FCC Compliance Statement:

This equipment has been tested and found to comply with limits for a Class B digital device , pursuant to Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in residential installations. This equipment generates, uses, and can radiate radio frequency energy, and if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause interference to radio or television equipment reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

-Reorient or relocate the receiving antenna

-Move the equipment away from the receiver

-Plug the equipment into an outlet on a circuit different from that to which the receiver is connected

-Consult the dealer or an experienced radio/television technician for additional suggestions

You are cautioned that any change or modifications to the equipment not expressly approve by the party responsible for compliance could void Your authority to operate such equipment.

This device complies with Part 15 of the FCC Rules. Operation is subjected to the following two conditions 1) this device may not cause harmful interference and 2) this device must accept any interference received, including interference that may cause undesired operation.

DECLARATION OF CONFORMITY
Per FCC Part 2 Section 2. 1077(a)

FCC

Responsible Party Name: G.B.T. INC.

Address: 18305 Valley Blvd., Suite#A
LA Puent, CA 91744

Phone/Fax No: (818) 854- 9338/ (818) 854-9339

hereby declare s that the product

Product Name: Mother Board

Model Number: GA 7ZMMP

Conforms to the following specifications:

FCC Part 15, Subpart B, Section 15.107(a) and Section 15.109(a), Class B Digital Device

Supplementary Information:

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful and (2) this device must accept any inference received, including that may cause undesired operation.

Representative Person's Name: ____ERIC LU____

Sinature: __*Eric Lu*__

Date: __Sep. 22, 2000__

Declaration of Conformity

We, Manufacturer/Importer
(full address)

G.B.T. Technology Träding GMbH
Ausschlager Weg 41, 1F, 20537 Hamburg, Germany

declare that the product
(description of the apparatus, system, installation to which it refers)

Mother Board
GA-7ZMMP

is in conformity with
(reference to the specification under which conformity is declared)
in accordance with 89/336 EEC-EMC Directive

☐ **EN 55011**	Limits and methods of measurement of radio disturbance characteristics of industrial, scientific and medical (ISM high frequency equipment	☐ **EN 61000-3-2*** ☒ **EN60555-2**	Disturbances in supply systems caused by household appliances and similar electrical equipment "Harmonics"
☐ **EN55013**	Limits and methods of measurement of radio disturbance characteristics of broadcast receivers and associated equipment	☐ **EN61000-3-3*** ☒ **EN60555-3**	Disturbances in supply systems caused by household appliances and similar electrical equipment "Voltage fluctuations"
☐ **EN 55014**	Limits and methods of measurement of radio disturbance characteristics of household electrical appliances, portable tools and similar electrical apparatus	☒ **EN 50081-1**	Generic emission standard Part 1: Residual, commercial and light industry
		☒ **EN 50082-1**	Generic immunity standard Part 1: Residual, commercial and light industry
☐ **EN 55015**	Limits and methods of measurement of radio disturbance characteristics of fluorescent lamps and luminaries	☐ **EN 55081-2**	Generic emission standard Part 2: Industrial environment
☐ **EN 55020**	Immunity from radio interference of broadcast receivers and associated equipment	☐ **EN 55082-2**	Generic immunity standard Part 2: Industrial environment
☒ **EN 55022**	Limits and methods of measurement of radio disturbance characteristics of information technology equipment	☐ **ENV 55104**	Immunity requirements for household appliances tools and similar apparatus
☐ **DIN VDE 0855** ☐ **part 10** ☐ **part 12**	Cabled distribution systems; Equipment for receiving and/or **distribution** from sound and television signals	☐ **EN 50091- 2**	EMC requirements for uninterruptible power systems (UPS)
☒ **CE marking**		$C\epsilon$ (EC conformity marking)	

The manufacturer also declares the conformity of above mentioned product
with the actual required safety standards in accordance with LVD 73/23 EEC

☐ **EN 60065**	Safety requirements for mains operated electronic and related apparatus for household and similar general use	☐ **EN 60950**	Safety for information technology equipment including electrical business equipment
☐ **EN 60335**	Safety of household and similar electrical appliances	☐ **EN 50091-1**	General and Safety requirements for uninterruptible power systems (UPS)

Manufacturer/Importer

Signature : _Rex Lin_

(Stamp)

Date : Sep. 22, 2000   Name : __Rex Lin__

7ZMMP-TU

AMD^{TM} Athlon AGP Motherboard

USER'S MANUAL

How This Manual Is Organized

This manual is divided into the following sections:

1) Revision History	Manual revision information
2) Item Checklist	Product item list
3) Features	Product information & specification
4) Hardware Setup	Instructions on setting up the motherboard
5) Performance & Block Diagram	Product performance & block diagram
6) Suspend to RAM	Instructions STR installation
7) BIOS Setup	Instructions on setting up the BIOS software
8) Appendix	General reference

Table Of Content

Revision History

Revision	Revision Note	Date
0.2	Initial release of the 7ZMMP-TU motherboard user's manual.	Sep. 2000

The author assumes no responsibility for any errors or omissions that may appear in this document nor does the author make a commitment to update the information contained herein. Third-party brands and names are the property of their respective owners.

Sep. 4, 2000 Taipei, Taiwan, R.O.C

Item Checklist

☑ The 7ZMMP-TU motherboard

☑ Cable for IDE / floppy device

☑ Diskettes or CD (TUCD) for motherboard driver & utility

☑ 7ZMMP-TU user's manual

Summary Of Features

Form Factor	• 24.4 cm x 22.7 cm Micro ATX size form factor, 4 layers PCB
CPU	• AMD Athlon/Duron (K7) Socket A Processor • 256K/64K 2nd cache on die • Supports 500MHz ~ 1GHz and faster
Chipset	Apollo KT133, consisting of: • VT8363 Memory/AGP/PCI Controller (PAC) • VT82C686A PCI Super-I/O Integrated Peripheral Controller (PSIPC)
Clock Generator	• CYPRESS W230H 100/102/104/106/108/110/112/133 MHz system bus speeds • 100/133 MHz system bus speeds (PCI 33MHz) • Supports 100~133MHz
Memory	• 3 168-pin DIMM sockets • Supports PC-100 / PC-133 SDRAM and VCM SDRAM • Supports up to 1.5GB DRAM • Supports only 3.3V SDRAM DIMM
I/O Control	• VT82C686A
Slots	• 3 PCI slot supports 33MHz & PCI 2.2 compliant • 1 AMR (Audio Modem Riser) slot
On-Board IDE	• 2 IDE bus master (UDMA 33/ ATA 66) IDE ports for up to 4 ATAPI devices • Supports PIO mode 3, 4 (UDMA 33/ATA 66) IDE & ATAPI CD-ROM
On-Board Peripherals	• 1 floppy port supports 2 FDD with 360K, 720K, 1.2M, 1.44M and 2.88M bytes • 1 parallel ports supports SPP/EPP/ECP mode • 2 serial ports (COM A & COM B) • 4 USB ports • 1 IrDA connector for IR
Hardware Monitor	• CPU/System fan revolution detect • CPU/System temperature detect • System voltage detect • CPU overheat shutdown detect

To be continued…

PS/2 Connector	• PS/2® Keyboard interface and PS/2® Mouse interface
On-Board VGA	• NVIDIA TNT2 M64
On-Board Sound	• Creative CT5880 sound
	• Line In/Line Out/Mic In/AUX In/CD In/TEL/Game Port
	/Four Speaker & SPDIF
BIOS	• Licensed AMI BIOS, 2M bit flash ROM
Additional Features	• Support Wake-On-LAN (WOL)
	• Support Internal / External Modem Ring On
	• Support USB KB/MS Wake up from S3
	• Includes 3 fan power connectors
	• Poly fuse for keyboard over-current protection
	• Support STR (Suspend-To-RAM) function

7ZMMP-TU Motherboard Layout

CPU Speed Setup

The system bus speed is selectable at 100~133MHz. The user can select the system bus speed by DIP switch **SW1**.

Set System Bus Speed

SW1 (Optional):   O : ON, X : OFF

FSB	1	2	3	4
95	O	O	X	X
★100	O	X	X	X
102	O	O	O	X
104	X	X	X	O
106	O	X	X	O
108	O	O	X	O
110	O	X	O	O
112	O	O	O	O
133	O	X	O	X

★ The FSB Speed of the VIA KT133 is 100MHz.

☛**AMD CPU Heat Sink Installation:**

Beware: Please check that the heat sink is in good contact with the CPU before you turn on your system.

The poor contact will cause over heat, and might cause damage to your processor.

Connectors

Game & Audio Port

Game Port

Line Out1

MIC

Line In/Line Out2
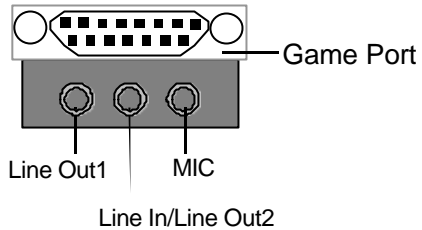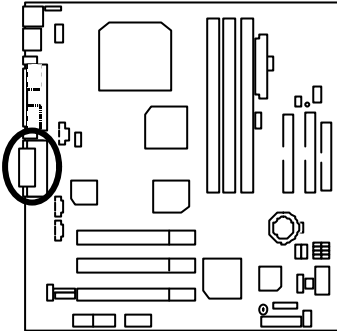
Line Out 1: Line Out or SPDIF (The SPDIF output is capable of providing digital audio to external speakers or compressed AC3 data to an external Dolby digital decoder). In general, Line Out 1 is normally Line Out, when SPDIF connector is inserted, it will be change to SPDIF Out automatically (see page 32 for more information). Line In: In general, Line In is normally Line In. When you select "Four Speaker" in Creative application (see page 30 for more information), Line In will be change to Line Out 2, then you can plug 2 pairs stereo speaker into Line Out 1 and Line In simultaneously.

COM A / COM B / VGA / LPT Port

LPT Port

COM A

VGA

9   1
10   2   COM B
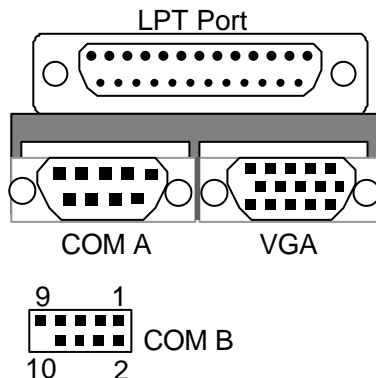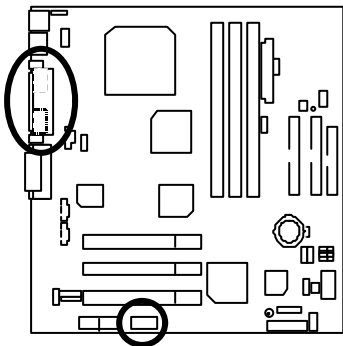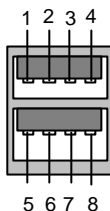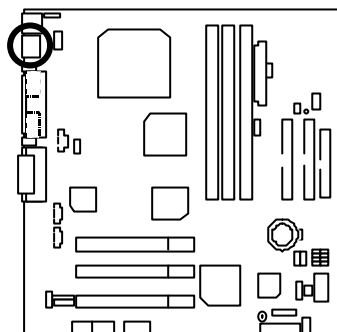
USB 1 Connector

Pin No.	Definition
1	USB V0
2	USB D0-
3	USB D0+
4	GND
5	USB V1
6	USB D1-
7	USB D1+
8	GND

USB 2 Connector
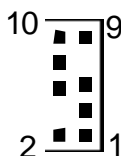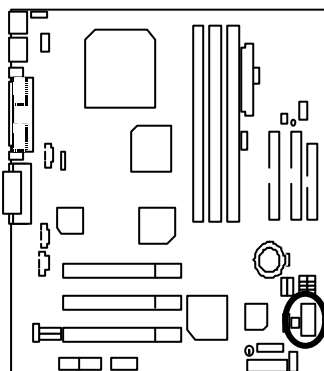
Pin No.	Definition
1	+5V
2	GND
3	USB D2-
4	NC
5	USB D2+
6	USB D3+
7	NC
8	USB D3-
9	GND
10	+5V

PS/2 Keyboard & PS/2 Mouse Connector
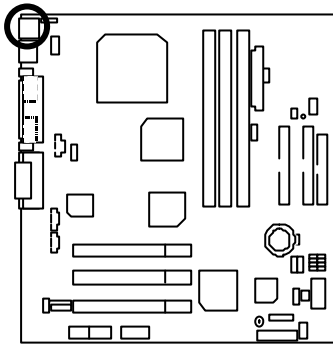
PS/2 Mouse
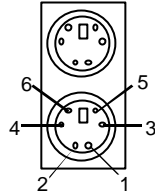
PS/2 Keyboard

