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Chapter 1

Introduction

This mainboard is an **Intel 440BX/PIIX4E** highly integrated high-performance mainboard based on the advanced Pentium® II 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 high-end AGPset chipset that 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 **3D PCI SoundPro** to meet PC98' specifications for 3D Multimedia systems, and built-in **Hardware Monitor** circuit to monitor CPU/Chassis temperatures/fan speeds/voltages with **AMI Desktop Client Manager** and options to support Intel LANDesk Client Manager(**LDCM**). And the mainboard BIOS provides Trend's **ChipAwayVirus** to ensure the entire boot process virus free.

Key Features

The advanced features of the mainboard include:

- ❑ Intel 440BX AGP chipset:
 - supports Pentium® II 233~**500MHz** and Celeron 266~**433MHz** CPUs
 - supports both 66.6MHz and **100MHz** FSB (Front Side Bus)
 - provides **CPU Plug and Play** feature for faster and easier CPU installation

- ❑ Memory:
 - provides 3 DIMMs for SDRAM/EDO(for 66MHz FSB only) memory modules
 - supports a maximum size of 768MB system memory
 - supports ECC 1-bit Error Code Correct function

- ❑ Expansion slots:
 - provides 1 AGP (Accelerated Graphics Port), 4 PCI, and 3 ISA slots;
 - supports AGP Ver1.0 specification compliant (x1 or x2)

- ❑ 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
 - supports Power Button/Suspend Switch and **Keyboard Power On/Off**(needs Win98 keyboard).
 - Alarm Wake On, Modem Wake On, and LAN Wake On functions

- Onboard DC-DC Step Down Regulator:
 - complies with Intel VRM V8.2 specification
 - Over-Voltage and Over-Current protection

- Onboard **PCI Sound Pro** meets PC98' specifications,
 - full duplex playback and recording, built-in 16-bits CODEC.
 - HRTF 3D positional audio, supports both Direct Sound 3D® and A3D® interfaces, and support **four channel speakers mode**.
 - supports Windows 3.1/95/98 and Windows NT 4.0.
 - built-in 32 ohm earphone buffer and 3D surround.
 - supports MPU-401 Game/Midi port and SB16
 - downloadable Wave-table Synthesizer support Direct Music®.
 - Digital Audio Interface(**SPDIF**) IN/OUT up to **24-bit** stereo 44KHz sampling rate voice and measured **120dB** audio quality.
 - 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, include:
 - 1 floppy port with 1 Mb/s transfer rate.
 - 2 serial ports with 16550 compatible Fast UART.
 - 1 parallel port with EPP and ECP capabilities.
 - 2 USB ports & PS/2 keyboard/mouse ports.
 - 1 IR interface.

- Built-in **Hardware Monitor** circuit,
 - detects CPU/chasis temperature and fan speed
 - display actual current voltages
 - supports Intel LANDesk Client Manager(**LDCM**).

- ❑ 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** option to ensure the entire boot process is virus free, no installation and configuration worries

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

- ❑ Dimension:
 - ATX Form Factor, 30.5cm (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. The Slot1 holder and AT cables
3. This User's Guide
4. Optional Digital Audio 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 JP7 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

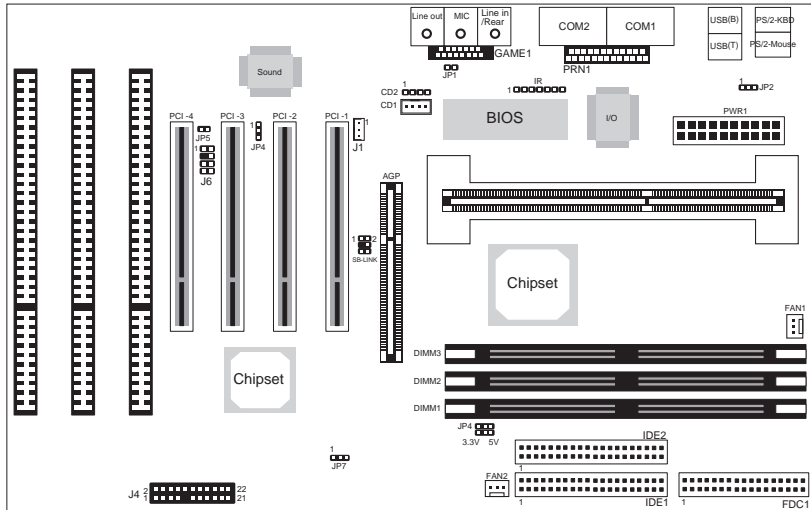
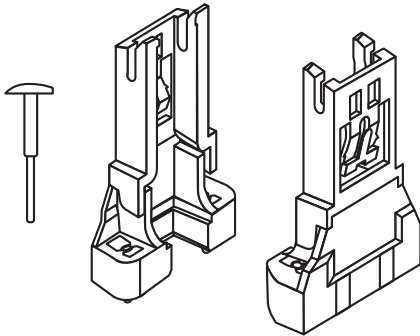


