The information presented in this publication has been carefully checked for reliability; however, no responsibility is assumed for inaccuracies. Specifications are subject to change without notice.

Trademarks

PS/2, OS/2, IBM, PC/AT, and PC/XT are trademarks of International Business Machines Corporation.

Intel and Pentium$^{®}$ are trademarks of Intel Corporation.

AMI is a trademark of American Megatrends Inc.

MS-DOS and WINDOWS 95/98/NT are registered trademarks of Microsoft Corporation.

PC-cillin and ChipAwayVirus are trademarks of Trend Micro, Inc.

AMD is a trademark of Advanced Micro Devices Inc.

Cyrix is a trademark of Cyrix Corporation.

IDT is a trademark of Integrated Devices Technology Corporation.

SiS is a trademark of Silicon Integrated Systems Corporation.

Chapter 1
Introduction

This mainboard is a **SiS530 100MHz** highly integrated high-performance mainboard based on the advanced Socket 7 microprocessor and provides CPU Plug and Play feature for faster and easier CPU installation. The mainboard features highly flexible configurations and is fully IBM PC/AT compatible.

The mainboard uses a **Super 7 chipset with 3D video inside** which is built with a high performance 64-bit **3D AGP Graphics Accelerator** with 8MB frame buffer. It supports the PCI/ISA and Green standards, provides the Host/AGP bridge, and integrates all system control functions such as ACPI(Advanced Configuration and Power Interface). The **ACPI** provides more energy saving features for the OSPM(OS Direct Power Management) function.

The mainboard has an onboard PCI Sound to meet PC98' specifications for 3D Multimedia systems, and built-in **Hardware Monitor** circuit to monitor CPU fan speeds/voltages/temperature with SiS System Hardware Monitor. And the mainboard BIOS provides Trend's **ChipAway Virus** to ensure the entire boot process virus free.

Key Features

The advanced features of the mainboard including:

❏ Supports P54C/P55C (MMX) Pentium® CPUs and Cyrix/IBM 6x86L/6x86MX/MII, AMD K6/K6-2, IDT C6 CPUs with Frequency at 60/66/75/83/95/**100**MHz;

❏ Provides **CPU Plug and Play** features for faster and easier CPU installation;

❏ Memory:
  — provides 3 DIMMs for SDRAM memory modules
  — supports a maximum size of 768MB system memory
  — onboard 64-bit 1M/2M(optional) L2 cache

❏ Expansion slots:
  — provides 3 PCI, and 1 ISA slots;

❏ Onboard 2 IDE ports:
  — supports 4 IDE devices maximum
  — supports PIO, PCI Bus Master and Ultra DMA/33/66 operation modes

❏ ATX Power Supply:
  — provides ATX power connectors and features of ATX power
  — provides Power Button/Suspend Switch and **Keyboard Power On/Off** functions
  — Alarm Wake Up and LAN/Modem Wake Up functions

❏ Onboard **64-bit 3D VGA** Graphics Accelerator:
  — supports AGP Ver1.0 specification and 66/133MHz
  — supports high performance 64-bit GUI accelerator with excellent video playback capability

- — maximum 8MB frame buffer share from the system memory
- — high resolution graphic modes up to 1600x1200

❏ Onboard CMI 8338 PCI Sound Features:
- — HRTF 3D positional audio supports Direct Sound 3D, A3D interfaces, and four speakers mode.
- — full duplex 16bit CODEC for playback and record.
- — supports Windows 3.1/95/98 and NT 4.0.
- — Digital Audio Interface supports 24bit stereo 44KHz sampling rate and 120 dB audio quality.
- — builtin 32 ohm earphone buffer and 3D surround.
- — Wave-Table Synthesizer supports Direct Music.
- — supports MPU-401 Game/Midi port and SB16.
- — Stereo Mixer supports analog mixing from CD-Audio, Line-In, and digital mixing from voice, FM/Wave-Table and digital CD-Audio

❏ Onboard Multi-I/O and Peripheral interface, including:
- — 1 floppy port with 1 MB/s transferring rate
- — 2 serial ports with 16550 compatible with Fast UART
- — 1 parallel port with EPP and ECP capabilities
- — 2 USB ports and PS/2 keyboard/mouse ports
- — 1 IR interface

❏ Built-in Hardware Monitor circuit:
- — detects CPU fan speed/temperature and voltages.

❏ BIOS:
- — Onboard **2M Flash ROM** supports complete ACPI and Legacy PMU and is fully compatible with PC97 and PC98
- — provides Plug & Play function which detects the peripheral devices and expansion cards automatically
- — supports Trend's **ChipAwayVirus** to ensure the entire boot process is virus free, no installation and configuration worries

❏ Bundled:
  — **AMI Desktop Client Manager** detects abnormal condition through the network link or self core
  — **PC-cillin98** (OEM) provides automatic virus protection for Windows 95/98 and the Internet

❏ Dimension:
  — Micro ATX Form Factor, 24.5cm (L) x 19cm (W)

Unpacking the Mainboard & Static Electricity Precautions

This Mainboard package contains the following items:

1. This Mainboard and the Device Driver

2. This User's Guide and AT cables

3. SPDIF/IN cable(optional)

4. Optional Digital Audio ribbon cable/bracket

5. COM2 ribbon cable/bracket

The mainboard is easily damaged by static electricity. Follow the precautions below while unpacking or installing the mainboard.

1. Do not remove the mainboard from its original package until you are ready to install it.

2. Frequently ground yourself to discharge any static electric charge that may build up in your body while working on installation and/or configuration. For example, you may ground yourself by grasping an unpainted portion of the system's metal chassis.

3. Remove the mainboard from its anti-static packaging and place it on a grounded surface, component side up.

4. Handle the mainboard by its edges or by the mounting bracket to avoid touching its components.

5. Check the mainboard for damage. If any integrated circuit appears loose, press carefully to seat it firmly in its socket.