PS/2 Mouse/Keyboard	
Pin No.	Definition
1	Data
2	NC
3	GND
4	VCC(+5V)
5	Clock
6	NC

J3: CPU Fan
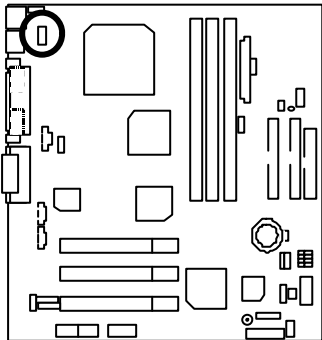
Pin No.	Definition
1	Control
2	+12V
3	SENSE

JP6: Power Fan
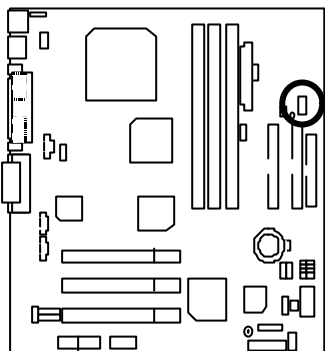
Pin No.	Definition
1	Control
2	+12V
3	NC

J2: System Fan
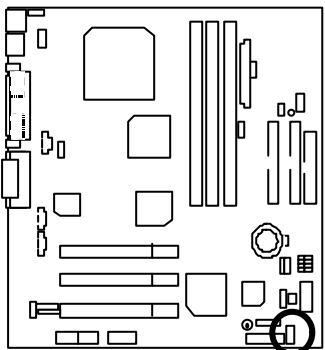
Pin No.	Definition
1	Control
2	+12V
3	SENSE

ATX Power
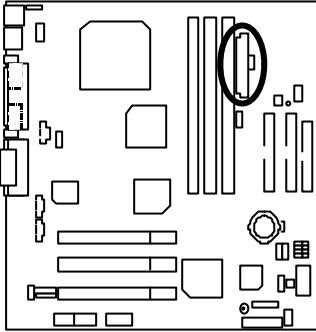
Pin No.	Definition
3,5,7,13, 15-17	GND
1,2,11	3.3V
4,6,19,20	VCC
10	+12V
12	-12V
18	-5V
8	Power Good
9	5V SB stand by+5V
14	PS-ON(Soft On/Off)

Floppy Port
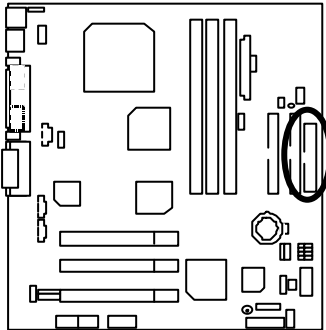
Red Line
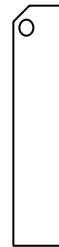
FDD1

IDE1 (Primary), IDE2 (Secondary) Port
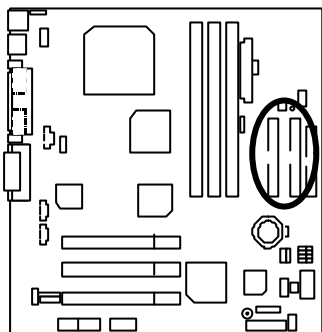
Red Line
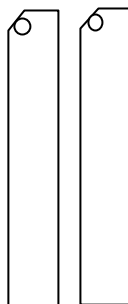
IDE 1   IDE 2

J8 TEL: The connector is for Modem with internal voice connector

1
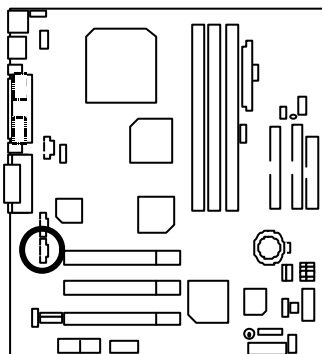
Pin No.	Definition
1	Signal-In
2	GND
3	GND
4	Signal-Out

J7 : AUX_IN
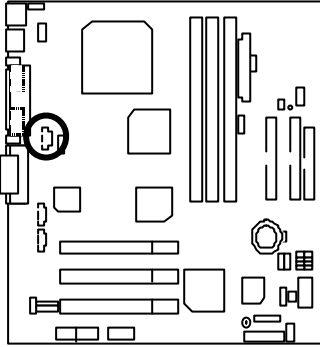
Pin No.	Definition
1	AUX-L
2	GND
3	GND
4	AUX-R

J9: CD Audio Line In
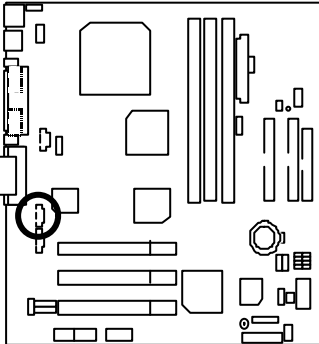
Pin No.	Definition
1	CD-L
2	GND
3	GND
4	CD-R

J13: Ring Power On (Internal Modem Card Wake Up)
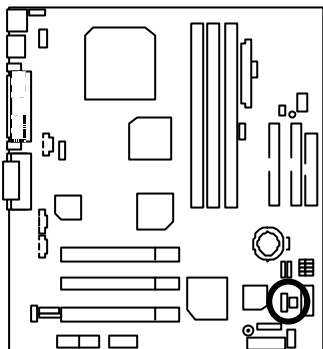
Pin No.	Definition
1	Signal
2	GND

J12: Wake On LAN
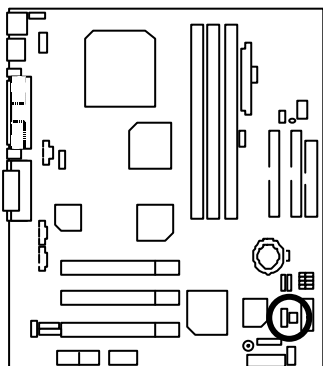
Pin No.	Definition
1	+5V SB
2	GND
3	Signal

JP8 / LED1: STR LED Connector & DIMM LED

STR LED Connector External.

1

DIMM LED

J4: IR

1
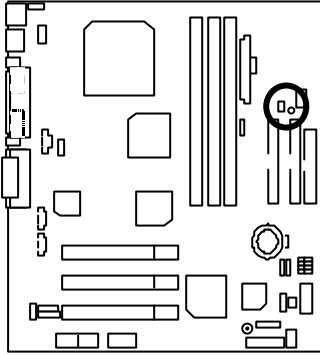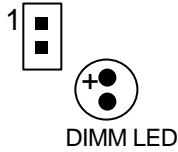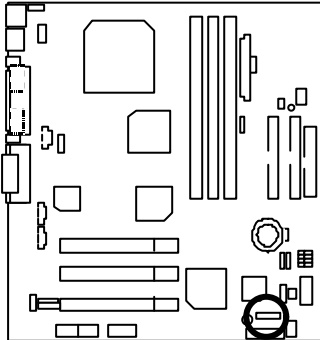
Pin No.	Definition
1	VCC (+5V)
2	NC
3	IR Data Input
4	GND
5	IR Data Output

Panel And Jumper Definition

J11: 2x11 Pins Jumper
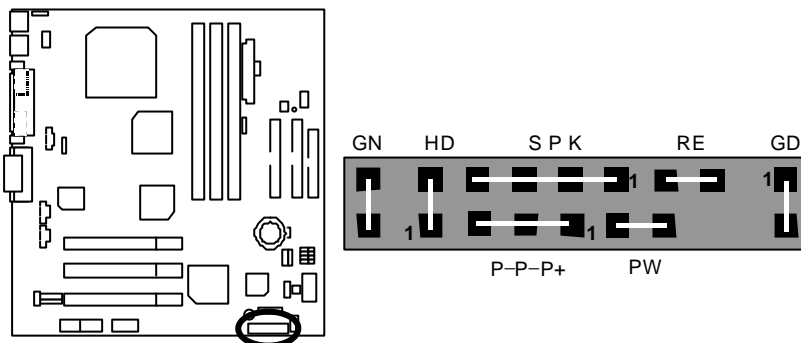
GN (Green Switch)	Open: Normal Operation Close: Entering Green Mode
GD (Green LED)	Pin 1: LED anode(+) Pin 2: LED cathode(−)
HD (IDE Hard Disk Active LED)	Pin 1: LED anode(+) Pin 2: LED cathode(−)
SPK (Speaker Connector)	Pin 1: VCC(+) Pin 2- Pin 3: NC Pin 4: Data(−)
RE (Reset Switch)	Open: Normal Operation Close: Reset Hardware System
P+P−P−(Power LED)	Pin 1: LED anode(+) Pin 2: LED cathode(−) Pin 3: LED cathode(−)
PW (Soft Power Connector)	Open: Normal Operation Close: Power On/Off

JP11 / JP12 / J16: AMR (Primary or Secondary) Select (Optional)

(AMR→ Audio Modem Riser)
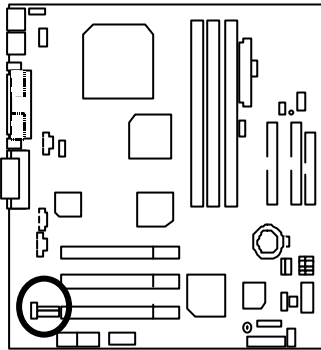
	J16	JP12	JP11
Onboard AC97	1-2	1-2	1-2
AMR (Primary)	2-3	3-4	3-4
Onboard AC97 MR (Secondary) (Default)	1-2	1-2 3-4	1-2

JP4: USB Device Wake up Selection
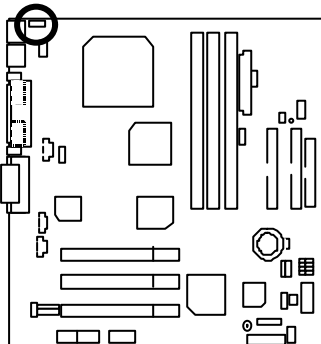
Pin No.	Definition
1-2 Close	Normal (Default)
2-3 Close	USB Device Wake up

(If you want to use "USB Dev Wakeup From S3-S5" function, you have to set the BIOS setting "USB Dev Wakeup From S3-S5" enabled, and the jumper "JP4" enabled).

*(Power on the computer and as soon as memory counting starts, press <Del>. You will enter BIOS Setup. Select the item "POWER MANAGEMENT SETUP", then select "USB Dev Wakeup From S3-S5: Enabled". Remember to save the setting by pressing "ESC" and choose the "SAVE & EXIT SETUP" option.)

JP7: STR Function Enabled
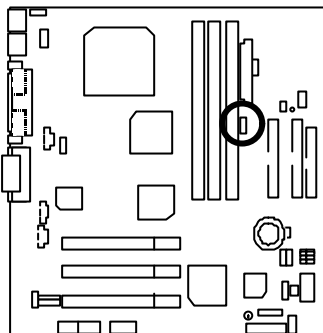
Pin No.	Definition
1-2 close	STR Enabled
2-3 close	Normal (Default)

JP9: BIOS Write Protection
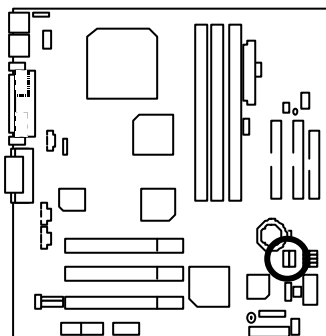
Pin No.	Definition
1-2 close	Write Protect Enable
2-3 close	Write Protect Disable (Default)

Please Set Jumper JP9 to "Open" to enabled BIOS Write Function when you update new BIOS or new device.

JP13: PCI Sound
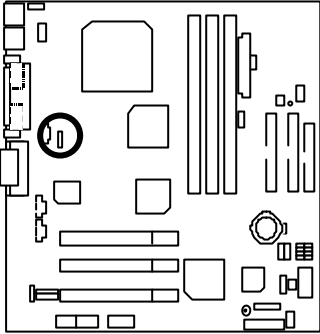
Pin No.	Definition
1-2 close	Enabled PCI Sound (Default)
2-3 close	Disabled PCI Sound

JP3 : Clear CMOS Function
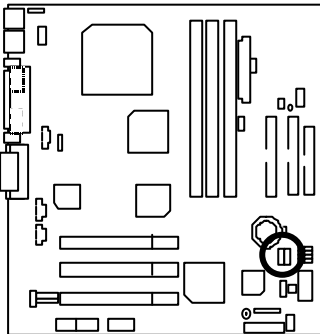
Pin No.	Definition
1-2 close	Normal (Default)
2-3 close	Clear CMOS

BAT1: Battery
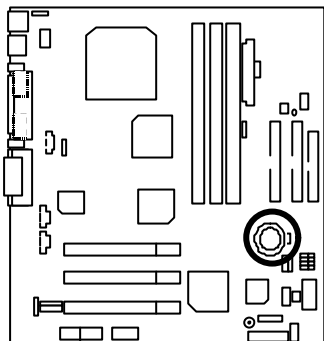
☞ Danger of explosion if battery
is incorrectly replaced.
☞ Replace only with the same or
equivalent type recommended
by the manufacturer.
☞ Dispose of used batteries
according to the manufacturer's
instructions.

