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

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-6VXDC7

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**			(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 : Feb. 09, 2001   Name : Rex Lin

6VXDC7

Socket 370 Processor 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) Dual BIOS & Suspend to RAM	Instruction Dual BIOS & STR installation
7) Four Speaker & SPDIF	Four Speaker & SPDIF introduction
8) BIOS Setup	Instructions on setting up the BIOS software
9) Appendix	General reference

Table Of Content

Revision History

Revision	Revision Note	Date
5.0	Initial release of the 6VXDC7 motherboard user's manual.	Jan.2001
5.0	Second release of the 6VXDC7 motherboard user's manual.	Jun.2001

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.

Jun. 22, 2001 Taipei, Taiwan, R.O.C

Item Checklist

☑The 6VXDC7 motherboard

☑Cable for IDE / floppy device

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

☑6VXDC7 user's manual

Summary Of Features

Form Factor	• 30.4 cm x 24.3 cm ATX size form factor, 4 layers PCB.

CPU	• 2 Socket 370 processor
	  Intel Pentium® *!!!* 100/133MHz FSB, FC-PGA
	  Intel Celeron™ 66MHz FSB, FC-PGA (Only support single CPU)
	• 2nd cache in CPU (Depend on CPU)

Chipset	• VT82C694DP(VIA Apollo Pro 133A) • VT82C686B
Clock Generator	• ICS 9248AF-63 • 66/100/133 MHz system bus speeds (PCI 33MHz) • 112/124/133/142/152 MHz system bus speeds (PCI 44MHz) (reserved)
Memory	• 4 168-pin DIMM sockets • Supports PC-100 / PC-133 SDRAM and VCM SDRAM • Supports up to 1.5GB DRAM (Max) • Supports only 3.3V SDRAM DIMM • Supports 72bit ECC type DRAM integrity mode
I/O Control	• VT82C686B
Slots	• 1 AGP slot supports 2X/4X mode & AGP 2.0 compliant • 5 PCI slot supports 33MHz & PCI 2.2 compliant • 1 16-bit ISA Bus slots

On-Board IDE	• 2 IDE bus master (DMA 33/ ATA 66/ ATA 100)IDE
	  ports for up to 4 ATAPI devices
	• Supports PIO mode 3, 4 (UDMA 33/ATA 66/ATA100)
	  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 Normal/EPP/ECP mode • 2 serial ports (COM 1 & COM 2) • 4 USB ports • 1 IrDA connector for Fast IrDA

To be continued…

Hardware Monitor	• CPU1 / CPU2 Fan revolution detect • CPU1 / CPU2 temperature detect • System voltage detect • CPU overheat shutdown detect
PS/2 Connector	• PS/2® Keyboard interface and PS/2® Mouse interface
BIOS	• Licensed AMI BIOS, 2M bit flash ROM • Support Dual BIOS (Optional)
On-Board Sound (Optional)	• Creative CT5880 sound • AC'97 CODEC • Line In / Line Out / Mic In / AUX In / CD In / TEL / Game Port /Four Speaker & SPDIF
Additional Features	• Support Wake-On-LAN (WOL) • Support Internal / External Modem Ring On • Includes 4 fan power connectors • Poly fuse for keyboard over-current protection • Supported Suspend to RAM (STR)

6VXDC7 Motherboard Layout

CPU Speed Setup

The system bus speed is selectable at 66,100,133MHz. The user can select the system bus speed **(SW1)** and change the DIP switch **(SW2)** selection to set up the CPU speed for 500MHz – 1GHz and faster processor.

Set System Bus Speed

SW1/JP25:   **O : ON, X : OFF**

1	2	3	JP25	CPU(MHz)	PCI(MHz)
X	X	O	1-2	66	33
X	X	X	1-2	100	33
O	X	X	1-2	112	37
O	O	X	1-2	124	41
O	O	O	N/C	133	33
X	O	O	N/C	142	35
O	X	O	N/C	152	38

The CPU speed must match with the frequency ratio. It will cause system hanging up if the frequency ratio is higher than that of CPU.

SW2:FREQ. RATIO	DIP SWITCH			
	1	2	3	4
X 3	O	X	O	O
X 3.5	X	X	O	O
X 4	O	O	X	O
X 4.5	X	O	X	O
X 5	O	X	X	O
X 5.5	X	X	X	O
X 6	O	O	O	X
X 6.5	X	O	O	X
X 7	O	X	O	X
X 7.5	X	X	O	X
X 8	O	O	X	X
X 8.5	O	X	O	O
X 9	X	X	O	O
X 9.5	X	O	O	O
X 10	X	O	X	X
X 10.5	O	O	X	O
X11	O	X	X	X
X11.5	X	O	X	O

X12	O	X	X	O
X13	X	X	X	O
X14	O	O	O	X
X15	X	O	O	X
X16	O	X	O	X

🌑※ **Intel Processor all have locked Frequency Multiple, so you can not change the CPU Frequency Multiple.**

🌑※ **For double CPU use, the same CPU must be used in CPU socket1 and 2. (The same stepping, FSB, ratio)**

🌑※ **For single CPU use, use CPU socket1 only. Don't use CPU socket2.**

★**Note: We don't recommend you to set up your system speed to 112 , 124 , 142 ,152 MHz because these frequencies are not the standard specifications for CPU, Chipset and most of the peripherals. Whether your system can run under 112 ,124 ,142 ,152 MHz properly will depend on your hardware configurations: CPU, SDRAM, Cards, etc.**

1. Celeron™ 533/66MHz
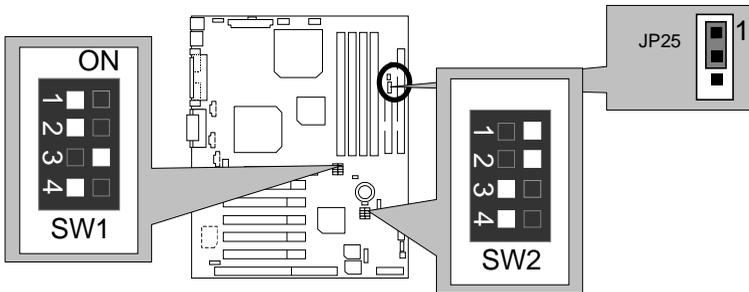
2. Celeron™ 566/66MHz

3. Celeron™ 600/66MHz

SW1　　SW2　　JP25

4. Celeron™ 633/66MHz

SW1　　SW2　　JP25
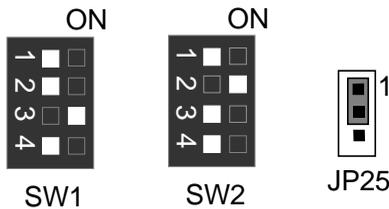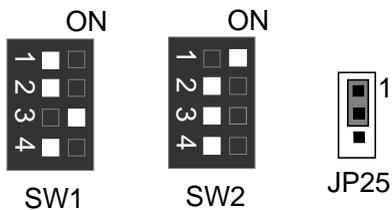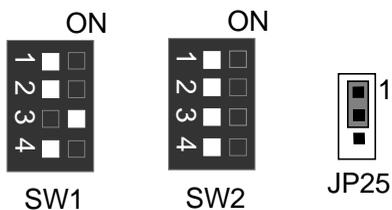
5. Celeron™ 667/66MHz

SW1　　SW2　　JP25
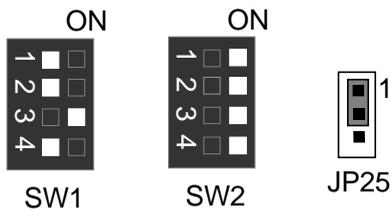
6. Celeron™ 700/66MHz

SW1　　SW2　　JP25
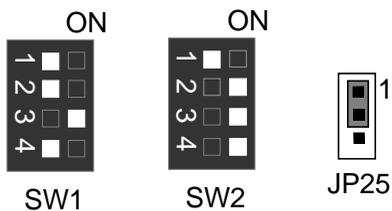
7. Pentium® *!!!* 500/100MHz FSB

SW1   SW2   JP25
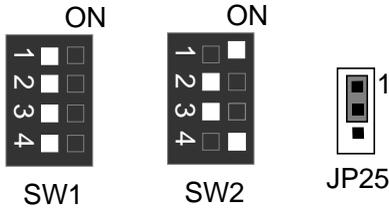
8. Pentium® *!!!* 550/100MHz FSB

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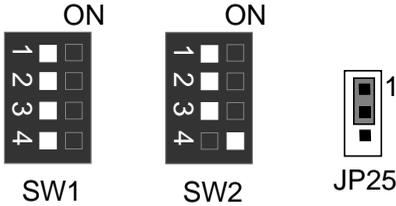
9. Pentium® *!!!* 600/100MHz FSB

SW1   SW2   JP25
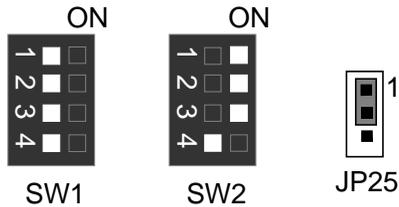
10. Pentium® *!!!* 650/100MHz FSB

SW1   SW2   JP25
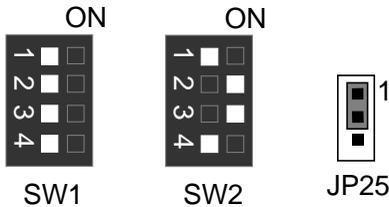
11. Pentium® *!!!* 700/100MHz FSB

ON   ON

SW1   SW2   JP25
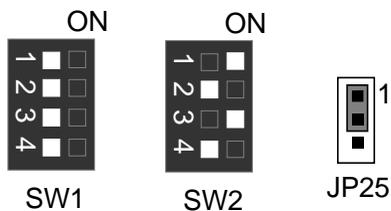
12. Pentium® *!!!* 750/100MHz FSB

ON   ON

SW1   SW2   JP25
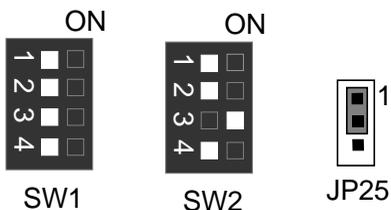
13. Pentium® *!!!* 800/100MHz FSB

ON   ON

SW1   SW2   JP25
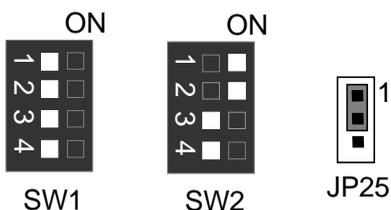
14. Pentium® *!!!* 850/100MHz FSB

ON   ON

SW1   SW2   JP25
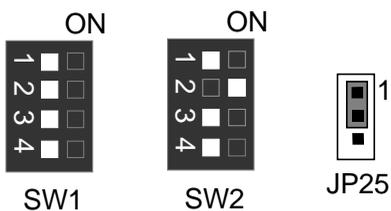
15. Pentium® *!!!* 533/133MHz FSB