Figure 2-1. Mainboard Component Locations

CPU Installation

This mainboard supports Intel Pentium® II CPU by a Single Edge Contact(SEC) slot and a retention clip set which is fit for 3 different mechanical types of Intel CPU (SEPP, SECC and SECC2). The following drawing shows the retention clip set. It has been preinstalled before shipping to make the CPU installation easier for users. However, there are still a few more steps needed to complete the CPU installation, please refer to the following procedures.

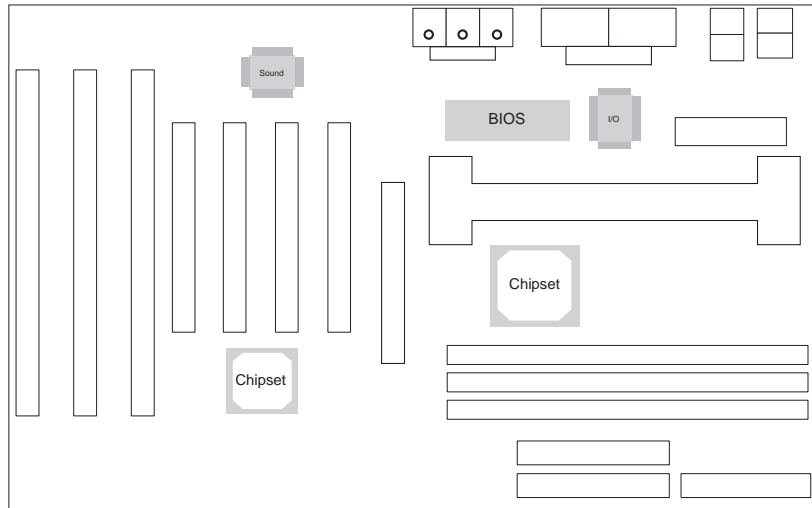


Installation Procedures

Follow the following steps in order to install your intel Pentium® II properly.

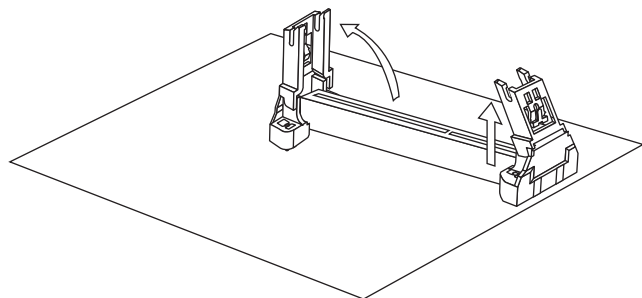
Step 1:

Make sure that the mainboard is set the same direction as the following drawing before doing any installation.

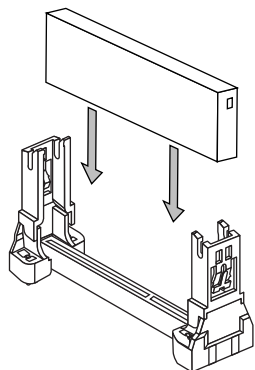


Step 2:

There is one set of Slot1 Holder retention that was installed on your motherboard, and the two chutes of Holder retention are screwed in. Lift up both of the Holder chutes as shown in the following drawing.

**Step 3:**

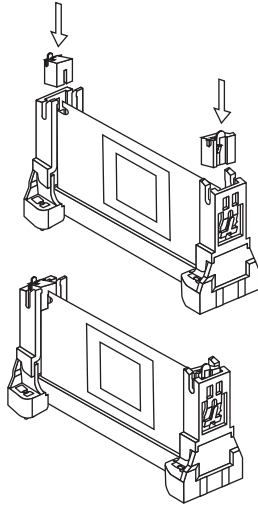
Flatten the two latches on the side of CPU. Insert the CPU into the Holder retention. Lock the two latches to secure the CPU.



If Celeron CPU is installed on CPU card, then, continue the following step.

Step 4:

After installing CPU card into the Holder retention, then push the retention locker downward to secure the CPU card as indicated in the following 2 drawings.

**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 Slot1.
3. Clear CMOS RAM (see Jumper Settings) or hold down the <Page Up> key and then power on the system.
4. After power on the system, then enter the BIOS Setup 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.