Performance List

The following performance data list is the testing results of some popular benchmark testing programs.

These data are just referred by users, and there is no responsibility for different testing data values gotten by users. (The different Hardware & Software configuration will result in different benchmark testing results.)

- CPU   AMD Athlon 1100MHz processor
- SDRAM   (128x2) MB SDRAM (MICRON MT 48LC8M8A2-8E B)
- CACHE SIZE   256KB included in CPU
- DISPLAY   Onboard (NVIDIA TNT2 Model 64)
- STORAGE   Onboard IDE (IBM DTLA-307045)
- O.S.   Windows NT^{TM} 4.0 SPK6a
- DRIVER   Display Driver at 1024 x 768 x 16bit x 75Hz.

Processor	AMD Athlon 1100MHz (100x11)
Winbench99	
CPU mark 99	98.8
FPU Winmark 99	6050
Business Disk Winmark 99	8900
Hi-End Disk Winmark 99	23200
Business Graphics Winmark 99	444
Hi-End Graphics Winmark 99	1020
Winstone99	
Business Winstone 99	52.6
Hi-End Winstone 99	65.8

💣※ If you wish to maximize the performance of your system, please refer to the detail on P.45

Block Diagram
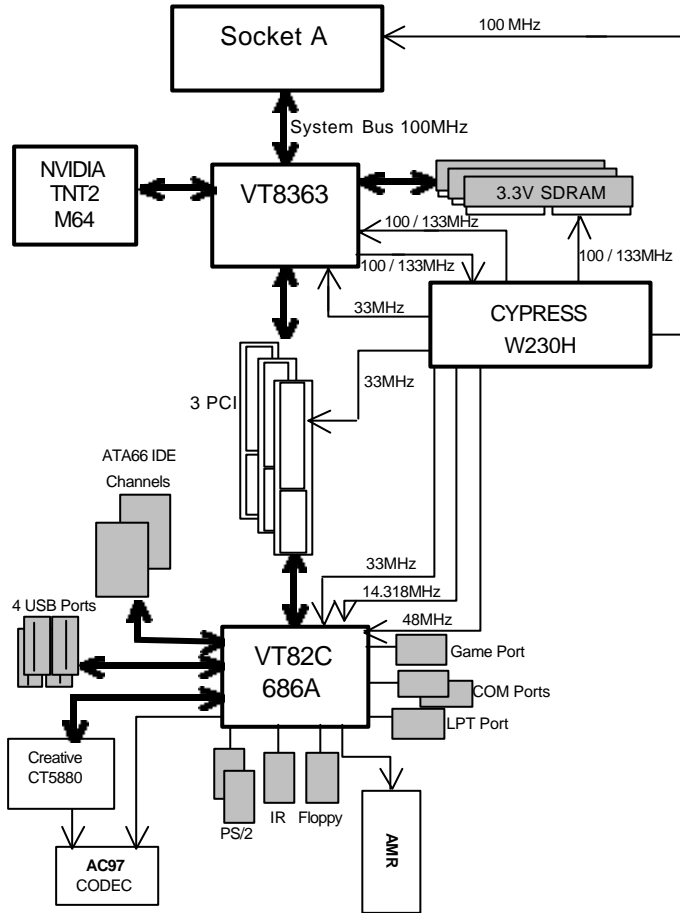
Suspend To RAM Installation

A.1 Introduce STR function:

Suspend-to-RAM (STR) is a Windows 98 ACPI sleep mode function. When recovering from STR (S3) sleep mode, the system is able, in just a few seconds, to retrieve the last "state" of the system before it went to sleep and recover to that state. The "state" is stored in memory (RAM) before the system goes to sleep. During STR sleep mode, your system uses only enough energy to maintain critical information and system functions, primarily the system state and the ability to recognize various "wake up" triggers or signals, respectively.

A.2 STR function Installation

Please use the following steps to complete the STR function installation.

Step-By-Step Setup

Step 1:

To utilize the STR function, the system must be in Windows 98 ACPI mode.

Putting Windows 98 into ACPI mode is fairly easy.

Setup with Windows 98 CD:

A.   Insert the Windows 98 CD into your CD-ROM drive, select Start, and then Run.

B.   Type (without quotes) **"D:\setup /p j"** in the window provided. Hit the enter key or click OK.   In Windows 98 second edition version, all the bios version dated 12/01/99 or later are ACPI compatible. Just type" D:\Setup", the operating system will be installed as ACPI mode.

C.   After setup completes, remove the CD, and reboot your system

(This manual assumes that your CD-ROM device drive letter is D:).

Step 2:
(If you want to use STR Function, please set jumper JP7 Closed.)
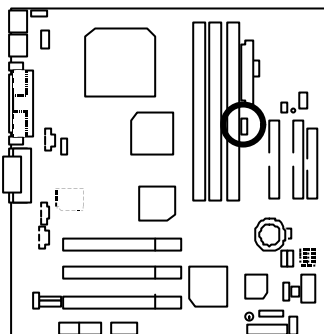
Pin No.	Definition
1-2 close	STR Enabled
2-3 close	Normal (Default)

Step 3:

Power on the computer and as soon as memory counting starts, press <Del>. You will enter BIOS Setup. Select the item **"POWER MANAGEMENT SETUP",** then select **"ACPI Sleep Type : S3 / STR"**. Remember to save the settings by pressing "ESC" and choose the **"SAVE & EXIT SETUP"** option.

Congratulation! You have completed the installation and now can use the STR function.

A.3 How to put your system into STR mode?

There are two ways to accomplish this:

1.   Choose the "Stand by" item in the "Shut Down Windows" area.

A.   Press the "Start" button and then select "Shut Down"

B.   Choose the "Stand by" item and press "OK"
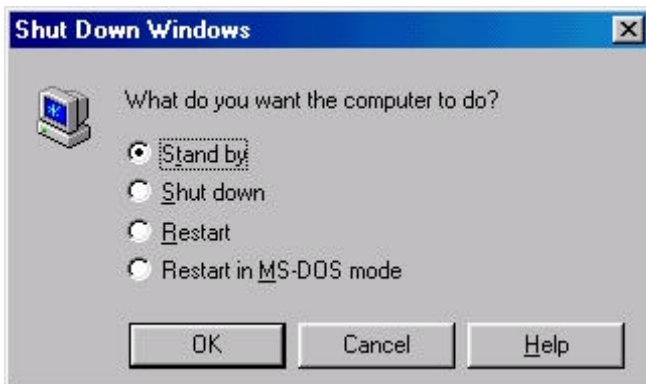
2.   Define the system "power on" button to initiate STR sleep mode:

    A. Double click "My Computer" and then "Control Panel"
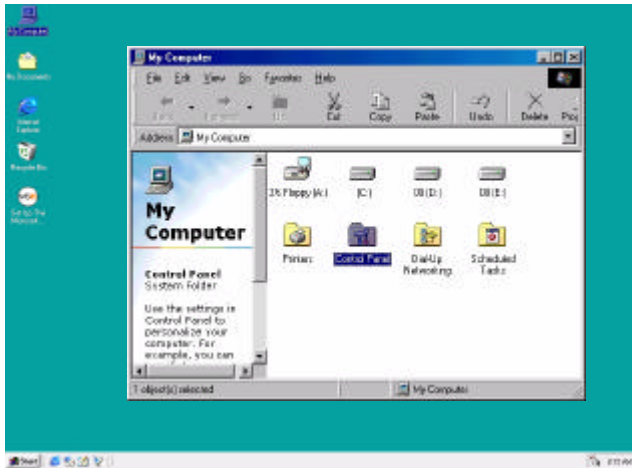
    B. Double click the " Power Management" item.
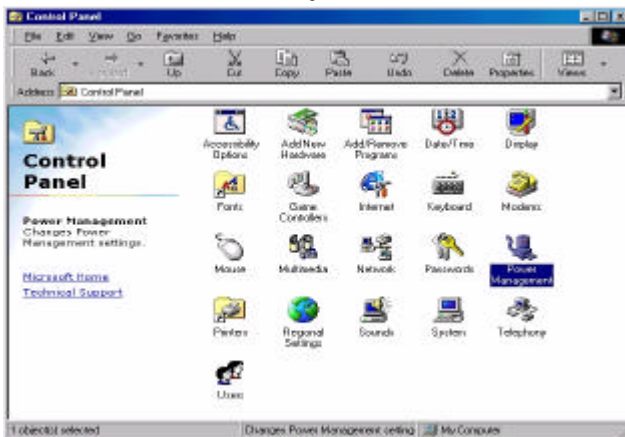
C. Select the "Advanced" tab and "Standby" mode in Power Buttons.
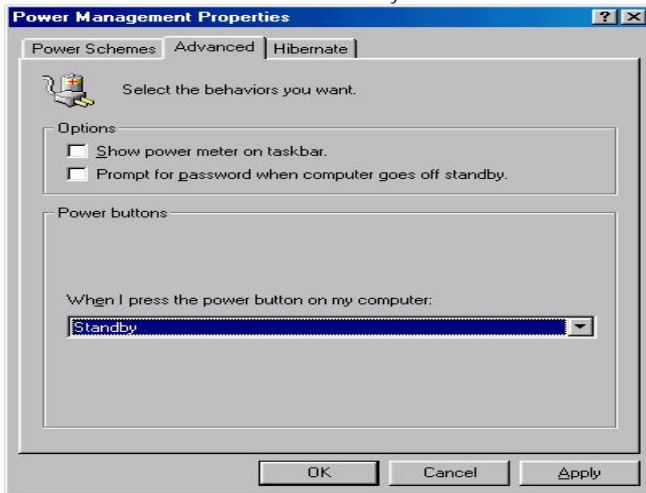
Step 4:

Restart your computer to complete setup.

Now when you want to enter STR sleep mode, just momentarily press the "Power on" button.

A.4 How to recover from the STR sleep mode?

There are five ways to "wake up" the system:

1. Press the "Power On" button.
2. Use the "Resume by Alarm" function.
3. Use the "Modem Ring On" function.
4. Use the "Wake On LAN" function.
5. Use the "USB Device Wake Up" function.

A.5 Notices:

1.   In order for STR to function properly, several hardware and software requirements must be satisfied:

    A.   Your ATX power supply must comply with the ATX 2.01 specification (provide more than 720 mA 5V Stand-By current).

    B.   Your SDRAM must be PC-100 compliant.

2.   Jumper JP8 is provided to connect to the STR LED in your system chassis.   [Your chassis may not provide this feature.] The STR LED will be illuminated when your system is in STR sleep mode.
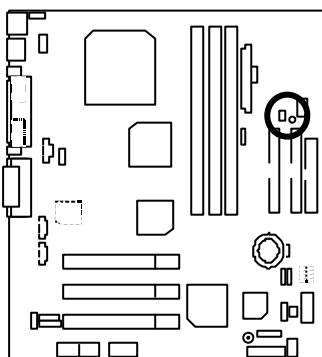
STR LED Connector External.

DIMM LED

Four Speaker & SPDIF Introduction

Four Speaker Introduction

A. What is Four Speaker?

The Creative CT5880 audio chip can support 4 speaker output, if you select "Four speaker" out, Line in will be change to another line out.

