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Contents

Chapter 1
Introduction

This mainboard is an **VIA BX-Too 100MHz** 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 a built in high performance 64-bit 3D AGP Graphics Accelerator with 8MB frame buffer and an onboard 3D Sound Pro to meet PC98' specifications for 3D Multimedia systems, and built-in **Hardware Monitor** circuit to monitor CPU/Chasis 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:

❏ VIA BX-Too AGP chipset:
— supports Pentium® II 233~**500**MHz and Celeron 266~**333**MHz 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 Error Correct function

❏ Expansion slots:
— provides 3 PCI, and 1 ISA slots;
— supports 5V PCI bus interface

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

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

❏ Onboard DC-DC Step Down Regulator:
  — complies with Intel VRM V8.2 specification

❏ Onboard 64-bit 3D AGP Graphics Accelerator:
  — supports AGP Ver1.0 specification compliant and 66/133MHz
  — provides 8MB frame buffer
  — high resolution graphic modes up to 1600x1200

❏ Onboard 3D SoundPro Features:
  — meets PC98' specifications
  — supports both Sound Blaster 16/Pro and Windows Sound System
  — supports **HRTF 3D** Positional Audio technology
  — provides drivers for Windows Direct Sound 3D
  — provides drivers for 3D games that use Aureal software interface
  — built-in Digital Audio Interface (SPDIF) In/Out
  — built-in software Wave-Table Synthesizer
  — bull Duplex 16-bit CODEC with filters
  — 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/Chasis temperature and fan speed
  — displays 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, 24.4cm (L) x 22cm (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. SPDIF/IN cable

5. VGA 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 RTC 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
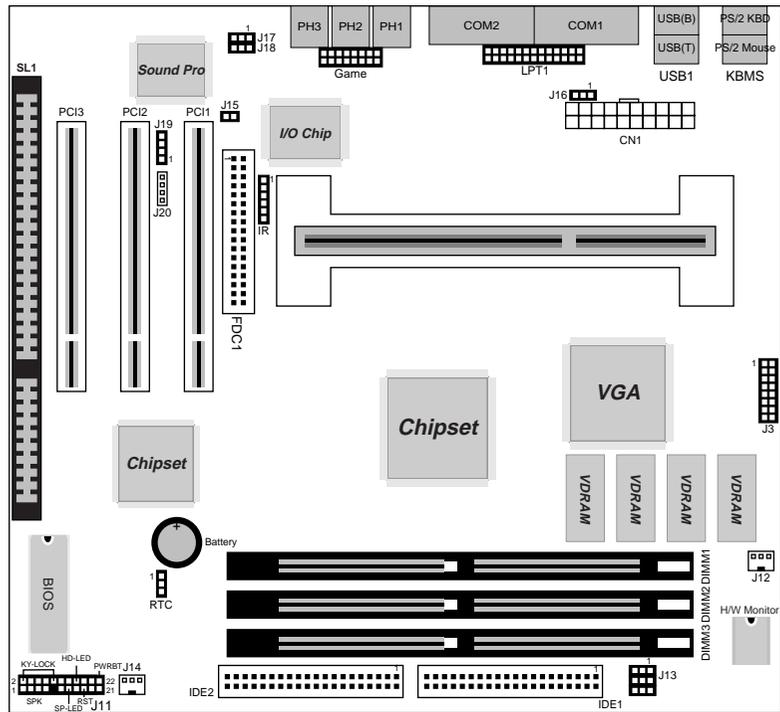
Figure 2–1. Mainboard Component Locations

CPU Installation

This mainboard supports Intel Pentium$^{\circledR}$ II CPU using a Single Edge Contact (SEC) slot and a retention clip, as is shown in the following drawing which has been pre-installed before shipping to make the CPU installation easier for users. However, there are still a few more steps needed to complete the CPU installation, refer to following procedures.
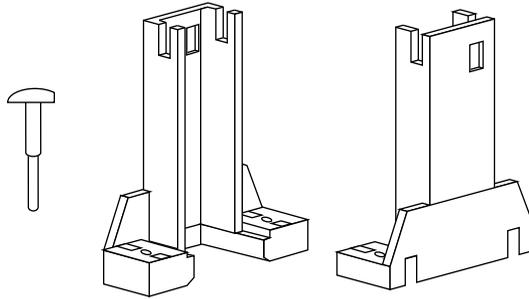
Installation Procedures