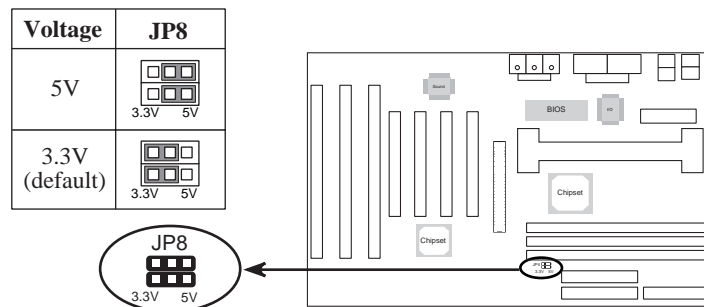
Memory Installation

The mainboard lets you add up to 768MB of system memory through 3 DIMM sockets on the board, which supports the following memory configurations.

Memory Module	
DIMM1	4MB, 8MB, 16MB, 32MB, 64MB, 128MB, 256MB
DIMM2	4MB, 8MB, 16MB, 32MB, 64MB, 128MB, 256MB
DIMM3	4MB, 8MB, 16MB, 32MB, 64MB, 128MB, 256MB
System Memory = DIMM1 + DIMM2 + DIMM3	

- Notes:
1. The EDO DRAM is not recommended for the performance purpose of the system.
 2. The speed of SDRAM modules have to be faster than 12ns ("-12" parts). While 100MHz clock speed used, the speed of SDRAM modules should meet the PC100 SDRAM specification (8ns or "-8" SDRAM at least).

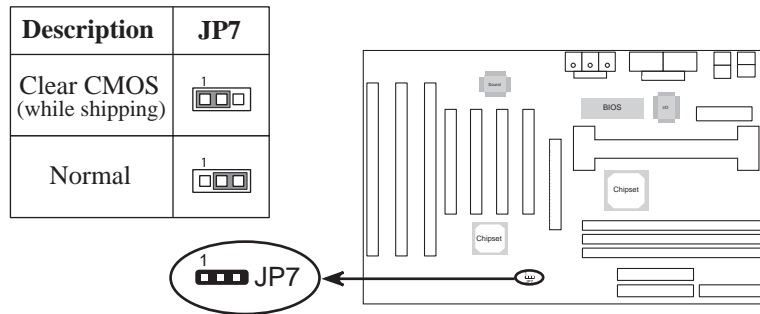
JP8 - DIMM Voltage Selectors



Jumper Settings

JP7 - 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.



- 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 ACPIspec. The ATX functions and connectors are described below, and which work with ATX power supply.

PWR1 – ATX Power Connector

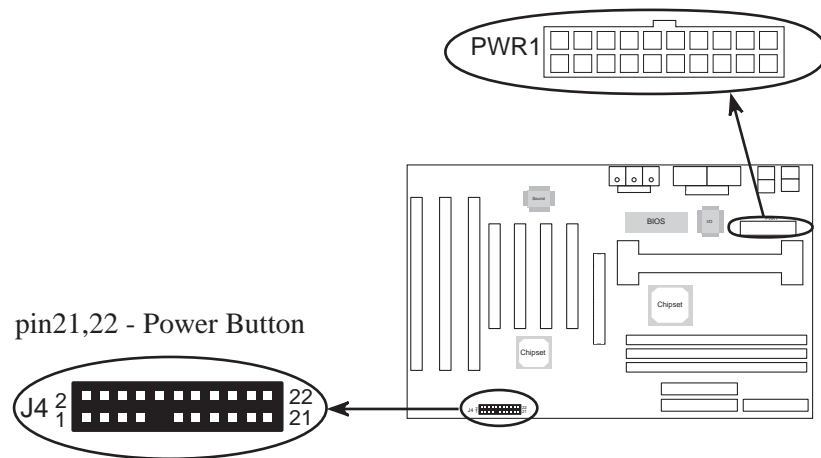
Connect the ATX power supply to this connector which provides all power for the mainboard.

J4(21,22) – Power Button/SuspendSwitch Connector

Attach the ATX power button to this connector. 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.



Software Power-Off

Follow the steps below to use the “Software Power-Off Control” function in Windows 95/98.

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.

