Pentium -166	166MHz	66MHz	x2.5
Intel Pentium -150	150MHz	60MHz	x2.5
Intel Pentium -133	133MHz	66MHz	x2.0
Intel Pentium -120	120MHz	60MHz	x2.5
IDT WinChip 2-300		100MHz	x2.5
IDT WinChip 2-266		100MHz	x5.0
IDT WinChip 2-233	233MHz	66MHz	x3.5
IDT WinChip 2-200	200MHz	60MHz	x3.0
IDT C6-240	240MHz	60MHz	x4.0
IDT C6-225	225MHz	75MHz	x3.0
IDT C6-200	200MHz	66MHz	x3.0
IDT C6-180	180MHz	60MHz	x3.0
IDT C6-150	150MHz	75MHz	x2.0

RISE MP6 (PR266)	200MHz	100MHz	×2.0
RISE MP6 (PR233)	190MHz	95MHz	×2.0
RISE MP6 (PR166)	166MHz	83MHz	×2.0

• The Internal (Core) frequency corresponds to the number marked on the CPU. The External Frequency when multiplied with the Ratio gives the CPU's internal frequency.

• This table lists the current CPU available. New settings may be available for new CPU products. Refer to your CPU specifications for more information.

Setting the CPU Voltage Selection Jumper (JP3)

Locate Jumper JP3 on the mainboard. Set this jumper in accordance with your specific CPU type.
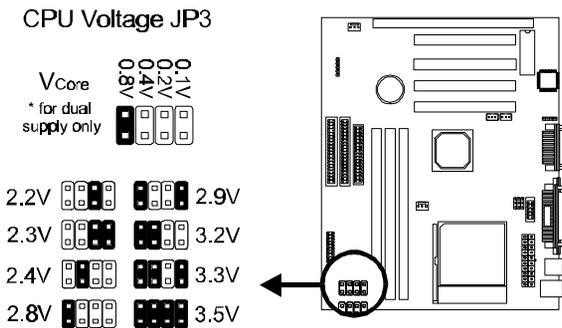
* The Intel MMX CPU is an example of a dual supply chip (2.8V & 3.3V). When single supply CPUs are used, this setting is not relevant and should be left on the default (Refer to the CPU documentation).

The following diagram illustrates all possible CPU Vcore Voltage Selection jumper settings:

2.0V	2.4V	2.8V	3.2V
2.1V	2.5V	2.9V	3.3V
2.2V	2.6V	3.0V	3.4V
2.3V	2.7V	3.1V	3.5V
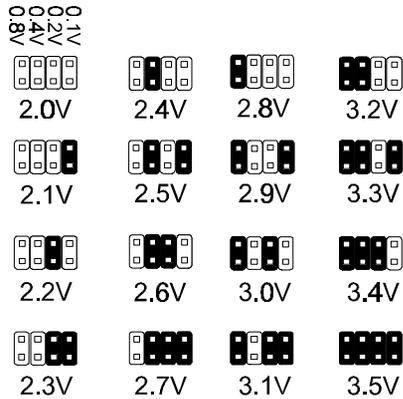
- If you are uncertain about the speed or voltage requirements of your particular CPU, you should obtain Technical Documentation from the manufacturer. Such information is available via the Intel and AMD WWW sites.

Connections

Cooling Fan (JP4 and JP5)

These connectors are small 3-pin Header Connectors that provide 12-Volt power for CPU and chassis cooling fans. Plug in the fan cable to the connector. Pin-2 corresponds to the RED power lead as shown:
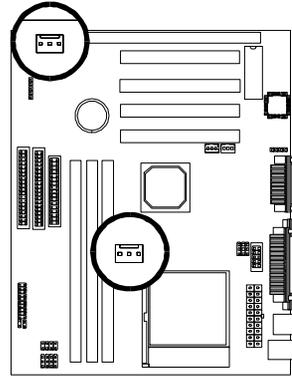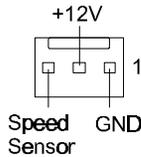
Power Supply Connector