ON   ON

SW1   SW2   JP25
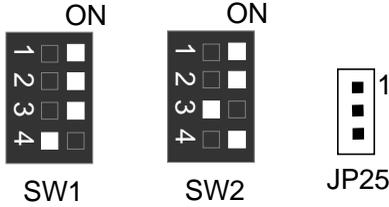
16. Pentium® *!!!* 600/133 MHz FSB

ON   ON

SW1   SW2   JP25
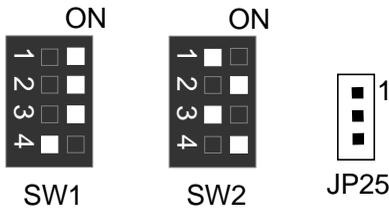
17. Pentium® *!!!* 667/133MHz FSB

ON   ON

SW1   SW2   JP25
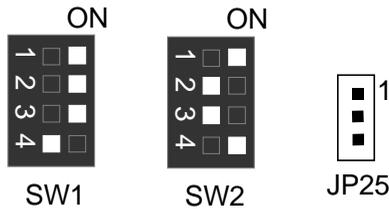
18. Pentium® *!!!* 733/133MHz FSB

ON   ON

SW1   SW2   JP25
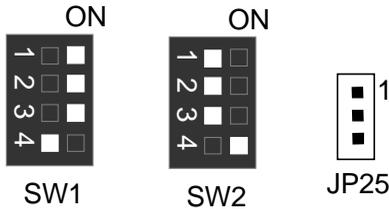
19. Pentium® *!!!* 800/133MHz FSB

SW1   SW2   JP25
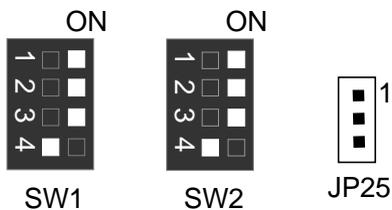
20. Pentium® *!!!* 866/133MHz FSB

SW1   SW2   JP25
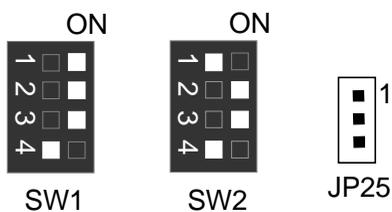
21. Pentium® *!!!* 933/133MHz FSB

SW1   SW2   JP25
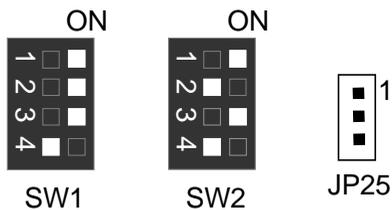
22. Pentium® *!!!* 1GHz/133MHz FSB

SW1   SW2   JP25
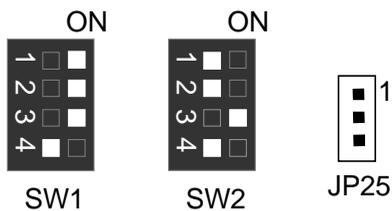
Connectors

Game & Audio Port (Optional)

Line Out 1
Line In/Line Out2
MIC In
Game Port
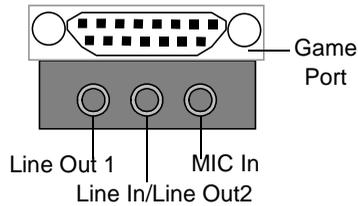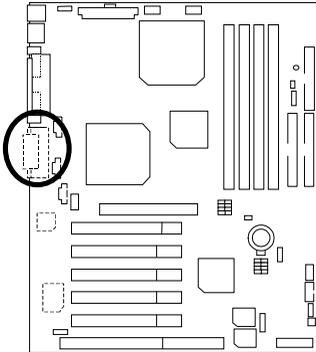
Line Out 1: Line Out or SPDIF (The SPDIF output is capable of providing digital audio to external speakers or compressed AC3 data to an external Dolby digital decoder). In general, Line Out 1 is normally Line Out, when it output digital signal, it will be change to SPDIF Out automatically (see page 46 for more information).
Line In: In general, Line In is normally Line In. When you select "Four Speaker" in Creative application(see page 43 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 1 / COM 2 / LPT Port

LPT Port

COM 1   COM 2
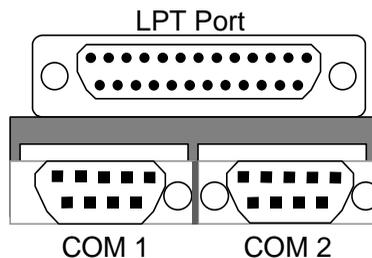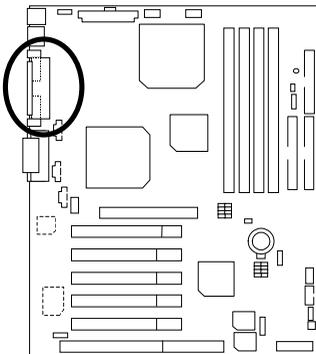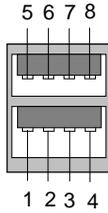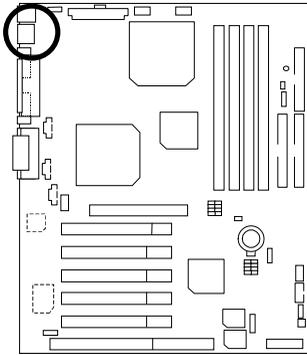
USB 1 Connector

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

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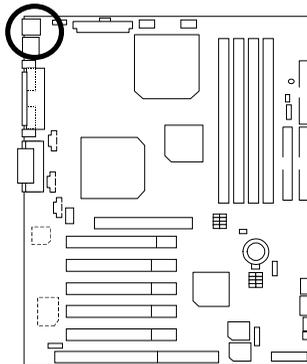
PS/2 Mouse
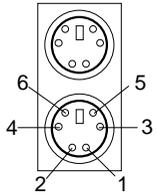
PS/2 Keyboard

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

J13 : CPU1 Fan
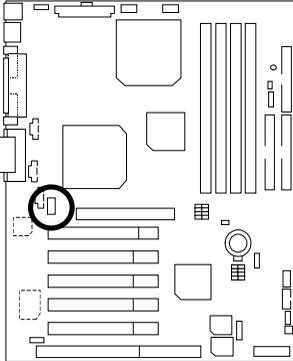
Pin No.	Definition
1	Control
2	+12V
3	SENSE

J15 : CPU2 Fan
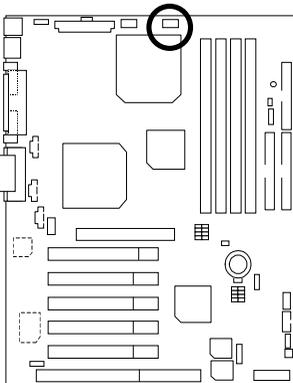
Pin No.	Definition
1	Control
2	+12V
3	SENSE

J16 : Power Fan
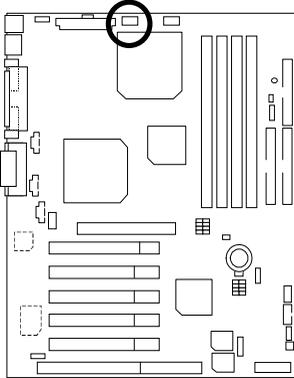
Pin No.	Definition
1	Control
2	+12V
3	NC

J14 : System Fan
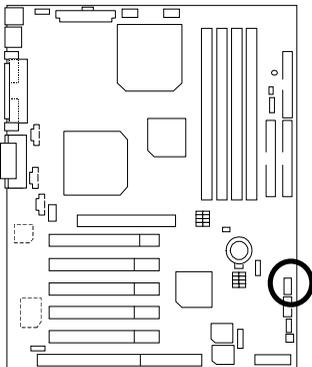
Pin No.	Definition
1	Control
2	+12V
3	NC

ATX Power
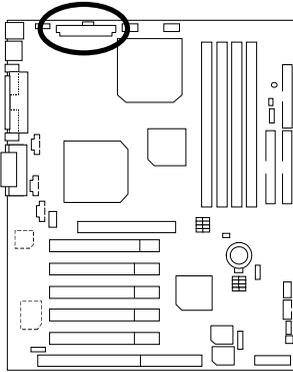
| 20 | | | | | | | | 11 |
| 10 | | | | | | | | 1 |

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
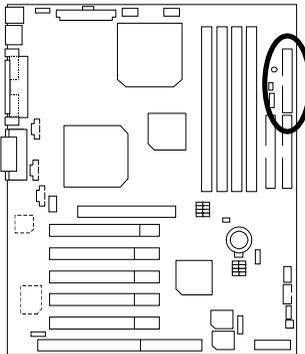
Red Line

FDD1

IDE1 (Primary), IDE2 (Secondary) Port

Red Line

IDE 1 IDE 2
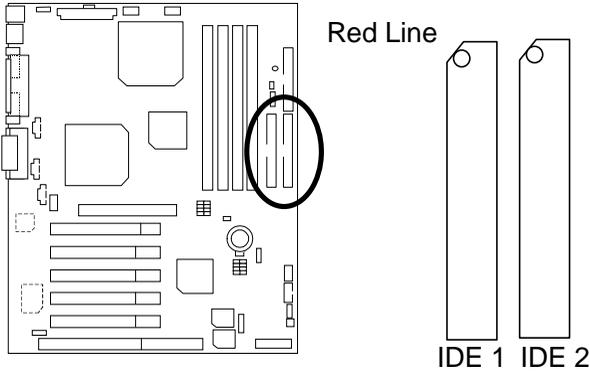
J7 TEL : The connector is for Modem with internal voice connector

(Optional)

1

Pin No.	Definition
1	Signal-In
2	GND
3	GND
4	Signal-Out
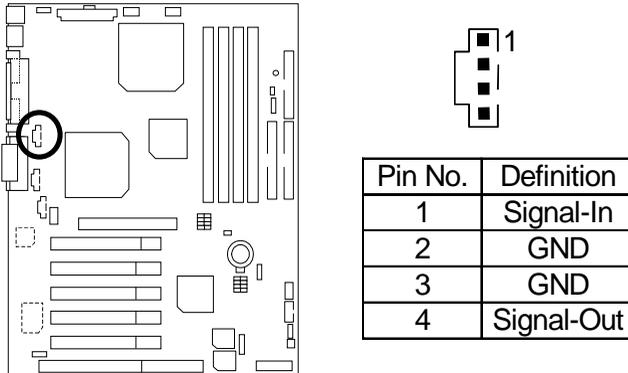
J5 : AUX_IN (Optional)
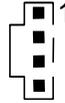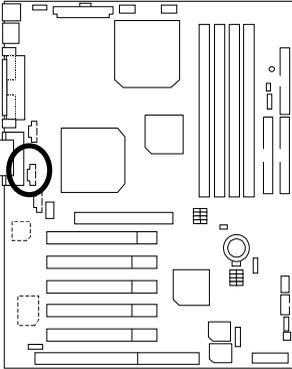
Pin No.	Definition
1	AUX-L
2	GND
3	GND
4	AUX-R