Alarm Wake On

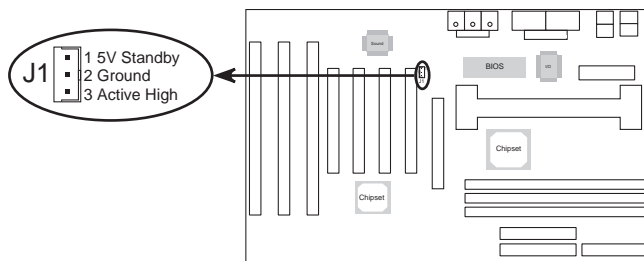
If you want to autoboot the system at a certain time, set the RTC Alarm time properly and "Enabled" the option of RTC Alarm Power On and refer to BIOS Setup section.

LAN/Modem Ring Wake On

While in soft-off/suspend state, if an external LAN/modem signal occurs, the system wakes up and can be remotely accessed. When using Modem Ring Wake On function make sure that the Serial Port 2 option is set to *Monitor* and the Ring Resume From Soft Off option is set to *Enabled*. User must connect LAN card to the following connector and set the LAN Resume From Soft Off option to *Enabled* when using LAN Wake On function.

J1 - LAN Wake On Connector

Connect this connector to the LAN card that support ACPI specification.



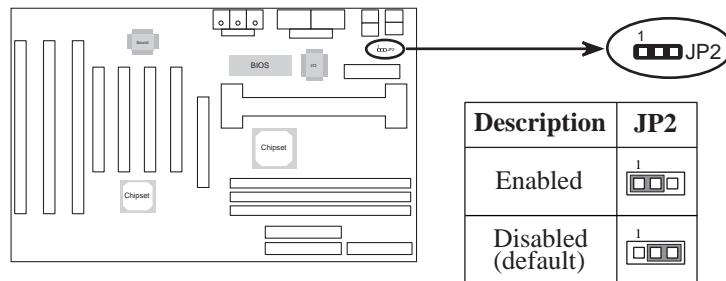
Keyboard Power On

Press the hot key to power on the system by keyboard. User must enter BIOS Setup to set *Enabled* to the Keyboard Power On option and to select the Stroke Keys Selected option for "Hot Key" in the Advanced Chipset Setup, and set the following jumper.

If the keyboard that supports Windows 98 Key Power On function, you need to set *ACPI Wakeup* to the Stroke Keys Selected option.

JP2 – Keyboard Power On Selector

This jumper is designed for the user to select Keyboard Power On function.



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

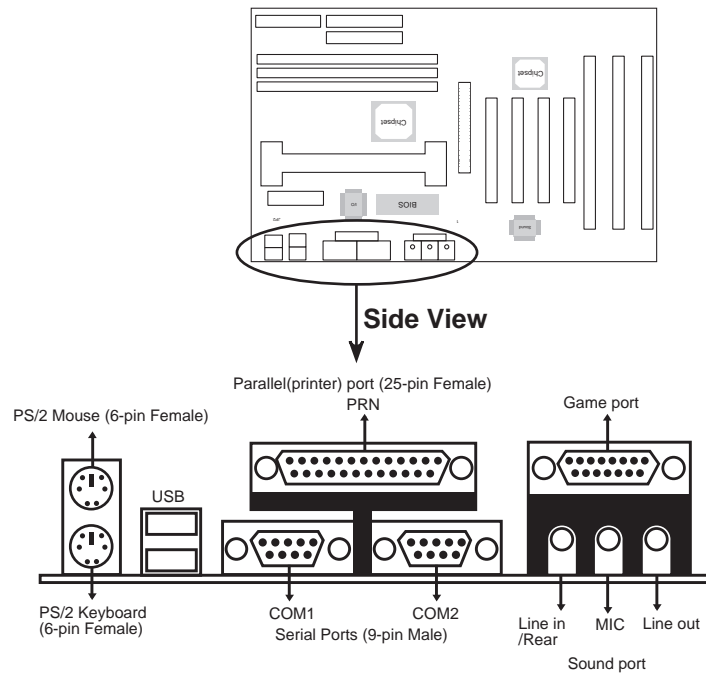
Connectors

Attach system components and case devices to the mainboard via the mainboard connectors. A description of each connector follows.