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.
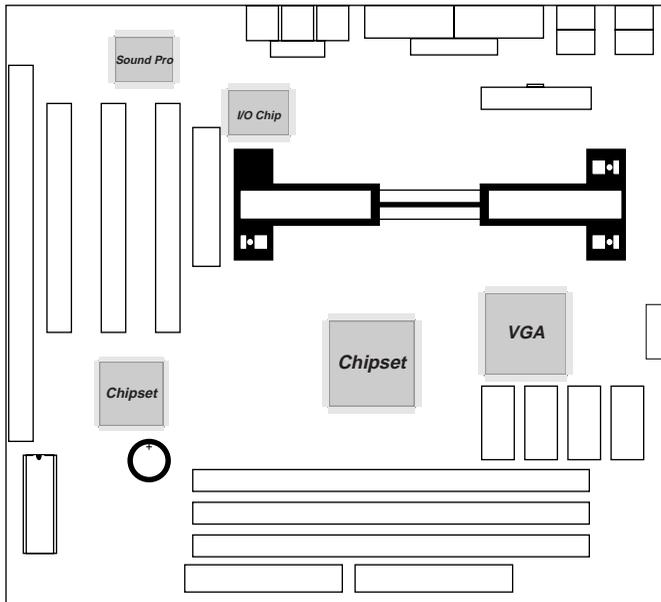
Step 2:

There is one set of the 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.
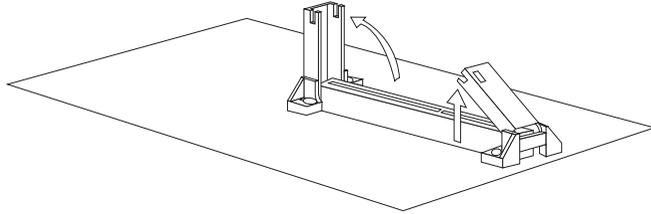
Step 3:

Flatten the two latches on the side of CPU. Insert the CPU into the Holder retention. Lock the two latches to secure the CPU.
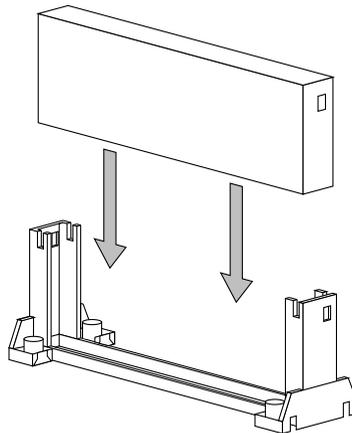
If CPU is Celeron, then, continue the following step.

Step 4:

After installing Celeron CPU into the Holder retention, then push the retention locker (only for Celeron CPU) downward to secure the Celeron CPU as indicated in the following 2 drawings.
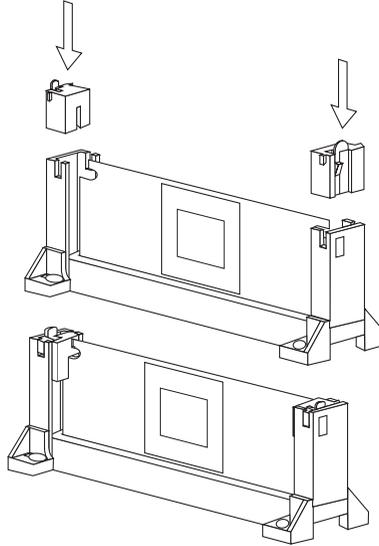
CPU Speed Setting

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) 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. *The speed of SDRAM DIMM modules have to be faster than 12ns ("−12"parts), while 100MHz clock speed used, the speed of SDRAM DIMM should meet the PC100 SDRAM specification (8ns or "−8" SDRAM at least).*
2. *The EDO/FPM DRAM are not recommended for the performance purpose of the system.*

J13 – DIMM Voltage Selectors

Voltage	J13
3.3V (default)	
5V	
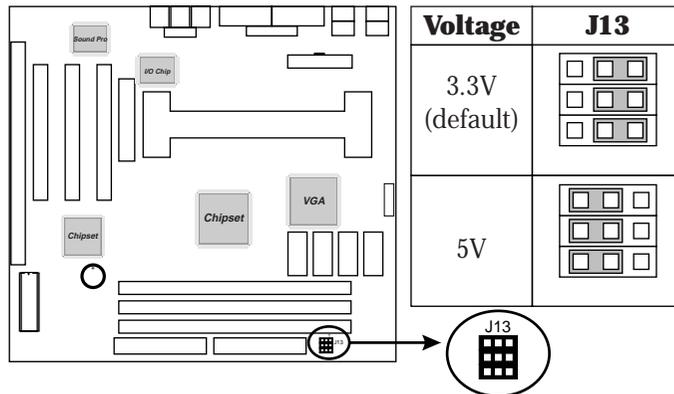
Jumper Settings

RTC – 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 jumpers or memory modules.