6. Do not apply power if the mainboard appears damaged. If there is damage to the board contact your dealer immediately.

Chapter 2
Hardware Configuration

Before you install the mainboard into the system chassis, you may find it convenient to first configure the mainboard's hardware. This chapter describes how to set jumpers and install memory modules, and where to attach components, however, the CMOS jumper is set on the "Clear" position when this mainboard is shipped and you need to set it to the "Normal" position in order for the mainboard perform properly.

Warning: ***Set JP6 to "Normal" position before setting other jumpers or memory modules. This mainboard will not function properly if you fail to do so.***

Mainboard Component Locations
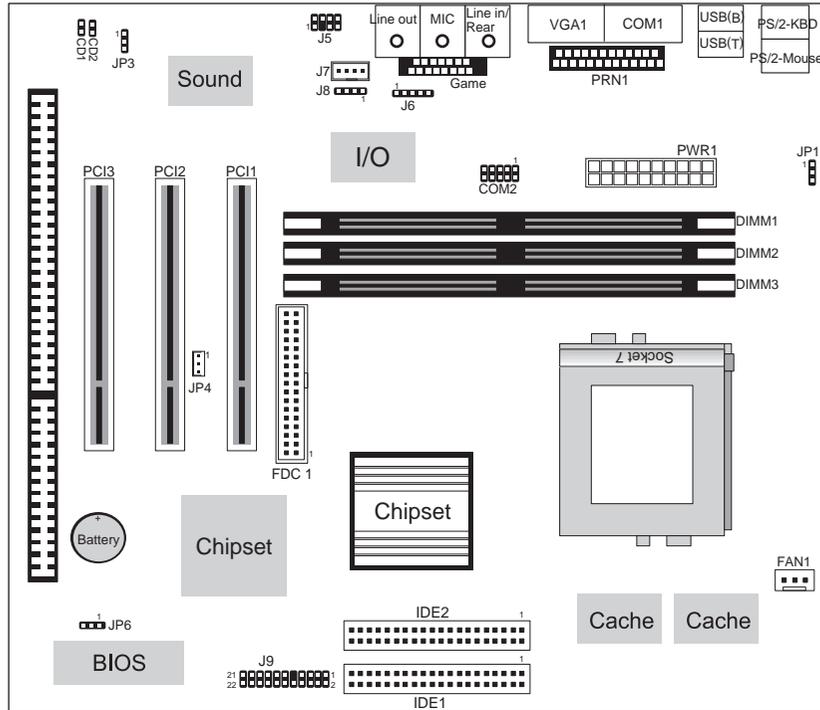
Figure 2-1. Mainboard Component Locations

CPU Installation

CPU Speed Setting

This mainboard provides CPU Plug and Play technology, so that there is no need to do the CPU jumper setting. Enter the BIOS Setup and select "CPU Plug and Play Setup". Choose the correct CPU speed to match your CPU installed.

However, if you need to change a CPU, follow the below steps:

1. Power off system and unplug the power core.
2. Install a new CPU to Socket7.
3. Clear CMOS RAM (see Jumper Settings) or hold down the <Insert> key then power on the system.
4. After power on the system, then enter the BIOS Setup section to set the new CPU speed.

Note: If the CPU speed is set incorrectly and fails to boot up the system, then repeat steps 1, 3, 4 again.

Memory Installation

The mainboard lets you add up to 768MB of system memory through 3 DIMM sockets on the board, that is divided into 3 banks: Bank 0, Bank 1, and Bank 2, which supports the following memory configurations.

Bank	Memory Module
Bank 0	
DIMM1	4MB, 8MB, 16MB, 32MB, 64MB, 128MB, 256MB
Bank 1	
DIMM2	4MB, 8MB, 16MB, 32MB, 64MB, 128MB, 256MB
Bank 2	
DIMM3	4MB, 8MB, 16MB, 32MB, 64MB, 128MB, 256MB
Total System Memory = Bank 0 + Bank 1 + Bank 2	

Notes: 1. Supports only 3.3V SDRAM DIMM modules.
*   2. The SDRAM must be installed in DIMM1 first, if onboard VGA is being used.*

Jumper Settings

JP6 - CMOS RAM Clear Selector

The battery on this mainboard is designed to retain the system configuration in CMOS RAM. In order to save the life of the battery, this jumper is set to "Clear CMOS" position when this board is shipped, therefore you need to set this jumper to "Normal" position before setting other system configuration.

Description	JP6
Clear CMOS (while shipping)	
Normal	
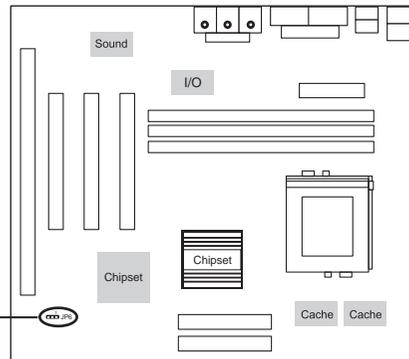
Note: 1. ***Make sure this jumper is set to Normal mode before use.***
   2. Once you need to clear the CMOS, make sure your system is truned off and the power core is unplugged.

ATX Functions & Connectors

This mainboard supports ATX power and ACPI specification. The ATX functions and connectors are described below.

Software Power-Off

Follow the steps below to use the "Software Power-Off Control" function in Windows 95/98 with ATX power supply.

1. Click the **START** button on the Windows 95/98 task bar.

2. Select **Shut Down The Computer** to turn off the computer. The message **"It is now safe to turn off your computer."** will not be shown when using this function.

LAN/Modem Ring Wake-On

While in Soft-off/Suspend state, if an external LAN/ modem ring-up signal occurs, the system wakes up and can be remotely accessed. Make sure that the IRQ3 option in the Power Management Setup of the BIOS Setup section is set to "Monitor" and the Ring On/LAN Card Power On options are set to "Enabled".

User must connect LAN card to the following connector when using LAN Wake-On function.