This mainboard features an ATX-style Power Supply Connector. This connector is keyed to prevent connection in the wrong direction. Line up the locking mechanism on the connector from the Power Supply with the tab on the mainboard connector. Press down until the two connectors are locked.
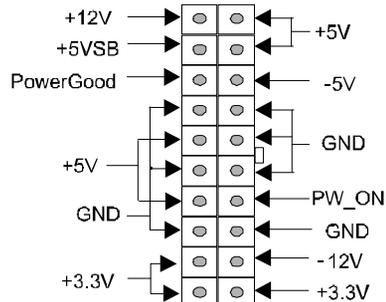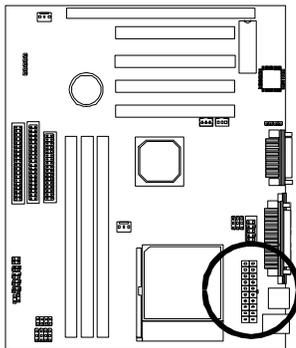
System Function Connector Block (J7)
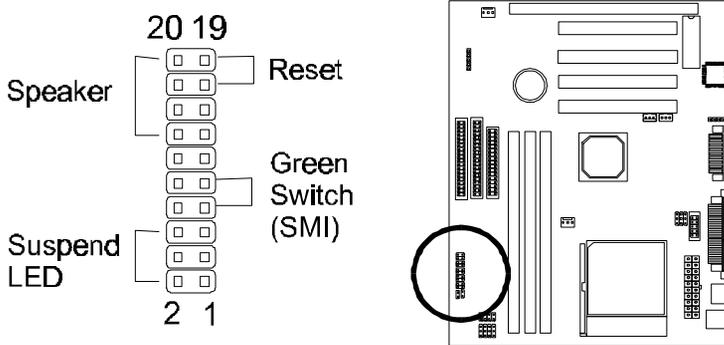
Pins [7 & 9] SMI suspend switch lead - If your system's case has a suspend switch, hook the lead from the switch to pins 7 & 9. A suspend switch is used to save electricity by putting the system into a suspend mode when the computer is not being used. For this switch to be functional, "***Suspend Mode***" must first be enabled in the **Power Management Setup** in the BIOS Setup utility.

Pins [17 & 19] Reset switch lead - Connects to the Reset Switch lead from the system's case. The reset switch is used to "cold-boot" the system without actually turning off the power, reducing wear and tear on the power supply.

Pins [2 & 6] Suspend LED lead – Pins 2 & 6 connect to the case-mounted Suspend LED switch.

Pins [14 & 20] Speaker connector - Connects to the Speaker lead from the system's case.

IDE Activity LED (JP1)

Hook the IDE LED lead to this connector, with the RED lead corresponding to Pin-1.

Soft Power Switch (JP2)

Connects to the Power Switch featured on ATX case designs. This switch must be hooked up before the system can be powered on, unlike traditional "Baby-AT" designs where the power switch is located on the Power Supply itself.

Note: Under the following two conditions, you have to press and hold the switch for more than 4 seconds to power off your system, regardless of *the "Soft-Off by PWRBTN*" setting in the **Power Management Setup** of the BIOS.

- *Shortly after the system is powered on, when the BIOS message is not yet appear.*
- *When CPU hangs.*
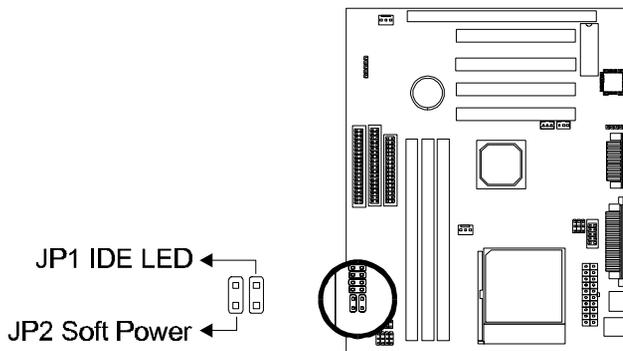
IrDA-Compliant Infrared Module Connector (JIR1)