Description	RTC
Normal	1
Clear CMOS (while shipping)	1
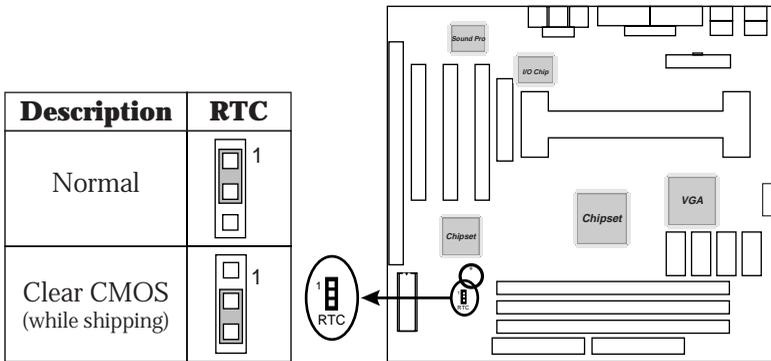
Note: 1. This jumper needs to be set on Normal Mode before using.
2. Turn off the system and unplug the power core when you need to clear the CMOS.

J16 – 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" and the "Stroke Keys Selected" options in the Advanced Chipset Setup.

Description	J16
Enabled	
Disabled (default)	
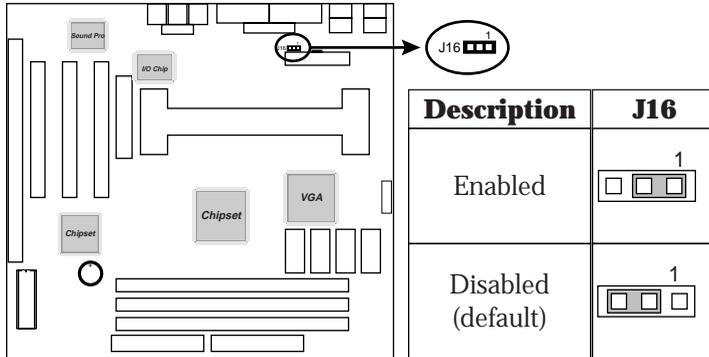
Note: Make sure that the system power can provide 800mA on +5VSB(+5V Standby) signal before using Keyboard Power On function.

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 Power-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. Refer to the BIOS Setup section.

Alarm Wake Up

If you want to autoboot the system at a certain time, set the function of RTC Alarm time properly and refer to the BIOS Setup section for more information.

Mouse/Keyboard Power-On

Press the hot key to power on the system by mouse/keyboard and refer to the BIOS Setup section for more information.

CN1 – 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

J11 (21, 22) (PWRBT) – Power Button and Suspend Switch Connector

Attach the ATX Power Button 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.

Connectors

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

External Connectors Loctaion

Parallel (printer) port (25-pin Female)

Game (15-pin Female)

PS/2 Mouse (6-pin Female)

USB

PS/2 Keyboard (6-pin Female)

COM1

COM2

Serial Ports (9-pin Male)

PH1 (Line-In)

PH2 (Mic)

PH3 (Speaker Out)

Side View
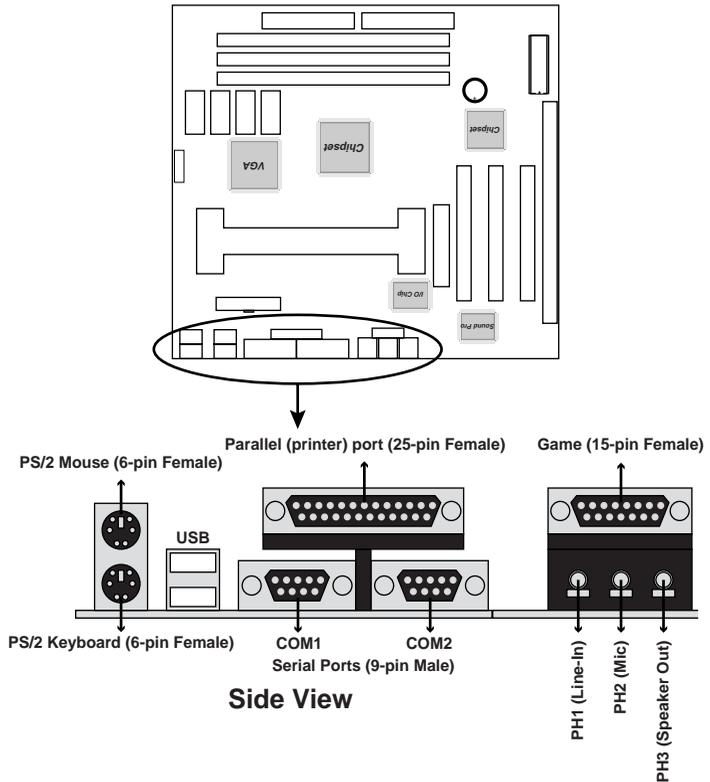
FDC1 – Floppy Disk Drive Connector

IDE1/IDE2 – Primary/Secondary IDE Connectors

J3 – VGA Connector

Connect VGA cable/bracket to this connector.