JP4 - LAN Wake On Connector

Connect this connector to the LAN card which supports
ACPI specification.
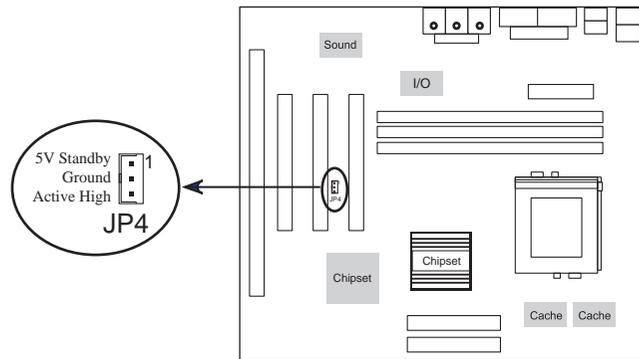
Alarm Wake Up

If you want to autoboot the system at a certain time, set the
function of RTC Alarm time properly and the function of
RTC Alarm Power On in the BIOS Setup section will be
set to "Enabled".

Keyboard Power On

Press the hot key(Ctrl + Alt + Back Space) to power on the
system and refer to the following jumper description - JP1-
for more information.

JP1 – Keyboard Power On Selector

This jumper is designed for the user to turn on the system by using the keyboard, and, the user must enter BIOS Setup to set the "Keyboard Power On" option in the Advanced Chipset Setup. The sequence of the hot key of Keyboard Power On is <Ctrl>+<Alt>+<Back Space>.

Description	JP1
Disabled (default)	
Enabled	
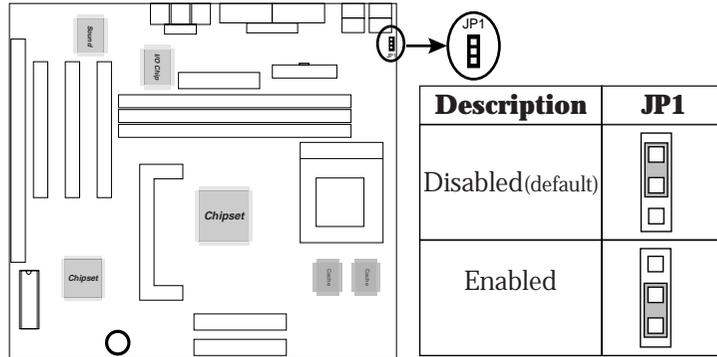
Note: Make sure that the system power can provide 720mA on +5VSB(+5V Standby) signal before using Keyboard Power On function.

PWR1 – ATX Power Connector

The ATX power supply is a single 20-pin connector. Connect the ATX power supply to this connector which provides all power for the mainboard.

Pin	Description	Pin	Description	Pin	Description	Pin	Description
1	3.3V	6	+5V	11	3.3V	16	Ground
2	3.3V	7	Ground	12	−12V	17	Ground
3	Ground	8	Power OK	13	Ground	18	−5V
4	+5V	9	5VSB	14	PS-ON	19	+5V
5	Ground	10	+12V	15	Ground	20	+5V

J9 (21,22) – Power Button/SuspendSwitch Connector

Attach the ATX power button/suspend switch cable to this connector.

In the AT power system, this connector will act as a suspend switch; and in the ATX power system, this connector will be not only an ATX power button but a suspend switch as well. Details are described below:

Turn the system back on by pushing the power button, and, if the system is already on, pushing the power button allows the system to be switched to the Suspend mode. However, if push and hold the power button for more than 4 seconds, then the system will be turned off completely. And, if the system is already in the Suspend mode, pushing the power button rapidly will turn on the system.

pin21, 22 - Power Button
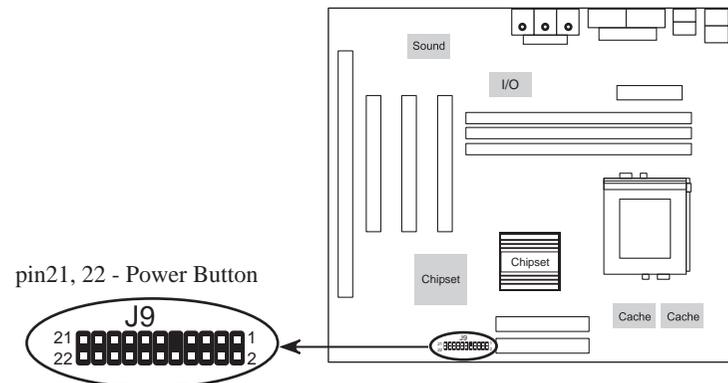
Connectors

Attach system components and case devices to the mainboard via the mainboard connectors. A description of each connector follows. See Figure 2–1 for the location of the connectors on the mainboard.

Note: Make sure that the power is turned off before making any connection to the board.