The IrDA connector bracket hooks directly to this connector on the mainboard. This connector provides support for the optional wireless transmitting and receiving infrared module. You must first configure through the BIOS setup where UART2 is directed, COM2 or IrDA.
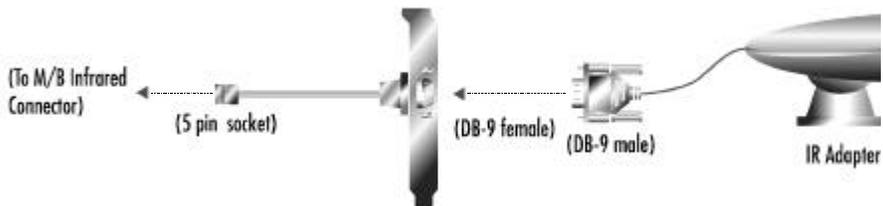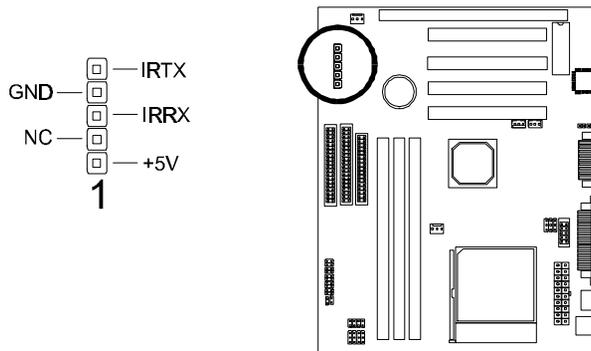
Wake-up On LAN Connector (JP10)

The Wake-up On LAN function will allow the network to wake up a Soft Power Down (Soft-Off) PC. However, if your system is in the Suspend mode, you can wake-up the system only through an IRQ or DMA interrupt. To use the Wake-up On LAN function, you must enable the "*Power On By Ring/LAN*" field in the **Power Management Setup** of the Award BIOS. Connect the cable that comes with your LAN card to this connector on the system board. Refer to the add-in card's manual for details.

Note: Your LAN card must support Magic Packet in order to use the Wake-up On LAN function.

Wake-on-Ring Function (JP11)

The Wake-on-Ring function allows the modem to remotely power on the system. Install an external modem (normally to COM2) and enable "*Power On by Ring/LAN*" function in the **Power Management Setup** from the BIOS.

For the function to work for an *internal modem card*, you must also connect the Wake-on-Ring cable on the modem card to the *Wake-on-Ring function connector* on the mainboard.
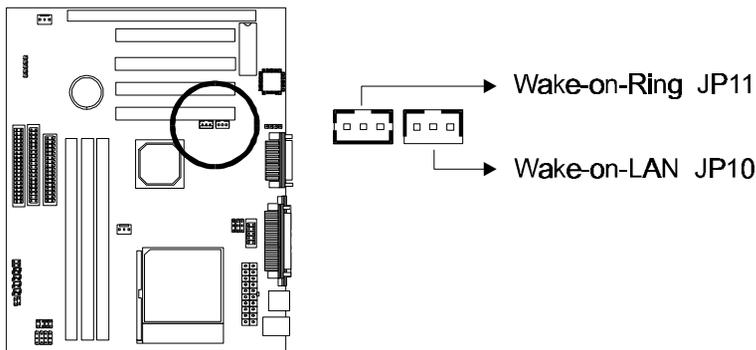
Serial and Parallel Ports

A 25-pin D-Sub header is provided on the back panel for a multi-mode bi-directional parallel port.

One 9-pin D-Sub headers are also provided on the back panel for Serial ports.

For the second serial port, plug the 10-pin cable of the serial port bracket to the COM2 connector on the mainboard.

VGA Connector

This mainboard has built-in VGA features. A 9-pin connector is provided on the back panel for connecting to the VGA connector from the monitor.
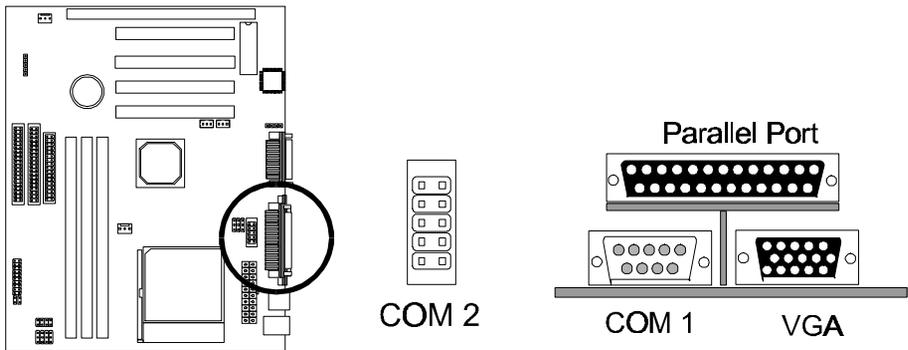
USB Connectors