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

FDC1 – Floppy Disk Drive Connector IDE1/IDE2 – Primary/Secondary IDE Connectors

External Connectors Location

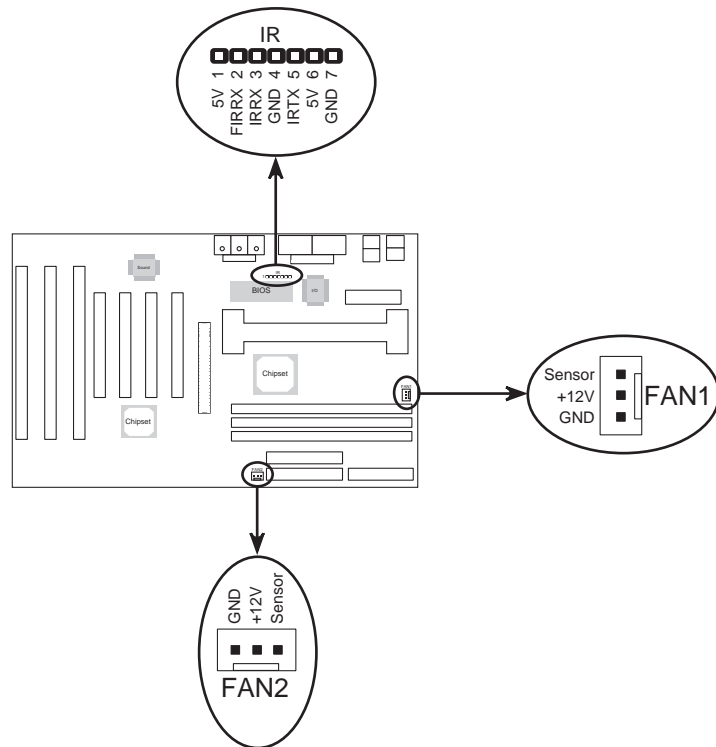


IR – Infrared Connector

The mainboard provides a 7-pin Infrared connector for infrared devices. You must configure the setting for infrared device through the Peripheral Setup in BIOS Setup section.

FAN1/FAN2 – Cooling Fan Connectors

Connect CPU/chassis fan cable to these connectors.

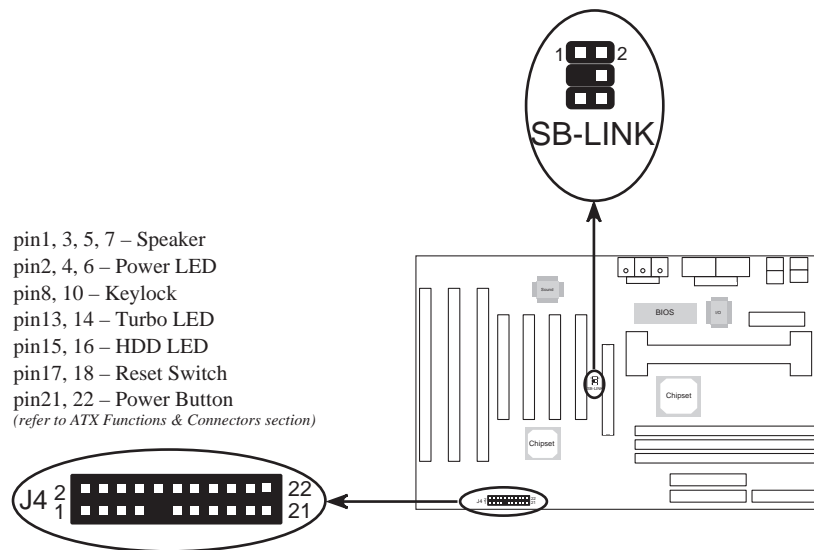


SB-LINK - SB Link Connector

Connect Creative PCI Sound Blaster card to this connector, when you installed it.

Case Connectors: J4

The case connectors contains: Speaker, Power LED, Keylock, Turbo LED, HDD LED, Reset Switch, and Power Button as below drawing.



Onboard PCI Sound Pro

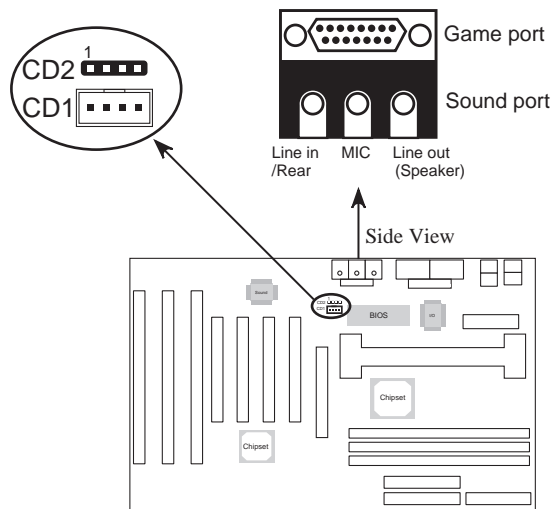
There is a onboard PCI Sound Pro for the 3D multimedia systems.

CD1/CD2 – Analog Audio from CD-ROM Connectors

Connect from “AUDIO” output of the CD-ROM driver to these connectors. For Panasonic or compatible type of CD-ROM, connect to CD1 (pin signals assignment is G-L-G-R), and for Sony or compatible type of CD-ROM, connect to CD2 (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.