FDC1 – Floppy Disk Drive Port

IDE1/IDE2 – Primary/Secondary IDE Ports
COM2 - Serial Port 2

Side View
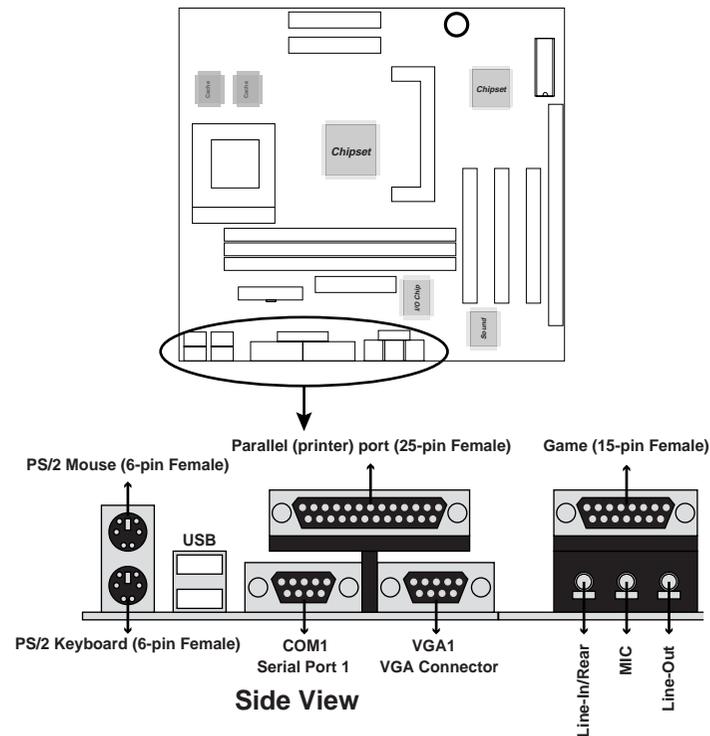
J6 – Infrared Connector

The mainboard provides a 5-pin Infrared connector for infrared devices. You must configure the setting for infrared device through the Peripheral Setup in BIOS Setup section.
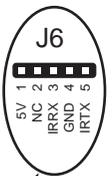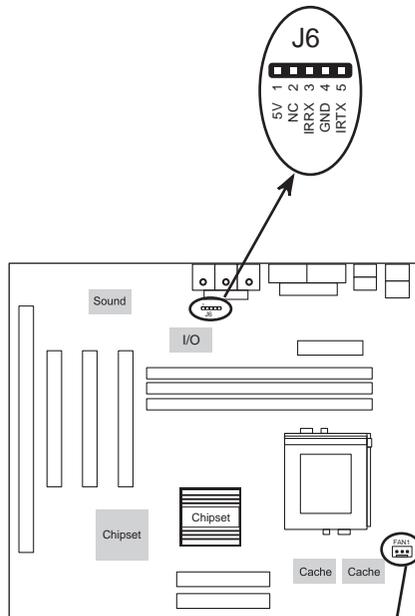
FAN1 – CPU Fan Power Connector

Connect CPU fan cable to this connector.
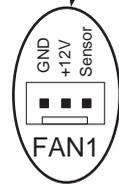
Case Connectors: J9

The case connectors contain: Speaker, Power LED, Keylock, Turbo LED, HDD LED, Reset Switch, and Power Button. Refer to the following drawing for the location on the mainboard.

pin1, 3, 5, 7 – Speaker
pin2, 4, 6 – Power LED
pin8, 10 – Keylock
pin13, 14 – Turbo LED
pin15, 16 – HDD LED
pin17, 18 – Reset Switch
pin21, 22 – Power Button

J9 (21, 22) - Power Botton/Suspend Switch Connector

Refer to the ATX Functions & Connectors section.

J9 (17, 18) - Reset Switch Connector

Setting	Description
Open	Normal Mode
Close	Reset System

J9 (2, 4, 6, 8, 10) – Keylock & Power LED Connector

Pin	Description
2	LED Output
4	N.C.
6	Ground
8	Keylock
10	Ground

J9 (1, 3, 5, 7) – Speaker Connector

Pin	Description
1	+5V
3	N.C.
5	Ground
7	Data Out

J9 (13, 14) – Turbo LED Connector

Pin	Description
13 (+)	Anode
14 (–)	Ground

J9 (15, 16) – HDD LED Connector

Pin	Description
15(+)	+5V
16(-)	Active Low

Onboard PCI Sound

There is a onboard PCI Sound for the 3D multimedia systems.

J7/J8 – Analog Audio from CD-ROM Connectors

Connect from "AUDIO" output of the CD-ROM driver to these connectors. For Panasonic or compatible type ofCD-ROM, connect to J7 (pin signals assignment is G-L-G-R), and for Sony or compatible type of CD-ROM,connect to J8 (pin signals assignment is L-G-G-R).

Sound and Game (on the external connectors)

The board provides Line-In/Rear(see following The 4 Speakers System section), MIC(Microphone),Line-Out (Speaker) signals for audio I/O, and Game port(which is also used as the Joystick/MIDI port) signals.
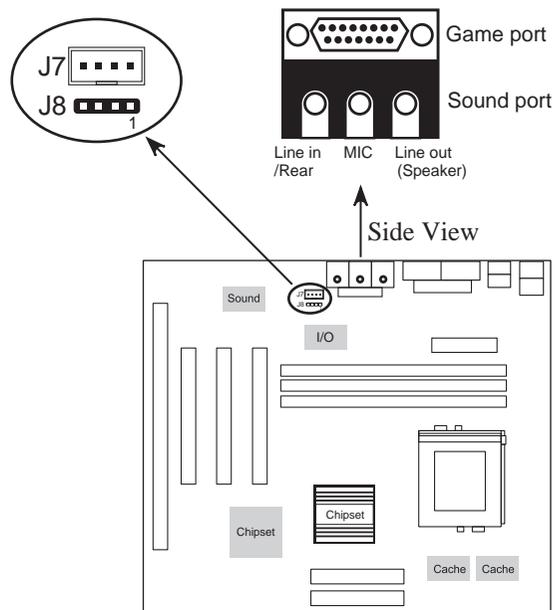
J5 – Digital Audio Connector

Connect this connector to the Aux. Sound ribbon cable/ bracket that contains 3 jacks for Aux IN, SPDIF IN and SPDIF OUT device. Aux IN is called the second Line-in. Connect SPDIF IN to the Mini-Disk to record, and **avoid** this jack to work simultaneously with the internal SPDIF IN connector. Connect SPDIF OUT to the AC3 Audio Amplifier or Mini-Disk to play, and set the following jumper to select 5V or 0.5V signal level for used device.

CD2 – SPDIF OUT Signal Level Selector

Description	CD2
5V	
0.5V (default)	

CD1 – Internal SPDIF IN Connector

Connect to "DIGITAL AUDIO" port of the CD-ROM drive by using the SPDIF/IN cable, which gives you the non-distortion digital audio from CD-ROM. **Avoid** this connector to work simultaneously with the SPDIF IN jack.
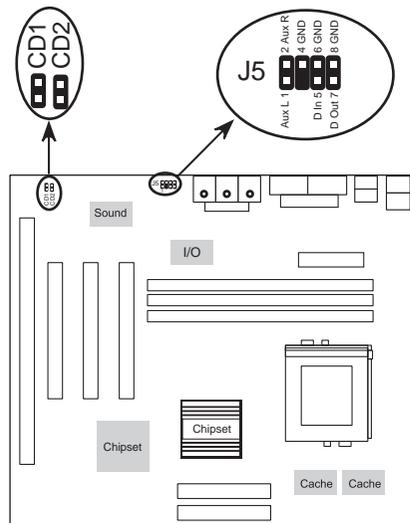
Notice for PCI Sound application

1. Before you install the PCI Sound drivers, make sure your Operating System has been installed, otherwise the PCI Sound Pro might be detect as "Other Device" by the device manager of your OS.