These two connectors permit connection of two USB peripheral devices directly to the system without an external hub.
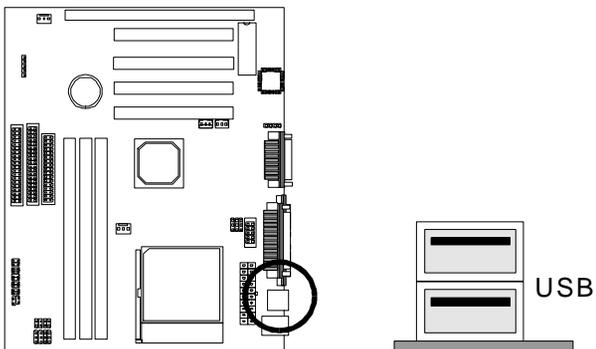
PS/2 Keyboard and Mouse Connectors

These two connectors are located on the back panel of the mainboard.
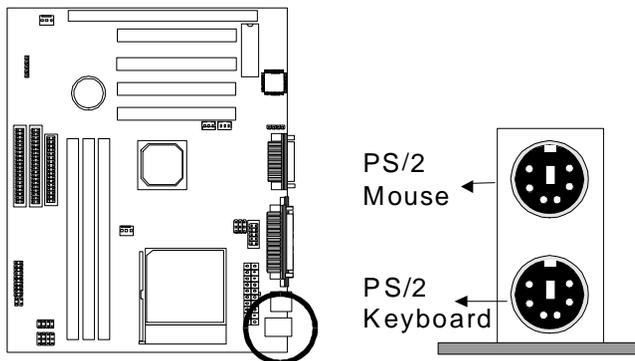
Internal Keyboard Connector

The front panel keyboard connector bracket hooks directly to this 5-pin connector on the mainboard. Make sure the red lead is oriented toward pin 1.
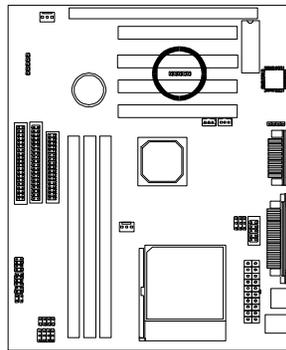
Internal Keyboard
Connector JP8

Floppy Drives

The on-board floppy controller supports (2) floppy disk drives with the floppy ribbon cable provided. Make sure the RED stripe on the ribbon cable is oriented towards Pin-1. Notice the "twist" between the sets of connectors on the floppy cable. The floppy drive "A" position is at the END of the cable, whereas floppy drive "B" is hooked to one of the connectors on the other side of the twist. The cable provides both "Edge" and "Pin" connectors for both the A and B positions to
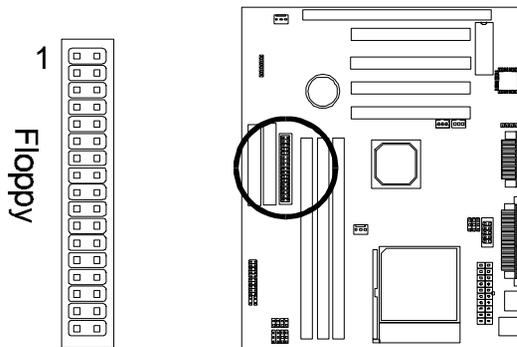
match the connector on your floppy drives.

IDE Hard Drives and CD-ROMs

The on-board Enhanced IDE controller can support up to (4) IDE hard drives or other ATAPI devices, such as CD-ROMs. This controller, as with all Enhanced IDE controllers, consists of both Primary and Secondary ports. Each port has an associated connector and cable which can support up to (2) ATAPI devices each.