J8 : CD Audio Line In (Optional)
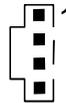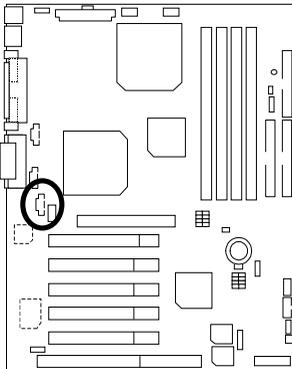
Pin No.	Definition
1	CD-L
2	GND
3	GND
4	CD-R

J3 : Ring Power On (Internal Modem Card Wake Up)
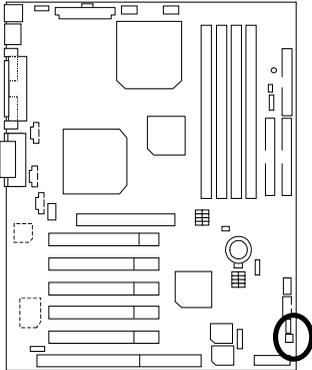
Pin No.	Definition
1	Signal
2	GND

J1 : Wake On LAN
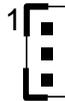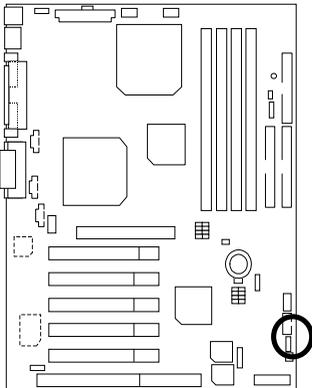
Pin No.	Definition
1	+5V SB
2	GND
3	Signal

J4 : IR

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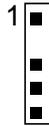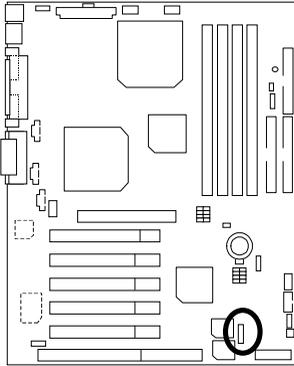
Pin No.	Definition
1	VCC (+5V)
2	NC
3	IR Data Input
4	GND
5	IR Data Output

USB 2 Connector

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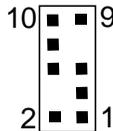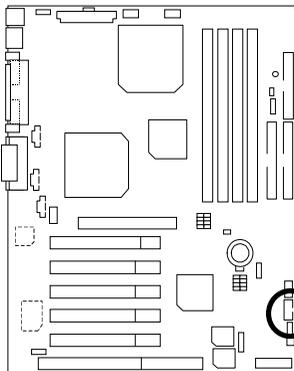
Pin No.	Definition
1,10	+5V
2,9	GND
3	USB D2-
4,7	NC
5	USB D2+
6	USB D3+
8	USB D3-

JP5 : STR LED Connector & LED1 : DIMM LED

STR LED Connector External.

DIMM LED
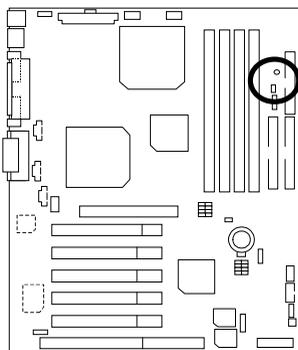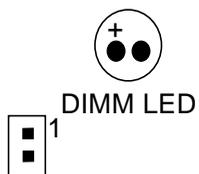
Panel And Jumper Definition

J2 : 2x11 Pins Jumper
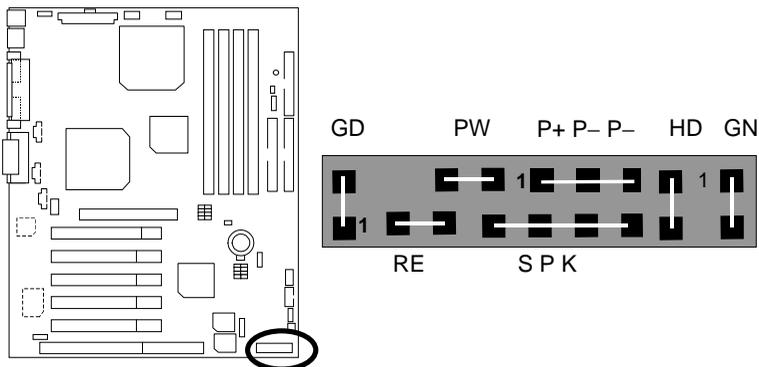
GN (Green Switch)	Open: Normal Operation
	Close: Entering Green Mode
GD (Green LED)	Pin 1: LED anode(+)
	Pin 2: LED cathode(−)
HD (IDE Hard Disk Active LED)	Pin 1: LED anode(+)
	Pin 2: LED cathode(−)
SPK (Speaker Connector)	Pin 1: VCC(+)
	Pin 2- Pin 3: NC
	Pin 4: Data(−)
RE (Reset Switch)	Open: Normal 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

JP1 : Clear CMOS Function

1
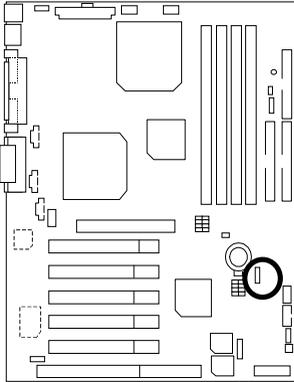
Pin No.	Definition
1-2 Close	Normal (Default)
2-3 Close	Clear CMOS

JP20 : Onboard Sound Function Selection (Optional)

1
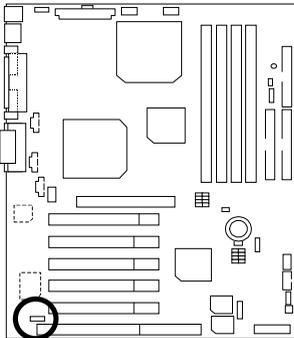
Pin No.	Definition
1-2 close	Enabled Onboard sound (Default)
2-3 close	Disabled Onboard sound

JP9 : USB device Wake up Selection

1
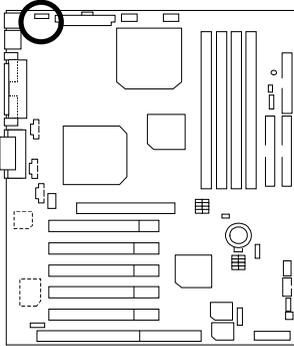
Pin No.	Definition
1-2 close	Normal (Default)
2-3 close	Enabled USB Device Wake up

JP11 : STR Function Enabled

1
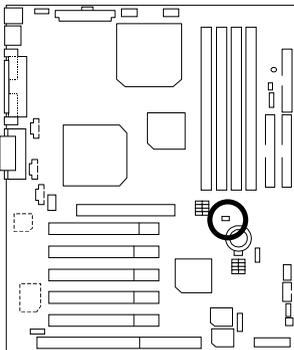
Pin No.	Definition
open	STR Disabled (Default)
close	STR Enabled

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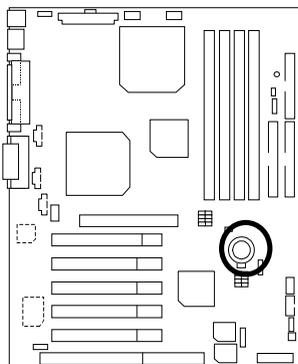
CAUTION
☞ Danger of explosion if battery
   is incorrectly replaced.
☞ Replace only with the same or
   equivalent type recommended
   by the manufacturer.
☞ Dispose of used batteries
   according to the manufacturer's
   instructions.

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   Intel$^®$ Pentium III Processor 866MHz*2

- DRAM   128MB*3 (MICRON 9920 MT 48LC8M8A2-75B)

- CACHE SIZE   256KB include in CPU

- DISPLAY   GA-MG400

- STORAGE   Onboard IDE (Maxtor 93073U6)

- O.S.   Windows NT™ 4.0 SPK6a

- DRIVER   Display Driver at 1024x768x16bitx75MHz

Processor	Intel$^®$ Pentium III Processor 866MHz*2 866MHz(133x6.5)
Winbench99	
CPU mark 99	75.9
FPU Winmark 99	4590
Business Disk Winmark 99	6180
Hi-End Disk Winmark 99	15500
Business Graphics Winmark 99	357
Hi-End Graphics Winmark 99	636
Winstone99	
Business Winstone 99	41.9
Hi-End Winstone 99	7.22
Dual Processor	51.8

✆ If you wish to maximize the performance of your system, please refer to the detail on P.59