J6 – Digital Audio Connector



Connect this connector to the Digital Audio ribbon cable/ bracket that contains 3 jacks for Aux IN, SPDIF IN and SPDIF OUT device. Aux IN is used as the second Line-in port. SPDIF IN is used to input the external digital audio. 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.

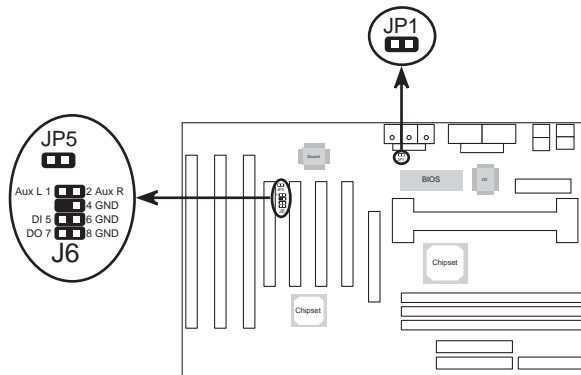
JP5 – SPDIF OUT Signal Level Selector

Description	JP5
5V	
0.5V (default)	

JP1 – Microphone Type Selector

Set this jumper to select the microphone type.

Description	JP1
Special	
Standard (default)	



Notice for PCI Sound Pro application

1. Before you install the PCI Sound Pro drivers, make sure your Operating System has been installed, otherwise the PCI Sound Pro might be detected as "Other Device" by the device manager of your OS.
2. After the drivers install, if you want 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 Pro 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 use 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 Pro manual within the CD attached with the mainboard.

The Four Speakers System

Onboard Sound Pro 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. 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. Speaker Position

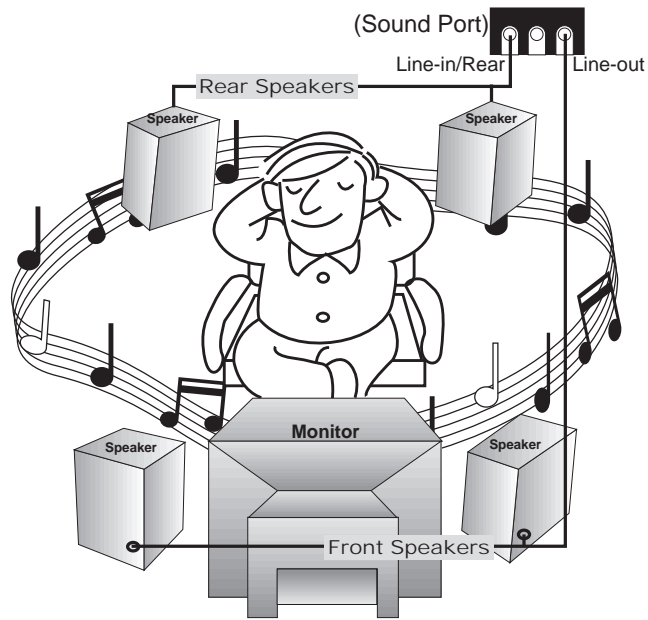
Put your speakers the way the following picture suggests, so as to avail yourself to the best audio result.

3. 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. Demo

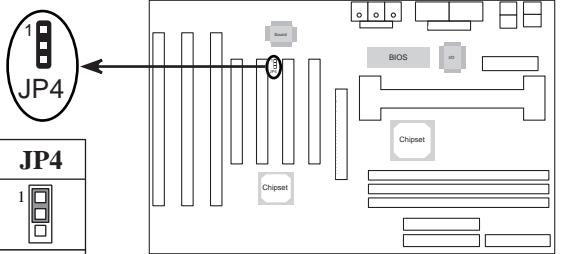
Execute the "Helicopter" demo within the C3D HRTF Positional Audio Demos of the PCI Audio Application. When the helicopter flies behind you, the rear speakers will work.



A picture on the 4 speakers application

JP4 - Onboard Sound Pro Selector

Set this jumper to disable the onboard Sound Pro.