All IDE devices have jumpers which allow the user to configure the device as either "Master" or "Slave". A Master device is one that is ALONE on the IDE cable, whereas a Slave device is installed as a SECOND device on the same cable. Keep in mind that the Master device will appear before the Slave device in the CMOS Setup, as well as the Operating System software. *Refer to the device documentation for jumper settings.

The Secondary IDE port can be used for up to (2) additional ATAPI devices. Normally it's recommended that you connect your first hard drive to the Primary port, and the first CD-ROM to the Secondary.

Make sure to align the RED stripe on the ribbon cable with Pin-1 on the mainboard IDE connector. On most hard drives and CD-ROMs, the RED stripe should be oriented towards the power connector of the device.
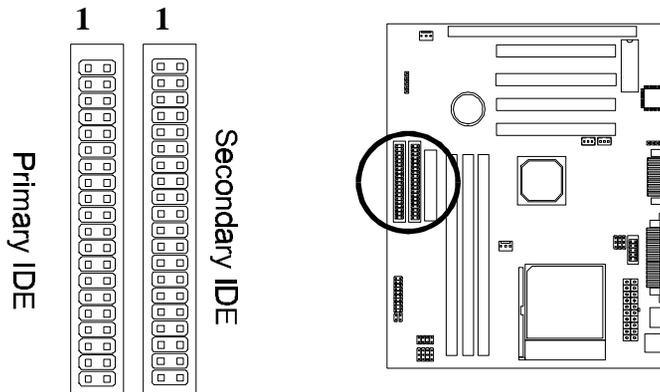
MIDI/Game Port

You may plug a joystick or game pad to this 15-pin female connector for game playing, or connect a MIDI device for playing or editing audio.

Audio Port

You can connect powered speakers or headphones to Line Out jack. Cassette players or other external audio sources can be connected to Line In jack. Plug in your microphones to MIC jack.
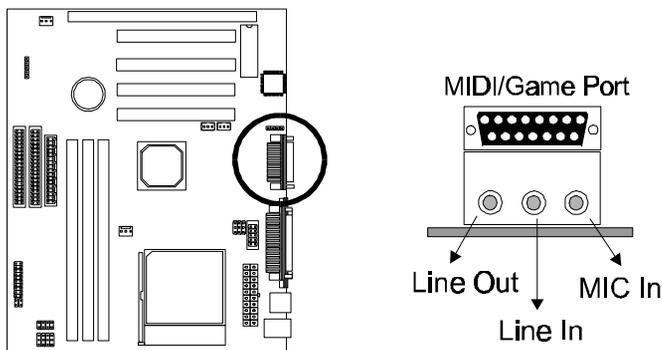
Note:

To use the on-chip direct sound AC97 audio support, make sure that the "*OnChip Sound*" option in **Chipset Features Setup** of the BIOS is enabled (default).

To use the on-chip legacy SoundBlaster-compatible audio support, make sure that the "*Onboard Legacy Audio*" options in **Integrated Peripherals Setup** of the BIOS is set according to your system configuration *before driver installation*.

Audio Connectors (J9)

A CD Audio connector is available for connecting the CD-ROM drive using CD audio cables. Make sure red lead is oriented toward pin 1.
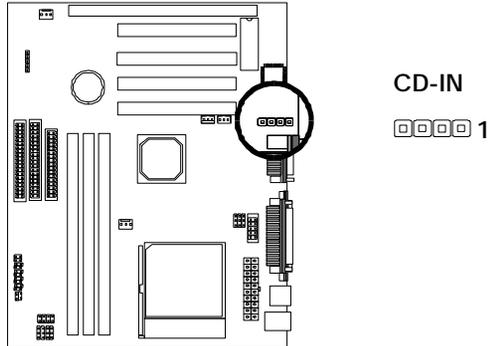
CD-IN

Installing the Memory Modules (DIMM)

- This mainboard has three sockets available for **168-pin DIMMs**. They can be 3.3 volt Unbuffered Synchronous DRAMs (SDRAM), 3.3 volt FPG or EDO DRAMs.