2. After the drivers install, if you wants to use Software Wave-Table drivers as MIDI output device, select MULTIMEDIA icon within CONTROL PANEL. Select MIDI page, and click on "C-media SoftMidi Synthesis(Win98)/Driver(Win95)" then click "OK" to confirm.

3. A Windows application named Audio Rack is provided within PCI Sound drivers, which gives you control over all audio functions through a user interface as simple to use a home stereo system, we recommended you to use the System Mixer within Audio Rack to control the volume, recording device select and recording gain.

4. If you using devices that use Midi port as the control interface, you need to select MULTIMEDIA icon within CONTROL PANEL. Select MIDI page, and click on "CM8338 MPU-401"(Win98) or "CMI8338/C3DX PCI Audio External MIDI port"(Win95) then click "OK" to confirm.

5. See details of PCI Sound manual within the CD attached with the mainboard.

The 4 Speakers System

Onboard Sound provides 2 wave channels (front/rear), known as the 4 speakers system. When application programs via DirectSound® 3D or A3D® interface locate the sound sources to the listener's back, the two rear speakers will work to enhance the rear audio positional effect, so as to complement the insufficiency of using only two front speakers to emulate the audio effect. The following is the hardware installation and the software setups:

1. The speaker installation.
Connect the front pair speakers to the Line-out jack on the Sound port, and then connect rear pair speakers to Line-in/ Rear jack. The original Line-in can be moved to Aux-in.

2. The positions of the speakers
Put your speakers the way the following picture suggests, so as to avail yourself to the best audio result.

3. The mixer setup
When user was setup the PCI Audio Application, there is a 4 speakers option in the Volume Control of the Mixer, click 4 SPK icon to enable this option, it means the rear speakers are connected to Line-in/Rear jack. When Line-in/Rear jack is connected to other external Line-in sources, please **DO NOT** enable this option in order to avoid hardware conflicts. Regarding rear speaker option, you can turn on/off the output of the back speakers, and adjust the volume of speakers to the same volume.

4. The demo
Execute the "Helicopter" demo within the C3D HRTF Positional Audio Demos of the PCI Audio Application. When the helicopter flies behind you, the rear speakers will work.
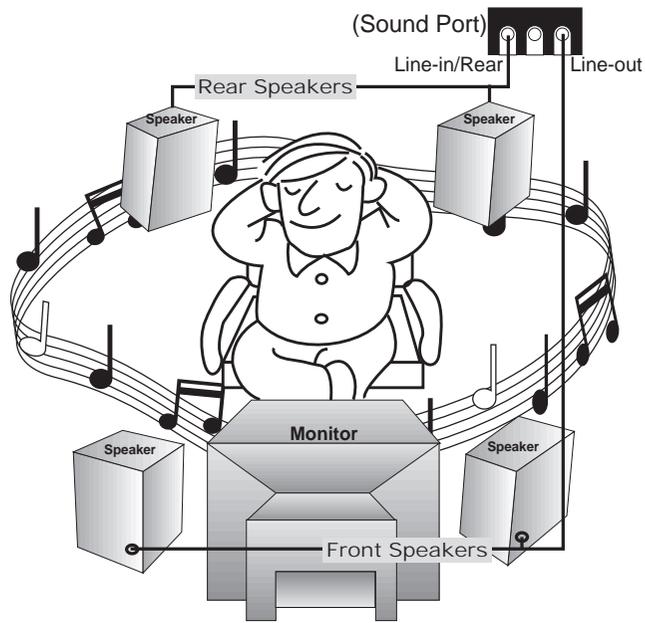
A picture on the 4 speakers application

JP3 - Onboard Sound Selector

Set this jumper to disable the onboard PCI Sound.

Description	JP3
Disabled	1
Enabled (default)	1

Chapter 3
BIOS Setup

This chapter explains how to configure the mainboard's BIOS setup program. The setup program provided with the mainboard is the BIOS from AMI.

After you have configured the mainboard and have assembled the components, turn on the computer and run the software setup to ensure that the system information is correct.

The software setup of the system board is achieved through Basic Input-Output System (BIOS) programming. You use the BIOS setup program to tell the operating system what type of devices are connected to your system board.

The system setup is also called CMOS setup. Normally, you need to run system setup if either the hardware is not identical with information contained in the CMOS RAM, or if the CMOS RAM has lost power.

Note: Hold down the <End> key then power on to reboot the system when installing newer BIOS into this mainboard .

Entering BIOS Setup

To enter the BIOS Setup program:

1. Turn on or reboot the system. A screen appears with a series of diagnostic checks.

2. When "Hit <DEL> if you want to run SETUP" appears, press the <DEL> key to enter the BIOS setup program. The following screen appears:

```
            AMIBIOS SIMPLE SETUP UTILITY - VERSION 1.1X
        (C)1998 American megatrends, Inc. All Rights Reserved

   Standard CMOS Setup              Peripheral Setup

   Advanced CMOS Setup              H/W Monitor & CPU PnP Setup

   Advanced Chipset Setup           Change Supervisor Password

   Power Management Setup           Auto-Detect Hard Disks

   PCI/Plug and Play Setup          Save Settings and Exit

   Load Optimal Settings            Exit Without Saving

   Load Best Performance Settings

   Esc: Quit     ↑↓→←: Select Item    (Shift) F2: Change Color    F5: Old Values
   F6: Optimal values       F7: Best performance values           F10 : Save&Exit

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

3. Use your keyboard to choose options. Modify system parameters to reflect system options. Press Alt-H for Help.

Default

Every option in the BIOS Setup contains two default values: Best default and the Optimal default value.

Load Optimal Settings

The Optimal default values provide optimum system settings for all devices and system features.

Load Best Performance Settings

The Best default values provide best performance settings for all devices and system features, however depending on the devices used, these settings are not recommend for long hours of work load.

Setup Items

Standard CMOS Setup

Choosing the item from the BIOS Setup main menu. All
Standard Setup options are described in this section.