J12, J14 – CPU, SYS Fan Power Connectors

Connect CPU/System fan cables to J12 and J14. See the following drawing for the locations on the mainboard.
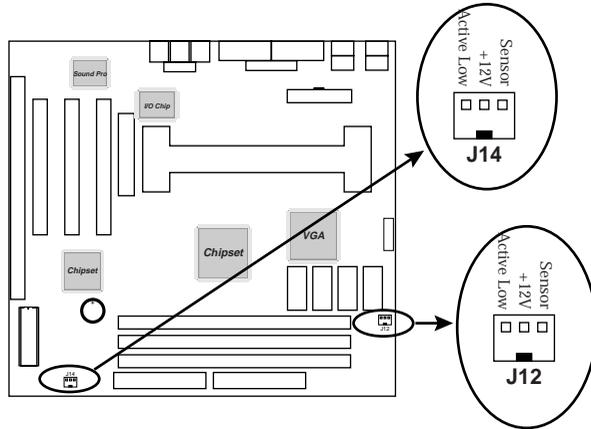
IR – Infrared Connector
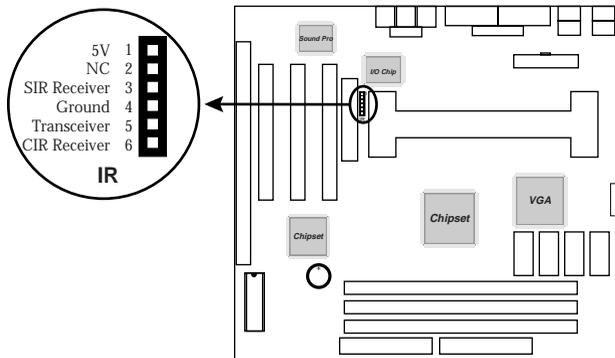
Case Connectors: J11

This connector contains: Speaker, Power LED, Keylock, Suspend 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 – Suspend LED
pin15, 16 – HDD LED
pin17, 18 – Reset Switch
pin21, 22 – Power Button
(refer to ATX Functions & Connectors section)
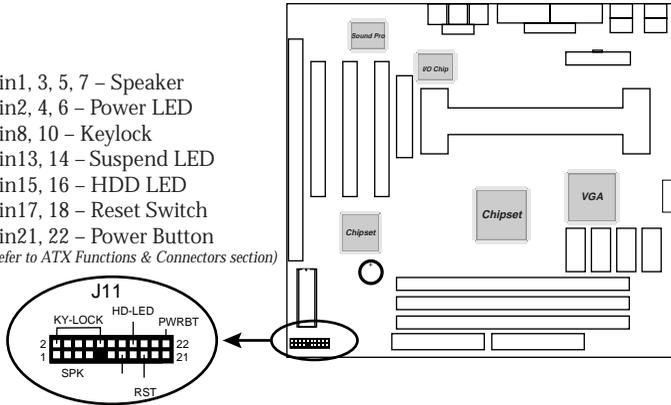
J11 (2, 4, 6) (Power LED) – Power LED Connector

Keylock connector enables and disables the keyboard key-in function on the case.

Pin	Description
2	LED Output
4	N.C.
6	Ground

J11 (8, 10) (KEYLOCK) – KeyLock Switch Connector

Setting	Description
Open	Nomral Mode
Close	Lock K/B

J11 (1, 3, 5, 7) (SPK) – Speaker Connector

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

J11 (13, 14) (SP-LED) – Suspend LED Connector

Pin	Description
13 (+)	Active High
14 (−)	Ground

J11 (15, 16) (HD-LED) – HDD LED Connector

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

J11 (17, 18) (RST) – Reset Switch Connector

Setting	Description
Open	Normal Mode
Close	Reset System

J15 – Suspend Blinking LED Connector
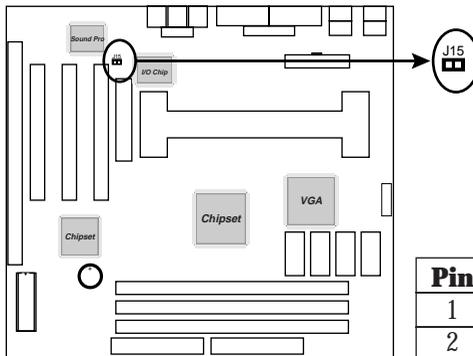
Pin	Description
1	5V StandBy
2	Ground

Onboard Sound Pro

Sound and Game (on the Externals Connectors)

This connector provides Line-IN, MIC (Microphone), Line-Out (Speaker) signals for audio I/O, and Game Port (which is also used as the Joystick/MIDI port) signals.