Description	JP4
Enabled (default)	
Disabled	

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 if you want to run SETUP” appears, press the 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 17, 1998
Time (hh:mm:ss) : 10:32:28

          TYPE          SIZE Cyln Head WPcom  Sec  LBA  Blk  PIO  32Bit
Pri Master : Auto                                Mode Mode Mode Mode
Pri Slave  : Auto                                Mode Mode Mode Mode
Sec Master  : Auto                                Mode Mode Mode Mode
Sec Slave  : Auto                                Mode Mode Mode Mode

Floppy Drive A : Not Installed
Floppy Drive B : Not Installed

          Base Memory : 0 Kb
          Other Memory : 384 Kb
          Extended Memory : 0 Mb
          Total Memory : 1 Mb

Month: Jan - Dec
Day: 01 - 31
Year: 1901 - 2099

ESC : Exit
↑↓ : Select Item
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;
Pri Slave;
Sec Master;
Sec Slave

Choose these icons to configure the hard disk drive named in the option. When you click on an icon, the following parameters are listed: 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 click on *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 5¹/₄", 1.2MB 5¹/₄", 720KB 3¹/₂", 1.44MB 3¹/₂", or 2.88MB 3¹/₂".

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	
Quick Boot	Enabled
1st Boot Device	IDE-0
2nd Boot Device	Floppy
3rd Boot Device	CDROM
Try Other Boot Devices	Yes
S.M.A.R.T. for Hard Disks	Disabled
BootUp Num-Lock	On
Floppy Drive Swap	Disabled
Floppy Drive Seek	Disabled
PS/2 Mouse Support	Enabled
Password Check	Setup
Boot To OS/2 Over 64MB	No
Internal Cache	Enabled
System BIOS Cacheable	Disabled
Video, 32K Shadow	Cached
C800,16K Shadow	Disabled
CC00,16K Shadow	Disabled
D000,16K Shadow	Disabled
D400,16K Shadow	Disabled
D800,16K Shadow	Disabled

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

Quick Boot	Set this option to <i>Enabled</i> to permit BIOS to boot within 5 seconds.
1st Boot Device; 2nd Boot Device; 3rd Boot Device	Set these options to select the boot sequence from different booting devices.
Try Other Boot Devices	Choose <i>Yes</i> or <i>No</i> 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 <i>Enabled</i> or <i>Disabled</i> . This option allows you to utilize the S.M.A.R.T. function of HDDs.
Boot Up Num-Lock	Set this option to turn on <i>Num Lock</i> 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 <i>Enabled</i> or <i>Disabled</i> . <i>Disabled</i> provides a faster boot and reduces the possibility of damaging the heads.
PS/2 Mouse Support	When this option is set to <i>Enabled</i> , BIOS supports a PS/2-type mouse.
Password Check	<p>This option specifies the type of BIOS password protection that is implemented. The settings are:</p> <p>Setup: The password prompt appears only when an end user attempts to run WinBIOS Setup.</p> <p>Always: A password prompt appears every time the computer is powered on or rebooted.</p> <p>The BIOS password does not have to be enabled. The end user sets the password by choosing the Password icon on the WinBIOS Setup screen.</p>

Boot to OS/2 Over 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	This option selects to enable the CPU L1/L2 cache or not. Choices are Disabled and Enabled.
System BIOS Cacheable	BIOS always copies the system BIOS from ROM to RAM for faster execution. Set this option to <i>Enabled</i> to permit the contents of the F0000h RAM memory segment to be written to and read from cache memory.
Video, 32K Shadow; C800, 16K Shadow; CC00, 16K Shadow; D000, 16K Shadow; D400, 16K Shadow; D800, 16K Shadow; DC00, 16K Shadow	Disabled: The specified ROM is not copied to RAM. 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. 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 Clock Selected	Same as AGP
Bank 0/1 DRAM Timing	Normal
Bank 2/3 DRAM Timing	Normal
Bank 4/5 DRAM Timing	Normal
SDRAM CAS# Latency	3
DRAM Integrity Mode	Disabled
AGP Aperture Size	64MB
I/O Recovery Time	Disabled
PCI 2.1 Support	Enabled
VGA Frame Buffer USWC	Enabled
PCI Frame Buffer USWC	Enabled
USB Function	Disabled
USB Function for DOS	Disabled
Keyboard Power On	Disabled
Stroke Keys Selected	Ctrl+F1

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 Clock Selected

Set this option to select DRAM Clock. Same as AGP or CPU.

Bank 0/1, 2/3, 4/5 DRAM Timing

Set these options to select the used DRAM timing. There are Normal, Fast or Turbo.