B. How to use Four Speaker?

a. Press the "Start" button and then select "Creative" → "Sound Blaster PCI128" → "Creative Configurator".
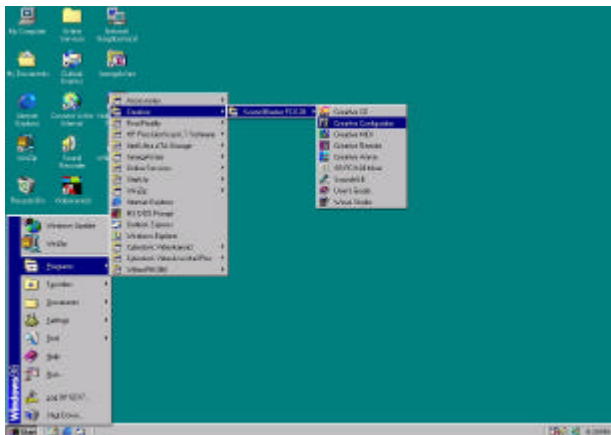
b. Click "3D Configuration" item.
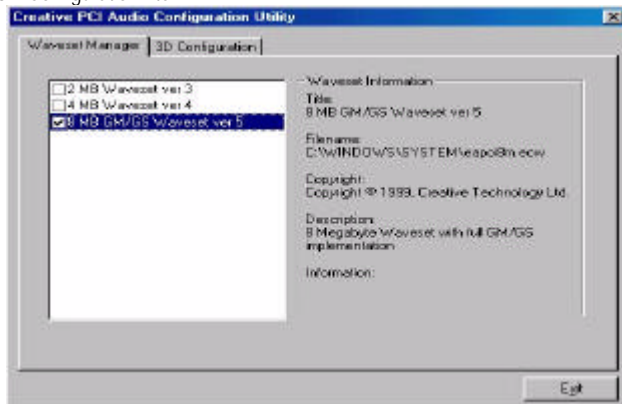
c. Two speaker (Default)
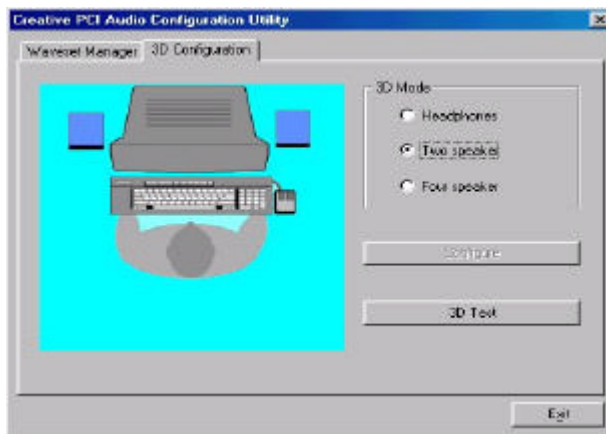
d. Click "Four speaker" item.
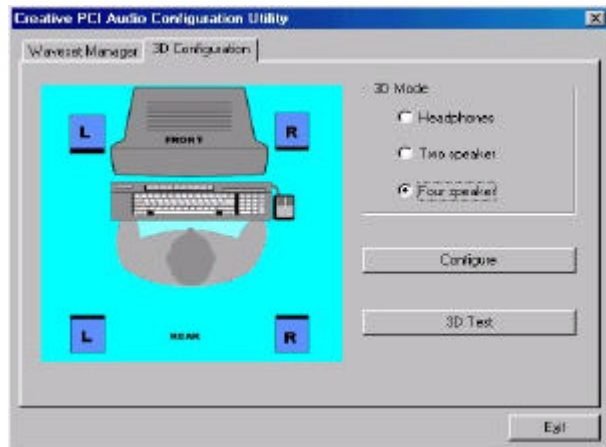
C. Four Speaker Application

The four speaker function will only support in application software that use Microsoft DirectX and Creative EAX. For example, the game titles, software DVD player and MP3 player. Those software support Microsoft DirectX, so they can support four speaker output.

SPDIF Introduction

A. What is SPDIF?

The SPDIF output is capable of providing digital audio to external speakers or compressed AC3 data to an external Dolby digital decoder.

B. How to use SPDIF?

a. Press your mouse right button in "My Computer" and then select the "Properties" item.

b. Click "Device Manager" item.

c. Press "S ound, video and game controllers" item and then select the "Creative Sound Blaster PCI128" item.
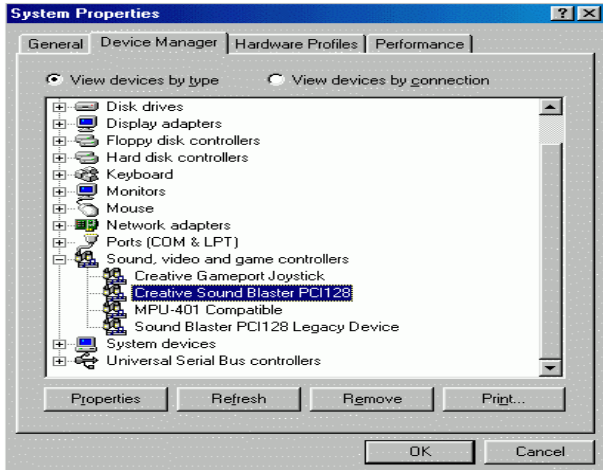
d. Press "Settings" item and then select the "Output Mode" item.
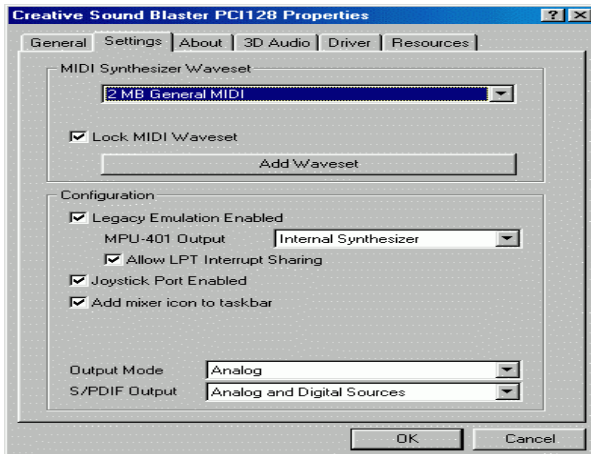
e. Click "Digital" item, Line Out will be change to SPDIF Out.
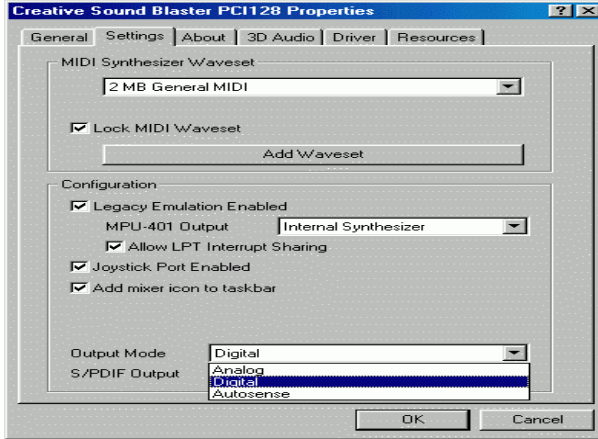
f. Recommend you to select "Autosense", it will auto detect the audio jack you plug in to Line Out is mono or stereo, and then change to SPDIF Out or Speaker out automatically.

Memory Installation

The motherboard has 3 dual inline memory module (DIMM) sockets. The BIOS will automatically detects memory type and size. To install the memory module, just push it vertically into the DIMM Slot .The DIMM module can only fit in one direction due to the two notch. Memory size can vary between sockets.

Install memory in any combination table:

DIMM	168-pin SDRAM DIMM Modules	
DIMM 1	Supports 16 / 32 / 64 / 128 / 256 / 512 MB	X 1 pcs
DIMM 2	Supports 16 / 32 / 64 / 128 / 256 / 512 MB	X 1 pcs
DIMM 3	Supports 16 / 32 / 64 /128 / 256 / 512 MB	X 1 pcs

Total System Memory (Max 1.5GB)

BIOS Setup

BIOS Setup is an overview of the BIOS Setup Program. The program that allows users to modify the basic system configuration. This type of information is stored in battery-backed CMOS RAM so that it retains the Setup information when the power is turned off.

ENTERING SETUP

Power ON the computer and press <Del> immediately will allow you to enter Setup. If the message disappears before you respond and you still wish to enter Setup, restart the system to try again by turning it OFF then ON or pressing the "RESET" bottom on the system case. You may also restart by simultaneously press <Ctrl> – <Alt>– <Del> keys.

CONTROL KEYS

<↑>	Move to previous item
<↓>	Move to next item
<←>	Move to the item in the left hand
<→>	Move to the item in the right hand
<Esc>	Main Menu - Quit and not save changes into CMOS
	Status Page Setup Menu and Option Page Setup Menu - Exit current page and return to Main Menu
<+/PgUp>	Increase the numeric value or make changes
<-/PgDn>	Decrease the numeric value or make changes
<F1>	General help, only for Status Page Setup Menu and Option Page Setup Menu
<F2>	Reserved
<F3>	Reserved
<F4>	Reserved
<F5>	Restore the previous CMOS value from CMOS, only for Option Page Setup Menu
<F6>	Load the default CMOS value from BIOS default table, only for Option Page Setup Menu
<F7>	Load the Setup Defaults.
<F8>	Reserved
<F9>	Reserved
<F10>	Save all the CMOS changes, only for Main Menu

GETTING HELP

Main Menu

The on-line description of the highlighted setup function is displayed at the bottom of the screen.

Status Page Setup Menu / Option Page Setup Menu

Press F1 to pop up a small help window that describes the appropriate keys to use and the possible selections for the highlighted item. To exit the Help Window press <Esc>.

The Main Menu

Once you enter AMI BIOS CMOS Setup Utility, the Main Menu (Figure 1) will appear on the screen. The Main Menu allows you to select from nine setup functions and two exit choices. Use arrow keys to select among the items and press <Enter> to accept or enter the sub-menu.

```
╔══════════════════════════════════════════════════════════════╗
║          AMIBIOS SIMPLE SETUP UTILITY - VERSION 1.23          ║
║        ( C ) 1999 American Megatrends, Inc. All Rights Reserved ║
╠══════════════════════════════════════════════════════════════╣
║  STANDARD CMOS SETUP          │  INTEGRATED PERIPHERALS        ║
║                               │                                ║
║  BIOS FEATURES SETUP          │  HARDWARE MONITOR SETUP        ║
║                               │                                ║
║  CHIPSET FEATURES SETUP       │  SUPERVISOR PASSWORD           ║
║                               │                                ║
║  POWER MANAGEMENT SETUP       │  USER PASSWORD                 ║
║                               │                                ║
║  PNP/PCI CONFIGURATION        │  IDE HDD AUTO DETECTION        ║
║                               │                                ║
║  LOAD BIOS DEFAULTS           │  SAVE & EXIT SETUP             ║
║                               │                                ║
║  LOAD SETUP DEFAULTS          │  EXIT WITHOUT SAVING           ║
╠══════════════════════════════════════════════════════════════╣
║  ESC : Quit    ↑↓←→ : Select Item   (Shift) F2 : Change Color   F5 : Old Values ║
║  F6 : Load BIOS Defaults      F7: Load Setup Defaults      F10: Save & Exit ║
╠══════════════════════════════════════════════════════════════╣
║                 Time, Date, Hard Disk Type, …                  ║
╚══════════════════════════════════════════════════════════════╝
```

Figure 1: Main Menu

- **Standard CMOS Setup**

    This setup page includes all the items in standard compatible BIOS.

- **BIOS Features Setup**

    This setup page includes all the items of AMI special enhanced features.

- **Chipset Features Setup**

  This setup page includes all the items of chipset special features.

- **Power Management Setup**

  This setup page includes all the items of Green function features.

- **PnP/PCI Configurations**

  This setup page includes all the configurations of PCI & PnP ISA resources.

- **Load BIOS Defaults**

  Bios Defaults indicates the value of the system parameter which the system would be in the safe configuration.

- **Load Setup Defaults**

  Setup Defaults indicates the value of the system parameter which the system would be in the most appropriate configuration.

- **Integrated Peripherals**

  This setup page includes all onboard peripherals.

- **Hardware Monitor Setup**

  This setup page is auto detect fan and temperature status.

- **Supervisor password**

  Change, set, or disable password. It allows you to limit access to the system and Setup, or just to Setup.

- **User password**

  Change, set, or disable password. It allows you to limit access to the system.

- **IDE HDD auto detection**

  Automatically configure hard disk parameters.

- **Save & Exit Setup**

  Save CMOS value settings to CMOS and exit setup.

- **Exit Without Saving**

  Abandon all CMOS value changes and exit setup.

Standard CMOS Setup

The items in Standard CMOS Features Menu (Figure 2) are divided into 9 categories. Each category includes no, one or more than one setup items. Use the arrows to highlight the item and then use the <PgUp> or <PgDn> keys to select the value you want in each item.