  - *To ensure reliability, it is recommended to use **PC100** SDRAM for your 100MHz clocked SDRAM performance requirement.*

  - *Via Apollo MVP4 chipset does not support Register DIMMs.*

- DIMM Sizes supported: **8MB, 16MB, 32MB, 64MB, 128MB** and **256MB**
- A total of **(3)** DIMMs can be installed for a maximum RAM capacity of **768MB**.

To insert the DIMMs, the modules must be oriented in the correct way. Notice the notches of the DIMM. Align these notches as shown in the diagram below. Gently push the DIMM until the retainers on both sides of the socket lock the module in place. To remove a DIMM, push the retainers outwards to release the module then pull the module out of the socket.
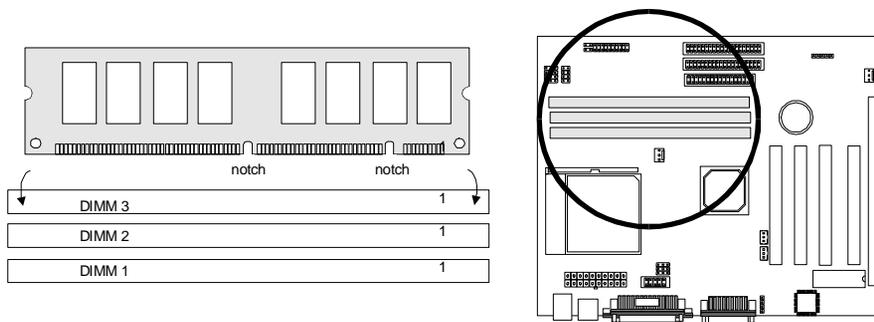
Installing the Support Drivers and Utilities

Included in your mainboard package you can find a CD-ROM containing support drivers and utilities. Just insert the CD-ROM, and from the Autorun screen, click the driver/utility that you want to install. Follow the on-screen instructions to complete the installation.

* The screen may look different under different color mode.

More utilities can be found under the "Utilities" folder of the CD-ROM.

INSTALLATION

*Special Note on the Onboard Audio Features*

Using the Onboard Audio Features

To use the on-chip direct sound AC97 audio support, make sure that the "***OnChip Sound***" option in **Chipset Features Setup** of the BIOS is enabled (default).

To use the on-chip legacy SoundBlaster-compatible audio support, make sure that the "***Onboard Legacy Audio***" options in **Integrated Peripherals Setup** of the BIOS is set according to your system configuration *before driver installation*.

For Windows NT 4.0

Ensure Windows NT4.0 is up and running properly. Install the audio drivers *before Service Pack 4*. If Service Pack 4 is installed before the audio drivers, you may not see peripheral devices including the CD-ROM drive due to Service Pack 4 problem.

Special Note on VIA MVP4 and VGA Drivers

Before installing the AGP VGA drivers under Windows 95/98, specific software support must be included in your system first:

Windows 95

A. Though Windows 95 OSR2.0 supports AGP, it is necessary that you first ***upgrade OSR2.0 to OSR2.1 with a USB upgrade*** to take full advantage of the AGP features.

B. To access the advanced 3D features in Windows 95, you also need to first ***install the Microsoft DirectX 5.0***.

C. Then install the following VIA drivers found in the supplied CD-ROM:

    1)   VIA PCI Bridge driver.

    2)   VIA Bus Master driver.

    3)   VIA VxD driver.

Make sure all the above are included in your system before you install the display driver.

Windows 98

Install VIA VxD driver found in the supplied CD-ROM before you install the display driver.

SOFTWARE SUPPORT

For detailed information, please refer to the **BIOS, Driver & Utility Guide** included in your mainboard package.

Mainboard BIOS

Shortly after the system is powered on, provided that the system is properly setup, you will see the message:

Press DEL to enter SETUP

• Press the **DEL** key to enter the Award BIOS Setup program.

The Main Menu will appear on the screen. Use the **arrow keys** to select among the items and press **<Enter>** to accept and enter the sub-menu.

ROM PCI/ISA BIOS (xxxxxxxx)
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

Select **LOAD SETUP DEFAULTS** for optimum system performance.