Block Diagram

AGP 2X/4X

14.318MHz

3.3V DIMM
DIMM Sockets

PGA 370
CPU

PGA 370
CPU

Host Bus

VIA
VT82C694DP

AGP Bus

66 /100 /133 MHz

66 /100 /133 MHz

66 /100 /133 MHz

CKBF

ISA Bus

ICS
9248AF-63

33 MHz

ISA Slot

PCI Bus

33 MHz

IDE
Bus

VIA
VT82C686B

24MH
48MH
14.318MHz

COM Ports

USB Bus

LPT Port

Floppy Port

Ultra DMA
33/ATA66/ATA100
IDE Ports

PS/2 KB/Mouse

USB
Port

Game Port
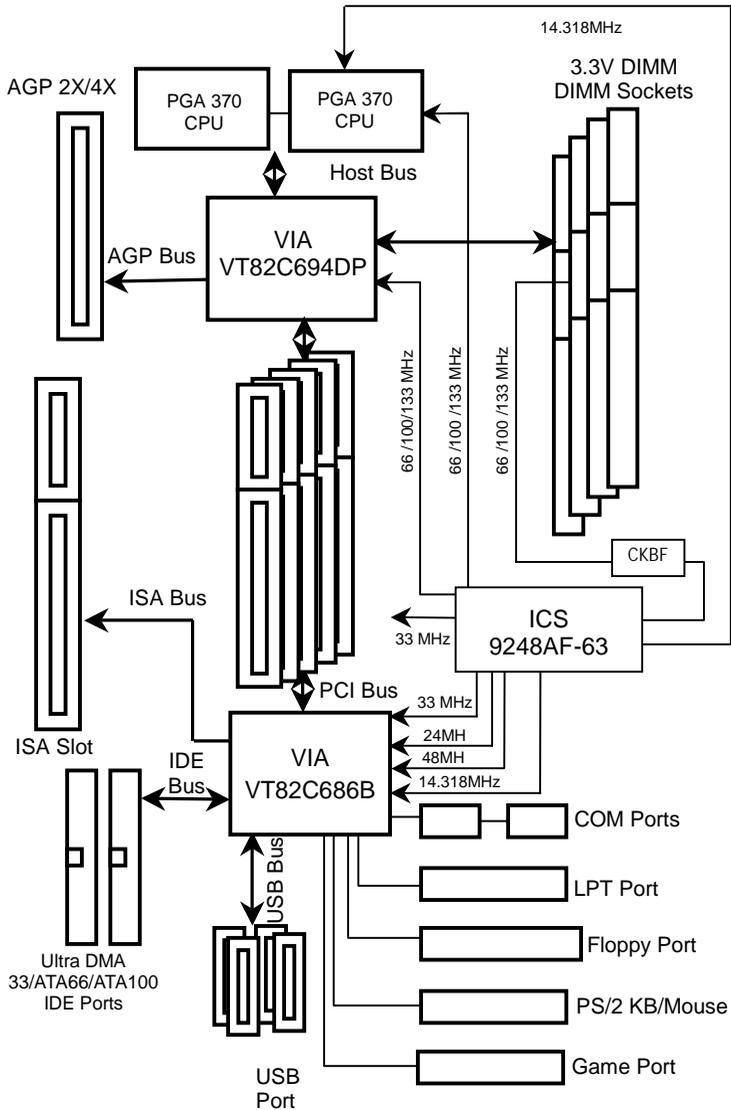
Suspend To RAM Installation

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"** in the window provided. Hit the enter key or click OK.

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 JP11 (Closed.)
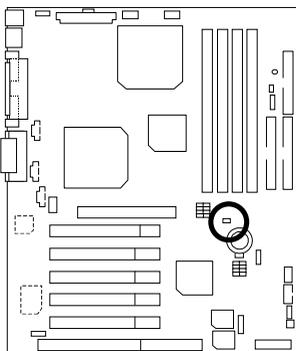
Pin No.	Definition
open	STR Disabled (Default)
close	STR Enabled

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.
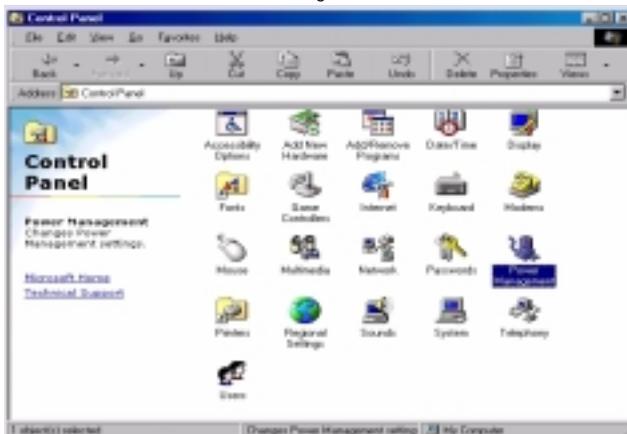
C. Select the "Advanced" tab and "Standby" mode in Power Buttons.

D. 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 JP5 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
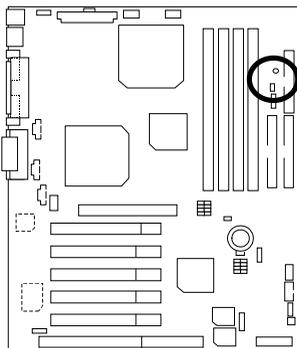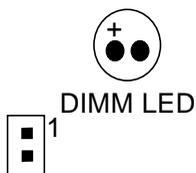
Dual BIOS Introduction(Optional)

Introduce Dual BIOS

A.   What is Dual BIOS Technology?

Dual BIOS means that there are two system BIOS (ROM) on the motherboard, one is the Main BIOS and the other is Backup BIOS. Under the normal circumstances, the system works on the Main BIOS. If the Main BIOS is corrupted or damaged, the Backup BIOS can take over while the system is powered on. This means that your PC will still be able to run stably as if nothing has happened in your BIOS.

B.   How to use Dual BIOS?

a. Boot Screen

American   Release:06/14/2000
Megatrends   AMIBIOS (C) 1999 American Megatrends
xxx   xxx
Check System Health ok
CPU ID:0683   Patch ID:0010
Pentium III – 733MHz
Check NVRAM…

Wait…
Press F1 to enter Dual BIOS Utility.

Press F1 to enter Dual BIOS

(C
63-1001-001199-00101111-071595-V694V686-GA694102-F

b. AMI Dual BIOS Flash ROM Programming Utility

```
┌────────────────────────────────────────────────────────────┐
│      AMI Dual BIOS Flash ROM Programming Utility V1.01       │
├────────────────────────────────────────────────────────────┤
│ Boot From……………………….. Main BIOS                        │
│ Main ROM Type…………………  SST 39SF020                       │
│ Backup ROM Type………………  SST 39SF020                       │
│                                                              │
│        Wide Range Protection Disable                         │
│                    Boot From Main BIOS                        │
│               Auto Recovery Enable                           │
│                Halt On Error Disable                         │
│            Copy Main ROM Data to Backup                      │
│               Load Default Settings                          │
│               Save Settings to CMOS                          │
│                                                              │
│                                                              │
├────────────────────────────────────────────────────────────┤
│  PgDn/PgUp:Modify   ↑↓:Move   ESC:Reset   F10:Power Off      │
└────────────────────────────────────────────────────────────┘
```

c. Dual BIOS Item explanation:

BIOS will auto detect:

Boot From : Main BIOS
Main ROM Type : SST 39SF020
Backup ROM Type : SST 39SF020

Wide Range Protection: Disable(Default),   Enable

Status 1:
   If any failure (ex. Update ESCD failure, checksum error or reset…) occurs in the Main
   BIOS , just before the Operating System is loaded and after the power is on, and that
   the Wide Range Protection is set to "Enable", the PC will boot from Backup BIOS
   automatically.
Status 2:
   If the ROM BIOS on peripherals cards(ex. SCSI Cards, LAN Cards,..) emits signals
   to request restart of the system after the user make any alteration on it, the boot up
   BIOS will not be changed to the Backup BIOS.

Boot From : Main BIOS (Default), Backup BIOS

Status 1:

> The user can set to boot from main BIOS or Backup BIOS.

Auto Recovery : Enabled(Default),   Disabled

When one of the Main BIOS or Backup BIOS occurs checksum failure, the working BIOS
will automatically recover the BIOS of checksum failure.
(In the Power Management Setup of the BIOS Setting, if ACPI Suspend   Type is set to
Suspend to RAM, the Auto Recovery will be set to Enable automatically.)

(If you want to enter the BIOS setting, please press **"Del"** key when the boot screen appears.)

Halt On Error : Disable(Default),   Enable

If the BIOS occurs a checksum error or the Main BIOS occurs a WIDE RANGE
PROTECTION error and Halt On BIOS Defects set to Enable, the PC will show messages
on the boot screen, and the system will pause and wait for the user's   instruction.

If Auto Recovery :**Disable**, it will show *<or the other key to continue.>*
If Auto Recovery :**Enable**, it will show *<or the other key to Auto Recover.>*

Copy Main ROM Data to Backup

Backup message:

> *Are you sure to copy BIOS?*
>> *[Enter] to continue or [Esc] to abort …*

The means that the Main BIOS works normally and could automatically recover the
Backup BIOS. Or the means that the Backup BIOS works normally and could
automatically recover the Main BIOS.

(This auto recovery utility is set by system automatically and can't be changed by user.)

DualBIOS™ Technology FAQ

GIGABYTE Technology is pleased to introduce DualBIOS technology, a hot spare for your system BIOS. This newness "Value-added" feature, in a long of innovations from GIGABYTE, is available on GA-6VXDC7 motherboard. Future GIGABYTE motherboards will also incorporate this innovation.

What's DualBIOS™?

On GIGABYTE motherboards with DualBIOS there are physically two BIOS chips. For simplicity we'll call one your "Main BIOS" and the other we'll call your "Backup" BIOS (your "hot spare"). If your Main BIOS fails, the Backup BIOS almost automatically takes over on your next system boot. Almost automatically and with virtually zero down time! Whether the problem is a failure in flashing your BIOS or a virus or a catastrophic failure of the Main BIOS chip, the result is the same - the Backup BIOS backs you up, almost automatically.

I. Q: What is DualBIOS™ technology?

Answer:

DualBIOS technology is a patented technology from Giga-Byte Technology. The concept of this technology is based on the redundancy and fault tolerance theory. DualBIOS™ technology simply means there are two system BIOSes (ROM) integrated onto the motherboard. One is a main BIOS, and the other is a backup BIOS. The mainboard will operate normally with the main BIOS, however, if the main BIOS is corrupt or damaged for various reasons, the backup BIOS will be automatically used when the system powered-On. Your PC will operate as before the main BIOS was damaged, and is completely transparent to the user.

II. Q: Why does anyone need a motherboard with DualBIOS™ technology?
Answer:

In today's systems there are more and more BIOS failures. The most common reasons are virus attacks, BIOS upgrade failures, and/or deterioration of the BIOS (ROM) chip itself.

1.   New computer viruses are being found that attack and destroy the system BIOS. They may corrupt your BIOS code, causing your PC to be unstable or even not boot normally.
2.   BIOS data will be corrupted if a power loss/surge occurs, or if a user resets the system, or if the power button is pressed during the process of performing a system BIOS upgrade.
3.   If a user mistakenly updates their mainboard with the incorrect BIOS file, then the system may not be able to boot correctly. This may cause the PC system hang in operation or during boot.
4.   A flash ROM's life cycle is limited according to electronic characteristics. The modern PC utilizes the Plug and Play BIOS, and is updated regularly. If a user changes peripherals often, there is a slight chance of damage to the flash ROM.

With Giga-Byte Technology's patented DualBIOS™ technology you can reduce the possibility of hangs during system boot up, and/or loss BIOS data due to above reasons. This new technology will eliminate valuable system down time and costly repair bills cause by BIOS failures.

III. Q: How does DualBIOS™ technology work?

Answer:

1. DualBIOS™ technology provides a wide range of protection during the boot up procedure. It protects your BIOS during system POST, ESCD update, and even all the way to PNP detection/assignment.
2. DualBIOS™ provides automatic recovery for the BIOS. When the first BIOS used during boot up does not complete or if a BIOS checksum error occurs, boot-up is still possible. In the DualBIOS™ utility, the "Auto Recovery" option will guarantee that if either the main BIOS or backup BIOS is corrupted, the DualBIOS™ technology will use the good BIOS and correct the wrong BIOS automatically.
3. DualBIOS™ provides manual recovery for the BIOS. DualBIOS™ technology contains a built-in flash utility, which can flash your system BIOS from backup to main and/or visa versa. There is no need for an OS-dependent flash utility program.
4. DualBIOS™ contains a one-way flash utility. The built-in one-way flash utility will ensure that the corrupt BIOS is not mistaken as the good BIOS during recovery and that the correct BIOS (main vs. backup) will be flashed. This will prevent the good BIOS from being flashed.