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

Date (mm/dd/yyyy) : Tue  Jan 25, 2000
Time (hh/mm/ss)  : 10:36:24
            TYPE   SIZE  CYLS  HEAD  PRECOMP  LANDZ  SECTOR  MODE

Pri Master   :  Auto
Pri Slave    :  Auto
Sec Master   :  Auto
Sec Slave    :  Auto

Floppy Drive A:  1.44 MB 3 ½        Base Memory : 640 Kb
Floppy Drive B:  Not Installed      Other Memory: 384 Kb
                                    Extended Memory: 63Mb
Boot Sector Virus Protection : Disabled   Total Memory: 64Mb

Month:   Jan – Dec                  ESC : Exit
  Day:     01  – 31                 ↑↓  : Select Item
 Year :  1990– 2099                 PU/PD/+/– : Modify
                                    (Shift)F2  : Color
```

Figure 2: Standard CMOS Setup

- **Date**

    The date format is <Week> <Month> <Day>, <Year>.

Week	The week, from Sun to Sat, determined by the BIOS and is display-only
Month	The month, Jan. Through Dec.
Day	The day, from 1 to 31 (or the maximum allowed in the month)
Year	The year, from 1990 through 2099

- **Time**

  The times format in <hour> <minute> <second>. The time is calculated base on the 24-hour military-time clock. For example, 1 p.m. is 13:00:00.

- **Primary Master, Slave / Secondary Master, Slave**

  The category identifies the types of hard disk from drive C to F that has been installed in the computer. There are two types: auto type, and user definable type. User type is user-definable; Auto type which will automatically detect HDD type.

  Note that the specifications of your drive must match with the drive table. The hard disk will not work properly if you enter improper information for this category.

  If you select User Type, related information will be asked to enter to the following items. Enter the information directly from the keyboard and press <Enter>. Such information should be provided in the documentation form your hard disk vendor or the system manufacturer.

CYLS.	Number of cylinders
HEADS	number of heads
PRECOMP	write precomp
LANDZONE	Landing zone
SECTORS	number of sectors

  If a hard disk has not been installed select NONE and press <Enter>.

- **Floppy Drive A / Drive B**

  The category identifies the types of floppy disk drive A or drive B that has been installed in the computer.

Not Installed	No floppy drive installed
360K, 5.25 in.	5.25 inch PC-type standard drive; 360K byte capacity.
1.2M, 5.25 in.	5.25 inch AT-type high-density drive; 1.2M byte capacity (3.5 inch when 3 Mode is Enabled).
720K, 3.5 in.	3.5 inch double-sided drive; 720K byte capacity
1.44M, 3.5 in.	3.5 inch double-sided drive; 1.44M byte capacity.
2.88M, 3.5 in.	3.5 inch double-sided drive; 2.88M byte capacity.

- **Boot Sector Virus Protection**

    If it is set to enable, the category will flash on the screen when there is any attempt to write to the boot sector or partition table of the hard disk drive. The system will halt and the following error message will appear in the mean time. You can run anti-virus program to locate the problem.

Enabled	Activate automatically when the system boots up causing a warning message to appear when anything attempts to access the boot sector or hard disk partition table
Disabled	No warning message to appear when anything attempts to access the boot sector or hard disk partition table. **(Default Value)**

- **Memory**

    The category is display-only which is determined by POST (Power On Self Test) of the BIOS.

    Base Memory

    > The POST of the BIOS will determine the amount of base (or conventional) memory installed in the system.

    > The value of the base memory is typically 512 K for systems with 512 K memory installed on the motherboard, or 640 K for systems with 640 K or more memory installed on the motherboard.

    Extended Memory

    > The BIOS determines how much extended memory is present during the POST.

    > This is the amount of memory located above 1 MB in the CPU's memory address map.

    Other Memory

    > This refers to the memory located in the 640 K to 1024 K address space. This is memory that can be used for different applications.

    > DOS uses this area to load device drivers to keep as much base memory free for application programs. Most use for this area is Shadow RAM

BIOS Features Setup

```
╔═══════════════════════════════════════════════════════════════╗
           AMIBIOS SETUP – BIOS FEATURES SETUP
    ( C ) 1999 American Megatrends, Inc. All Rights Reserved
╠═══════════════════════════════════════════════════════════════╣
 1st Boot Device              Floppy
 2nd Boot Device              IDE-0
 3rd Boot Device              CDROM
 S.M.A.R.T. for Hard Disks    Disabled
 BootUp Num-Lock              On
 Floppy Drive Seek            Enabled
 Password Check               Setup



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

Figure 3: BIOS Features Setup

- **1st / 2nd / 3rd Boot Device**

Floppy	Boot Device by Floppy.
ZIP A: / LS120	Boot Device by ZIP A: / LS120.
CDROM	Boot Device by CDROM.
SCSI	Boot Device by SCSI.
NETWORK	Boot Device by NETWORK.
IDE-0~IDE-3	Boot Device by IDE-0~IDE-3.
USB FDD	Boot Device by USB FDD.
Disabled	Boot Device by Disabled.
ATAPI ZIP C:	Boot Device by ATAPI ZIP C:.

- **S.M.A.R.T. for Hard Disks**

Enabled	Enabled S.M.A.R.T. Hard for Disks.
Disabled	Disabled S.M.A.R.T. Hard for Disks. **(Default Value)**

- **Boot Up Num-Lock**

On	Keypad is number keys. **(Default Value)**
Off	Keypad is arrow keys.

- **Floppy Drive Seek**

During POST, BIOS will determine if the floppy disk drive installed is 40 or 80 tracks. 360 type is 40 tracks while 720 , 1.2 and 1.44 are all 80 tracks.

Enabled	BIOS searches for floppy disk drive to determine if it is 40 or 80 tracks. Note that BIOS can not tell from 720, 1.2 or 1.44 drive type as they are all 80 tracks. **(Default Value)**
Disabled	BIOS will not search for the type of floppy disk drive by track number. Note that there will not be any warning message if the drive installed is 360.

- **Password Check**

Setup	Set Password Check to Setup. **(Default Value)**
Always	Set Password Check to Always.

Chipset Features Setup

```
              AMIBIOS SETUP – CHIPSET FEATURES SETUP
            ( C ) 1999 American Megatrends, Inc. All Rights Reserved
  *********DRAM Timing***              CAS# Drive              12 mA
  Top Performance          Disabled   RAS# Drive              24 mA
  DRAM Frequency           100MHz
  SDRAM CAS# Latency       3

  AGP Mode                 4X
  AGP Comp. Driving        Auto
  Manual AGP Comp. Driving DB
  AGP Aperture Size        64MB
  PCI Delay Transaction    Enabled
  USB Controller           Enabled
  USB Legacy Support       Disabled
  BIOS Flash Protection    Disabled
  DRAM Drive Strength      Auto
   MD Bus Strength         High
   CAS Bus Strength        High      ESC : Quit          ↑↓→ ←: Select Item
   Delay DRAM Read Latch   1.0ns     F1   : Help          PU/PD+/-/ : Modify
   Memory Data Drive       8 mA      F5   :Old  Values      (Shift)F2:Color
   SDRAM Command Drive     24 mA     F6   : Load BIOS Defaults
   Memory Address Drive    24 mA     F7   : Load SETUP Defaults
```

Figure 4: Chipset Features Setup

- **Top Performance**

   If you wish to maximize the performance of your system, set "Top Performance" as

   "Enabled".

Disabled	Top Performance Disabled. **(Default Value)**
Enabled	Top Performance Enabled.

- **DRAM Frequency**

100MHz	Set DRAM Frequency to 100MHz. **(Default Value)**
133MHz	Set DRAM Frequency to 133MHz.

- **SDRAM CAS# Latency**

2	For Fastest SDRAM DIMM module.
3	For Slower SDRAM DIMM module. **(Default Value)**
Auto	Detect SDRAM CAS# Latency by SPD.

- **AGP Mode**

4X	Set AGP Mode to 4X. **(Default Value)**
1X	Set AGP Mode to 1X.
2X	Set AGP Mode to 2X.

- **AGP Comp. Driving**

Auto	Set AGP Comp. Driving is Auto. **(Default Value)**
Manual	Set AGP Comp. Driving is Manual.

If AGP Comp. Driving is Manual.

Manual AGP Comp. Driving :	00~FF

- **AGP Aperture Size**

4MB	Set AGP Aperture Size to 4MB.
8MB	Set AGP Aperture Size to 8 MB.
16MB	Set AGP Aperture Size to 16 MB.
32MB	Set AGP Aperture Size to 32 MB.
64MB	Set AGP Aperture Size to 64 MB. **(Default Value)**
128MB	Set AGP Aperture Size to 128 MB.
256MB	Set AGP Aperture Size to 256 MB.

- **PCI Delay Transaction**

Enabled	Enabled Delay Transaction. **(Default Value)**
Disabled	Disabled Delay Transaction.

- **USB Controller**

Enabled	Enabled USB Controller. **(Default Value)**
Disabled	Disabled USB Controller.

- **USB Legacy Support**

Keyboard/FDD	Set USB Legacy Support Keyboard / Floppy.
KB/Mouse/FDD	Set USB Legacy Support Keyboard / Mouse / Floppy.
Disabled	Disabled USB Legacy Support Function**. (Default Value)**

- **BIOS Flash Protection**

Enabled	BIOS Flash Write Protection.
Disabled	Normal. **(Default Value)**

- **DRAM Drive Strength**

Auto	Set DRAM Drive Strength to Auto. **(Default Value)**
Manual	Set DRAM Drive Strength to Manual.

If DRAM Drive Strength is Manual, then you can adjust item below.

- **MD Bus Strength**

High	Set MD Bus Strength to High. **(Default Value)**
Low	Set MD Bus Strength to Low.

- **CAS Bus Strength**

High	Set CAS Bus Strength to High. **(Default Value)**
Low	Set CAS Bus Strength to High.

- **Delay DRAM Read Latch**

1.0ns	Set DRAM Read Latch Delay to 1.0ns. **(Default Value)**
1.5ns	Set DRAM Read Latch Delay to 1.5ns.
0.5ns	Set DRAM Read Latch Delay to 0.5ns.
No delay	Set DRAM Read Latch to No delay.

- **Memory Data Drive**

6 mA	Set Memory Data Drive to 6 mA.
8 mA	Set Memory Data Drive to 8 mA. **(Default Value)**

- **SDRAM Command Drive**

16 mA	Set SDRAM Command Drive to 16 mA.
24 mA	Set SDRAM Command Drive to 24 mA. **(Default Value)**

- **Memory Address Drive**

16 mA	Set Memory Address Drive to 16 mA.
24 mA	Set Memory Address Drive to 24 mA. **(Default Value)**

- **CAS# Drive**

8 mA	Set CAS# Drive to 8 mA.
12 mA	Set CAS# Drive to 12 mA. **(Default Value)**

- **RAS# Drive**

16 mA	Set RAS# Drive to 16 mA.
24 mA	Set RAS# Drive to 24 mA. **(Default Value)**

Power Management Setup

```
..........................................................................................
             AMIBIOS SETUP – POWER MANAGEMENT SETUP
          ( C ) 1999 American Megatrends, Inc. All Rights Reserved
┌────────────────────────────────────────┬───────────────────────────────────┐
│ ACPI Sleep Type              S1/POS     │ RTC Alarm Date          Every Day │
│ USB Dev Wakeup From S3-S5    Disabled   │ RTC Alarm Hour          00        │
│ Suspend Time Out(Minute)     Disabled   │ RTC Alarm Minute        00        │
│ Display Activity             Ignore     │ RTC Alarm Second        00        │
│ IRQ3                         Monitor    │                                   │
│ IRQ4                         Monitor    │                                   │
│ IRQ5                         Ignore     │                                   │
│ IRQ7                         Monitor    │                                   │
│ IRQ9                         Ignore     │                                   │
│ IRQ10                        Ignore     │                                   │
│ IRQ11                        Ignore     │                                   │
│ IRQ13                        Ignore     │                                   │
│ IRQ14                        Monitor    │                                   │
│ IRQ15                        Ignore     │                                   │
│ Soft-Off by Power Button     Instant-Off│                                   │
│ System after AC Back         Soft-Off   │ ESC : Quit        ↑↓→ ←: Select Item│
│ Modem Use IRQ                4          │ F1  : Help        PU/PD+/-/ : Modify│
│ Resume On Ring/LAN           Enabled    │ F5  :Old Values      (Shift)F2:Color│
│ PME Event Wake Up            Enabled    │ F6   : Load BIOS Defaults          │
│ Resume On RTC Alarm          Disabled   │ F7   : Load SETUP Defaults         │
└────────────────────────────────────────┴───────────────────────────────────┘
```

Figure 5: Power Management Setup

- **ACPI Sleep Type**

S1/POS	Set ACPI sleep type to S1. **(Default Value)**
S3/STR	Set ACPI sleep type to S3.

- **USB Dev Wakeup From S3-S5**

Enabled	Enabled USB Dev Wakeup From S3-S5.
Disabled	Disabled USB Dev Wakeup From S3-S5. **(Default Value)**

- **Suspend Time Out (Minute.)**

Disabled	Disabled Suspend Time Out Function. **(Default Value)**
1	Enabled Suspend Time Out after 1min.
2	Enabled Suspend Time Out after 2min.
4	Enabled Suspend Time Out after 4min.
8	Enabled Suspend Time Out after 8min.
10	Enabled Suspend Time Out after 10min.
20	Enabled Suspend Time Out after 20min.
30	Enabled Suspend Time Out after 30min.
40	Enabled Suspend Time Out after 40min.

50	Enabled Suspend Time Out after 50min.
60	Enabled Suspend Time Out after 60min.

- **Display Activity**

Ignore	Ignore Display Activity. **(Default Value)**
Monitor	Monitor Display Activity.