Side View

Game (15-pin Female)

PH1 (Line-In)

PH2 (Mic)

PH3 (Speaker Out)
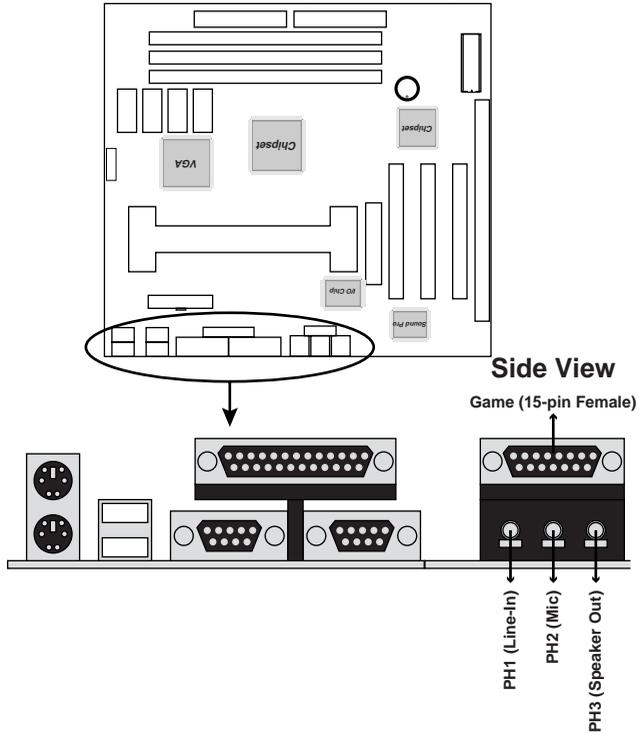
J19/J20 – Analog Audio from CD-ROM

Connect from "AUDIO" output of the CD-ROM driver to these connectors. For Panasonic or compatible type of CD-ROM, connect to J20 (pin signals assignment is G-L-G-R), and for Sony or compatible type of CD-ROM, connect to J19 (pin signals assignment is L-G-G-R).
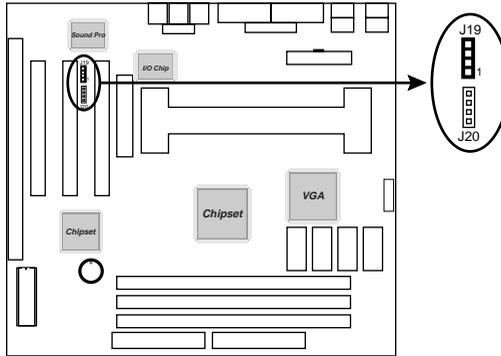
J17 – Digital Audio OUT

Connect to the external Audio Amplifier or Mini-Disk by using optional SPDIF/OUT bracket/cable set, selectable output signal level depends on the device needed. Connect to pin1 and pin2 for 5V signal level or pin3 and pin2 for 0.5V signal level.

Pin	Signals
1	5V Signal
2	Ground
3	0.5V Signal

J18 – Digital Audio IN

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. Connect to pin1 and pin2 for 5V signal level or pin3 and pin2 for 0.5V signal level.

Pin	Signals
1	5V Signal
2	Ground
3	0.5V Signal
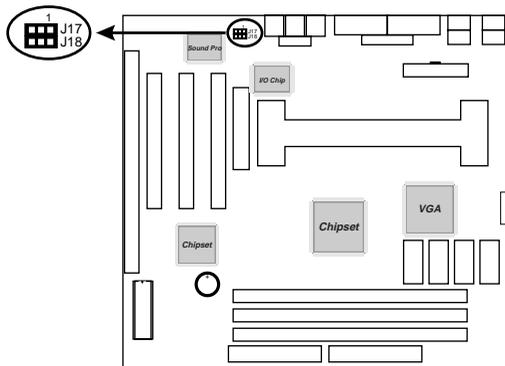
Sound Pro Drivers Installation and Application

This section describes the procedures and proper applications which are recommended for this mainboard.

1. Before installing the Sound Pro drivers, make sure that the operating system has been installed, otherwise the Sound Pro may be detected as "Other Device" by the device manager of the OS.

2. After finishing the driver installation, select the MULTIMEDIA icon in the CONTROL PANEL. Select WSS (Windows Sound System) as the equipment option when playback, and select the SB16 (Sound Blaster 16) as the equipment option while recording, then click "OK" to confirm, to ensure that the chip works with full duplex applications.

3. Select MULTIMEDIA icon in the Control Panel to use Software Wave-Table drivers as MIDI output device. Select MIDI page, click on "SoftMIDI Driver", and click "OK" to confirm it.

4. A Windows application named is provided within Sound Pro drivers, which gives you the control over all audio functions through a user interface which is as simple as using a home stereo system. It is recommended that user uses the System Mixer in the Audio Rack to control the volume, select recording device, and be able to record again.

5. If the MIDI port is used as a control interface, the "MPU-401 MIDI" needs to be enabled through the MIDI device setting of Sound Pro Audio Rack.