IV. Q: Who Needs DualBIOS™ technology?
Answer:

1. Every user should have DualBIOS™ technology due to the advancement of computer viruses.
   Everyday, there are new BIOS-type viruses discovered that will destroy your system BIOS. Most commercial products on the market do not have solutions to guard against this type of virus intrusion. The DualBIOS™ technology will provide a state-of-the-art solution to protect your PC:
   Case I.) Vicious computer viruses may wipe out your entire system BIOS. With a conventional single system BIOS PC, the PC will not be functional until it is sent for repairs.
   Case II.) If the "Auto Recovery" option is enabled in the DualBIOS™ utility, and if a virus corrupts your system BIOS, the backup BIOS will automatically reboot the system and correct the main BIOS.
   Case III.) A user may override booting from the main system BIOS. The DualBIOS™ utility may be entered to manually change the boot sequence to boot from the backup BIOS.

2. During or after a BIOS upgrade, if DualBIOS™ detects that the main BIOS is corrupt, the backup BIOS will take over the boot-up process automatically. Moreover, it will verify the main and backup BIOS checksums when booting-up. DualBIOS™ technology examines the checksum of the main and backup BIOS while the system is powered on to guarantee your BIOS operates properly.

3. Power Users will have the advantage of having two BIOS versions on their mainboard. The benefit is being able to select either version BIOS to suit the performance system needs.

4. Flexibility for high-end desktop PCs and workstation/servers. In the DualBIOS™ utility, the option can be set, "Halt On When BIOS Defects," to be enabled to halt your system with a warning message that the main BIOS has been corrupted. Most workstation/servers require constant operation to guarantee services have not been interrupted. In this situation, the "Halt On When BIOS Defects" message may be disabled to avoid system pauses during normal booting. Another advantage you gain from Giga-Byte's DualBIOS™ technology is the ability to upgrade from dual 2 Mbit BIOS to dual 4 Mbit BIOS in the future if extra BIOS storage is need.

Four Speaker & SPDIF Introduction (Optional)

Four Speaker Introduction

A. What is Four Speaker?

The Creative CT5880 audio chip can support up to 4 speaker output. If you select "Four speaker out", Line In will be reconfigured as another line out to support a second pair of speakers.

B. How to use Four Speaker?

Microsoft Windows 98 Second Edition setup procedure:

a. Click the audio icon along the task bar and select "Configuration 3D Audio"
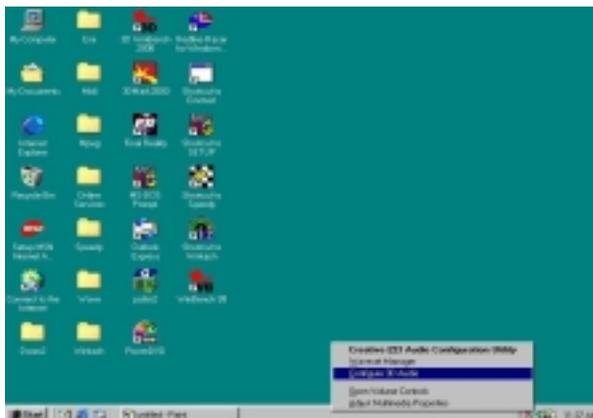
b. Select two speaker (Default)
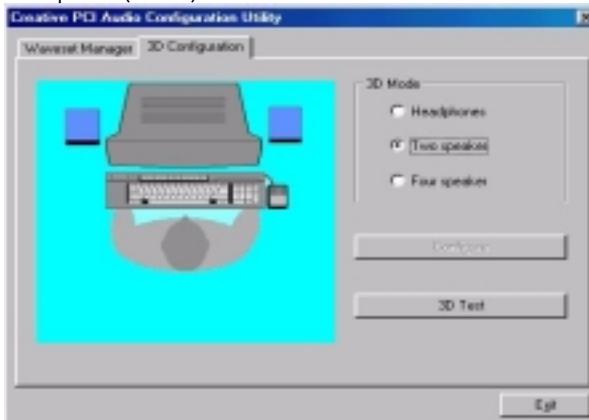
c. Select "Four speaker" item.
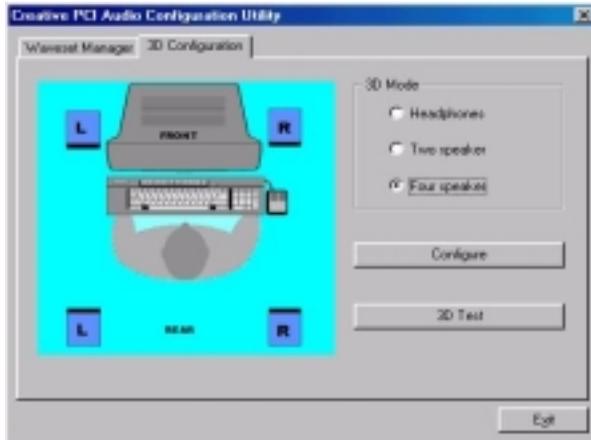
Microsoft Windows Me setup procedure:

a. Go to "Control Panel"

Double click "Sounds and Multimedia".

b. Select "Audio" Page, and click "Advanced" button.
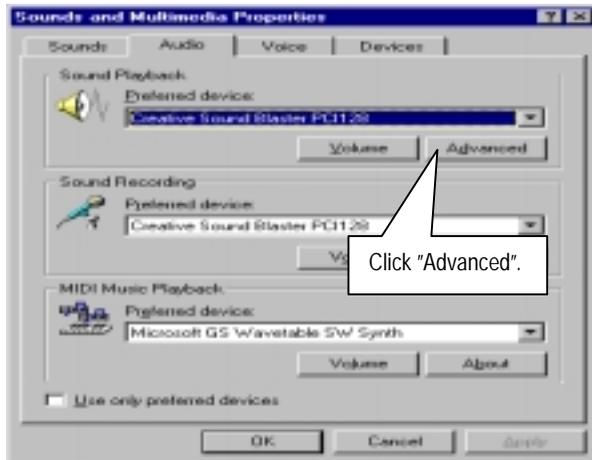
c. Select "Quadraphonic Speakers" and click ok.

C.   Four Speaker Application

The four speaker function will only be supported in application softwares that use Microsoft DirectX and Creative EAX, for example, the game titles, software DVD player and MP3 player.

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. Click your mouse right button in "My Computer" and select the "Properties" item.
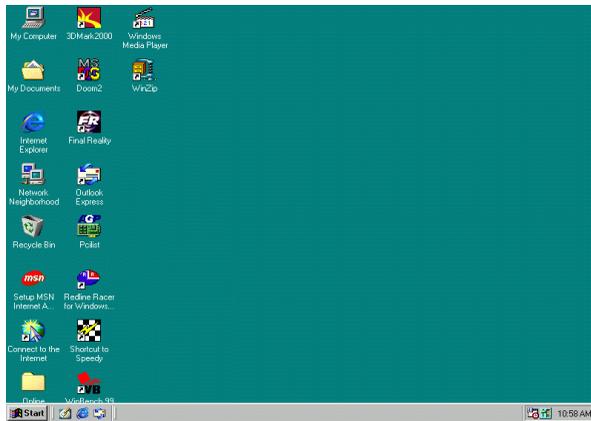
b. Click "Device Manager" item.

c. Click "Sound, video and game controllers" item and select the "Creative Sound Blaster PCI128" item.
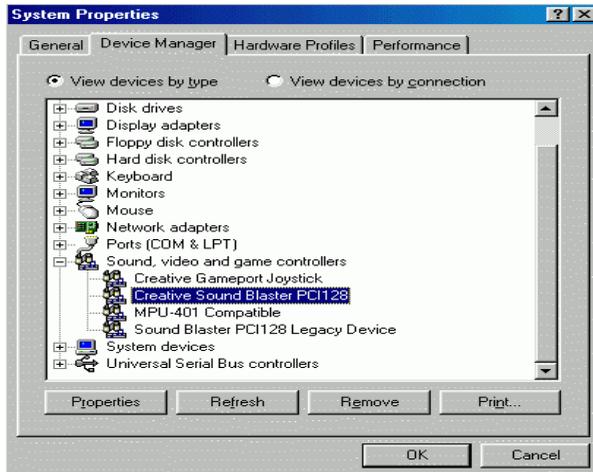
d. Click "Settings" item and select the "Output Mode" item.
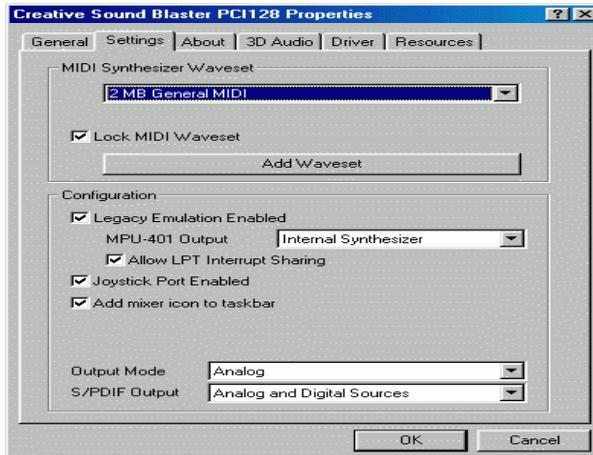
e. Click "Digital" item, Line Out will be reconfigure to SPDIF Out.
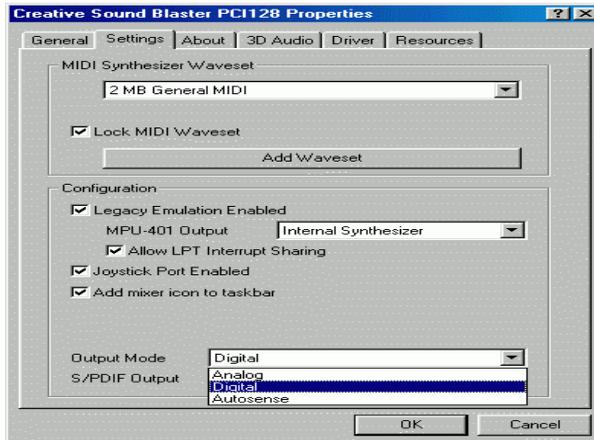
f. Recommend you to select "Autosense", It will automatically detect the type (mono or stereo) of the audio connector that you plug into Line Out audio jack, then configure Line Out to either SPDIF or Speaker accordingly.