- **IRQ 3~IRQ15**

Ignore	Ignore IRQ3 ~IRQ15.
Monitor	Monitor IRQ3~IRQ15.

- **Soft-off by Power Button**

Instant-off	Press power button then Power off instantly. **(Default Value)**
Delay 4 sec	Press power button 4 sec to Power off. Enter suspend if button is pressed less than 4 sec.

- **System after AC Back**

Memory	System power on depends on the status before AC lost.
Soft-Off	Always in Off state when AC back. **(Default value)**
Full-On	Always power on the system when AC back.

- **Modem USE IRQ**

3, 4, 5, 7, N/A. **(Default Value: 4)**

- **Resume On Ring / LAN**

Disabled	Disabled Resume On Ring / LAN.
Enabled	Enabled Resume On Ring / LAN. **(Default Value)**

- **PME Event Wake Up**

Disabled	Disabled PME Event Wake Up.
Enabled	Enabled PME Event Wake Up. **(Default Value)**

- **Resume On RTC Alarm**

    You can set "Resume On RTC Alarm" item to enabled and key in Data/time to power on system.

Disabled	Disabled this function. **(Default Value)**
Enabled	Enabled alarm function to POWER ON system.

    If the "Resume On RTC Alarm" is Enabled.

RTC Alarm Date :	Every Day, 1~31
RTC Alarm Hour:	0~23
RTC Alarm Minute :	0~59
RTC Alarm Second :	0~59

PNP/PCI Configuration

```
╔══════════════════════════════════════════════════════════════════╗
            AMIBIOS SETUP – PNP / PCI CONFIGURATION
         ( C ) 1999 American Megatrends, Inc. All Rights Reserved
┌──────────────────────────────────┬──────────────────────────────┐
│ PnP OS Installed          No      │                              │
│ Reset Configuration Data  No      │                              │
│ VGA Boot from             PCI     │                              │
│ PCI VGA Palette Snoop     Disabled│                              │
│                                   │                              │
│                                   │                              │
│                                   │                              │
│                                   │                              │
│                                   │                              │
│                                   ├──────────────────────────────┤
│                                   │ ESC: Quit   ↑↓→ ←: Select Item│
│                                   │ F1  : Help  PU/PD+/-/ : Modify│
│                                   │ F5  :Old Values (Shift)F2:Color│
│                                   │ F6  : Load BIOS Defaults      │
│                                   │ F7  : Load SETUP Defaults     │
└──────────────────────────────────┴──────────────────────────────┘
```

Figure 6: PNP/PCI Configuration

- **PnP OS Installed**

Yes	Enable PNP OS Installed function.
No	Disable PNP OS Installed function. **(Default Value)**

- **Reset Configuration Data**

No	Disable this function. **(Default Value)**
Yes	Clear PnP information in ESCD & update DMI data.

- **VGA Boot from**

AGP	Primary Graphics Adapter from AGP.
PCI	Primary Graphics Adapter from PCI. **(Default Value)**

- **PCI VGA Palette Snoop**

Enabled	For having Video Card on ISA Bus and VGA Card on PCI Bus.
Disabled	For VGA Card only. **(Default Value)**

Load BIOS Defaults

```
┌─────────────────────────────────────────────────────────────┐
│           AMIBIOS SIMPLE SETUP UTILITY-VERSION 1.23           │
│      ( C ) 1999 American Megatrends, Inc. All Rights Reserved │
├─────────────────────────────────────────────────────────────┤
│  STANDARD CMOS SETUP          INTEGRATED PERIPHERALS          │
│                                                               │
│  BIOS FEATURES SETUP          HARDWARE MONITOR SETUP          │
│                                                               │
│  CHIPSET FEATURES SETUP       SUPERVISOR PASSWORD             │
│                                                               │
│  POWER MANAGEMENT SETUP       USER PASSWORD                   │
│                                                               │
│  PNP/PCI CONFIGU        Load BIOS Defaults (Y/N)? N   TION    │
│                                                               │
│  LOAD BIOS DEFAULTS           SAVE & EXIT SETUP               │
│                                                               │
│  LOAD SETUP DEFAULTS          EXIT WITHOUT SAVING             │
├─────────────────────────────────────────────────────────────┤
│  ESC : Quit      ↑↓→← : Select Item  (Shift) F2 : Change Color   F5 : Old Values │
│  F6 : Load BIOS Defaults      F7: Load Setup Defaults   F10: Save & Exit │
├─────────────────────────────────────────────────────────────┤
│           Load BIOS Default except Standard CMOS Setup        │
└─────────────────────────────────────────────────────────────┘
```

Figure 7: Load BIOS Defaults

- **Load BIOS Defaults**

  BIOS defaults contain the most appropriate values of the system parameters that allow minimum system performance.

Load Setup Defaults

```
┌─────────────────────────────────────────────────────────────────────┐
│              AMIBIOS SIMPLE SETUP UTILITY-VERSION 1.23                │
│            ( C ) 1999 American Megatrends, Inc. All Rights Reserved   │
├──────────────────────────────────┬──────────────────────────────────┤
│  STANDARD CMOS SETUP             │  INTEGRATED PERIPHERALS           │
│                                  │                                   │
│  BIOS FEATURES SETUP             │  HARDWARE MONITOR SETUP           │
│                                  │                                   │
│  CHIPSET FEATURES SETUP          │  SUPERVISOR PASSWORD              │
│                                  │                                   │
│  POWER MANAGEMENT SETUP          │  USER PASSWORD                    │
│                                  │                                   │
│  PNP/PCI CONFIGU   Load SETUP Defaults (Y/N)? N   CTION              │
│                                  │                                   │
│  LOAD BIOS DEFAULTS              │  SAVE & EXIT SETUP                │
│                                  │                                   │
│  LOAD SETUP DEFAULTS             │  EXIT WITHOUT SAVING              │
├──────────────────────────────────┴──────────────────────────────────┤
│  ESC : Quit     ↑↓→← : Select Item   (Shift) F2 : Change Color   F5 : Old Values │
│  F6 : Load  BIOS Defaults       F7: Load  Setup  Defaults    F10:  Save  & Exit │
├─────────────────────────────────────────────────────────────────────┤
│             Load Setup Default except Standard CMOS Setup             │
└─────────────────────────────────────────────────────────────────────┘
```

Figure 8: Load Setup Defaults

- **Load Setup Defaults**

  Selecting this field loads the factory defaults for BIOS and Chipset Features which the system automatically detects.

Integrated Peripherals

```
.......................................................................................................
:               AMIBIOS SETUP – INTEGRATED PERIPHERALS                :
:           ( C ) 1999 American Megatrends, Inc. All Rights Reserved    :
.......................................................................................................
┌───────────────────────────────────────┬────────────────────────────────┐
│ OnBoard Serial Port A      Auto         │                                 │
│ OnBoard Serial Port B      Auto         │                                 │
│  Serial PortB Mode         Normal       │                                 │
│  ✳Duplex Mode             N/A          │                                 │
│ OnBoard Parallel Port      Auto         │                                 │
│  Parallel Port Mode        ECP          │                                 │
│  Parallel Port DMA         Auto         │                                 │
│  Parallel Port IRQ         Auto         │                                 │
│ AC97 Audio                 Auto         │                                 │
│ MC97 Modem                 Auto         │                                 │
│                                         │                                 │
│                                         ├────────────────────────────────┤
│                                         │ ESC: Quit      ↑↓→ ←: Select Item│
│                                         │ F1  : Help      PU/PD+/-/ : Modify│
│                                         │ F5  :Old  Values  (Shift)F2:Color │
│                                         │ F6  : Load BIOS Defaults          │
│                                         │ F7  : Load SETUP Defaults         │
└───────────────────────────────────────┴────────────────────────────────┘
```

Figure 9: Integrated Peripherals

✳This item will be available when "Serial PortB Mode" is set to IrDA or ASK IR.

- **OnBoard Serial Port A**

Auto	BIOS will automatically setup the port A address. **(Default Value)**
3F8/COM1	Enabled on Board Serial port A and address is 3F8.
2F8/COM2	Enabled on Board Serial port A and address is 2F8.
3E8/COM3	Enabled on Board Serial port A and address is 3E8.
2E8/COM4	Enabled on Board Serial port A and address is 2E8.
Disabled	Disabled on Board Serial port A.

- **OnBoard Serial Port B**

Auto	BIOS will automatically setup the port B address. **(Default Value)**
3F8/COM1	Enabled on Board Serial port B and address is 3F8.
2F8/COM2	Enabled on Board Serial port B and address is 2F8.
3E8/COM3	Enabled on Board Serial port B and address is 3E8.
2E8/COM4	Enabled on Board Serial port B and address is 2E8.
Disabled	Disabled on Board Serial port B.

- **Serial Port B Mode**

Normal	Normal operation. **(Default Value)**
IrDA	Onboard I/O chip supports IrDA.
ASK IR	Onboard I/O chip supports ASK IR.

- **Duplex Mode**

Half Duplex	Half Duplex IR function.
N/A	Disabled this function. **(Default Value)**
Full Duplex	Full Duplex IR function.

- **OnBoard Parallel port**

378	Enabled On Board LPT port and address is 378.
278	Enabled On Board LPT port and address is 278.
3BC	Enabled On Board LPT port and address is 3BC.
Auto	Set On Board LPT port is Auto. **(Default Value)**
Disabled	Disabled On Board LPT port.

- **Parallel Port Mode**

EPP	Using Parallel port as Enhanced Parallel Port.
ECP	Using Parallel port as Extended Capabilities Port. **(Default Value)**
Normal	Normal Operation.
EPP+ECP	Using Parallel port as Enhanced Parallel Port & Extended Capabilities Port.

- **Parallel Port DMA**

Auto	Set Auto to parallel port mode DMA Channel. **(Default Value)**
3	Set Parallel Port DMA to 3.
1	Set Parallel Port DMA to 1.
0	Set Parallel Port DMA to 0.

- **Parallel Port IRQ**

7	Set Parallel Port IRQ to 7.
Auto	Set Auto to parallel Port IRQ DMA Channel. **(Default Value)**
5	Set Parallel Port IRQ to 5.

- **AC97 Audio**

Auto	Enabled On Board AC97 Audio. **(Default Value)**
Disabled	Disabled On Board AC97 Audio.

- **MC97 Modem**

Auto	Enabled On Board MC97 Modem. **(Default Value)**
Disabled	Disabled On Board MC97 Modem.

Hardware Monitor

```
AMIBIOS SETUP – HARDWARE MONITOR SETUP
( C ) 1999 American Megatrends, Inc. All Rights Reserved
```

Hardware Monitor	
CPU Temperature	54°C/129°F
System Temperature	36°C/96°F
CPU Fan Speed	7123 RPM
System Fan Speed	0 RPM
Vcore	1.70 V
Vdd	3.28 V
Vcc3	3.20 V
+5.000V	4.97 V
+12.000V	12.06 V

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

Figure 10: Hardware Monitor

- **CPU Temperature (°C / °F)**

  Detect CPU Temperature automatically.

- **System Temperature (°C / °F)**

  Detect System Temperature automatically.

- **CPU Fan Speed**

  Detect CPU Fan speed status automatically.

- **System Fan Speed**

  Detect System Fan speed status automatically.

- **Current Voltage (V) Vcore / Vdd / Vcc3 / +5V / +12V**

  Detect system's voltage status automatically.