6. Refer to the attached CD for more information on Sound Pro.

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              CPU Plug and Play 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

             Load configuration settings giving highest performance
```

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) : Thu Jan 01, 1998
Time (hh:mm:ss) :  00:00:10
                                                   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 : 31 Mb
                                              Total Memory : 32 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 click on *On* to support IDE drives that permit 32-bit accesses.

Floppy Drive   Choose the Floppy Drive A or B icon to specify
A; B   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

Quick Boot                Disabled    CC00,16K Shadow            Disabled
1st Boot Device           IDE-0       D000,16K Shadow            Disabled
2nd Boot Device           Floppy      D400,16K Shadow            Disabled
3rd Boot Device           CDROM       D800,16K Shadow            Disabled
Try Other Boot Devices    Yes         DC00,16K Shadow            Disabled
Floppy Access Control     Read-Write
Hard Disk Access Control  Read-Write
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
Primary Display           VGA/EGA
Password Check            Setup
Boot To OS/2 > 64MB       No
Internal Cache            WriteBack    ESC : Quit        ↑ ↓ → ←: Select Item
Cache Bus ECC             Disabled     F1  : Help        PU/PD/+/- : Modify
System BIOS Cacheable     Disabled     F5  : Old Values (Shift)F2 : Color
C000,32K Shadow           Cached       F6  : Load BIOS Defaults
C800,16K Shadow           Disabled     F7  : Load Setup Defaults
```

Quick Boot   Set this option to *Enabled* to permit BIOS
                                  to boot within 5 seconds.

1st Boot Device;   Set these options to select the boot
2nd Boot Device;   sequence from different booting devices.
3rd Boot Device

Try Other Boot   Choose *Yes* or *No* to search other boot
Devices   devices to boot up the system when all the
                                  options in the previous function failed.

Floppy/Hard Disk   Set these options to Read-only or Read-
Access Control   Write for floppy/harddisk access control.
                                  During Read-only, if user try to write on
                                  floppy/harddisk, the system will halt.

S.M.A.R.T for Hard   Choose Enabled or Disabled. This option
Disks   allows you to utilize the S.M.A.R.T.
                                  function of HDDs.

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

Always: A password prompt appears every time the computer is powered on or rebooted.

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.

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	Set this option to "Enabled" to activate the internal cache for CPU.
Cache Bus ECC	Set this option to "Enabled" to activate the cache bus ECC for CPU.

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.

C000, 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
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Trend ChipAway Virus      Enabled    AGP Master 1 W/S Read     Disabled
 ******* DRAM Timing ***              ISA Bus Clock            PCI CLK/4
  Bank 0/1 DRAM Timing     Normal     VGA Frame Buffer USWC    Disabled
  Bank 2/3 DRAM Timing     Normal     PCI Frame Buffer USWC    Disabled
  Bank 4/5 DRAM Timing     Normal     USB Function             Enabled
  SDRAM CAS# Latency       3          USB KBD Legacy Support   Disabled

DRAM Integrity Mode       Disabled
Memory Hole               Disabled
AGP Aperture Size         64MB
Search for MDA Resources  No
Read Around Write         Disabled
Peer Concurrency          Disabled
Delay Transaction         Disabled
Read Caching              Disabled
CPU To PCI Write Buffer   Disabled    ESC : Quit        ↑↓→←: Select Item
PCI Dynamic Bursting      Disabled    F1  : Help      PU/PD/+/- : Modify
PCI Master 0 W/S Write    Disabled    F5  : Old Values (Shift)F2 : Color
PCI Delay Transaction     Disabled    F6  : Load BIOS Defaults
AGP Master 1 W/S Write    Disabled    F7  : Load Setup Defaults
```

Trend ChipAway Virus	Choose *Enabled* to activate the Trend ChipAwayVirus function.

Bank 0/1, 2/3, 4/5 DRAM Timing	Set these options to select timing for used DRAM.
SDRAM CAS# Latency	Set this option to select the CAS latency time of SDRAM.
DRAM Integrity Mode	Choose Non-ECC, EC-Only, or ECC.

Non-ECC: Has byte-wise write capability but no provision for protecting data integrity in the DRAM array.

EC-Only: Data errors are detected but not corrected.

ECC: Allows a detection between single-bit and multiple-bit errors and recovery of single-bit errors.

Memory Hole	Set this option to *Enabled* the memory hole.
AGP Aperture Size	Set this option to select the memory-mapped. Graphics data structures can reside in the Graphics Aperture. Use the default setting.
Search for MDA Resources	Set this option to *Enabled* to search for MDA resources.
Read Around Write	Set this option to Enabled Around Write for CPU Read.
Peer Concurrency	This option is for PCI master/Host Concurrent Operation, and if this option is set to Disabled, CPU bus will be ocupied during the entire PCI operation.
Delay Transaction	Set this option to Enabled the delay transaction mechanism for AGP master/PCI master.
Read Caching	Set this option to Enabled Read cache for the PCI master.
CPU To PCI Write Buffer	Set this option to Enabled the Write buffer for CPU to PCI.

PCI Dynamic Bursting	Set this option to Enabled the Dynamic Bursting for PCI.
PCI Master 0 W/S Write	Set this option to Enabled 0 Wait State for PCI master Write.
PCI Delay Transaction	Set this option to Enabled the delay transaction mechanism for PCI/ISA DMA master.
AGP Master 1 W/S Write	Set this option to Enabled 1 Wait State for AGP master Write.
AGP Master 1 W/S Read	Set this option to Enabled 1 Wait State for AGP master Read.
ISA Bus Clock	Set this option to select the ISA bus clock.
VGA Frame Buffer USWC	Set this option to *Enabled* USWC for VGA frame buffer.
PCI Frame Buffer USWC	Set this option to *Enabled* USWC for PCI frame buffer.
USB Function	Set this option to enable the system BIOS USB (Universal serial Bus) functions.
USB Keyboard Legacy Support	Choose Enabled or Disabled. Set this option to enable the passive release on the USB (Universal Serial Bus).

Power Management Setup

Choosing the item from BIOS Setup main menu.