Memory Installation

The motherboard has 4 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:

Location	168-pin SDRAM DIMM Modules	Note
DIMM1 (Bank 0,1)	Single – Sided	
	Double – Sided	
DIMM2 (Bank 2,3)	Single – Sided	
	Double – Sided	
DIMM3 (Bank 4,5)	Single – Sided	DIMM4 have only single-sided
	Double – Sided	DIMM4 must be empty
DIMM4 (Bank 4,5)	Single – Sided	DIMM3 have only single-sided
	Double – Sided	DIMM3 must be empty
Total System Memory (Max 1.5GB)		

★Supports 16 / 32 / 64 / 128 / 256/ 512 MB SDRAM DIMM Modules.

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   Mar   07, 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: 31Mb
Boot Sector Virus Protection : Disabled  Total Memory: 32Mb

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 / Floppy Drive B**

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

None	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
Process Serial Number      :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 3: BIOS Features Setup

● **1st / 2nd / 3rd Boot Device**

Floppy	Boot Device by Floppy.
LS / ZIP A:	Boot Device by LS / ZIP A:.
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.
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.

● **Processor Serial Number**

Disabled	Disabled Processor Serial Number. **(Default Value)**
Enabled	Enabled Processor Serial Number.

● **MPS Version**

1.1	Set Multi-Processor Spec. Version to 1.1. **(Default Value)**
1.4	Set Multi-Processor Spec. Version to 1.4.

Chipset Features Setup

```
┌─────────────────────────────────────────────────────────────────────┐
│              AMIBIOS SETUP –CHIPSET FEATURE SETUP                     │
│        ( C ) 1999 American Megatrends, Inc. All Rights Reserved       │
├─────────────────────────────────┬───────────────────────────────────┤
│      *** DRAM Timing ***         │                                   │
│ Top Performance        :Disabled │                                   │
│ SDRAM Timing by SPD    :Disabled │                                   │
│ SDRAM CAS# Latency     :Auto     │                                   │
│ CPU/DRAM Frequency     :Auto     │                                   │
│                                  │                                   │
│ C2P Concurrency & Master :Enabled│                                   │
│ DRAM Integrity Mode    :Disabled │                                   │
│ AGP Mode               :4X       │                                   │
│ AGP Comp. Driving      :Auto     │                                   │
│ Manual AGP Comp. Driving :CB     │                                   │
│ AGP Aperture Size      :64MB     │                                   │
│ USB Controller         :All USB Port │                               │
│ USB Legacy Support     :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 4: Chipset Features Setup

- **Top Performance**

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

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

- **SDRAM Timing by SPD**

Disabled	SDRAM Timing by SPD Function Disabled. **(Default Value)**
Enabled	SDRAM Timing by SPD Function Enabled.

- **SDRAM CAS# Latency**

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

- **CPU/DRAM Frequency**

  1. System Bus Speed: 66MHz

Auto	Set CPU/DRAM Frequency to Auto. **(Default Value)**
66/66MHz	Set CPU/DRAM Frequency is 66/66MHz.
66/100MHz	Set CPU/DRAM Frequency is 66/100MHz.

  2. System Bus Speed: 100MHz

Auto	Set CPU/DRAM Frequency to Auto. **(Default Value)**
100/100MHz	Set CPU/DRAM Frequency is 100/100MHz.
100/133MHz	Set CPU/DRAM Frequency is 100/133MHz.
100/66MHz	Set CPU/DRAM Frequency is100/66MHz.

  3. System Bus Speed: 133MHz

Auto	Set CPU/DRAM Frequency to Auto. **(Default Value)**
133/100MHz	Set CPU/DRAM Frequency is 133/100MHz.
133/133MHz	Set CPU/DRAM Frequency is 133/133MHz.

- **C2P Concurrency & Master**

Enabled	Enabled C2P Concurrency & Master. **(Default Value)**
Disabled	Disabled C2P Concurrency & Master.

- **DRAM Integrity Mode**

ECC	For 72 bit ECC type DIMM Modle.
Disabled	Normal Setting. **(Default Value)**

- **AGP Mode**

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

- **USB Controller**

USB Port 0&1	USB Controller for USB Port 0&1.
USB Port 2&3	USB Controller for USB Port 2&3.
All USB Port	USB Controller for All USB Port. **(Default Value)**
Disabled	USB Controller Function Disabled.

- **USB Legacy Support**

Keyboard	Set USB Legacy Support Keyboard.
Keyb+Mouse	Set USB Legacy Support Keyboard +Mouse.
Disabled	Disabled USB Legacy Support Function. **(Default Value)**

Power Management Setup

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

ACPI Sleep Type              S1/POS      PME Event Wake up           :Enabled
USB Wakeup From S3~S5        :Disabled   RTC Alarm Power On          :Disabled
Video Power Down Mode        :Stand By   RTC Alarm Date              :15
Hard Disk Power Down Mode    :Stand By   RTC Alarm Hour              :12
Suspend Time Out(Minute)     :Disabled   RTC Alarm Minute            :30
Display Activity             :Ignore     RTC Alarm Second            :30
IRQ3                         :Monitor
IRQ 4                        :Monitor
IRQ 5                        :Ignore
IRQ 7                        :Monitor
IRQ 9                        :Ignore
IRQ 10                       :Ignore
IRQ 11                       :Ignore
IRQ 13                       :Ignore
IRQ 14                       :Monitor
IRQ 15                       :Ignore     ESC : Quit        ↑↓←→: Select Item
Soft-off by Power Button     :Instant off F1   : Help        PU/PD/+/- : Modify
AC Back Function             :Soft Off   F5   : Old Values     (Shift)F2 :Color
Modem Use IRQ                :4          F6   : Load BIOS Defaults
Modem Ring On/Wake On Lan    :Enabled    F7   : Load Setup Defaults
```

Figure 5: Power Management Setup

- **ACPI Sleep Type**

S1/POS	Set ACPI Sleep type is S1. **(Default Value)**
S3/STR	Set ACPI Sleep type is S3.

- **USB Wakeup From S3~S5**

  USB Wakeup From S3~S5 can be set when ACPI Sleep Type set to S3/STR.

Enabled	Enable USB Wakeup From S3~S5.
Disabled	Disable USB Wakeup From S3~S5. **(Default Value)**

- **Video Power Down Mode**

Disabled	Disabled Video Power Down Mode Function.
Suspend	Set Video Power Down Mode to Suspend.
Stand By	Set Video Power Down Mode to Stand By. **(Default Value)**

- **Hard Disk Power Down Mode**

Disabled	Disabled Hard Disk Power Down Mode Function.
Suspend	Set Hard Disk Power Down Mode to Suspend
Stand By	Set Hard Disk Power Down Mode to Stand By. **(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	Soft switch ON/OFF for Power Button. **(Default Value)**
Delay-4Sec	Soft switch ON 4 Sec for Power off.

● **AC Back Function**

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**

NA	Set Modem Use IRQ to NA.
3	Set Modem Use IRQ to 3.
4	Set Modem Use IRQ to 4. **(Default Value)**
5	Set Modem Use IRQ to 5.
7	Set Modem Use IRQ to 7.

- **Modem Ring On/Wake On Lan**

Disabled	Disabled Modem Ring On/Wake On Lan.
Enabled	Enabled Modem Ring On/Wake On Lan. **(Default Value)**

- **PME Event Wake up**

Disabled	Disabled PME Event Wake up function.
Enabled	Enabled PME Event Wake up function. **(Default Value)**

- **RTC Alarm Power On**

  You can set "RTC Alarm Power On" item to Enabled and key in date/time to power on system.

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

  If the "RTC Alarm Power On" 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 SETUP
            ( C ) 1999 American Megatrends, Inc. All Rights Reserved
 Plug and Play Aware O/S      :No
 Reset Configuration Data     :No
 VGA Boot From                :AGP
 PCI VGA Palette Snoop        :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
 IRQ 3                        :PCI/PnP
 IRQ 4                        :PCI/PnP
 IRQ 5                        :PCI/PnP
 IRQ 7                        :PCI/PnP
 IRQ 9                        :PCI/PnP    ESC : Quit          ↑↓←→: Select Item
 IRQ 10                       :PCI/PnP    F1   : Help         PU/PD/+/- : Modify
 IRQ 11                       :PCI/PnP    F5   : Old Values      (Shift)F2 :Color
 IRQ 14                       :PCI/PnP    F6   : Load BIOS Defaults
 IRQ 15                       :PCI/PnP    F7   : Load Setup Defaults
```

Figure 6: PnP/PCI Configuration

- **Plug and Play Aware O/S**

Yes	Enable Plug and Play Aware O/S function.
No	Disable Plug and Play Aware O/S function **(Default Value)**

- **Reset Configuration Data**

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

- **VGA Boot From**

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

- **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)**

- **DMA Channel (0,1,3,5,6,7)**

PnP	The resource is used by PnP device.
ISA / EISA	The resource is used by ISA / EISA device (PCI or ISA).

- **IRQ (3,4,5,7, 9,10,11,14,15)**

PCI/PnP	The resource is used by PCI/PnP device.
ISA / EISA	The resource is used by ISA / EISA device (PCI or ISA).

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 CONFIG    Load BIOS Defaults (Y/N)? N      CTION        │
│                                │                                  │
│  LOAD BIOS DEFAULTS            │                                  │
│                                │                                  │
│  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 MANAGE
                    Load SETUP Defaults (Y/N)? N
PNP/PCI CONFIGU                                    ECTION

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 PERIPHERAL
           ( C ) 1999 American Megatrends, Inc. All Rights Reserved

OnBoard IDE                    :Both
OnBoard FDC                    :Auto
OnBoard Serial Port 1          :Auto
OnBoard Serial Port 2          :Auto
   Serial Port 2 Mode          :Normal
   Duplex Mode                 :N/A
OnBoard Parallel Port          :Auto
   Parallel Port Mode          :ECP
   Parallel Port DMA           :Auto
   Parallel Port IRQ           :Auto
OnBoard AC'97 Audio            :Auto
OnBoard Legacy Audio           :Enabled
   Sound Blaster               :Disabled
      SB I/O Base Address      :220h-22Fh
      SB IRQ Select            :IRQ 5        ESC : Quit            ↑↓←→: Select Item
      SB DMA Select            :DMA 1        F1   : Help           PU/PD/+/- : Modify
   MPU-401                     :Disabled     F5   : Old Values       (Shift)F2 :Color
      MPU-401 I/O Address      :330h-333h    F6   : Load BIOS Defaults
   FM Port (388h-38Bh)         :Disabled     F7   : Load Setup Defaults
Game Port (200h-207h)          :Enabled
```

Figure 9: Integrated Peripherals

- **OnBoard IDE**

Disabled	Disabled onboard IDE
Both	Set onboard IDE is Both. **(Default Value)**
Primary	Set onboard IDE is Primary.
Secondary	Set onboard IDE is Secondary.