Flash BIOS Programming Utility

Since this mainboard features FLASH BIOS, the user can simply re-program the old BIOS using the AWDFLASH Utility (found under "Utilities" folder of the supplied CD-ROM) as follows:

1. First, boot the system with DOS or to "Safe Mode" under Windows 95. *This is the only correct way to run the AWDFLASH Utility program.*

2. Make sure the files "AWDFLASH.EXE" and the updated "BIN" file (which contains the actual BIOS code) are in the same directory.

3. Changing to the directory where the two required files exist, type: AWDFLASH and press [ENTER]. The AWDFLASH Utility Screen appears:

```
           FLASH   MEMORY   WRITER v5.2C
      Copyright <C> 1993, Award Software, Inc.,

      For SIS-85C471-I486SU2G        DATE: 04/26/94
         Flash Type -
   File Name to Program : ▮




   _____

   Error Message:
```
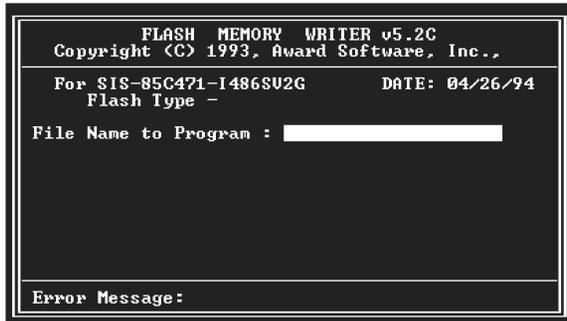
4. Type in the name of the new BIOS (.bin) file and hit [ENTER].

5. Backup the old BIOS by entering the name of the new backup file (such as "backup.bin") and press [ENTER].

6. To begin programming, hit "y". The Utility can be aborted at this time by hitting "n".

7. A bar indicator will show the progress of the programming operation. After successful completion, hit the reset button or power off the computer.

Be sure to perform "**LOAD SETUP DEFAULTS**" for your new BIOS to synchronize the previous BIOS with the updated BIOS.

Symbios SCSI Configuration Utility

This mainboard features built-in Symbios SCSI BIOS. The **Symbios SCSI Configuration Utility** is a menu driven utility that allows you to view and change the default configuration settings for host adapters using Symbios 53C8XX chips.

In most cases you should not need to change the default configuration of your host adapter. You may decide to alter these default values if there is a conflict between device settings, or if you need to optimize system performance. A message appears on your computer monitor (for about 5 seconds) during boot that looks like this:

Press Crtl-C to start Symbios Configuration Utility

If you decide to press Ctrl-C during boot, the following message appears:

Please wait, invoking Symbios Configuration Utility …

After a brief pause, your computer will display the Main Menu of the utility.

Note: Pressing **Ctrl-A** after memory count during re-boot allows you to recover the default settings and reconfigure.

DMI Utility

This mainboard supports the **Desktop Management Interface (DMI)**, which is a new method of providing enterprise management for personal computers. The main component of DMI is the Management Information Format Database (MIF), which contains information about the computer system and its components, such as BIOS version/vendor, CPU speed/type, memory size/type, L1/L2 cache, port connectors (IDE, floppy, 2S/1P, USB, keyboard, mouse,), slots … etc. Using DMI, remote PC management software is able to obtain various information about the system, including hardware profiles, capabilities, operational status, installation dates, and other information about the system and its components.

This DMI utility, DMICFG.EXE (found under "Utilities" folder of the supplied CD-ROM), allows you to add additional information, such as serial numbers, vendor information, and enclosure/chassis configurations, into the MIF.

FCC & DoC Compliance Statement

This device complies with Part 15 of the FCC rules, operation is subject to the following two conditions.

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

This equipment has been tested and found to comply with 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 residential installations. This equipment generates, uses, and can radiate radio frequency energy, and if not installed and used in accordance with the instructions, may cause harmful interface to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause interference to radio or television equipment 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.
● Move the equipment away from the receiver.
● Plug the equipment into an outlet on a circuit different from that to which the receiver is connected.
● Consult the dealer or an experienced radio/television technician for additional suggestions.

The FCC requires the user to be notified that any change or modifications to the equipment by the user not expressly approved by the grantee or manufacturer could void the user's authority to operate such equipment. The use of shielded cables for connection of the monitor to the graphics card is required to assure compliance with FCC regulations.

SOFTWARE SUPPORT

27-0M0586-42