```
            AMIBIOS SETUP - POWER MANAGEMENT SETUP
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 ACPI Aware O/S           No
 Power Management/APM     Enabled
 Suspend Timeout (Minute) Disabled
 Display Activity         Ignore
 Restore on AC/Power Loss Last State
 Power Button Function    Susp/Resume
 Power-On by Keyboard     Disabled
 Power-On by Mouse        Disabled
 On-Board Ring            Disabled
 LAN Signal Event         Disabled
 RTC Alarm                Disabled
 RTC Alarm Date           15
 RTC Alarm Hour           12
 RTC Alarm Minute         30
 RTC Alarm Second         30
                                    ESC : Quit        ↑ ↓ → ←: Select Item
                                    F1  : Help       PU/PD/+/- : Modify
                                    F5  : Old Values (Shift)F2 : Color
                                    F6  : Load BIOS Defaults
                                    F7  : Load Setup Defaults
```

ACPI Aware O/S   Set this option to *Yes* to enable the ACPI OS.

Power Management/ APM   Set this option to enable power management features and APM (Advanced Power Management).

Suspend 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.

Display Activity   When set to Yes, these options enable event monitoring on the display 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.

Restore on AC Power Loss	Set this option to specify system power state when AC power loss then come back.
Power Button Function	Set this option to specify the operation of Soft-Off by the Power Button. Select "Susp/Resume" function to enter On-Suspend-Off or "On/Off" function to On-Off operation cycle, however, notice that there is Resume in the AT power system.
Power-On by Keyboard/Mouse	Set these options to specify the signals of Keyboard/Mouse to power on the system or Disabled. But they are invalid in AT power system.
On-Board Ring; LAN Signal Event	Set these options to enable the signals of Modem Ring/LAN to power on the system or to resume the system from the Suspend state or Both or Disabled. But there are Resume/Disabled in AT power system.
RTC Alarm	Set this option to Enable the RTC alarm to wake up the system which is Soft Off. But it is invalid in AT power system.
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
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Plug and Play Aware O/S   Yes       IRQ9                     PCI/PnP
Clear NVRAM               Yes       IRQ10                    PCI/PnP
PCI Latency Timer         64        IRQ11                    PCI/PnP
Sound Pro Chip Support    Enabled   IRQ14                    PCI/PnP
Primary Graphics Adapter  PCI       IRQ15                    PCI/PnP
PCI VGA Palette Snoop     Disabled  Reserved Memory Size     Disabled
PCI IDE BusMaster         Enabled   Reserved Memory Address  C8000
Slot PCI IDE Card         Auto
  PCI IDE Primary IRQ     Disabled
  PCI IDE Secondary IRQ   Disabled
DMA Channel 0             PnP
DMA Channel 1             PnP
DMA Channel 3             PnP
DMA Channel 5             PnP
DMA Channel 6             PnP
DMA Channel 7             PnP      ESC : Quit      ↑ ↓ → ←: Select Item
IRQ3                      PCI/PnP  F1  : Help       PU/PD/+/- : Modify
IRQ4                      PCI/PnP  F5  : Old Values (Shift)F2 : Color
IRQ5                      PCI/PnP  F6  : Load BIOS Defaults
IRQ7                      PCI/PnP  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.

Clear NVRAM   Set this option to *Yes* to clear NVRAM.

PCI Latency Timer   Set this option to specify the latency timing(in PCI clock) for all PCI devices on the PCI bus.

Sound Pro Chip Support   Set this option to Enabled to activate the onboard Sound Pro functions.

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.
PCI IDE BusMaster	Set this option to Enable bus master for the PCI IDE.
Slot PCI IDE Card	This option specifies if an offboard PCI IDE controller adapter card is installed in the computer. You must specify the PCI expansion slot on the motherboard where the offboard PCI IDE controller is installed. If an offboard PCI IDE controller is used, the onboard IDE controller is automatically disabled. If an offboard PCI IDE controller adapter card is installed in the computer, you must also set the **PCI IDE Primary IRQ** and **PCI IDE Secondary IRQ** options.
PCI IDE Primary IRQ; PCI IDE Secondary IRQ	These options specify the PCI interrupt used by the Primary (or secondary) IDE channel on the offboard PCI IDE controller.
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	This option is designed to be used for reserving memory for the IO card.
Reserved Memory Address	This option is designed to be used for reserving memory address for the IO card.

Peripheral Setup

Choose the item from the BIOS Setup main menu.