- **OnBoard FDC**

Auto	Set onboard FDC is Auto. **(Default Value)**
Disabled	Disabled onboard FDC.
Enabled	Enabled onboard FDC.

- **OnBoard Serial Port 1**

Auto	BIOS will automatically setup the port 1 address. **(Default Value)**
3F8/COM1	Enable onboard Serial port 1 and address is 3F8.
2F8/COM2	Enable onboard Serial port 1 and address is 2F8.
3E8/COM3	Enable onboard Serial port 1 and address is 3E8.
2E8/COM4	Enable onboard Serial port 1 and address is 2E8.
Disabled	Disable onboard Serial port 1.

● **OnBoard Serial Port 2**

Auto	BIOS will automatically setup the port 2 address. **(Default Value)**
3F8/COM1	Enable onboard Serial port 2 and address is 3F8.
2F8/COM2	Enable onboard Serial port 2 and address is 2F8.
3E8/COM3	Enable onboard Serial port 2 and address is 3E8.
2E8/COM4	Enable onboard Serial port 2 and address is 2E8.
Disabled	Disable onboard Serial port 2.

● **Serial Port 2 Mode**

(This item allows you to determine which Serial Port 2 Mode of onboard I/O chip)

ASK IR	Set onboard I/O chip Serial Port 2 to ASK IR Mode.
IrDA	Set onboard I/O chip Serial Port 2 to IrDA Mode.
Normal	Set onboard I/O chip Serial Port 2 to Normal Mode. **(Default Value)**

● **Duplex Mode**

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

● **OnBoard Parallel port**

378	Enable onboard LPT port and address is 378.
278	Enable onboard LPT port and address is 278.
3BC	Enable onboard LPT port and address is 3BC.
Auto	Set onboard LPT port is Auto. **(Default Value)**
Disabled	Disable onboard 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.

● **Parallel Port DMA**

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

- **Parallel Port IRQ**

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

- **OnBoard AC′97 Audio**

Auto	Set AC′97 Audio to Auto **(Default Value)**.
Disabled	Disabled AC′97 Audio.

- **OnBorard Legacy Audio**

Enabled	Enabled onboard Legacy Audio. **(Default Value)**
Disabled	Disabled onboard Legacy Audio.

- **Sound Blaster**

Enabled	Enabled Sound Blaster.
Disabled	Disabled Sound Blaster. **(Default Value)**

- **SB I/O Base Address**

220h-22Fh	Set SB I/O Base Address is 220h-22Fh. **(Default Value)**.
280h-28Fh	Set SB I/O Base Address is 280h-28Fh.
260h-26Fh	Set SB I/O Base Address is 260h-26Fh.
240h-24Fh	Set SB I/O Base Address is 240h-24Fh.

- **SB IRQ Select**

IRQ 9 / 5 / 7/ 10**(Default Value: 5)**.

- **SB DMA Select**

DMA 0 / 1 / 2/ 3**(Default Value: 1)**.

- **MPU-401**

Enabled	Enabled MPU-401.
Disabled	Disabled MPU-401. **(Default Value)**

- **MUP-401 I/O Address**

330h-333h	Set MUP-401 I/O Address is 330h-333h. **(Default Value)**.
300h-303h	Set MUP-401 I/O Address is 300h-303h.
310h-313h	Set MUP-401 I/O Address is 310h-313h.
320h-323h	Set MUP-401 I/O Address is 320h-323h.

- **FM Port (388h-38Bh)**

Disabled	Disabled FM Port (388h-38Bh). **(Default Value)**
Enabled	Enabled FM Port (388h-38Bh).

- **Game Port (200h-207h)**

Disabled	Disabled Game Port (200h-207h).
Enabled	Enabled Game Port (200h-207h). **(Default Value)**