Set Supervisor / User Password

When you select this function, the following message will appear at the center of the screen to assist you in creating a password.

```
┌─────────────────────────────────────────────────────────────┐
│          AMIBIOS SIMPLE SETUP UTILITY-VERSION 1.23           │
│       ( C ) 1999 American Megatrends, Inc. All Rights Reserved │
├──────────────────────────────┬──────────────────────────────┤
│  STANDARD CMOS SETUP         │  INTEGRATED PERIPHERALS       │
│                              │                               │
│  BIOS FEATURES SETUP         │  HARDWARE MONITOR SETUP       │
│                              │                               │
│  CHIPSET FEATURES SETUP      │  SUPERVISOR PASSWORD          │
│                              │                               │
│  POWER MANAGEMENT SETUP      │  USER PASSWORD                │
│                              │                               │
│  PNP/PCI CONFIGUR      Enter new supervisor password:    ON  │
│                                                              │
│  LOAD BIOS DEFAULTS           SAVE & EXIT SETUP              │
│                              │                               │
│  LOAD SETUP DEFAULTS         │  EXIT WITHOUT SAVING          │
├──────────────────────────────┴──────────────────────────────┤
│  ESC : Quit      ↑↓→← : Select Item    (Shift) F2 : Change Color    F5 : Old Values │
│  F6 : Load BIOS Defaults      F7: Load Setup Defaults    F10: Save & Exit │
├─────────────────────────────────────────────────────────────┤
│              Chang /Set /Disabled Password                   │
└─────────────────────────────────────────────────────────────┘
```
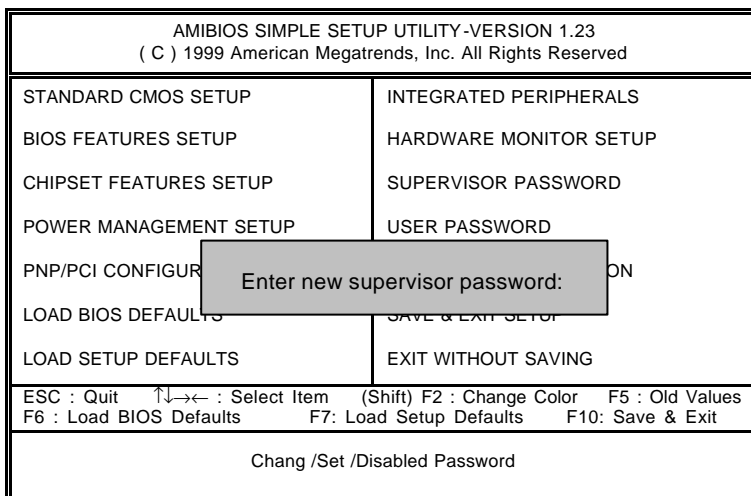
Figure 11: Password Setting

Type the password, up to eight characters, and press <Enter>. The password typed now will clear the previously entered password from CMOS memory. You will be asked to confirm the password. Type the password again and press <Enter>. You may also press <Esc> to abort the selection and not enter a password.

To disable password, just press <Enter> when you are prompted to enter password. A message "PASSWORD DISABLED" will appear to   confirm the password being disabled. Once the password is disabled, the system will boot and you can enter Setup freely.

If you select "Always" at "Password Check" Option in BIOS Features Setup Menu, you will be prompted for the password every time the system is rebooted or any time you try to enter Setup Menu. If you select "Setup" at "Password Check" Option in BIOS Features Setup Menu, you will be prompted only when you try to enter Setup.

IDE HDD AUTO Detection

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

Date (mm/dd/yyyy) : Tue Jan 25, 2000
Time (hh/mm/ss)  : 10:36:24
       TYPE    SIZE  CYLS  HEAD  PRECOMP  LANDZ SECTOR   MODE

Pri Master  : Not Installed
Pri Slave   : Not Installed
Sec Master : Not Installed
Sec Slave  : Not Installed

Floppy Drive A:  1.44 MB 3 ½          Base Memory : 640 Kb
Floppy Drive B:  Not Installed        Other Memory: 384 Kb
                                      Extended Memory: 63Mb
Boot Sector Virus Protection : Disabled   Total Memory: 64Mb

Month:    Jan – Dec                   ESC : Exit
  Day:     01  – 31                   ↑↓ : Select Item
 Year :  1990– 2099                   PU/PD/+/–  : Modify
                                       (Shift)F2    : Color
```

Figure 12: IDE HDD Auto Detection

Type "Y" will accept the H.D.D. parameter reported by BIOS.

Type "N" will keep the old H.D.D. parameter setup. If the hard disk cylinder number is over 1024, then the user can select LBA mode or LARGER mode for DOS partition larger than 528 MB.

Save & Exit Setup

```
┌─────────────────────────────────────────────────────────────────┐
│           AMIBIOS SIMPLE SETUP UTILITY-VERSION 1.23               │
│        ( C ) 1999 American Megatrends, Inc. All Rights Reserved   │
├────────────────────────────────┬────────────────────────────────┤
│ STANDARD CMOS SETUP            │ INTEGRATED PERIPHERALS          │
│                                │                                 │
│ BIOS FEATURES SETUP            │ HARDWARE MONITOR SETUP          │
│                                │                                 │
│ CHIPSET FEATURES SETUP         │ SUPERVISOR PASSWORD             │
│                                │                                 │
│ POWER MANAGEMENT SETUP         │ USER PASSWORD                   │
│                                │                                 │
│ PNP/PCI CONFI┌──────────────────────────────┐TION              │
│              │ SAVE to CMOS and EXIT(Y/N)? Y │                  │
│ LOAD BIOS DEF│                              │                  │
│              └──────────────────────────────┘                  │
│ LOAD SETUP DEFAULTS            │ EXIT WITHOUT SAVING             │
├────────────────────────────────┴────────────────────────────────┤
│ ESC : Quit    ↑↓→← : Select Item    (Shift) F2 : Change Color  F5 : Old Values │
│ F6 : Load BIOS Defaults        F7: Load Setup Defaults    F10: Save & Exit │
├─────────────────────────────────────────────────────────────────┤
│                   Save Data to CMOS & Exit Setup                  │
└─────────────────────────────────────────────────────────────────┘
```

Figure 13: Save & Exit Setup

Type "Y" will quit the Setup Utility and save the user setup value to RTC CMOS.

Type "N" will return to Setup Utility.

Exit Without Saving