```
                        AMIBIOS SETUP - STANDARD CMOS SETUP
                 (C)1998 American Megatrends, Inc. All Rights Reserved

Date (mm:dd:yy) : Tue Nov 24,1998
Time (hh:mm:ss) :  18:44:46
                                              LBA    Blk   PIO   32Bit
              TYPE         SIZE  Cyln  Head  WPcom  Sec  Mode  Mode  Mode  Mode
Pri Master : Auto                                                          On
Pri Slave  : Auto                                                         On
Sec Master : Auto                                                         On
Sec Slave  : Auto                                                         On

Floppy Drive A : 1.44MB 31/2
Floppy Drive B : Not Installed              Base Memory : 640 Kb
                                           Other Memory : 384 Kb
                                        Extended Memory : 123 Mb
                                           Total Memory : 124 Mb

Month:  Jan - Dec                        ESC : Exit
  Day:   01 - 31                         ↑↓ : Select Item
  Year: 1901 - 2099                      PU/PD/+/- : Modify
                                         (Shift)F2 : Color
```

Date/Time   Select the Date/Time option to change the date
                   or time. The current date and time are
                   displayed. Enter new values through the
                   displayed window.

Pri Master;   Choose these icons to configure the hard disk
Pri Slave;   drive named in the option. When you click on
Sec Master;   an icon, the following parameters are listed:
Sec Slave   Type, LBA/Large Mode, Block Mode, 32Bit
                   Mode, and PIO Mode. All parameters relate to
                   IDE drives except **Type**. Choose the **Type**
                   parameter and select Auto BIOS automatically
                   detects the IDE drive parameters and displays
                   them. Choose on **LBA Mode** and choose *On* to
                   enable support for IDE drives with capacities
                   greater than 528MB. Click on **Blk Mode** and
                   choose On to support IDE drives that use Blk
                   Mode. Click on **32Bit Mode** and choose *On* to
                   support IDE drives that permit 32-bit accesses.

Floppy Drive A; B	Choose the Floppy Drive A or B icon to specify the floppy drive type. The settings are 360KB 5$^1/_4$", 1.2MB 5$^1/_4$", 720KB 3$^1/_2$", 1.44MB 3$^1/_2$", or 2.88MB 3$^1/_2$".

Advanced CMOS Setup

Choosing the item from the BIOS Setup main menu. All Advanced Setup options are described in this section.

```
                 AMIBIOS SETUP - ADVANCED CMOS SETUP
        (C)1998 American Megatrends, Inc. All Rights Reserved

1st Boot Device          IDE-0      D000,16K Shadow          Disabled
2nd Boot Device          Floppy     D400,16K Shadow          Disabled
3rd Boot Device          ARMD-HDD   D800,16K Shadow          Disabled
4th Boot Device          Disabled   DC00,16K Shadow          Disabled
Try Other Boot Devices   Yes
S.M.A.R.T. for Hard Disks Disabled
Quick Boot               Enabled
BootUp Num-Lock          On
Floppy Drive Swap        Disabled
Floppy Drive Seek        Disabled
PS/2 Mouse Support       Enabled
Primary Display          Absent
Password Check           Setup
Boot to OS/2 > 64MB      Disabled
Internal Cache           Enabled
External Cache           Enabled    ESC : Quit       ↑↓→←: Select Item
System BIOS Cacheable    Cached     F1  : Help     PU/PD/+/- : Modify
Video,32K Shadow         Cached     F5  : Old Values (Shift)F2 : Color
C800,16K Shadow          Disabled   F6  : Load BIOS Defaults
CC00,16K Shadow          Disabled   F7  : Load Setup Defaults
```

1st Boot Device; 2nd Boot Device; 3rd Boot Device; 4th Boot Device	Set these options to select the boot sequence from different booting devices.
Try Other Boot Devices	Choose *Yes* or *No* to search other boot devices to boot up the system when all the options in the previous function failed.
S.M.A.R.T for Hard Disks	Choose Enabled or Disabled. This option allows you to utilize the S.M.A.R.T. function of HDDs.
Quick Boot	Set this option to *Enabled* to permit BIOS to boot within 5 seconds.

Boot Up Num-Lock Set this option to turn on *Num Lock* key when the system is powered on.

Floppy Drive Swap This option allows you to swap floppy drives between A: and B:.

Floppy Drive Seek Choose Enabled or Disabled. Disabled provides a faster boot and reduces the possibility of damaging the heads.

PS/2 Mouse Support When this option is set to *Enabled*, BIOS supports a PS/2-type mouse.

Password Check This option specifies the type of BIOS password protection that is implemented. The settings are:
Setup: The password prompt appears only when an end user attempts to run BIOS Setup.
Always: A password prompt appears every time the computer is powered on or rebooted.
The password does not have to be enabled.

Primary Display Set this option to select the primary display subsystem in the computer.

Boot to OS/2 > 64MB You need to set this option to Enabled when using the OS/2 operating system with installed DRAM which is greater than 64MB.

Internal Cache; External Cache Set these two options to enable or disable the internal/external cache.

System BIOS Cacheable 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.

Video, 32K Shadow;	Disabled:	The specified ROM is not copied to RAM.
C800, 16K Shadow;		
CC00, 16K Shadow;	Enabled:	The contents of the ROM area are not only copied from ROM to RAM for faster execution, the contents of the RAM area can be written to or read from cache memory.
D000, 16K Shadow;		
D400, 16K Shadow;		
D800, 16K Shadow;		
DC00, 16K Shadow		
	Cached:	The contents of the ROM area are copied from ROM to RAM for faster execution.

Advanced Chipset Setup

Choose the item from the BIOS Setup main menu. All Chipset Setup options are then displayed and are described in the following section:

```
              AMIBIOS SETUP - ADVANCED CHIPSET SETUP
          (C)1998 American Megatrends, Inc. All Rights Reserved

 Trend ChipAway Virus      Enabled
 DRAM Auto Configuration   Manual
 Refresh Command Delay     9T
 RAS Precharge Time        3T
 RAS to CAS Delay          3T
 Share Memory Size         Disabled
 Refresh Queue Depth       0
 Graphic Win Size          64M
 CAS Latency               3T
 ISA Bus Clock             7.159MHz
 16Bit I/O Recovery Time   5 BUSCLK
 8Bit I/O Recovery Time    5 BUSCLK
 USB Function              Enabled
 USB Function for DOS      Disabled
 Keyboard Power On         Disabled
                                      ESC : Quit       ↑ ↓ → ←: Select Item
                                      F1  : Help         PU/PD/+/- : Modify
                                      F5  : Old Values (Shift)F2 : Color
                                      F6  : Load BIOS Defaults
                                      F7  : Load Setup Defaults
```

Trend ChipAway Virus	Choose *Enabled* to activate the Trend ChipAwayVirus function.
DRAM Auto Configuration	Set this option to enable the Auto Configuration of DRAM timing.
Refresh Command Delay	Set this option to select the proper refresh command delay.

RAS Precharge Time   Set this option to select the proper SDRAM RAS precharge time.

RAS to CAS Delay   Set this option to select the proper delay time of SDRAM RAS to CAS.

Share Memory Size   Set this option to select the onboard VGA frame buffer size that share from system

queue depth.

Graphics Win Size   Set this option to select the memory-mapped. Use the default setting.

CAS Latency   This option is designed to select the SDRAM CAS Latency.

ISA Bus Clock   Set this option to select the proper ISA bus clock.

16Bit I/O Recovery Time   Set this option to select the proper 16-bit bus I/O recovery time clock. Use the default setting.

8Bit I/O Recovery Time   Set this option to select the proper 8-bit bus I/O recovery time clock.

USB Function   Set this option to enable the system BIOS USB functions.

USB Function for DOS   Set this option to enable the passive release on the USB.

Keyboard Power On Set this option to enable the Keyboard
Power On function, and needs ATX power
supply, refer to "Keyboard Power-On"
in the ATX Functions & Connectors section.

Power Management Setup

Choosing the item from BIOS Setup main menu.

```
          AMIBIOS SETUP - POWER MANAGEMENT SETUP
        (C)1998 American Megatrends, Inc. All Rights Reserved

Power Management/APM      Disabled
Green Monitor Power State Suspend
Video Power Down Mode     Stand By
Hard Disk Power Down Mode Suspend
Standby Time Out (Minute) Disabled
Suspend Time Out (Minute) Disabled
Modem Use IRQ             N/A
Display Activity          Ignore
IRQ3                      Monitor
IRQ4                      Monitor
IRQ5                      Ignore
IRQ7                      Ignore
IRQ9                      Ignore
IRQ10                     Ignore
IRQ11                     Ignore
IRQ13                     Ignore     ESC : Quit        ↑ ↓ → ←: Select Item
IRQ14                     Monitor    F1  : Help        PU/PD/+/- : Modify
IRQ15                     Monitor    F5  : Old Values (Shift)F2 : Color
LAN Card Power On         Disabled   F6  : Load BIOS Defaults
Ring On Power On          Disabled   F7  : Load Setup Defaults
```

Power Management/ APM	Set this option to enable power management features and APM (Advanced Power Management).
Green Monitor Power State	This option specifies the power state that the green PC-compliant video monitor enters when AMIBIOS places it in a power savings state after the specified period of display inactivity has expired.
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.
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.

Standby Time out (Minute)

This option specified the length of system inactivity while in Full power on state. When this length of time expires, the computer enters Standby power state.

Suspend Time Out (Minute)

This option specified the length of a period of system inactivity while in Standby state. When this length of time expires, the computer enters Suspend power state.

Display Activity; IRQ3, 4, 5, 7, 9, 10, 11, 13, 14, 15

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

LAN Card, Ring On Power On

Set these options to enable the signal of LAN/ modem to resume the system with ATX power.

RTC Alarm Power On

Set this option to enable the RTC Alarm to resume the system with ATX power.

RTC Alarm Date; RTC Alarm Hour; RTC Alarm Minute; RTC Alarm Second

Set these options to specify the RTC Alarm time on Date/Hour/Minute/Second.

PCI/Plug and Play Setup

Choose the item from the BIOS Setup main menu.

```
                  AMIBIOS SETUP - PCI / PLUG AND PLAY SETUP
                  (C)1998 American Megatrends, Inc. All Rights Reserved

Plug and Play Aware O/S    Yes        Reserved Memory Address   C8000
Onboard AGP VGA            PCI
PCI VGA Palette Snoop      Disabled
Assign IRQ for VGA         No
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
IRQ9                       PCI/PnP
IRQ10                      PCI/PnP
IRQ11                      PCI/PnP    ESC : Quit          ↑↓→←: Select Item
IRQ14                      PCI/PnP    F1  : Help          PU/PD/+/- : Modify
IRQ15                      PCI/PnP    F5  : Old Values (Shift)F2 : Color
Reserved Memory Size       Disabled  F6  : Load BIOS Defaults
                                     F7  : Load Setup Defaults
```

Plug and Play Aware OS — Set this option to *Yes* if the operation system in this computer is aware of and follows the Plug and Play specification. Currently, only Windows 95 is PnP-aware.

Onboard AGP VGA — Set this option to select onboard AGP or PCI VGA card for primary 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.

Assign IRQ for VGA — This option is used to allocate IRQ to PCI VGA. Recommendation is set to *No*.

DMA Channel 0,   These options specify the bus that the specified
1, 3, 5, 6, 7   DMA channel is used on.

IRQ3, 4, 5, 7, 9,   These options specify the bus that the specified
10, 11, 14, 15   IRQ line is used on. These options allow you to
reserve IRQs for legacy ISA adapter cards.

Reserved Memory These options are designed to be used for
Size/Address   reserving memory/memory address for the IO
card.

.

Peripheral Setup

Choose the item from the BIOS Setup main menu.