Hardware Monitor Setup

```
              AMIBIOS SETUP –HARDWARE MONITOR SETUP
            ( C ) 1999 American Megatrends, Inc. All Rights Reserved
ACPI Shut Down Temp.          :Disabled
Current CPU1 Temp.            :36°C/96°F
Current CPU2 Temp.            :28°C/82°F
Current System Temp.          :30°C/86°F
Current CPU1 Fan Speed        :5487 RPM
Current CPU2 Fan Speed        :0 RPM
Vcore                         :1.634V
+3.300V                       :3.337V
+5.000V                       :5.118V
+12.000V                      :11.806V




                                        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 Setup

- **ACPI Shutdown Temp. (°C / °F)**

  (This function will be effective only for the operating systems that support ACPI Function.)

Disabled	Normal Operation. **(Default value)**
60°C / 140°F	Monitor CPU Temp. at 60°C / 140°F, if Temp. > 60°C / 140°F system will automatically power off.
70°C / 158°F	Monitor CPU Temp. at 70°C / 158°F, if Temp. > 70°C / 158°F system will automatically power off.
80°C / 176°F	Monitor CPU Temp. at 80°C / 176°F, if Temp. > 80°C / 176°F system will automatically power off.
90°C / 194°F	Monitor CPU Temp. at 90°C / 194°F, if Temp. > 90°C / 194°F system will automatically power off.

- **Current CPU1 Temp. (°C / °F)**

  Detect CPU1 Temperature automatically.

- **Current CPU2 Temp. (°C / °F)**

  Detect CPU2 Temperature automatically.

- **Current System Temp. (°C / °F)**

  Detect System Temperature automatically.

- **Current CPU1 Fan Speed**

  Detect CPU1 Fan speed status automatically.

- **Current CPU2 Fan Speed**

  Detect CPU2 Fan speed status automatically.

- **Current Voltage (V) Vcore/+3.3V/+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 MANAGE                                                    │
│                    Enter new supervisor password:               │
│  PNP/PCI CONFIG                                           DN     │
│                                                                  │
│  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 Feb 17, 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 : 31Mb                │
│ Boot Sector Virus Protection : Disabled │ Total Memory      : 32Mb        │
├──────────────────────────────────┴────────────────────────────────────── │
│ 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 CONFIG    SAVE to CMOS and EXIT(Y/N)? Y   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     │
├────────────────────────────────────────────────────────────────────────┤
│                    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 MANAGEM                                                     │
│                   Quit without saving (Y/N) ? N      TION         │
│  PNP/PCI CONFIGU                                                   │
│  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 │
├───────────────────────────────────────────────────────────────────┤
│                    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.
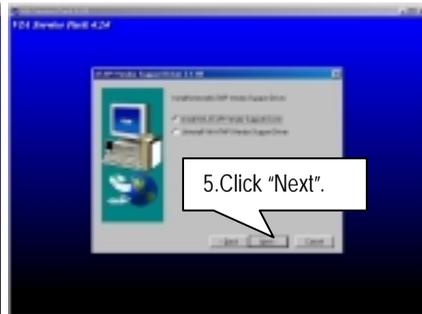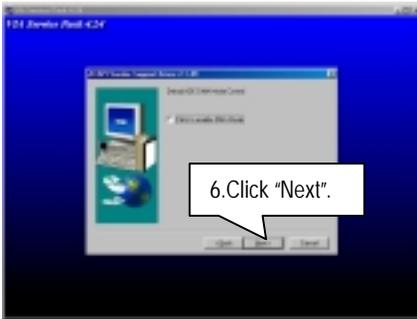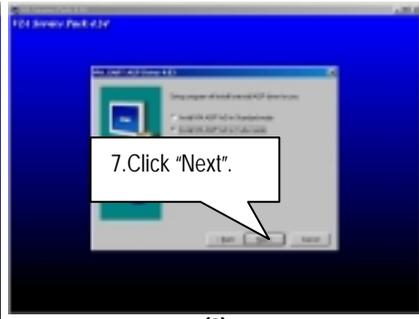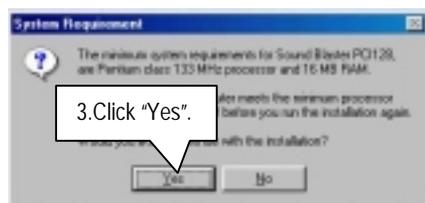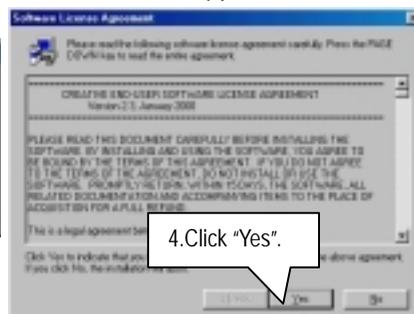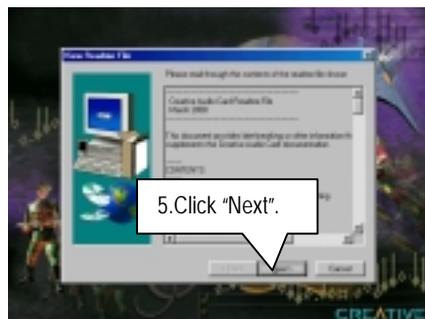

1.Click "VIA 4in 1 Service Pack Utility" item.

(1)

(2)

2.Click "Yes".

(3)

3.Click "Next".

(4)

4.Click "Next".

(5)

5.Click "Next".

(6)

6.Click "Next".

(7)

7.Click "Next".

(8)

8.Click "Next".

(9)

(10)

9.Click "Finish" to restart computer.
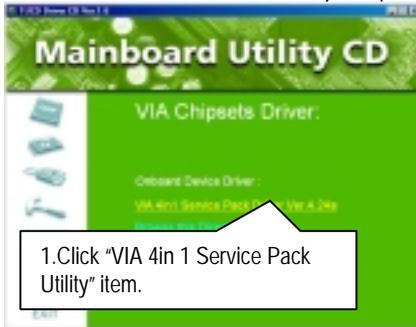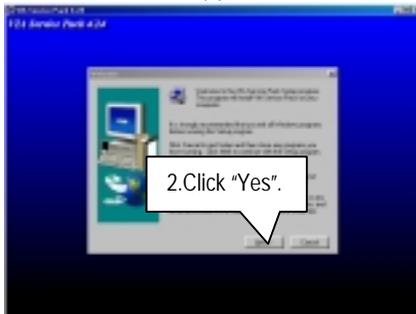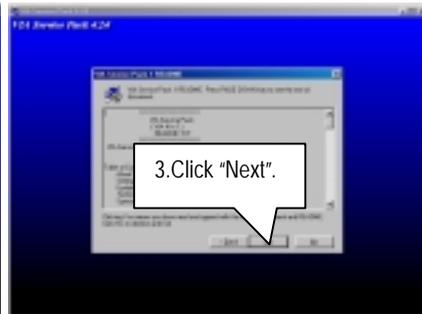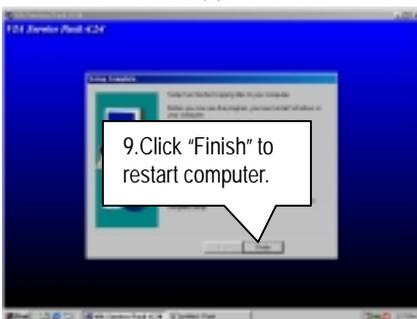
Appendix B: Creative Sound Driver Installation (Optional)

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
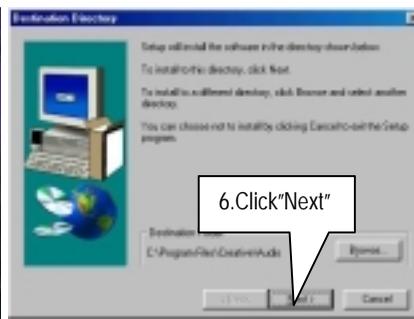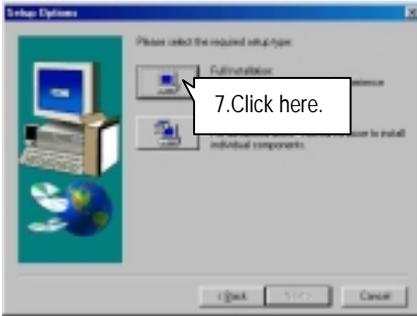
1.Click "Creative 5880 Sound Driver".

(1)

2.Click "OK".

(2)

3.Click "Yes".

(3)

4.Click "Yes".

(4)

5.Click "Next".

(5)

6.Click"Next"

(6)

(7)

(8)

7.Click here.

8.Click"Next"
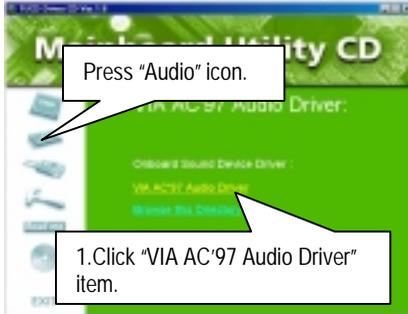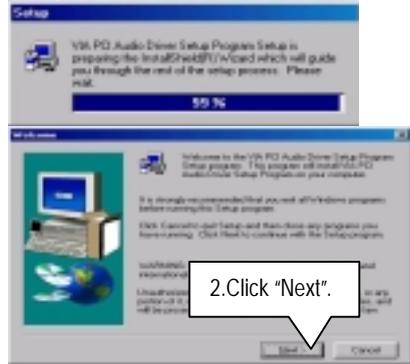

9.Click "Finish" to
restart computer.
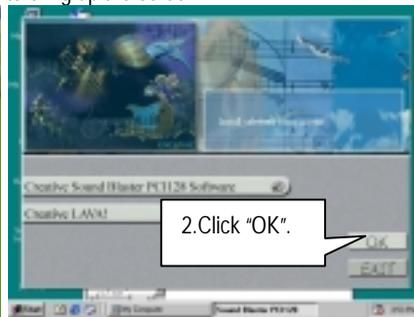
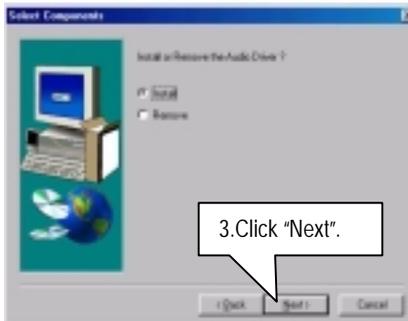## Appendix C: VIA Sound Driver (Optional)

A. AC′97 Audio Driver:

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.
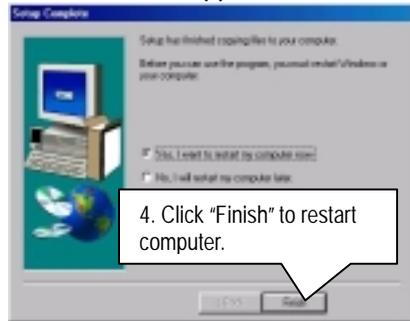

Press "Audio" icon.

1.Click "VIA AC′97 Audio Driver" item.

(1)

2.Click "Next".

(2)

3.Click "Next".

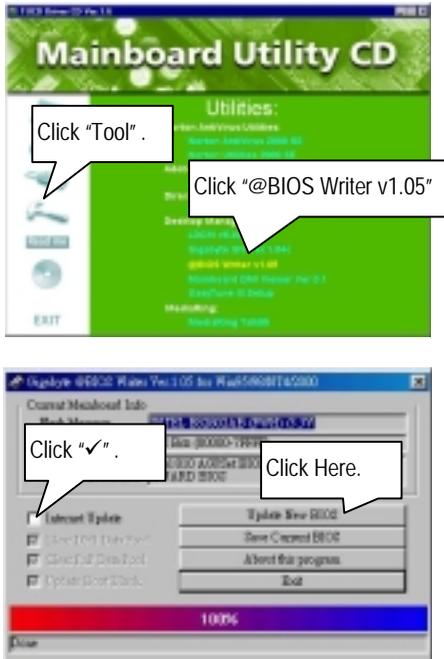**(3)**

4. Click "Finish" to restart computer.

(4)

Appendix D: BIOS Flash Procedure

BIOS update procedure:

If your OS is Win9X, we recommend that you used Gigabyte @BIOS Program to flash BIOS.

Click "Tool" .

Click "@BIOS Writer v1.05"

Click "✓" .

Click Here.

Methods and steps :

  I. Update BIOS through Internet
        a. Click "Internet Update" icon

        b. Click "Update New BIOS" icon

        c. Select @BIOS sever ("Gigabyte @BIOS sever 1 in Taiwan" and "Gigabyte @BIOS
           sever 2 in Taiwan" are available for now, the others will be completed soon)
        d. Select the exact model name on your motherboard

        e. System will automatically download and update the BIOS.

II. Update BIOS NOT through Internet :

    a. Do not click "Internet Update" icon

    b. Click "Update New BIOS"

    c. Please select "All Files" in dialog box while opening the old file.

    d. Please search for BIOS unzip file, downloading from internet or any other methods (such as: 6VXDC7.F1).

    e. Complete update process following the instruction.

III. Save BIOS

    In the very beginning, there is "Save Current BIOS" icon shown in dialog box. It means to save the current BIOS version.

IV. Check out supported motherboard and Flash ROM :

    In the very beginning, there is "About this program" icon shown in dialog box. It can help you check out which kind of motherboard and which brand of Flash ROM are supported.

Note :

    a. In method I, if it shows two or more motherboard's model names to be selected, please make sure your motherboard's model name again. Sellecting name will cause the system unbooted.

    b. In method II, be sure that motherboard's model name in BIOS unzip file are the same as your motherboard's. Otherwise, your system won't boot.

    c. In method I, if the BIOS file you need cannot be found in @BIOS server, please go onto Gigabyte's web site for downloading and updating it according to method II.

    d. Please note that any intercorruption during updating will cause system unbooted

Or else you can select flash BIOS in DOS mode.

♠※ Please check your **BIOS vendor (AMI or AWARD)**, your **motherboard name** and **PCB version** on the motherboard.

1. Format a bootable system floppy diskette by the command "**format a:/s**" in command mode.

2. Visit the Gigabyte website at http:// www.gigabyte.com.tw, Select the BIOS file you need and download it to your bootable floppy diskette.

3. Insert the bootable diskette containing the BIOS file into the floppy diskette driver.

4. Assuming that the floppy diskette driver is A, reboot the system by using the A: driver. At the A: > prompt, run the BIOS upgraded file by executing the Flash BIOS utility and the BIOS file with its appropriate extension.

      Example: *(AMI tool) (Where 6VXDC7.f1 is name of the BIOS file name)*

         A:>*flashxxx.exe 6VXDC7.f1* ↵

      Example: *(Award tool) (Where 6VXDC7.f1 is name of the BIOS file name)*

         A:>*wdflash.exe 6VXDC7.f1* ↵

5. Upon pressing the <Enter> key, a flash memory writer menu will appear on screen. Enter the new BIOS file name with its extension filename into the text box after file name to program.

6. If you want to save the old BIOS file(perform as soon as system is operational, this is recommended), select Y to **DO YOU WANT TO SAVE BIOS**, then type the old BIOS filename and the extension after filename to save: This option allows you to copy the contents of the flash memory chip onto a diskette, giving you a backup copy of the original motherboard BIOS in case you need to re-install it. Select N to **DO YOU WANT TO SAVE BIOS**, if you don't want to save the old BIOS file.

7. After the decision to save the old BIOS file or not is made, select Y to **ARE YOU SURE TO PROGRAM** when the next menu appear; wait until a message showing Power Off or Reset the system appears. Then turn off your system.

8. Remove the diskette and restart your system.

9. Hold down <Delete> key to enter BIOS setup. You must select "Load Setup BIOS Default" to activate the new BIOS, then you may set other item from the main menu.

Appendix E: Acronyms

Acronyms	Meaning
ACPI	Advanced Configuration and Power Interface
APM	Advanced Power Management
AGP	Accelerated Graphics Port
AMR	Audio Modem Riser
ACR	Advanced Communication Riser
BIOS	Basic Input / Output System
CPU	Central Processing Unit
CMOS	Complementary Metal Oxide Semiconductor
CRIMM	Continuity RIMM
CNR	Communication and Networking Riser
DMA	Direct Memory Access
DMI	Desktop Management Interface
DIMM	Dual Inline Memory Module
DRM	Dual Retention Mechanism
DRAM	Dynamic Random Access Memory
DDR	Double Data Rate
ECP	Extended Capabilities Port
ESCD	Extended System Configuration Data
ECC	Error Checking and Correcting
EMC	Electromagnetic Compatibility
EPP	Enhanced Parallel Port
ESD	Electrostatic Discharge
FDD	Floppy Disk Device
HDD	Hard Disk Device
IDE	Integrated Dual Channel Enhanced
IRQ	Interrupt Request
I/O	Input / Output
IOAPIC	Input Output Advanced Programmable Input Controller
ISA	Industry Standard Architecture
LAN	Local Area Network
LBA	Logical Block Addressing
LED	Light Emitting Diode
MHz	Megahertz
MIDI	Musical Interface Digital Interface
MTH	Memory Translator Hub
MPT	Memory Protocol Translator
NIC	Network Interface Card
OS	Operating System

Acronyms	Meaning
OEM	Original Equipment Manufacturer
PAC	PCI A.G.P. Controller
POST	Power-On Self Test
PCI	Peripheral Component Interconnect
RIMM	Rambus in-line Memory Module
SCI	Special Circumstance Instructions
SECC	Single Edge Contact Cartridge
SRAM	Static Random Access Memory
SMP	Symmetric Multi-Processing
SMI	System Management Interrupt
USB	Universal Serial Bus
VID	Voltage ID