```
               AMIBIOS SETUP - PERIPHERAL SETUP
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 OnBoard FDC              Auto
 OnBoard Serial Port1     Auto
 OnBoard Serial Port2     Auto
  Serial Port2 Mode       Normal
   IR Duplex Mode         N/A
 OnBoard Parallel Port    Auto
  Port Mode               ECP
  Port IRQ                Auto
  Port DMA Channel        Auto
 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 IR, when the Serial Port2 Mode option is set to IrDA or ASKIR.

OnBoard Parallel Port	This option specifies the base I/O port address of the parallel port on the motherboard.
Port Mode	Depends on the type of your external device which connects to this port to choose Normal, EPP, or ECP mode.
Port IRQ	This option specifies IRQ to parallel port.
Port DMA Channel	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.

CPU Plug and Play Setup

Choose this item from the BIOS Setup main menu.

```
             AMIBIOS SETUP - CPU PLUG AND PLAY SETUP
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 CPU Plug & Play           Auto
 CPU Base Frequency        100 Mhz
 CPU Ratio Selection       300(100x3)
 CPU Critical Temperature  65ºC/149ºF
 CPU Fan Error Procedure   Beep
 SYS Fan Error Procedure   Nothing
   CPU Clock Throttle Rate N/A
 Vcore over range (10%)    Beep
 + 3.3v over range (10%)   Beep
 + 5.0v over range (10%)   Beep
 +12.0v over range (10%)   Beep
 ==System Hardware Monitor==
 CPU Temperature           31ºC/87ºF
 System Temperature        43ºC/109ºF
 CPU FAN Speed             4444 RPM
 System FAN Speed          0 RPM       ┌─────────────────────────────────┐
 Vcore                     2.052 V     ESC : Quit        ↑↓→←: Select Item
 + 3.300V                  3.325 V     F1  : Help      PU/PD/+/- : Modify
 + 5.000V                  4.899 V     F5  : Old Values (Shift)F2 : Color
 +12.000V                 12.369 V     F6  : Load BIOS Defaults
                                       F7  : Load Setup Defaults
```

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

CPU Base Frequency This option can be set to *Enabled* only when the previous option (CPU Plug & Play) is set to Manual. 66, 75, or 83MHz are for Celeron CPUs, and, 100 or 112 MHz are for Deschute CPUs.

CPU Ratio Selection Select a correct CPU speed to match your CPU. The ratio includes 2, 2.5, 3, 3.5, 4, 4.5, 5, 5.5, 6, etc.

CPU Critical Temperature Set this option to specify critical temperature for CPU. When the temperature of CPU is over the critical temperature, then the system will be running at the Suspend mode.

CPU/SYS Fans Error Procedure	Set these options to specify the handling procedure when CPU/system fan is broken down. the selections are Beep, Throttle, Beep & Throt, Nothing.
CPU Clock Throttle Rate	Set this option to specify the ratio of the system clock while CPU/system fan is broken down.
Vcore; +3.3V; +5V; +12V Over Range (10%)	Set these options to Beep alarm user when the volume of core/3.3V/5V/12V is over 10% range.
CPU, System Temperature; CPU/System Fan Speed; Vcore; +3.3V; +5V; +12V	These options are displayed only to show the status of the system hardware.

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:

❏ IDE Driver for Windows 95
(CD-ROM): \IDE\M760V\Win95\Setup.exe

❏ USB Driver for Windows 95
(CD-ROM): \USB\Eusbsupp\Usbsupp.exe;
(CD-ROM): \USB\Cusbsupp\Cusbsupp.exe for Chinese Windows95

❏ VGA Driver Path
(CD-ROM): \VGA/3DProAGP\

❏ Sound Driver Path
(CD-ROM): \SOUND\SOUNDPOR\New\

❏ BIOS Update Utility Path
(CD-ROM): \UTILITY\

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