```
┌─────────────────────────────────────────────────────────────────────────┐
│              AMIBIOS SETUP - PERIPHERAL SETUP                             │
│          (C)1998 American Megatrends, Inc. All Rights Reserved            │
├────────────────────────────────┬────────────────────────────────────────┤
│ OnBoard FDC            Enabled  │                                        │
│ OnBoard Serial Port1   3F8h/COM1│                                        │
│ OnBoard Serial Port2   2F8h/COM2│                                        │
│  Serial Port2 Mode     Normal   │                                        │
│  Ir Duplex Mode        Full     │                                        │
│ OnBoard Parallel Port  378h     │                                        │
│  Parallel Port Mode    Normal   │                                        │
│  Parallel Port IRQ     7        │                                        │
│  Parallel Port DMA     N/A      │                                        │
│ OnBoard IDE            Both     │                                        │
│                                 │                                        │
│                                 │                                        │
│                                 ├────────────────────────────────────────┤
│                                 │ ESC : Quit        ↑↓→←: Select Item     │
│                                 │ F1  : Help        PU/PD/+/- : Modify    │
│                                 │ F5  : Old Values (Shift)F2 : Color      │
│                                 │ F6  : Load BIOS Defaults                │
│                                 │ F7  : Load Setup Defaults               │
└────────────────────────────────┴────────────────────────────────────────┘
```

OnBoard FDC This option enables the FDC (Floppy Drive Controller) on the motherboard or auto detects the FDC.

OnBoard Serial Port1 This option specifies the base I/O port address of serial port 1.

OnBoard Serial Port2 This option specifies the base I/O port address of serial port 2.

Serial Port2 Mode This option specifies the serial port2 mode.
Normal: The normal serial port mode is being used.
IrDA/ASKIR: The serial port2 will be redirected to support IR function when this option is set to IrDA or ASKIR.

IR Duplex Mode This option is to specify the Duplex mode of Serial Port 2.

OnBoard Parallel Port This option specifies the base I/O port address of the parallel port on the motherboard.

Parallel Port Mode   Depends on the type of your external device which connects to this port to choose Normal, EPP, or ECP mode.

Parallel Port IRQ   This option specifies IRQ to parallel port.

Parallel Port DMA   This option is only available if the setting of the Parallel Port Mode option is EPP/ECP.

OnBoard IDE   This option specifies the channel used by the IDE controller on the motherboard.

H/W Monitor & CPU PnP Setup

Choose this item from the BIOS Setup main menu.

```
              AMIBIOS SETUP - H/W Monitor & CPU PnP  SETUP
            (C)1998 American Megatrends, Inc. All Rights Reserved

 CPU Plug and Play        Auto
 CPU Brand                AMD-K6-2
 VCCore Voltage           2.2V
 CPU Speed                400Mhz
 CPU Base Frequency       100Mhz
 CPU Multiple Factory     4.0X
 -=System Hardware Monitor=-
  Temperature             72C/161F
  Current FAN Speed       0 RPM
  +12.000V                11.750 V
  +5.000V                 4.921 V
  +3.300V                 3.250 V
  Vcore                   2.203 V      ESC : Quit        ↑ ↓ → ←: Select Item
                                       F1  : Help        PU/PD/+/- : Modify
                                       F5  : Old Values (Shift)F2 : Color
                                       F6  : Load BIOS Defaults
                                       F7  : Load Setup Defaults
```

CPU Plug & Play   Set this option to *Auto*, then CPU will be able to detect CPU speed automatically; when it is set to *Manual*, then it allows the user to set CPU frequency, ratio, and voltage.

CPU Brand   This option is displayed only to show the CPU name.

VCCore Voltage   Set this option to select the voltage of CPU core when the previous option (CPU Plug & Play) is set to Manual.

CPU Speed   Set this option to select speed of CPU when the previous option (CPU Plug & Play) is set to Auto.

CPU Base Frequency   Select a correct CPU Frequency to match your CPU, that includes 60, 66, 75, 83, 95, 100 MHz.

CPU Multiple Factory   Select a correct CPU factory to match your CPU, that includes 2, 2.5, 3, 3.5, 4, 4.5, 5, 5.5,6, etc.

–= System Hardware Moniotr =–

Temperature;   These options are displayed only to show the
Current Fan Speed; status of the system hardware.
+12.000V; +5.000V;
+3.300V; Vcore

Change Supervisor Password

This item lets you configure the system password which is
required every time when the system boots up or an
attempt is made to enter the Setup program. The
password cannot be longer than six characters.

Note: Keep a safe record of the new password. If you forget or
lose the password, the only way to access the system is
to clear CMOS memory by holding down the <End>
key then powering on to reboot the system.

Auto-Detect Hard Disks

If your system has an IDE hard drive, you can use this
utility to detect its parameters and automatically enter
them into the Standard CMOS Setup. This utility will
autodetect up to four IDE devices.

Save Settings and Exit

Select this item to save the values entered during the
current session and then exit the BIOS setup program.

Exit Without Saving

Select this item to exit the BIOS setup program without
saving the values which has been entered during the
current session.

Chapter 4
Software Driver

The CD came with the package is free of charge and includes all our products' drivers and the path of this mainboard's drivers and utilities are listed below:

* VGA Driver Path
  (CD-ROM): \MS6380SG\VGA\

* USB Driver for Windows 95
  (CD-ROM): \USB\Eusbsupp\Usbsupp.exe

* Sound Driver Path
  (CD-ROM): \Audio\PCI8338\

* BIOS Update Utility
  (CD-ROM): \UTILITY\Ami_Flash\Flash807.exe

* Bundled PC-cillin Path
  (CD-ROM): \PC-cillin\

* Bundled ADCM Path
  (CD-ROM): \MS6380SG\AMI ADCM\