```
┌─────────────────────────────────────────────────────────────────┐
│          AMIBIOS SIMPLE SETUP UTILITY-VERSION 1.23                │
│      ( C ) 1999 American Megatrends, Inc. All Rights Reserved     │
├─────────────────────────────────┬─────────────────────────────────┤
│  STANDARD CMOS SETUP            │  INTEGRATED PERIPHERALS         │
│                                 │                                 │
│  BIOS FEATURES SETUP            │  HARDWARE MONITOR SETUP         │
│                                 │                                 │
│  CHIPSET FEATURES SETUP         │  SUPERVISOR PASSWORD            │
│                                 │                                 │
│  POWER MANAGEMENT SETUP         │  USER PASSWORD                  │
│                                 │                                 │
│  PNP/PCI CONFIG       ┌──────────────────────────┐    CTION       │
│                       │  Quit without saving (Y/N) ? N │            │
│  LOAD BIOS DEFA       └──────────────────────────┘                 │
│                                 │                                 │
│  LOAD SETUP DEFAULTS            │  EXIT WITHOUT SAVING            │
├─────────────────────────────────┴─────────────────────────────────┤
│  ESC : Quit      ↑↓→← : Select Item   (Shift) F2 : Change Color    F5 : Old Values │
│  F6 : Load BIOS Defaults        F7: Load Setup Defaults      F10: Save & Exit │
├───────────────────────────────────────────────────────────────────┤
│                  Abandon all Datas & Exit Setup                   │
└───────────────────────────────────────────────────────────────────┘
```

Figure 14: Exit Without Saving

Type "Y" will quit the Setup Utility without saving to RTC CMOS.

Type "N" will return to Setup Utility.

Appendix

Appendix A : VIA Chipsets Driver Installation

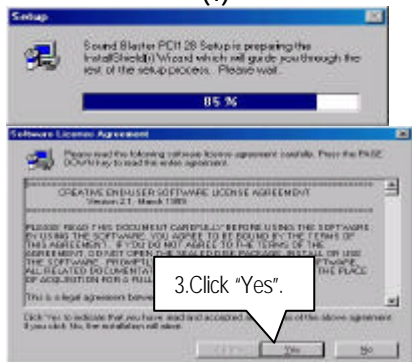### A.VIA 4 in 1 Service Pack Utility:

Insert the support CD that came with your motherboard into your CD-ROM driver or double –click the CD driver icon in My Computer to bring up the screen.
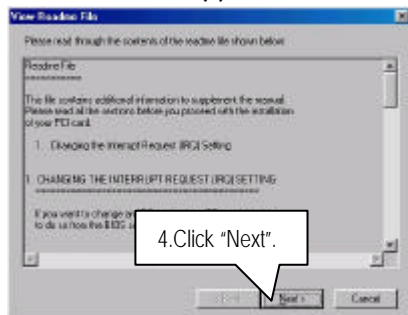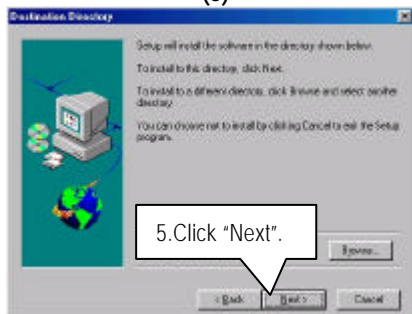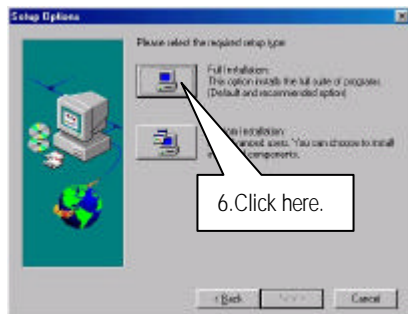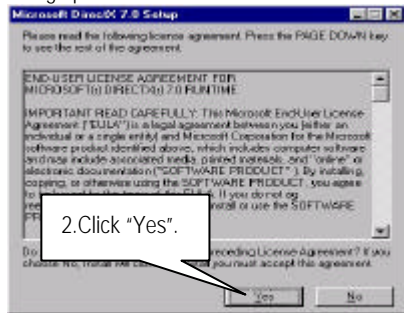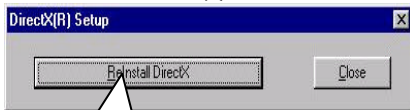

1.Click "VIA 4in 1 Service Pack Utility" item.

(1)

2.Click "Next".

(2)

3.Click "Yes".

(3)

4.Click "Next".

(4)

5.Click "Next".

(5)

6.Click "Next".

(6)

(7)

(8)

(9)

(10)

7.Click "Next".

8.Click "Next".

9.Click "Next".

10.Click "Finish" to restart computer.
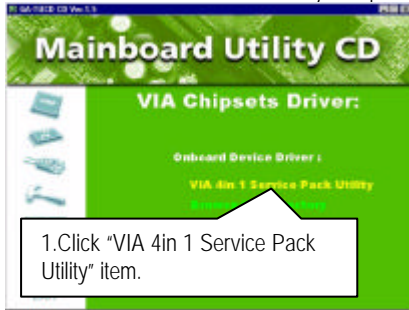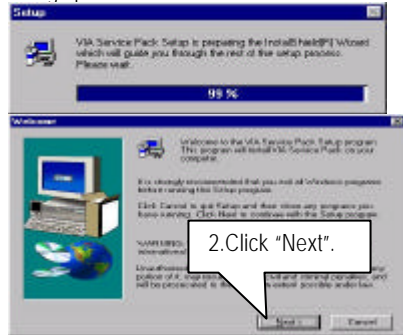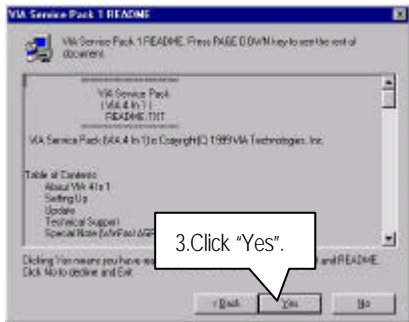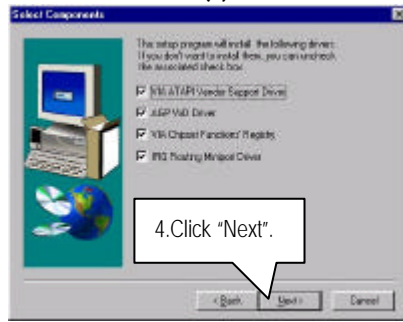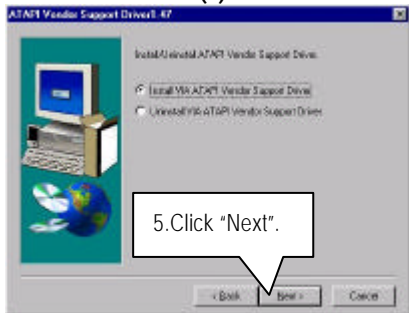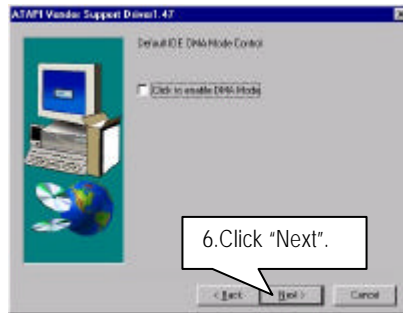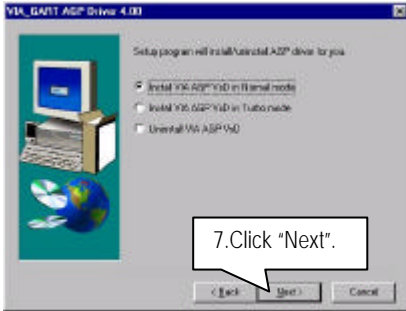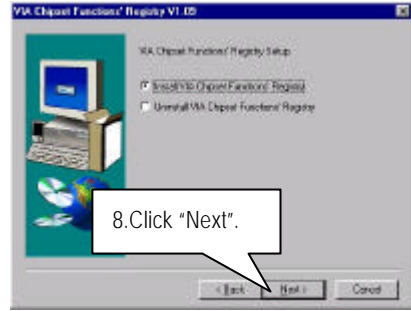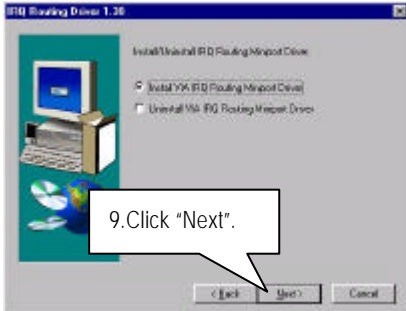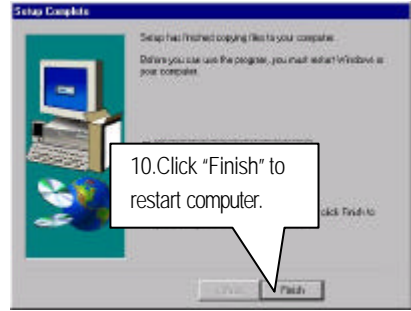
Appendix B: Creative Sound Driver Installation

Insert the support CD that came with your motherboard into your CD-ROM driver or double –click the CD driver icon in My Computer to bring up the screen.
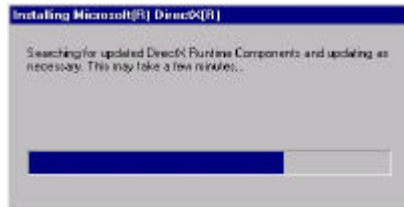

Audio

1.Click "Creative 5880 Sound Driver".

(1)

2.Click "OK".

(2)

3.Click "Yes".

(3)

4.Click "Next".

(4)

5.Click "Next".

(5)

6.Click here.

(6)

(7)

7.Click "Finish" to restart computer.
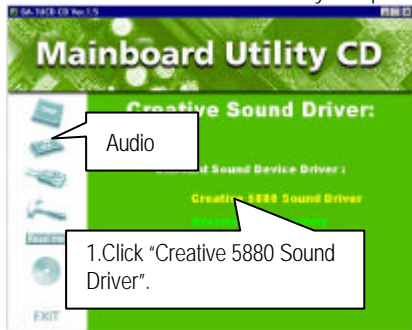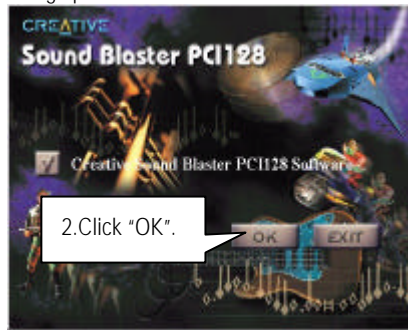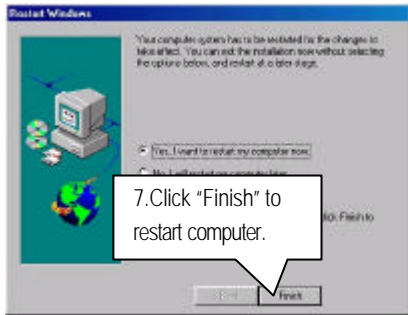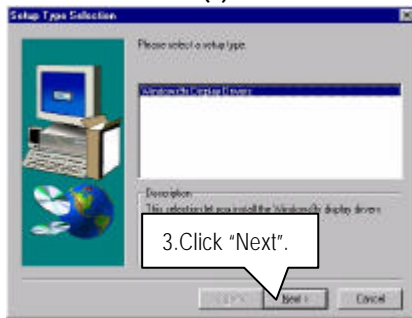
(8)

Appendix C: Install DirextX 7.0

Insert the support CD that came with your motherboard into your CD-ROM driver or double –click the CD driver icon in My Computer to bring up the screen.

NVIDIA Series Graphics Accelerator

Install Display Drivers
Install DirextX 7.0
Browse this
Rea

1.Click "Install DirextX 7.0".

Exit

(1)

Microsoft DirectX 7.0 Setup

Please read the following license agreement. Press the PAGE DOWN key to see the rest of the agreement.

2.Click "Yes".

(2)

DirectX(R) Setup

ReInstall DirectX   Close

(3)

3.Click "ReInstall DirectX".

Installing Microsoft(R) DirectX(R)

Searching for updated DirectX Runtime Components and updating as necessary. This may take a few minutes.

(4)

DirectX

4.Click "OK" to restart.

OK

(5)

Appendix D: Install Display Drivers

Insert the support CD that came with your motherboard into your CD-ROM driver or double –click the CD driver icon in My Computer to bring up the screen.
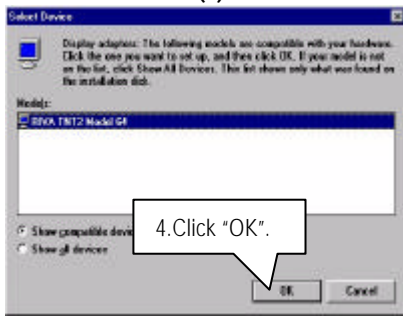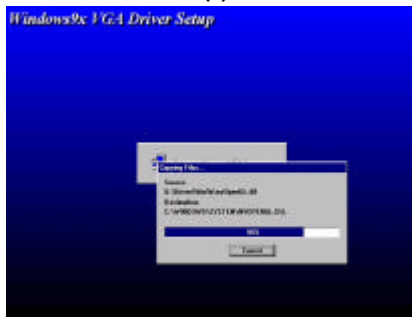

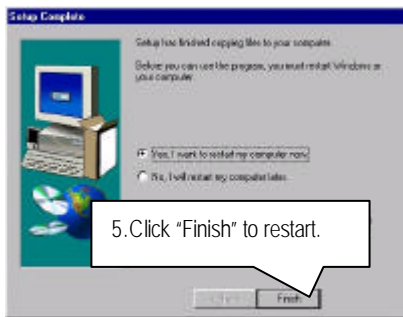**NVIDIA Series Graphics Accelerator**

- Install Display Drivers
- Install DirectX
- Browse this
-
- Exit

1.Click "Install Display Driver".

(1)

2.Click "Next".

(2)

3.Click "Next".

(3)

4.Click "OK".

(4)

Windows9x VGA Driver Setup

(5)

5.Click "Finish" to restart.
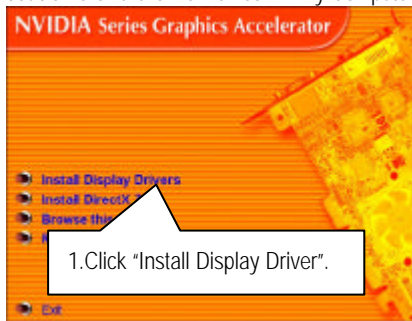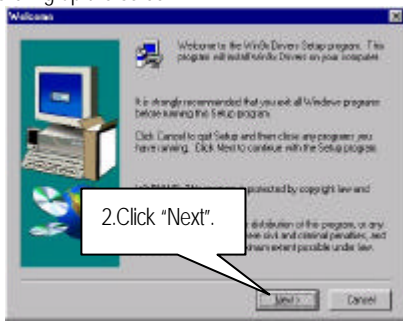
(6)

Appendix E: BIOS Flash Procedure

BIOS update procedure:

✓ Please check your BIOS vendor (AMI or AWARD) on the motherboard.

✓ It is recommended you copy the AWDFlash.exe or AMIFlash.exe in driver CD (D:\>Utility\BIOSFlash) and the BIOS binary files into the directory you made in your hard disk. i.e:C:\>Utility\ (C:\>Utility : denotes the driver and the directory where you put the flash utilities and BIOS file in.)

✓ Restart your computer into MS-DOS mode or command prompt only for Win95/98, go into the directory where the new BIOS file are located use the utility AWDFlash.exe or AMIFlash.exe to update the BIOS.

✓ Type the following command once you have enter the directory where all the files are located C:\utility\ AWDFlash or AMIFlash <filename of the BIOS binary file intended for flashing>

✓ Once the process is finished, reboot the system

☛Note: Please download the newest BIOS from our website (www.gigabyte.com.tw) or contact your local dealer for the file.

Appendix F: Issues To Beware Of When Installing AMR

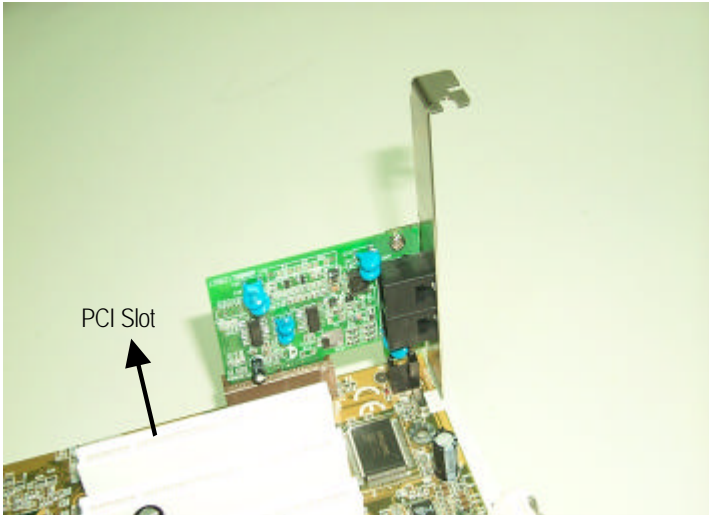Please use inverse AMR card like the one in order to avoid mechanical problem. (See Figure A)

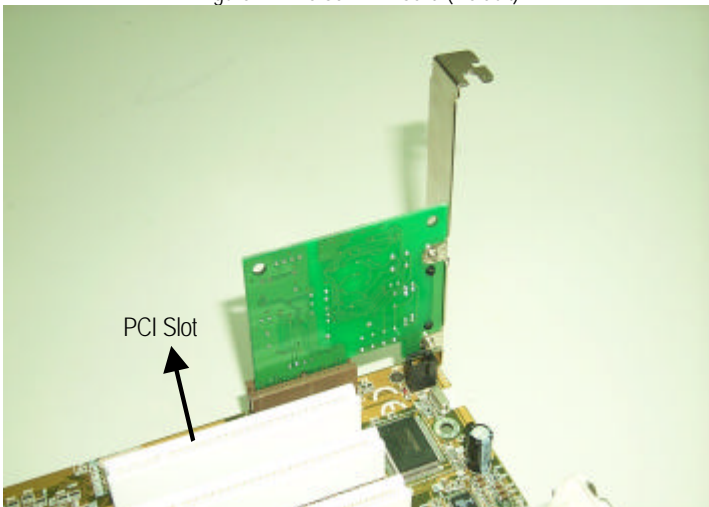Figure A: Inverse AMR Card (Default)

Figure B: Non inverse AMR Card

Appendix G: Acronyms

Acor.	Meaning
ACPI	Advanced Configuration and Power Interface
POST	Power-On Self Test
LAN	Local Area Network
ECP	Extended Capabilities Port
APM	Advanced Power Management
DMA	Direct Memory Access
MHz	Megahertz
ESCD	Extended System Configuration Data
CPU	Central Processing Unit
SMP	Symmetric Multi-Processing
USB	Universal Serial Bus
OS	Operating System
ECC	Error Checking and Correcting
IDE	Integrated Dual Channel Enhanced
SCI	Special Circumstance Instructions
LBA	Logical Block Addressing
EMC	Electromagnetic Compatibility
BIOS	Basic Input / Output System
SMI	System Management Interrupt
IRQ	Interrupt Request
NIC	Network Interface Card
A.G.P.	Accelerated Graphics Port
S.E.C.C.	Single Edge Contact Cartridge
LED	Light Emitting Diode
EPP	Enhanced Parallel Port
CMOS	Complementary Metal Oxide Semiconductor
I/O	Input / Output
ESD	Electrostatic Discharge
OEM	Original Equipment Manufacturer
SRAM	Static Random Access Memory
VID	Voltage ID
DMI	Desktop Management Interface
MIDI	Musical Interface Digital Interface
IOAPIC	Input Output Advanced Programmable Input Controller
DIMM	Dual Inline Memory Module
DRAM	Dynamic Random Access Memory
PAC	PCI A.G.P. Controller
AMR	Audio Modem Riser

Acor.	Meaning
PCI	Peripheral Component Interconnect
RIMM	Rambus in-line Memory Module
DRM	Dual Retention Mechanism
ISA	Industry Standard Architecture
MTH	Memory Translator Hub
CRIMM	Continuity RIMM