SDRAM CAS# Latency

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

DRAM Integrity Mode

Choose Non-ECC, EC-Only, or ECC.
 Non-ECC: Has byte-wise write capability but integrity in the DRAM array.
 EC-Only: Data errors are detected but not

DRAM Integrity Mode	ECC: corrected. Allows a detection between single-bit and multiple-bit errors and recovery of single-bit errors.
AGP Aperture Size	Set this option to select the memory-mapped. AGP data structures can reside in the Graphics Aperture. Use the default setting.
I/O Recovery Time	Set this option to specify the length of a delay inserted between consecutive I/O operations.
PCI 2.1 Support	Set this option to <i>Enabled</i> to support the PCI v2.1 specification.
VGA Frame Buffer USWC	Set this option to <i>Enabled</i> USWC for VGA frame buffer.
PCI Frame Buffer USWC	Set this option to <i>Enabled</i> USWC for PCI frame buffer.
USB Function	Set this option to <i>Enabled</i> the system BIOS USB (Universal serial Bus) functions.
USB Function for DOS	Set this option to <i>Enabled</i> the passive release on the USB(Universal Serial Bus).
Keyboard Power On	Set this option to <i>Enabled</i> to activate the Keyboard Power On function.
Stroke Keys Selected	Set this option to specify the stroke keys for keyboard power on.

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	
Display Activity	Ignore	
Serial port 1	Monitor	
Serial port 2	Monitor	
Paralle port	Ignore	
Floppy disk	Monitor	
Primary master IDE	Monitor	
Secondary master IDE	Monitor	
Ring Resume From Slft Off	Disabled	
LAN Resume From Slft Off	Disabled	
RTC Alarm Power On	Disabled	
RTC Alarm Date	15	ESC : Quit ↑ ↓ → ← : Select Item
RTC Alarm Hour	12	F1 : Help PU/PD/+/- : Modify
RTC Alarm Minute	30	F5 : Old Values (Shift)F2 : Color
RTC Alarm Second	30	F6 : Load BIOS Defaults
		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; Serial Port 1/2; Parallel Port; Floppy disk; Primary/Secondary master IDE;	When set to <i>Monitor</i> , 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.
Ring/LAN Resume From Soft Off	Set these options to enable the signal of modem/LAN to resume the system.
RTC Alarm Power On	Set this option to enable the RTC Alarm to wake up the system which is Soft Off.
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
Primary Graphics Adapter	AGP	
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	ESC : Quit ↑↓→←: Select Item F1 : Help PU/PD/+/- : Modify F5 : Old Values (Shift)F2 : Color F6 : Load BIOS Defaults F7 : Load Setup Defaults
IRQ11	PCI/PnP	
IRQ14	PCI/PnP	
IRQ15	PCI/PnP	
Reserved Memory Size	Disabled	

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.

Primary Graphics Adapter Set this option to select AGP or PCI VGA 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, 1, 3, 5, 6, 7** These options specify the bus that the specified DMA channel is used on.
- IRQ3, 4, 5, 7, 9, 10, 11, 14, 15** 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.
- Reserved Memory Size/Address** These options are designed to be used for 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 Speed (MHz)	300(100x3)
CPU Clock OverDrive	Disabled
CPU Temperature	31°C/87°F
System Temperature	30°C/86°F
Fan1 Speed	2105 RPM
Fan2 Speed	0 RPM
Vcc	5.200 V
Vcc3	3.268 V
Vcore	2.033 V
+12V	12.482 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 Speed (MHz) Select a correct CPU speed to match your CPU.

CPU Clock OverDrive Set this option to Enabled so that user can overdrive CPU.

**CPU, System Temperature;
Fan1, Fan2 Speed;
Vcc; Vcc3; Vcore;
+12V** These options are displayed only show the status of system hardware.

Change Supervisor Password

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

If you want to disable the password which has already been set, please follow the steps as follows:

1. Press the key to enter BIOS Setup.
2. Key in the current password then enter the BIOS setup program.
3. Choose the Change Supervisor Password item.
4. Key in the current password to change the password.
5. Then, press <Enter> key for new password. (It means to disable the password, while the <Enter> key insteads of the new password.)
6. Press any key to exit the Change Supervisor Password item, and then press <F10> key to save and exit BIOS setup program.

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:

- ❑ IDE Driver for Windows 95/98/NT
(CD-ROM): \IDE\M762\Setup.exe
- ❑ AGP Driver Path
(CD-ROM): \VGA\M762agp\
- ❑ USB Driver for Windows 95
(CD-ROM): \USB\Eusbsupp\Usbsupp.exe;
(CD-ROM): \USB\Cusbsupp\Cusbsupp.exe for
Chinese Windows95
- ❑ PCI Sound Driver Path
(CD-ROM): \SOUND\PCI SoundPro\
- ❑ BIOS Update Utility
(CD-ROM): \UTILITY\AMifl807.exe
- ❑ Bundled PC-cillin Path
(CD-ROM): \PC-cillin\
- ❑ Bundled ADCM Path
(CD-ROM): \AMIADCM\